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## 2017 Site Management Periodic Review Report – Love Canal Site

NYSDEC Site No. 932020  
Niagara Falls, New York

Glenn Springs Holdings, Inc.

**GHD** | 2055 Niagara Falls Boulevard Niagara Falls New York 14304 USA  
009954 | Report No 33 | January 31, 2018



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## 1. Introduction

Operation of the Love Canal Site (Site) was transferred from the New York State Department of Environmental Conservation (NYSDEC) to Occidental Chemical Corporation (OCC) in April 1995. Effective July 1, 1998, Site responsibility was assigned by OCC to Glenn Springs Holdings, Inc. (GSH), an affiliate of OCC. Since October 1, 2008, GHD Services, Inc. (GHD), formerly Conestoga-Rovers & Associates (CRA), has performed operation, maintenance, monitoring, and reporting activities for the Site under contract to and direct management of GSH.

This report is the twenty-third annual report prepared by or on behalf of OCC and covers operation, maintenance, and monitoring activities for 2017. The completed 2017 NYSDEC Institutional and Engineering Controls Certification Form is included as Appendix A.

## 2. Remedial Systems

Operation of remedial systems to prevent the off-Site migration of chemical contaminants from the Site began in October 1978 with the installation of a barrier drain along the east and west sides of the South Sector of the Canal. The barrier drain was later extended to completely encompass the entire area of disposed waste within the Central and North Sectors of the Canal. The barrier drain, designed to intercept the shallow overburden lateral groundwater flow, consists of a trench approximately 4 feet wide that varies in depth from approximately 12 to 25 feet deep depending on location at the Site. Installed within the trench is a perforated vitrified clay tile pipe. The pipe is 6-inch diameter in the Central and North Sectors and both 6-inch and 8-inch diameter in the South Sector. The pipe is centered in a minimum of 2 feet of uniformly sized gravel, which is overlain with coarse sand extending to the existing ground surface present at the time of construction. Thirty-two lateral trenches, approximately 12 to 19 feet deep, filled with a minimum of 2 feet of gravel and overlain with sand similar to the barrier drain, were dug perpendicular to the barrier drain in the direction of the Canal. The majority of these laterals extend into the disposed waste. The barrier drain is graded from two highpoints, one in the southeast corner and the other in the northeast corner, toward a series of manholes which drain to four pump chambers (PC-1A/PC-2A in the North/Central Sector and PC-1/PC-2 in the South Sector) where the leachate is collected. The collected leachate is pumped from the four pump chambers to two other pump chambers connected to underground holding tanks (PC-3A in the North/Central Sector and PC-3 in the South Sector) where it is temporarily stored. From that point, the leachate is pumped to the on-Site Love Canal Treatment Facility (LCTF) where it is treated and discharged to the Niagara Falls Water Board (NFWB) sanitary sewer system under the Site's Significant Industrial User (SIU) Permit #44. The locations of the remedial system components are illustrated on the Site Plan presented as Figure 2.1.

The installation of a 22-acre clay cap over the entire former Canal area was completed in October 1980 following completion of the barrier drain collection system. The purpose of the cap is to reduce infiltration of precipitation. The thickness of the clay cap is a minimum of 3 feet. In 1985, a second (40-acre) cap was installed over the initial clay cap area. The newer cap consists of a 40-mil high density polyethylene (HDPE) liner covered by 18 inches of clean soil and vegetation.



In March 1999, the adjacent 102nd Street Landfill Site leachate collection system was connected to the Love Canal Site to facilitate the transfer of leachate from the 102nd Street landfill into Love Canal's pump chamber PC-3 for treatment at the LCTF.

## 2.1 Operations of the Barrier Drain and Collection System

### 2.1.1 Barrier Drain System

The barrier drain system continues to function as designed, with no major maintenance required during 2017. Semiannual inspections of the barrier drain components, including manholes and pump chambers, are required by the Site's NYSDEC-approved Operation and Maintenance (O&M) Manual (CRA, revised March 2015). Inspections of the barrier drain manholes were conducted on June 24 and September 20, 2017, and inspections of the barrier drain pump chambers were carried out on June 6 and October 3, 2017. The visual inspections showed that the manhole flumes were flowing freely and required no further maintenance. During both inspection events, limited buildup of sludge was noted at MH-6A, MH-6B and MH-6C. However, the buildup was insufficient to warrant cleaning, as it did not impede flow through the manhole. The visual inspections were documented on the 2017 Semiannual Inspection Forms, which are presented in Appendix B. The manhole locations are presented on Figure 2.2.

### 2.1.2 Pumping System

The barrier drain system consists of two sectors, the Northern/Central and the Southern. Leachate from the Northern/Central Sector drains to pump chambers PC-1A and PC-2A where it is pumped to pump chamber PC-3A, while leachate from the Southern Sector is pumped from pump chambers PC-1 and PC-2 to the underground storage tank connected to pump chamber PC-3. From pump chambers PC-3 and PC-3A, the leachate is then transferred through a below ground metering chamber outside the LCTF on the southeast corner of the building and then into the LCTF for treatment. The pumping system is designed to operate continuously and was operational and functioned as designed throughout 2017.

### 2.1.3 102nd Street Landfill Forcemain

The leachate forcemain construction was completed in March 1999 and is used for the transfer of leachate from the 102nd Street Landfill to the LCTF. The forcemain begins at the northwest corner of the 102nd Street Landfill and extends northward beneath River Road, LaSalle Expressway, and Frontier Avenue to pump chamber PC-3 at the Site. During 2017, the leachate collection system at 102nd Street pumped 168,368 gallons of leachate to the LCTF.



## 3. Groundwater Treatment and Monitoring

### 3.1 Groundwater Treatment

#### 3.1.1 Treatment System

The LCTF consists of clarification, bag filtration, and carbon treatment prior to discharge to the NFWB sanitary sewer system. A process schematic depicting the layout of the treatment system is presented as Figure 3.1.

Treated water from the Site is discharged essentially on a batch basis to the NFWB sanitary sewer system (i.e. when there is sufficient water in storage, the treatment system is operated); however, under seasonal high flow conditions, water is discharged continuously. The discharge is authorized under the Site's SIU Permit #44. The current permit is valid from January 9, 2015 to January 9, 2020. A copy of the NFWB permit is included as Appendix C.

#### 3.1.2 Effluent Discharge

The LCTF discharged to the NFWB sanitary sewer system on 212 days in 2017.

Under high stormwater flow events, the NFWB periodically requires that the LCTF temporarily cease discharging to the sewer system. During an event of this type, the barrier drain pumping system will continue to operate and maintain a protective inward hydraulic gradient to capture leachate. The NFWB did not require the LCTF to temporarily cease discharging during 2017.

In 2017, the LCTF processed a total of 5,738,453 gallons of leachate. This total was comprised of 5,570,085 gallons of leachate from the Site and 168,368 gallons of leachate from the 102nd Street Landfill.

Table 3.1 shows the monthly total and average treated groundwater quantities from 2000 through 2017.

#### 3.1.3 Effluent Sampling

Sampling of the effluent discharged to the NFWB sanitary sewer system occurred quarterly as required under the Site's SIU Discharge Permit #44. In accordance with the SIU permit, the quarterly monitoring periods for 2017 were as follows:

Quarter 1: December 1 – February 29

Quarter 2: March 1 – May 31

Quarter 3: June 1 – August 31

Quarter 4: September 1 – November 30

The quarterly effluent sampling for 2017 was performed on December 7, March 13, June 15, and September 25, 2017. The sample results were submitted to the NFWB quarterly as required by the permit and to the NYSDEC. The results for each event were in compliance with the requirements of the Site's SIU permit.



#### 3.1.4 Precipitation

In 2017, precipitation in the Niagara Falls region totaled 41.36 inches (Niagara Falls International Airport, National Climatic Data Center). Table 3.1 provides historical regional precipitation data from 2000 through 2017.

### 3.2 Groundwater Monitoring

Groundwater monitoring consists of both chemical monitoring to determine groundwater quality and hydraulic monitoring to demonstrate that the barrier drain is creating hydraulic containment. Monitoring and analytical protocols for the Site's groundwater monitoring program have been established and are set forth in the "Sampling Manual, Love Canal Site, Long-Term Groundwater Monitoring Program" (LTGMP), revised June 2013.

The monitoring results for 2017 are presented in the following sections.

#### 3.2.1 Groundwater Quality

Chemical monitoring is performed annually by sampling select overburden and bedrock monitoring wells at the Site. On March 25, 2009, the NYSDEC communicated via email to GSH that the NYSDEC would no longer be providing an annual well sampling list for chemical monitoring and directed GSH to use the wells sampled in 2007 and 2008 for all future sampling events. Subsequent discussions between GSH and the NYSDEC regarding the well sampling list led to this decision being documented in an August 5, 2010 memo titled "Love Canal Annual Groundwater Sampling Schedule", presented in Appendix D.

It should be noted that overburden well 3151 is included on the Appendix D list; however, this well was noted in 2007 as "Well no longer available – destroyed" and could not be located. Therefore, this well has not been sampled since 2007. In addition, overburden well 10178A and bedrock wells MW-01 and MW-02 were added to the annual sampling program in 2011. The sampling frequency for overburden well 10178A became annual in 2016.

The 2017 annual groundwater chemical monitoring event was performed between July 5 and July 19, 2017. Two wells were inadvertently omitted during the annual monitoring event and were sampled on December 11, 2017. As part of the annual groundwater chemical monitoring in 2017, 41 monitoring wells were sampled comprised of 21 overburden and 20 bedrock monitoring wells. As part of the LTGMP, the NYSDEC has the option of collecting split samples during the annual event and having those samples analyzed independently to verify data. No split samples were collected by NYSDEC during the 2017 annual sampling event.

Groundwater samples were submitted to ALS Environmental Group USA, Corp (ALS), located in Rochester, New York. ALS is a New York State Department of Health (NYSDOH) approved laboratory certified under the National Environmental Laboratory Approval Program (NELAP). The samples were analyzed for Site-specific volatiles, semi-volatiles, pesticides, and polychlorinated biphenyls (PCBs). The raw data laboratory package is presented in Appendix E. A GHD chemist performed the analytical Quality Assurance/Quality Control (QA/QC) review and data validation. The QA/QC report for this event is presented in Appendix F.





Figure 3.2 identifies the wells sampled and their locations. The Love Canal Annual Groundwater Sampling Schedule is presented in Appendix D. Table 3.2 provides a summary of the overburden wells that were sampled, the analytical data, and a summation of the number of compounds found at or above the detection limits in each well. Table 3.3 provides a summary of the bedrock wells that were sampled, the analytical data, and a summation of the number of compounds found at or above the detection limits in each well.

### **3.2.1.1 Overburden Monitoring Wells**

The 2017 groundwater analytical results for the overburden monitoring wells (Table 3.2) are consistent with previous long-term monitoring analytical results. The analytical results were non-detect or were detected at low levels consistent with concentrations detected during previous monitoring events (with the exception of groundwater from well 10135, which is installed in an area of known Site impacts).

Historically, well 10135 has had the most detected compounds and the highest concentrations. This well is located in the southwestern portion of the Site and within the fenced boundaries of the Site. Although located outside the barrier drain, well 10135 is within the influence of the barrier drain based on hydraulic monitoring conducted at adjacent nested piezometer string 1160, as demonstrated on Figures 3.5 (1160 cross-section) and 3.9 (groundwater contours). As stated in the LTGMP, well 10135, located in an isolated area of known contamination, is sampled as an indicator well. In 2017, well 10135 had 23 compounds detected. Table 3.4 presents a summary of detected compounds. It should be noted that overburden and bedrock monitoring wells located further west of 10135 (10178A and 10278, respectively) are sampled annually and have shown no impact, further confirming that the contamination at 10135 is isolated to the immediate area around the well.

### **3.2.1.2 Bedrock Monitoring Wells**

The 2017 groundwater analytical results for the bedrock monitoring wells (Table 3.3) are consistent with previous long-term monitoring analytical results. Parameter concentrations were either non-detect or detected at low levels consistent with concentrations detected during previous monitoring events. In 2012, hexachlorobenzene was detected at monitoring well 10225A for the first time historically at a concentration of 3.6 micrograms per liter ( $\mu\text{g/L}$ ). A concentration of 3.6  $\mu\text{g/L}$  is within the historical non-detect range of 1.9 U  $\mu\text{g/L}$  to 10 U  $\mu\text{g/L}$ . In 2014, 2015, 2016, and again in 2017, hexachlorobenzene was non-detect at well 10225A (1.9 U  $\mu\text{g/L}$  in 2014, 9.6 U  $\mu\text{g/L}$  in 2015, 9.4 U  $\mu\text{g/L}$  in 2016, and 9.4 U  $\mu\text{g/L}$  in 2017). In addition hexachlorobenzene was not detected in adjacent bedrock wells 10225B and 10225C. Based on these data, the 2012 detection appears to be an anomalous data point and does not warrant additional evaluation. Well 10225A will continue to be monitored annually for groundwater quality in accordance with the NYSDEC-approved LTGMP. Table 3.4 presents a summary of detected compounds.

### **3.2.1.3 Historical Compound Detections**

Table 3.5 presents a summary of detected compounds of four long-term monitoring wells, including three bedrock wells and one overburden well (bedrock wells 10210A, 10210B, and 10210C, and overburden well 10135) from 1990 to 2017. The data from these four wells are presented because they have the most consistent historical record of compound detections compared to the other



overburden and bedrock wells. The data from the additional Site wells not presented in Table 3.5 are typically non-detect or demonstrate sporadic low level detections and, therefore, do not present useful data in regards to a discussion of historical analytical trends at the Site. An evaluation of the 2017 sampling data for the four wells mentioned above shows that the compounds detected in 2017 are present at sporadic low- level concentrations or concentrations consistent with historical trends.

### 3.2.2 Hydraulic Containment

Hydraulic monitoring consists of water level measurements conducted quarterly from six nested piezometer strings (1140, 1150, 1160, 1170, 1180, and 1190) per the NYSDEC-approved LTGMP, as well as water level measurements collected from three wells (7161, 9130, and 9140) in June 2017 as requested by the NYSDEC. In 2017, water levels were measured in March, June, September, and December. These water level data are presented in Tables 3.6A to 3.6F. The wells on the tables are ordered from left to right on the table, beginning with the well furthest from the outside of the barrier drain to the well inside the area enclosed by the barrier drain. They are also ordered based on screen depth corresponding with the geologic stratum (i.e. fractured clay, soft, clay, and glacial till) as requested by NYSDEC in their letter dated October 21, 2016. Figures 3.3 to 3.8 show the overburden groundwater flow conditions for June 2017 at the six nested piezometers string locations based on geologic stratum consistent with the above.

A review of the piezometer string groundwater elevation data from the remaining three quarters (March, September, and December 2017) demonstrates that the data from those monitoring periods are consistent with the June 2017 data.

In addition to the above-mentioned information, a groundwater contour figure was prepared using the June 2017 water levels from the six nested piezometer strings and three additional wells (7161, 9130, and 9140) as requested by NYSDEC. The June 2017 groundwater contour figure is presented as Figure 3.9.

The groundwater contour figure and Tables 3.6A to 3.6F illustrate that there is a minimum of 1.01 feet of inward gradient outside of the barrier drain at each of the six nested piezometer strings in the various geologic units. The term "feet of inward gradient" means the minimum difference in groundwater elevation between the wells on the outside of the barrier drain and the water level within the barrier drain, with the water level within the barrier drain representing the lowest water level elevation. This demonstrates that groundwater on the outside of the barrier drain (off-Site groundwater) is flowing toward and downward into the barrier drain. Based on the water level data from the six nested piezometer strings, an inward gradient can be inferred to exist around the collection drain system, demonstrating that the horizontal groundwater flow direction outside of the barrier drain is towards the barrier drain. A review of Figure 3.9 shows that groundwater flow on the inside of the barrier drain is also towards the barrier drain. Therefore, the barrier drain and lateral trenches are capturing leachate from the landfill area and a portion of groundwater outside the barrier drain, thereby preventing off-Site migration of chemicals and preventing off-Site groundwater from migrating into the landfill area. Monitoring will continue during 2018 as per the NYSDEC-approved LTGMP.



### 3.2.3 Well Maintenance

The 2017 well inspections identified the need for routine maintenance on several wells at the Site. Maintenance was conducted during the summer of 2017 and included the following:

- Minor maintenance work at several wells, including replacement of well caps.

### 3.2.4 Summary of Treatment and Monitoring Results

The volume of effluent discharge from the LCTF increased from 3,170,102 gallons in 2016 to 5,738,453 in 2017, a number consistent with volumes from previous years with similar precipitation levels. Quarterly sampling and analysis results submitted to both the NFWB and NYSDEC indicated that all chemistry detected in the effluent samples for each event was either non-detect or present at very low levels within historical ranges and well below Site's SIU Discharge Permit #44 discharge limits.

The inward hydraulic gradient observed at each of the six nested piezometer strings demonstrates that the barrier drain is effectively capturing leachate from the Site and preventing off-Site migration of chemicals. The analytical results from the monitoring wells sampled indicate that compounds were either not detected, or were detected at low levels below or consistent with concentrations from previous years (with the exception of groundwater from well 10135, discussed in Section 3.2.1.1), further illustrating containment.

The presence of an overall inward hydraulic gradient towards the barrier drain and a review of groundwater quality for the groundwater monitoring wells demonstrate overall Site containment.

## 4. Activities

Summaries of normal activities and repairs performed in 2017 are presented below.

### 4.1 Process Activities

Process activities that occurred during the year included the following:

- Removal and disposal of hazardous waste
- Cleaning of all pump chambers
- Cleaning of all storage tanks
- Cleaning of sludge from clarifier

### 4.2 Non-Process Activities

Non-process activities that occurred during the year included the following:

- Preventative maintenance
- Repair and maintenance of pump chambers and flow meters
- Landscape maintenance including grass cutting and tree and flower bed maintenance



- Heating and cooling system maintenance
- Painting of the treatment building floor
- Replacement of trench gratings in the treatment building

### 4.3 Community Outreach

Community Outreach programs have included such activities as beautification of the area surrounding the Site and tours of the facility.

#### 4.3.1 Beautification

The following beautification activities were conducted at Love Canal in 2017:

- Maintenance and landscaping of the Site and surrounding areas
- Maintenance of flower beds and shrubs along Colvin Boulevard, 95th Street, and Frontier Avenue
- Cleanup of discarded debris along fence line

#### 4.3.2 Tours

Tours of the facility have been given throughout the years to representatives of various environmental agencies (domestic and foreign) and educational groups. The tours include an informational orientation, accompanied with visual aids, followed by a guided tour of the treatment facility and landfill. No tours were given in 2017.

#### 4.3.3 Communications

All required reports were prepared and submitted to various agencies throughout the year. Reports included the 2016 Annual Hazardous Waste Report to the NYSDEC, the 2016 Periodic Review Report (formerly titled the Annual Operations and Monitoring Report) to various agencies, quarterly SIU analytical reports to the NFWB and NYSDEC, and monthly SIU reports to the NFWB.

The Love Canal Annual Newsletter for 2016 was issued to surrounding citizens and agencies in July 2017. The report summarizes items such as the amount of groundwater treated on Site and then discharged to NFWB's sanitary sewer system, maintenance activities, and other non-operational activities for the year.

### 4.4 Waste Generation

Throughout 2017, both hazardous and nonhazardous waste was generated from various activities and disposed of off Site in accordance with applicable laws and regulations.

The tracking of hazardous waste is performed by regulated hazardous waste manifests. A summary of the Site's annual hazardous waste generation is reported to the NYSDEC in the Annual Hazardous Waste Report. The Annual Hazardous Waste Report summarizes the quantities, transporters, and disposal methods.



A total of 18,200 pounds of hazardous waste was generated from the activities listed below. The waste materials were sent off Site for disposal in accordance with applicable laws and regulations. Wastes generated in 2017 were disposed of through incineration or landfill impoundment by Clean Harbors, LLC.

The hazardous waste disposed of in 2017 consisted of soil/debris and non-aqueous phase liquid (NAPL) as follows:

- Soil/Debris: 700 pounds (consisting of personal protective equipment [PPE])
- NAPL Sludge: 17,500 pounds (collected from LCTF process)

#### 4.5 Routine Operations, Inspections, and Monitoring

A daily inspection of the system operations was performed for each day in 2017 in accordance with the O&M Manual for the Love Canal Site, dated March 2015. Inspection records are available upon request.

Monthly inspections of the fire extinguishers and monthly checks of the carbon vapor phase vent for breakthrough were also completed in accordance with the O&M Manual. Inspection records are available upon request.

The NFWB performed an annual inspection of the LCTF on January 23, 2017 and performed verification sampling of the effluent discharge on January 23, 2017. The inspection and the annual effluent verification sampling concluded that the Site is being maintained and operated in accordance with the Site's SIU discharge permit and other local, State, and Federal requirements. The completed NFWB 2017 Inspection Form is included in Appendix G.

The United States Environmental Protection Agency (USEPA) conducted their 5-Year review inspection of the Site on July 11, 2013. Representatives of the USEPA, NYSDEC, Niagara County Department of Health, GSH, and CRA were in attendance. No issues were identified. The "Five-Year Review Report – Love Canal Superfund Site" was finalized on January 15, 2014. The report concluded:

*"Based upon the results of this review, the U.S. Environmental Protection Agency concludes that the remedies implemented at this Site adequately control exposures of Site contaminants to human and environmental receptors to the extent necessary for the protection of human health and the environment. The continued operation and maintenance at the Site ensures that there are no site-related exposures of hazardous material to human or environmental receptors".*

The NYSDEC conducted a Site inspection (landfill and treatment system) on July 19, 2017. No issues were identified and there were no requests for additional actions to be taken.

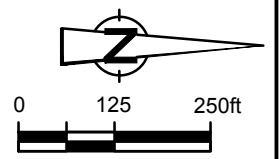
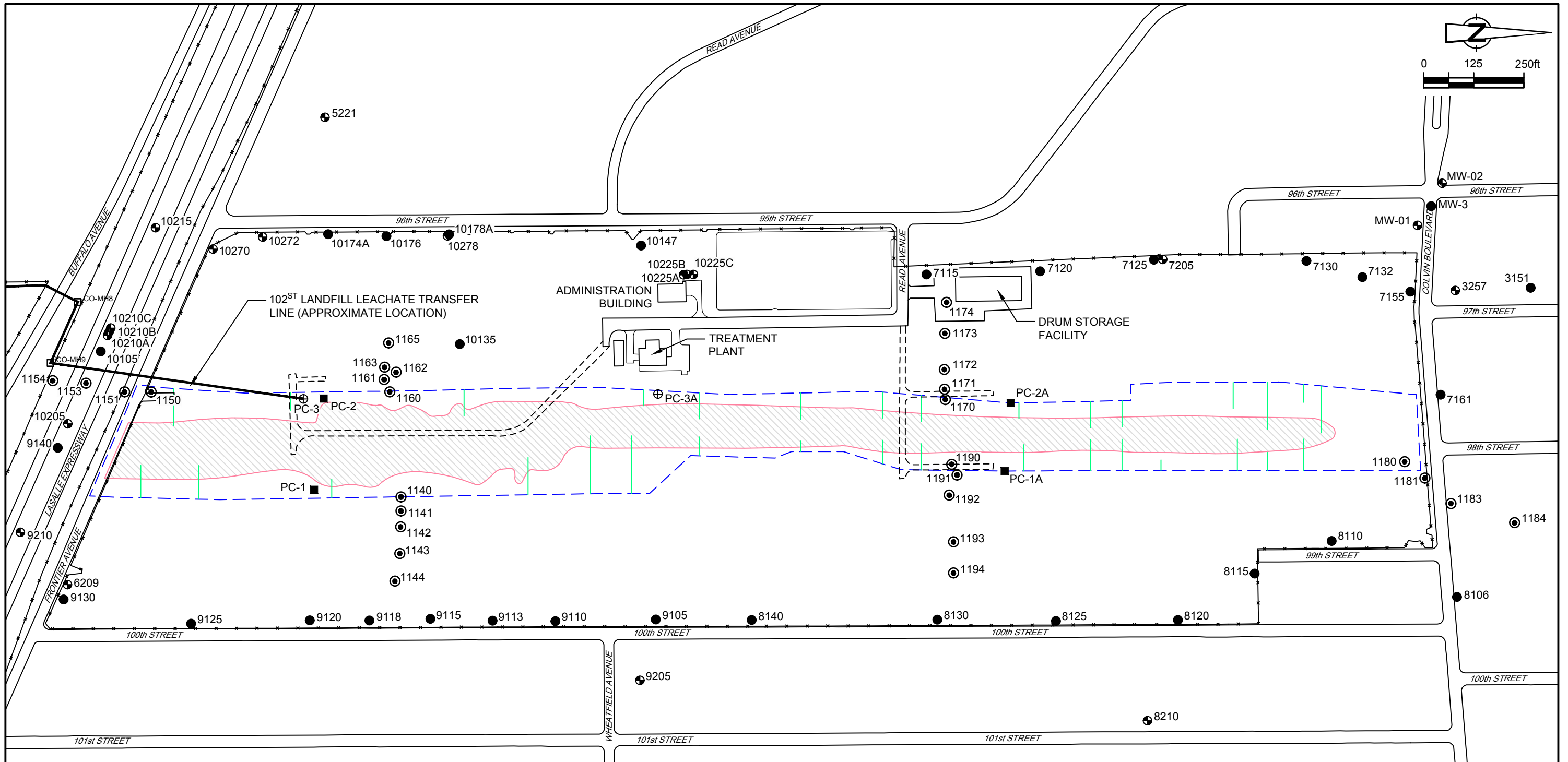
The backflow preventer system on the potable water supply lines was inspected and tested by CamTech Plumbing and Mechanical (CamTech) on March 15, 2017. CamTech is licensed and certified by the NFWB to perform the backflow preventer system inspections. All five backflow prevention devices were found to be operational with no maintenance required. A copy of the 2017 Test and Maintenance of Backflow Prevention Device Report for each device is presented in Appendix H.



The annual fire system inspection was conducted on August 24, 2017. No issues were identified.

## 5. Conclusion

The 2017 monitoring results show that there has been no significant change in chemical concentration conditions and that the barrier drain system is successfully capturing leachate from the Site and preventing off-Site migration of contamination. The barrier drain continues to create an inward hydraulic gradient and capture leachate from the Site, preventing off-Site migration of chemicals, as evidenced by the groundwater gradients depicted on Figures 3.3 to 3.9 and analytical data from observation wells around the perimeter of the Site. The collection system is functioning as designed based on groundwater monitoring results and third party inspections by the NYSDEC. The treatment system is functioning as designed based on inspections and sampling by the NFWB and sampling by GSH. Effluent quality is compliant with the Site's SIU discharge permit. There were 5,738,453 gallons of leachate collected, treated, and discharged from the Site, of which 5,570,085 gallons of leachate were collected from the Site, and the remaining 168,368 gallons were collected from the 102nd Street Site and pumped to the LCTF for treatment. Monitoring results continue to confirm that the remediation and containment system (i.e., the leachate collection and treatment system) is functioning as designed.



**LEGEND**

- FENCE LINE
  - BARRIER DRAIN
  - LATERAL TRENCH
  - 7105 PIEZOMETER
  - 9120 OVERBURDEN OBSERVATION WELL

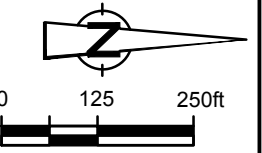
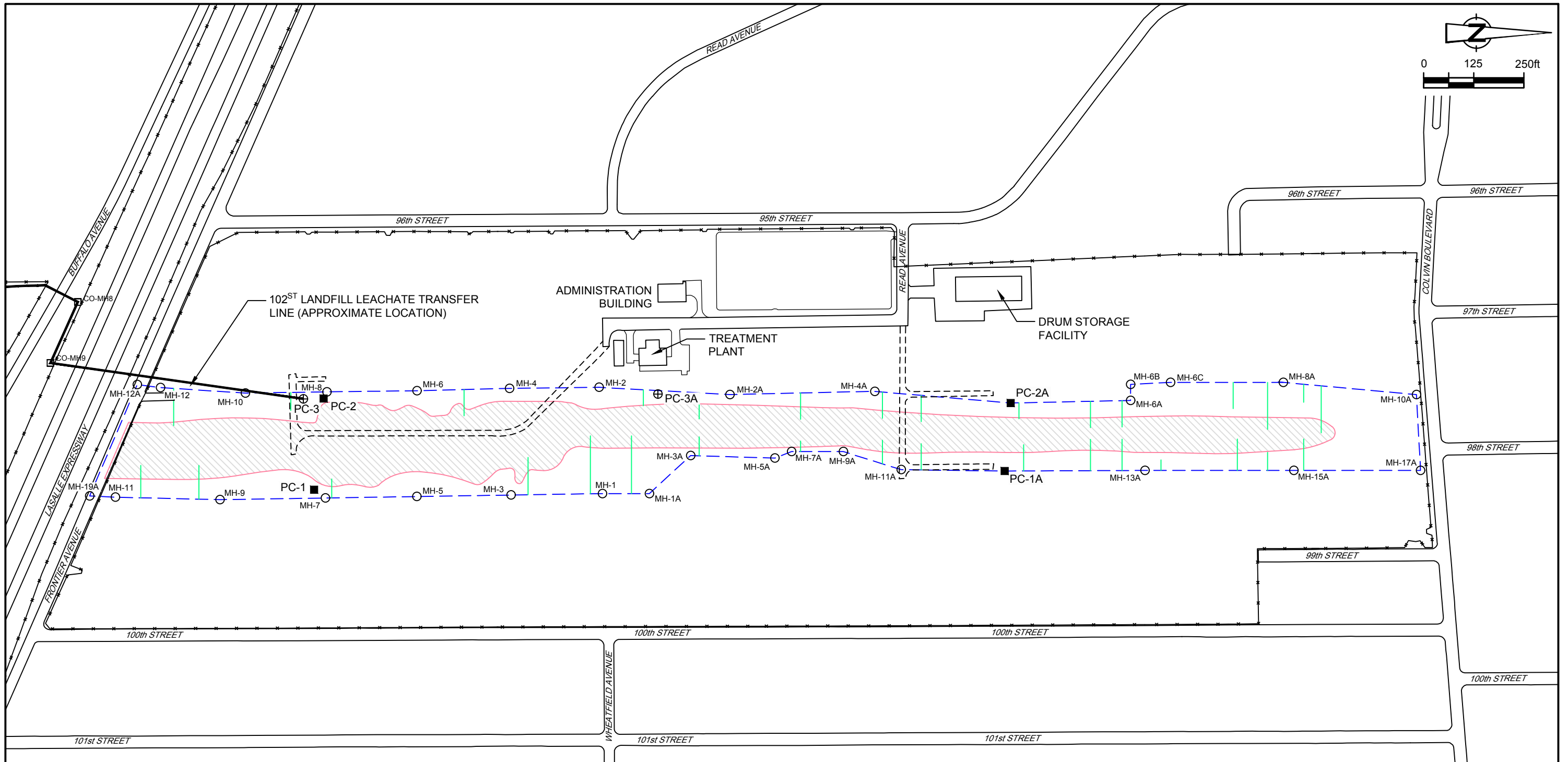
- 10270 BEDROCK OBSERVATION WELL
  - PC-1 PUMP CHAMBER FOR LEACHATE COLLECTION
  - PC-3 PUMP CHAMBER / UNDERGROUND LEACHATE STORAGE TANK FOR LEACHATE COLLECTION AND TRANSFER
  - CO-MH3 FORCEMAIN CLEAN OUT MANHOLE
  - APPROXIMATE LIMITS OF DISPOSED WASTE

NOTE:  
WELL 3151 IS UNABLE TO BE LOCATED  
(ASSUMED TO BE PAVED OVER)

**figure 2.1**  
**SITE PLAN**  
**LOVE CANAL SITE**  
**GLENN SPRINGS HOLDINGS, INC.**  
*Niagara Falls, New York*







**LEGEND**

- x — x — FENCE LINE

- - - - - BARRIER DRAIN

— LATERAL TRENCH

○ MH-1 MANHOLE LOCATION

■ PC-1 PUMP CHAMBER FOR LEACHATE COLLECTION

⊕ PC-3 PUMP CHAMBER / UNDERGROUND LEACHATE STORAGE TANK FOR LEACHATE COLLECTION AND TRANSFER

□ CO-MH3 FORCEMAIN CLEAN OUT MANHOLE

▨ APPROXIMATE LIMITS OF DISPOSED WASTE

NOTE:  
WELL 3151 IS UNABLE TO BE LOCATED  
(ASSUMED TO BE PAVED OVER)

figure 2.2  
**MANHOLE LOCATIONS**  
**LOVE CANAL SITE**  
**GLENN SPRINGS HOLDINGS, INC.**  
*Niagara Falls, New York*





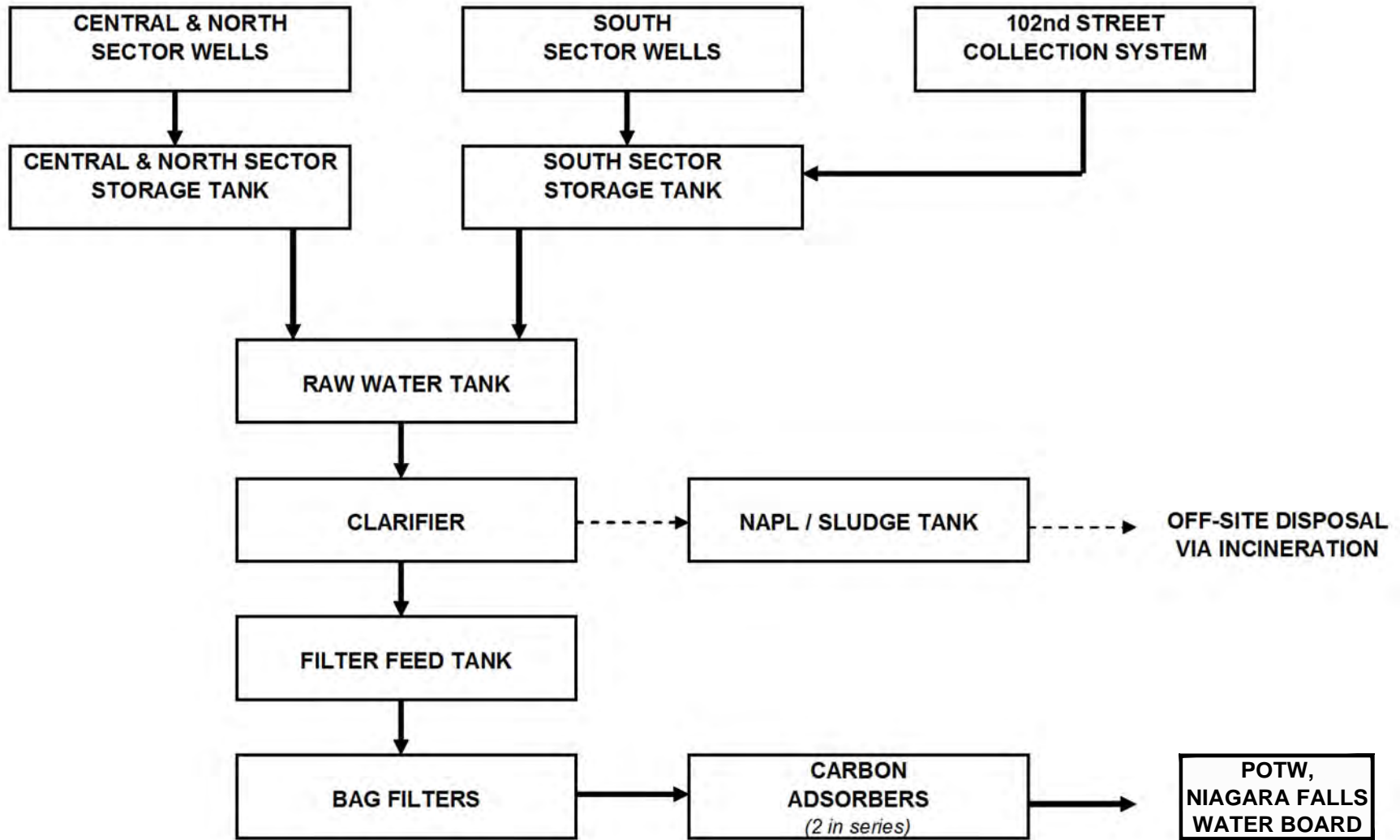
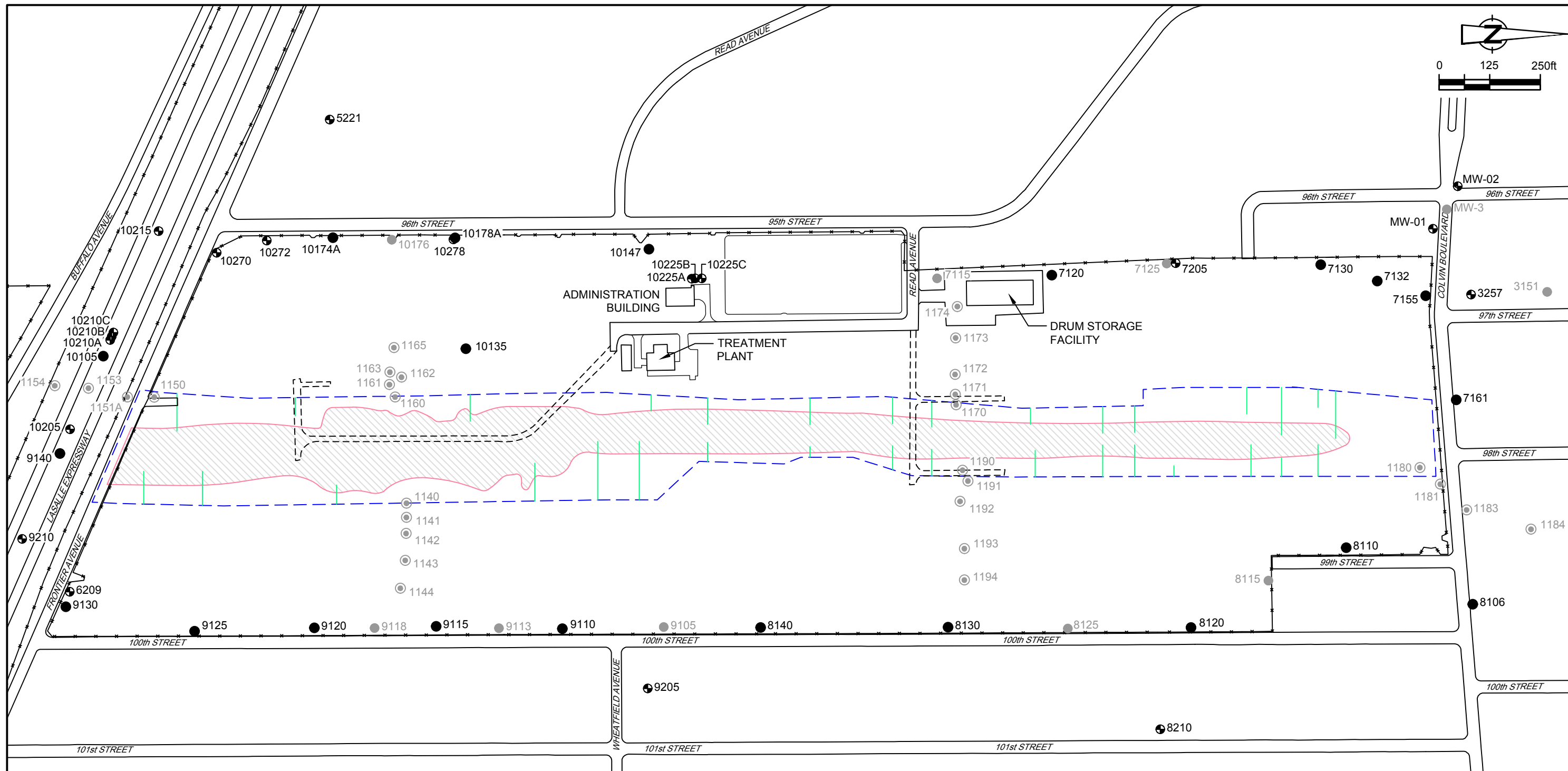


figure 3.1

PROCESS SCHEMATIC  
 LOVE CANAL SITE  
 GLENN SPRINGS HOLDINGS, INC.  
*Niagara Falls, New York*





**LEGEND**

- |           |                             |         |   |
|-----------|-----------------------------|---------|---|
| —x—x—     | FENCE LINE                  | ● 5222  | BEDROCK OBSERVATION WELL                    |
| - - - - - | BARRIER DRAIN               | ● 9205  | OVERBURDEN OBSERVATION WELL SAMPLED IN 2017 |
| — — — — — | LATERAL TRENCH              | ● 10270 | BEDROCK OBSERVATION WELL SAMPLED IN 2017    |
| ○ 7105    | PIEZOMETER                  | ▨       | APPROXIMATE LIMITS OF DISPOSED WASTE        |
| ● 9122    | OVERBURDEN OBSERVATION WELL |         |   |

NOTE:  
WELL 3151 IS UNABLE TO BE LOCATED  
(ASSUMED TO BE PAVED OVER)

figure 3.2  
2017 GROUNDWATER MONITORING LOCATIONS  
LOVE CANAL SITE  
GLENN SPRINGS HOLDINGS, INC.  
Niagara Falls, New York



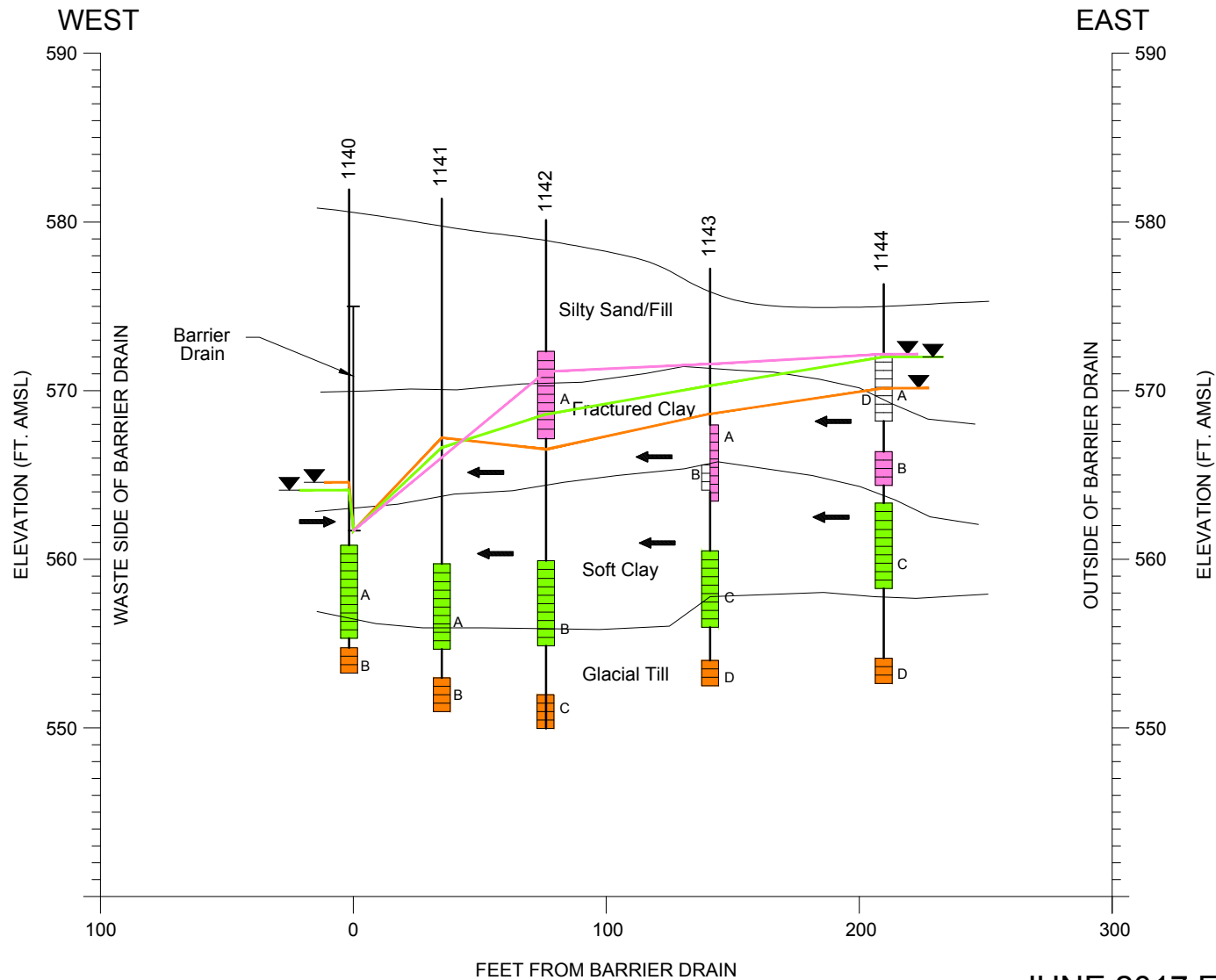


figure 3.3

JUNE 2017 FLOW DIAGRAM  
 1140 SERIES PIEZOMETERS  
 LOVE CANAL SITE  
 GLENN SPRINGS HOLDINGS, INC.  
*Niagara Falls, New York*

**LEGEND**

- |   |                        |   |                                  |
|---|------------------------|---|----------------------------------|
| A | PIEZOMETER DESIGNATION | ▼ | GLACIAL TILL GROUNDWATER LEVEL   |
| → | FLOW DIRECTION         | ▼ | FRACTURED CLAY GROUNDWATER LEVEL |
| □ | SCREENED INTERVAL      | ▼ | SOFT CLAY GROUNDWATER LEVEL      |

- NOTES:  
 (1) GROUNDWATER LEVEL SHOWN MATCH THE COLORED SCREEN INTERVAL.  
 (2) PIEZOMETERS WERE INSTALLED IN SEPARATE BOREHOLES.



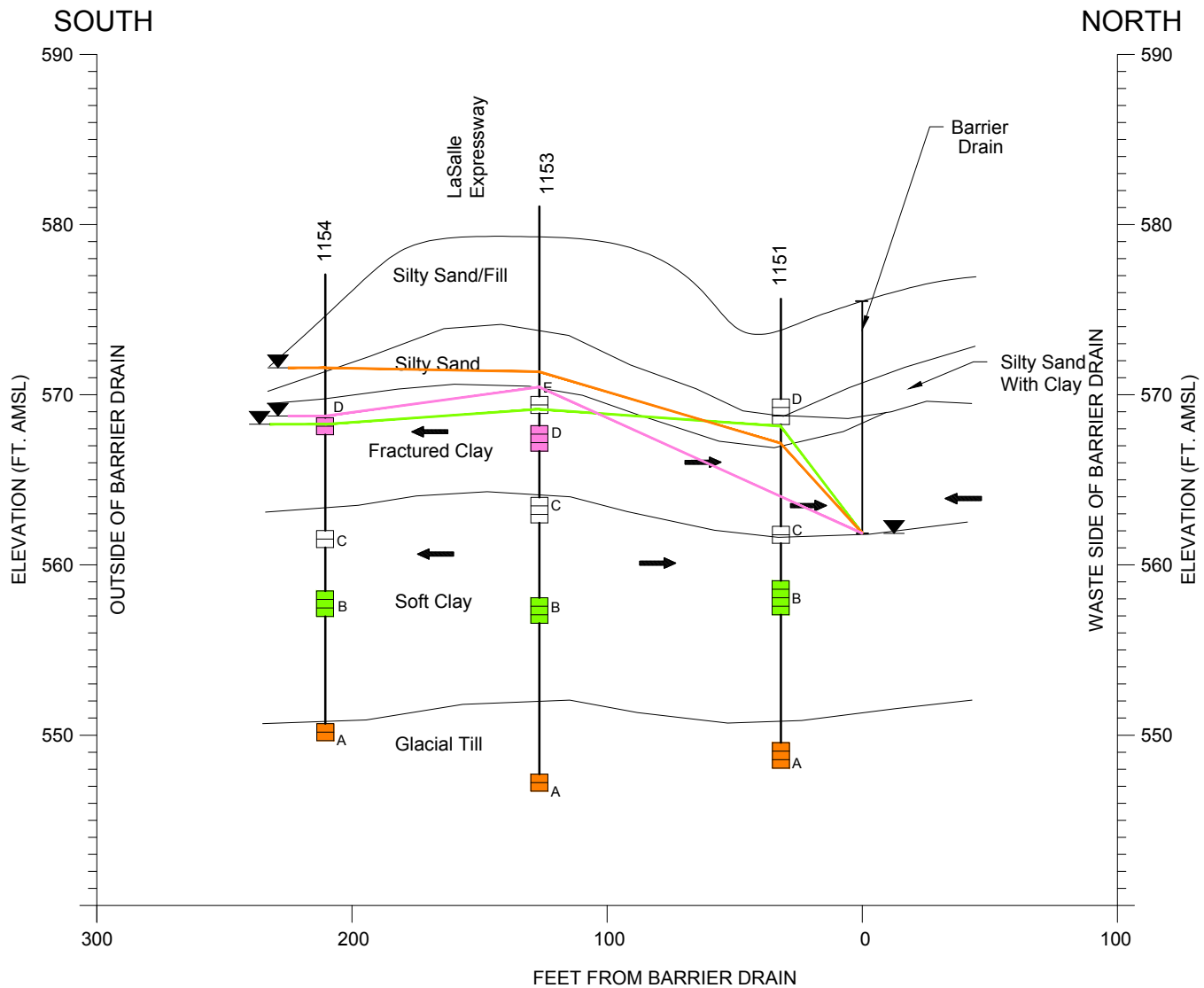


figure 3.4

JUNE 2017 FLOW DIAGRAM  
 1150 SERIES PIEZOMETERS  
 LOVE CANAL SITE  
 GLENN SPRINGS HOLDINGS, INC.  
 Niagara Falls, New York

**LEGEND**

- |   |                        |   |                                  |
|---|------------------------|---|----------------------------------|
| A | PIEZOMETER DESIGNATION | ▼ | GLACIAL TILL GROUNDWATER LEVEL   |
| → | FLOW DIRECTION         | ▼ | FRACTURED CLAY GROUNDWATER LEVEL |
| □ | SCREENED INTERVAL      | ▼ | SOFT CLAY GROUNDWATER LEVEL      |

**NOTES:**

- (1) GROUNDWATER LEVEL SHOWN MATCH THE COLORED SCREEN INTERVAL.
- (2) PIEZOMETERS WERE INSTALLED IN SEPARATE BOREHOLES.



