FIFTH FIVE-YEAR REVIEW REPORT FOR LOVE CANAL SUPERFUND SITE CITY OF NIAGARA FALLS, NIAGARA COUNTY, NEW YORK

Prepared by

U.S. Environmental Protection Agency
Region 2
New York, New York

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Date

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LIST OF ABBREVIATIONS AND ACRONYMS

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CJ	Consent Judgment
DM	EPA 1982 Decision Memorandum
EDA	Emergency Declaration Area
ESD	Explanation of Significant Differences
EPA	U.S. Environmental Protection Agency
FYR	Five-Year Review
GSH	Glenn Springs Holdings, Inc.
HD	NYSDOH Decision on Habitability of the ED
ICs	Institutional Controls
LTMP	Long-Term Monitoring Program
LC	Love Canal
LCARA	Love Canal Area Revitalization Agency
LCHS	1988 Love Canal EDA Habitability Study
LCL	Love Canal Landfill
LCTF	Love Canal Leachate Collection and Treatment Facility
MCL	Maximum Contaminant Level
NAPL	Non-Aqueous Phase Liquid
NCP	National Contingency Plan
NFBE	Niagara Falls Board of Education
NPL	National Priorities List
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
O&M	Operation and Maintenance
OU	Operable Unit
OXY	Occidental Chemical Corporation
PAH	Polycyclic Aromatic Hydrocarbon
PCD	Partial Consent Decree
PCB	Polychlorinated Biphenyl
PFAS	Per- and Poly-Fluoroalkyl Substances
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctane Sulfonic Acid
ppb	Part per Billion
PRP	Potentially Responsible Party
PRR	Periodic Review Reports
RPM	Remedial Project Manager
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act
SVOC	Semi-Volatile Organic Compound
VOC	Volatile Organic Compound

I. INTRODUCTION

The purpose of a five-year review (FYR) is to evaluate the implementation and performance of a remedy in order to determine if the remedy is and will continue to be protective of human health and the environment. The methods, findings and conclusions of FYRs are documented in FYR reports, such as this one. In addition, FYR reports identify issues found during this review, if any, and document recommendations to address them.

The U.S. Environmental Protection Agency (EPA) is preparing this FYR review, pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 121, consistent with the National Contingency Plan (NCP) (40 CFR Section 300.430(f)(4)(ii)) and considering EPA policy.

This is the fifth FYR for the Love Canal Superfund site (Site), located in the City of Niagara Falls, Niagara County, New York. It is the policy of the EPA to conduct FYRs of pre-Superfund Amendments and Reauthorization Act of 1986 (SARA) remedies which result in hazardous substances remaining on-site. The triggering action for this policy review is the completion date of the previous FYR. Previous FYRs for the LC Site have defined Operable Unit One (OU1) as the sitewide OU; this FYR addresses OU1.

The EPA FYR team was led by Damian Duda (supervisor) and includes Liana Agrios (hydrogeologist), Marian Olsen (human health risk assessor), Abigail Debofsky (ecological risk assessor), and Mike Basile (community involvement coordinator (CIC)). The relevant entities, such as the potentially responsible parties (PRPS), the New York State Department of Environmental Conservation (NYSDEC) and the New York State Department of Health (NYSDOH), were notified of the initiation of this FYR. The FYR process began on July 18, 2023.

Site Background

The Site is located in an urban area in the southeast corner of the City of Niagara Falls, approximately 1/4 mile north of the Niagara River (see **Figure 1**). Approximately 2,000 people live within a mile of the Love Canal Landfill (LCL) area and are serviced by a public water supply system.

The Site includes a 3,200 feet-by-80 feet canal section (one of two discontinuous sections) that was excavated by Mr. William T. Love in the late 1800's for a proposed direct current hydroelectric power project. Subsequently, the project was abandoned.

Between 1942 and 1952, the Hooker Chemicals & Plastics Corporation (now Occidental Chemical Corporation (OXY)) disposed of approximately 22,000 tons of drummed and liquid chemical wastes, including polycyclic aromatic hydrocarbons (PAHs), halogenated organics, pesticides, chlorobenzenes and trichlorophenols, containing 2,3,7,8- tetrachlorodibenzo-p-dioxin (TCDD or dioxin), into the abandoned canal.

In 1953, when the dumping ceased, the original disposal area was covered with soil and deeded by Hooker Chemicals to the Niagara Falls Board of Education (NFBE). Subsequently, a

residential neighborhood, along with the 99th Street School, was developed in the area adjacent to the original disposal site. The houses which were built immediately around the LCL were identified as the Ring 1 and Ring 2 homes. The term "Emergency Declaration Area" (EDA) had been used to describe the entire 350-acre area, primarily consisting of residential neighborhoods, which developed around the original LCL. The vast majority of families in this area were relocated as part of two presidential emergency declarations (see discussion below).