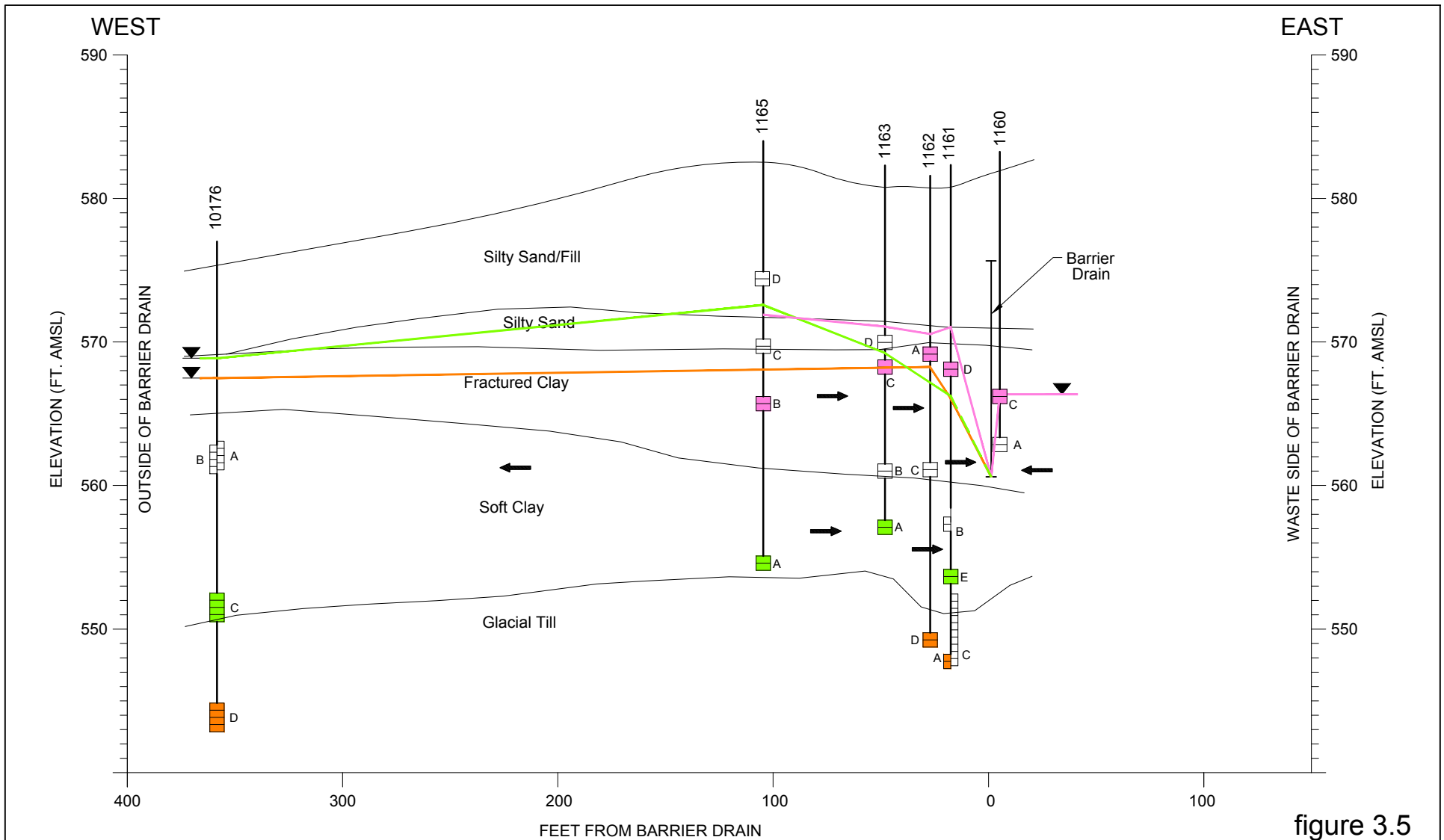


figure 3.5

**JUNE 2017 FLOW DIAGRAM  
1160 SERIES PIEZOMETERS  
LOVE CANAL SITE  
GLENN SPRINGS HOLDINGS, INC.  
*Niagara Falls, New York***

**LEGEND**

- |   |                        |   |                                  |
|---|------------------------|---|----------------------------------|
| A | PIEZOMETER DESIGNATION | ▼ | GLACIAL TILL GROUNDWATER LEVEL   |
| → | FLOW DIRECTION         | ▼ | FRACTURED CLAY GROUNDWATER LEVEL |
| □ | SCREENED INTERVAL      | ▼ | SOFT CLAY GROUNDWATER LEVEL      |

- NOTES:**
- (1) GROUNDWATER LEVEL SHOWN MATCH THE COLORED SCREEN INTERVAL.
  - (2) PIEZOMETERS WERE INSTALLED IN SEPARATE BOREHOLES.
  - (3) WELL SCREEN 1163 D MOVED UP TO MATCH FIELD MEASUREMENTS.



WEST

EAST

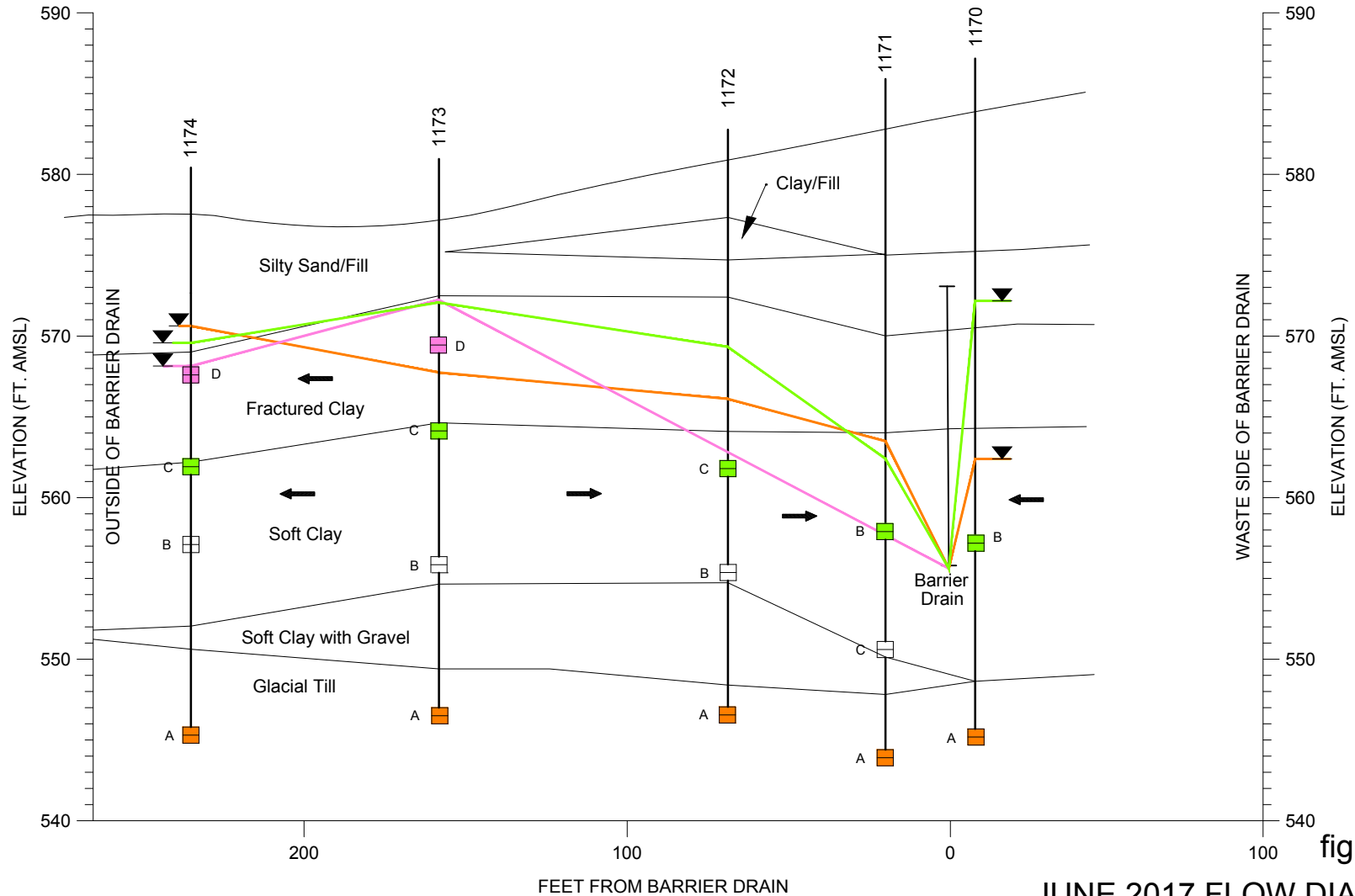


figure 3.6

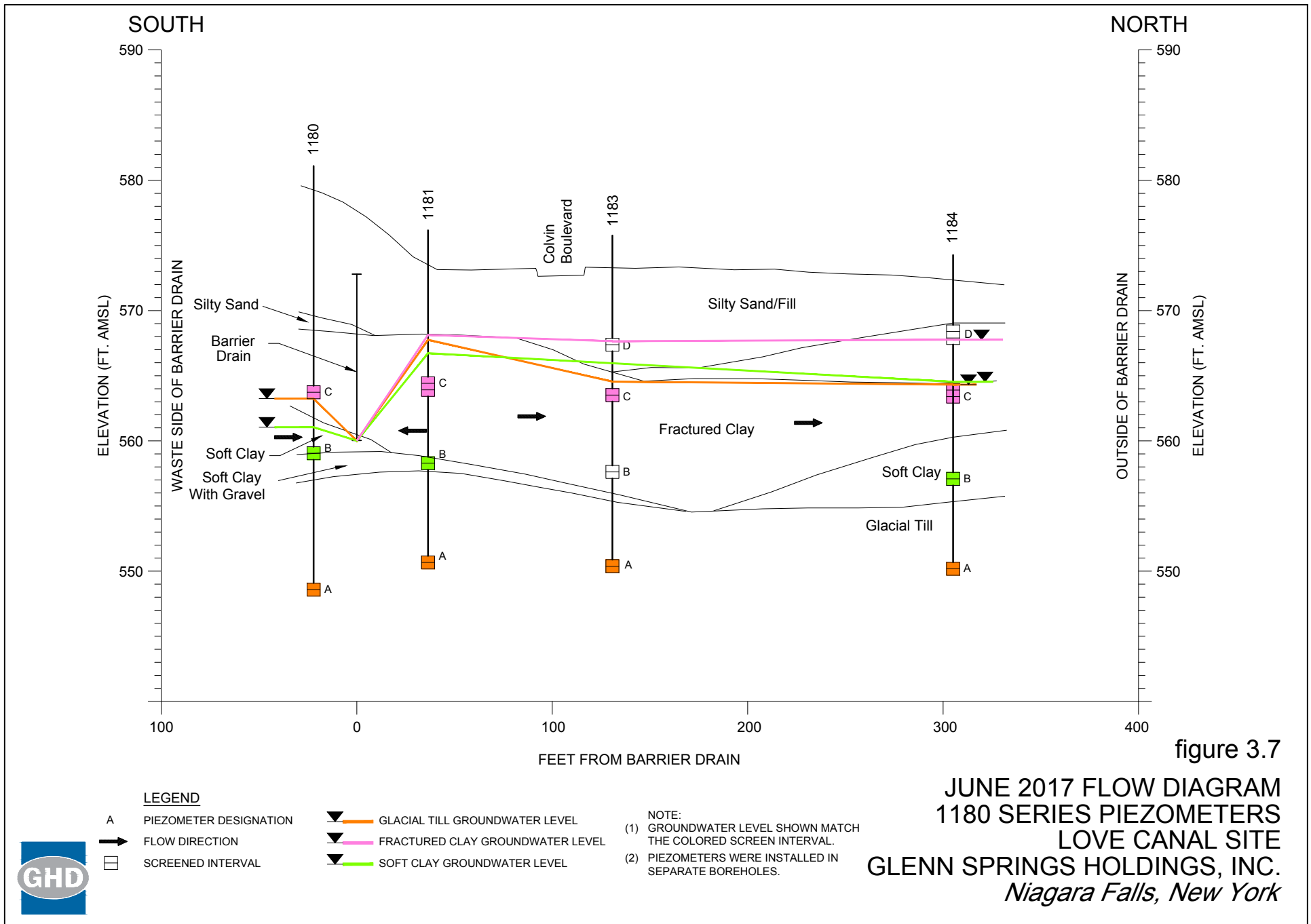
LEGEND

- A   PIEZOMETER DESIGNATION
- FLOW DIRECTION
- SCREENED INTERVAL
- ▼   GLACIAL TILL GROUNDWATER LEVEL
- ▼   FRACTURED CLAY GROUNDWATER LEVEL
- ▼   SOFT CLAY GROUNDWATER LEVEL

- NOTES:
- (1) GROUNDWATER LEVEL SHOWN MATCH THE COLORED SCREEN INTERVAL.
  - (2) PIEZOMETERS WERE INSTALLED IN SEPARATE BOREHOLES.

JUNE 2017 FLOW DIAGRAM  
 1170 SERIES PIEZOMETERS  
 LOVE CANAL SITE  
 GLENN SPRINGS HOLDINGS, INC.  
*Niagara Falls, New York*





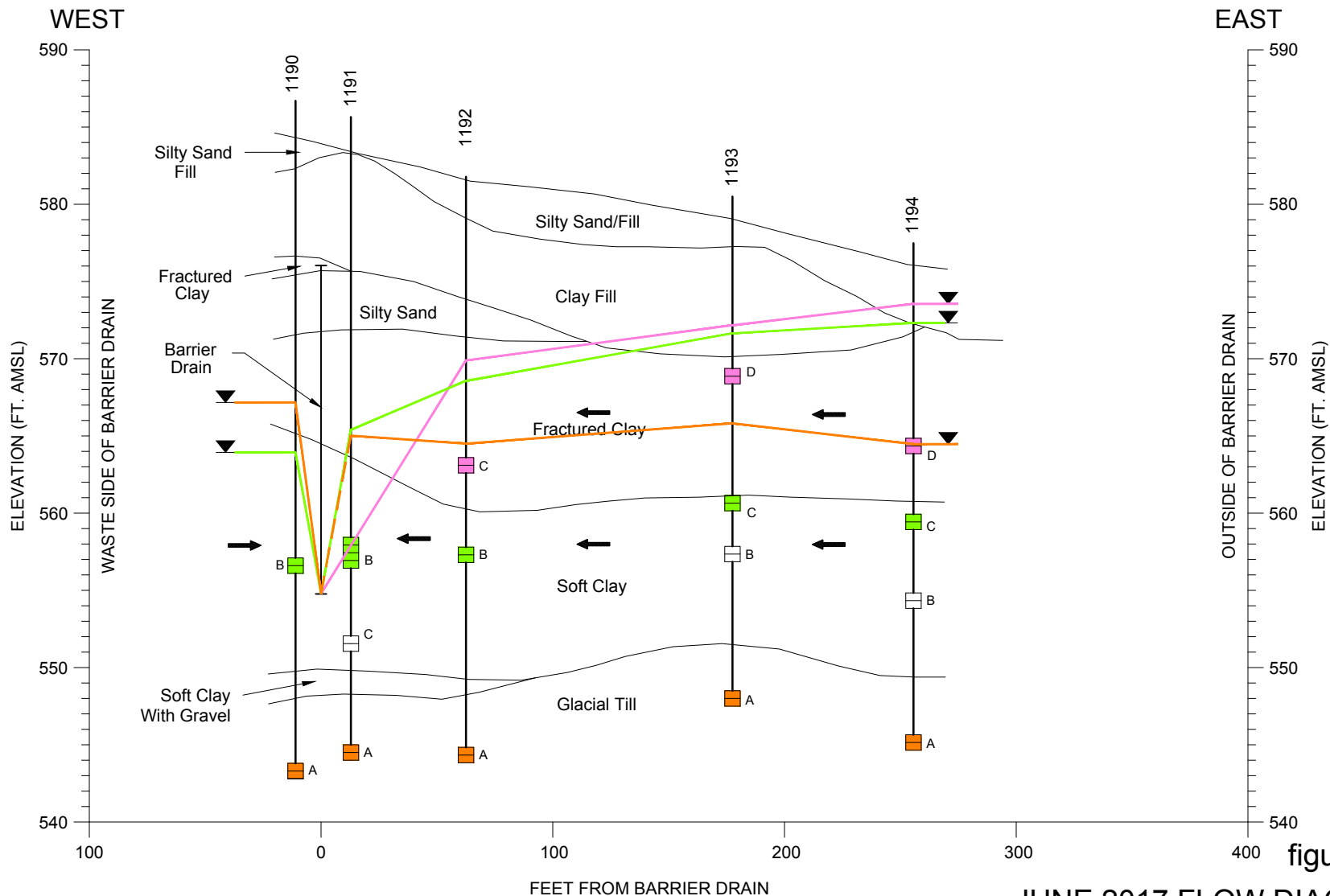


figure 3.8

**LEGEND**

- A   PIEZOMETER DESIGNATION
- ▶   FLOW DIRECTION
- SCREENED INTERVAL
- ▶   GLACIAL TILL GROUNDWATER LEVEL
- ▶   FRACTURED CLAY GROUNDWATER LEVEL
- ▶   SOFT CLAY GROUNDWATER LEVEL

NOTE:  
 (1) GROUNDWATER LEVEL SHOWN MATCH THE COLORED SCREEN INTERVAL.  
 (2) PIEZOMETERS WERE INSTALLED IN SEPARATE BOREHOLES.

**JUNE 2017 FLOW DIAGRAM  
 1190 SERIES PIEZOMETERS  
 LOVE CANAL SITE  
 GLENN SPRINGS HOLDINGS, INC.  
 Niagara Falls, New York**







Table 3.1

Monthly Volumes of Groundwater Treated  
Love Canal Long-Term Monitoring Program  
Glenn Springs holdings, Inc.

		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
January	Gross	495,800	396,900	488,900	419,400	309,200	841,400	855,900	993,400	674,000	523,500	534,400	346,900	571,900	600,400	519,614	363,043	385,636	563,854
	Net <sup>(1)</sup>	280,364	282,480	422,682	374,123	260,171	796,518	817,305	970,918	649,777	495,713	471,805	322,994	546,816	575,767	499,889	346,565	370,676	548,797
	Days <sup>(2)</sup>	21	20	21	14	10	17	16	20	18	16	17	18	15	18	20	14	18	19
February	Gross <sup>(3)</sup>	480,400	560,000	663,700	266,300	330,000	440,200	437,300	216,600	570,000	506,700	314,300	375,800	656,700	495,900	291,292	68,244	634,159	371,608
	Net	368,492	468,863	608,116	231,049	291,082	401,137	405,124	174,776	539,772	485,869	276,643	349,712	634,167	478,434	277,226	55,548	619,942	357,557
	Days	21	19	20	13	9	11	9	7	16	13	10	19	16	19	15	16	19	13
March	Gross	505,500	616,400	364,900	721,500	1,038,400	698,900	436,800	582,500	570,500	606,900	550,100	1,003,700	384,500	488,000	388,937	658,775	544,972	641,911
	Net	290,501	493,476	316,696	667,337	986,332	667,105	402,047	560,237	550,518	582,109	526,021	978,000	363,378	467,083	375,154	642,149	529,757	629,687
	Days	23	21	21	17	21	13	13	16	12	18	17	21	16	20	17	20	21	20
April	Gross	675,600	352,300	689,700	432,800	800,400	805,300	184,800	447,200	602,000	414,900	498,200	676,400	334,400	533,800	786,808	575,949	531,147	1,053,394
	Net	547,926	262,946	629,683	380,745	767,982	769,514	155,028	420,133	574,359	377,080	466,778	652,656	316,188	516,478	768,257	561,287	517,498	1,041,670
	Days	20	20	20	16	17	14	6	14	12	16	15	11	18	22	20	17	19	24
May	Gross	473,300	311,200	589,500	425,400	326,500	183,400	121,800	323,200	172,900	306,200	379,400	942,700	363,100	148,500	444,598	113,599	175,158	983,450
	Net	335,331	207,580	532,251	379,299	294,612	156,846	93,394	297,471	147,715	267,700	348,837	917,206	341,424	129,687	428,177	99,179	163,324	971,685
	Days	20	17	20	14	10	5	4	12	11	14	18	17	16	18	21	12	15	25
June	Gross	632,200	202,200	395,100	367,900	253,200	160,800	130,700	173,300	128,700	110,000	205,200	473,100	142,000	497,300	168,921	262,025	98,255	178,582
	Net	486,721	132,132	347,485	303,576	208,659	118,979	104,449	148,638	107,411	79,200	174,305	449,046	118,568	478,285	152,639	245,083	83,122	164,597
	Days	20	16	14	13	9	6	5	4	6	7	13	16	12	18	12	19	11	15
July	Gross	333,900	182,200	194,500	187,700	137,700	92,600	195,500	129,100	164,760	187,900	85,600	79,700	98,400	280,000	151,772	138,495	77,140	335,930
	Net	184,955	111,941	145,344	142,849	111,217	78,234	183,084	99,026	141,442	153,170	55,670	53,632	72,435	260,823	123,921	122,874	62,847	322,782
	Days	20	16	16	11	7	3	5	6	6	7	4	5	9	19	15	16	12	18
August	Gross	437,100	267,200	151,300	158,600	301,900	98,800	322,440	120,800	197,340	369,400	184,300	193,900	73,960	193,144	98,166	108,376	65,714	242,754
	Net	286,925	194,821	107,928	114,497	269,934	55,055	293,900	106,040	191,068	347,425	162,562	166,652	49,422	168,418	83,010	91,308	50,772	228,321
	Days	23	18	17	8	10	5	10	5	6	18	8	13	8	21	9	7	6	17
September	Gross	209,600	144,900	148,600	105,800	484,800	317,900	249,160	68,400	152,200	101,500	88,100	47,800	161,100	131,289	139,016	151,905	96,279	114,926
	Net	82,263	81,619	94,401	60,350	435,482	284,315	213,343	49,041	122,101	76,057	56,678	21,679	136,728	110,397	111,392	134,935	79,011	100,242
	Days	20	16	12	7	12	8	7	4	9	7	2	6	17	23	13	12	11	8
October	Gross	264,300	438,500	154,600	211,000	135,700	486,300	919,200	173,000	296,100	199,200	120,200	417,500	318,400	503,036	121,075	146,842	124,508	286,862
	Net	134,248	348,153	108,226	211,000	94,476	445,560	892,734	141,650	274,068	129,035	88,537	389,696	291,391	480,233	94,680	123,794	104,726	270,291
	Days	20	18	13	9	4	10	18	8	13	8	5	14	19	20	11	11	11	12
November	Gross	250,900	250,400	360,800	356,800	211,400	524,600	691,800	90,100	449,700	210,100	263,400	350,100	526,900	538,978	107,729	146,722	101,686	686,365
	Net	132,728	194,481	306,258	310,650	186,999	494,443	658,765	77,506	414,149	152,302	233,159	322,735	504,290	520,087	85,439	127,799	85,421	669,770
	Days	17	16	14	12	5	14	14	3	14	12	15	12	20	19	15	12	11	22
December	Gross	522,600	555,300	549,600	692,300	674,400	502,000	510,400	345,700	757,500	506,200	510,900	952,000	517,700	677,411	471,085	155,368	335,448	278,817
	Net	421,149	475,856	496,556	643,735	622,403	476,165	492,900	317,790	733,582	467,578	483,221	926,201	493,061	660,890	456,099	138,929	318,036	264,686
	Days	17	18	15	14	14	12	12	8	20	17	17	19	14	17	14	13	14	19
Total	Gross	5,281,200	4,277,500	4,751,200	4,345,500	5,003,600	5,152,200	5,055,800	3,663,300	4,735,700	4,042,500	3,734,100	5,859,600	4,149,060	5,087,758	3,689,013	2,889,343	3,170,102	5,738,453
	Net	3,551,603	3,254,348	4,115,626	3,819,210	4,529,349	4,743,871	4,712,073	3,363,226	4,445,962	3,613,238	3,344,216	5,550,209	3,867,868	4,846,582	3,455,883	2,689,450	2,985,132	5,570,085
	Days	242	215	203	148	128	118	119	107	143	153	141	171	180	234	186	172	168	212
Monthly Average	Gross	440,100	356,458	395,933	362,125	416,967	429,350	421,317	305,275	394,642	336,875	311,175	488,300	345,755	423,980	307,418	240,779	264,175	478,204
	Net	295,967	271,196	342,969	318,268	377,446	395,323	392,673	280,269	370,497	301,103	278,685	462,517	322,322	403,882	287,990	224,121	248,761	464,174
	Days	20	18	17	12	11	10	10	9	12	13	12	14	15	20	16	14	14	18
Precipitation Inches <sup>(4)</sup>		36.33	29.56	31.05	32.03	36.33	35.99	38.66	24.02	36.45	37.85	34.54	40.26	31.87	40.66	35.12	24.99	23.33	41.36

Notes:

- (1) - Gross: Total volume of leachate treated in gallons; treatment at LCTF includes leachate collected from 102nd Street Landfill Site.
- (2) - Net: Love Canal leachate treated in gallons; net is equal to the total (gross) leachate treated less leachate received from 102nd Street.
- (3) - Days: Number of days treatment facility discharged to the sanitary sewer.
- (4) - Precipitation data obtained from the National Climatic Data Center for Niagara Falls International Airport.

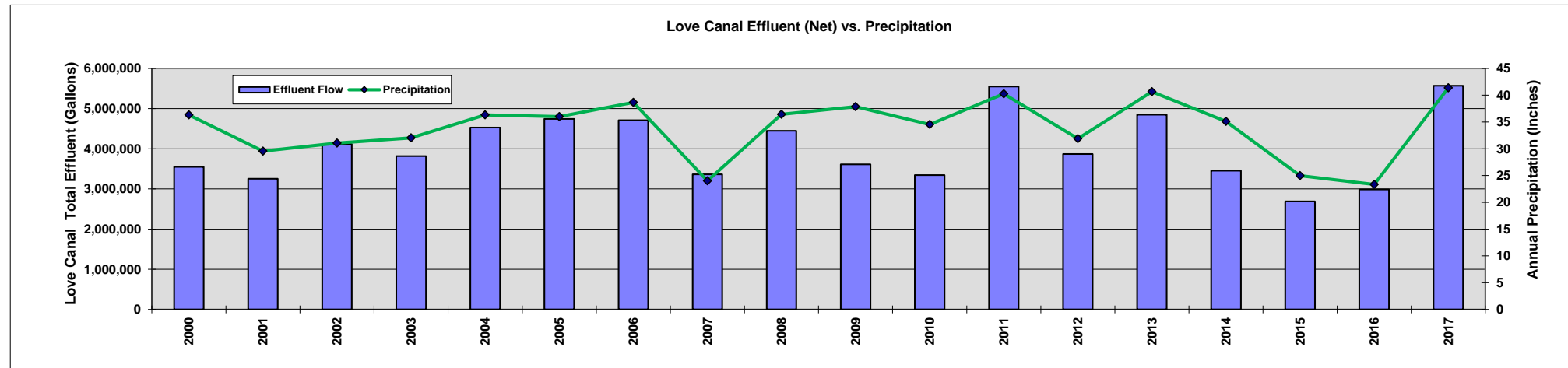


Table 3.2

2017 Analytical Results Summary-Overburden  
Love Canal Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.

Sample Location:	7120	7130	7132	7155	7161	8106	8110	8120	
Sample ID:	WG-9954-070517-SG-001	WG-9954-071917-SG-043	WG-9954-070517-SG-002	WG-9954-070517-SG-003	WG-9954-071917-SG-041	WG-9954-071917-SG-040	WG-9954-070517-SG-004	WG-9954-070517-SG-005	
Sample Date:	07/05/2017	07/19/2017	07/05/2017	07/05/2017	07/19/2017	07/19/2017	07/05/2017	07/05/2017	
Parameters	Units								
<b>Volatile Organic Compounds</b>									
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
1,1,2,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
1,1-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
1,1-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	
2-Hexanone	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	
Acetone	µg/L	10 U	2.4 J	10 U	10 U	2.8 J	4.1 J	10 U	
Benzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Bromodichloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Bromoform	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Bromomethane (Methyl bromide)	µg/L	5.0 UJ	5.0 U	5.0 UJ	5.0 UJ	5.0 U	5.0 UJ	5.0 UJ	
Carbon disulfide	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	
Carbon tetrachloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Chlorobenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Chloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Chloroform (Trichloromethane)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Chloromethane (Methyl chloride)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.34 J	5.0 U	
cis-1,2-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Dibromochloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Ethylbenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Styrene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Tetrachloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Toluene	µg/L	5.0 U	5.0 U	5.0 U	0.24 J	5.0 U	5.0 U	5.0 U	
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Trichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Vinyl acetate	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	
Vinyl chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Xylenes (total)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
<b>Discrete Compounds Detected:</b>		0	1	0	1	1	2	0	0
<b>Semi-volatile Organic Compounds</b>									
1,2,4-Trichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	
1,2-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	
1,3-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	
1,4-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	
2,4,5-Trichlorophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	
2,4,6-Trichlorophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	
2,4-Dichlorophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	
2,4-Dimethylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	
2,4-Dinitrophenol	µg/L	47 U	47 U	47 U	47 U	47 U	47 U	47 U	
2,4-Dinitrotoluene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	
2,6-Dinitrotoluene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	
2-Chloronaphthalene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	
2-Chlorophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	
2-Methylnaphthalene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	
2-Methylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	
2-Nitroaniline	µg/L	47 U	47 U	47 U	47 U	47 U	47 U	47 U	
2-Nitrophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	
3,3'-Dichlorobenzidine	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	
3-Nitroaniline	µg/L	47 U	47 U	47 U	47 U	47 U	47 U	47 U	
4,6-Dinitro-2-methylphenol	µg/L	47 U	47 U	47 U	47 U	47 U	47 U	47 U	

Table 3.2

2017 Analytical Results Summary-Overburden  
Love Canal Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.

Sample Location:	7120	7130	7132	7155	7161	8106	8110	8120
Sample ID:	WG-9954-070517-SG-001	WG-9954-071917-SG-043	WG-9954-070517-SG-002	WG-9954-070517-SG-003	WG-9954-071917-SG-041	WG-9954-071917-SG-040	WG-9954-070517-SG-004	WG-9954-070517-SG-005
Sample Date:	07/05/2017	07/19/2017	07/05/2017	07/05/2017	07/19/2017	07/19/2017	07/05/2017	07/05/2017
Parameters	Units							
<b>Semi-volatile Organic Compounds-Continued</b>								
4-Bromophenyl phenyl ether	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Chloro-3-methylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Chloroaniline	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Chlorophenyl phenyl ether	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Methylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Nitroaniline	µg/L	47 U	47 U	47 U	47 U	47 U	47 U	47 U
4-Nitrophenol	µg/L	47 U	47 U	47 U	47 U	47 U	47 U	47 U
Acenaphthene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Acenaphthylene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Anthracene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(a)anthracene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(a)pyrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(b)fluoranthene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(g,h,i)perylene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(k)fluoranthene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzoic acid	µg/L	47 U	47 U	47 U	47 U	47 U	47 U	47 U
Benzyl alcohol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethoxy)methane	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethyl)ether	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Butyl benzylphthalate (BBP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Chrysene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Dibenz(a,h)anthracene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Dibenzofuran	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Diethyl phthalate	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Dimethyl phthalate	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Di-n-butylphthalate (DBP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Di-n-octyl phthalate (DnOP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Fluoranthene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Fluorene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Hexachlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Hexachlorobutadiene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Hexachlorocyclopentadiene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Hexachloroethane	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Indeno(1,2,3-cd)pyrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Isophorone	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Naphthalene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Nitrobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
N-Nitrosodi-n-propylamine	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
N-Nitrosodiphenylamine	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Pentachlorophenol	µg/L	47 U	47 U	47 U	47 U	47 U	47 U	47 U
Phenanthrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Phenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Pyrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
<b>Discrete Compounds Detected:</b>		0	0	0	0	0	0	0
<b>Polychlorinated Biphenyls (PCBs)</b>								
Aroclor-1016 (PCB-1016)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1221 (PCB-1221)	µg/L	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Aroclor-1232 (PCB-1232)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1242 (PCB-1242)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1248 (PCB-1248)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1254 (PCB-1254)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1260 (PCB-1260)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
<b>Discrete Compounds Detected:</b>		0	0	0	0	0	0	0

Table 3.2

2017 Analytical Results Summary-Overburden  
Love Canal Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.

Sample Location:	7120	7130	7132	7155	7161	8106	8110	8120	
Sample ID:	WG-9954-070517-SG-001	WG-9954-071917-SG-043	WG-9954-070517-SG-002	WG-9954-070517-SG-003	WG-9954-071917-SG-041	WG-9954-071917-SG-040	WG-9954-070517-SG-004	WG-9954-070517-SG-005	
Sample Date:	07/05/2017	07/19/2017	07/05/2017	07/05/2017	07/19/2017	07/19/2017	07/05/2017	07/05/2017	
Parameters	Units								
<b>Pesticides</b>									
4,4'-DDD	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
4,4'-DDE	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
4,4'-DDT	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
Aldrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
alpha-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
alpha-Chlordane	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
beta-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
delta-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
Dieldrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
Endosulfan I	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
Endosulfan II	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
Endosulfan sulfate	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
Endrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
Endrin ketone	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
gamma-BHC (lindane)	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
gamma-Chlordane	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
Heptachlor	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
Heptachlor epoxide	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
Methoxychlor	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
Toxaphene	µg/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	
<b>Discrete Compounds Detected:</b>		0	0	0	0	0	0	0	

Notes:

- J - Estimated concentration
- U - Not detected at the associated reporting limit
- UJ - Not detected; associated reporting limit is estimated
- R - Results rejected. Refer to Appendix F-Data Validation Memo for explanation(s)

Table 3.2

2017 Analytical Results Summary-Overburden  
Love Canal Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.

Sample Location:	8130	8140	9110	9115	9120	9120	9125	9130
Sample ID:	WG-9954-070717-SG-013	WG-9954-070617-SG-011	WG-9954-070617-SG-010	WG-9954-070617-SG-009	WG-9954-070617-SG-007	WG-9954-070617-SG-008	WG-9954-070617-SG-006	WG-9954-071417-SG-034
Sample Date:	07/07/2017	07/06/2017	07/06/2017	07/06/2017	07/06/2017	07/06/2017 Duplicate	07/06/2017	07/14/2017
Parameters	Units							
<b>Volatile Organic Compounds</b>								
1,1,1-Trichloroethane	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	10 U	6.5 J	2.4 J	3.0 J	2.8 J	4.6 J	3.6 J	2.6 J
Benzene	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	5.0 U
Carbon disulfide	10 U	10 U	10 U	10 U	10 U	10 U	10 U	0.85 J
Carbon tetrachloride	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane (Methyl chloride)	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.53 J
cis-1,2-Dichloropropene	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,3-Dichloropropene	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl acetate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl chloride	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Xylenes (total)	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
<b>Discrete Compounds Detected:</b>	0	1	1	1	1	1	1	3
<b>Semi-volatile Organic Compounds</b>								
1,2,4-Trichlorobenzene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
1,2-Dichlorobenzene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
1,3-Dichlorobenzene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
1,4-Dichlorobenzene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4,5-Trichlorophenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4,6-Trichlorophenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dichlorophenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dimethylphenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dinitrophenol	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
2,4-Dinitrotoluene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,6-Dinitrotoluene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Chloronaphthalene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Chlorophenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Methylnaphthalene	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Methylphenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Nitroaniline	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
2-Nitrophenol	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
3,3'-Dichlorobenzidine	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
3-Nitroaniline	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
4,6-Dinitro-2-methylphenol	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U

Table 3.2

2017 Analytical Results Summary-Overburden  
Love Canal Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.

Sample Location:	8130	8140	9110	9115	9120	9120	9125	9130
Sample ID:	WG-9954-070717-SG-013	WG-9954-070617-SG-011	WG-9954-070617-SG-010	WG-9954-070617-SG-009	WG-9954-070617-SG-007	WG-9954-070617-SG-008	WG-9954-070617-SG-006	WG-9954-071417-SG-034
Sample Date:	07/07/2017	07/06/2017	07/06/2017	07/06/2017	07/06/2017	07/06/2017 Duplicate	07/06/2017	07/14/2017
Parameters	Units							
<b>Semi-volatile Organic Compounds-Continued</b>								
4-Bromophenyl phenyl ether	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Chloro-3-methylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Chloroaniline	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Chlorophenyl phenyl ether	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Methylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Nitroaniline	µg/L	47 U	47 U	47 U	47 U	47 U	47 U	47 U
4-Nitrophenol	µg/L	47 U	47 U	47 U	47 U	47 U	47 U	47 U
Acenaphthene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Acenaphthylene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Anthracene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(a)anthracene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(a)pyrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(b)fluoranthene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(g,h,i)perylene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(k)fluoranthene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzoic acid	µg/L	R	47 U	47 U	47 U	47 U	47 U	47 U
Benzyl alcohol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethoxy)methane	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethyl)ether	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Butyl benzylphthalate (BBP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Chrysene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Dibenz(a,h)anthracene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Dibenzofuran	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Diethyl phthalate	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Dimethyl phthalate	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Di-n-butylphthalate (DBP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Di-n-octyl phthalate (DnOP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Fluoranthene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Fluorene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Hexachlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Hexachlorobutadiene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Hexachlorocyclopentadiene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Hexachloroethane	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Indeno(1,2,3-cd)pyrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Isophorone	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Naphthalene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Nitrobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
N-Nitrosodi-n-propylamine	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
N-Nitrosodiphenylamine	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Pentachlorophenol	µg/L	47 U	47 U	47 U	47 U	47 U	47 U	47 U
Phenanthrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Phenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Pyrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
<b>Discrete Compounds Detected:</b>		0	0	0	0	0	0	0
<b>Polychlorinated Biphenyls (PCBs)</b>								
Aroclor-1016 (PCB-1016)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1221 (PCB-1221)	µg/L	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Aroclor-1232 (PCB-1232)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1242 (PCB-1242)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1248 (PCB-1248)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1254 (PCB-1254)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1260 (PCB-1260)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
<b>Discrete Compounds Detected:</b>		0	0	0	0	0	0	0

Table 3.2

2017 Analytical Results Summary-Overburden  
Love Canal Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.

Sample Location:	8130	8140	9110	9115	9120	9120	9125	9130	
Sample ID:	WG-9954-070717-SG-013	WG-9954-070617-SG-011	WG-9954-070617-SG-010	WG-9954-070617-SG-009	WG-9954-070617-SG-007	WG-9954-070617-SG-008	WG-9954-070617-SG-006	WG-9954-071417-SG-034	
Sample Date:	07/07/2017	07/06/2017	07/06/2017	07/06/2017	07/06/2017	07/06/2017 Duplicate	07/06/2017	07/14/2017	
Parameters	Units								
<b>Pesticides</b>									
4,4'-DDD	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
4,4'-DDE	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
4,4'-DDT	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
Aldrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
alpha-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
alpha-Chlordane	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
beta-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
delta-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.048 U	0.047 U	0.047 U	
Dieldrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
Endosulfan I	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
Endosulfan II	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
Endosulfan sulfate	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
Endrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
Endrin ketone	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
gamma-BHC (lindane)	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
gamma-Chlordane	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
Heptachlor	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
Heptachlor epoxide	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
Methoxychlor	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	
Toxaphene	µg/L	0.50 U	0.50 U	0.50 U	0.50 U	0.47 U	0.50 U	0.50 U	
<b>Discrete Compounds Detected:</b>		0	0	0	0	0	0	0	

Notes:

- J - Estimated concentration
- U - Not detected at the associated reporting limit
- UJ - Not detected; associated reporting limit is estimated
- R - Results rejected. Refer to Appendix F-Data Validation Memo for explan.



Table 3.2

**2017 Analytical Results Summary-Overburden  
Love Canal Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.**

Sample Location:	9140	10105	10135	10147	10174A	10178A
Sample ID:	WG-9954-071017-SG-021	WG-9954-071917-SG-044	WG-9954-070717-SG-012	WG-9954-071017-SG-015	WG-9954-071017-SG-014	WG-9954-121117-SG-045
Sample Date:	07/10/2017	07/19/2017	07/07/2017	07/10/2017	07/10/2017	12/11/2017
Parameters	Units					
<b>Volatile Organic Compounds</b>						
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	3.4 J	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	8.1	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	5.0 U	5.0 U	0.32 J	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10 U	10 U	5.1 J	10 U	10 U
2-Hexanone	µg/L	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	10 U	10 U	10 U	10 U	10 U
Acetone	µg/L	3.2 J	2.8 J	45	4.4 J	10 U
Benzene	µg/L	5.0 U	5.0 U	6300	5.0 U	5.0 U
Bromodichloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	µg/L	5.0 U	5.0 U	5.0 U	5.0 UJ	5.0 U
Carbon disulfide	µg/L	0.24 J	0.32 J	0.31 J	10 U	10 U
Carbon tetrachloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	µg/L	5.0 U	5.0 U	2600	5.0 U	5.0 U
Chloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	µg/L	5.0 U	5.0 U	100	5.0 U	5.0 U
Chloromethane (Methyl chloride)	µg/L	5.0 U	5.0 U	0.24 J	5.0 U	5.0 U
cis-1,2-Dichloropropene	µg/L	5.0 U	5.0 U	31	5.0 U	5.0 U
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	µg/L	5.0 U	5.0 U	14	5.0 U	5.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	23	5.0 U	5.0 U
Styrene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	µg/L	5.0 U	5.0 U	17	5.0 U	5.0 U
Toluene	µg/L	5.0 U	5.0 U	19000	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	31	5.0 U	5.0 U
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.0 U	5.0 U	73	5.0 U	5.0 U
Vinyl acetate	µg/L	10 U	10 U	10 U	10 U	10 U
Vinyl chloride	µg/L	5.0 U	5.0 U	15	5.0 U	5.0 U
Xylenes (total)	µg/L	5.0 U	5.0 U	58	5.0 U	5.0 U
<b>Discrete Compounds Detected:</b>		2	2	19	1	0
<b>Semi-volatile Organic Compounds</b>						
1,2,4-Trichlorobenzene	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
1,2-Dichlorobenzene	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
1,3-Dichlorobenzene	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
1,4-Dichlorobenzene	µg/L	19 U	9.4 U	44 J	9.4 U	9.4 U
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
2,4,5-Trichlorophenol	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
2,4,6-Trichlorophenol	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
2,4-Dichlorophenol	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
2,4-Dimethylphenol	µg/L	13 J	9.4 U	190 U	9.4 U	9.4 U
2,4-Dinitrophenol	µg/L	94 U	47 U	940 U	47 U	47 U
2,4-Dinitrotoluene	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
2,6-Dinitrotoluene	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
2-Chloronaphthalene	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
2-Chlorophenol	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
2-Methylnaphthalene	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
2-Methylphenol	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
2-Nitroaniline	µg/L	94 U	47 U	940 U	47 U	47 U
2-Nitrophenol	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
3,3'-Dichlorobenzidine	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
3-Nitroaniline	µg/L	94 U	47 U	940 U	47 U	47 U
4,6-Dinitro-2-methylphenol	µg/L	94 U	47 U	940 U	47 U	47 U

Table 3.2

2017 Analytical Results Summary-Overburden  
Love Canal Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.

Sample Location:	9140	10105	10135	10147	10174A	10178A
Sample ID:	WG-9954-071017-SG-021	WG-9954-071917-SG-044	WG-9954-070717-SG-012	WG-9954-071017-SG-015	WG-9954-071017-SG-014	WG-9954-121117-SG-045
Sample Date:	07/10/2017	07/19/2017	07/07/2017	07/10/2017	07/10/2017	12/11/2017
Parameters	Units					
<b>Semi-volatile Organic Compounds-Continued</b>						
4-Bromophenyl phenyl ether	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
4-Chloro-3-methylphenol	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
4-Chloroaniline	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
4-Chlorophenyl phenyl ether	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
4-Methylphenol	µg/L	19 U	9.4 U	34 J	9.4 U	9.4 U
4-Nitroaniline	µg/L	94 U	47 U	940 U	47 U	47 U
4-Nitrophenol	µg/L	94 U	47 U	940 U	47 U	47 U
Acenaphthene	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
Acenaphthylene	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
Anthracene	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
Benzo(a)anthracene	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
Benzo(a)pyrene	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
Benzo(b)fluoranthene	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
Benzo(g,h,i)perylene	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
Benzo(k)fluoranthene	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
Benzoic acid	µg/L	R	47 U	1600 J	R	47 U
Benzyl alcohol	µg/L	19 U	9.4 U	98 J	9.4 U	9.4 U
bis(2-Chloroethoxy)methane	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
bis(2-Chloroethyl)ether	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	160	9.4 U	190 U	9.4 U	9.4 U
Butyl benzylphthalate (BBP)	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
Chrysene	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
Dibenz(a,h)anthracene	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
Dibenzofuran	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
Diethyl phthalate	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
Dimethyl phthalate	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
Di-n-butylphthalate (DBP)	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
Di-n-octyl phthalate (DnOP)	µg/L	23	9.4 U	190 U	9.4 U	9.4 U
Fluoranthene	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
Fluorene	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
Hexachlorobenzene	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
Hexachlorobutadiene	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
Hexachlorocyclopentadiene	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
Hexachloroethane	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
Indeno(1,2,3-cd)pyrene	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
Isophorone	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
Naphthalene	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
Nitrobenzene	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
N-Nitrosodi-n-propylamine	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
N-Nitrosodiphenylamine	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
Pentachlorophenol	µg/L	94 U	47 U	940 U	47 U	47 U
Phenanthrene	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
Phenol	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
Pyrene	µg/L	19 U	9.4 U	190 U	9.4 U	9.4 U
<b>Discrete Compounds Detected:</b>		2	0	4	0	0
<b>Polychlorinated Biphenyls (PCBs)</b>						
Aroclor-1016 (PCB-1016)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1221 (PCB-1221)	µg/L	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Aroclor-1232 (PCB-1232)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1242 (PCB-1242)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1248 (PCB-1248)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1254 (PCB-1254)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1260 (PCB-1260)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
<b>Discrete Compounds Detected:</b>		0	0	0	0	0

Table 3.2

2017 Analytical Results Summary-Overburden  
Love Canal Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.

Sample Location:	9140	10105	10135	10147	10174A	10178A
Sample ID:	WG-9954-071017-SG-021	WG-9954-071917-SG-044	WG-9954-070717-SG-012	WG-9954-071017-SG-015	WG-9954-071017-SG-014	WG-9954-121117-SG-045
Sample Date:	07/10/2017	07/19/2017	07/07/2017	07/10/2017	07/10/2017	12/11/2017
Parameters	Units					
<b>Pesticides</b>						
4,4'-DDD	µg/L	0.047 U	0.047 U	1.9 U	0.047 U	0.047 U
4,4'-DDE	µg/L	0.047 U	0.047 U	1.9 U	0.047 U	0.047 U
4,4'-DDT	µg/L	0.047 U	0.047 U	1.9 U	0.047 U	0.047 U
Aldrin	µg/L	0.047 U	0.047 U	1.9 U	0.047 U	0.047 U
alpha-BHC	µg/L	0.047 U	0.047 U	29	0.11 U	0.047 U
alpha-Chlordane	µg/L	0.047 U	0.047 U	1.9 U	0.047 U	0.047 U
beta-BHC	µg/L	0.047 U	0.047 U	10	0.047 U	0.047 U
delta-BHC	µg/L	0.047 U	0.047 U	12	0.047 U	0.047 U
Dieldrin	µg/L	0.047 U	0.047 U	1.9 U	0.047 U	0.047 U
Endosulfan I	µg/L	0.047 U	0.047 U	1.9 U	0.047 U	0.047 U
Endosulfan II	µg/L	0.047 U	0.047 U	1.9 U	0.047 U	0.047 U
Endosulfan sulfate	µg/L	0.047 U	0.047 U	1.9 U	0.047 U	0.047 U
Endrin	µg/L	0.047 U	0.047 U	1.9 U	0.047 U	0.047 U
Endrin ketone	µg/L	0.047 U	0.047 U	1.9 U	0.047 U	0.047 U
gamma-BHC (lindane)	µg/L	0.047 U	0.047 U	6.8	0.047 U	0.047 U
gamma-Chlordane	µg/L	0.047 U	0.047 U	1.9 U	0.047 U	0.047 U
Heptachlor	µg/L	0.047 U	0.047 U	1.9 U	0.047 U	0.047 U
Heptachlor epoxide	µg/L	0.047 U	0.047 U	1.9 U	0.047 U	0.047 U
Methoxychlor	µg/L	0.047 U	0.047 U	1.9 U	0.047 U	0.047 U
Toxaphene	µg/L	0.50 U	0.50 U	20 U	0.50 U	0.50 U
<b>Discrete Compounds Detected:</b>		0	0	4	0	0

Notes:

- J - Estimated concentration
- U - Not detected at the associated reporting limit
- UJ - Not detected; associated reporting limit is estimated
- R - Results rejected. Refer to Appendix F-Data Validation Memo for explan.

Table 3.3

2017 Analytical Results Summary-Bedrock  
Love Canal Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.

Sample Location:	3257	5221	6209	7205	7205	8210	9205	9210	10205
Sample ID:	WG-9954-071917-SG-042	WG-9954-071117-SG-025	WG-9954-071417-SG-033	WG-9954-071717-SG-037	WG-9954-071717-SG-038	WG-9954-071117-SG-029	WG-9954-071717-SG-036	WG-9954-071017-SG-020	WG-9954-071717-SG-035
Sample Date:	07/19/2017	07/11/2017	07/14/2017	07/17/2017	07/17/2017 Duplicate	07/11/2017	07/17/2017	07/10/2017	07/17/2017
Parameters	Units								
<b>Volatile Organic Compounds</b>									
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	µg/L	1.6 J	10 U	1.7 J	10 U	10 U	10 U	2.6 J	10 U
Benzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	µg/L	1.3 J	1.2 J	1.8 J	10 U	10 U	1.4 J	0.61 J	10 U
Carbon tetrachloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane (Methyl chloride)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	0.25 J	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl acetate	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Vinyl chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Xylenes (total)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
<b>Discrete Compounds Detected:</b>		2	1	2	0	0	2	0	2
<b>Semi-volatile Organic Compounds</b>									
1,2,4-Trichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
1,2-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
1,3-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
1,4-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ethe	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4,5-Trichlorophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4,6-Trichlorophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dichlorophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dimethylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dinitrophenol	µg/L	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
2,4-Dinitrotoluene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,6-Dinitrotoluene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Chloronaphthalene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Chlorophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Methylnaphthalene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Methylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Nitroaniline	µg/L	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
2-Nitrophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
3,3'-Dichlorobenzidine	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
3-Nitroaniline	µg/L	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
4,6-Dinitro-2-methylphenol	µg/L	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
4-Bromophenyl phenyl ether	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Chloro-3-methylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Chloroaniline	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Chlorophenyl phenyl ether	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Methylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	6.5 J	9.4 U	9.4 U
4-Nitroaniline	µg/L	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
4-Nitrophenol	µg/L	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
Acenaphthene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Acenaphthylene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Anthracene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(a)anthracene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(a)pyrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(b)fluoranthene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(g,h,i)perylene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U

Table 3.3

2017 Analytical Results Summary-Bedrock  
Love Canal Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.

Sample Location:	3257	5221	6209	7205	7205	8210	9205	9210	10205
Sample ID:	WG-9954-071917-SG-042	WG-9954-071117-SG-025	WG-9954-071417-SG-033	WG-9954-071717-SG-037	WG-9954-071717-SG-038	WG-9954-071117-SG-029	WG-9954-071717-SG-036	WG-9954-071017-SG-020	WG-9954-071717-SG-035
Sample Date:	07/19/2017	07/11/2017	07/14/2017	07/17/2017	07/17/2017 Duplicate	07/11/2017	07/17/2017	07/10/2017	07/17/2017
Parameters	Units								
<b>Semi-volatile Organic Compounds-Continued</b>									
Benzo(k)fluoranthene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzoic acid	µg/L	47 U	47 U	47 U	47 U	47 U	47 U	R	47 U
Benzyl alcohol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethoxy)methane	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethyl)ether	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Butyl benzylphthalate (BBP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Chrysene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Dibenz(a,h)anthracene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Dibenzofuran	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Diethyl phthalate	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Dimethyl phthalate	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Di-n-butylphthalate (DBP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Di-n-octyl phthalate (DnOP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Fluoranthene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Fluorene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Hexachlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Hexachlorobutadiene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Hexachlorocyclopentadiene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Hexachloroethane	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Indeno(1,2,3-cd)pyrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Isophorone	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Naphthalene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Nitrobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
N-Nitrosodi-n-propylamine	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
N-Nitrosodiphenylamine	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Pentachlorophenol	µg/L	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
Phenanthrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Phenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Pyrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
<b>Discrete Compounds Detected:</b>	0	0	0	0	0	0	1	0	0
<b>Polychlorinated Biphenyls (PCBs)</b>									
Aroclor-1016 (PCB-1016)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1221 (PCB-1221)	µg/L	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Aroclor-1232 (PCB-1232)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1242 (PCB-1242)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1248 (PCB-1248)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1254 (PCB-1254)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1260 (PCB-1260)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
<b>Discrete Compounds Detected:</b>	0	0	0	0	0	0	0	0	0
<b>Pesticides</b>									
4,4'-DDD	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
4,4'-DDE	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
4,4'-DDT	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Aldrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
alpha-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.043 J	0.047 U
alpha-Chlordane	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
beta-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
delta-BHC	µg/L	0.047 U	0.16 U	0.050 U	0.047 U	0.047 U	0.081	0.047 U	0.047 U
Dieldrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan I	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan II	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan sulfate	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Endrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Endrin ketone	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
gamma-BHC (lindane)	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.067	0.047 U	0.047 U
gamma-Chlordane	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Heptachlor	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Heptachlor epoxide	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Methoxychlor	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Toxaphene	µg/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
<b>Discrete Compounds Detected:</b>	0	0	0	0	0	0	3	0	0

Notes:

- J - Estimated concentration
- U - Not detected at the associated reporting limit
- N - Validator qualifier-presumptive certainty, usually used when there is a large difference in dual column results
- UJ - Not detected; associated reporting limit is estimated
- R - Rejected. Refer to Appendix F-Data Validation Memo for explanation(s)

Table 3.3

2017 Analytical Results Summary-Bedrock  
Love Canal Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.

Sample Location:	10210A	10210B	10210C	10215	10225A	10225B	10225B	10225C	10270	
Sample ID:	WG-9954-071017-SG-019	WG-9954-071017-SG-022	WG-9954-071017-SG-023	WG-9954-071117-SG-024	WG-9954-071017-SG-016	WG-9954-071017-SG-017	WG-9954-071017-SG-018	WG-9954-121117-SG-046	WG-9954-071417-SG-032	
Sample Date:	07/10/2017	07/10/2017	07/10/2017	07/11/2017	07/10/2017	07/10/2017	07/10/2017	12/11/2017	07/14/2017	
Parameters	Units									
<b>Volatile Organic Compounds</b>										
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
1,1,2,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
1,1-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
1,1-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	
2-Hexanone	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	
Acetone	µg/L	8.4 J	2.6 J	4.3 J	10 U	11	4.5 J	8.9 J	1.3 J	
Benzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Bromodichloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Bromoform	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Bromomethane (Methyl bromide)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Carbon disulfide	µg/L	2.0 J	3.4 J	0.77 J	1.7 J	3.1 J	1.2 J	1.2 J	3.5 J	
Carbon tetrachloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Chlorobenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.1 J	
Chloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Chloroform (Trichloromethane)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Chloromethane (Methyl chloride)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
cis-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	2.9 J	
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Dibromochloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Ethylbenzene	µg/L	0.35 J	5.0 U	5.0 U	5.0 U	0.43 J	5.0 U	5.0 U	5.0 U	
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Styrene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Tetrachloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Toluene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	0.27 J	0.29 J	0.33 J	5.0 U	
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Trichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	8.0	
Vinyl acetate	µg/L	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	
Vinyl chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
Xylenes (total)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	
<b>Discrete Compounds Detected:</b>		3	2	2	1	4	3	3	4	2
<b>Semi-volatile Organic Compounds</b>										
1,2,4-Trichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	8.2 J	9.4 U
1,2-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
1,3-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
1,4-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ethe	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4,5-Trichlorophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4,6-Trichlorophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dichlorophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dimethylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dinitrophenol	µg/L	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
2,4-Dinitrotoluene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2,6-Dinitrotoluene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Chloronaphthalene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Chlorophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Methylnaphthalene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Methylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
2-Nitroaniline	µg/L	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
2-Nitrophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
3,3'-Dichlorobenzidine	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
3-Nitroaniline	µg/L	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
4,6-Dinitro-2-methylphenol	µg/L	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
4-Bromophenyl phenyl ether	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Chloro-3-methylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Chloroaniline	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Chlorophenyl phenyl ether	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Methylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
4-Nitroaniline	µg/L	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
4-Nitrophenol	µg/L	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
Acenaphthene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Acenaphthylene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Anthracene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(a)anthracene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(a)pyrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(b)fluoranthene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(g,h,i)perylene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U

Table 3.3

2017 Analytical Results Summary-Bedrock  
Love Canal Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.

Sample Location: Sample ID: Sample Date:	10210A WG-9954-071017-SG-019 07/10/2017	10210B WG-9954-071017-SG-022 07/10/2017	10210C WG-9954-071017-SG-023 07/10/2017	10215 WG-9954-071117-SG-024 07/11/2017	10225A WG-9954-071017-SG-016 07/10/2017	10225B WG-9954-071017-SG-017 07/10/2017	10225B WG-9954-071017-SG-018 07/10/2017 Duplicate	10225C WG-9954-121117-SG-046 12/11/2017	10270 WG-9954-071417-SG-032 07/14/2017
<b>Parameters</b>	<b>Units</b>								
<b>Semi-volatile Organic Compounds-Continued</b>									
Benzo(k)fluoranthene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Benzoic acid	µg/L	R	R	R	47 U	R	R	47 U	47 U
Benzyl alcohol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethoxy)methane	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethyl)ether	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Butyl benzylphthalate (BBP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Chrysene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Dibenz(a,h)anthracene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Dibenzofuran	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Diethyl phthalate	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Dimethyl phthalate	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Di-n-butylphthalate (DBP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Di-n-octyl phthalate (DnOP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Fluoranthene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Fluorene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Hexachlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Hexachlorobutadiene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Hexachlorocyclopentadiene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Hexachloroethane	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Indeno(1,2,3-cd)pyrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Isophorone	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Naphthalene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Nitrobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
N-Nitrosodi-n-propylamine	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
N-Nitrosodiphenylamine	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Pentachlorophenol	µg/L	47 U	47 U	47 U	47 U	47 U	47 U	47 U	47 U
Phenanthrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Phenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
Pyrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U	9.4 U
<b>Discrete Compounds Detected:</b>	0	0	0	0	0	0	0	1	0
<b>Polychlorinated Biphenyls (PCBs)</b>									
Aroclor-1016 (PCB-1016)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1221 (PCB-1221)	µg/L	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U
Aroclor-1232 (PCB-1232)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1242 (PCB-1242)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1248 (PCB-1248)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1254 (PCB-1254)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1260 (PCB-1260)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U	0.94 U
<b>Discrete Compounds Detected:</b>	0	0	0	0	0	0	0	0	0
<b>Pesticides</b>									
4,4'-DDD	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
4,4'-DDE	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
4,4'-DDT	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Aldrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
alpha-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.19	0.047 U
alpha-Chlordane	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
beta-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
delta-BHC	µg/L	0.047 U	0.064 U	0.047 U	0.073 U	0.047 U	0.047 U	0.27	0.074 U
Dieldrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan I	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan II	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan sulfate	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Endrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Endrin ketone	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
gamma-BHC (lindane)	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.14	0.047 U
gamma-Chlordane	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Heptachlor	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Heptachlor epoxide	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Methoxychlor	µg/L	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U	0.047 U
Toxaphene	µg/L	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
<b>Discrete Compounds Detected:</b>	0	0	0	0	0	0	0	3	0

Notes:  
 J - Estimated concentration  
 U - Not detected at the associated reporting limit  
 N - Validator qualifier-presumptive certainty, usually used when ther  
 UJ - Not detected; associated reporting limit is estimated  
 R - Rejected. Refer to Appendix F-Data Validation Memo for explan

Table 3.3

2017 Analytical Results Summary-Bedrock  
Love Canal Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.

Sample Location: Sample ID: Sample Date:	10272 WG-9954-071417-SG-031 07/14/2017	10278 WG-9954-071417-SG-030 07/14/2017	MW-01 WG-9954-071117-SG-026 07/11/2017	MW-02 WG-9954-071117-SG-027 07/11/2017	MW-02 WG-9954-071117-SG-028 07/11/2017 Duplicate
<b>Parameters</b>	<b>Units</b>				
<b>Volatile Organic Compounds</b>					
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10 U	10 U	10 U	10 U
2-Hexanone	µg/L	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	10 U	10 U	10 U	10 U
Acetone	µg/L	1.7 J	1.3 J	10 U	10 U
Benzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	µg/L	5.0 U	5.0 UJ	5.0 U	5.0 U
Carbon disulfide	µg/L	1.6 J	1.6 J	1.1 J	1.0 J
Carbon tetrachloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane (Methyl chloride)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl acetate	µg/L	10 U	10 U	10 U	10 U
Vinyl chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Xylenes (total)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
<b>Discrete Compounds Detected:</b>		2	2	1	1
<b>Semi-volatile Organic Compounds</b>					
1,2,4-Trichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
1,2-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
1,3-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
1,4-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ethe	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2,4,5-Trichlorophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2,4,6-Trichlorophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dichlorophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dimethylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dinitrophenol	µg/L	47 U	47 U	47 U	47 U
2,4-Dinitrotoluene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2,6-Dinitrotoluene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2-Chloronaphthalene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2-Chlorophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2-Methylnaphthalene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2-Methylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2-Nitroaniline	µg/L	47 U	47 U	47 U	47 U
2-Nitrophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
3,3'-Dichlorobenzidine	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
3-Nitroaniline	µg/L	47 U	47 U	47 U	47 U
4,6-Dinitro-2-methylphenol	µg/L	47 U	47 U	47 U	47 U
4-Bromophenyl phenyl ether	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
4-Chloro-3-methylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
4-Chloroaniline	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
4-Chlorophenyl phenyl ether	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
4-Methylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
4-Nitroaniline	µg/L	47 U	47 U	47 U	47 U
4-Nitrophenol	µg/L	47 U	47 U	47 U	47 U
Acenaphthene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Acenaphthylene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Anthracene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(a)anthracene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(a)pyrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(b)fluoranthene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(g,h,i)perylene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U



Table 3.3

2017 Analytical Results Summary-Bedrock  
Love Canal Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.

Sample Location: Sample ID: Sample Date:	10272 WG-9954-071417-SG-031 07/14/2017	10278 WG-9954-071417-SG-030 07/14/2017	MW-01 WG-9954-071117-SG-026 07/11/2017	MW-02 WG-9954-071117-SG-027 07/11/2017	MW-02 WG-9954-071117-SG-028 07/11/2017 Duplicate
<b>Parameters</b>	<b>Units</b>				
<b>Semi-volatile Organic Compounds-Continued</b>					
Benzo(k)fluoranthene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Benzoic acid	µg/L	47 U	47 U	47 U	47 U
Benzyl alcohol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethoxy)methane	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethyl)ether	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Butyl benzylphthalate (BBP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Chrysene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Dibenz(a,h)anthracene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Dibenzofuran	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Diethyl phthalate	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Dimethyl phthalate	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Di-n-butylphthalate (DBP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Di-n-octyl phthalate (DnOP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Fluoranthene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Fluorene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Hexachlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Hexachlorobutadiene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Hexachlorocyclopentadiene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Hexachloroethane	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Indeno(1,2,3-cd)pyrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Isophorone	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Naphthalene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Nitrobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
N-Nitrosodi-n-propylamine	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
N-Nitrosodiphenylamine	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Pentachlorophenol	µg/L	47 U	47 U	47 U	47 U
Phenanthrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Phenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Pyrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
<b>Discrete Compounds Detected:</b>		0	0	0	0
<b>Polychlorinated Biphenyls (PCBs)</b>					
Aroclor-1016 (PCB-1016)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1221 (PCB-1221)	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
Aroclor-1232 (PCB-1232)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1242 (PCB-1242)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1248 (PCB-1248)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1254 (PCB-1254)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1260 (PCB-1260)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
<b>Discrete Compounds Detected:</b>		0	0	0	0
<b>Pesticides</b>					
4,4'-DDD	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
4,4'-DDE	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
4,4'-DDT	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Aldrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
alpha-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
alpha-Chlordane	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
beta-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
delta-BHC	µg/L	0.086 U	0.075 U	0.047 U	0.047 U
Dieldrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan I	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan II	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan sulfate	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endrin ketone	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
gamma-BHC (lindane)	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
gamma-Chlordane	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Heptachlor	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Heptachlor epoxide	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Methoxychlor	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Toxaphene	µg/L	0.50 U	0.50 U	0.50 U	0.50 U
<b>Discrete Compounds Detected:</b>		0	0	0	0

Notes:  
 J - Estimated concentration  
 U - Not detected at the associated reporting limit  
 N - Validator qualifier-presumptive certainty, usually used when ther  
 UJ - Not detected; associated reporting limit is estimated  
 R - Rejected. Refer to Appendix F-Data Validation Memo for explan

Table 3.4

**Summary of Detected Compounds - 2017  
Love Canal Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.**

Overburden Wells	Well Group	Number of Parameters Detected			
		VOCs	SVOCs	PCBs	Pesticides
7120	A	U	U	U	U
7130	A	1	U	U	U
7132	A	U	U	U	U
7155	A	1	U	U	U
7161	A	1	U	U	U
8106	A	2	U	U	U
8110	A	U	U	U	U
8120	A	U	U	U	U
8130	A	U	U	U	U
8140	A	1	U	U	U
9110	A	1	U	U	U
9115	A	1	U	U	U
9120	A	1	U	U	U
9125	A	1	U	U	U
9130	A	3	U	U	U
9140	A	2	U	U	U
10105	A	2	U	U	U
10135	A	19	4	U	4
10147	A	1	U	U	U
10174A	X	U	U	U	U
10178A	X	U	U	U	U
<b>Subtotal Overburden</b>		<b>37</b>	<b>4</b>	<b>0</b>	<b>4</b>
<b>Bedrock Wells</b>		<b>VOCs</b>	<b>SVOCs</b>	<b>PCBs</b>	<b>Pesticides</b>
3257	A	2	U	U	U
5221	A	1	U	U	U
6209	A	2	U	U	U
7205	A	U	U	U	U
8210	A	2	U	U	U
9205	A	U	1	U	3
9210	A	2	U	U	U
10205	A	U	U	U	U
10210A	A	3	U	U	U
10210B	A	2	U	U	U
10210C	A	2	U	U	U
10215	A	1	U	U	U
10225A	A	4	U	U	U
10225B	A	3	U	U	U
10225C	A	4	1	U	3
10270	A	2	U	U	U
10272	A	2	U	U	U
10278	A	2	U	U	U
MW-01	X	1	U	U	U
MW-02	X	1	U	U	U
<b>Subtotal Bedrock Well Detections</b>		<b>36</b>	<b>2</b>	<b>0</b>	<b>6</b>
<b>Total # of Detections</b>		<b>73</b>	<b>6</b>	<b>0</b>	<b>10</b>

## Notes:

- U - No parameters detected at or above detection limits
- A - Annual Well
- X - Additional annual well added to program in 2011
- PCBs - Polychlorinated Biphenyls
- SVOCs - Semi-volatile Organic Compounds
- VOCs - Volatile Organic Compounds

Table 3.5

Summary of Detected Compounds in Select Wells  
Love Canal Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.

Well Number:	10210A	10210A	10210A	10210A	10210A	10210A	10210A	10210A	10210A	10210A	10210A	10210A	10210A	10210A	10210A	10210A	10210A	10210A	10210A
SampleDate:	7/24/1990	8/22/1991	8/26/1992	8/11/1993	5/25/1995	7/1/1996	7/10/1997	6/26/1998	6/23/1999	6/21/2000	5/18/2001	6/13/2002	5/27/2003	6/3/2004	6/28/2005	7/6/2006	7/26/2007	7/17/2008	7/15/2009

Parameters

Volatiles (µg/L)

1,1,1-Trichloroethane																				
1,1,2,2-Tetrachloroethane				0.2																
1,1,2-Trichloroethane																				
1,1-Dichloroethene																				
1,2-Dichloroethane																				
1,2-Dichloroethene (total)																				
1,2-Dichloropropane				0.04																
2-Butanone (Methyl Ethyl Ketone)									2 J			3 J		4 J						
2-Hexanone				0.4					3 J											
Acetone	14C			13B				120 J			10 J									
Benzene				0.1																
Bromoform				0.03																
Bromomethane (Methyl bromide)																				
Carbon Disulfide				2	20	310					6 J			6 J	1.6 J	1 J	8 J	24		
Chlorobenzene																				
Chloroform																				
Chlorotoluenes																				
cis-1,2-Dichloroethene																				
Dibromochloromethane				0.08																
Dichlorotoluene, total																				
Ethylbenzene				0.6																
m&p-Xylenes																				
Methylene Chloride				0.3																
o-Xylene																				
Styrene				0.1																
Tetrachloroethene				0.07																
Toluene				0.4					2 J					2.3 J						
trans-1,2-Dichloroethene																				
Trichloroethene				0.1																
Trichlorotoluene, total																				
Vinyl Acetate																				
Vinyl Chloride																				
Xylenes (total)				1																

Semi-volatiles (µg/L)

1,2,4-Trichlorobenzene																				
1,2-Dichlorobenzene																				
1,3-Dichlorobenzene																				
1,4-Dichlorobenzene																				
2,4,5-Trichlorophenol																				
2,4,6-Trichlorophenol																				
2,4-Dichlorophenol																				
2,4-Dimethylphenol																				
2-Chloronaphthalene																				
2-Chlorophenol																				
2-Methylnaphthalene																				
2-Methylphenol																				
2-Nitrophenol																				
3,5-Dichlorotoluene																				
4-Chloro-3-methylphenol																				
4-Chlorophenyl phenyl ether																				
4-Methylphenol																				
Acetic acid																				
Anthracene																				
Benzo(a)pyrene																				
Benzo(b)fluoranthene																				
Benzo(g,h,i)perylene																				
Benzo(k)fluoranthene																				
Benzoic Acid									12 J				3 J	3 J	2.7 J					5.8 J
Benzyl Alcohol																				
Bis(2-Chloroethyl)Ether																				

Table 3.5

Summary of Detected Compounds in Select Wells  
 Love Canal Long-Term Monitoring Program  
 Glenn Springs Holdings, Inc.

Well Number:	10210A	10210A	10210A	10210A	10210A	10210A	10210A	10210A	10210A	10210A	10210A	10210A	10210A	10210A	10210A	10210A	10210A	10210A	10210A
SampleDate:	7/24/1990	8/22/1991	8/26/1992	8/11/1993	5/25/1995	7/1/1996	7/10/1997	6/26/1998	6/23/1999	6/21/2000	5/18/2001	6/13/2002	5/27/2003	6/3/2004	6/28/2005	7/6/2006	7/26/2007	7/17/2008	7/15/2009

Parameters

Semi-volatiles (µg/L)-Continued

bis(2-Ethylhexyl)Phthalate	12	21	31	51									1 J	1.7 J	8 J				2.5 J
Butyl benzylphthalate (BBP)			3																
Camphor																			
Carbazole																			
Chlorobenzoic acid																			
Chrysene																			
Dibenz(a,h)anthracene																			
Diethyl phthalate																			
Dimethyl Phthalate	16																		
Dimethyl tetrasulfide			22																
Di-n-butyl phthalate (DBP)		2	0.9																
Di-n-octyl phthalate (DnOP)	3B																		
Fluoranthene																			
Hexachlorobenzene																			
Hexachloroethane																			
Indeno(1,2,3-cd)pyrene																			
Naphthalene																			
N-Nitrosodiphenylamine																			
Pentachlorophenol																			
Phenanthrene																			
Phenol									1 J				5 J	1 J	1.7 J				
Pyrene																			

Pesticides/PCBs (µg/L)

4,4'-DDD													0.013 J						
4,4'-DDE																			
Aldrin																			
Alpha-BHC								0.28											
Alpha-Chlordane																			
Aroclor-1260 (PCB-1260)																			
beta&gamma-BHC (sum of isomers)																			
Beta-BHC								0.035 J				0.020 J	0.011 J					0.015 J	
Delta-BHC			0.0061									0.062 J	0.043 J						
Dieldrin																			
Endosulfan I								0.046 J											
Endosulfan II																			
Endosulfan Sulfate																			
Endrin																			
Endrin ketone																			
Gamma-BHC (Lindane)								0.10 J				0.039 J							
Gamma-Chlordane																			
Heptachlor																			
Heptachlor epoxide																			
Methoxychlor																			

Table 3.5

**Summary of Detected Compounds in Select Wells  
Love Canal Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.**

Well Number:	10210A	10210A	10210A	10210A	10210A	10210A	10210A	10210A	10210A	10210B	10210B	10210B	10210B	10210B	10210B	10210B	10210B	10210B	10210B	10210B
SampleDate:	6/24/2010	7/19/2011	6/22/2012	6/13/2013	6/27/2014	6/26/2015	6/24/2016	7/10/2017	7/24/1990	8/22/1991	8/26/1992	8/11/1993	6/15/1994	6/1/1995	7/5/1996	7/1/1997	6/18/1998	6/24/1999	6/15/2000	5/17/2001

**Parameters****Volatiles (µg/L)**

1,1,1-Trichloroethane																					
1,1,2,2-Tetrachloroethane																					
1,1,2-Trichloroethane																					
1,1-Dichloroethene														0.06							
1,2-Dichloroethane																					
1,2-Dichloroethene (total)																					
1,2-Dichloropropane																					
2-Butanone (Methyl Ethyl Ketone)													4								
2-Hexanone																					
Acetone	5.2 J						3.5 J	8.4 J			31	6	12 B	23							12 J
Benzene												0.3	0.3								
Bromoform																					
Bromomethane (Methyl bromide)								6.1				0.2									
Carbon Disulfide			2.7 J				2.9 J		2.0 J			2	0.4				8 J	2 J			14
Chlorobenzene													0.2								
Chloroform																					
Chlorotoluenes																					
cis-1,2-Dichloroethene																					
Dibromochloromethane																					
Dichlorotoluene, total																					
Ethylbenzene							0.28 J	0.35 J				0.2	0.08								
m&p-Xylenes																					
Methylene Chloride												0.4	0.2								
o-Xylene																					
Styrene																					
Tetrachloroethene													0.06								
Toluene									1.8					0.5				2 J	1 J		
trans-1,2-Dichloroethene																					
Trichloroethene	6.3											0.1	0.1								
Trichlorotoluene, total																					
Vinyl Acetate																					
Vinyl Chloride																					
Xylenes (total)												0.5	0.5								

**Semi-volatiles (µg/L)**

1,2,4-Trichlorobenzene																					
1,2-Dichlorobenzene																					
1,3-Dichlorobenzene																					
1,4-Dichlorobenzene																					
2,4,5-Trichlorophenol																					
2,4,6-Trichlorophenol																					
2,4-Dichlorophenol																					
2,4-Dimethylphenol																					
2-Chloronaphthalene																					
2-Chlorophenol																					
2-Methylnaphthalene														0.06							
2-Methylphenol																					
2-Nitrophenol																					
3,5-Dichlorotoluene																					
4-Chloro-3-methylphenol																					
4-Chlorophenyl phenyl ether																					
4-Methylphenol														0.2							
Acetic acid																					
Anthracene																					
Benzo(a)pyrene														0.07							
Benzo(b)fluoranthene														0.08							
Benzo(g,h,i)perylene														0.1							
Benzo(k)fluoranthene														0.04							
Benzoic Acid																					
Benzyl Alcohol																					
Bis(2-Chloroethyl)Ether																					

Table 3.5

Summary of Detected Compounds in Select Wells  
Love Canal Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.

Well Number:	10210A	10210A	10210A	10210A	10210A	10210A	10210A	10210A	10210A	10210B	10210B	10210B	10210B	10210B	10210B	10210B	10210B	10210B	10210B	10210B
SampleDate:	6/24/2010	7/19/2011	6/22/2012	6/13/2013	6/27/2014	6/26/2015	6/24/2016	7/10/2017	7/24/1990	8/22/1991	8/26/1992	8/11/1993	6/15/1994	6/1/1995	7/5/1996	7/1/1997	6/18/1998	6/24/1999	6/15/2000	5/17/2001

Parameters

Semi-volatiles (µg/L)-Continued

bis(2-Ethylhexyl)Phthalate									7 B	13		11	9			55	6 J			
Butyl benzylphthalate (BBP)													0.2							
Camphor																				
Carbazole													0.05							
Chlorobenzoic acid																				
Chrysene																				
Dibenz(a,h)anthracene													0.1							
Diethyl phthalate													0.3							
Dimethyl Phthalate																				
Dimethyl tetrasulfide																				
Di-n-butyl phthalate (DBP)									1	1			0.6							3 J
Di-n-octyl phthalate (DnOP)													0.1							
Fluoranthene													0.04							
Hexachlorobenzene																				
Hexachloroethane																				
Indeno(1,2,3-cd)pyrene													0.1							
Naphthalene						0.41 J														
N-Nitrosodiphenylamine													0.2							
Pentachlorophenol									1				0.3							
Phenanthrene													0.07							
Phenol									3	3			2							
Pyrene													0.04							

Pesticides/PCBs (µg/L)

4,4'-DDD																				
4,4'-DDE																				
Aldrin																				
Alpha-BHC	0.14 J								0.086											
Alpha-Chlordane						0.030														
Aroclor-1260 (PCB-1260)																				
beta&gamma-BHC (sum of isomers)																				
Beta-BHC	0.12 J																			
Delta-BHC	0.12 J			0.067 J				0.067 J												
Dieldrin																				
Endosulfan I																				
Endosulfan II																				
Endosulfan Sulfate																				
Endrin																				
Endrin ketone																				
Gamma-BHC (Lindane)	0.12 J							0.083												
Gamma-Chlordane																				
Heptachlor																				
Heptachlor epoxide																				
Methoxychlor																				

**Table 3.5**  
**Summary of Detected Compounds in Select Wells**  
**Love Canal Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**

Well Number:	10210B	10210B	10210B	10210B	10210B	10210B	10210B	10210B	10210B	10210B	10210B	10210B	10210B	10210B	10210B	10210B	10210B	10210C	10210C
SampleDate:	6/10/2002	5/23/2003	6/2/2004	6/24/2005	6/28/2006	7/26/2007	7/17/2008	7/9/2009	6/15/2010	7/14/2011	6/18/2012	6/15/2013	6/26/2014	7/2/2015	6/28/2016	7/10/2017	7/25/1990	8/22/1991	

**Parameters**

**Volatiles (µg/L)**

1,1,1-Trichloroethane																			
1,1,2,2-Tetrachloroethane																			
1,1,2-Trichloroethane																			
1,1-Dichloroethene																			
1,2-Dichloroethane																			
1,2-Dichloroethene (total)																			
1,2-Dichloropropane																			
2-Butanone (Methyl Ethyl Ketone)		23																	
2-Hexanone																			
Acetone																	2.6 J		
Benzene																			
Bromoform																			
Bromomethane (Methyl bromide)																			
Carbon Disulfide	3 J	2 J		1.4 J	1 J	6 J			4.0 J	4.6 J	6.1 J		2.9 J	7.9			3.4 J		
Chlorobenzene			1 J																
Chloroform																			
Chlorotoluenes																			
cis-1,2-Dichloroethene																			
Dibromochloromethane																			
Dichlorotoluene, total																			
Ethylbenzene																			
m&p-Xylenes																			
Methylene Chloride												1.2 J							
o-Xylene																			
Styrene																			
Tetrachloroethene			9 J																
Toluene				1.1 J														3	
trans-1,2-Dichloroethene																			
Trichloroethene																			
Trichlorotoluene, total																			
Vinyl Acetate																			
Vinyl Chloride																			
Xylenes (total)																			

**Semi-volatiles (µg/L)**

1,2,4-Trichlorobenzene		3 J																	
1,2-Dichlorobenzene																			
1,3-Dichlorobenzene																			
1,4-Dichlorobenzene																			
2,4,5-Trichlorophenol																			
2,4,6-Trichlorophenol																			
2,4-Dichlorophenol																			
2,4-Dimethylphenol																			
2-Chloronaphthalene																			
2-Chlorophenol																			
2-Methylnaphthalene																			
2-Methylphenol																			
2-Nitrophenol																			
3,5-Dichlorotoluene																			
4-Chloro-3-methylphenol																			
4-Chlorophenyl phenyl ether																			
4-Methylphenol																			
Acetic acid																			
Anthracene																			
Benzo(a)pyrene																			
Benzo(b)fluoranthene																			
Benzo(g,h,i)perylene																			
Benzo(k)fluoranthene																			
Benzoic Acid						2 J													
Benzyl Alcohol																			
Bis(2-Chloroethyl)Ether																			

**Table 3.5**  
**Summary of Detected Compounds in Select Wells**  
**Love Canal Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**

Well Number:	10210B	10210B	10210B	10210B	10210B	10210B	10210B	10210B	10210B	10210B	10210B	10210B	10210B	10210B	10210B	10210B	10210B	10210C	10210C
SampleDate:	6/10/2002	5/23/2003	6/2/2004	6/24/2005	6/28/2006	7/26/2007	7/17/2008	7/9/2009	6/15/2010	7/14/2011	6/18/2012	6/15/2013	6/26/2014	7/2/2015	6/28/2016	7/10/2017	7/25/1990	8/22/1991	
<b>Parameters</b>																			
<b>Semi-volatiles (µg/L)-Continued</b>																			
bis(2-Ethylhexyl)Phthalate			4 J	4.5 J		3 J												7 B	13
Butyl benzylphthalate (BBP)																		1	
Camphor																			
Carbazole																			
Chlorobenzoic acid																			
Chrysene																			
Dibenz(a,h)anthracene																			
Diethyl phthalate											1.8 J							1	
Dimethyl Phthalate																			
Dimethyl tetrasulfide																			
Di-n-butyl phthalate (DBP)																		2	3
Di-n-octyl phthalate (DnOP)																			
Fluoranthene																			
Hexachlorobenzene			1 J																
Hexachloroethane																			1
Indeno(1,2,3-cd)pyrene																			
Naphthalene																			
N-Nitrosodiphenylamine																			
Pentachlorophenol																			
Phenanthrene																			
Phenol																		2	6
Pyrene																			
<b>Pesticides/PCBs (µg/L)</b>																			
4,4'-DDD																			
4,4'-DDE			0.011 J																
Aldrin					.0089 J														
Alpha-BHC	19	2.4	0.37	.58	0.016 J			0.050 / 0.064		0.048 J							0.056 J		
Alpha-Chlordane																			
Aroclor-1260 (PCB-1260)																			
beta&gamma-BHC (sum of isomers)																			
Beta-BHC	1.9	0.53	0.082 P	.082															
Delta-BHC	0.56 J	0.15		.047 J				0.028 J / 0.032 J	0.050 J	0.042 J								0.17 J	
Dieldrin	0.13 J																		
Endosulfan I	0.11 J																		
Endosulfan II																			
Endosulfan Sulfate																			
Endrin																			
Endrin ketone																			
Gamma-BHC (Lindane)	2.1	0.39	0.046 J	.099				0.038 J / 0.033 J		0.061 J								0.084	
Gamma-Chlordane	0.15 J																		
Heptachlor										0.053 J									
Heptachlor epoxide	0.35 J																		
Methoxychlor																			



Table 3.5

Summary of Detected Compounds in Select Wells  
Love Canal Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.

Well Number:	10210C	10210C	10210C	10210C	10210C	10210C	10210C	10210C	10210C	10210C	10210C	10210C	10210C	10210C	10210C	10210C	10210C	10210C	10210C	10210C
SampleDate:	8/26/1992	8/11/1993	6/8/1994	6/1/1995	7/1/1996	7/1/1997	6/22/1998	6/24/1999	6/15/2000	5/17/2001	6/10/2002	5/23/2003	6/7/2004	6/23/2005	6/28/2006	7/26/2007	7/16/2008	7/13/2009	6/15/2010	

Parameters

Volatiles (µg/L)

1,1,1-Trichloroethane																				
1,1,2,2-Tetrachloroethane																				
1,1,2-Trichloroethane																				
1,1-Dichloroethene																				
1,2-Dichloroethane																				
1,2-Dichloroethene (total)																				
1,2-Dichloropropane																				
2-Butanone (Methyl Ethyl Ketone)																				
2-Hexanone																				
Acetone	10 B		19 B					2100	8 J	9 J				1.9 J						
Benzene																				
Bromoform																				
Bromomethane (Methyl bromide)																				
Carbon Disulfide			0.6						3 J										2 J	
Chlorobenzene															2 J					
Chloroform																				
Chlorotoluenes																				
cis-1,2-Dichloroethene																				
Dibromochloromethane																				
Dichlorotoluene, total																				
Ethylbenzene																				
m&p-Xylenes																				
Methylene Chloride			0.2																	
o-Xylene																				
Styrene																				
Tetrachloroethene																			6 J	
Toluene													29 / 23							
trans-1,2-Dichloroethene																				
Trichloroethene																				
Trichlorotoluene, total																				
Vinyl Acetate																				
Vinyl Chloride																				
Xylenes (total)																				

Semi-volatiles (µg/L)

1,2,4-Trichlorobenzene																				6 J
1,2-Dichlorobenzene																				
1,3-Dichlorobenzene																				
1,4-Dichlorobenzene																				
2,4,5-Trichlorophenol																				
2,4,6-Trichlorophenol																				
2,4-Dichlorophenol																				
2,4-Dimethylphenol																				
2-Chloronaphthalene																				
2-Chlorophenol																				
2-Methylnaphthalene																				
2-Methylphenol			5																	
2-Nitrophenol																				
3,5-Dichlorotoluene																				
4-Chloro-3-methylphenol																				
4-Chlorophenyl phenyl ether																				
4-Methylphenol			6	29	110	62	0.6J													
Acetic acid		11																		
Anthracene																				
Benzo(a)pyrene																				
Benzo(b)fluoranthene																				
Benzo(g,h,i)perylene																				
Benzo(k)fluoranthene																				
Benzoic Acid																				
Benzyl Alcohol																				
Bis(2-Chloroethyl)Ether																				

Summary of Detected Compounds in Select Wells  
Love Canal Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.

Well Number:	10210C	10210C	10210C	10210C	10210C	10210C	10210C	10210C	10210C	10210C	10210C	10210C	10210C	10210C	10210C	10210C	10210C	10210C	10210C
SampleDate:	8/26/1992	8/11/1993	6/8/1994	6/1/1995	7/1/1996	7/1/1997	6/22/1998	6/24/1999	6/15/2000	5/17/2001	6/10/2002	5/23/2003	6/7/2004	6/23/2005	6/28/2006	7/26/2007	7/16/2008	7/13/2009	6/15/2010

Parameters

Semi-volatiles (µg/L)-Continued

bis(2-Ethylhexyl)Phthalate		8											29 / 5 J		5 J				
Butyl benzylphthalate (BBP)		0.4																	
Camphor																			
Carbazole																			
Chlorobenzoic acid																			
Chrysene																			
Dibenz(a,h)anthracene																			
Diethyl phthalate		0.2																	4.4 J
Dimethyl Phthalate																			0.87 J
Dimethyl tetrasulfide																			
Di-n-butyl phthalate (DBP)		0.5																	
Di-n-octyl phthalate (DnOP)		0.04																	
Fluoranthene																			
Hexachlorobenzene																			
Hexachloroethane																			
Indeno(1,2,3-cd)pyrene																			
Naphthalene																			
N-Nitrosodiphenylamine																			
Pentachlorophenol																			
Phenanthrene		0.03																	
Phenol				22				22											
Pyrene																			

Pesticides/PCBs (µg/L)

4,4'-DDD																			
4,4'-DDE																			
Aldrin																			0.061 J
Alpha-BHC														0.083					0.45 J
Alpha-Chlordane																			
Aroclor-1260 (PCB-1260)																			
beta&gamma-BHC (sum of isomers)																			
Beta-BHC																			0.048 J
Delta-BHC														0.019 J / 0.017 J					0.052 J
Dieldrin																			0.048 J
Endosulfan I																			
Endosulfan II																			
Endosulfan Sulfate																			
Endrin																			0.14 J
Endrin ketone																			
Gamma-BHC (Lindane)																			0.11 J
Gamma-Chlordane																			0.018 J
Heptachlor																			
Heptachlor epoxide																			
Methoxychlor																			

Table 3.5

**Summary of Detected Compounds in Select Wells  
Love Canal Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.**

Well Number:	10210C	10210C	10210C	10210C	10210C	10210C	10210C	10210C	10135	10135	10135	10135	10135	10135	10135	10135	10135	10135	10135
SampleDate:	7/14/2011	6/22/2012	6/15/2013	6/26/2014	7/2/2015	6/28/2016	7/10/2017	9/13/1990	8/29/1991	8/26/1992	8/19/1993	6/22/1994	6/1/1995	6/27/1996	7/7/1997	6/17/1998	6/16/1999	6/22/2000	5/11/2001
<b>Parameters</b>																			
<b>Volatiles (µg/L)</b>																			
1,1,1-Trichloroethane											8	14							
1,1,2,2-Tetrachloroethane											12	51		26		94 J	29 / 32	27 J / 26 J	120 J / 100 J
1,1,2-Trichloroethane														14		29 J	15 / 12	16 J / 14 J	29 J / 34 J
1,1-Dichloroethene								6			15	3					4 J / 3 J	4 J / 4 J	4 J / 4 J
1,2-Dichloroethane																			
1,2-Dichloroethene (total)										700	840	650	670 JD	560					
1,2-Dichloropropane																			
2-Butanone (Methyl Ethyl Ketone)											36							10 J	11 J / 12 J
2-Hexanone																			
Acetone						4.3 J	50				270	100 B	100 J	60		110 J			28 J / 46 J
Benzene								6200	6700		5200	6000 E	4900 D	4800	5000 / 5600	5300 J	5700 / 5600	6900 J / 6400 D	8500 J / 7600
Bromoform																			
Bromomethane (Methyl bromide)																			
Carbon Disulfide		U/1.4 J																	2 J
Chlorobenzene								2380	2400	2600	1700 E	2900 E	2000 D	1500	2300 / ND	1900 J	1900 / 1800	2300 J / 2300 J	3000 J / 2700 J
Chloroform											100	120	86 J	110		150 J	110 / 120	130 J / 100 J	160 J / 150 J
Chlorotoluenes								16600	16000										
cis-1,2-Dichloroethene																			
Dibromochloromethane																			
Dichlorotoluene, total								14000	140										
Ethylbenzene								12	10		13	12				12	9 J / 10 J	12 J / 12 J	24 J / 22 J
m&p-Xylenes																			
Methylene Chloride								5			41	8		11					24 J / 24 J
o-Xylene																			
Styrene											4								
Tetrachloroethene								50			8	32				40 J	13 / 12	16 J / 14 J	50 J / 61 J
Toluene								22800	26000	2700	17000	21500	18000 D	14000	19000 / 17000	16000 J	16000 / 17000	21000 D / 21000 J	24000 / 22000
trans-1,2-Dichloroethene								20								58 J	67 / 70	67 J / 70 J	59 J / 60 J
Trichloroethene								260	450		24	140	18 J	36		170 J	58 / 70	60 J / 72 J	180 J / 140 J
Trichlorotoluene, total								40											
Vinyl Acetate										6800									
Vinyl Chloride												61	44 J	50		48 J	62 / 61	110 J / 85 J	66 J / 75 J
Xylenes (total)								50	30		47	10 B	37 J	28		55 J	44 / 43	42 J / 44 J	
<b>Semi-volatiles (µg/L)</b>																			
1,2,4-Trichlorobenzene								80	290		74	87 B				78 J	45 J / 65 J	45 J / 36 J	65 J / 42 J
1,2-Dichlorobenzene								50	16		35	34					24 J / 30 J	18 J / 22 J	48 J
1,3-Dichlorobenzene												4							
1,4-Dichlorobenzene								120	47	110	94	91					61 J / 74 J	59 J / 52 J	110 J / 69 J
2,4,5-Trichlorophenol								860	130		70	59				38 J		0.9 J	
2,4,6-Trichlorophenol									120			8						1 J	
2,4-Dichlorophenol								830		1200B	420	610	150		2100 / 2100	2000	690 / 610	1400 J / 470 J	620 J / 1200 J
2,4-Dimethylphenol												9						2 J	
2-Chloronaphthalene													150						370 J / 550 J
2-Chlorophenol												20				28 J	25 J		
2-Methylnaphthalene																			
2-Methylphenol											51	46				55 J	42 J / 35 J	160 J	41 J
2-Nitrophenol																		1 J	
3,5-Dichlorotoluene											350								
4-Chloro-3-methylphenol									13			31						25 J / 33 J	
4-Chlorophenyl phenyl ether												2							
4-Methylphenol									10		60	64				130 J	95 J / 120	99 J / 300 J	130 J / 86 J
Acetic acid																			
Anthracene												1							
Benzo(a)pyrene																			
Benzo(b)fluoranthene																			
Benzo(g,h,i)perylene																			
Benzo(k)fluoranthene																			
Benzoic Acid								140000	580				6400 D	4000	27000 J / 30000 J	23000 J	4300 / 5000	4700 J / 19000 J	6200 J / 4400 J
Benzyl Alcohol								4200	1100				380		1900 / 1600	2700	680 / 540	14000 D / 3200 J	330 J / 630 J
Bis(2-Chloroethyl)Ether												23				24 J	26 J / 25 J		

Table 3.5

Summary of Detected Compounds in Select Wells  
Love Canal Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.