Subsequently, in September 1988, after its review of EPA's Habitability Study, the NYSDOH issued its Habitability Decision which indicated that some of the former EDA neighborhood could be resettled for residential purposes and others could be used for commercial/industrial purposes only.

FIVE-YEAR REVIEW SUMMARY FORM

SITE IDENTIFICATION		
Site Name: Love Canal		
EPA ID: NYD980768717		
Region: 2	**State:** NY	**City/County:** Niagara Falls/Niagara
SITE STATUS		
NPL Status: Deleted		
Multiple OUs? Yes	**Has the site achieved construction completion?** Yes	
REVIEW STATUS		
Lead agency: EPA		
Author name (Federal or State Project Manager): Damian Duda		
Author affiliation: EPA		
Review period: 7/18/2023 – 01/15/2024		
Date of site inspection: 11/30/2023		
Type of review: Policy		
Review number: 5		
Triggering action date: 4/11/2019		
Due date *(five years after triggering action date)*: 4/11/2024		

II. RESPONSE ACTION SUMMARY

Basis for Taking Action

Problems with odors and residues in the basements and backyards of residential properties in the area were first reported in the 1970s. Various studies verified that numerous toxic chemicals had migrated into the surrounding area directly adjacent to the LCL. Dioxin and other contaminants also migrated from the original disposal area to the sanitary and storm sewers which extended beyond the boundary of the original disposal area and had outfalls into nearby Black, Bergholtz and Cayuga creeks. Extensive investigation of the groundwater was conducted via the numerous monitoring wells, both on-site and off-site.

In 1978, NYSDOH identified more than 80 chemicals in the original disposal area and adjacent soils. EPA and NYSDOH sampled indoor air, stream sediments, biota, soils, groundwater, surface water and residential sumps which showed significant chemical contamination in the area of the Rings I and II homes, adjacent to the original disposal area. Early investigations led to two presidential declarations of emergency for the Site in 1978 and 1980 (see discussion below) which provided the basis for the implementation of several early response actions.

The May 1982 Environmental Monitoring at Love Canal report identified numerous organic chemicals at high levels in the LCL, including dioxin, total BHCs, beta BHC, gamma BHC, chlorobenzene, 1 ,2-dichlorobenzene, 1,2,4-trichlorobenzene, 1,2,3,4-tetrachlorobenzene and 2-chloronaphthalene. 2-chlorotoluene, monochlorobenzene and 4-chlorotoluene. No ecological risk assessment was performed as part of the Environmental Monitoring investigation.

Even though the nearby 93rd Street School was not affected, specifically, by the LCL contamination, it was eventually re-classified as part of the Love Canal project. The baseline risk assessment for the 93rd Street School site found risks posed primarily by arsenic, PAHs and dioxin, and the primary route of exposure for these contaminants was through inadvertent ingestion of soils.

Response Actions

In August 1978, the New York State (NYS) Commissioner of Health ordered the closure of the 99th Street School and recommended that pregnant women and children under two years of age who lived in the Rings I and II homes immediately evacuate the area and that residents avoid the use of their basements as much as possible and avoid consuming home-grown produce.

Also, in August 1978, President Carter issued the first of two emergency declarations at the Site. The first emergency declaration provided Federal funding for remedial work to contain the chemical wastes at the Site and for the relocation of the residents living in the areas identified as Rings I and II, closest to the LCL.

In May 1980, President Carter issued the second emergency declaration at the Site, which specifically established the boundaries of the EDA and authorized $20 million of federal funds for the purchase of homes for those residents who were evacuated and/or who wanted to leave. All but two families within Rings I and II were evacuated. After the evacuation, the Rings I and

II vacant houses were demolished. Overall, approximately 950 families, of the more than 1,050 families affected, were eventually evacuated.

In addition, in 1980, a 22-acre clay cap, with a minimum three-foot thickness, was installed over the original disposal area after a barrier drain collection system was installed to intercept and collect any chemicals that were migrating from the area.

In 1981, the EPA proposed adding the Site to the National Priorities List (NPL), making it available for funding under the Superfund legislation. The Site was added to the NPL in 1983.

By 1982, a number of remedial cleanup measures had been conducted at the Site by NYSDEC and its contractors. The Rings I and II homes and the 99th Street School, adjacent to the LCL had been demolished. These early remedial activities were formally memorialized and documented by the EPA in its 1982 Decision Memorandum which identified further necessary response actions. These future cleanup measures were specifically identified in the succeeding Records of Decision (RODs) which were issued for the Site and are discussed below.