Well Number:	10210C	10210C	10210C	10210C	10210C	10210C	10210C	10210C	10135	10135	10135	10135	10135	10135	10135	10135	10135	10135	10135
SampleDate:	7/14/2011	6/22/2012	6/15/2013	6/26/2014	7/2/2015	6/28/2016	7/10/2017	9/13/1990	8/29/1991	8/26/1992	8/19/1993	6/22/1994	6/1/1995	6/27/1996	7/7/1997	6/17/1998	6/16/1999	6/22/2000	5/11/2001

Parameters

Semi-volatiles (µg/L)-Continued

bis(2-Ethylhexyl)Phthalate										50	2								41 J / 24 J	
Butyl benzylphthalate (BBP)																				
Camphor										130										
Carbazole																				
Chlorobenzoic acid								4000												
Chrysene												0.2								
Dibenz(a,h)anthracene													1							
Diethyl phthalate																				
Dimethyl Phthalate																				
Dimethyl tetrasulfide																				
Di-n-butyl phthalate (DBP)																				
Di-n-octyl phthalate (DnOP)																				
Fluoranthene												0.2								
Hexachlorobenzene																				
Hexachloroethane																				
Indeno(1,2,3-cd)pyrene																				
Naphthalene																		1400 J / 2000 J	4000 J / 1800 J	1400 / 1100
N-Nitrosodiphenylamine																				
Pentachlorophenol										52	4									
Phenanthrene																				
Phenol								10		98	91	140						120 / 96 J	51 J	
Pyrene																				

Pesticides/PCBs (µg/L)

4,4'-DDD																			0.21 / 0.20 J	0.13 J / 0.071 J
4,4'-DDE												0.071								
Aldrin								0.53	0.24 P									0.21 J / 0.74 JN	1.5 JN / 0.95 JN	
Alpha-BHC						0.062		84	42 C	24 CEP	28 D	29	39 / 39	59				40 / 37 J	50 / 50	43 J / 50 J
Alpha-Chlordane																				
Aroclor-1260 (PCB-1260)																				
beta&gamma-BHC (sum of isomers)										19.5	20.4									
Beta-BHC												10 D	11	8.1 / 8.6	12			12 / 11 J	15 / 16	16 J / 16 J
Delta-BHC						0.14 J		15	9.8	7.5 CE	4.7	5.2	5.1 / ND	8.9				11 / 9.6 J	13 / 14	10 J / 12 J
Dieldrin																				
Endosulfan I																		0.34 J / 0.43 J	1.5 JN / 1.6 JN	
Endosulfan II																			0.52 J / 0.69 J	
Endosulfan Sulfate										0.43 P								0.18 / 0.17 J	0.17 J	
Endrin						0.13						0.15 P								
Endrin ketone																				
Gamma-BHC (Lindane)						0.13		33					2.4 J	6.2 J / 5.1 J	6.5 J			5.5 / 4.1 J	6.4 / 8.0	7.3 J / 5.0 J
Gamma-Chlordane																			0.18 J / 0.16 J	
Heptachlor																			0.63 / 0.68 JN	
Heptachlor epoxide																			0.043 J / 0.058 J	0.031 J / 0.029 J
Methoxychlor																				

**Table 3.5**  
**Summary of Detected Compounds in Select Wells**  
**Love Canal Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**

Well Number:	10135	10135	10135	10135	10135	10135	10135	10135	10135	10135	10135	10135	10135	10135	10135	10135
SampleDate:	6/12/2002	5/19/2003	5/28/2004	6/17/2005	6/28/2005	6/26/2006	7/18/2007	7/23/2008	6/25/2009	6/16/2010	7/13/2011	6/12/2012	6/18/2013	6/13/2014	6/25/2015	7/5/2016
<b>Parameters</b>																
<b>Volatiles (µg/L)</b>																
1,1,1-Trichloroethane																
1,1,2,2-Tetrachloroethane	56	38					16 J		25 / 24							
1,1,2-Trichloroethane	27						15 J		9.1 J / 8.7 J							
1,1-Dichloroethene	4 J	3 J					2 J									
1,2-Dichloroethane																
1,2-Dichloroethene (total)	600 J / 560	490 J														
1,2-Dichloropropane																
2-Butanone (Methyl Ethyl Ketone)									5.8 J / 6.1 J							
2-Hexanone																
Acetone	72	74				200 J	53 J		42 / 37	39						
Benzene	5900 / 6400	5500		5400	5700	6800	7100	5300	7500 / 7600	3400	2200	5900	2500	6100	6200	7100
Bromoform																
Bromomethane (Methyl bromide)																
Carbon Disulfide							2 J									
Chlorobenzene	2200 / 2400	1900		2000	2100	2400	2100	1400	2900 J / 3000 J	1300	1100	2500	730	2300	2600	2700
Chloroform	160	110				110 J	140 J	99 J	96 / 97	160	67	130 J			180 J	400 J
Chlorotoluenes																
cis-1,2-Dichloroethene						630		79 J	79 / 76	110	38 J					
Dibromochloromethane																
Dichlorotoluene, total																
Ethylbenzene	15	10					10 J		10 / 10	13						
m&p-Xylenes	39	29														
Methylene Chloride	39	26		100 J	44 J	32 J			25 / 24	38	16 J				150 J	
o-Xylene	12	9 J														
Styrene																
Tetrachloroethene	38	18					13 J		14 / 14	19	9.5 J					
Toluene	20000 j / 19000	15000		16000	18000	21000	23000	13000	24000 / 24000	11000	3100	14000	6100	20000	20000	23000
trans-1,2-Dichloroethene						52 J	50 J	32 J	30 / 30	48	17 J					
Trichloroethene	160 / 130 J	91				46 J	89 J	27 J	91 / 89	140	52				110 J	78 J
Trichlorotoluene, total																
Vinyl Acetate																
Vinyl Chloride	48	51							27 / 17	31						
Xylenes (total)							37 J		44 / 53	51						
<b>Semi-volatiles (µg/L)</b>																
1,2,4-Trichlorobenzene		97 J		67 J		63	47 J	28	110 / 110	78 J	76 J	74 J	69	64 J		22 J
1,2-Dichlorobenzene		59 J		36 J		37	31 J	10 J	68 / 52	57 J	45 J		45	34 J	47 J	14 J
1,3-Dichlorobenzene						3 J	87 J		4.1 J / 5.5 J				5.2 J			
1,4-Dichlorobenzene		160 J		100 J	110 J	100	84 J	24	150 J / 100 J	150 J	130 J	110 J	130	94 J	140 J	36 J
2,4,5-Trichlorophenol						8 J							10			
2,4,6-Trichlorophenol								6 J	28 / 23				12			
2,4-Dichlorophenol	1800 J / 1500 J	1700		420	300 J	250	490	150	1200 / 1100	780	590	240	360	660	790	42 J
2,4-Dimethylphenol																
2-Chloronaphthalene												150 J	210			
2-Chlorophenol						18		17 J	31 / 26				28			12 J
2-Methylnaphthalene																
2-Methylphenol		50 J		25 J		33	34 J	140	66 J / 50 J	42 J	30 J		29	23 J	44 J	
2-Nitrophenol																
3,5-Dichlorotoluene																
4-Chloro-3-methylphenol		41 J				15		26	95 / 97	31 J			23			
4-Chlorophenyl phenyl ether																
4-Methylphenol		210 J		49 J	98 J	110	120 J	110	170 J / 140 J	130 J	83 J		89	53 J	93 J	
Acetic acid																
Anthracene																
Benzo(a)pyrene																
Benzo(b)fluoranthene																
Benzo(g,h,i)perylene																
Benzo(k)fluoranthene																
Benzoic Acid	31000 / 25000	26000		1400 J	4700 J	14000 J	14000	7600 J	39000 J / 54000 J	9500	11000	8700	16000	14000	16000	1100
Benzyl Alcohol	2000 / 1700 J	640		23 J		48	580	38	1200 / 1300	610	450	600 J	380 J	290	250	79 J
Bis(2-Chloroethyl)Ether				24 J		24	30 J	16 J	29 / 28	34 J	28 J		26	19 J	27 J	

**Table 3.5**  
**Summary of Detected Compounds in Select Wells**  
**Love Canal Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**

Well Number:	10135	10135	10135	10135	10135	10135	10135	10135	10135	10135	10135	10135	10135	10135	10135	10135
SampleDate:	6/12/2002	5/19/2003	5/28/2004	6/17/2005	6/28/2005	6/26/2006	7/18/2007	7/23/2008	6/25/2009	6/16/2010	7/13/2011	6/12/2012	6/18/2013	6/13/2014	6/25/2015	7/5/2016
<b>Parameters</b>																
<b>Semi-volatiles (µg/L)-Continued</b>																
bis(2-Ethylhexyl)Phthalate						53			4.4 J / 4.2 J							
Butyl benzylphthalate (BBP)																
Camphor																
Carbazole																
Chlorobenzoic acid																
Chrysene																
Dibenz(a,h)anthracene																
Diethyl phthalate																
Dimethyl Phthalate																
Dimethyl tetrasulfide																
Di-n-butyl phthalate (DBP)																
Di-n-octyl phthalate (DnOP)																
Fluoranthene																
Hexachlorobenzene																
Hexachloroethane																
Indeno(1,2,3-cd)pyrene																
Naphthalene				1800 J	4500 J											
N-Nitrosodiphenylamine																
Pentachlorophenol																
Phenanthrene																
Phenol	180 J				100 J	140	130 J	96	140 J / 160 J	100	82	89 J	92	62	87 J	11 J
Pyrene																
<b>Pesticides/PCBs (µg/L)</b>																
4,4'-DDD				0.19 J	0.11 J		0.081 J	0.13 J		0.048 J		0.036 J	0.089 J			
4,4'-DDE													0.053			
Aldrin	0.12 J / 0.12 J						0.073	0.052 J	0.55 J / 0.55 J	0.063 J			0.16 J	0.060 J		
Alpha-BHC	43 / 39	49		15	21 C	35	12	17	27 J / 32 J	4.0	21	7.1 J	20	21 J	20	25
Alpha-Chlordane	0.031 J / 0.017 J						0.011 J									
Aroclor-1260 (PCB-1260)									12 J / 11 J							
<b>beta&amp;gamma-BHC (sum of isomers)</b>																
Beta-BHC	14 J / 13 J	15 J		3.4	5.6	7.1	3.7	4.4	11 J / 9.1 J	4.1	7.1	3.1	5.9	5.3 J	4.7	6.7
Delta-BHC	9.0 J / 11 J	12		9.1	9.1	13	4.7	6.3	11 J / 12	0.28	7.3	1.6 J	5.2	4.8 J	7.4	11
Dieldrin																
Endosulfan I																
Endosulfan II				0.15 J					1.6 J / 2.3			0.053 J	0.12 J			
Endosulfan Sulfate		1.3 J					0.34	0.37 J	1.5 J						0.035 J	
Endrin							0.034 J		1.9 / 1.3 J						1.4	
Endrin ketone															0.067 J	
Gamma-BHC (Lindane)	7.1 J / 6.1 J	7.1		0.32 J	4.8	2.1	2	7.4 J / 6.2 J	0.92	4.1	1.4 J	3.9	4.3 J	3.2	4.9	
Gamma-Chlordane	0.29 J / 0.35 J				.33 J	0.017 J						0.065	0.064 J	1.1 J		
Heptachlor		0.61 J					0.092	0.19 J				0.71	0.15 J	0.23 J		
Heptachlor epoxide	0.016 J / 0.025 J	2.2 J		0.053			0.29	0.13 J	1.6 J / 1.7 J	0.10 J		0.089 J	0.22 J	0.23 J		
Methoxychlor												0.036 J				

Notes:  
D - Sample result is from a dilution  
C - Sample result was confirmed  
E - Sample result was greater than the highest c  
N - Validator qualifier-presumptive certainty, usu  
P - Lab qualifier used when there are large diffe  
J - Estimated concentration  
U - Not detected at the associated reporting limi  
B - Detected in the blank sample  
Blank - Not detected  
PCBs - Polychlorinated Biphenyls

**1140 Series Piezometers Water Levels - 2017  
Love Canal Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.**

**Silty Sand/Fill Medium**

Date	Well **	
	1144 A (ft. AMSL)	Tile Drain (ft. AMSL)
03/02/17	572.15	561.70
06/09/17	572.08	561.70
09/07/17	570.97	561.70
12/07/17	572.33	561.70

**Fractured Clay Medium**

Date	Well **			
	1144 B (ft. AMSL)	1143 A (ft. AMSL)	1142 A (ft. AMSL)	Tile Drain (ft. AMSL)
03/02/17	572.09	569.76	568.76	561.70
06/09/17	572.16	571.58	571.13	561.70
09/07/17	571.09	570.43	570.16	561.70
12/07/17	572.37	571.15	570.38	561.70




**Soft Clay Medium**

Date	Well **						
	1144 C (ft. AMSL)	1143 B (ft. AMSL)	1143 C (ft. AMSL)	1142 B (ft. AMSL)	1141 A (ft. AMSL)	Tile Drain (ft. AMSL)	1140 A (ft. AMSL)
03/02/17	570.80	569.53	567.91	566.67	565.35	561.70	563.58
06/09/17	571.99	571.79	570.29	568.59	566.63	561.70	564.09
09/07/17	570.97	570.54	569.72	568.34	566.57	561.70	564.34
12/07/17	571.90	570.98	569.85	568.26	566.47	561.70	564.45

**Glacial Till Medium**

Date	Well **					
	1144 D (ft. AMSL)	1143 D (ft. AMSL)	1142 C (ft. AMSL)	1141 B (ft. AMSL)	Tile Drain (ft. AMSL)	1140 B (ft. AMSL)
03/02/17	567.77	566.88	565.55	565.87	561.70	564.00
06/09/17	570.15	568.62	566.52	567.21	561.70	564.56
09/07/17	570.04	568.77	566.80	567.02	561.70	564.71
12/07/17	570.10	568.67	566.73	566.89	561.70	564.89

Notes:

- \*\* - Wells listed from left to right in order from most distant outside of tile drain, to tile drain, then inside of tile drain.
-  - Indicates wells used in Figure 3.3 Piezometer Flow Diagram to generate Fractured Clay groundwater level
-  - Indicates wells used in Figure 3.3 Piezometer Flow Diagram to generate Soft Clay groundwater level
-  - Indicates wells used in Figure 3.3 Piezometer Flow Diagram to generate Glacial Till groundwater level
- ft. AMSL - Feet above mean sea level.

**1150 Series Piezometers Water Levels - 2017  
Love Canal Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.**

**Silty Sand/Fill Medium**

Date	Well **	
	1151 D (ft. AMSL)	Tile Drain (ft. AMSL)
03/02/17	572.52	561.85
06/09/17	569.91	561.85
09/07/17	568.82	561.85
12/07/17	571.37	561.85

**Fractured Clay Medium**

Date	Well **				
	1154 D (ft. AMSL)	1153 E (ft. AMSL)	1153 D (ft. AMSL)	1151 C (ft. AMSL)	Tile Drain (ft. AMSL)
03/02/17	568.86	569.28	570.59	568.72	561.85
06/09/17	568.75	569.20	570.46	569.44	561.85
09/07/17	568.59	569.24	569.87	568.50	561.85
12/07/17	568.78	569.23	571.95	568.82	561.85

**Soft Clay Medium**

Date	Well **					
	1154 B (ft. AMSL)	1154 C (ft. AMSL)	1153 B (ft. AMSL)	1153 C (ft. AMSL)	1151 B (ft. AMSL)	Tile Drain (ft. AMSL)
03/02/17	567.76	568.02	569.29	576.51	567.72	561.85
06/09/17	568.27	569.63	569.15	570.70	568.15	561.85
09/07/17	568.35	568.68	569.30	570.58	567.96	561.85
12/07/17	568.46	568.46	569.54	576.10	568.43	561.85

**Glacial Till Medium**

Date	Well **			
	1154 A (ft. AMSL)	1153 A (ft. AMSL)	1151 A (ft. AMSL)	Tile Drain (ft. AMSL)
03/02/17	571.24	573.03	567.15	561.85
06/09/17	571.59	571.35	567.15	561.85
09/07/17	571.47	570.37	567.19	561.85
12/07/17	571.33	568.57	567.64	561.85

Notes:

- \*\* - Wells listed from left to right in order from most distant outside of tile drain, to tile drain, then inside of tile drain.
- Indicates wells used in Figure 3.3 Piezometer Flow Diagram to generate Fractured Clay groundwater level
- Indicates wells used in Figure 3.3 Piezometer Flow Diagram to generate Soft Clay groundwater level
- Indicates wells used in Figure 3.3 Piezometer Flow Diagram to generate Glacial Till groundwater level
- ft. AMSL - Feet above mean sea level.



**1160 Series Piezometers Water Levels - 2017  
Love Canal Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.**

**Silty Sand/Fill Medium**

Date	Well **	
	1165 D (ft. AMSL)	Tile Drain (ft. AMSL)
03/02/17	573.48	560.60
06/09/17	573.09	560.60
09/07/17	572.12	560.60
12/07/17	572.55	560.60

**Silty Sand Medium**

Date	Well **		
	1165 C (ft. AMSL)	1163 D (ft. AMSL)	Tile Drain (ft. AMSL)
03/02/17	571.76	DRY	560.60
06/09/17	572.34	DRY	560.60
09/07/17	572.25	DRY	560.60
12/07/17	572.14	DRY	560.60

**Fractured Clay Medium**

Date	Well **								
	1165 B (ft. AMSL)	1163 B (ft. AMSL)	1163 C (ft. AMSL)	1162 A (ft. AMSL)	1162 C (ft. AMSL)	1161 D (ft. AMSL)	Tile Drain (ft. AMSL)	1160 A (ft. AMSL)	1160 C (ft. AMSL)
03/02/17	571.74	569.27	569.58	569.37	569.51	569.34	560.60	564.90	DRY
06/09/17	571.91	570.63	571.07	570.55	570.82	571.03	560.60	565.63	566.36
09/07/17	571.32	570.01	570.31	569.75	570.02	570.53	560.60	565.29	566.82
12/07/17	571.65	569.60	569.77	569.43	569.78	569.63	560.60	566.09	566.72

**Soft Clay Medium**

Date	Well **								
	10176 A (ft. AMSL)	10176 B (ft. AMSL)	10176 C (ft. AMSL)	1165 A (ft. AMSL)	1163 A (ft. AMSL)	1161 B (ft. AMSL)	1161 C (ft. AMSL)	1161 E (ft. AMSL)	Tile Drain (ft. AMSL)
03/02/17	572.41	572.14	568.12	571.87	568.31	566.53	568.74	565.19	560.60
06/09/17	570.18	570.33	568.87	572.58	569.23	567.69	570.13	566.23	560.60
09/07/17	570.00	570.04	569.36	572.38	569.02	567.25	569.49	565.77	560.60
12/07/17	570.95	570.81	569.69	572.13	569.15	567.67	569.30	566.48	560.60

**Glacial Till Medium**

Date	Well **			
	10176 D (ft. AMSL)	1162 D (ft. AMSL)	1161 A (ft. AMSL)	Tile Drain (ft. AMSL)
03/02/17	566.75	567.37	565.11	560.60
06/09/17	567.49	568.25	566.06	560.60
09/07/17	568.11	567.90	565.59	560.60
12/07/17	568.12	568.27	566.17	560.60

Notes:

- \*\* - Wells listed from left to right in order from most distant outside of tile drain, to tile drain, then inside of tile drain.
- Indicates wells used in Figure 3.3 Piezometer Flow Diagram to generate Fractured Clay groundwater level
- Indicates wells used in Figure 3.3 Piezometer Flow Diagram to generate Soft Clay groundwater level
- Indicates wells used in Figure 3.3 Piezometer Flow Diagram to generate Glacial Till groundwater level
- ft. AMSL - Feet above mean sea level.

**1170 Series Piezometers Water Levels - 2017  
Love Canal Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.**

Date	Well **		Tile Drain (ft. AMSL)
	1174 D (ft. AMSL)	1173 D (ft. AMSL)	
03/02/17	568.37	571.96	555.60
06/09/17	568.14	572.23	555.60
09/07/17	568.22	571.35	555.60
12/07/17	568.76	571.77	555.60

**Soft Clay Medium**

Date	Well **				
	1174 B (ft. AMSL)	1174 C (ft. AMSL)	1173 B (ft. AMSL)	1173 C (ft. AMSL)	1172 B (ft. AMSL)
03/02/17	570.09	569.39	569.31	570.87	567.71
06/09/17	570.63	569.57	569.61	572.08	568.90
09/07/17	570.87	570.10	569.91	571.71	568.46
12/07/17	570.47	570.39	570.23	571.35	568.83

Date	1172 C (ft. AMSL)	1171 B (ft. AMSL)	1171 C (ft. AMSL)	Tile Drain (ft. AMSL)	1170 B (ft. AMSL)
	03/02/17	568.25	562.63	561.27	555.60
06/09/17	569.33	562.40	561.64	555.60	572.18
09/07/17	569.46	562.67	561.53	555.60	571.25
12/07/17	569.23	562.87	561.86	555.60	572.83

**Glacial Till Medium**

Date	Well **					
	1174 A (ft. AMSL)	1173 A (ft. AMSL)	1172 A (ft. AMSL)	1171 A (ft. AMSL)	Tile Drain (ft. AMSL)	1170 A (ft. AMSL)
03/02/17	570.80	567.67	566.06	563.27	555.60	562.28
06/09/17	570.63	567.74	566.11	563.49	555.60	562.39
09/07/17	570.54	568.87	566.16	563.62	555.60	562.41
12/07/17	570.70	569.44	566.24	563.77	555.60	562.63

Notes:

- \*\* - Wells listed from left to right in order from most distant outside of tile drain, to tile drain, then inside of tile drain.
- Indicates wells used in Figure 3.3 Piezometer Flow Diagram to generate Fractured Clay groundwater level
- Indicates wells used in Figure 3.3 Piezometer Flow Diagram to generate Soft Clay groundwater level
- Indicates wells used in Figure 3.3 Piezometer Flow Diagram to generate Glacial Till groundwater level
- ft. AMSL - Feet above mean sea level.

**1180 Series Piezometers Water Levels - 2017  
Love Canal Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.**

**Silty Sand Medium**

Date	Well **	
	1183 D (ft. AMSL)	Tile Drain (ft. AMSL)
03/02/17	566.79	560.00
06/09/17	566.83	560.00
09/07/17	566.92	560.00
12/07/17	566.83	560.00

**Fractured Clay Medium**

Date	Well **				
	1184 C (ft. AMSL)	1184 D (ft. AMSL)	1183 C (ft. AMSL)	1183 B (ft. AMSL)	1181 C (ft. AMSL)
03/02/17	569.17	569.33	567.55	564.35	569.68
06/09/17	567.77	567.98	567.65	565.40	568.13
09/07/17	567.26	DRY	567.29	565.11	567.88
12/07/17	568.02	568.02	567.44	565.12	569.55

Date	Tile Drain (ft. AMSL)	1180 C (ft. AMSL)
	03/02/17	560.00
06/09/17	560.00	DRY
09/07/17	560.00	DRY
12/07/17	560.00	DRY

**Soft Clay Medium**

Date	Well **			
	1184 B (ft. AMSL)	1181 B (ft. AMSL)	Tile Drain (ft. AMSL)	1180 B (ft. AMSL)
03/02/17	564.14	566.77	560.00	561.01
06/09/17	564.53	566.73	560.00	561.05
09/07/17	564.40	566.70	560.00	561.16
12/07/17	564.50	567.07	560.00	561.27

**Glacial Till Medium**

Date	Well **				
	1184 A (ft. AMSL)	1183 A (ft. AMSL)	1181 A (ft. AMSL)	Tile Drain (ft. AMSL)	1180 A (ft. AMSL)
03/02/17	564.02	563.55	568.78	560.00	562.65
06/09/17	564.31	564.54	567.75	560.00	563.24
09/07/17	564.43	564.61	567.57	560.00	563.22
12/07/17	564.50	564.75	568.36	560.00	563.31

Notes:

- \*\* - Wells listed from left to right in order from most distant outside of tile drain, to tile drain, then inside of tile drain.
- Indicates wells used in Figure 3.3 Piezometer Flow Diagram to generate Fractured Clay groundwater level
- Indicates wells used in Figure 3.3 Piezometer Flow Diagram to generate Soft Clay groundwater level
- Indicates wells used in Figure 3.3 Piezometer Flow Diagram to generate Glacial Till groundwater level
- ft. AMSL - Feet above mean sea level.

**1190 Series Piezometers Water Levels - 2017  
Love Canal Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.**

**Fractured Clay Medium**

Date	Well **			
	1194 D (ft. AMSL)	1193 D (ft. AMSL)	1192 C (ft. AMSL)	Tile Drain (ft. AMSL)
03/02/17	573.53	570.47	569.07	554.80
06/09/17	573.55	572.17	569.89	554.80
09/07/17	572.50	571.47	570.30	554.80
12/07/17	573.79	571.29	569.98	554.80

**Soft Clay Medium**

Date	Well **					
	1194 B (ft. AMSL)	1194 C (ft. AMSL)	1193 B (ft. AMSL)	1193 C (ft. AMSL)	1192 B (ft. AMSL)	1191 B (ft. AMSL)
03/02/17	569.48	574.69	567.93	570.07	567.82	564.87
06/09/17	570.06	572.31	569.09	571.64	568.56	565.40
09/07/17	569.52	571.23	569.16	571.29	568.94	565.64
12/07/17	570.10	573.55	568.98	570.78	568.68	565.69

Date	1191 C (ft. AMSL)	Tile Drain (ft. AMSL)	1190 B (ft. AMSL)
	03/02/17	563.60	554.80
06/09/17	564.00	554.80	563.94
09/07/17	564.19	554.80	563.26
12/07/17	564.29	554.80	573.84

**Glacial Till Medium**

Date	Well **					
	1194 A (ft. AMSL)	1193 A (ft. AMSL)	1192 A (ft. AMSL)	1191 A (ft. AMSL)	Tile Drain (ft. AMSL)	1190 A (ft. AMSL)
03/02/17	564.11	565.17	564.15	564.80	554.80	567.95
06/09/17	564.46	565.82	564.50	565.02	554.80	567.16
09/07/17	564.40	565.81	564.44	565.26	554.80	565.30
12/07/17	564.57	565.90	564.64	565.39	554.80	566.60

Notes:

- \*\* - Wells listed from left to right in order from most distant outside of tile drain, to tile drain, then inside of tile drain.
- Indicates wells used in Figure 3.3 Piezometer Flow Diagram to generate Fractured Clay groundwater level
  - Indicates wells used in Figure 3.3 Piezometer Flow Diagram to generate Soft Clay groundwater level
  - Indicates wells used in Figure 3.3 Piezometer Flow Diagram to generate Glacial Till groundwater level
- ft. AMSL - Feet above mean sea level.

# Appendices

Appendix A  
2017 Institutional and Engineering  
Controls Certification Form

# NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

## Division of Environmental Remediation

625 Broadway, 11<sup>th</sup> Floor, Albany, NY 12233-7020

P: (518)402-9543 | F: (518)402-9547

[www.dec.ny.gov](http://www.dec.ny.gov)

12/14/2017

Joseph Branch Project Coordinator  
OCC/Glenn Springs Holdings, Inc.  
7601 Old Channel Trail  
Montaque, MI 49437

### **RE: Reminder Notice: Site Management Periodic Review Report and IC/EC Certification Submittal**

**Site Name:** Love Canal

**Site No.:** 932020

**Site Address:** 805 97th Street

Dear Mr. Branch:

This letter serves as a reminder that sites in active Site Management (SM) require the submittal of a periodic progress report. This report, referred to as the Periodic Review Report (PRR), must document the implementation of and compliance with, site specific SM requirements. Section 6.3(b) of DER-10 Technical Guidance for Site Investigation and Remediation (available online at <http://www.dec.ny.gov/regulations/67386.html>) provides guidance regarding the information that must be included in the PRR. Further, if the site is comprised of multiple parcels, then you as the Certifying Party must arrange to submit one PRR for all parcels that comprise the site. The PRR must be received by the Department no later than **January 31, 2018**. Guidance on the content of a PRR is enclosed.

Site Management is defined in regulation (6 NYCRR 375-1.2(at)) and in Chapter 6 of DER-10. Depending on when the remedial program for your site was completed, SM may be governed by multiple documents (e.g., Operation, Maintenance, and Monitoring Plan; Soil Management Plan) or one comprehensive Site Management Plan.

A Site Management Plan (SMP) may contain one or all of the following elements, as applicable to the site: a plan to maintain institutional controls and/or engineering controls (“IC/EC Plan”); a plan for monitoring the performance and effectiveness of the selected remedy (“Monitoring Plan”); and/or a plan for the operation and maintenance of the selected remedy (“O&M Plan”). Additionally, the technical requirements for SM are stated in the decision document (e.g., Record of Decision) and, in some cases, the legal agreement directing the remediation of the site (e.g., order on consent, voluntary agreement, etc.).

When you submit the PRR (by the due date above), include the enclosed forms documenting that all SM requirements are being met. The Institutional Controls (ICs) portion of the form (Box 6) must be signed by you or your designated representative. The Engineering Controls (ECs) portion of the form (Box 7) must be signed by a Qualified Environmental Professional (QEP). If you cannot certify that all SM requirements are being met, you must submit a Corrective Measures Work Plan that identifies the actions to be taken to restore compliance. The work plan must include a schedule to be approved by the Department. The Periodic Review process will not be considered complete until all necessary corrective measures are completed and all required controls are certified. Instructions for completing the certifications are enclosed.

All site-related documents and data, including the PRR, are to be submitted in electronic format to the Department of Environmental Conservation. The Department will not approve the PRR unless all documents and data generated in support of that report have been submitted in accordance with the electronic submissions protocol. In addition, the certification forms are required to be submitted in both paper and electronic formats.

Information on the format of the data submissions can be found at:

<http://www.dec.ny.gov/regulations/2586.html>

The signed certification forms should be sent to Brian Sadowski, Project Manager, at the following address:

New York State Department of Environmental Conservation  
270 Michigan Avenue Buffalo, NY 14203-2915

Phone number: 716-851-7220 E-mail: [brian.sadowski@dec.ny.gov](mailto:brian.sadowski@dec.ny.gov)

The contact information above is also provided so that you may notify the project manager about upcoming inspections, or for any other questions or concerns that may arise in regard to the site.

Enclosures

PRR General Guidance  
Certification Form Instructions  
Certification Forms

ec: w/enclosures

Brian Sadowski, Project Manager  
Chad Staniszewski, Hazardous Waste Remediation Engineer, Region 9  
John Pentilchuk, GHD Group



## Enclosure 1 Certification

### Instructions

#### I. Verification of Site Details (Box 1 and Box 2):

Answer the three questions in the Verification of Site Details Section. The Owner and/or Qualified Environmental Professional (QEP) may include handwritten changes and/or other supporting documentation, as necessary.

#### II. Certification of Institutional / Engineering Controls (Boxes 3, 4, and 5)

Review the listed IC/ECs, confirming that all existing controls are listed, and that all existing controls are still applicable. If there is a control that is no longer applicable the Owner / Remedial Party should petition the Department separately to request approval to remove the control.

In Box 5, complete certifications for all Plan components, as applicable, by checking the corresponding checkbox.

If you cannot certify "YES" for each Control listed in Box 3 & Box 4, sign and date the form in Box 5. Attach supporting documentation that explains why the **Certification** cannot be rendered, as well as a plan of proposed corrective measures, and an associated schedule for completing the corrective measures. Note that this **Certification** form must be submitted even if an IC or EC cannot be certified; however, the certification process will not be considered complete until corrective action is completed.

If the Department concurs with the explanation, the proposed corrective measures, and the proposed schedule, a letter authorizing the implementation of those corrective measures will be issued by the Department's Project Manager. Once the corrective measures are complete, a new Periodic Review Report (with IC/EC Certification) must be submitted within 45 days to the Department. If the Department has any questions or concerns regarding the PRR and/or completion of the IC/EC Certification, the Project Manager will contact you.

#### III. IC/EC Certification by Signature (Box 6 and Box 7):

If you certified "YES" for each Control, please complete and sign the IC/EC Certifications page as follows:

- Where the only control is an Institutional Control on the use of the property, the certification statement in Box 6 shall be completed and may be made by the property owner.
- Where the site has Institutional and Engineering Controls, the certification statement in Box 7 must be completed by a Professional Engineer or Qualified Environmental Professional, as noted on the form.



**Enclosure 2  
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
Site Management Periodic Review Report Notice  
Institutional and Engineering Controls Certification Form**



Site Details	Box 1	
<b>Site No. 932020</b>		
<b>Site Name Love Canal</b>		
Site Address: 805 97th Street      Zip Code: 14304 City/Town: Niagara Falls County: Niagara Site Acreage: 70.0		
Reporting Period: January 1, 2017 to December 31, 2017		
	YES	NO
1. Is the information above correct?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<b>If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.</b>		
5. Is the site currently undergoing development?	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	<b>Box 2</b>	
	YES	NO
6. Is the current site use consistent with the use(s) listed below?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
7. Are all ICs/ECs in place and functioning as designed?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.</b>		
<b>A Corrective Measures Work Plan must be submitted along with this form to address these issues.</b>		
_____ Signature of Owner, Remedial Party or Designated Representative		_____ Date

SITE NO. 932020

Description of Engineering and Institutional Controls

Boxes 3 and 4

<u>Parcel</u>	<u>Engineering Control</u>	<u>Institutional Control</u>
<u>232 Parcels</u>	Cover System Fencing/Access Control Groundwater Containment Leachate Collection Pump & Treat	Building Use Restriction Ground Water Use Restriction Landuse Restriction Monitoring Plan O&M Plan
161.19-1-1		
161.57-1-1		
161.65-1-1		
161.73-1-1		
161.57-1-2		
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161.73-1-2		
161.57-1-3		
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161.18-1-18

**Periodic Review Report (PRR) Certification Statements**

**Box 5**

1. I certify by checking "YES" below that:

a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;

b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and complete.

YES NO

2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:

(a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

(b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

(c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

(d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

(e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES NO

**IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.**

**A Corrective Measures Work Plan must be submitted along with this form to address these issues.**

\_\_\_\_\_  
Signature of Owner, Remedial Party or Designated Representative

\_\_\_\_\_  
Date

IC CERTIFICATIONS  
SITE NO. 932020

Box 6

**SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE**

I certify that all information and statements in Boxes 1, 2 and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

Joseph Branch at 7601 Old Channel Trail  
print name print business address 49437

am certifying as owner (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

  
Signature of Owner or Remedial Party Rendering Certification

1/30/2018  
Date



IC/EC CERTIFICATIONS

Box 7

Qualified Environmental Professional Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Richard J. Snyder at GHD Services Inc  
2055 Niagara Falls Blvd, Niagara Falls NY  
print name print business address 14304

am certifying as a Qualified Environmental Professional for the Remedial Party  
(Owner or Remedial Party)

Richard J. Snyder  
Signature of Qualified Environmental Professional, for  
the Owner or Remedial Party, Rendering Certification



1-30-18  
Date

**Enclosure 3**  
**Periodic Review Report (PRR) General Guidance**

- I. Executive Summary: (1/2-page or less)
  - A. Provide a brief summary of site, nature and extent of contamination, and remedial history.
  - B. Effectiveness of the Remedial Program - Provide overall conclusions regarding;
    1. progress made during the reporting period toward meeting the remedial objectives for the site
    2. the ultimate ability of the remedial program to achieve the remedial objectives for the site.
  - C. Compliance
    1. Identify any areas of non-compliance regarding the major elements of the Site Management Plan (SMP, i.e., the Institutional/Engineering Control (IC/EC) Plan, the Monitoring Plan, and the Operation & Maintenance (O&M) Plan).
    2. Propose steps to be taken and a schedule to correct any areas of non-compliance.
  - D. Recommendations
    1. recommend whether any changes to the SMP are needed
    2. recommend any changes to the frequency for submittal of PRRs (increase, decrease)
    3. recommend whether the requirements for discontinuing site management have been met.
  
- II. Site Overview (one page or less)
  - A. Describe the site location, boundaries (figure), significant features, surrounding area, and the nature and extent of contamination prior to site remediation.
  - B. Describe the chronology of the main features of the remedial program for the site, the components of the selected remedy, cleanup goals, site closure criteria, and any significant changes to the selected remedy that have been made since remedy selection.
  
- III. Evaluate Remedy Performance, Effectiveness, and Protectiveness  
Using tables, graphs, charts and bulleted text to the extent practicable, describe the effectiveness of the remedy in achieving the remedial goals for the site. Base findings, recommendations, and conclusions on objective data. Evaluations and should be presented simply and concisely.
  
- IV. IC/EC Plan Compliance Report (if applicable)
  - A. IC/EC Requirements and Compliance
    1. Describe each control, its objective, and how performance of the control is evaluated.
    2. Summarize the status of each goal (whether it is fully in place and its effectiveness).
    3. Corrective Measures: describe steps proposed to address any deficiencies in ICECs.
    4. Conclusions and recommendations for changes.
  - B. IC/EC Certification
    1. The certification must be complete (even if there are IC/EC deficiencies), and certified by the appropriate party as set forth in a Department-approved certification form(s).
  
- V. Monitoring Plan Compliance Report (if applicable)
  - A. Components of the Monitoring Plan (tabular presentations preferred) - Describe the requirements of the monitoring plan by media (i.e., soil, groundwater, sediment, etc.) and by any remedial technologies being used at the site.
  - B. Summary of Monitoring Completed During Reporting Period - Describe the monitoring tasks actually completed during this PRR reporting period. Tables and/or figures should be used to show all data.
  - C. Comparisons with Remedial Objectives - Compare the results of all monitoring with the remedial objectives for the site. Include trend analyses where possible.
  - D. Monitoring Deficiencies - Describe any ways in which monitoring did not fully comply with the monitoring plan.
  - E. Conclusions and Recommendations for Changes - Provide overall conclusions regarding the monitoring completed and the resulting evaluations regarding remedial effectiveness.
  
- VI. Operation & Maintenance (O&M) Plan Compliance Report (if applicable)
  - A. Components of O&M Plan - Describe the requirements of the O&M plan including required activities, frequencies, recordkeeping, etc.
  - B. Summary of O&M Completed During Reporting Period - Describe the O&M tasks actually completed during this PRR reporting period.
  - C. Evaluation of Remedial Systems - Based upon the results of the O&M activities completed, evaluated the ability of each component of the remedy subject to O&M requirements to perform as

designed/expected.

D. O&M Deficiencies - Identify any deficiencies in complying with the O&M plan during this PRR reporting period.

E. Conclusions and Recommendations for Improvements - Provide an overall conclusion regarding O&M for the site and identify any suggested improvements requiring changes in the O&M Plan.

VII. Overall PRR Conclusions and Recommendations

A. Compliance with SMP - For each component of the SMP (i.e., IC/EC, monitoring, O&M), summarize;

1. whether all requirements of each plan were met during the reporting period
2. any requirements not met
3. proposed plans and a schedule for coming into full compliance.

B. Performance and Effectiveness of the Remedy - Based upon your evaluation of the components of the SMP, form conclusions about the performance of each component and the ability of the remedy to achieve the remedial objectives for the site.

C. Future PRR Submittals

1. Recommend, with supporting justification, whether the frequency of the submittal of PRRs should be changed (either increased or decreased).
2. If the requirements for site closure have been achieved, contact the Departments Project Manager for the site to determine what, if any, additional documentation is needed to support a decision to discontinue site management.

VIII. Additional Guidance

Additional guidance regarding the preparation and submittal of an acceptable PRR can be obtained from the Departments Project Manager for the site.

# Appendix B

## 2017 Semiannual Inspection Forms



# Glenn Springs Holdings, Inc.

A subsidiary of Occidental Petroleum

## Love Canal Semiannual Barrier System / Pump Chamber Inspections

Date: 6/6/2017  
Inspector: D. Chadett

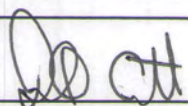
Weather: Sunny 75°F

**Check the Following as Appropriate:**

- Visual Inspection of chamber piping
- Verification of level probe performance
- Inspection of pump chamber integrity
- Inspection of pump chamber security

Wells	Satisfactory	Needs Maintenance
PC-1	Y	
PC-2	Y	
PC-3	Y	
PC-1A	Y	
PC-2A	Y	
PC-3A	Y	

Comments:  


Signature: 





# Glenn Springs Holdings, Inc.

A subsidiary of Occidental Petroleum

## SEMIANNUAL LANDFILL CAP, SITE COVER, AND FENCE INSPECTION

Site: Love Canal  
 Date: 6/7/2017  
 Inspector: DARREN CRODETT

Weather: Sunny 70°F

Inspection Item	Applicable to Site	Inspect For	
1. <u>Landfill Cap</u>	<input checked="" type="radio"/> Y <input type="radio"/> N	- signs of erosion (cap, ditches, swales)	<input type="radio"/> Y <input checked="" type="radio"/> N
		- exposure of the HDPE Liner	<input type="radio"/> Y <input checked="" type="radio"/> N
		- areas of insufficient grass coverage	<input type="radio"/> Y <input checked="" type="radio"/> N
		- signs of dead/dying grass	<input type="radio"/> Y <input checked="" type="radio"/> N
		- presence of washouts	<input type="radio"/> Y <input checked="" type="radio"/> N
		- settlement causing ponding of water	<input type="radio"/> Y <input checked="" type="radio"/> N
		- signs of slope instability	<input checked="" type="radio"/> Y <input type="radio"/> N
		- signs of burrowing by animals	<input type="radio"/> Y <input checked="" type="radio"/> N
		- presence of rooting trees (cap, ditches, swales)	<input type="radio"/> Y <input checked="" type="radio"/> N
		- signs of poor drainage in ditches/swales	<input type="radio"/> Y <input checked="" type="radio"/> N
2. <u>Site Cover</u> (Asphalt, Grass, Vegetation)	<input type="radio"/> Y <input checked="" type="radio"/> N	- signs of erosion (cover, ditches, swales)	<input type="radio"/> Y <input type="radio"/> N
		- areas of insufficient asphalt, grass, vegetation coverage	<input type="radio"/> Y <input type="radio"/> N
		- signs of dead/dying grass/vegetation	<input type="radio"/> Y <input type="radio"/> N
		- presence of washouts	<input type="radio"/> Y <input type="radio"/> N
		- settlement causing ponding of water	<input type="radio"/> Y <input type="radio"/> N
		- signs of slope instability	<input type="radio"/> Y <input type="radio"/> N
		- signs of burrowing by animals	<input type="radio"/> Y <input type="radio"/> N
		- presence of rooting trees (cover, ditches, swales)	<input type="radio"/> Y <input type="radio"/> N
- signs of poor drainage in ditches/swales	<input type="radio"/> Y <input type="radio"/> N		
3. <u>Perimeter Fence</u>	<input checked="" type="radio"/> Y <input type="radio"/> N	- breaches in fence	<input type="radio"/> Y <input checked="" type="radio"/> N
		- gates secure	<input checked="" type="radio"/> Y <input type="radio"/> N
		- locks in place	<input checked="" type="radio"/> Y <input type="radio"/> N
		- missing or illegible signage	<input type="radio"/> Y <input checked="" type="radio"/> N

Comments/Remarks (Note: If repair/maintenance is recommended, describe its location/extent below)

Slope near PC-1

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# Glenn Springs Holdings, Inc.

A subsidiary of Occidental Petroleum

## Love Canal Semiannual Barrier System / Pump Chamber Inspections

Date: 10/3/2017  
Inspector: D. Crockett

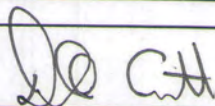
Weather: Sunny 72°F

**Check the Following as Appropriate:**

- Visual Inspection of chamber piping
- Verification of level probe performance
- Inspection of pump chamber integrity
- Inspection of pump chamber security

Wells	Satisfactory	Needs Maintenance
PC-1	Y	
PC-2	Y	
PC-3	Y	
PC-1A	Y	
PC-2A	Y	
PC-3A	Y	

Comments:


Signature: 





# Glenn Springs Holdings, Inc.

A subsidiary of Occidental Petroleum

## SEMIANNUAL LANDFILL CAP, SITE COVER, AND FENCE INSPECTION

Site: Love Canal  
 Date: 10/4/2017  
 Inspector: Darren Chodett

Weather: Sunny 75°F

Inspection Item	Applicable to Site	Inspect For	
1. <u>Landfill Cap</u>	<input checked="" type="radio"/> Y / <input type="radio"/> N	- signs of erosion (cap, ditches, swales)	Y / <input checked="" type="radio"/> N
		- exposure of the HDPE Liner	Y / <input checked="" type="radio"/> N
		- areas of insufficient grass coverage	Y / <input checked="" type="radio"/> N
		- signs of dead/dying grass	Y / <input checked="" type="radio"/> N
		- presence of washouts	Y / <input checked="" type="radio"/> N
		- settlement causing ponding of water	Y / <input checked="" type="radio"/> N
		- signs of slope instability	<input checked="" type="radio"/> Y / <input type="radio"/> N
		- signs of burrowing by animals	Y / <input checked="" type="radio"/> N
		- presence of rooting trees (cap, ditches, swales)	Y / <input checked="" type="radio"/> N
		- signs of poor drainage in ditches/swales	Y / <input checked="" type="radio"/> N
2. <u>Site Cover</u> (Asphalt, Grass, Vegetation)	<input checked="" type="radio"/> Y / <input type="radio"/> N	- signs of erosion (cover, ditches, swales)	Y / N
		- areas of insufficient asphalt, grass, vegetation coverage	Y / N
		- signs of dead/dying grass/vegetation	Y / N
		- presence of washouts	Y / N
		- settlement causing ponding of water	Y / N
		- signs of slope instability	Y / N
		- signs of burrowing by animals	Y / N
		- presence of rooting trees (cover, ditches, swales)	Y / N
- signs of poor drainage in ditches/swales	Y / N		
3. <u>Perimeter Fence</u>	<input checked="" type="radio"/> Y / <input type="radio"/> N	- breaches in fence	Y / <input checked="" type="radio"/> N
		- gates secure	<input checked="" type="radio"/> Y / <input type="radio"/> N
		- locks in place	<input checked="" type="radio"/> Y / <input type="radio"/> N
		- missing or illegible signage	Y / <input checked="" type="radio"/> N

Comments/Remarks

(Note: If repair/maintenance is recommended, describe its location/extent below)

Slope near PC1

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Glenn Springs Holdings, Inc.  
A subsidiary of Occidental Petroleum

Love Canal Semi-Annual Barrier Drain Manhole Inspection

Date 6/24/2017

Sector	MH No.	Location	Water Y/N	Level Feet	Debris Y/N	Structure OK	Cleaning Y/N	Comments
North Colvin	MH-10A	NW	N	2"	N	Y	N	
	MH-8A	NW	Y	2"	N	Y	N	
	MH-6C	NW	Y	3"	Y	Y	N	Some built up sludge
	MH-6B	NW	Y	3"	Y	Y	N	Some built up sludge
	MH-6A	NW	Y	3"	Y	Y	N	Some built up sludge
	PC-2A	NW	Y	3'	N	Y	N	
	MH-4A	NW	Y	2"	N	Y	N	
	MH-2A	NW	Y	2"	N	Y	N	
	MH-2	SW	Y	1"	Y	Y	N	
	MH-4	SW	Y	2"	Y	Y	N	
	MH-6	SW	Y	2"	N	Y	N	
South Frontier	MH-8/PC2	SW	Y	2.7'	N	Y	N	
	MH-10	SW	Y	3"	Y	Y	N	
	MH-12	SW	Y	3"	N	Y	N	
	MH-14	SW	Y	3"	N	Y	N	
North Colvin								
	NH-17A	NE	N	2"	N	Y	N	
	MH-15A	NE	Y	3"	N	Y	N	
	MH-13A	NE	Y	3"	Y	Y	N	
	PC1A	NE	Y	1.9'	Y	Y	N	
	MH-11A	NE	Y	3"	N	Y	N	
	MH-9A	NE	Y	3"	N	Y	N	
	MH-7A	NE	Y	3"	Y	Y	N	
	MH-5A	NE	N	2"	N	Y	N	
	MH-3A	NE	Y	2"	N	Y	N	
	MH-1A	NE	Y	2"	N	Y	N	
	MH-1	SE	N	2"	N	Y	N	
	MH-3	SE	Y	2"	Y	Y	N	
	MH-5	SE	N	2"	N	Y	N	
	MH-7/PC1	SE	Y	2.5'	N	Y	N	
	MH-9	SE	Y	2"	N	Y	N	
MH-11	SE	Y	2"	Y	Y	N		
South Frontier	MH-13	SE	Y	2"	N	Y	N	

Signature: Darrell Crockett



# Glenn Springs Holdings, Inc.

A subsidiary of Occidental Petroleum

## Love Canal Semi-Annual Barrier Drain Manhole Inspection

Date 9/20/2017

Sector	MH No.	Location	Water Y/N	Level Feet	Debris Y/N	Structure OK	Cleaning Y/N	Comments
North Colvin	MH-10A	NW	N	1"	N	Y	N	
	MH-8A	NW	Y	6"	N	Y	N	
	MH-6C	NW	Y	6"	Y	Y	N	Some built up sludge
	MH-6B	NW	Y	6"	Y	Y	N	Some built up sludge
	MH-6A	NW	Y	3"	Y	Y	N	Some built up sludge
	PC-2A	NW	Y	3'	N	Y	N	
	MH-4A	NW	Y	2"	N	Y	N	
	MH-2A	NW	Y	2"	N	Y	N	
	MH-2	SW	Y	2"	Y	Y	N	
	MH-4	SW	Y	2"	Y	Y	N	
	MH-6	SW	Y	2"	N	Y	N	
South Frontier	MH-8/PC2	SW	Y	2.3'	N	Y	N	
	MH-10	SW	Y	3"	Y	Y	N	
	MH-12	SW	Y	3"	N	Y	N	
	MH-14	SW	Y	3"	N	Y	N	
North Colvin								
	NH-17A	NE	N	3"	N	Y	N	
	MH-15A	NE	Y	3"	N	Y	N	
	MH-13A	NE	Y	3"	Y	Y	N	
	PC1A	NE	Y	2.4'	Y	Y	N	
	MH-11A	NE	Y	3"	N	Y	N	
	MH-9A	NE	Y	3"	N	Y	N	
	MH-7A	NE	Y	3"	Y	Y	N	
	MH-5A	NE	N	2"	N	Y	N	
	MH-3A	NE	Y	2"	N	Y	N	
	MH-1A	NE	Y	2"	N	Y	N	
	MH-1	SE	N	3"	N	Y	N	
	MH-3	SE	Y	3"	Y	Y	N	
	MH-5	SE	N	3"	N	Y	N	
	MH-7/PC1	SE	Y	1.9'	N	Y	N	
	MH-9	SE	Y	3"	N	Y	N	
MH-11	SE	Y	3"	Y	Y	N		
South Frontier	MH-13	SE	Y	2"	N	Y	N	

Signature: Darrell Crockett

Appendix C  
Niagara Falls Water Board  
Wastewater Discharge Permit #44



**PAGE 1 OF 15**  
**PERMIT NO. 44**

NIAGARA FALLS WATER BOARD  
WASTEWATER FACILITIES  
SIGNIFICANT INDUSTRIAL USER  
WASTEWATER DISCHARGE PERMIT

PERMIT NO. 44 Glenn Springs Holdings, Inc. -  
Love Canal Leachate Treatment Facility

In accordance with all terms and conditions of the Niagara Falls Water Board Regulations Part 1960 and also with all applicable provisions of Federal and State Law or regulation:

Permission is Hereby Granted To: Glenn Springs Holdings, Inc. -  
Love Canal Leachate Treatment Facility

Located at: 805 - 97th Street, Niagara Falls, NY 14304

Classified by SIC No(s): 4952

For the contribution of wastewater, into the Niagara Falls Water Board Publicly-Owned Treatment Works (POTW).

Effective this 9th day of, January 2015  
To Expire this 9th day of, January 2020

A handwritten signature in cursive script, appearing to read "Paul J. Drof".

for

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**Paul J. Drof**  
**Executive Director of Niagara Falls Water Board**

Signed this 31<sup>TH</sup> day of December, 2014



**WASTEWATER DISCHARGE PERMIT  
 REQUIREMENTS FOR:**

**ACTION  
 REQUIRED**

**REQUIRED DATE  
 OF SUBMISSION**

**A. Discharges to the Niagara Falls Water Board (NFWB) Sewer**

- |    |  |      |                           |
|----|--|------|---------------------------|
| 1. | Identification of all discharges to the NFWB Sewer System on a current plant sewer map certified by a New York State licensed professional engineer.   | None | Submitted<br>12/24/14     |
| 2. | Identification of each contributing waste stream to each discharge to the NFWB Sewer System clearly marked on, or referenced to, a current plant sewer map certified by a New York State licensed professional engineer. | None | Submitted<br>12/24/14     |
| 3. | Elimination of all uncontaminated discharges to the NFWB Sewer System. All uncontaminated flows should be clearly identified on a current sewer map certified by a New York State licensed professional engineer.        | N/A  |                           |
| 4. | Establishment of a control manhole that is continuously and immediately accessible for each discharge to the NFWB Sewer System.  | None | Previously<br>Established |

**B. Wastewater Discharge Management Practices**

- |    |  |      |                      |
|----|--|------|----------------------|
| 1. | Identification of a responsible person(s) (day to day and in emergencies). | None | Performed by<br>NFWB |
|----|--|------|----------------------|

**C. Slug Control Plan\*\***

Pursuant to Section 40 CFR 403.12 (v) of the Federal Pretreatment Standards the Niagara Falls Water Board will evaluate the permittee, a minimum of once every two years for the need for a "Slug Control Plan." If a plan is required by the Niagara Falls Water Board, then the plan will contain, at a minimum, the following elements:

- a) Description of discharge practices, including non-routine batch discharges;
- b) Description of stored chemicals;
- c) Procedures for immediately notifying the POTW of slug discharges, including any discharge that would violate a prohibition under 40 CFR 403.5 (b), with procedures for follow-up written notification within five days;
- d) If necessary, procedures to prevent adverse impact from accidental spills, including inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of plant site runoff, worker training, building of containment structures or equipment, measures for containing toxic organic pollutants (including solvents), and/or measures and equipment necessary for emergency response.

\*\*This section applies to all pollutants limited by the Niagara Falls Water Board SPDES Permit and all prohibited wastewater discharges (See Section 1960.5 of the Niagara Falls Water Board Wastewater Regulations).

D. General Wastewater Discharge Permit Conditions

1. Flow monitoring should be performed concurrently with any Wastewater Discharge Permit sampling and should be reported at the same time as analytical results. If it is not feasible to perform flow monitoring, an estimate of flow (method of estimated flow preapproved by the Niagara Falls Water Board) should be submitted with the analytical results.
2. All sampling for billing and pretreatment compliance purposes will be coordinated through the Niagara Falls Water Board Industrial Monitoring Coordinator.
3. All analysis must be performed by a State certified laboratory using analytical methods consistent with 40 CFR 136 and quality control provisions as required by the Niagara Falls Water Board Laboratory Technical Director. The permittee will report the results as directed in Section G of this permit. Results should be reported using the Method Detection Limit (MDL). Reporting results less than MDL will be indicated in the report by a less than sign (<) followed by the numeric MDL concentration reported by the laboratory. In these cases the pollutant load will be calculated and reported as zero (0). The MDL will be defined as the level at which the analytical procedure referenced is capable of determining with a 99% probability that the substance is present. The value is determined in reagent water. The precision at this level is +/- 100%.
4. An estimate of relative production levels for wastewater contributing processes at the time of any pretreatment compliance sampling will be submitted upon request of the Director of Niagara Falls Water Board - Wastewater Facilities.
5. All samples will be handled in accordance with EPA approved methods. Chain of Custody records will be submitted with all sampling results.
6. All conditions, standards and numeric limitations of Niagara Falls Water Board Wastewater Regulations are hereby incorporated into this permit by reference. These conditions, standards and numeric limitations must be complied with. Failure to comply with any part of said Regulations constitutes a violation and is subject to enforcement actions(s) described in Section 1960.9 of said Regulations, and in the Niagara Falls Water Board Pretreatment Administrative Procedure Number Five (5) - "Enforcement Response Guide." In the event of a violation, including slug discharges or spills, the Niagara Falls Water Board must be notified immediately by phone and confirmed by letter within five (5) working days.

Any person adjudicated of violating any provision in the Niagara Falls Water Board Wastewater Regulations shall be assessed a fine in the amount of up to \$10,000. This amount is available for each violation, and each day of a violation is a separate incident for which penalties may be sought.



6. The person violating any of the provisions of the Niagara Falls Water Board Wastewater Regulations will be liable for any expense, loss, or damage occasioned by reason of such violation. The expense, loss or damage will be taken to be the extent determined by the Director.

In addition, any person who knowingly makes any false statements, representation or certification in any application, record, report, plan or other document filed or required to be maintained pursuant to the Niagara Falls Water Board Wastewater Regulations, or Wastewater Discharge Permit, or who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required under the Niagara Falls Water Board Wastewater Regulations will, upon conviction be punished by a **fine up to \$5,000. Furthermore, the Niagara Falls Water Board may recover reasonable attorney's** fees, court costs, court reporting fees, and other expenses of litigation by appropriate suit at law against the person found to have violated applicable laws, orders, rules and permits required by the Niagara Falls Water Board Wastewater Regulations.

7. In accordance with Federal Regulation CFR 40, Part 403.12(g), any exceedance of a numeric limitation noted by the SIU must be re-sampled, analyzed and resubmitted to the Niagara Falls Water Board - Wastewater Facilities within 30 days.

Specifically, if any limit that is listed in Section F of this permit is exceeded, then the permittee will undertake a short term monitoring program for that pollutant. Samples will be collected identical to those required for routine monitoring purposes and will be collected on each of at least two (2) operating days and analyzed. Results will be reported in both concentration and mass, and will be submitted within 30 days of becoming aware of the exceedance.

8. Sampling frequency for any permitted compounds may be increased beyond the requirements set forth in Section F and G of this permit. If the permittee monitors (sample and analysis) more frequent than required under this permit, **all** results of this monitoring must be reported.
9. As noted in Section 1960.5g of the Niagara Falls Water Board Wastewater Regulations, "Personnel as designated by the Director will be permitted at any time for reasonable cause to enter upon all properties served by the Niagara Falls Water Board for the purpose of, and to carry out, inspection of the premises, observation, measurement, sampling and testing, in accordance with provisions of the Regulations."
10. As noted in Section 1960.5c of the Niagara Falls Water Board Wastewater Regulations, significant changes in discharge characteristics or volume must be reported immediately to the Niagara Falls Water Board - Wastewater Facilities.
11. As noted in Section 1960.6b of the Niagara Falls Water Board Wastewater Regulations, samples required to be collected via a 24-hour composite sampler must be retained refrigerated for an additional 24 hour plus un-refrigerated an additional 48 hours (total 72 hours).

12. As noted in Section 1960.5d of the Niagara Falls Water Board Wastewater Regulations, **all "SIU's will keep on file for a minimum of three years, all records, flow charts, laboratory calculations or any other pertinent data on their discharge to the Niagara Falls Water Board - Wastewater Facilities."**
13. As noted in Section 1960.6g of the Niagara Falls Water Board Wastewater Regulations, "Permits are issued to a specific user for a specific monitoring station. A permit will not be reassigned or transferred without the approval of the Director which approval will not be unreasonably withheld. Any succeeding owner or user to which a permit has been transferred and approved will also comply with all the terms and conditions of the existing permit."
14. The Annual Average Limitation is equivalent to the specific SIU allocation, and will be defined as the permissible long term average discharge of a particular pollutant. These limitations are listed in Section F of this permit. The computation of the Annual Average will be as follows; for each compound listed in Section G of this permit, the Annual Average will be the average of the present monitoring quarter and three previous quarters data.
15. The Daily Maximum Limitation will be defined as the maximum allowable discharge on anyone day. The Daily Maximum Limitation will allow for periodic short term discharge fluctuations. These specific limitations are listed in Section F of this permit.
16. Enforcement of the Annual Average Limitation will be based on the reported average of the last four quarters data vs. the Annual Average Limited listed in Section F of this permit. Enforcement of the Daily Maximum Limitation will be based on individual analysis results vs. the Daily Maximum Limit listed in Section F of this permit. These results may be obtained from self monitoring (Section G), City of Niagara Falls Verification, incident investigation or billing samples.
17. The Niagara Falls Water Board Administrative Procedure Number 6 "Procedure for Determination and Use of Local Limits" lists all pollutants noted in the Niagara Falls Water Board – Wastewater Facilities SPDES Permit. The limits defined in the procedure are values which are based on the quantity of substances discharged which can be easily related to the Treatment Plant's removal capacity.  
The pollutants listed in this procedure that are not specifically listed in Section F and G of this permit may be present in the permittee's wastewater discharge, but at levels which do not require specific permit limitations. Consequently, if any of the limits listed in this procedure, for pollutants not identified in Section F and G of this permit, are exceeded then the permittee will undertake a short-term, high intensity monitoring program for that pollutant. Samples identical to those required for routine monitoring purposes will be collected on each of at least three operating days and analyzed. Results will be expressed in terms of both concentration and mass, and will be submitted no later than the end of the third month following the month when the limit was first exceeded.

If levels higher than the limit are confirmed, the permit may be reopened by the Niagara Falls Water Board for consideration of revised permit limits.

E. Specific Wastewater Discharge Permit Conditions

1. Billing Agreement:

- a) Flow quantities will be derived from the Wastewater Treatment Facility flow meter. The results of the daily flow readings will be compiled and submitted in a Monthly Flow Report by the 15<sup>th</sup> day of the following month.
- b) Charges for TSS, SOC and Substances of Concern shall be developed based on Quarterly Self Monitoring data.

2. Love Canal Leachate Treatment Facility (LCLTF)

The Niagara Falls Water Board agrees to accept wastewater processed from the Glenn Springs Holdings (GSH) LCLTF. These waters in addition to Love Canal wastewater shall include wastewater from the 102nd Street remedial site. This approval is subject to the following conditions:

- a) The LCLTF shall be properly operated and maintained at all times.
- b) To ensure proper operation GSH shall ensure sufficient feed, inter-stage (breakthrough), and effluent analysis to ensure timely carbon changes. Treatment levels of 10 ug/l **shall be achieved and verified with quarterly composite sample** analysis for the following compounds: trichloroethylene, tetrachloroethylene, monochlorotoluene, monochlorobenzenes, trichlorobenzenes, tetrachlorobenzenes, hexachlorocyclohexanes and hexachlorobenzene.

E. Specific Wastewater Discharge Permit Conditions

2. Love Canal Leachate Treatment Facility (LCLTF)

Continued

- c) The issuance of this approval is based on GSH's previous assertions that there is no reason to anticipate the presence of tetrachlorodibenzo-p-dioxins in the discharge from the treatment facility. The Niagara Falls Water Board hereby reserves the right to collect samples from the treatment facility effluent and analyze such wastewaters for their chemical constituents, including tetrachlorodibenzo-p-dioxins. If such analysis indicates the presence of tetrachlorodibenzo-p-dioxins, this approval may be withdrawn. If at anytime, the Niagara Falls Water Board determines on any basis that the discharge of these wastewater to the POTW is interfering with the operation of that facility, the Niagara Falls Water Board will direct GSH to discontinue the discharge.
- d) These pretreated wastewaters shall be discharged to the POTW via Outfall MS # 1.
- e) Periodically wet weather flow in the area around LCLTF results in surcharged sewers. The resultant surcharge requires overflow at combined sewer and storm sewer overflow points. Other points in the sewer shed require manual bypass pumping. Consequently, to minimize this overflow, the Niagara Falls Water Board will require the permittee to cease discharge from the LCLTF during these surcharge events.

A notification procedure has been established by the Niagara Falls Water Board to formalize the communication between the Niagara Falls Water Board and the permittee to halt and resume the LCLTF discharge. This procedure by reference is hereby incorporated as a condition of this permit.

**F. Discharge Limitations & Monitoring Requirements**

During the Period beginning the effective date of this Permit and lasting until the expiration date, discharge from the permitted facility outfall(s) will be limited and monitored by the permittee as specified below.

OUTFALL NUMBER/ EFFLUENT PARAMETER	DISCHARGE LIMITATIONS		UNITS	MINIMUM MONITORING REQUIREMENTS	
	ANNUAL AVERAGE	DAILY MAXIMUM		MEASUREMENT FREQUENCY	SAMPLE TYPE
#1 Flow	0.3	0.3	MGD	Continuous	4
#1 Total Suspended Suspended	25	50	lbs/d	1/Qtr.	1
#1 Soluble Organic Carbon	50	75	lbs/d	1/Qtr.	1
#1 Volatile - Priority Pollutants (See Attached list Section G)	MONITOR	ONLY	lbs/d	1/Qtr.	1
#1 Acid Extractable - Priority Pollutants (See attached list Section G)	MONITOR	ONLY	lbs/d	1/Qtr.	1
#1 Base/Neutral - Priority Pollutants (See attached list Section G)	MONITOR	ONLY	lbs/d	1/Qtr.	1
# 1 Pesticides - Hexachlorocyclohexanes	MONITOR	ONLY	lbs/d	1/Qtr.	1
#1 Total Phenols	MONITOR	ONLY	lbs/d	1/Qtr.	1

F. **DISCHARGE LIMITATIONS & MONITORING REQUIREMENTS**  
**CONTINUED**

**SAMPLE TYPE FOOTNOTES**

- (1) Each sample will consist of four (4) grabs collected spaced throughout the **batch** discharge, such that they are representative of the effluent being discharged pursuant to 40CFR 403.12.b5iii. The four (4) grabs will be **composited in the laboratory** and analyzed as one sample.
- (2) Each sample will consist of four (4) grabs collected spaced over the 24-hour period, such that they are representative of the effluent being discharged pursuant to 40CFR 403.12.b5iii. The four (4) grabs will be **composited in the laboratory** and analyzed as one sample.
- (3) Each sample will consist of a 24-hour, **flow proportioned** composite sample collected from the monitoring point.
- (4) Flow will be monitored continuously with the use of a water meter or another acceptable flow metering device.
- (5) Each sample will consist of a 24-hour, **time proportioned** composite sample collected from the monitoring point.
- (6) Reserved
- (7) Same as (3), however, five (5) samples will be collected per quarter from the **monitoring point and analyzed by and at the Niagara Falls Water Board's** expense.
- (8) Four (4) grab samples will be collected spaced over the 24-hour period, such that they are representative of the effluent being discharged pursuant to 40CFR 403.12.b5iii. Each grab will be **analyzed and reported separately**.
- (9) A grab sample is defined as an aliquot collected over a period of not more than 15 minutes.



### Discharge Monitoring Compounds

Volatile	Base/Neutrals Extractables
Benzene	Dimethyl Phthalate
Carbon Tetrachloride	Butyl Benz Phthalate
Chlorodibromomethane	Di-N-Butyl Phthalate
Monochlorobenzene	Di-N-Octyl Phthalate
Dichlorobromomethane	Diethyl Phthalate
Chloroform	Nitrosodiphenylamine
Dichloroethylenes	Dichlorobenzenes
Bromoform	Dichlorotoluene
Dichloropropylenes	Acenaphthlene
Ethylbenzene	Fluoranthene
Tetrachloroethanes	Chrysene
Tetrachloroethylene	Napthalene
Toluene	Benzo (a) Anthracene
Trichloroethanes	Pyrene
Trichloroethylene	Trichlorobenzene
Methylene Chloride	Trichlorotoluene
Vinyl Chloride	Hexachlorobutadiene
Monochlorotoluenes	Tetrachlorobenzene
Monochlorobenzotrifluoride	Hexachlorocyclopentadiene
	Hexachlorobenzene
	Dichlorobenzotrifluoride



### Discharge Monitoring Compounds

Acids	Pesticides
Monochlorophenol	Alpha, beta, delta, gama – hexachlorocyclohexane
Dichlorophenol	
Monochlorocresol	
Trichlorophenol	
Pentachlorophenol	

Conventionals	
Total Phenols	
Total Suspended Solids	
Soluble Organic Carbon	

H. Comments/Revisions

# Appendix D

## Love Canal Annual Groundwater Sampling Schedule



**CONESTOGA-ROVERS  
& ASSOCIATES**

2055 Niagara Falls Blvd., Suite #3  
Niagara Falls, New York 14304  
Telephone: (716) 297-6150 Fax: (716) 297-2265  
www.CRAworld.com

## MEMORANDUM

TO: Clint Babcock, Ralph Schupp REF. NO.: 009954

FROM: Jane Pietraszek-Polovich/adh/8 *JPP* DATE: August 5, 2010

C.C.: Darrell Crockett, Dennis Hoyt, John Pentilchuk,  
Dave Tyran, Filing

RE: Love Canal Annual Groundwater Sampling Schedule

At the request of Glenn Springs Holdings, Inc. (GSH), Conestoga-Rovers & Associates (CRA) has prepared the following memo to document the Annual Groundwater Sampling schedule for the Love Canal Facility in Niagara Falls, New York (Site).

Correspondence from Mr. Brian Sadowski of the New York State Department of Environmental Conservation (NYSDEC) sent to CRA and GSH on March 25, 2009 (email attached) states that it is no longer necessary for the NYSDEC to specifically list the wells to be sampled each year at the Site, since the annual and alternating (Group I and Group II) wells have remained the same throughout the years. From 1994 through 2008, the NYSDEC provided GSH with a list of wells to be sampled each year. The March 25, 2009 email from Mr. Sadowski stated that the NYSDEC will no longer provide such a list. Therefore, Mr. Sadowski suggested that the wells sampled during the 2007 annual groundwater monitoring event be used for the 2009 annual groundwater monitoring event, to remain consistent with the Long-Term Monitoring Program. The 2007 (and therefore 2009) monitoring wells represent the Group I wells (Table 1). The 2008 (and therefore 2010) monitoring wells represent the Group II wells. In addition, there are select overburden and bedrock wells that are to be sampled annually (Table 1).

Mr. Sadowski went on to further state that GSH must "ensure that the monitoring network and well selection provide adequate overburden and bedrock coverage that returns the data necessary for the evaluation of the remediation, and that the NYSDEC feels that the selection of the 2007 wells will meet those objectives." Mr. Sadowski indicated that GSH can enhance upon the objective by choosing other wells if they wish. Once the well selection is made for the annual event, GSH is to provide the NYSDEC with the monitoring well numbers. Any changes in the well selection must be accompanied with reasons for the addition/deletion. Based on a review of the data for the wells suggested by NYSDEC, GSH agreed to sample the wells in Table 1 for future sampling events. This was communicated to the NYSDEC through a phone call to Mr. Sadowski on June 7, 2010, and documented in the attached email dated June 8, 2010. The NYSDEC is to be notified when the annual monitoring will take place for oversight purposes and to split samples if desired. A 2-week notice of the annual groundwater monitoring event is preferred by the NYSDEC.

**TABLE 1**  
**SAMPLE SCHEDULE**  
**LOVE CANAL FACILITY**  
**LONG-TERM MONITORING PROGRAM**  
**NIAGARA FALLS, NEW YORK**

<u>Annual Wells</u>	<u>Biannual Wells</u>	
<i>Bedrock Wells</i>	<i>Overburden Wells Group I (2009)</i>	<i>Overburden Wells Group II (2010)</i>
3257	3151	7115
5221	7120	7125
6209	7155	8115
7205	7161	8125
8210	8110	9105
9205	8120	9113
9210	8130	9118
10205	8140	10178A
10210A	9110	
10210B	9115	
10210C	9120	
10215	9125	
10225A	9130	
10225B	9140	
10225C	10105	
10270	10147	
10272	10174A	
10278		
 <i>Overburden Wells</i>		
	7130	
	7132	
	8106	
	10135	

**From:** Crockett, Darrell  
**Sent:** Wednesday, March 25, 2009 12:06 PM  
**To:** Pentilchuk, John  
**Subject:** 9954 FW: Love Canal Annual 2009 Sampling  
John,

Please let me know how you'd like for me to proceed. I have the 2007 sampling event data.

Thanks  
Darrell

---

**From:** Brian Sadowski [mailto:bpsadows@gw.dec.state.ny.us]  
**Sent:** Wed 3/25/2009 11:56 AM  
**To:** Crockett, Darrell  
**Cc:** Hoyt, Dennis; Clint\_Babcock ext  
**Subject:** Re: Love Canal Annual 2009 Sampling

Darrell,

Your contact and this response will be considered as our pre-sampling conference as stated on p.6. in Section 2.0 Monitoring Requirements of the February 19, 2001 Sampling Manual. Over the last fourteen years the Department has specifically listed the wells to sample and believe that is no longer necessary as the annual and alternating wells have stayed the same. GSHI and/or MSRM has clearly demonstrated their ability to operate, maintain and monitor the site. With the addition of CRA; there is an added layer of technological security and professional environmental judgement. With that said, the Department will not provide a specific list of wells to monitor. However, the suggested wells are the wells that were sampled in 2007 to remain consistent with the LTM program schedule listed on Table 2.2 of the Sampling Manual. The monitoring schedule is flexible. OXY and CRA is to ensure that the monitoring network and well selection provides adequate overburden and bedrock coverage that returns the data necessary for the evaluation of the remediation. The Department feels that the selection of the 2007 wells will meet those objectives. OXY and CRA can enhance upon the objectives by choosing other wells if they wish. When a decision is made by CRA on the well selection, please provide the Department with the well numbers. A simple return "as same as 2007 or 2007 with the addition, deletion or substitution of well #" will suffice. If changes are made, please provide reasoning. Finally, the Department will not be splitting this year. But, will need to be given notice when monitoring will take place for oversight purposes. Thank you.

>>> "Crockett, Darrell" <dcrockett@craworld.com> 3/18/2009 8:05 AM >>>  
Hello Brian,

At your convenience would you please provide me with a 2009 Annual sampling well list including the split samples.

Thank You  
Darrell Crockett  
716/998-5804

**From:** Polovich, Jane

**Sent:** Tuesday, June 08, 2010 9:49 AM

**To:** Filing

**Subject:** 9954: Love Canal Annual Sampling - Conversation with Brian Sadowski NYSDEC

I spoke with Brian Sadowski on Monday June 7, 2010 to confirm the annual groundwater sampling locations at Love Canal. As per Brians email of March 25 2009 to Darrell Crockett, the 2007 wells selected by the DEC were to be the ones sampled in 2009 (these represent the Group I wells). I confirmed with Mr. Sadowski that the 2008 wells selected by the DEC would be teh wells sampled in 2010 (representing the Group II wells). These Group I and Group II wells will from this point forward be the wells sampled for the alternating annual groundwater sampling events at Love Canal. Mr Sadowski went further to say that GSH may add or delete wells from the sampling but must provide a reason to the DEC prior to sampling for the additions / deletions. CRA documented this change in the sampling program in a internal memo.

---

Jane Polovich

**Conestoga-Rovers & Associates (CRA)**


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Appendix F  
Data Validation Memos:  
July **and December**  
2017





# Memorandum

August 31, 2017

To: Joe Branch [joseph\_branch@oxy.com]

Ref. No.: 009954

From: Kathy Willy/adh/50

Tel: 716-205-1942

CC: John Pentilchuk, Dennis Hoyt

**Subject: Analytical Results and Full Validation  
Love Canal Annual Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.  
Niagara Falls, New York  
July 2017**

## 1. Introduction

This document details a validation of analytical results for water samples collected in support of the Annual Long-Term Monitoring Program at the Love Canal Site during July 2017. Samples were submitted to ALS Laboratories, located in Rochester, New York. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Full Contract Laboratory Program (CLP) equivalent raw data deliverables were provided by the laboratory. Evaluation of the data was based on information obtained from the finished data sheets, raw data, chain of custody forms, calibration data, blank data, and recovery data from surrogate spikes/laboratory control samples (LCS)/matrix spike (MS) samples. The assessment of analytical and in-house data included checks for: data consistency (by observing comparability of duplicate analyses), adherence to accuracy and precision criteria, and transmittal errors.

The Quality Assurance/Quality Control (QA/QC) criteria by which these data have been assessed are outlined in the analytical methods referenced in Table 3 and applicable guidance from the documents entitled:

- i) "Quality Assurance Project Plan", Appendix B of "Sampling Manual Long-Term Groundwater Monitoring Program", June 2013
- ii) "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review", United States Environmental Protection Agency (USEPA) 540-R-08-01, June 2008

Item ii) will subsequently be referred to as the "Guidelines" in this Memorandum.



## 2. Sample Holding Time and Preservation

The sample holding time criteria for the analyses are summarized in Table 3. Sample chain of custody documents and analytical reports were used to determine sample holding times. All samples were prepared and analyzed within the required holding times.

All samples were properly preserved, delivered on ice, and stored by the laboratory at the required temperature (0-6°C).

## 3. Gas Chromatography/Mass Spectrometer (GC/MS) – Tuning and Mass Calibration (Instrument Performance Check)

### 3.1 Organic Analyses

Prior to volatile organic compound (VOC) and semi-volatile organic compound (SVOC) analysis, GC/MS instrumentation is tuned to ensure optimization over the mass range of interest. To evaluate instrument tuning, methods require the analysis of specific tuning compounds bromofluorobenzene (BFB) and decafluorotriphenylphosphine (DFTPP), respectively. The resulting spectra must meet the criteria cited in the methods before analysis is initiated. Analysis of the tuning compound must then be repeated every 12 hours throughout sample analysis to ensure the continued optimization of the instrument.

Tuning compounds were analyzed at the required frequency throughout VOC and SVOC analysis periods. All tuning criteria were met, indicating that proper optimization of the instrumentation was achieved.

## 4. Initial Calibration - Organic Analyses

### 4.1 GC/MS

To quantify VOCs and SVOCs of interest in samples, calibration of the GC/MS over a specific concentration range must be performed. Initially, a five-point calibration curve containing all compounds of interest is analyzed to characterize instrument response for each analyte over a specific concentration range. Linearity of the calibration curve and instrument sensitivity are evaluated against the following criteria:

- i) All relative response factors (RRFs) must be greater than or equal to 0.05 (0.01 for poor responders).
- ii) The percent relative standard deviation (RSD) values must not exceed 20.0 percent (40 percent for poor responders) or a minimum correlation coefficient (R) of 0.995 and minimum coefficient of determination ( $R^2$ ) of 0.99 if linear and quadratic equation calibration curves, respectively, are used.

The initial calibration data for VOCs and SVOCs were reviewed. All compounds met the above criteria for sensitivity and linearity.

### 4.2 GC

To quantify pesticides, the performance evaluation mixture (PEM) is analyzed at the beginning and end of the initial calibration sequence and throughout the analytical sequence. The results of these analyses are



used to evaluate dichlorodiphenyltrichloroethane (DDT)/endrin breakdown, using the method degradation criteria of <15 percent. PEM standards were analyzed at the required frequency throughout sample analysis and all method performance criteria were met.

In order to quantify organic compounds of interest by GC, calibration of the gas chromatograph over a specific concentration range must be performed. Initially, a calibration curve consisting of a minimum of five concentration levels is analyzed for all single component compounds of interest and for polychlorinated biphenyls (PCBs) (Aroclors 1016 and 1260). A single calibration standard is analyzed for all other multi-response compounds. Linearity of the calibration curve is acceptable if all RSD values are less than or equal to 20.0 percent or if the correlation coefficient (R) is 0.995 or greater for linear regression curves.

Retention time windows are also calculated from the initial calibration analyses. These windows are then used to identify all compounds of interest in subsequent analyses.

All initial calibration standards were analyzed at the required frequencies. All retention time, peak resolution, and linearity criteria were satisfied as specified in the methods.

## 5. Continuing Calibration - Organic Analyses

### 5.1 GC/MS

To ensure that instrument calibration for VOC and SVOC analyses is acceptable throughout the sample analysis period, continuing calibration standards must be analyzed and compared to the initial calibration curve every 12 hours.

The following criteria were employed to evaluate continuing calibration data:

- i) All RRF values must be greater than or equal to 0.05 (0.01 for poor responders)
- ii) Percent difference (%D) values must not exceed 25 percent (40 percent for poor responders).

Calibration standards were analyzed at the required frequency, and the results met the above criteria for instrument sensitivity and stability with the exception of bromomethane, which showed some variability. A summary of qualified results is presented in Table 4.

### 5.2 GC

To ensure that the calibration of the instrument for organic analyses by GC is valid throughout the sample analysis period, continuing calibration standards are analyzed and evaluated on a regular basis. To evaluate the continued linearity of the calibration, %D values are calculated for each compound. As specified in the methods, all %D values should not exceed 15 percent. To ensure that compound retention times do not vary over the analysis period, all retention times for continuing calibration compounds must fall within the established retention time windows.

All continuing calibration standards were analyzed at the required frequency. All %D values and compound retention times met the above criteria, indicating acceptable instrument calibration throughout the analysis period.



## 6. Laboratory Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

All method blank results were non-detect, indicating that laboratory contamination was not a factor for this investigation with the exception of some low concentrations of VOCs. All associated sample results with concentrations similar to that found in the method blanks were qualified as non-detect. A summary of qualified results is presented in Table 5.

## 7. Surrogate Spike Recoveries

In accordance with the methods employed, all samples, blanks, and QC samples analyzed for organics are spiked with surrogate compounds prior to sample extraction and/or analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for VOC, SVOC, pesticides, and PCB determinations were spiked with the appropriate number of surrogate compounds prior to sample extraction and/or analysis.

Each individual surrogate compound is expected to meet the laboratory control limits with the exception of SVOC analyses. According to the "Guidelines" for SVOC analyses, up to one outlying surrogate in the base/neutral or acid fractions is acceptable as long as the recovery is at least 10 percent.

Surrogate recoveries were assessed against laboratory control limits. Some surrogate recoveries could not be assessed due to necessary secondary dilutions performed on the samples. All other surrogate recoveries were within acceptable limits, with the exception of one low SVOC surrogate recovery. As per the "Guidelines", no qualification of the data was required.

## 8. Internal Standards (IS) Analyses

IS data were evaluated for all VOC and SVOC sample analyses.

To ensure that changes in the GC/MS sensitivity and response do not affect sample analysis results, IS compounds are added to each sample prior to analysis. All results are then calculated as a ratio of the IS responses.

The sample IS results were evaluated against the following criteria:

- i) The retention time of the IS must not vary more than  $\pm 30$  seconds from the associated calibration standard.
- ii) IS area counts must not vary by more than a factor of two (-50 percent to +100 percent) from the associated calibration standard.



All organic IS recoveries and retention times met the above criteria.

## 9. Laboratory Control Sample Analyses

LCS and/or laboratory control sample duplicates (LCSD) are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects. The relative percent difference (RPD) of the LCS/LCSD recoveries is used to evaluate analytical precision.

For this study, LCS/LCSD were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

The LCS/LCSD contained all compounds of interest. All LCS recoveries and RPDs were within the laboratory control limits, demonstrating acceptable analytical accuracy and precision with the following exceptions:

- Some low SVOC recoveries were reported. Associated sample results were qualified as estimated to reflect the implied low bias.
- An extremely low (>10 percent) recovery was reported for benzoic acid. Associated non-detect sample results were rejected due to the poor analytical efficiency. Associated positive sample results were qualified as estimated.

A summary of qualified results is presented in Table 6.

## 10. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

To evaluate the effects of sample matrices on the distillation process, measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the analyte of concern and analyzed as MS/MSD samples. The RPD between the MS and MSD is used to assess analytical precision.

MS/MSD analyses were performed as specified in Table 1.

The MS/MSD samples were spiked with all compounds of interest. All percent recoveries and RPD values were within the laboratory control limits, demonstrating acceptable analytical accuracy and precision.

## 11. Field QA/QC Samples

The field QA/QC consisted of five trip blank samples, two rinse blank samples, and four field duplicate sample sets.

### 11.1 Trip Blank Sample Analysis

To evaluate contamination from sample collection, transportation, storage, and analytical activities, five trip blanks were submitted to the laboratory for VOC analysis. All results were non-detect for the compounds of interest with the exception of some low concentrations of acetone and carbon disulfide. All associated



sample results with concentrations similar to that found in the trip blanks were qualified as non-detect. A summary of qualified results is presented in Table 7.

### **11.2 Rinse Blank Sample Analysis**

To assess field decontamination procedures, ambient conditions at the site, and cleanliness of sample containers, two rinse blanks were submitted for analysis, as identified in Table 1. All results were non-detect for the analytes of interest with the exception of a low concentration of some VOCs and pesticides. Associated sample results with concentrations similar to that found in the blanks were qualified as non-detect. A summary of qualified results is presented in Table 8.

### **11.3 Field Duplicate Sample Analysis**

To assess the analytical and sampling protocol precision, four field duplicate samples were collected and submitted "blind" to the laboratory, as specified in Table 1. The RPDs associated with these duplicate samples must be less than 50 percent for water samples. If the reported concentration in either the investigative sample or its duplicate is less than five times the reporting limit (RL), the evaluation criterion is one times the RL value for water samples.

All field duplicate results were within acceptable agreement, demonstrating acceptable sampling and analytical precision.

## **12. Tentatively Identified Compounds (TICS)**

Chromatographic peaks recorded during VOC and SVOC sample GC/MS analyses that are not target compounds, surrogates, or IS, are potential TICS.

A summary of the TICS reported by the laboratory is presented in Table 9. Per the "Guidelines", TICS that were present in the method blanks or identified as solvent preservatives/aldol reaction products were rejected and are not included in the table.

## **13. Dual Column Analysis**

Pesticide analyses were performed using dual column analysis. All pesticide results showed good correlation between the two columns (<40 percent).

## **14. Analyte Reporting**

The laboratory reported detected results down to the laboratory's Method Detection Limit (MDL) for each analyte. Positive analyte detections less than the Practical Quantitation Limit (PQL) but greater than the MDL were qualified as estimated (J) in Table 2 unless qualified otherwise in this memorandum. Non-detect results were presented as non-detect at the RL in Table 2.



## 15. Target Compound Identification

To minimize erroneous compound identification during organic analyses, qualitative criteria including compound retention time and mass spectra (if applicable) were evaluated according to the identification criteria established by the methods. The samples identified in Table 1 were reviewed. The organic compounds reported adhered to the specified identification criteria.

## 16. Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable with the specific exceptions and qualifications noted herein.

Table 1

**Sample Collection and Analysis Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameters				Comments
					VOCs	SVOCs	Pesticides	PCBs	
WG-9954-071917-SG-042	3257	Groundwater	07/19/2017	10:10	x	x	x	x	
WG-9954-071117-SG-025	5221	Groundwater	07/11/2017	10:20	x	x	x	x	
WG-9954-071417-SG-033	6209	Groundwater	07/14/2017	13:10	x	x	x	x	
WG-9954-070517-SG-001	7120	Groundwater	07/05/2017	11:05	x	x	x	x	
WG-9954-071917-SG-043	7130	Groundwater	07/19/2017	11:00	x	x	x	x	
WG-9954-070517-SG-002	7132	Groundwater	07/05/2017	11:45	x	x	x	x	
WG-9954-070517-SG-003	7155	Groundwater	07/05/2017	12:20	x	x	x	x	
WG-9954-071917-SG-041	7161	Groundwater	07/19/2017	09:30	x	x	x	x	
WG-9954-071717-SG-037	7205	Groundwater	07/17/2017	11:50	x	x	x	x	
WG-9954-071717-SG-038	7205	Groundwater	07/17/2017	11:15	x	x	x	x	Field duplicate of sample WG-9954-071717-SG-037
WG-9954-071917-SG-040	8106	Groundwater	07/19/2017	08:50	x	x	x	x	
WG-9954-070517-SG-004	8110	Groundwater	07/05/2017	13:10	x	x	x	x	
WG-9954-070517-SG-005	8120	Groundwater	07/05/2017	13:50	x	x	x	x	
WG-9954-070717-SG-013	8130	Groundwater	07/07/2017	13:25	x	x	x	x	
WG-9954-070617-SG-011	8140	Groundwater	07/06/2017	13:20	x	x	x	x	
WG-9954-071117-SG-029	8210	Groundwater	07/11/2017	13:30	x	x	x	x	Matrix Spike/Matrix Spike Duplicate
WG-9954-070617-SG-010	9110	Groundwater	07/06/2017	12:25	x	x	x	x	Matrix Spike/Matrix Spike Duplicate
WG-9954-070617-SG-009	9115	Groundwater	07/06/2017	11:45	x	x	x	x	
WG-9954-070617-SG-007	9120	Groundwater	07/06/2017	11:00	x	x	x	x	
WG-9954-070617-SG-008	9120	Groundwater	07/06/2017	11:00	x	x	x	x	Field duplicate of sample WG-9954-070617-SG-007
WG-9954-070617-SG-006	9125	Groundwater	07/06/2017	10:30	x	x	x	x	
WG-9954-071417-SG-034	9130	Groundwater	07/14/2017	13:48	x	x	x	x	
WG-9954-071017-SG-021	9140	Groundwater	07/10/2017	13:40	x	x	x	x	
WG-9954-071717-SG-036	9205	Groundwater	07/17/2017	11:00	x	x	x	x	
WG-9954-071017-SG-020	9210	Groundwater	07/10/2017	10:55	x	x	x	x	
WG-9954-071917-SG-044	10105	Groundwater	07/19/2017	11:55	x	x	x	x	
WG-9954-070717-SG-012	10135	Groundwater	07/07/2017	12:40	x	x	x	x	
WG-9954-071017-SG-015	10147	Groundwater	07/10/2017	08:20	x	x	x	x	
WG-9954-071017-SG-014	10174A	Groundwater	07/10/2017	08:00	x	x	x	x	
WG-9954-071717-SG-035	10205	Groundwater	07/17/2017	09:40	x	x	x	x	
WG-9954-071017-SG-019	10210A	Groundwater	07/10/2017	09:20	x	x	x	x	
WG-9954-071017-SG-022	10210B	Groundwater	07/10/2017	12:35	x	x	x	x	
WG-9954-071017-SG-023	10210C	Groundwater	07/10/2017	13:15	x	x	x	x	
WG-9954-071117-SG-024	10215	Groundwater	07/11/2017	09:25	x	x	x	x	
WG-9954-071017-SG-016	10225A	Groundwater	07/10/2017	08:40	x	x	x	x	



Table 1

**Sample Collection and Analysis Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameters				Comments
					VOCs	SVOCs	Pesticides	PCBs	
WG-9954-071017-SG-017	10225B	Groundwater	07/10/2017	09:00	x	x	x	x	
WG-9954-071017-SG-018	10225B	Groundwater	07/10/2017	09:00	x	x	x	x	Field duplicate of sample WG-9954-071017-SG-017
WG-9954-071417-SG-032	10270	Groundwater	07/14/2017	11:35	x	x	x	x	
WG-9954-071417-SG-031	10272	Groundwater	07/14/2017	10:45	x	x	x	x	
WG-9954-071417-SG-030	10278	Groundwater	07/14/2017	09:35	x	x	x	x	
WG-9954-071117-SG-026	MW-01	Groundwater	07/11/2017	11:30	x	x	x	x	
WG-9954-071117-SG-027	MW-02	Groundwater	07/11/2017	12:35	x	x	x	x	
WG-9954-071117-SG-028	MW-02	Groundwater	07/11/2017	12:35	x	x	x	x	Field duplicate of sample WG-9954-071117-SG-027
RB-9954-070517-SG-001	-	Water	07/05/2017	-	x	x	x	x	Rinse Blank
RB-9954-071717-SG-039	-	Water	07/17/2017	-	x	x	x	x	Rinse Blank
TB-9954-070517-SG	-	Water	07/05/2017	-	x				Trip Blank
TB-9954-070717-SG	-	Water	07/07/2017	-	x				Trip Blank
TB-9954-071117-SG	-	Water	07/11/2017	-	x				Trip Blank
TB-9954-071417-SG	-	Water	07/14/2017	-	x				Trip Blank
TB-9954-071917-SG	-	Water	07/19/2017	-	x				Trip Blank

## Notes:

- VOCs - Volatile Organic Compounds  
SVOCs - Semi-volatile Organic Compounds  
PCBs - Polychlorinated Biphenyls  
- - Not applicable

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

	Location ID:	3257	5221	6209	7120
	Sample Name:	WG-9954-071917-SG-042	WG-9954-071117-SG-025	WG-9954-071417-SG-033	WG-9954-070517-SG-001
	Sample Date:	07/19/2017	07/11/2017	07/14/2017	07/05/2017
Parameters	Unit				
<b>Volatile Organic Compounds (VOCs)</b>					
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1,1,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10 U	10 U	10 U	10 U
2-Hexanone	µg/L	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	10 U	10 U	10 U	10 U
Acetone	µg/L	1.6 J	10 U	1.7 J	10 U
Benzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	µg/L	5.0 U	5.0 U	5.0 UJ	5.0 UJ
Carbon disulfide	µg/L	1.3 J	1.2 J	1.8 J	10 U
Carbon tetrachloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane (Methyl chloride)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl acetate	µg/L	10 U	10 U	10 U	10 U
Vinyl chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Xylenes (total)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

	<b>Location ID:</b>	<b>3257</b>	<b>5221</b>	<b>6209</b>	<b>7120</b>
	<b>Sample Name:</b>	<b>WG-9954-071917-SG-042</b>	<b>WG-9954-071117-SG-025</b>	<b>WG-9954-071417-SG-033</b>	<b>WG-9954-070517-SG-001</b>
	<b>Sample Date:</b>	<b>07/19/2017</b>	<b>07/11/2017</b>	<b>07/14/2017</b>	<b>07/05/2017</b>
<b>Parameters</b>	<b>Unit</b>				
<b>Semi-volatile Organic Compounds (SVOCs)</b>					
1,2,4-Trichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
1,2-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
1,3-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
1,4-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2,4,5-Trichlorophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2,4,6-Trichlorophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dichlorophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dimethylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dinitrophenol	µg/L	47 U	47 U	47 U	47 U
2,4-Dinitrotoluene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2,6-Dinitrotoluene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2-Chloronaphthalene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2-Chlorophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2-Methylnaphthalene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2-Methylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2-Nitroaniline	µg/L	47 U	47 U	47 U	47 U
2-Nitrophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
3&4-Methylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
3,3'-Dichlorobenzidine	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
3-Nitroaniline	µg/L	47 U	47 U	47 U	47 U
4,6-Dinitro-2-methylphenol	µg/L	47 U	47 U	47 U	47 U
4-Bromophenyl phenyl ether	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
4-Chloro-3-methylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
4-Chloroaniline	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
4-Chlorophenyl phenyl ether	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
4-Nitroaniline	µg/L	47 U	47 U	47 U	47 U
4-Nitrophenol	µg/L	47 U	47 U	47 U	47 U
Acenaphthene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Acenaphthylene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Anthracene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(a)anthracene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(a)pyrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(b)fluoranthene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(g,h,i)perylene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

	Location ID:	3257	5221	6209	7120
	Sample Name:	WG-9954-071917-SG-042	WG-9954-071117-SG-025	WG-9954-071417-SG-033	WG-9954-070517-SG-001
	Sample Date:	07/19/2017	07/11/2017	07/14/2017	07/05/2017
Parameters	Unit				
<b>SVOCs-Continued</b>					
Benzo(k)fluoranthene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Benzoic acid	µg/L	47 U	47 U	47 U	47 U
Benzyl alcohol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethoxy)methane	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethyl)ether	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Butyl benzylphthalate (BBP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Chrysene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Di-n-butylphthalate (DBP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Di-n-octyl phthalate (DnOP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Dibenz(a,h)anthracene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Dibenzofuran	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Diethyl phthalate	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Dimethyl phthalate	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Fluoranthene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Fluorene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Hexachlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Hexachlorobutadiene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Hexachlorocyclopentadiene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Hexachloroethane	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Indeno(1,2,3-cd)pyrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Isophorone	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
N-Nitrosodi-n-propylamine	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
N-Nitrosodiphenylamine	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Naphthalene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Nitrobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Pentachlorophenol	µg/L	47 U	47 U	47 U	47 U
Phenanthrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Phenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Pyrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
<b>Pesticides/Polychlorinated Biphenyls (PCBs)</b>					
4,4'-DDD	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
4,4'-DDE	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
4,4'-DDT	µg/L	0.047 U	0.047 U	0.047 U	0.047 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

<b>Location ID:</b>	<b>3257</b>	<b>5221</b>	<b>6209</b>	<b>7120</b>
<b>Sample Name:</b>	<b>WG-9954-071917-SG-042</b>	<b>WG-9954-071117-SG-025</b>	<b>WG-9954-071417-SG-033</b>	<b>WG-9954-070517-SG-001</b>
<b>Sample Date:</b>	<b>07/19/2017</b>	<b>07/11/2017</b>	<b>07/14/2017</b>	<b>07/05/2017</b>

**Parameters**

**Unit**

**Pesticides/PCBs-Continued**

Aldrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
alpha-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
alpha-Chlordane	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Aroclor-1016 (PCB-1016)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1221 (PCB-1221)	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
Aroclor-1232 (PCB-1232)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1242 (PCB-1242)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1248 (PCB-1248)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1254 (PCB-1254)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1260 (PCB-1260)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
beta-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
delta-BHC	µg/L	0.047 U	0.16 U	0.050 U	0.047 U
Dieldrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan I	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan II	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan sulfate	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endrin ketone	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
gamma-BHC (lindane)	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
gamma-Chlordane	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Heptachlor	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Heptachlor epoxide	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Methoxychlor	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Toxaphene	µg/L	0.50 U	0.50 U	0.50 U	0.50 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

	Location ID:	7130	7132	7155	7161
	Sample Name:	WG-9954-071917-SG-043	WG-9954-070517-SG-002	WG-9954-070517-SG-003	WG-9954-071917-SG-041
	Sample Date:	07/19/2017	07/05/2017	07/05/2017	07/19/2017
Parameters	Unit				
<b>Volatile Organic Compounds (VOCs)</b>					
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1,1,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10 U	10 U	10 U	10 U
2-Hexanone	µg/L	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	10 U	10 U	10 U	10 U
Acetone	µg/L	2.4 J	10 U	10 U	2.8 J
Benzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	µg/L	5.0 U	5.0 UJ	5.0 UJ	5.0 U
Carbon disulfide	µg/L	10 U	10 U	10 U	10 U
Carbon tetrachloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane (Methyl chloride)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5.0 U	5.0 U	0.24 J	5.0 U
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl acetate	µg/L	10 U	10 U	10 U	10 U
Vinyl chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Xylenes (total)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

	Location ID:	7130	7132	7155	7161
	Sample Name:	WG-9954-071917-SG-043	WG-9954-070517-SG-002	WG-9954-070517-SG-003	WG-9954-071917-SG-041
	Sample Date:	07/19/2017	07/05/2017	07/05/2017	07/19/2017
Parameters	Unit				
<b>Semi-volatile Organic Compounds (SVOCs)</b>					
1,2,4-Trichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
1,2-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
1,3-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
1,4-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2,4,5-Trichlorophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2,4,6-Trichlorophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dichlorophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dimethylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dinitrophenol	µg/L	47 U	47 U	47 U	47 U
2,4-Dinitrotoluene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2,6-Dinitrotoluene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2-Chloronaphthalene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2-Chlorophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2-Methylnaphthalene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2-Methylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2-Nitroaniline	µg/L	47 U	47 U	47 U	47 U
2-Nitrophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
3&4-Methylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
3,3'-Dichlorobenzidine	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
3-Nitroaniline	µg/L	47 U	47 U	47 U	47 U
4,6-Dinitro-2-methylphenol	µg/L	47 U	47 U	47 U	47 U
4-Bromophenyl phenyl ether	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
4-Chloro-3-methylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
4-Chloroaniline	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
4-Chlorophenyl phenyl ether	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
4-Nitroaniline	µg/L	47 U	47 U	47 U	47 U
4-Nitrophenol	µg/L	47 U	47 U	47 U	47 U
Acenaphthene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Acenaphthylene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Anthracene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(a)anthracene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(a)pyrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(b)fluoranthene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(g,h,i)perylene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

	Location ID:	7130	7132	7155	7161
	Sample Name:	WG-9954-071917-SG-043	WG-9954-070517-SG-002	WG-9954-070517-SG-003	WG-9954-071917-SG-041
	Sample Date:	07/19/2017	07/05/2017	07/05/2017	07/19/2017
<b>Parameters</b>	<b>Unit</b>				
<b>SVOCs-Continued</b>					
Benzo(k)fluoranthene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Benzoic acid	µg/L	47 U	47 U	47 U	47 U
Benzyl alcohol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethoxy)methane	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethyl)ether	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Butyl benzylphthalate (BBP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Chrysene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Di-n-butylphthalate (DBP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Di-n-octyl phthalate (DnOP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Dibenz(a,h)anthracene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Dibenzofuran	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Diethyl phthalate	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Dimethyl phthalate	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Fluoranthene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Fluorene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Hexachlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Hexachlorobutadiene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Hexachlorocyclopentadiene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Hexachloroethane	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Indeno(1,2,3-cd)pyrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Isophorone	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
N-Nitrosodi-n-propylamine	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
N-Nitrosodiphenylamine	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Naphthalene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Nitrobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Pentachlorophenol	µg/L	47 U	47 U	47 U	47 U
Phenanthrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Phenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Pyrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
<b>Pesticides/Polychlorinated Biphenyls (PCBs)</b>					
4,4'-DDD	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
4,4'-DDE	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
4,4'-DDT	µg/L	0.047 U	0.047 U	0.047 U	0.047 U



Table 2

**Analytical Results Summary  
Love Canal Annual Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.  
Niagara Falls, New York  
July 2017**

	Location ID: Sample Name: Sample Date:	7130 WG-9954-071917-SG-043 07/19/2017	7132 WG-9954-070517-SG-002 07/05/2017	7155 WG-9954-070517-SG-003 07/05/2017	7161 WG-9954-071917-SG-041 07/19/2017
<b>Parameters</b>					
<b>Unit</b>					
<b>Pesticides/PCBs-Continued</b>					
Aldrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
alpha-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
alpha-Chlordane	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Aroclor-1016 (PCB-1016)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1221 (PCB-1221)	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
Aroclor-1232 (PCB-1232)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1242 (PCB-1242)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1248 (PCB-1248)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1254 (PCB-1254)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1260 (PCB-1260)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
beta-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
delta-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Dieldrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan I	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan II	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan sulfate	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endrin ketone	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
gamma-BHC (lindane)	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
gamma-Chlordane	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Heptachlor	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Heptachlor epoxide	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Methoxychlor	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Toxaphene	µg/L	0.50 U	0.50 U	0.50 U	0.50 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

	Location ID:	7205	7205	8106	8110
	Sample Name:	WG-9954-071717-SG-037	WG-9954-071717-SG-038	WG-9954-071917-SG-040	WG-9954-070517-SG-004
	Sample Date:	07/17/2017	07/17/2017 Duplicate	07/19/2017	07/05/2017
Parameters	Unit				
<b>Volatile Organic Compounds (VOCs)</b>					
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1,1,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10 U	10 U	10 U	10 U
2-Hexanone	µg/L	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	10 U	10 U	10 U	10 U
Acetone	µg/L	10 U	10 U	4.1 J	10 U
Benzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	µg/L	5.0 U	5.0 U	5.0 U	5.0 UJ
Carbon disulfide	µg/L	10 U	10 U	10 U	10 U
Carbon tetrachloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane (Methyl chloride)	µg/L	5.0 U	5.0 U	0.34 J	5.0 U
cis-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl acetate	µg/L	10 U	10 U	10 U	10 U
Vinyl chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Xylenes (total)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

	Location ID: Sample Name: Sample Date:	7205 WG-9954-071717-SG-037 07/17/2017	7205 WG-9954-071717-SG-038 07/17/2017 Duplicate	8106 WG-9954-071917-SG-040 07/19/2017	8110 WG-9954-070517-SG-004 07/05/2017
Parameters	Unit				
<b>Semi-volatile Organic Compounds (SVOCs)</b>					
1,2,4-Trichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
1,2-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
1,3-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
1,4-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2,4,5-Trichlorophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2,4,6-Trichlorophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dichlorophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dimethylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dinitrophenol	µg/L	47 U	47 U	47 U	47 U
2,4-Dinitrotoluene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2,6-Dinitrotoluene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2-Chloronaphthalene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2-Chlorophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2-Methylnaphthalene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2-Methylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
2-Nitroaniline	µg/L	47 U	47 U	47 U	47 U
2-Nitrophenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
3&4-Methylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
3,3'-Dichlorobenzidine	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
3-Nitroaniline	µg/L	47 U	47 U	47 U	47 U
4,6-Dinitro-2-methylphenol	µg/L	47 U	47 U	47 U	47 U
4-Bromophenyl phenyl ether	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
4-Chloro-3-methylphenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
4-Chloroaniline	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
4-Chlorophenyl phenyl ether	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
4-Nitroaniline	µg/L	47 U	47 U	47 U	47 U
4-Nitrophenol	µg/L	47 U	47 U	47 U	47 U
Acenaphthene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Acenaphthylene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Anthracene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(a)anthracene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(a)pyrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(b)fluoranthene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(g,h,i)perylene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

	Location ID: Sample Name: Sample Date:	7205 WG-9954-071717-SG-037 07/17/2017	7205 WG-9954-071717-SG-038 07/17/2017 Duplicate	8106 WG-9954-071917-SG-040 07/19/2017	8110 WG-9954-070517-SG-004 07/05/2017
<b>Parameters</b>					
<b>SVOCs-Continued</b>					
Benzo(k)fluoranthene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Benzoic acid	µg/L	47 U	47 U	47 U	47 U
Benzyl alcohol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethoxy)methane	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethyl)ether	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Butyl benzylphthalate (BBP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Chrysene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Di-n-butylphthalate (DBP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Di-n-octyl phthalate (DnOP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Dibenz(a,h)anthracene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Dibenzofuran	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Diethyl phthalate	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Dimethyl phthalate	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Fluoranthene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Fluorene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Hexachlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Hexachlorobutadiene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Hexachlorocyclopentadiene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Hexachloroethane	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Indeno(1,2,3-cd)pyrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Isophorone	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
N-Nitrosodi-n-propylamine	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
N-Nitrosodiphenylamine	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Naphthalene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Nitrobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Pentachlorophenol	µg/L	47 U	47 U	47 U	47 U
Phenanthrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Phenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Pyrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
<b>Pesticides/Polychlorinated Biphenyls (PCBs)</b>					
4,4'-DDD	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
4,4'-DDE	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
4,4'-DDT	µg/L	0.047 U	0.047 U	0.047 U	0.047 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

	Location ID: Sample Name: Sample Date:	7205 WG-9954-071717-SG-037 07/17/2017	7205 WG-9954-071717-SG-038 07/17/2017 Duplicate	8106 WG-9954-071917-SG-040 07/19/2017	8110 WG-9954-070517-SG-004 07/05/2017
Parameters	Unit				
<b>Pesticides/PCBs-Continued</b>					
Aldrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
alpha-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
alpha-Chlordane	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Aroclor-1016 (PCB-1016)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1221 (PCB-1221)	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
Aroclor-1232 (PCB-1232)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1242 (PCB-1242)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1248 (PCB-1248)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1254 (PCB-1254)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1260 (PCB-1260)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
beta-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
delta-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Dieldrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan I	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan II	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan sulfate	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endrin ketone	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
gamma-BHC (lindane)	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
gamma-Chlordane	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Heptachlor	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Heptachlor epoxide	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Methoxychlor	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Toxaphene	µg/L	0.50 U	0.50 U	0.50 U	0.50 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

	Location ID:	8120	8130	8140	8210
	Sample Name:	WG-9954-070517-SG-005	WG-9954-070717-SG-013	WG-9954-070617-SG-011	WG-9954-071117-SG-029
	Sample Date:	07/05/2017	07/07/2017	07/06/2017	07/11/2017
Parameters	Unit				
<b>Volatile Organic Compounds (VOCs)</b>					
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1,1,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10 U	10 U	10 U	10 U
2-Hexanone	µg/L	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	10 U	10 U	10 U	10 U
Acetone	µg/L	10 U	10 U	6.5 J	10 U
Benzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	µg/L	5.0 UJ	5.0 UJ	5.0 UJ	5.0 U
Carbon disulfide	µg/L	10 U	10 U	10 U	1.4 J
Carbon tetrachloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane (Methyl chloride)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5.0 U	5.0 U	5.0 U	0.25 J
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl acetate	µg/L	10 U	10 U	10 U	10 U
Vinyl chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Xylenes (total)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

Location ID:	8120	8130	8140	8210
Sample Name:	WG-9954-070517-SG-005	WG-9954-070717-SG-013	WG-9954-070617-SG-011	WG-9954-071117-SG-029
Sample Date:	07/05/2017	07/07/2017	07/06/2017	07/11/2017
Parameters	Unit			
<b>Semi-volatile Organic Compounds (SVOCs)</b>				
1,2,4-Trichlorobenzene	9.4 U	9.4 U	9.4 U	9.4 U
1,2-Dichlorobenzene	9.4 U	9.4 U	9.4 U	9.4 U
1,3-Dichlorobenzene	9.4 U	9.4 U	9.4 U	9.4 U
1,4-Dichlorobenzene	9.4 U	9.4 U	9.4 U	9.4 U
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	9.4 U	9.4 U	9.4 U	9.4 U
2,4,5-Trichlorophenol	9.4 U	9.4 U	9.4 U	9.4 U
2,4,6-Trichlorophenol	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dichlorophenol	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dimethylphenol	9.4 U	9.4 U	9.4 U	9.4 U
2,4-Dinitrophenol	47 U	47 U	47 U	47 U
2,4-Dinitrotoluene	9.4 U	9.4 U	9.4 U	9.4 U
2,6-Dinitrotoluene	9.4 U	9.4 U	9.4 U	9.4 U
2-Chloronaphthalene	9.4 U	9.4 U	9.4 U	9.4 U
2-Chlorophenol	9.4 U	9.4 U	9.4 U	9.4 U
2-Methylnaphthalene	9.4 U	9.4 U	9.4 U	9.4 U
2-Methylphenol	9.4 U	9.4 U	9.4 U	9.4 U
2-Nitroaniline	47 U	47 U	47 U	47 U
2-Nitrophenol	9.4 U	9.4 U	9.4 U	9.4 U
3&4-Methylphenol	9.4 U	9.4 U	9.4 U	9.4 U
3,3'-Dichlorobenzidine	9.4 U	9.4 U	9.4 U	9.4 U
3-Nitroaniline	47 U	47 U	47 U	47 U
4,6-Dinitro-2-methylphenol	47 U	47 U	47 U	47 U
4-Bromophenyl phenyl ether	9.4 U	9.4 U	9.4 U	9.4 U
4-Chloro-3-methylphenol	9.4 U	9.4 U	9.4 U	9.4 U
4-Chloroaniline	9.4 U	9.4 U	9.4 U	9.4 U
4-Chlorophenyl phenyl ether	9.4 U	9.4 U	9.4 U	9.4 U
4-Nitroaniline	47 U	47 U	47 U	47 U
4-Nitrophenol	47 U	47 U	47 U	47 U
Acenaphthene	9.4 U	9.4 U	9.4 U	9.4 U
Acenaphthylene	9.4 U	9.4 U	9.4 U	9.4 U
Anthracene	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(a)anthracene	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(a)pyrene	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(b)fluoranthene	9.4 U	9.4 U	9.4 U	9.4 U
Benzo(g,h,i)perylene	9.4 U	9.4 U	9.4 U	9.4 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

Location ID:	8120	8130	8140	8210
Sample Name:	WG-9954-070517-SG-005	WG-9954-070717-SG-013	WG-9954-070617-SG-011	WG-9954-071117-SG-029
Sample Date:	07/05/2017	07/07/2017	07/06/2017	07/11/2017
Parameters	Unit			
<b>SVOCs-Continued</b>				
Benzo(k)fluoranthene	µg/L	9.4 U	9.4 U	9.4 U
Benzoic acid	µg/L	47 U	R	47 U
Benzyl alcohol	µg/L	9.4 U	9.4 U	9.4 U
bis(2-Chloroethoxy)methane	µg/L	9.4 U	9.4 U	9.4 U
bis(2-Chloroethyl)ether	µg/L	9.4 U	9.4 U	9.4 U
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	9.4 U	9.4 U	9.4 U
Butyl benzylphthalate (BBP)	µg/L	9.4 U	9.4 U	9.4 U
Chrysene	µg/L	9.4 U	9.4 U	9.4 U
Di-n-butylphthalate (DBP)	µg/L	9.4 U	9.4 U	9.4 U
Di-n-octyl phthalate (DnOP)	µg/L	9.4 U	9.4 U	9.4 U
Dibenz(a,h)anthracene	µg/L	9.4 U	9.4 U	9.4 U
Dibenzofuran	µg/L	9.4 U	9.4 U	9.4 U
Diethyl phthalate	µg/L	9.4 U	9.4 U	9.4 U
Dimethyl phthalate	µg/L	9.4 U	9.4 U	9.4 U
Fluoranthene	µg/L	9.4 U	9.4 U	9.4 U
Fluorene	µg/L	9.4 U	9.4 U	9.4 U
Hexachlorobenzene	µg/L	9.4 U	9.4 U	9.4 U
Hexachlorobutadiene	µg/L	9.4 U	9.4 U	9.4 U
Hexachlorocyclopentadiene	µg/L	9.4 U	9.4 U	9.4 U
Hexachloroethane	µg/L	9.4 U	9.4 U	9.4 U
Indeno(1,2,3-cd)pyrene	µg/L	9.4 U	9.4 U	9.4 U
Isophorone	µg/L	9.4 U	9.4 U	9.4 U
N-Nitrosodi-n-propylamine	µg/L	9.4 U	9.4 U	9.4 U
N-Nitrosodiphenylamine	µg/L	9.4 U	9.4 U	9.4 U
Naphthalene	µg/L	9.4 U	9.4 U	9.4 U
Nitrobenzene	µg/L	9.4 U	9.4 U	9.4 U
Pentachlorophenol	µg/L	47 U	47 U	47 U
Phenanthrene	µg/L	9.4 U	9.4 U	9.4 U
Phenol	µg/L	9.4 U	9.4 U	9.4 U
Pyrene	µg/L	9.4 U	9.4 U	9.4 U
<b>Pesticides/Polychlorinated Biphenyls (PCBs)</b>				
4,4'-DDD	µg/L	0.047 U	0.047 U	0.047 U
4,4'-DDE	µg/L	0.047 U	0.047 U	0.047 U
4,4'-DDT	µg/L	0.047 U	0.047 U	0.047 U



Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

	Location ID:	8120	8130	8140	8210
	Sample Name:	WG-9954-070517-SG-005	WG-9954-070717-SG-013	WG-9954-070617-SG-011	WG-9954-071117-SG-029
	Sample Date:	07/05/2017	07/07/2017	07/06/2017	07/11/2017
<b>Parameters</b>	<b>Unit</b>				
<b>Pesticides/PCBs-Continued</b>					
Aldrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
alpha-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
alpha-Chlordane	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Aroclor-1016 (PCB-1016)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1221 (PCB-1221)	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
Aroclor-1232 (PCB-1232)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1242 (PCB-1242)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1248 (PCB-1248)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1254 (PCB-1254)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1260 (PCB-1260)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
beta-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
delta-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Dieldrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan I	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan II	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan sulfate	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endrin ketone	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
gamma-BHC (lindane)	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
gamma-Chlordane	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Heptachlor	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Heptachlor epoxide	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Methoxychlor	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Toxaphene	µg/L	0.50 U	0.50 U	0.50 U	0.50 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

	Location ID:	9110	9115	9120	9120
	Sample Name:	WG-9954-070617-SG-010	WG-9954-070617-SG-009	WG-9954-070617-SG-007	WG-9954-070617-SG-008
	Sample Date:	07/06/2017	07/06/2017	07/06/2017	07/06/2017 Duplicate
Parameters	Unit				
<b>Volatile Organic Compounds (VOCs)</b>					
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1,1,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10 U	10 U	10 U	10 U
2-Hexanone	µg/L	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	10 U	10 U	10 U	10 U
Acetone	µg/L	2.4 J	3.0 J	2.8 J	4.6 J
Benzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	µg/L	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ
Carbon disulfide	µg/L	10 U	10 U	10 U	10 U
Carbon tetrachloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane (Methyl chloride)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl acetate	µg/L	10 U	10 U	10 U	10 U
Vinyl chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Xylenes (total)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

Location ID:	9110	9115	9120	9120
Sample Name:	WG-9954-070617-SG-010	WG-9954-070617-SG-009	WG-9954-070617-SG-007	WG-9954-070617-SG-008
Sample Date:	07/06/2017	07/06/2017	07/06/2017	07/06/2017 Duplicate
Parameters	Unit			
<b>Semi-volatile Organic Compounds (SVOCs)</b>				
1,2,4-Trichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U
1,2-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U
1,3-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U
1,4-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	9.4 U	9.4 U	9.4 U
2,4,5-Trichlorophenol	µg/L	9.4 U	9.4 U	9.4 U
2,4,6-Trichlorophenol	µg/L	9.4 U	9.4 U	9.4 U
2,4-Dichlorophenol	µg/L	9.4 U	9.4 U	9.4 U
2,4-Dimethylphenol	µg/L	9.4 U	9.4 U	9.4 U
2,4-Dinitrophenol	µg/L	47 U	47 U	47 U
2,4-Dinitrotoluene	µg/L	9.4 U	9.4 U	9.4 U
2,6-Dinitrotoluene	µg/L	9.4 U	9.4 U	9.4 U
2-Chloronaphthalene	µg/L	9.4 U	9.4 U	9.4 U
2-Chlorophenol	µg/L	9.4 U	9.4 U	9.4 U
2-Methylnaphthalene	µg/L	9.4 U	9.4 U	9.4 U
2-Methylphenol	µg/L	9.4 U	9.4 U	9.4 U
2-Nitroaniline	µg/L	47 U	47 U	47 U
2-Nitrophenol	µg/L	9.4 U	9.4 U	9.4 U
3&4-Methylphenol	µg/L	9.4 U	9.4 U	9.4 U
3,3'-Dichlorobenzidine	µg/L	9.4 U	9.4 U	9.4 U
3-Nitroaniline	µg/L	47 U	47 U	47 U
4,6-Dinitro-2-methylphenol	µg/L	47 U	47 U	47 U
4-Bromophenyl phenyl ether	µg/L	9.4 U	9.4 U	9.4 U
4-Chloro-3-methylphenol	µg/L	9.4 U	9.4 U	9.4 U
4-Chloroaniline	µg/L	9.4 U	9.4 U	9.4 U
4-Chlorophenyl phenyl ether	µg/L	9.4 U	9.4 U	9.4 U
4-Nitroaniline	µg/L	47 U	47 U	47 U
4-Nitrophenol	µg/L	47 U	47 U	47 U
Acenaphthene	µg/L	9.4 U	9.4 U	9.4 U
Acenaphthylene	µg/L	9.4 U	9.4 U	9.4 U
Anthracene	µg/L	9.4 U	9.4 U	9.4 U
Benzo(a)anthracene	µg/L	9.4 U	9.4 U	9.4 U
Benzo(a)pyrene	µg/L	9.4 U	9.4 U	9.4 U
Benzo(b)fluoranthene	µg/L	9.4 U	9.4 U	9.4 U
Benzo(g,h,i)perylene	µg/L	9.4 U	9.4 U	9.4 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

	Location ID: Sample Name: Sample Date:	9110 WG-9954-070617-SG-010 07/06/2017	9115 WG-9954-070617-SG-009 07/06/2017	9120 WG-9954-070617-SG-007 07/06/2017	9120 WG-9954-070617-SG-008 07/06/2017 Duplicate
<b>Parameters</b>					
<b>SVOCs-Continued</b>					
Benzo(k)fluoranthene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Benzoic acid	µg/L	47 U	47 U	47 U	47 U
Benzyl alcohol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethoxy)methane	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Chloroethyl)ether	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Butyl benzylphthalate (BBP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Chrysene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Di-n-butylphthalate (DBP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Di-n-octyl phthalate (DnOP)	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Dibenz(a,h)anthracene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Dibenzofuran	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Diethyl phthalate	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Dimethyl phthalate	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Fluoranthene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Fluorene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Hexachlorobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Hexachlorobutadiene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Hexachlorocyclopentadiene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Hexachloroethane	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Indeno(1,2,3-cd)pyrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Isophorone	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
N-Nitrosodi-n-propylamine	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
N-Nitrosodiphenylamine	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Naphthalene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Nitrobenzene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Pentachlorophenol	µg/L	47 U	47 U	47 U	47 U
Phenanthrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Phenol	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
Pyrene	µg/L	9.4 U	9.4 U	9.4 U	9.4 U
<b>Pesticides/Polychlorinated Biphenyls (PCBs)</b>					
4,4'-DDD	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
4,4'-DDE	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
4,4'-DDT	µg/L	0.047 U	0.047 U	0.047 U	0.047 U

Table 2

**Analytical Results Summary  
Love Canal Annual Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.  
Niagara Falls, New York  
July 2017**

	Location ID: Sample Name: Sample Date:	9110 WG-9954-070617-SG-010 07/06/2017	9115 WG-9954-070617-SG-009 07/06/2017	9120 WG-9954-070617-SG-007 07/06/2017	9120 WG-9954-070617-SG-008 07/06/2017 Duplicate
<b>Parameters</b>					
<b>Pesticides/PCBs-Continued</b>					
Aldrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
alpha-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
alpha-Chlordane	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Aroclor-1016 (PCB-1016)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1221 (PCB-1221)	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
Aroclor-1232 (PCB-1232)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1242 (PCB-1242)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1248 (PCB-1248)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1254 (PCB-1254)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1260 (PCB-1260)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
beta-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
delta-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Dieldrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan I	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan II	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan sulfate	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endrin ketone	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
gamma-BHC (lindane)	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
gamma-Chlordane	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Heptachlor	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Heptachlor epoxide	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Methoxychlor	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Toxaphene	µg/L	0.50 U	0.50 U	0.50 U	0.50 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

	Location ID:	9125	9130	9140	9205
	Sample Name:	WG-9954-070617-SG-006	WG-9954-071417-SG-034	WG-9954-071017-SG-021	WG-9954-071717-SG-036
	Sample Date:	07/06/2017	07/14/2017	07/10/2017	07/17/2017
Parameters	Unit				
<b>Volatile Organic Compounds (VOCs)</b>					
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1,1,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10 U	10 U	10 U	10 U
2-Hexanone	µg/L	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	10 U	10 U	10 U	10 U
Acetone	µg/L	3.6 J	2.6 J	3.2 J	10 U
Benzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	µg/L	5.0 UJ	5.0 U	5.0 U	5.0 UJ
Carbon disulfide	µg/L	10 U	0.85 J	0.24 J	10 U
Carbon tetrachloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane (Methyl chloride)	µg/L	5.0 U	0.53 J	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl acetate	µg/L	10 U	10 U	10 U	10 U
Vinyl chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Xylenes (total)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

	Location ID:	9125	9130	9140	9205
	Sample Name:	WG-9954-070617-SG-006	WG-9954-071417-SG-034	WG-9954-071017-SG-021	WG-9954-071717-SG-036
	Sample Date:	07/06/2017	07/14/2017	07/10/2017	07/17/2017
Parameters	Unit				
<b>Semi-volatile Organic Compounds (SVOCs)</b>					
1,2,4-Trichlorobenzene	µg/L	9.4 U	9.4 U	19 U	9.4 U
1,2-Dichlorobenzene	µg/L	9.4 U	9.4 U	19 U	9.4 U
1,3-Dichlorobenzene	µg/L	9.4 U	9.4 U	19 U	9.4 U
1,4-Dichlorobenzene	µg/L	9.4 U	9.4 U	19 U	9.4 U
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	9.4 U	9.4 U	19 U	9.4 U
2,4,5-Trichlorophenol	µg/L	9.4 U	9.4 U	19 U	9.4 U
2,4,6-Trichlorophenol	µg/L	9.4 U	9.4 U	19 U	9.4 U
2,4-Dichlorophenol	µg/L	9.4 U	9.4 U	19 U	9.4 U
2,4-Dimethylphenol	µg/L	9.4 U	9.4 U	13 J	9.4 U
2,4-Dinitrophenol	µg/L	47 U	47 U	94 U	47 U
2,4-Dinitrotoluene	µg/L	9.4 U	9.4 U	19 U	9.4 U
2,6-Dinitrotoluene	µg/L	9.4 U	9.4 U	19 U	9.4 U
2-Chloronaphthalene	µg/L	9.4 U	9.4 U	19 U	9.4 U
2-Chlorophenol	µg/L	9.4 U	9.4 U	19 U	9.4 U
2-Methylnaphthalene	µg/L	9.4 U	9.4 U	19 U	9.4 U
2-Methylphenol	µg/L	9.4 U	9.4 U	19 U	9.4 U
2-Nitroaniline	µg/L	47 U	47 U	94 U	47 U
2-Nitrophenol	µg/L	9.4 U	9.4 U	19 U	9.4 U
3&4-Methylphenol	µg/L	9.4 U	9.4 U	19 U	6.5 J
3,3'-Dichlorobenzidine	µg/L	9.4 U	9.4 U	19 U	9.4 U
3-Nitroaniline	µg/L	47 U	47 U	94 U	47 U
4,6-Dinitro-2-methylphenol	µg/L	47 U	47 U	94 U	47 U
4-Bromophenyl phenyl ether	µg/L	9.4 U	9.4 U	19 U	9.4 U
4-Chloro-3-methylphenol	µg/L	9.4 U	9.4 U	19 U	9.4 U
4-Chloroaniline	µg/L	9.4 U	9.4 U	19 U	9.4 U
4-Chlorophenyl phenyl ether	µg/L	9.4 U	9.4 U	19 U	9.4 U
4-Nitroaniline	µg/L	47 U	47 U	94 U	47 U
4-Nitrophenol	µg/L	47 U	47 U	94 U	47 U
Acenaphthene	µg/L	9.4 U	9.4 U	19 U	9.4 U
Acenaphthylene	µg/L	9.4 U	9.4 U	19 U	9.4 U
Anthracene	µg/L	9.4 U	9.4 U	19 U	9.4 U
Benzo(a)anthracene	µg/L	9.4 U	9.4 U	19 U	9.4 U
Benzo(a)pyrene	µg/L	9.4 U	9.4 U	19 U	9.4 U
Benzo(b)fluoranthene	µg/L	9.4 U	9.4 U	19 U	9.4 U
Benzo(g,h,i)perylene	µg/L	9.4 U	9.4 U	19 U	9.4 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

	Location ID:	9125	9130	9140	9205
	Sample Name:	WG-9954-070617-SG-006	WG-9954-071417-SG-034	WG-9954-071017-SG-021	WG-9954-071717-SG-036
	Sample Date:	07/06/2017	07/14/2017	07/10/2017	07/17/2017
Parameters	Unit				
<b>SVOCs-Continued</b>					
Benzo(k)fluoranthene	µg/L	9.4 U	9.4 U	19 U	9.4 U
Benzoic acid	µg/L	47 U	47 U	R	47 U
Benzyl alcohol	µg/L	9.4 U	9.4 U	19 U	9.4 U
bis(2-Chloroethoxy)methane	µg/L	9.4 U	9.4 U	19 U	9.4 U
bis(2-Chloroethyl)ether	µg/L	9.4 U	9.4 U	19 U	9.4 U
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	9.4 U	9.4 U	160	9.4 U
Butyl benzylphthalate (BBP)	µg/L	9.4 U	9.4 U	19 U	9.4 U
Chrysene	µg/L	9.4 U	9.4 U	19 U	9.4 U
Di-n-butylphthalate (DBP)	µg/L	9.4 U	9.4 U	19 U	9.4 U
Di-n-octyl phthalate (DnOP)	µg/L	9.4 U	9.4 U	23	9.4 U
Dibenz(a,h)anthracene	µg/L	9.4 U	9.4 U	19 U	9.4 U
Dibenzofuran	µg/L	9.4 U	9.4 U	19 U	9.4 U
Diethyl phthalate	µg/L	9.4 U	9.4 U	19 U	9.4 U
Dimethyl phthalate	µg/L	9.4 U	9.4 U	19 U	9.4 U
Fluoranthene	µg/L	9.4 U	9.4 U	19 U	9.4 U
Fluorene	µg/L	9.4 U	9.4 U	19 U	9.4 U
Hexachlorobenzene	µg/L	9.4 U	9.4 U	19 U	9.4 U
Hexachlorobutadiene	µg/L	9.4 U	9.4 U	19 U	9.4 U
Hexachlorocyclopentadiene	µg/L	9.4 U	9.4 U	19 U	9.4 U
Hexachloroethane	µg/L	9.4 U	9.4 U	19 U	9.4 U
Indeno(1,2,3-cd)pyrene	µg/L	9.4 U	9.4 U	19 U	9.4 U
Isophorone	µg/L	9.4 U	9.4 U	19 U	9.4 U
N-Nitrosodi-n-propylamine	µg/L	9.4 U	9.4 U	19 U	9.4 U
N-Nitrosodiphenylamine	µg/L	9.4 U	9.4 U	19 U	9.4 U
Naphthalene	µg/L	9.4 U	9.4 U	19 U	9.4 U
Nitrobenzene	µg/L	9.4 U	9.4 U	19 U	9.4 U
Pentachlorophenol	µg/L	47 U	47 U	94 U	47 U
Phenanthrene	µg/L	9.4 U	9.4 U	19 U	9.4 U
Phenol	µg/L	9.4 U	9.4 U	19 U	9.4 U
Pyrene	µg/L	9.4 U	9.4 U	19 U	9.4 U
<b>Pesticides/Polychlorinated Biphenyls (PCBs)</b>					
4,4'-DDD	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
4,4'-DDE	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
4,4'-DDT	µg/L	0.047 U	0.047 U	0.047 U	0.047 U



Table 2

**Analytical Results Summary  
Love Canal Annual Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.  
Niagara Falls, New York  
July 2017**

	Location ID: Sample Name: Sample Date:	9125 WG-9954-070617-SG-006 07/06/2017	9130 WG-9954-071417-SG-034 07/14/2017	9140 WG-9954-071017-SG-021 07/10/2017	9205 WG-9954-071717-SG-036 07/17/2017
<b>Parameters</b>					
<b>Pesticides/PCBs-Continued</b>					
Aldrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
alpha-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.043 J
alpha-Chlordane	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Aroclor-1016 (PCB-1016)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1221 (PCB-1221)	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
Aroclor-1232 (PCB-1232)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1242 (PCB-1242)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1248 (PCB-1248)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1254 (PCB-1254)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1260 (PCB-1260)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
beta-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
delta-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.081
Dieldrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan I	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan II	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan sulfate	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endrin ketone	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
gamma-BHC (lindane)	µg/L	0.047 U	0.047 U	0.047 U	0.067
gamma-Chlordane	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Heptachlor	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Heptachlor epoxide	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Methoxychlor	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Toxaphene	µg/L	0.50 U	0.50 U	0.50 U	0.50 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

Location ID:	9210	10105	10135	10147
Sample Name:	WG-9954-071017-SG-020	WG-9954-071917-SG-044	WG-9954-070717-SG-012	WG-9954-071017-SG-015
Sample Date:	07/10/2017	07/19/2017	07/07/2017	07/10/2017
Parameters	Unit			
<b>Volatile Organic Compounds (VOCs)</b>				
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U
1,1,1,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	3.4 J
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	8.1
1,1-Dichloroethane	µg/L	5.0 U	5.0 U	0.32 J
1,1-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10 U	10 U	5.1 J
2-Hexanone	µg/L	10 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	10 U	10 U	10 U
Acetone	µg/L	2.6 J	2.8 J	45
Benzene	µg/L	5.0 U	5.0 U	6300
Bromodichloromethane	µg/L	5.0 U	5.0 U	5.0 U
Bromoform	µg/L	5.0 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	µg/L	5.0 U	5.0 U	5.0 U
Carbon disulfide	µg/L	0.61 J	0.32 J	0.31 J
Carbon tetrachloride	µg/L	5.0 U	5.0 U	5.0 U
Chlorobenzene	µg/L	5.0 U	5.0 U	2600
Chloroethane	µg/L	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	µg/L	5.0 U	5.0 U	100
Chloromethane (Methyl chloride)	µg/L	5.0 U	5.0 U	0.24 J
cis-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	31
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	5.0 U	5.0 U	5.0 U
Ethylbenzene	µg/L	5.0 U	5.0 U	14
Methylene chloride	µg/L	5.0 U	5.0 U	23
Styrene	µg/L	5.0 U	5.0 U	5.0 U
Tetrachloroethene	µg/L	5.0 U	5.0 U	17
Toluene	µg/L	5.0 U	5.0 U	19000
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	31
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.0 U	5.0 U	73
Vinyl acetate	µg/L	10 U	10 U	10 U
Vinyl chloride	µg/L	5.0 U	5.0 U	15
Xylenes (total)	µg/L	5.0 U	5.0 U	58

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

	Location ID:	9210	10105	10135	10147
	Sample Name:	WG-9954-071017-SG-020	WG-9954-071917-SG-044	WG-9954-070717-SG-012	WG-9954-071017-SG-015
	Sample Date:	07/10/2017	07/19/2017	07/07/2017	07/10/2017
Parameters	Unit				
<b>Semi-volatile Organic Compounds (SVOCs)</b>					
1,2,4-Trichlorobenzene	µg/L	9.4 U	9.4 U	190 U	9.4 U
1,2-Dichlorobenzene	µg/L	9.4 U	9.4 U	190 U	9.4 U
1,3-Dichlorobenzene	µg/L	9.4 U	9.4 U	190 U	9.4 U
1,4-Dichlorobenzene	µg/L	9.4 U	9.4 U	44 J	9.4 U
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	9.4 U	9.4 U	190 U	9.4 U
2,4,5-Trichlorophenol	µg/L	9.4 U	9.4 U	190 U	9.4 U
2,4,6-Trichlorophenol	µg/L	9.4 U	9.4 U	190 U	9.4 U
2,4-Dichlorophenol	µg/L	9.4 U	9.4 U	190 U	9.4 U
2,4-Dimethylphenol	µg/L	9.4 U	9.4 U	190 U	9.4 U
2,4-Dinitrophenol	µg/L	47 U	47 U	940 U	47 U
2,4-Dinitrotoluene	µg/L	9.4 U	9.4 U	190 U	9.4 U
2,6-Dinitrotoluene	µg/L	9.4 U	9.4 U	190 U	9.4 U
2-Chloronaphthalene	µg/L	9.4 U	9.4 U	190 U	9.4 U
2-Chlorophenol	µg/L	9.4 U	9.4 U	190 U	9.4 U
2-Methylnaphthalene	µg/L	9.4 U	9.4 U	190 U	9.4 U
2-Methylphenol	µg/L	9.4 U	9.4 U	190 U	9.4 U
2-Nitroaniline	µg/L	47 U	47 U	940 U	47 U
2-Nitrophenol	µg/L	9.4 U	9.4 U	190 U	9.4 U
3&4-Methylphenol	µg/L	9.4 U	9.4 U	34 J	9.4 U
3,3'-Dichlorobenzidine	µg/L	9.4 U	9.4 U	190 U	9.4 U
3-Nitroaniline	µg/L	47 U	47 U	940 U	47 U
4,6-Dinitro-2-methylphenol	µg/L	47 U	47 U	940 U	47 U
4-Bromophenyl phenyl ether	µg/L	9.4 U	9.4 U	190 U	9.4 U
4-Chloro-3-methylphenol	µg/L	9.4 U	9.4 U	190 U	9.4 U
4-Chloroaniline	µg/L	9.4 U	9.4 U	190 U	9.4 U
4-Chlorophenyl phenyl ether	µg/L	9.4 U	9.4 U	190 U	9.4 U
4-Nitroaniline	µg/L	47 U	47 U	940 U	47 U
4-Nitrophenol	µg/L	47 U	47 U	940 U	47 U
Acenaphthene	µg/L	9.4 U	9.4 U	190 U	9.4 U
Acenaphthylene	µg/L	9.4 U	9.4 U	190 U	9.4 U
Anthracene	µg/L	9.4 U	9.4 U	190 U	9.4 U
Benzo(a)anthracene	µg/L	9.4 U	9.4 U	190 U	9.4 U
Benzo(a)pyrene	µg/L	9.4 U	9.4 U	190 U	9.4 U
Benzo(b)fluoranthene	µg/L	9.4 U	9.4 U	190 U	9.4 U
Benzo(g,h,i)perylene	µg/L	9.4 U	9.4 U	190 U	9.4 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

Location ID:	9210	10105	10135	10147
Sample Name:	WG-9954-071017-SG-020	WG-9954-071917-SG-044	WG-9954-070717-SG-012	WG-9954-071017-SG-015
Sample Date:	07/10/2017	07/19/2017	07/07/2017	07/10/2017
Parameters	Unit			
<b>SVOCs-Continued</b>				
Benzo(k)fluoranthene	µg/L	9.4 U	9.4 U	190 U
Benzoic acid	µg/L	R	47 U	1600 J
Benzyl alcohol	µg/L	9.4 U	9.4 U	98 J
bis(2-Chloroethoxy)methane	µg/L	9.4 U	9.4 U	190 U
bis(2-Chloroethyl)ether	µg/L	9.4 U	9.4 U	190 U
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	9.4 U	9.4 U	190 U
Butyl benzylphthalate (BBP)	µg/L	9.4 U	9.4 U	190 U
Chrysene	µg/L	9.4 U	9.4 U	190 U
Di-n-butylphthalate (DBP)	µg/L	9.4 U	9.4 U	190 U
Di-n-octyl phthalate (DnOP)	µg/L	9.4 U	9.4 U	190 U
Dibenz(a,h)anthracene	µg/L	9.4 U	9.4 U	190 U
Dibenzofuran	µg/L	9.4 U	9.4 U	190 U
Diethyl phthalate	µg/L	9.4 U	9.4 U	190 U
Dimethyl phthalate	µg/L	9.4 U	9.4 U	190 U
Fluoranthene	µg/L	9.4 U	9.4 U	190 U
Fluorene	µg/L	9.4 U	9.4 U	190 U
Hexachlorobenzene	µg/L	9.4 U	9.4 U	190 U
Hexachlorobutadiene	µg/L	9.4 U	9.4 U	190 U
Hexachlorocyclopentadiene	µg/L	9.4 U	9.4 U	190 U
Hexachloroethane	µg/L	9.4 U	9.4 U	190 U
Indeno(1,2,3-cd)pyrene	µg/L	9.4 U	9.4 U	190 U
Isophorone	µg/L	9.4 U	9.4 U	190 U
N-Nitrosodi-n-propylamine	µg/L	9.4 U	9.4 U	190 U
N-Nitrosodiphenylamine	µg/L	9.4 U	9.4 U	190 U
Naphthalene	µg/L	9.4 U	9.4 U	190 U
Nitrobenzene	µg/L	9.4 U	9.4 U	190 U
Pentachlorophenol	µg/L	47 U	47 U	940 U
Phenanthrene	µg/L	9.4 U	9.4 U	190 U
Phenol	µg/L	9.4 U	9.4 U	190 U
Pyrene	µg/L	9.4 U	9.4 U	190 U
<b>Pesticides/Polychlorinated Biphenyls (PCBs)</b>				
4,4'-DDD	µg/L	0.047 U	0.047 U	1.9 U
4,4'-DDE	µg/L	0.047 U	0.047 U	1.9 U
4,4'-DDT	µg/L	0.047 U	0.047 U	1.9 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

	Location ID: Sample Name: Sample Date:	9210 WG-9954-071017-SG-020 07/10/2017	10105 WG-9954-071917-SG-044 07/19/2017	10135 WG-9954-070717-SG-012 07/07/2017	10147 WG-9954-071017-SG-015 07/10/2017
<b>Parameters</b>	<b>Unit</b>				
<b>Pesticides/PCBs-Continued</b>					
Aldrin	µg/L	0.047 U	0.047 U	1.9 U	0.047 U
alpha-BHC	µg/L	0.047 U	0.047 U	29	0.11 U
alpha-Chlordane	µg/L	0.047 U	0.047 U	1.9 U	0.047 U
Aroclor-1016 (PCB-1016)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1221 (PCB-1221)	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
Aroclor-1232 (PCB-1232)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1242 (PCB-1242)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1248 (PCB-1248)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1254 (PCB-1254)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1260 (PCB-1260)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
beta-BHC	µg/L	0.047 U	0.047 U	10	0.047 U
delta-BHC	µg/L	0.047 U	0.047 U	12	0.047 U
Dieldrin	µg/L	0.047 U	0.047 U	1.9 U	0.047 U
Endosulfan I	µg/L	0.047 U	0.047 U	1.9 U	0.047 U
Endosulfan II	µg/L	0.047 U	0.047 U	1.9 U	0.047 U
Endosulfan sulfate	µg/L	0.047 U	0.047 U	1.9 U	0.047 U
Endrin	µg/L	0.047 U	0.047 U	1.9 U	0.047 U
Endrin ketone	µg/L	0.047 U	0.047 U	1.9 U	0.047 U
gamma-BHC (lindane)	µg/L	0.047 U	0.047 U	6.8	0.047 U
gamma-Chlordane	µg/L	0.047 U	0.047 U	1.9 U	0.047 U
Heptachlor	µg/L	0.047 U	0.047 U	1.9 U	0.047 U
Heptachlor epoxide	µg/L	0.047 U	0.047 U	1.9 U	0.047 U
Methoxychlor	µg/L	0.047 U	0.047 U	1.9 U	0.047 U
Toxaphene	µg/L	0.50 U	0.50 U	20 U	0.50 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

	Location ID:	10174A	10205	10210A	10210B
	Sample Name:	WG-9954-071017-SG-014	WG-9954-071717-SG-035	WG-9954-071017-SG-019	WG-9954-071017-SG-022
	Sample Date:	07/10/2017	07/17/2017	07/10/2017	07/10/2017
Parameters	Unit				
<b>Volatile Organic Compounds (VOCs)</b>					
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1,1,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10 U	10 U	10 U	10 U
2-Hexanone	µg/L	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	10 U	10 U	10 U	10 U
Acetone	µg/L	10 U	10 U	8.4 J	2.6 J
Benzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	µg/L	5.0 UJ	5.0 U	5.0 U	5.0 U
Carbon disulfide	µg/L	10 U	10 U	2.0 J	3.4 J
Carbon tetrachloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane (Methyl chloride)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	µg/L	5.0 U	5.0 U	0.35 J	5.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl acetate	µg/L	10 U	10 U	10 U	10 U
Vinyl chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Xylenes (total)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

Location ID:	10174A	10205	10210A	10210B
Sample Name:	WG-9954-071017-SG-014	WG-9954-071717-SG-035	WG-9954-071017-SG-019	WG-9954-071017-SG-022
Sample Date:	07/10/2017	07/17/2017	07/10/2017	07/10/2017
Parameters	Unit			
<b>Semi-volatile Organic Compounds (SVOCs)</b>				
1,2,4-Trichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U
1,2-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U
1,3-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U
1,4-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	9.4 U	9.4 U	9.4 U
2,4,5-Trichlorophenol	µg/L	9.4 U	9.4 U	9.4 U
2,4,6-Trichlorophenol	µg/L	9.4 U	9.4 U	9.4 U
2,4-Dichlorophenol	µg/L	9.4 U	9.4 U	9.4 U
2,4-Dimethylphenol	µg/L	9.4 U	9.4 U	9.4 U
2,4-Dinitrophenol	µg/L	47 U	47 U	47 U
2,4-Dinitrotoluene	µg/L	9.4 U	9.4 U	9.4 U
2,6-Dinitrotoluene	µg/L	9.4 U	9.4 U	9.4 U
2-Chloronaphthalene	µg/L	9.4 U	9.4 U	9.4 U
2-Chlorophenol	µg/L	9.4 U	9.4 U	9.4 U
2-Methylnaphthalene	µg/L	9.4 U	9.4 U	9.4 U
2-Methylphenol	µg/L	9.4 U	9.4 U	9.4 U
2-Nitroaniline	µg/L	47 U	47 U	47 U
2-Nitrophenol	µg/L	9.4 U	9.4 U	9.4 U
3&4-Methylphenol	µg/L	9.4 U	9.4 U	9.4 U
3,3'-Dichlorobenzidine	µg/L	9.4 U	9.4 U	9.4 U
3-Nitroaniline	µg/L	47 U	47 U	47 U
4,6-Dinitro-2-methylphenol	µg/L	47 U	47 U	47 U
4-Bromophenyl phenyl ether	µg/L	9.4 U	9.4 U	9.4 U
4-Chloro-3-methylphenol	µg/L	9.4 U	9.4 U	9.4 U
4-Chloroaniline	µg/L	9.4 U	9.4 U	9.4 U
4-Chlorophenyl phenyl ether	µg/L	9.4 U	9.4 U	9.4 U
4-Nitroaniline	µg/L	47 U	47 U	47 U
4-Nitrophenol	µg/L	47 U	47 U	47 U
Acenaphthene	µg/L	9.4 U	9.4 U	9.4 U
Acenaphthylene	µg/L	9.4 U	9.4 U	9.4 U
Anthracene	µg/L	9.4 U	9.4 U	9.4 U
Benzo(a)anthracene	µg/L	9.4 U	9.4 U	9.4 U
Benzo(a)pyrene	µg/L	9.4 U	9.4 U	9.4 U
Benzo(b)fluoranthene	µg/L	9.4 U	9.4 U	9.4 U
Benzo(g,h,i)perylene	µg/L	9.4 U	9.4 U	9.4 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

Location ID:	10174A	10205	10210A	10210B
Sample Name:	WG-9954-071017-SG-014	WG-9954-071717-SG-035	WG-9954-071017-SG-019	WG-9954-071017-SG-022
Sample Date:	07/10/2017	07/17/2017	07/10/2017	07/10/2017
Parameters	Unit			
<b>SVOCs-Continued</b>				
Benzo(k)fluoranthene	µg/L	9.4 U	9.4 U	9.4 U
Benzoic acid	µg/L	R	47 U	R
Benzyl alcohol	µg/L	9.4 U	9.4 U	9.4 U
bis(2-Chloroethoxy)methane	µg/L	9.4 U	9.4 U	9.4 U
bis(2-Chloroethyl)ether	µg/L	9.4 U	9.4 U	9.4 U
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	9.4 U	9.4 U	9.4 U
Butyl benzylphthalate (BBP)	µg/L	9.4 U	9.4 U	9.4 U
Chrysene	µg/L	9.4 U	9.4 U	9.4 U
Di-n-butylphthalate (DBP)	µg/L	9.4 U	9.4 U	9.4 U
Di-n-octyl phthalate (DnOP)	µg/L	9.4 U	9.4 U	9.4 U
Dibenz(a,h)anthracene	µg/L	9.4 U	9.4 U	9.4 U
Dibenzofuran	µg/L	9.4 U	9.4 U	9.4 U
Diethyl phthalate	µg/L	9.4 U	9.4 U	9.4 U
Dimethyl phthalate	µg/L	9.4 U	9.4 U	9.4 U
Fluoranthene	µg/L	9.4 U	9.4 U	9.4 U
Fluorene	µg/L	9.4 U	9.4 U	9.4 U
Hexachlorobenzene	µg/L	9.4 U	9.4 U	9.4 U
Hexachlorobutadiene	µg/L	9.4 U	9.4 U	9.4 U
Hexachlorocyclopentadiene	µg/L	9.4 U	9.4 U	9.4 U
Hexachloroethane	µg/L	9.4 U	9.4 U	9.4 U
Indeno(1,2,3-cd)pyrene	µg/L	9.4 U	9.4 U	9.4 U
Isophorone	µg/L	9.4 U	9.4 U	9.4 U
N-Nitrosodi-n-propylamine	µg/L	9.4 U	9.4 U	9.4 U
N-Nitrosodiphenylamine	µg/L	9.4 U	9.4 U	9.4 U
Naphthalene	µg/L	9.4 U	9.4 U	9.4 U
Nitrobenzene	µg/L	9.4 U	9.4 U	9.4 U
Pentachlorophenol	µg/L	47 U	47 U	47 U
Phenanthrene	µg/L	9.4 U	9.4 U	9.4 U
Phenol	µg/L	9.4 U	9.4 U	9.4 U
Pyrene	µg/L	9.4 U	9.4 U	9.4 U
<b>Pesticides/Polychlorinated Biphenyls (PCBs)</b>				
4,4'-DDD	µg/L	0.047 U	0.047 U	0.047 U
4,4'-DDE	µg/L	0.047 U	0.047 U	0.047 U
4,4'-DDT	µg/L	0.047 U	0.047 U	0.047 U



**Analytical Results Summary  
Love Canal Annual Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.  
Niagara Falls, New York  
July 2017**

<b>Location ID:</b>	<b>10174A</b>	<b>10205</b>	<b>10210A</b>	<b>10210B</b>
<b>Sample Name:</b>	<b>WG-9954-071017-SG-014</b>	<b>WG-9954-071717-SG-035</b>	<b>WG-9954-071017-SG-019</b>	<b>WG-9954-071017-SG-022</b>
<b>Sample Date:</b>	<b>07/10/2017</b>	<b>07/17/2017</b>	<b>07/10/2017</b>	<b>07/10/2017</b>

**Parameters**

**Unit**

**Pesticides/PCBs-Continued**

Aldrin	µg/L	0.047 U	0.047 U	0.047 U
alpha-BHC	µg/L	0.047 U	0.047 U	0.047 U
alpha-Chlordane	µg/L	0.047 U	0.047 U	0.047 U
Aroclor-1016 (PCB-1016)	µg/L	0.94 U	0.94 U	0.94 U
Aroclor-1221 (PCB-1221)	µg/L	1.9 U	1.9 U	1.9 U
Aroclor-1232 (PCB-1232)	µg/L	0.94 U	0.94 U	0.94 U
Aroclor-1242 (PCB-1242)	µg/L	0.94 U	0.94 U	0.94 U
Aroclor-1248 (PCB-1248)	µg/L	0.94 U	0.94 U	0.94 U
Aroclor-1254 (PCB-1254)	µg/L	0.94 U	0.94 U	0.94 U
Aroclor-1260 (PCB-1260)	µg/L	0.94 U	0.94 U	0.94 U
beta-BHC	µg/L	0.047 U	0.047 U	0.047 U
delta-BHC	µg/L	0.047 U	0.047 U	0.064 U
Dieldrin	µg/L	0.047 U	0.047 U	0.047 U
Endosulfan I	µg/L	0.047 U	0.047 U	0.047 U
Endosulfan II	µg/L	0.047 U	0.047 U	0.047 U
Endosulfan sulfate	µg/L	0.047 U	0.047 U	0.047 U
Endrin	µg/L	0.047 U	0.047 U	0.047 U
Endrin ketone	µg/L	0.047 U	0.047 U	0.047 U
gamma-BHC (lindane)	µg/L	0.047 U	0.047 U	0.047 U
gamma-Chlordane	µg/L	0.047 U	0.047 U	0.047 U
Heptachlor	µg/L	0.047 U	0.047 U	0.047 U
Heptachlor epoxide	µg/L	0.047 U	0.047 U	0.047 U
Methoxychlor	µg/L	0.047 U	0.047 U	0.047 U
Toxaphene	µg/L	0.50 U	0.50 U	0.50 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

	Location ID:	10210C	10215	10225A	10225B
	Sample Name:	WG-9954-071017-SG-023	WG-9954-071117-SG-024	WG-9954-071017-SG-016	WG-9954-071017-SG-017
	Sample Date:	07/10/2017	07/11/2017	07/10/2017	07/10/2017
Parameters	Unit				
<b>Volatile Organic Compounds (VOCs)</b>					
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1,1,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10 U	10 U	10 U	10 U
2-Hexanone	µg/L	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	10 U	10 U	10 U	10 U
Acetone	µg/L	4.3 J	10 U	11	4.5 J
Benzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Bromoform	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	µg/L	0.77 J	1.7 J	3.1 J	1.2 J
Carbon tetrachloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chlorobenzene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Chloromethane (Methyl chloride)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	µg/L	5.0 U	5.0 U	0.43 J	5.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Styrene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5.0 U	5.0 U	0.27 J	0.29 J
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Vinyl acetate	µg/L	10 U	10 U	10 U	10 U
Vinyl chloride	µg/L	5.0 U	5.0 U	5.0 U	5.0 U
Xylenes (total)	µg/L	5.0 U	5.0 U	5.0 U	5.0 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

Location ID:	10210C	10215	10225A	10225B
Sample Name:	WG-9954-071017-SG-023	WG-9954-071117-SG-024	WG-9954-071017-SG-016	WG-9954-071017-SG-017
Sample Date:	07/10/2017	07/11/2017	07/10/2017	07/10/2017
Parameters	Unit			
<b>Semi-volatile Organic Compounds (SVOCs)</b>				
1,2,4-Trichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U
1,2-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U
1,3-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U
1,4-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	9.4 U	9.4 U	9.4 U
2,4,5-Trichlorophenol	µg/L	9.4 U	9.4 U	9.4 U
2,4,6-Trichlorophenol	µg/L	9.4 U	9.4 U	9.4 U
2,4-Dichlorophenol	µg/L	9.4 U	9.4 U	9.4 U
2,4-Dimethylphenol	µg/L	9.4 U	9.4 U	9.4 U
2,4-Dinitrophenol	µg/L	47 U	47 U	47 U
2,4-Dinitrotoluene	µg/L	9.4 U	9.4 U	9.4 U
2,6-Dinitrotoluene	µg/L	9.4 U	9.4 U	9.4 U
2-Chloronaphthalene	µg/L	9.4 U	9.4 U	9.4 U
2-Chlorophenol	µg/L	9.4 U	9.4 U	9.4 U
2-Methylnaphthalene	µg/L	9.4 U	9.4 U	9.4 U
2-Methylphenol	µg/L	9.4 U	9.4 U	9.4 U
2-Nitroaniline	µg/L	47 U	47 U	47 U
2-Nitrophenol	µg/L	9.4 U	9.4 U	9.4 U
3&4-Methylphenol	µg/L	9.4 U	9.4 U	9.4 U
3,3'-Dichlorobenzidine	µg/L	9.4 U	9.4 U	9.4 U
3-Nitroaniline	µg/L	47 U	47 U	47 U
4,6-Dinitro-2-methylphenol	µg/L	47 U	47 U	47 U
4-Bromophenyl phenyl ether	µg/L	9.4 U	9.4 U	9.4 U
4-Chloro-3-methylphenol	µg/L	9.4 U	9.4 U	9.4 U
4-Chloroaniline	µg/L	9.4 U	9.4 U	9.4 U
4-Chlorophenyl phenyl ether	µg/L	9.4 U	9.4 U	9.4 U
4-Nitroaniline	µg/L	47 U	47 U	47 U
4-Nitrophenol	µg/L	47 U	47 U	47 U
Acenaphthene	µg/L	9.4 U	9.4 U	9.4 U
Acenaphthylene	µg/L	9.4 U	9.4 U	9.4 U
Anthracene	µg/L	9.4 U	9.4 U	9.4 U
Benzo(a)anthracene	µg/L	9.4 U	9.4 U	9.4 U
Benzo(a)pyrene	µg/L	9.4 U	9.4 U	9.4 U
Benzo(b)fluoranthene	µg/L	9.4 U	9.4 U	9.4 U
Benzo(g,h,i)perylene	µg/L	9.4 U	9.4 U	9.4 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

Location ID:	10210C	10215	10225A	10225B
Sample Name:	WG-9954-071017-SG-023	WG-9954-071117-SG-024	WG-9954-071017-SG-016	WG-9954-071017-SG-017
Sample Date:	07/10/2017	07/11/2017	07/10/2017	07/10/2017
Parameters	Unit			
<b>SVOCs-Continued</b>				
Benzo(k)fluoranthene	µg/L	9.4 U	9.4 U	9.4 U
Benzoic acid	µg/L	R	47 U	R
Benzyl alcohol	µg/L	9.4 U	9.4 U	9.4 U
bis(2-Chloroethoxy)methane	µg/L	9.4 U	9.4 U	9.4 U
bis(2-Chloroethyl)ether	µg/L	9.4 U	9.4 U	9.4 U
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	9.4 U	9.4 U	9.4 U
Butyl benzylphthalate (BBP)	µg/L	9.4 U	9.4 U	9.4 U
Chrysene	µg/L	9.4 U	9.4 U	9.4 U
Di-n-butylphthalate (DBP)	µg/L	9.4 U	9.4 U	9.4 U
Di-n-octyl phthalate (DnOP)	µg/L	9.4 U	9.4 U	9.4 U
Dibenz(a,h)anthracene	µg/L	9.4 U	9.4 U	9.4 U
Dibenzofuran	µg/L	9.4 U	9.4 U	9.4 U
Diethyl phthalate	µg/L	9.4 U	9.4 U	9.4 U
Dimethyl phthalate	µg/L	9.4 U	9.4 U	9.4 U
Fluoranthene	µg/L	9.4 U	9.4 U	9.4 U
Fluorene	µg/L	9.4 U	9.4 U	9.4 U
Hexachlorobenzene	µg/L	9.4 U	9.4 U	9.4 U
Hexachlorobutadiene	µg/L	9.4 U	9.4 U	9.4 U
Hexachlorocyclopentadiene	µg/L	9.4 U	9.4 U	9.4 U
Hexachloroethane	µg/L	9.4 U	9.4 U	9.4 U
Indeno(1,2,3-cd)pyrene	µg/L	9.4 U	9.4 U	9.4 U
Isophorone	µg/L	9.4 U	9.4 U	9.4 U
N-Nitrosodi-n-propylamine	µg/L	9.4 U	9.4 U	9.4 U
N-Nitrosodiphenylamine	µg/L	9.4 U	9.4 U	9.4 U
Naphthalene	µg/L	9.4 U	9.4 U	9.4 U
Nitrobenzene	µg/L	9.4 U	9.4 U	9.4 U
Pentachlorophenol	µg/L	47 U	47 U	47 U
Phenanthrene	µg/L	9.4 U	9.4 U	9.4 U
Phenol	µg/L	9.4 U	9.4 U	9.4 U
Pyrene	µg/L	9.4 U	9.4 U	9.4 U
<b>Pesticides/Polychlorinated Biphenyls (PCBs)</b>				
4,4'-DDD	µg/L	0.047 U	0.047 U	0.047 U
4,4'-DDE	µg/L	0.047 U	0.047 U	0.047 U
4,4'-DDT	µg/L	0.047 U	0.047 U	0.047 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

	Location ID:	10210C	10215	10225A	10225B
	Sample Name:	WG-9954-071017-SG-023	WG-9954-071117-SG-024	WG-9954-071017-SG-016	WG-9954-071017-SG-017
	Sample Date:	07/10/2017	07/11/2017	07/10/2017	07/10/2017
Parameters	Unit				
<b>Pesticides/PCBs-Continued</b>					
Aldrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
alpha-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
alpha-Chlordane	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Aroclor-1016 (PCB-1016)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1221 (PCB-1221)	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
Aroclor-1232 (PCB-1232)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1242 (PCB-1242)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1248 (PCB-1248)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1254 (PCB-1254)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1260 (PCB-1260)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
beta-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
delta-BHC	µg/L	0.047 U	0.073 U	0.047 U	0.047 U
Dieldrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan I	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan II	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan sulfate	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endrin ketone	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
gamma-BHC (lindane)	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
gamma-Chlordane	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Heptachlor	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Heptachlor epoxide	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Methoxychlor	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Toxaphene	µg/L	0.50 U	0.50 U	0.50 U	0.50 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

Location ID:	10225B	10270	10272	10278
Sample Name:	WG-9954-071017-SG-018	WG-9954-071417-SG-032	WG-9954-071417-SG-031	WG-9954-071417-SG-030
Sample Date:	07/10/2017 Duplicate	07/14/2017	07/14/2017	07/14/2017
Parameters	Unit			
<b>Volatile Organic Compounds (VOCs)</b>				
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U
1,1,1,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10 U	10 U	10 U
2-Hexanone	µg/L	10 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	10 U	10 U	10 U
Acetone	µg/L	8.9 J	1.3 J	1.3 J
Benzene	µg/L	5.0 U	5.0 U	5.0 U
Bromodichloromethane	µg/L	5.0 U	5.0 U	5.0 U
Bromoform	µg/L	5.0 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	µg/L	5.0 U	5.0 U	5.0 UJ
Carbon disulfide	µg/L	1.2 J	1.5 J	1.6 J
Carbon tetrachloride	µg/L	5.0 U	5.0 U	5.0 U
Chlorobenzene	µg/L	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	µg/L	5.0 U	5.0 U	5.0 U
Chloromethane (Methyl chloride)	µg/L	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	5.0 U	5.0 U	5.0 U
Ethylbenzene	µg/L	5.0 U	5.0 U	5.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U
Styrene	µg/L	5.0 U	5.0 U	5.0 U
Tetrachloroethene	µg/L	5.0 U	5.0 U	5.0 U
Toluene	µg/L	0.33 J	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.0 U	5.0 U	5.0 U
Vinyl acetate	µg/L	10 U	10 U	10 U
Vinyl chloride	µg/L	5.0 U	5.0 U	5.0 U
Xylenes (total)	µg/L	5.0 U	5.0 U	5.0 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

Location ID:	10225B	10270	10272	10278
Sample Name:	WG-9954-071017-SG-018	WG-9954-071417-SG-032	WG-9954-071417-SG-031	WG-9954-071417-SG-030
Sample Date:	07/10/2017 Duplicate	07/14/2017	07/14/2017	07/14/2017
Parameters	Unit			
<b>Semi-volatile Organic Compounds (SVOCs)</b>				
1,2,4-Trichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U
1,2-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U
1,3-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U
1,4-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	9.4 U	9.4 U	9.4 U
2,4,5-Trichlorophenol	µg/L	9.4 U	9.4 U	9.4 U
2,4,6-Trichlorophenol	µg/L	9.4 U	9.4 U	9.4 U
2,4-Dichlorophenol	µg/L	9.4 U	9.4 U	9.4 U
2,4-Dimethylphenol	µg/L	9.4 U	9.4 U	9.4 U
2,4-Dinitrophenol	µg/L	47 U	47 U	47 U
2,4-Dinitrotoluene	µg/L	9.4 U	9.4 U	9.4 U
2,6-Dinitrotoluene	µg/L	9.4 U	9.4 U	9.4 U
2-Chloronaphthalene	µg/L	9.4 U	9.4 U	9.4 U
2-Chlorophenol	µg/L	9.4 U	9.4 U	9.4 U
2-Methylnaphthalene	µg/L	9.4 U	9.4 U	9.4 U
2-Methylphenol	µg/L	9.4 U	9.4 U	9.4 U
2-Nitroaniline	µg/L	47 U	47 U	47 U
2-Nitrophenol	µg/L	9.4 U	9.4 U	9.4 U
3&4-Methylphenol	µg/L	9.4 U	9.4 U	9.4 U
3,3'-Dichlorobenzidine	µg/L	9.4 U	9.4 U	9.4 U
3-Nitroaniline	µg/L	47 U	47 U	47 U
4,6-Dinitro-2-methylphenol	µg/L	47 U	47 U	47 U
4-Bromophenyl phenyl ether	µg/L	9.4 U	9.4 U	9.4 U
4-Chloro-3-methylphenol	µg/L	9.4 U	9.4 U	9.4 U
4-Chloroaniline	µg/L	9.4 U	9.4 U	9.4 U
4-Chlorophenyl phenyl ether	µg/L	9.4 U	9.4 U	9.4 U
4-Nitroaniline	µg/L	47 U	47 U	47 U
4-Nitrophenol	µg/L	47 U	47 U	47 U
Acenaphthene	µg/L	9.4 U	9.4 U	9.4 U
Acenaphthylene	µg/L	9.4 U	9.4 U	9.4 U
Anthracene	µg/L	9.4 U	9.4 U	9.4 U
Benzo(a)anthracene	µg/L	9.4 U	9.4 U	9.4 U
Benzo(a)pyrene	µg/L	9.4 U	9.4 U	9.4 U
Benzo(b)fluoranthene	µg/L	9.4 U	9.4 U	9.4 U
Benzo(g,h,i)perylene	µg/L	9.4 U	9.4 U	9.4 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

Location ID:	10225B	10270	10272	10278
Sample Name:	WG-9954-071017-SG-018	WG-9954-071417-SG-032	WG-9954-071417-SG-031	WG-9954-071417-SG-030
Sample Date:	07/10/2017 Duplicate	07/14/2017	07/14/2017	07/14/2017
Parameters	Unit			
<b>SVOCs-Continued</b>				
Benzo(k)fluoranthene	µg/L	9.4 U	9.4 U	9.4 U
Benzoic acid	µg/L	R	47 U	47 U
Benzyl alcohol	µg/L	9.4 U	9.4 U	9.4 U
bis(2-Chloroethoxy)methane	µg/L	9.4 U	9.4 U	9.4 U
bis(2-Chloroethyl)ether	µg/L	9.4 U	9.4 U	9.4 U
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	9.4 U	9.4 U	9.4 U
Butyl benzylphthalate (BBP)	µg/L	9.4 U	9.4 U	9.4 U
Chrysene	µg/L	9.4 U	9.4 U	9.4 U
Di-n-butylphthalate (DBP)	µg/L	9.4 U	9.4 U	9.4 U
Di-n-octyl phthalate (DnOP)	µg/L	9.4 U	9.4 U	9.4 U
Dibenz(a,h)anthracene	µg/L	9.4 U	9.4 U	9.4 U
Dibenzofuran	µg/L	9.4 U	9.4 U	9.4 U
Diethyl phthalate	µg/L	9.4 U	9.4 U	9.4 U
Dimethyl phthalate	µg/L	9.4 U	9.4 U	9.4 U
Fluoranthene	µg/L	9.4 U	9.4 U	9.4 U
Fluorene	µg/L	9.4 U	9.4 U	9.4 U
Hexachlorobenzene	µg/L	9.4 U	9.4 U	9.4 U
Hexachlorobutadiene	µg/L	9.4 U	9.4 U	9.4 U
Hexachlorocyclopentadiene	µg/L	9.4 U	9.4 U	9.4 U
Hexachloroethane	µg/L	9.4 U	9.4 U	9.4 U
Indeno(1,2,3-cd)pyrene	µg/L	9.4 U	9.4 U	9.4 U
Isophorone	µg/L	9.4 U	9.4 U	9.4 U
N-Nitrosodi-n-propylamine	µg/L	9.4 U	9.4 U	9.4 U
N-Nitrosodiphenylamine	µg/L	9.4 U	9.4 U	9.4 U
Naphthalene	µg/L	9.4 U	9.4 U	9.4 U
Nitrobenzene	µg/L	9.4 U	9.4 U	9.4 U
Pentachlorophenol	µg/L	47 U	47 U	47 U
Phenanthrene	µg/L	9.4 U	9.4 U	9.4 U
Phenol	µg/L	9.4 U	9.4 U	9.4 U
Pyrene	µg/L	9.4 U	9.4 U	9.4 U
<b>Pesticides/Polychlorinated Biphenyls (PCBs)</b>				
4,4'-DDD	µg/L	0.047 U	0.047 U	0.047 U
4,4'-DDE	µg/L	0.047 U	0.047 U	0.047 U
4,4'-DDT	µg/L	0.047 U	0.047 U	0.047 U



**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

	Location ID:	10225B	10270	10272	10278
	Sample Name:	WG-9954-071017-SG-018	WG-9954-071417-SG-032	WG-9954-071417-SG-031	WG-9954-071417-SG-030
	Sample Date:	07/10/2017 Duplicate	07/14/2017	07/14/2017	07/14/2017
Parameters	Unit				
<b>Pesticides/PCBs-Continued</b>					
Aldrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
alpha-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
alpha-Chlordane	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Aroclor-1016 (PCB-1016)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1221 (PCB-1221)	µg/L	1.9 U	1.9 U	1.9 U	1.9 U
Aroclor-1232 (PCB-1232)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1242 (PCB-1242)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1248 (PCB-1248)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1254 (PCB-1254)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
Aroclor-1260 (PCB-1260)	µg/L	0.94 U	0.94 U	0.94 U	0.94 U
beta-BHC	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
delta-BHC	µg/L	0.047 U	0.074 U	0.086 U	0.075 U
Dieldrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan I	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan II	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endosulfan sulfate	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endrin	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Endrin ketone	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
gamma-BHC (lindane)	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
gamma-Chlordane	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Heptachlor	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Heptachlor epoxide	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Methoxychlor	µg/L	0.047 U	0.047 U	0.047 U	0.047 U
Toxaphene	µg/L	0.50 U	0.50 U	0.50 U	0.50 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

	Location ID: Sample Name: Sample Date:	MW-01 WG-9954-071117-SG-026 07/11/2017	MW-02 WG-9954-071117-SG-027 07/11/2017	MW-02 WG-9954-071117-SG-028 07/11/2017 Duplicate
Parameters				
Unit				
<b>Volatile Organic Compounds (VOCs)</b>				
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	µg/L	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	µg/L	5.0 U	5.0 U	5.0 U
1,2-Dichloropropane	µg/L	5.0 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10 U	10 U	10 U
2-Hexanone	µg/L	10 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	10 U	10 U	10 U
Acetone	µg/L	10 U	10 U	10 U
Benzene	µg/L	5.0 U	5.0 U	5.0 U
Bromodichloromethane	µg/L	5.0 U	5.0 U	5.0 U
Bromoform	µg/L	5.0 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	µg/L	5.0 U	5.0 U	5.0 U
Carbon disulfide	µg/L	1.2 J	1.1 J	1.0 J
Carbon tetrachloride	µg/L	5.0 U	5.0 U	5.0 U
Chlorobenzene	µg/L	5.0 U	5.0 U	5.0 U
Chloroethane	µg/L	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	µg/L	5.0 U	5.0 U	5.0 U
Chloromethane (Methyl chloride)	µg/L	5.0 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U
Dibromochloromethane	µg/L	5.0 U	5.0 U	5.0 U
Ethylbenzene	µg/L	5.0 U	5.0 U	5.0 U
Methylene chloride	µg/L	5.0 U	5.0 U	5.0 U
Styrene	µg/L	5.0 U	5.0 U	5.0 U
Tetrachloroethene	µg/L	5.0 U	5.0 U	5.0 U
Toluene	µg/L	5.0 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U	5.0 U
Trichloroethene	µg/L	5.0 U	5.0 U	5.0 U
Vinyl acetate	µg/L	10 U	10 U	10 U
Vinyl chloride	µg/L	5.0 U	5.0 U	5.0 U
Xylenes (total)	µg/L	5.0 U	5.0 U	5.0 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

	Location ID:	MW-01	MW-02	MW-02
	Sample Name:	WG-9954-071117-SG-026	WG-9954-071117-SG-027	WG-9954-071117-SG-028
	Sample Date:	07/11/2017	07/11/2017	07/11/2017 Duplicate
Parameters	Unit			
<b>Semi-volatile Organic Compounds (SVOCs)</b>				
1,2,4-Trichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U
1,2-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U
1,3-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U
1,4-Dichlorobenzene	µg/L	9.4 U	9.4 U	9.4 U
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	9.4 U	9.4 U	9.4 U
2,4,5-Trichlorophenol	µg/L	9.4 U	9.4 U	9.4 U
2,4,6-Trichlorophenol	µg/L	9.4 U	9.4 U	9.4 U
2,4-Dichlorophenol	µg/L	9.4 U	9.4 U	9.4 U
2,4-Dimethylphenol	µg/L	9.4 U	9.4 U	9.4 U
2,4-Dinitrophenol	µg/L	47 U	47 U	47 U
2,4-Dinitrotoluene	µg/L	9.4 U	9.4 U	9.4 U
2,6-Dinitrotoluene	µg/L	9.4 U	9.4 U	9.4 U
2-Chloronaphthalene	µg/L	9.4 U	9.4 U	9.4 U
2-Chlorophenol	µg/L	9.4 U	9.4 U	9.4 U
2-Methylnaphthalene	µg/L	9.4 U	9.4 U	9.4 U
2-Methylphenol	µg/L	9.4 U	9.4 U	9.4 U
2-Nitroaniline	µg/L	47 U	47 U	47 U
2-Nitrophenol	µg/L	9.4 U	9.4 U	9.4 U
3&4-Methylphenol	µg/L	9.4 U	9.4 U	9.4 U
3,3'-Dichlorobenzidine	µg/L	9.4 U	9.4 U	9.4 U
3-Nitroaniline	µg/L	47 U	47 U	47 U
4,6-Dinitro-2-methylphenol	µg/L	47 U	47 U	47 U
4-Bromophenyl phenyl ether	µg/L	9.4 U	9.4 U	9.4 U
4-Chloro-3-methylphenol	µg/L	9.4 U	9.4 U	9.4 U
4-Chloroaniline	µg/L	9.4 U	9.4 U	9.4 U
4-Chlorophenyl phenyl ether	µg/L	9.4 U	9.4 U	9.4 U
4-Nitroaniline	µg/L	47 U	47 U	47 U
4-Nitrophenol	µg/L	47 U	47 U	47 U
Acenaphthene	µg/L	9.4 U	9.4 U	9.4 U
Acenaphthylene	µg/L	9.4 U	9.4 U	9.4 U
Anthracene	µg/L	9.4 U	9.4 U	9.4 U
Benzo(a)anthracene	µg/L	9.4 U	9.4 U	9.4 U
Benzo(a)pyrene	µg/L	9.4 U	9.4 U	9.4 U
Benzo(b)fluoranthene	µg/L	9.4 U	9.4 U	9.4 U
Benzo(g,h,i)perylene	µg/L	9.4 U	9.4 U	9.4 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

	Location ID:	MW-01	MW-02	MW-02
	Sample Name:	WG-9954-071117-SG-026	WG-9954-071117-SG-027	WG-9954-071117-SG-028
	Sample Date:	07/11/2017	07/11/2017	07/11/2017 Duplicate
Parameters	Unit			
<b>SVOCs-Continued</b>				
Benzo(k)fluoranthene	µg/L	9.4 U	9.4 U	9.4 U
Benzoic acid	µg/L	47 U	47 U	47 U
Benzyl alcohol	µg/L	9.4 U	9.4 U	9.4 U
bis(2-Chloroethoxy)methane	µg/L	9.4 U	9.4 U	9.4 U
bis(2-Chloroethyl)ether	µg/L	9.4 U	9.4 U	9.4 U
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	9.4 U	9.4 U	9.4 U
Butyl benzylphthalate (BBP)	µg/L	9.4 U	9.4 U	9.4 U
Chrysene	µg/L	9.4 U	9.4 U	9.4 U
Di-n-butylphthalate (DBP)	µg/L	9.4 U	9.4 U	9.4 U
Di-n-octyl phthalate (DnOP)	µg/L	9.4 U	9.4 U	9.4 U
Dibenz(a,h)anthracene	µg/L	9.4 U	9.4 U	9.4 U
Dibenzofuran	µg/L	9.4 U	9.4 U	9.4 U
Diethyl phthalate	µg/L	9.4 U	9.4 U	9.4 U
Dimethyl phthalate	µg/L	9.4 U	9.4 U	9.4 U
Fluoranthene	µg/L	9.4 U	9.4 U	9.4 U
Fluorene	µg/L	9.4 U	9.4 U	9.4 U
Hexachlorobenzene	µg/L	9.4 U	9.4 U	9.4 U
Hexachlorobutadiene	µg/L	9.4 U	9.4 U	9.4 U
Hexachlorocyclopentadiene	µg/L	9.4 U	9.4 U	9.4 U
Hexachloroethane	µg/L	9.4 U	9.4 U	9.4 U
Indeno(1,2,3-cd)pyrene	µg/L	9.4 U	9.4 U	9.4 U
Isophorone	µg/L	9.4 U	9.4 U	9.4 U
N-Nitrosodi-n-propylamine	µg/L	9.4 U	9.4 U	9.4 U
N-Nitrosodiphenylamine	µg/L	9.4 U	9.4 U	9.4 U
Naphthalene	µg/L	9.4 U	9.4 U	9.4 U
Nitrobenzene	µg/L	9.4 U	9.4 U	9.4 U
Pentachlorophenol	µg/L	47 U	47 U	47 U
Phenanthrene	µg/L	9.4 U	9.4 U	9.4 U
Phenol	µg/L	9.4 U	9.4 U	9.4 U
Pyrene	µg/L	9.4 U	9.4 U	9.4 U
<b>Pesticides/Polychlorinated Biphenyls (PCBs)</b>				
4,4'-DDD	µg/L	0.047 U	0.047 U	0.047 U
4,4'-DDE	µg/L	0.047 U	0.047 U	0.047 U
4,4'-DDT	µg/L	0.047 U	0.047 U	0.047 U

Table 2

**Analytical Results Summary  
Love Canal Annual Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.  
Niagara Falls, New York  
July 2017**

	Location ID: Sample Name: Sample Date:	MW-01 WG-9954-071117-SG-026 07/11/2017	MW-02 WG-9954-071117-SG-027 07/11/2017	MW-02 WG-9954-071117-SG-028 07/11/2017 Duplicate
<b>Parameters</b>				
<b>Pesticides/PCBs-Continued</b>				
Aldrin	µg/L	0.047 U	0.047 U	0.047 U
alpha-BHC	µg/L	0.047 U	0.047 U	0.047 U
alpha-Chlordane	µg/L	0.047 U	0.047 U	0.047 U
Aroclor-1016 (PCB-1016)	µg/L	0.94 U	0.94 U	0.94 U
Aroclor-1221 (PCB-1221)	µg/L	1.9 U	1.9 U	1.9 U
Aroclor-1232 (PCB-1232)	µg/L	0.94 U	0.94 U	0.94 U
Aroclor-1242 (PCB-1242)	µg/L	0.94 U	0.94 U	0.94 U
Aroclor-1248 (PCB-1248)	µg/L	0.94 U	0.94 U	0.94 U
Aroclor-1254 (PCB-1254)	µg/L	0.94 U	0.94 U	0.94 U
Aroclor-1260 (PCB-1260)	µg/L	0.94 U	0.94 U	0.94 U
beta-BHC	µg/L	0.047 U	0.047 U	0.047 U
delta-BHC	µg/L	0.047 U	0.047 U	0.047 U
Dieldrin	µg/L	0.047 U	0.047 U	0.047 U
Endosulfan I	µg/L	0.047 U	0.047 U	0.047 U
Endosulfan II	µg/L	0.047 U	0.047 U	0.047 U
Endosulfan sulfate	µg/L	0.047 U	0.047 U	0.047 U
Endrin	µg/L	0.047 U	0.047 U	0.047 U
Endrin ketone	µg/L	0.047 U	0.047 U	0.047 U
gamma-BHC (lindane)	µg/L	0.047 U	0.047 U	0.047 U
gamma-Chlordane	µg/L	0.047 U	0.047 U	0.047 U
Heptachlor	µg/L	0.047 U	0.047 U	0.047 U
Heptachlor epoxide	µg/L	0.047 U	0.047 U	0.047 U
Methoxychlor	µg/L	0.047 U	0.047 U	0.047 U
Toxaphene	µg/L	0.50 U	0.50 U	0.50 U

Notes:

- U - Not detected at the associated reporting limit
- J - Estimated concentration
- UJ - Not detected; associated reporting limit is estimated

Table 3

**Analytical Methods**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

Parameter	Method	Matrix	Holding Time	
			Collection to Extraction (Days)	Collection or Extraction to Analysis (Days)
Volatile Organic Compounds (VOCs)	SW-846 8260B	Water	-	14
Semi-volatile Organic Compounds (SVOCs)	SW-846 8270C	Water	7	40
Polychlorinated Biphenyls (PCBs)	SW-846 8082	Water	7	40
Organochlorine Pesticides	SW-846 8081A	Water	7	40

## Notes:

- - Not applicable

## Method References:

SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions

Table 4

**Qualified Sample Results Due to Outlying Continuing Calibration Results  
Love Canal Annual Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.  
Niagara Falls, New York  
July 2017**

Parameter	Analyte	Calibration Date (mm/dd/yyyy)	RRF	%D	Associated Sample ID	Qualified Result	Units
VOCs	Bromomethane (Methyl bromide)	07/10/2017	-	37.5	WG-9954-070517-SG-001	5.0 UJ	µg/L
					WG-9954-070517-SG-002	5.0 UJ	µg/L
					WG-9954-070517-SG-003	5.0 UJ	µg/L
					WG-9954-070517-SG-004	5.0 UJ	µg/L
					WG-9954-070517-SG-005	5.0 UJ	µg/L
					WG-9954-070617-SG-011	5.0 UJ	µg/L
					WG-9954-070617-SG-010	5.0 UJ	µg/L
					WG-9954-070617-SG-009	5.0 UJ	µg/L
					WG-9954-070617-SG-007	5.0 UJ	µg/L
					WG-9954-070617-SG-006	5.0 UJ	µg/L
					WG-9954-070617-SG-008	5.0 UJ	µg/L
VOCs	Bromomethane (Methyl bromide)	07/17/2017	-	39.6	WG-9954-070717-SG-013	5.0 UJ	µg/L
					WG-9954-071017-SG-015	5.0 UJ	µg/L
					WG-9954-071017-SG-014	5.0 UJ	µg/L
VOCs	Bromomethane (Methyl bromide)	07/24/2017	-	34.9	WG-9954-071417-SG-030	5.0 UJ	µg/L
					WG-9954-071417-SG-033	5.0 UJ	µg/L
					WG-9954-071717-SG-036	5.0 UJ	µg/L

## Notes:

- - Not applicable
- %D - Percent difference
- RRF - Relative Response Factor
- UJ - Not detected; associated reporting limit is estimated
- VOCs - Volatile Organic Compounds

Table 5

**Qualified Sample Results Due to Analyte Concentrations in the Method Blanks  
Love Canal Annual Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.  
Niagara Falls, New York  
July 2017**

Parameter	Analyte	Analysis Date (mm/dd/yyyy)	Blank Result *	Sample ID	Original Result	Qualified Result	Units
VOCs	Bromomethane (Methyl bromide)	07/17/2017	0.39 J	WG-9954-071017-SG-015	0.33 J	5.0 U	µg/L
				WG-9954-071017-SG-014	0.29 J	5.0 U	µg/L
VOCs	Bromomethane (Methyl bromide)	07/18/2017	0.41 J	WG-9954-071017-SG-019	0.37 J	5.0 U	µg/L
VOCs	bis(2-Ethylhexyl)phthalate (DEHP)	07/18/2017	5.1 J	WG-9954-071417-SG-030	4.5 J	9.4 U	µg/L
				WG-9954-071417-SG-031	5.1 J	9.4 U	µg/L
				WG-9954-071417-SG-032	5.7 J	9.4 U	µg/L
				WG-9954-071417-SG-033	5.9 J	9.4 U	µg/L
				WG-9954-071417-SG-034	3.3 J	9.4 U	µg/L
				WG-9954-071717-SG-035	6.4 J	9.4 U	µg/L
				WG-9954-071717-SG-036	5.2 J	9.4 U	µg/L
				WG-9954-071717-SG-037	4.0 J	9.4 U	µg/L
WG-9954-071717-SG-038	2.8 J	9.4 U	µg/L				
VOCs	bis(2-Ethylhexyl)phthalate (DEHP)	07/24/2017	2.1 J	WG-9954-071917-SG-044	6.5 J	9.4 U	µg/L
				WG-9954-071917-SG-043	2.9 J	9.4 U	µg/L
				WG-9954-071917-SG-041	4.3 J	9.4 U	µg/L
				WG-9954-071917-SG-040	5.2 J	9.4 U	µg/L
VOCs	bis(2-Ethylhexyl)phthalate (DEHP)	07/26/2017	1.5 J	WG-9954-071917-SG-044	6.5 J	9.4 U	µg/L

## Notes:

- \* - Blank result adjusted for sample factors where applicable
- U - Not detected at the associated reporting limit
- J - Estimated concentration
- VOCs - Volatile Organic Compounds



Table 6

**Qualified Sample Results Due to Outlying LCS/LCSD Results  
Love Canal Annual Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.  
Niagara Falls, New York  
July 2017**

Parameter	Analyte	LCS Date (mm/dd/yyyy)	LCS % Recovery	LCSD % Recovery	RPD (percent)	Control Limits		Associated Sample ID	Qualified Result	Units
						% Recovery	RPD			
SVOCs	2,4,5-Trichlorophenol	07/13/2017	60	96	46	63 - 121	30	WG-9954-070717-SG-012	190 UJ	µg/L
								WG-9954-070717-SG-013	9.4 UJ	µg/L
								WG-9954-071017-SG-015	9.4 UJ	µg/L
								WG-9954-071017-SG-014	9.4 UJ	µg/L
								WG-9954-071017-SG-019	9.4 UJ	µg/L
								WG-9954-071017-SG-022	9.4 UJ	µg/L
								WG-9954-071017-SG-023	9.4 UJ	µg/L
								WG-9954-071017-SG-016	9.4 UJ	µg/L
								WG-9954-071017-SG-017	9.4 UJ	µg/L
								WG-9954-071017-SG-021	19 UJ	µg/L
								WG-9954-071017-SG-020	9.4 UJ	µg/L
								WG-9954-071017-SG-018	9.4 UJ	µg/L
SVOCs	2,4,6-Trichlorophenol	07/13/2017	45	94	71	64 - 116	30	WG-9954-070717-SG-012	190 UJ	µg/L
								WG-9954-070717-SG-013	9.4 UJ	µg/L
								WG-9954-071017-SG-015	9.4 UJ	µg/L
								WG-9954-071017-SG-014	9.4 UJ	µg/L
								WG-9954-071017-SG-019	9.4 UJ	µg/L
								WG-9954-071017-SG-022	9.4 UJ	µg/L
								WG-9954-071017-SG-023	9.4 UJ	µg/L
								WG-9954-071017-SG-016	9.4 UJ	µg/L
								WG-9954-071017-SG-017	9.4 UJ	µg/L
								WG-9954-071017-SG-021	19 UJ	µg/L
								WG-9954-071017-SG-020	9.4 UJ	µg/L
								WG-9954-071017-SG-018	9.4 UJ	µg/L
SVOCs	Benzoic acid	07/13/2017	0	43	NC	10 - 68	30	WG-9954-070717-SG-012	1600 J	µg/L
								WG-9954-070717-SG-013	R	µg/L
								WG-9954-071017-SG-015	R	µg/L
								WG-9954-071017-SG-014	R	µg/L
								WG-9954-071017-SG-019	R	µg/L
								WG-9954-071017-SG-022	R	µg/L

Table 6

**Qualified Sample Results Due to Outlying LCS/LCSD Results  
Love Canal Annual Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.  
Niagara Falls, New York  
July 2017**

Parameter	Analyte	LCS Date (mm/dd/yyyy)	LCS % Recovery	LCSD % Recovery	RPD (percent)	Control Limits		Associated Sample ID	Qualified Result	Units
						% Recovery	RPD			
SVOCs	Benzoic acid	07/13/2017	0	43	NC	10 - 68	30	WG-9954-071017-SG-023	R	µg/L
Continued								WG-9954-071017-SG-016	R	µg/L
								WG-9954-071017-SG-017	R	µg/L
								WG-9954-071017-SG-021	R	µg/L
								WG-9954-071017-SG-020	R	µg/L
								WG-9954-071017-SG-018	R	µg/L

Notes:

- LCS - Laboratory Control Sample
- LCSD - Laboratory Control Sample Duplicate
- RPD - Relative Percent Difference
- J - Estimated concentration
- UJ - Not detected; associated reporting limit is estimated
- R - Rejected
- SVOCs - Semi-volatile Organic Compounds

Table 7

**Qualified Sample Data Due to Analyte Concentrations in the Trip Blanks  
Love Canal Annual Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.  
Niagara Falls, New York  
July 2017**

Parameter	Blank Date (mm/dd/yyyy)	Analyte	Blank Result	Associated Sample ID	Original Result	Qualified Result	Units
VOCs	07/05/2017	Acetone	12	WG-9954-070517-SG-001	3.3 J	10 U	µg/L
				WG-9954-070517-SG-002	1.5 J	10 U	µg/L
				WG-9954-070517-SG-003	7.5 J	10 U	µg/L
				WG-9954-070517-SG-004	2.8 J	10 U	µg/L
				WG-9954-070517-SG-005	1.3 J	10 U	µg/L
VOCs	07/07/2017	Acetone	1.7 J	WG-9954-070717-SG-013	7.4 J	10 U	µg/L
VOCs	07/11/2017	Acetone	1.4 J	WG-9954-071117-SG-024	3.1 J	10 U	µg/L
				WG-9954-071117-SG-025	3.8 J	10 U	µg/L
				WG-9954-071117-SG-026	3.9 J	10 U	µg/L
				WG-9954-071117-SG-027	2.7 J	10 U	µg/L
				WG-9954-071117-SG-028	4.1 J	10 U	µg/L
WG-9954-071117-SG-029	2.0 J	10 U	µg/L				
VOCs	07/14/2017	Carbon disulfide	0.27 J	WG-9954-071417-SG-030	1.6 J	10 U	µg/L
				WG-9954-071417-SG-031	1.6 J	10 U	µg/L
				WG-9954-071417-SG-032	1.5 J	10 U	µg/L
				WG-9954-071417-SG-033	1.8 J	10 U	µg/L
WG-9954-071417-SG-034	0.85 J	10 U	µg/L				

## Notes:

- U - Not detected at the associated reporting limit
- J - Estimated concentration
- UJ - Not detected; associated reporting limit is estimated
- VOCs - Volatile Organic Compounds

Table 8

**Qualified Sample Data Due to Analyte Concentrations in the Rinse Blanks  
Love Canal Annual Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.  
Niagara Falls, New York  
July 2017**

Parameter	Rinse Blank ID	Blank Date (dd/mm/yyyy)	Analyte	Blank Result	Associated Sample ID	Original Result	Qualified Result	Units
VOCs	RB-9954-071717-SG-039	07/17/2017	Acetone	3.0 J	WG-9954-071717-SG-035	2.5 J	10 U	µg/L
					WG-9954-071717-SG-036	4.3 J	10 U	µg/L
					WG-9954-071717-SG-037	4.1 J	10 U	µg/L
					WG-9954-071717-SG-038	2.6 J	10 U	µg/L
VOCs	RB-9954-071717-SG-039	07/17/2017	Carbon disulfide	0.23 J	WG-9954-071717-SG-035	1.7 J	10 U	µg/L
					WG-9954-071717-SG-036	1.4 J	10 U	µg/L
					WG-9954-071717-SG-037	1.3 J	10 U	µg/L
					WG-9954-071717-SG-038	1.4 J	10 U	µg/L
Pesticides	RB-9954-070517-SG-001	07/05/2017	alpha-BHC	2.5	WG-9954-071017-SG-015	0.11	0.11 U	µg/L
					WG-9954-071017-SG-022	0.024 J	0.047 U	µg/L
					WG-9954-071017-SG-023	0.022 J	0.047 U	µg/L
					WG-9954-071017-SG-016	0.033 J	0.047 U	µg/L
					WG-9954-071017-SG-017	0.023 J	0.047 U	µg/L
					WG-9954-071017-SG-018	0.043 J	0.047 U	µg/L
					WG-9954-071117-SG-024	0.022 J	0.047 U	µg/L
					WG-9954-071417-SG-030	0.022 J	0.047 U	µg/L
					WG-9954-071417-SG-031	0.034 J	0.047 U	µg/L
					WG-9954-071417-SG-032	0.037 J	0.047 U	µg/L
WG-9954-071417-SG-033	0.025 J	0.047 U	µg/L					
Pesticides	RB-9954-070517-SG-001	07/05/2017	beta-BHC	0.39 J	WG-9954-071017-SG-015	0.026 J	0.047 U	µg/L
Pesticides	RB-9954-070517-SG-001	07/05/2017	delta-BHC	3.2	WG-9954-071017-SG-015	0.023 J	0.047 U	µg/L
					WG-9954-071017-SG-019	0.031 J	0.047 U	µg/L
					WG-9954-071017-SG-022	0.064 J	0.064 U	µg/L
					WG-9954-071017-SG-023	0.043 J	0.047 U	µg/L
					WG-9954-071017-SG-016	0.028 J	0.047 U	µg/L
					WG-9954-071017-SG-017	0.027 J	0.047 U	µg/L
WG-9954-071017-SG-020	0.030 J	0.047 U	µg/L					

Table 8

**Qualified Sample Data Due to Analyte Concentrations in the Rinse Blanks  
Love Canal Annual Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.  
Niagara Falls, New York  
July 2017**

Parameter	Rinse Blank ID	Blank Date (dd/mm/yyyy)	Analyte	Blank Result	Associated Sample ID	Original Result	Qualified Result	Units
Pesticides Continued	RB-9954-070517-SG-001	07/05/2017	delta-BHC	3.2	WG-9954-071017-SG-018	0.045 J	0.047 U	µg/L
					WG-9954-071117-SG-024	0.073	0.073 U	µg/L
					WG-9954-071117-SG-025	0.16	0.16 U	µg/L
					WG-9954-071417-SG-030	0.075	0.075 U	µg/L
					WG-9954-071417-SG-031	0.086	0.086 U	µg/L
					WG-9954-071417-SG-032	0.074	0.074 U	µg/L
					WG-9954-071417-SG-033	0.050	0.050 U	µg/L
Pesticides	RB-9954-070517-SG-001	7/5/2017	gamma-BHC	3.0	WG-9954-071017-SG-015	0.042 J	0.047 U	µg/L
					WG-9954-071017-SG-022	0.036 J	0.047 U	µg/L
					WG-9954-071017-SG-023	0.034 J	0.047 U	µg/L
					WG-9954-071017-SG-016	0.032 J	0.047 U	µg/L
					WG-9954-071017-SG-017	0.022 J	0.047 U	µg/L
					WG-9954-071017-SG-020	0.029 J	0.047 U	µg/L
					WG-9954-071017-SG-018	0.044 J	0.047 U	µg/L
					WG-9954-071117-SG-024	0.031 J	0.047 U	µg/L
					WG-9954-071117-SG-025	0.021 J	0.047 U	µg/L
					WG-9954-071417-SG-030	0.032 J	0.047 U	µg/L
					WG-9954-071417-SG-031	0.043 J	0.047 U	µg/L
					WG-9954-071417-SG-032	0.046 J	0.047 U	µg/L
					WG-9954-071417-SG-033	0.031 J	0.047 U	µg/L

## Notes:

- U - Not detected at the associated reporting limit
- J - Estimated concentration
- VOCs - Volatile Organic Compounds

Table 9

**Tentatively Identified Compounds Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

Sample ID	Volatiles		Semi-volatiles	
	Compound	Estimated Concentration (µg/L)	Compound	Estimated Concentration (µg/L)
WG-9954-070517-SG-002	-	-	Diethyltoluamide	5.4 J
WG-9954-070617-SG-006	-	-	Diethyltoluamide	4.1 J
WG-9954-070717-SG-012	2,6-Dichlorotoluene	958 J	-	-
	2-Chlorotoluene	10925 J	-	-
	4-Chlorotoluene	5676 J	-	-
	Sulfur dioxide (SO2)	1365 J	-	-
WG-9954-070717-SG-013	-	-	Diethyltoluamide	32 J
WG-9954-071017-SG-016	Dimethyl trisulfide	11.1 J	Methyl disulfide	20 J
	Methyl disulfide	54.4 J	Unknown	150.3 J
	Methyl ethyl sulfide	31.8 J	-	-
	Methyl mercaptan	26.6 J	-	-
	Methyl sulfide	285.4 J	-	-
	Sulfur dioxide (SO2)	135.4 J	-	-
	Unknown	70.9 J	-	-
WG-9954-071017-SG-017	Sulfur dioxide (SO2)	37.7 J	Oleic acid	11 J
	Unknown	8.4 J	Unknown	16 J
WG-9954-071017-SG-018	Sulfur dioxide (SO2)	16.0 J	Unknown	9.0 J
	Trimethylsilyl fluoride	7.8 J	-	-
	Unknown	8.7 J	-	-
WG-9954-071017-SG-019	Dimethyl trisulfide	25.2 J	Methyl disulfide	30 J
	Methyl disulfide	86.4 J	Sulfur	13 J
	Methyl ethyl sulfide	28.7 J	Unknown	68.1 J
	Methyl mercaptan	7.6 J	Unknown hydrocarbon	17 J
	Methyl sulfide	290.7 J	-	-
	Sulfur dioxide (SO2)	48.8 J	-	-
	Unknown	49.5 J	-	-
WG-9954-071017-SG-020	Sulfur dioxide (SO2)	16.9 J	Unknown	8.5 J
	Unknown	9.2 J	-	-
WG-9954-071017-SG-021	2-Methyltetrahydrofuran	27.2 J	2(3H)-Benzothiazolone	25 J
	Sulfur dioxide (SO2)	22.9 J	Benzoic acid-p-tert-butyl- A	9.3 J
	-	-	Unknown	76.7 J
WG-9954-071017-SG-022	Sulfur dioxide (SO2)	26.9 J	Unknown	12.2 J
	Unknown	10.8 J	-	-
WG-9954-071017-SG-023	Sulfur dioxide (SO2)	18.3 J	Unknown	11.8 J
	Unknown	8.2 J	-	-
WG-9954-071117-SG-024	Sulfur dioxide (SO2)	28.8 J	Unknown	7.3 J
WG-9954-071117-SG-025	Sulfur dioxide (SO2)	45.1 J	Unknown	4.8 J
	Trimethylsilyl fluoride	5.1 J	-	-

Table 9

**Tentatively Identified Compounds Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**July 2017**

Sample ID	Volatiles		Semi-volatiles	
	Compound	Estimated Concentration (µg/L)	Compound	Estimated Concentration (µg/L)
WG-9954-071117-SG-026	Sulfur dioxide (SO2)	42.4 J	Unknown	6.9 J
WG-9954-071117-SG-027	Sulfur dioxide (SO2)	44.6 J	-	-
WG-9954-071117-SG-028	Sulfur dioxide (SO2)	45.0 J	Unknown	3.8 J
WG-9954-071117-SG-029	Sulfur dioxide (SO2)	43.4 J	-	-
WG-9954-071417-SG-030	Sulfur dioxide (SO2)	31.2 J	Benzenesulfonamide, n-butyl	4.2 J
	-	-	Unknown	12 J
WG-9954-071417-SG-031	-	-	Unknown	5.5 J
WG-9954-071417-SG-032	-	-	Unknown	19 J
WG-9954-071417-SG-033	Sulfur dioxide (SO2)	10.1 J	Unknown	11.1 J
WG-9954-071417-SG-034	-	-	Unknown	3.9 J
WG-9954-071717-SG-035	-	-	Unknown	9.0 J
	-	-	Unknown hydrocarbon	8.5 J
WG-9954-071717-SG-036	Sulfur dioxide (SO2)	37.9 J	Epicoprostanol A	5.4 J
	-	-	N,N-Diethyl-3-methylbenzamide	13 J
	-	-	Unknown	30.9 J
	-	-	Unknown hydrocarbon	15.8 J
WG-9954-071717-SG-037	-	-	Unknown	10 J
WG-9954-071917-SG-041	Sulfur dioxide (SO2)	16.5 J	-	-
WG-9954-071917-SG-042	Sulfur dioxide (SO2)	12.2 J	-	-
WG-9954-071917-SG-043	Sulfur dioxide (SO2)	24.8 J	-	-
	Unknown	5.9 J	-	-
WG-9954-071917-SG-044	Sulfur dioxide (SO2)	5.4 J	-	-

## Notes:

- - Not applicable
- J - Estimated concentration



# Memorandum

January 11, 2018

To: Joe Branch [joseph\_branch@oxy.com]

Ref. No.: 009954

From: Kathy Willy/adh/52

Tel: 716-205-1942

CC: John Pentilchuk, Dennis Hoyt

**Subject: Analytical Results and Full Validation  
Love Canal Annual Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.  
Niagara Falls, New York  
December 2017**

## 1. Introduction

This document details a validation of analytical results for water samples collected in support of the Annual Long-Term Monitoring Program at the Love Canal Site during December 2017. Samples were submitted to ALS Laboratories, located in Rochester, New York. A sample collection and analysis summary is presented in Table 1. The validated analytical results are summarized in Table 2. A summary of the analytical methodology is presented in Table 3.

Full Contract Laboratory Program (CLP) equivalent raw data deliverables were provided by the laboratory. Evaluation of the data was based on information obtained from the finished data sheets, raw data, chain of custody forms, calibration data, blank data, and recovery data from surrogate spikes/laboratory control samples (LCS)/matrix spike (MS) samples. The assessment of analytical and in-house data included checks for: data consistency (by observing comparability of duplicate analyses), adherence to accuracy and precision criteria, and transmittal errors.

The Quality Assurance/Quality Control (QA/QC) criteria by which these data have been assessed are outlined in the analytical methods referenced in Table 3 and applicable guidance from the documents entitled:

- i) "Quality Assurance Project Plan", Appendix B of "Sampling Manual Long-Term Groundwater Monitoring Program", June 2013
- ii) "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review", United States Environmental Protection Agency (USEPA) 540-R-08-01, June 2008

Item ii) will subsequently be referred to as the "Guidelines" in this Memorandum.





## 2. Sample Holding Time and Preservation

The sample holding time criteria for the analyses are summarized in Table 3. Sample chain of custody documents and analytical reports were used to determine sample holding times. All samples were prepared and analyzed within the required holding times.

All samples were properly preserved, delivered on ice, and stored by the laboratory at the required temperature (0-6°C).

## 3. Gas Chromatography/Mass Spectrometer (GC/MS) – Tuning and Mass Calibration (Instrument Performance Check)

### 3.1 Organic Analyses

Prior to volatile organic compound (VOC) and semi-volatile organic compound (SVOC) analysis, GC/MS instrumentation is tuned to ensure optimization over the mass range of interest. To evaluate instrument tuning, methods require the analysis of specific tuning compounds bromofluorobenzene (BFB) and decafluorotriphenylphosphine (DFTPP), respectively. The resulting spectra must meet the criteria cited in the methods before analysis is initiated. Analysis of the tuning compound must then be repeated every 12 hours throughout sample analysis to ensure the continued optimization of the instrument.

Tuning compounds were analyzed at the required frequency throughout VOC and SVOC analysis periods. All tuning criteria were met, indicating that proper optimization of the instrumentation was achieved.

## 4. Initial Calibration - Organic Analyses

### 4.1 GC/MS

To quantify VOCs and SVOCs of interest in samples, calibration of the GC/MS over a specific concentration range must be performed. Initially, a five-point calibration curve containing all compounds of interest is analyzed to characterize instrument response for each analyte over a specific concentration range. Linearity of the calibration curve and instrument sensitivity are evaluated against the following criteria:

- i) All relative response factors (RRFs) must be greater than or equal to 0.05 (0.01 for poor responders).
- ii) The percent relative standard deviation (RSD) values must not exceed 20.0 percent (40 percent for poor responders) or a minimum correlation coefficient (R) of 0.995 and minimum coefficient of determination ( $R^2$ ) of 0.99 if linear and quadratic equation calibration curves, respectively, are used.

The initial calibration data for VOCs and SVOCs were reviewed. All compounds met the above criteria for sensitivity and linearity.

### 4.2 GC

To quantify pesticides, the performance evaluation mixture (PEM) is analyzed at the beginning and end of the initial calibration sequence and throughout the analytical sequence. The results of these analyses are



used to evaluate dichlorodiphenyltrichloroethane (DDT)/endrin breakdown, using the method degradation criteria of <15 percent. PEM standards were analyzed at the required frequency throughout sample analysis, and all method performance criteria were met.

In order to quantify organic compounds of interest by GC, calibration of the gas chromatograph over a specific concentration range must be performed. Initially, a calibration curve consisting of a minimum of five concentration levels is analyzed for all single component compounds of interest and for polychlorinated biphenyls (PCBs) (Aroclors 1016 and 1260). A single calibration standard is analyzed for all other multi-response compounds. Linearity of the calibration curve is acceptable if all RSD values are less than or equal to 20.0 percent or if the correlation coefficient (R) is 0.995 or greater for linear regression curves.

Retention time windows are also calculated from the initial calibration analyses. These windows are then used to identify all compounds of interest in subsequent analyses.

All initial calibration standards were analyzed at the required frequencies. All retention time, peak resolution, and linearity criteria were satisfied as specified in the methods.

## 5. Continuing Calibration - Organic Analyses

### 5.1 GC/MS

To ensure that instrument calibration for VOC and SVOC analyses is acceptable throughout the sample analysis period, continuing calibration standards must be analyzed and compared to the initial calibration curve every 12 hours.

The following criteria were employed to evaluate continuing calibration data:

- i) All RRF values must be greater than or equal to 0.05 (0.01 for poor responders).
- ii) Percent difference (%D) values must not exceed 25 percent (40 percent for poor responders).

Calibration standards were analyzed at the required frequency, and the results met the above criteria for instrument sensitivity and stability.

### 5.2 GC

To ensure that the calibration of the instrument for organic analyses by GC is valid throughout the sample analysis period, continuing calibration standards are analyzed and evaluated on a regular basis. To evaluate the continued linearity of the calibration, %D values are calculated for each compound. As specified in the methods, all %D values should not exceed 15 percent. To ensure that compound retention times do not vary over the analysis period, all retention times for continuing calibration compounds must fall within the established retention time windows.

All continuing calibration standards were analyzed at the required frequency. All %D values and compound retention times met the above criteria, indicating acceptable instrument calibration throughout the analysis period.



## 6. Laboratory Blank Analyses

Method blanks are prepared from a purified matrix and analyzed with investigative samples to determine the existence and magnitude of sample contamination introduced during the analytical procedures.

For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

All method blank results were non-detect, indicating that laboratory contamination was not a factor for this investigation.

## 7. Surrogate Spike Recoveries

In accordance with the methods employed, all samples, blanks, and QC samples analyzed for organics are spiked with surrogate compounds prior to sample extraction and/or analysis. Surrogate recoveries provide a means to evaluate the effects of laboratory performance on individual sample matrices.

All samples submitted for VOC, SVOC, pesticides, and PCB determinations were spiked with the appropriate number of surrogate compounds prior to sample extraction and/or analysis.

Each individual surrogate compound is expected to meet the laboratory control limits with the exception of SVOC analyses. According to the "Guidelines" for SVOC analyses, up to one outlying surrogate in the base/neutral or acid fractions is acceptable as long as the recovery is at least 10 percent.

Surrogate recoveries were assessed against laboratory control limits. All surrogate recoveries were within acceptable limits.

## 8. Internal Standards (IS) Analyses

IS data were evaluated for all VOC and SVOC sample analyses.

To ensure that changes in the GC/MS sensitivity and response do not affect sample analysis results, IS compounds are added to each sample prior to analysis. All results are then calculated as a ratio of the IS responses.

The sample IS results were evaluated against the following criteria:

- i) The retention time of the IS must not vary more than  $\pm 30$  seconds from the associated calibration standard.
- ii) IS area counts must not vary by more than a factor of two (-50 percent to +100 percent) from the associated calibration standard.

All organic IS recoveries and retention times met the above criteria.



## 9. Laboratory Control Sample Analyses

LCS and/or laboratory control sample duplicates (LCSD) are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects. The relative percent difference (RPD) of the LCS/LCSD recoveries is used to evaluate analytical precision.

For this study, LCS/LCSD were analyzed at a minimum frequency of 1 per 20 investigative samples and/or 1 per analytical batch.

The LCS/LCSD contained all compounds of interest. All LCS recoveries and RPDs were within the laboratory control limits, demonstrating acceptable analytical accuracy and precision.

## 10. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

To evaluate the effects of sample matrices on the distillation process, measurement procedures, and accuracy of a particular analysis, samples are spiked with a known concentration of the analyte of concern and analyzed as MS/MSD samples. The RPD between the MS and MSD is used to assess analytical precision.

MS/MSD analyses were not performed on investigative samples from this sampling event.

## 11. Field QA/QC Samples

The field QA/QC consisted of one trip blank sample.

### 11.1 Trip Blank Sample Analysis

To evaluate contamination from sample collection, transportation, storage, and analytical activities, one trip blank was submitted to the laboratory for VOC analysis. All results were non-detect for the compounds of interest with the exception of a low concentration of acetone. All associated sample results were non-detect, and no qualification of the data was required.

## 12. Tentatively Identified Compounds (TICS)

Chromatographic peaks recorded during VOC and SVOC sample GC/MS analyses that are not target compounds, surrogates, or IS, are potential TICS.

A summary of the TICS reported by the laboratory is presented in Table 4. Per the "Guidelines", TICS that were present in the method blanks or identified as solvent preservatives/aldol reaction products were rejected and are not included in the table.



### 13. Dual Column Analysis

Pesticide analyses were performed using dual column analysis. All pesticide results showed good correlation between the two columns (<40 percent).

### 14. Analyte Reporting

The laboratory reported detected results down to the laboratory's Method Detection Limit (MDL) for each analyte. Positive analyte detections less than the Practical Quantitation Limit (PQL) but greater than the MDL were qualified as estimated (J) in Table 2 unless qualified otherwise in this memorandum. Non-detect results were presented as non-detect at the RL in Table 2.

### 15. Target Compound Identification

To minimize erroneous compound identification during organic analyses, qualitative criteria including compound retention time and mass spectra (if applicable) were evaluated according to the identification criteria established by the methods. The samples identified in Table 1 were reviewed. The organic compounds reported adhered to the specified identification criteria.

### 16. Conclusion

Based on the assessment detailed in the foregoing, the data summarized in Table 2 are acceptable without qualification.

Table 1

**Sample Collection and Analysis Summary  
Love Canal Annual Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.  
Niagara Falls, New York  
December 2017**

Sample Identification	Location	Matrix	Collection Date (mm/dd/yyyy)	Collection Time (hr:min)	Analysis/Parameters				Comments
					VOCs	SVOCs	Pesticides	PCBs	
WG-9954-121117-SG-045	10178A	Water	12/11/2017	12:00	x	x	x	x	
WG-9954-121117-SG-046	10225C	Water	12/11/2017	11:15	x	x	x	x	
TB-9954-121117-SG	-	Water	12/11/2017	-	x				Trip Blank

## Notes:

- VOCs - Volatile Organic Compounds
- SVOCs - Semi-volatile Organic Compounds
- PCBs - Polychlorinated Biphenyls
- - Not applicable

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**December 2017**

<b>Location ID:</b>	<b>10178A</b>	<b>10225C</b>
<b>Sample Name:</b>	<b>WG-9954-121117-SG-045</b>	<b>WG-9954-121117-SG-046</b>
<b>Sample Date:</b>	<b>12/11/2017</b>	<b>12/11/2017</b>

Parameters	Unit		
<b>Volatile Organic Compounds (VOCs)</b>			
1,1,1-Trichloroethane	µg/L	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	µg/L	5.0 U	5.0 U
1,1,2-Trichloroethane	µg/L	5.0 U	5.0 U
1,1-Dichloroethane	µg/L	5.0 U	5.0 U
1,1-Dichloroethene	µg/L	5.0 U	5.0 U
1,2-Dichloroethane	µg/L	5.0 U	5.0 U
1,2-Dichloropropane	µg/L	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	µg/L	10 U	10 U
2-Hexanone	µg/L	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	µg/L	10 U	10 U
Acetone	µg/L	10 U	10 U
Benzene	µg/L	5.0 U	5.0 U
Bromodichloromethane	µg/L	5.0 U	5.0 U
Bromoform	µg/L	5.0 U	5.0 U
Bromomethane (Methyl bromide)	µg/L	5.0 U	5.0 U
Carbon disulfide	µg/L	10 U	3.5 J
Carbon tetrachloride	µg/L	5.0 U	5.0 U
Chlorobenzene	µg/L	5.0 U	1.1 J
Chloroethane	µg/L	5.0 U	5.0 U
Chloroform (Trichloromethane)	µg/L	5.0 U	5.0 U
Chloromethane (Methyl chloride)	µg/L	5.0 U	5.0 U
cis-1,2-Dichloroethene	µg/L	5.0 U	2.9 J
cis-1,3-Dichloropropene	µg/L	5.0 U	5.0 U
Dibromochloromethane	µg/L	5.0 U	5.0 U
Ethylbenzene	µg/L	5.0 U	5.0 U
Methylene chloride	µg/L	5.0 U	5.0 U
Styrene	µg/L	5.0 U	5.0 U
Tetrachloroethene	µg/L	5.0 U	5.0 U
Toluene	µg/L	5.0 U	5.0 U
trans-1,2-Dichloroethene	µg/L	5.0 U	5.0 U
trans-1,3-Dichloropropene	µg/L	5.0 U	5.0 U
Trichloroethene	µg/L	5.0 U	8.0
Vinyl acetate	µg/L	10 U	10 U
Vinyl chloride	µg/L	5.0 U	5.0 U
Xylenes (total)	µg/L	5.0 U	5.0 U
<b>Semi-volatile Organic Compounds (SVOCs)</b>			
1,2,4-Trichlorobenzene	µg/L	9.4 U	8.2 J
1,2-Dichlorobenzene	µg/L	9.4 U	9.4 U
1,3-Dichlorobenzene	µg/L	9.4 U	9.4 U
1,4-Dichlorobenzene	µg/L	9.4 U	9.4 U
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	µg/L	9.4 U	9.4 U
2,4,5-Trichlorophenol	µg/L	9.4 U	9.4 U
2,4,6-Trichlorophenol	µg/L	9.4 U	9.4 U
2,4-Dichlorophenol	µg/L	9.4 U	9.4 U
2,4-Dimethylphenol	µg/L	9.4 U	9.4 U
2,4-Dinitrophenol	µg/L	47 U	47 U

Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**December 2017**

<b>Location ID:</b>	<b>10178A</b>	<b>10225C</b>
<b>Sample Name:</b>	<b>WG-9954-121117-SG-045</b>	<b>WG-9954-121117-SG-046</b>
<b>Sample Date:</b>	<b>12/11/2017</b>	<b>12/11/2017</b>

Parameters	Unit		
<b>SVOCs-Continued</b>			
2,4-Dinitrotoluene	µg/L	9.4 U	9.4 U
2,6-Dinitrotoluene	µg/L	9.4 U	9.4 U
2-Chloronaphthalene	µg/L	9.4 U	9.4 U
2-Chlorophenol	µg/L	9.4 U	9.4 U
2-Methylnaphthalene	µg/L	9.4 U	9.4 U
2-Methylphenol	µg/L	9.4 U	9.4 U
2-Nitroaniline	µg/L	47 U	47 U
2-Nitrophenol	µg/L	9.4 U	9.4 U
3&4-Methylphenol	µg/L	9.4 U	9.4 U
3,3'-Dichlorobenzidine	µg/L	9.4 U	9.4 U
3-Nitroaniline	µg/L	47 U	47 U
4,6-Dinitro-2-methylphenol	µg/L	47 U	47 U
4-Bromophenyl phenyl ether	µg/L	9.4 U	9.4 U
4-Chloro-3-methylphenol	µg/L	9.4 U	9.4 U
4-Chloroaniline	µg/L	9.4 U	9.4 U
4-Chlorophenyl phenyl ether	µg/L	9.4 U	9.4 U
4-Nitroaniline	µg/L	47 U	47 U
4-Nitrophenol	µg/L	47 U	47 U
Acenaphthene	µg/L	9.4 U	9.4 U
Acenaphthylene	µg/L	9.4 U	9.4 U
Anthracene	µg/L	9.4 U	9.4 U
Benzo(a)anthracene	µg/L	9.4 U	9.4 U
Benzo(a)pyrene	µg/L	9.4 U	9.4 U
Benzo(b)fluoranthene	µg/L	9.4 U	9.4 U
Benzo(g,h,i)perylene	µg/L	9.4 U	9.4 U
Benzo(k)fluoranthene	µg/L	9.4 U	9.4 U
Benzoic acid	µg/L	47 U	47 U
Benzyl alcohol	µg/L	9.4 U	9.4 U
bis(2-Chloroethoxy)methane	µg/L	9.4 U	9.4 U
bis(2-Chloroethyl)ether	µg/L	9.4 U	9.4 U
bis(2-Ethylhexyl)phthalate (DEHP)	µg/L	9.4 U	9.4 U
Butyl benzylphthalate (BBP)	µg/L	9.4 U	9.4 U
Chrysene	µg/L	9.4 U	9.4 U
Di-n-butylphthalate (DBP)	µg/L	9.4 U	9.4 U
Di-n-octyl phthalate (DnOP)	µg/L	9.4 U	9.4 U
Dibenz(a,h)anthracene	µg/L	9.4 U	9.4 U
Dibenzofuran	µg/L	9.4 U	9.4 U
Diethyl phthalate	µg/L	9.4 U	9.4 U
Dimethyl phthalate	µg/L	9.4 U	9.4 U
Fluoranthene	µg/L	9.4 U	9.4 U
Fluorene	µg/L	9.4 U	9.4 U
Hexachlorobenzene	µg/L	9.4 U	9.4 U
Hexachlorobutadiene	µg/L	9.4 U	9.4 U
Hexachlorocyclopentadiene	µg/L	9.4 U	9.4 U
Hexachloroethane	µg/L	9.4 U	9.4 U
Indeno(1,2,3-cd)pyrene	µg/L	9.4 U	9.4 U
Isophorone	µg/L	9.4 U	9.4 U



Table 2

**Analytical Results Summary**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**December 2017**

	Location ID:	10178A	10225C
	Sample Name:	WG-9954-121117-SG-045	WG-9954-121117-SG-046
	Sample Date:	12/11/2017	12/11/2017
Parameters	Unit		
<b>SVOCs-Continued</b>			
N-Nitrosodi-n-propylamine	µg/L	9.4 U	9.4 U
N-Nitrosodiphenylamine	µg/L	9.4 U	9.4 U
Naphthalene	µg/L	9.4 U	9.4 U
Nitrobenzene	µg/L	9.4 U	9.4 U
Pentachlorophenol	µg/L	47 U	47 U
Phenanthrene	µg/L	9.4 U	9.4 U
Phenol	µg/L	9.4 U	9.4 U
Pyrene	µg/L	9.4 U	9.4 U
<b>Pesticides/PCBs</b>			
4,4'-DDD	µg/L	0.047 U	0.047 U
4,4'-DDE	µg/L	0.047 U	0.047 U
4,4'-DDT	µg/L	0.047 U	0.047 U
Aldrin	µg/L	0.047 U	0.047 U
alpha-BHC	µg/L	0.047 U	0.19
alpha-Chlordane	µg/L	0.047 U	0.047 U
Aroclor-1016 (PCB-1016)	µg/L	0.94 U	0.94 U
Aroclor-1221 (PCB-1221)	µg/L	1.9 U	1.9 U
Aroclor-1232 (PCB-1232)	µg/L	0.94 U	0.94 U
Aroclor-1242 (PCB-1242)	µg/L	0.94 U	0.94 U
Aroclor-1248 (PCB-1248)	µg/L	0.94 U	0.94 U
Aroclor-1254 (PCB-1254)	µg/L	0.94 U	0.94 U
Aroclor-1260 (PCB-1260)	µg/L	0.94 U	0.94 U
beta-BHC	µg/L	0.047 U	0.047 U
delta-BHC	µg/L	0.047 U	0.27
Dieldrin	µg/L	0.047 U	0.047 U
Endosulfan I	µg/L	0.047 U	0.047 U
Endosulfan II	µg/L	0.047 U	0.047 U
Endosulfan sulfate	µg/L	0.047 U	0.047 U
Endrin	µg/L	0.047 U	0.047 U
Endrin ketone	µg/L	0.047 U	0.047 U
gamma-BHC (lindane)	µg/L	0.047 U	0.14
gamma-Chlordane	µg/L	0.047 U	0.047 U
Heptachlor	µg/L	0.047 U	0.047 U
Heptachlor epoxide	µg/L	0.047 U	0.047 U
Methoxychlor	µg/L	0.047 U	0.047 U
Toxaphene	µg/L	0.50 U	0.50 U

## Notes:

- J - Estimated concentration
- U - Not detected at the associated reporting limit
- PCBs - Polychlorinated Biphenyls

Table 3

**Analytical Methods**  
**Love Canal Annual Long-Term Monitoring Program**  
**Glenn Springs Holdings, Inc.**  
**Niagara Falls, New York**  
**December 2017**

Parameter	Method	Matrix	Holding Time	
			Collection to Extraction (Days)	Collection or Extraction to Analysis (Days)
Volatile Organic Compounds (VOCs)	SW-846 8260B	Water	-	14
Semi-volatile Organic Compounds (SVOCs)	SW-846 8270C	Water	7	40
Polychlorinated Biphenyls (PCBs)	SW-846 8082	Water	7	40
Organochlorine Pesticides	SW-846 8081A	Water	7	40

## Notes:

- - Not applicable

## Method References:

SW-846 - "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", SW-846, Third Edition, 1986, with subsequent revisions

Table 4

**Tentatively Identified Compounds Summary  
Love Canal Annual Long-Term Monitoring Program  
Glenn Springs Holdings, Inc.  
Niagara Falls, New York  
December 2017**

Sample ID	Volatiles		Semi-volatiles	
	Compound	Estimated Concentration (µg/L)	Compound	Estimated Concentration (µg/L)
WG-9954-121117-SG-046	Sulfur Dioxide	71.3 J	1-Chloro-3-methylbenzene	4.5 J
	m-Monochlorobenzotrifluoride	6.5 J	Chlorotrifluoromethylbenzene isomer	4.4 J
	1-Chloro-2-methyl-benzene	6.9 J		
	1,2,4-Trichlorobenzene	10.1 J		
	Unknown	8.6 J		

## Notes:

J - Estimated concentration

Appendix G  
2017 Niagara Falls Water Board  
Inspection Letter



September 26, 2017

Mr. Darrell Crockett – Facility Manager  
Occidental Chemical Corporation  
Love Canal  
805 – 97<sup>th</sup> Street  
Niagara Falls, New York 14304

Dear Mr. Crockett:

Enclosed please find the results of the Plant Inspection that was conducted at your facility on Monday, January 23<sup>rd</sup>, 2017 @ 10:00AM

If you have any questions, I can be reached at 283-9770 ext 262.

Sincerely,

NIAGARA FALLS WATER BOARD  
WASTEWATER FACILITIES

*Stephen C. Stewart*

Stephen C. Stewart  
Senior Industrial Waste Inspector

Cc: J. Paradise → S. Stewart → **File: - I-44**  
Emailed to SIU



**NIAGARA FALLS WATER BOARD**  
**SEMIANNUAL PLANT INSPECTION**  
**INDUSTRIAL PRETREATMENT PROGRAM**

PAGE 1 OF 6

**Name and Address of SIU**

Occidental Chemical Corporation  
Love Canal Treatment Facility  
805 – 97<sup>th</sup> Street  
Niagara Falls, NY 14304

**Permit Number:** 44

**SIC Codes:** 4951

**Date of Last Inspection:** 1/5/2016

**CATEGORICAL IU?** NO

**Day/Date and Time of Inspection:**

Mon. January 23<sup>rd</sup> , 2016 @ 10:00AM

**SIU Representative:**

Darrell Crockett

**Inspectors Name:**

Stephen Stewart

**Contact Phone No.:** 998-5804

**PART I FLOW RECORDING AND SAMPLING INSTRUMENTATION**

a) Flow measurement instrument meets permit requirements? **YES**

b) Primary flow measurement device properly installed? **YES**

c) Type of flow measurement device -

Weir [ ]	Flume(s) [ ]	Water meter [ ]	Mag meter [X]
----------	--------------	-----------------	---------------

d) Does device measure flow adequately? **YES**

e) Is primary measuring device properly operated and maintained? [1960.6] **YES**

f) Are secondary instruments (recorders, integrators) properly operated and maintained? [1960.6] **YES**

g) Calibration frequency adequate? (date of last calibration): **Quarterly – December 22<sup>nd</sup> , 2016** **YES**



**PART II SAMPLE COLLECTION**

- a) Does permit require SIU to submit Periodic Self Monitoring Reports? [40 CFR403.12h] **YES**
- b) If "yes", does the sample collection frequency and pollutant type conform with permit requirements? **YES**
- c) Are the sample collection locations as described in the permit adequate for representative sample collection? [1960.6 (a)] **YES**
- d) Does the method of sample collection conform with permit requirements, **Sewer Use Ordinance and Federal Standards?** **YES**
- i) Sample **refrigerated throughout collection and storage?** **YES**
- ii) Are samples properly preserved? **YES**
- iii) Are samples collected using **flow proportion composite** or **grab sampling where appropriate?** [40 CFR12(b)(5)(iii)]. **YES**
- iv) Sample holding times appropriate? [40 CFR136.3] **YES**

**PART III LABORATORY FACILITIES**

- a) Is a commercial laboratory used? **YES**
- i) Name of laboratory: **ALS Environmental**
- ii) Address: **1565 Jefferson Rd. Rochester, NY 14623**
- iii) Is laboratory State certified? **YES**
- b) Does SIU perform its own analysis? **NO**
- i) Is the SIU's laboratory State certified? **N/A**
- ii) Are your laboratory wastes properly disposed of? **N/A**
- c) Are EPA approved testing methods used? **YES**

**PART IV RECORDS AND REPORTS**

- |    |  |     |
|----|--|-----|
| a) | Are monitoring records and reports retained in SIU files for <b>at least three years</b> ? [1960.5 (d)(3)]   | YES |
| b) | Are <b>all</b> records of sludge volume and disposal practices maintained in files? [1960.5 (d)(2)]  | YES |
| c) | Have all hazardous waste discharges been reported to POTW? [40 CFR403.12(p)].  | N/A |
| d) | If hazardous waste is discharged, is a waste minimization plan developed and implemented?  | N/A |
| e) | Does the SIU have a valid wastewater discharge permit retained on file? [40 CFR403.8(f)(l)(iii)(A)-(E)]  | YES |
| f) | Have <b>all</b> required reports been submitted on time?   | YES |
| g) | Do Self Monitoring reports contain necessary information (samplers name, date & time, sample type, flow, preservation, chain of custody, results) ? [40 CFR403.8(f)(3)(vi)]. | YES |

**PART V PLANT OPERATION AND MAINTENANCE**

- |    |  |     |
|----|--|-----|
| a) | Have there been any accidental discharge(s) that entered the sewer system?   | NO  |
|    | Have they been reported to the POTW as well as other appropriate agencies? [1960.6 (d)]  | N/A |
| b) | Is a spill notification procedure conspicuously posted in process areas of the plant?<br><b>Issued updated contact list 1/5/17</b> | YES |
| c) | Is there any evidence of spills?   | NO  |
| d) | Are <b>all</b> hazardous sludges and solids properly disposed of?  | YES |



- e) Has this facility been evaluated **OR** re-evaluated for its' potential to experience a slug discharge? 1/23/2015 YES
- 1) Is a **Slug Control Plan** required for this facility [40 CFR403.8(f)(2)(vi)] ? NO
- A. Has the facility **Developed** and **Implemented** a **Slug Control Plan**? N/A
- a. The date of the plan's last update: **N/A**
- b. Is the latest update on file at the NFWB? N/A
- c. Does it contain the correct Water Board phone numbers and extensions. N/A
- 2) Has the facility experienced a slug discharge since The last inspection? NO
- f) Have there been any significant **manufacturing** or **process** changes? [1960.5 (c)] NO  
List: **None**
- Who was contacted **prior** to implementation of these changes?  
**N/A** Date: **N/A**
- g) Describe your hazardous waste storage area(s).  
**Double contained in the decontamination/storage facility.**
- Do they meet DEC & EPA containment requirements? YES
- Are all containers correctly labeled and time limits adhered to? YES
- Describe your method of disposal:  
**Incineration as needed through Clean Harbors Inc. at their Deer Park Texas, Utah, or Arizona Facility, approximately once per quarter.**
- h) Regarding the blueprints that you submitted with your last permit application, **have there been any significant changes made to your process or sewer lines?** NO
- Have revised blueprints been sent to the WWTP? N/A

**PART VI PRETREATMENT**

a) Briefly describe all required pretreatment.  
**Clarifier → Bag filter → Carbon treatment → WWTP**

b) Are all pretreatment facilities properly maintained? **YES**

c) How many pH probes does your pH monitoring system contain? **0**

List the frequency for calibration.  
**N/A**

d) To your knowledge, has **anyone** discharged any un-permitted waste or waste not properly pretreated into the sewer system? [40 CFR 403.179] **NO**

e) Were WWTP personal notified? **N/A**  
-- Prior to discharge to sewer? **N/A**  
-- During or after discharge? **N/A**

Who? **N/A** Date: **N/A** Time: **N/A**

SIU personal who contacted WWTP: **N/A**

Was written notification given to the WWTP **within five (5) working days** of the start of the event? [40 CFR 403.17a] **N/A**

Sent to: **N/A** From: **N/A** Date: **N/A**

f) List any pretreatment changes that were made in the past 12 months.  
**None**

Who was contacted **prior** to implementation of these pretreatment changes?  
**N/A**

**PART VII COMPLIANCE AND ENFORCEMENT**

- a) Has the SIU had any violations since the last inspection? List: **None** **NO**
  
- b) If numeric violations were noted by SIU, was a repeat sample collection and analysis performed within 30 days and the results submitted to the POTW [40 CFR403.12(g)] ? **N/A**
  
- c) Is SIU currently on an administrative order and/or compliance schedule? **NO**
  
- d) If yes, have milestone dates on schedule been met? **N/A**
  
- e) Was escalating enforcement action required to achieve compliance? Describe: **None Required** **NO**

**PART VIII RECOMMENDATIONS, REQUIREMENTS AND COMMENTS:**

**Hazardous waste from Love Canal consists of Debris from wells, Clarifier solids, Filters, and PPE.**

# Appendix H

## 2017 Test and Maintenance of Backflow Prevention Device Reports



# Report on Test and Maintenance of Backflow Prevention Device

Please use a separate form for each device.

For the year 2017

- Initial test - Complete entire form  
 Annual test - Complete Part A only

Public Water Supply <b>CITY OF NIAGARA FALLS</b>		Account No.	County <b>NIAGARA</b>	Block	Lot
Facility Name <b>GLENN SPRINGS REMEDIATION</b>			Location of Device <b>TREATMENT BLDG (MECH. ROOM)</b>		
Address <b>805 95<sup>TH</sup> ST. NIAGARA FALLS</b>					
Street	City	Zip			
Device Information	Manufacturer <b>WATTS</b>	Type <input checked="" type="checkbox"/> RPZ <input type="checkbox"/> DCV	Model <b>909</b>	Size (in inches) <b>3"</b>	Serial Number <b>192775</b>
Check Valve No. 1		Check Valve No. 2		Differential Pressure Relief Valve	Line Pressure <b>91</b> psi
Test before repair	Leaked <input type="checkbox"/> Closed tight <input checked="" type="checkbox"/>	Leaked <input type="checkbox"/> Closed tight <input checked="" type="checkbox"/>	Opened at <b>2.0</b> psid		Date <b>03 15 17</b> M D Y
	Pressure drop across first check valve <b>6.6</b> psid				
Describe repairs and materials used					Repaired by Name _____ Lic # _____ Date repaired: ____   ____   ____ M D Y
Final test	Closed tight <input type="checkbox"/>	Closed tight <input type="checkbox"/>	Opened at _____ psid		Date ____   ____   ____ M D Y
	Pressure drop across first check valve _____ psid				
Water Meter Number <b>31923329</b>		Meter Reading <b>0174660 516905</b>		Type of Service: (check one) <input checked="" type="checkbox"/> Domestic <input type="checkbox"/> Fire <input type="checkbox"/> Other _____	
Remarks (Describe deficiencies: bypasses, outlets before the device, connections between the device and point of entry, missing or inadequate airgaps, etc.)					
Certification: This device <input checked="" type="checkbox"/> meets, <input type="checkbox"/> does NOT meet, the requirements of an acceptable containment device at the time of testing I hereby certify the foregoing data to be correct.					
Print Name <b>DAVID A. GOLDBA</b>		Certified Tester No. <b>5805</b>		Signature <i>[Signature]</i> Expiration Date <b>04.30.17</b>	
Property owners (or owners agent) certification that test was performed:					
Print Name <b>David Coszutt</b>		Title <b>Tech</b>		Signature <i>[Signature]</i> Telephone <b>716, 9985804</b>	

Certification that installation is in accordance with the approved plans.

(To be completed by the design engineer or architect or water supplier.)

I hereby certify that this installation is in accordance with the approved plans.

Name	Title	Date	NYS DOH Log #		
License Number	Phone ( )	____   ____   ____ m d y	_____		
Representing	Describe minor installation changes				
Address					
City				State	Zip
Signature _____					

NOTE: Send one completed copy to the designated health department representative and one copy to the water supplier within 30 days of the testing device.



# Report on Test and Maintenance of Backflow Prevention Device

Please use a separate form for each device.

For the year 2017

- Initial test - Complete entire form  
 Annual test - Complete Part A only

Public Water Supply <u>CITY OF NIAGARA FALLS</u>		Account No.	County <u>NIAGARA</u>	Block	Lot
Facility Name <u>GLENN SPRINGS REMEDIATION</u>			Location of Device <u>TREATMENT BAY (WASH DOWN)</u>		
Address <u>805 95<sup>TH</sup> ST. NIAGARA FALLS</u>		City	Zip		
Device Information	Manufacturer <u>WATTS</u>	Type <input checked="" type="checkbox"/> RPZ <input type="checkbox"/> DCV	Model <u>009M3QT</u>	Size (in inches) <u>3/4"</u>	Serial Number <u>61327</u>
	Check Valve No. 1	Check Valve No. 2	Differential Pressure Relief Valve	Line Pressure <u>80</u> psi	
Test before repair	Leaked <input checked="" type="checkbox"/> Closed tight <input checked="" type="checkbox"/>	Leaked <input type="checkbox"/> Closed tight <input checked="" type="checkbox"/>	Opened at <u>2.0</u> psid	Date <u>03 15 17</u> M D Y	
	Pressure drop across first check valve <u>6.4</u> psid				
Describe repairs and materials used				Repaired by Name _____ Lic # _____ Date repaired: ____ M ____ D ____ Y	
				Date ____ M ____ D ____ Y	
Final test	Closed tight <input type="checkbox"/> Pressure drop across first check valve _____ psid	Closed tight <input type="checkbox"/>	Opened at _____ psid	Date ____ M ____ D ____ Y	
Water Meter Number <u>N/A</u>	Meter Reading <u>N/A</u>	Type of Service: (check one) <input checked="" type="checkbox"/> 9 Domestic <input checked="" type="checkbox"/> 9 Fire <input checked="" type="checkbox"/> 9 Other <u>PROCESS</u>			
Remarks (Describe deficiencies: bypasses, outlets before the device, connections between the device and point of entry, missing or inadequate airgaps, etc.)					
Certification: This device <input checked="" type="checkbox"/> meets, <input type="checkbox"/> does NOT meet, the requirements of an acceptable containment device at the time of testing. I hereby certify the foregoing data to be correct.					
Print Name <u>JOHN A. GOCHA</u>		Certified Tester No. <u>5808</u>	Signature <u>[Signature]</u>	Expiration Date <u>04, 30, 17</u>	
Property owners (or owners agent) certification that test was performed:					
Print Name <u>Daniel Ciavatti</u>		Title <u>Tech</u>	Signature <u>[Signature]</u>	Telephone <u>716, 998 5804</u>	

Certification that installation is in accordance with the approved plans.

(To be completed by the design engineer or architect or water supplier.)

I hereby certify that this installation is in accordance with the approved plans.

Name	Title	Date	NYS DOH Log #
License Number	Phone ( )	m d y	
Representing	Describe minor installation changes		
Address			
City State Zip			
Signature			

NOTE: Send one completed copy to the designated health department representative and one copy to the water supplier within 30 days of the testing device.



# Report on Test and Maintenance of Backflow Prevention Device

Please use a separate form for each device.

For the year 2017

- Initial test - Complete entire form  
 Annual test - Complete Part A only

Public Water Supply <u>CITY OF NIAGARA FALLS</u>		Account No.		County <u>NIAGARA</u>	Block	Lot
Facility Name <u>GLENN SPRINGS REMEDIATION</u>				Location of Device		
Address <u>205 95TH ST. NIAGARA FALLS</u>				<u>TREATMENT BLDG (L BEDS)</u>		
Device Information		Manufacturer <u>WATTS</u>	Type <input checked="" type="checkbox"/> RPZ <input type="checkbox"/> DCV	Model <u>009M2QT</u>	Size (in inches) <u>2"</u>	Serial Number <u>179645</u>
Check Valve No. 1		Check Valve No. 2		Differential Pressure Relief Valve		Line Pressure _____ psi
Test before repair	Leaked <input type="checkbox"/>	Leaked <input type="checkbox"/>	Opened at <u>2.2</u> psid		Date	
	Closed tight <input checked="" type="checkbox"/>	Closed tight <input checked="" type="checkbox"/>			<u>03 15 17</u> M D Y	
Pressure drop across first check valve <u>6.7</u> psid						
Describe repairs and materials used					Repaired by	
					Name _____ Lic # _____ Date repaired: _____ M D Y	
Final test	Closed tight <input type="checkbox"/>	Closed tight <input type="checkbox"/>	Opened at _____ psid		Date	
	Pressure drop across first check valve _____ psid				_____ M D Y	
Water Meter Number <u>N/A</u>		Meter Reading <u>N/A</u>		Type of Service: (check one) <input type="checkbox"/> Domestic <input type="checkbox"/> Fire <input checked="" type="checkbox"/> Other <u>PROCESS</u>		
Remarks (Describe deficiencies: bypasses, outlets before the device, connections between the device and point of entry, missing or inadequate airgaps, etc.)						
Certification: This device <input checked="" type="checkbox"/> meets, <input type="checkbox"/> does NOT meet, the requirements of an acceptable containment device at the time of testing. I hereby certify the foregoing data to be correct.						
Print Name <u>John A. Golsa</u>		Certified Tester No. <u>5808</u>		Signature 		Expiration Date <u>04, 30, 17</u>
Property owners (or owners agent) certification that test was performed:			Signature 		Telephone <u>716, 998 5004</u>	
Print Name <u>David Coatt</u>			Title <u>Tech</u>			

Certification that installation is in accordance with the approved plans.

(To be completed by the design engineer or architect or water supplier.)

I hereby certify that this installation is in accordance with the approved plans.

Name	Title	Date	NYS DOH Log #
License Number	Phone ( )	m d y	
Representing	Describe minor installation changes		
Address			
City	State	Zip	
Signature			



# Report on Test and Maintenance of Backflow Prevention Device

Please use a separate form for each device.

For the year 2017

- Initial test - Complete entire form  
 Annual test - Complete Part A only

Public Water Supply <u>CITY OF NIAGARA FALLS</u>		Account No.		County <u>NIAGARA</u>	Block	Lot
Facility Name <u>GLENS SPRINGS REMEDIATION</u>				Location of Device <u>MAINTENANCE BLDG.</u>		
Address <u>805 95TH ST. NIAGARA FALLS</u>		City		Zip		
Device Information	Manufacturer <u>WATTS</u>	Type <input checked="" type="checkbox"/> RPZ <input type="checkbox"/> DCV	Model <u>LF009M2QT</u>	Size (in inches) <u>1"</u>	Serial Number <u>029613</u>	
	Check Valve No. 1	Check Valve No. 2	Differential Pressure Relief Valve		Line Pressure <u>91</u> psi	
Test before repair	Leaked <input type="checkbox"/> Closed tight <input checked="" type="checkbox"/>	Leaked <input type="checkbox"/> Closed tight <input checked="" type="checkbox"/>	Opened at <u>2.12</u> psid		Date <u>03 15 17</u> M D Y	
	Pressure drop across first check valve <u>6.7</u> psid					
Describe repairs and materials used					Repaired by Name _____ Lic # _____ Date repaired: _____ M D Y	
					Date _____ M D Y	
Final test	Closed tight <input type="checkbox"/> Pressure drop across first check valve _____ psid	Closed tight <input type="checkbox"/>	Opened at _____ psid		Date _____ M D Y	
Water Meter Number <u>34592315</u>		Meter Reading <u>066910</u>		Type of Service: (check one) <input checked="" type="checkbox"/> Domestic <input checked="" type="checkbox"/> Fire <input checked="" type="checkbox"/> Other: _____		
Remarks (Describe deficiencies: bypasses, outlets before the device, connections between the device and point of entry, missing or inadequate airgaps, etc.)						
Certification: This device <input checked="" type="checkbox"/> meets, <input type="checkbox"/> does NOT meet, the requirements of an acceptable containment device at the time of testing. I hereby certify the foregoing data to be correct.						
Print Name <u>JOHN A. GOCCA</u>		Certified Tester No. <u>5808</u>		Signature <i>[Signature]</i>		Expiration Date <u>04, 30, 17</u>
Property owners (or owners agent) certification that test was performed: <u>Daniel Cornitt</u>			Title <u>Test</u>		Signature <i>[Signature]</i>	
					Telephone <u>716 998 5004</u>	

Certification that installation is in accordance with the approved plans.

(To be completed by the design engineer or architect or water supplier.)

I hereby certify that this installation is in accordance with the approved plans.

Name	Title	Date	NYS DOH Log #
License Number	Phone ( )	m d y	
Representing	Describe minor installation changes		
Address			
City	State	Zip	
Signature			

NOTE: Send one completed copy to the designated health department representative and one copy to the water supplier within 30 days of the testing device.



# Report on Test and Maintenance of Backflow Prevention Device

Please use a separate form for each device.

For the year 2017

- Initial test - Complete entire form  
 Annual test - Complete Part A only

Public Water Supply <u>CITY OF NIAGARA FALLS</u>		Account No.	County <u>NIAGARA</u>	Block	Lot
Facility Name <u>GLENN SPRINGS REMEDIATION</u>			Location of Device <u>LOCKER ROOM</u>		
Address <u>805 95<sup>TH</sup> ST. NIAGARA FALLS</u>					
Device Information		Manufacturer <u>WATTS</u>	Type <input checked="" type="checkbox"/> RPZ <input type="checkbox"/> DCV	Model <u>909</u>	Size (in inches) <u>1 1/2"</u>
				Serial Number <u>364807</u>	
Check Valve No. 1		Check Valve No. 2		Differential Pressure Relief Valve	
Test before repair	Leaked <input checked="" type="checkbox"/>	Leaked <input type="checkbox"/>	Opened at <u>2.1</u> psid		Date
	Closed tight <input checked="" type="checkbox"/>	Closed tight <input checked="" type="checkbox"/>			<u>03 15 17</u>
Pressure drop across first check valve <u>7.12</u> psid				M D Y	
Describe repairs and materials used					Repaired by
					Name _____
				Lic # _____	
				Date repaired:	
				<input type="text"/> <input type="text"/> <input type="text"/> M D Y	
Final test	Closed tight <input type="checkbox"/>	Closed tight <input type="checkbox"/>	Opened at _____ psid		Date
	Pressure drop across first check valve _____ psid			<input type="text"/> <input type="text"/> <input type="text"/> M D Y	
Water Meter Number <u>31671117</u>		Meter Reading <u>0109770</u>		Type of Service: (check one)	
				<input checked="" type="checkbox"/> Domestic <input checked="" type="checkbox"/> Fire <input checked="" type="checkbox"/> Other _____	
Remarks (Describe deficiencies: bypasses, outlets before the device, connections between the device and point of entry, missing or inadequate airgaps, etc.)					
Certification: This device <input checked="" type="checkbox"/> meets, <input type="checkbox"/> does NOT meet, the requirements of an acceptable containment device at the time of testing I hereby certify the foregoing data to be correct.					
Print Name <u>JOHN A. GOLISA</u>		Certified Tester No. <u>5808</u>		Signature <u>[Signature]</u>	
				Expiration Date <u>04.30.17</u>	
Property owners (or owners agent) certification that test was performed:					
Print Name <u>Daniel C. Smith</u>		Title <u>Tech</u>		Signature <u>[Signature]</u>	
				Telephone <u>716 998 5804</u>	

Certification that installation is in accordance with the approved plans.

(To be completed by the design engineer or architect or water supplier.)

I hereby certify that this installation is in accordance with the approved plans.

Name		Title		Date			NYS DOH Log #		
License Number		Phone ( )		m d y					
Representing			Describe minor installation changes						
Address									
City		State							Zip
Signature									

NOTE: Send one completed copy to the designated health department representative and one copy to the water supplier within 30 days of the testing device.

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