In 1983, the EPA initiated the Love Canal Habitability Study (LCHS) to determine whether any chemicals from the original disposal area had migrated or were transported to the EDA in order to determine whether the EDA areas had been specifically impacted by the original disposal area. Love Canal Indicator Chemicals (LCICs) were identified out of the total list of disposed chemicals: total BHCs, beta-BHC, gamma-BHC, chlorobenzene, 1,2-dichlorobenzene, 1,2,4-trichlorobenzene, 1,2,3,4-tetrachlorobenzene, 2-chloronaphthalene, 2-chlorotoluene, monochlorobenzene and 4-chlorotoluene. The LCHS included testing soil and residential indoor air samples in the EDA, and this data was compared to results from other areas located outside of the EDA. In addition, all properties within the EDA had surface soil analyzed for dioxin.

In December 1984, technical and structural modifications were made to the Love Canal Treatment Facility (LCTF). In 1985, a second and expanded engineered 40-acre cap consisting of a 40-millimeter high-density polyethylene liner was installed over the already existing clay cap to further reduce infiltration of precipitation. Additionally, approximately 18 inches of clean soil and vegetation were installed over the 40-acre cap to create the present configuration. The overall fenced LCL area is 70 acres and includes a vegetated buffer zone outside of the boundaries of the 40-acre cap.

In May 1985, the EPA issued a ROD to remediate the sediments in the sewers and the creeks in the EDA. The selected remedy for this ROD included the following:

- Hydraulically cleaning the sewers;
- Dredging and hydraulically cleaning the Black Creek culverts;
- Removing Black and Bergholtz creeks' sediments with dioxin concentrations exceeding one part per billion (ppb);
- Constructing an on-site interim storage facility for the creek and sewer sediments; and
- Remediating the 102nd Street outfall area (which was subsequently addressed under the remedial action performed on the 102nd Street Landfill Superfund site, a separate NPL site).

In October 1987, the EPA issued a second ROD to address the destruction and disposal of the dioxin-contaminated sediments from the sewers and creeks. This ROD called for the following:

- Construction of an on-site facility to dewater the sewer and creek sediments and to contain the dewatered sediments;
- Construction of a separate on-site facility to treat the dewatered sediments through high temperature thermal destruction;
- On-site thermal treatment of the residuals stored at the Site from the leachate treatment facility and other associated Love Canal waste materials; and
- On-site disposal of any nonhazardous residuals from the thermal treatment or incineration process.

In July 1988, the EPA issued the final LCHS. In September 1988, using the results of the LCHS, the NYS Commissioner of Health issued a Decision on Habitability (HD), which identified appropriate land uses for the seven designated areas of the EDA. Areas 1 through 3 were declared not suitable for residential use unless remediated, *i.e.*, non-habitable, but were suitable for commercial and/or industrial use. Areas 4 through 7 were deemed habitable, *i.e.*, suitable for residential use (see **Figure 1**).

In September 1988, the EPA issued a ROD, selecting a remedy for the 93rd Street School site. This remedy included excavation of approximately 7,500 cubic yards of contaminated soils, followed by on-site solidification/stabilization and placement of this material with a low permeability cover.

In June 1989, the EPA published an Explanation of Significant Differences (ESD) to the 1985 and 1987 RODs, which specified that creek sediments were to be dewatered at creek side, placed in polyethylene bags along with the stored sewer sediments and then transported to OXY's Niagara Falls Main Plant for temporary storage, followed by thermal destruction in a high temperature thermal destruction unit to be constructed at the plant. In June 1989, a Partial Consent Decree (PCD) was lodged between the United State and Occidental Chemical Corporation regarding the cleanup of the contaminated sewers and creeks.

In May 1991, the EPA issued an amendment to the 1988 ROD for the 93rd Street School (1991 Amendment), which modified the 1988 remedy to require that all excavated soils be disposed of off-site at approved disposal facilities.

In November 1996, the EPA issued a second ESD for the 1987 ROD which authorized thermal treatment and/or land disposal of the stored Love Canal waste materials at an off-site commercial incinerator and landfill rather than at OXY's Niagara Falls Main Plant.

In December 1998, the EPA issued a third ESD which provided notice that the EPA was granting a treatability variance to OXY to permit the stored Love Canal waste materials, containing between one ppb and 10 ppb of dioxin, to be disposed at a commercial hazardous waste landfill without treatment. Materials containing dioxin at concentrations greater than 10 ppb were required to be incinerated, with residues approved for disposal at a permitted landfill.

Status of Implementation

With the exception of the ongoing operations of the LCTF and the continued comprehensive groundwater monitoring, all remedial activities have been completed for the Site. Since there have been many remedial activities conducted at the Site after the original presidential emergency declarations in 1978, please consult **Table 1**: Chronology of Love Canal Site Events in **Appendix B** and **Appendix C** (References) for a more detailed history of the various response actions, remedial activities, other Site actions, as well as reports and documents issued for the Site.

The Love Canal Area Revitalization Agency (LCARA), a government agency, was established by New York Governor, Hugh Carey, on June 18, 1980, to organize the rehabilitation effort of the properties in the EDA. As outlined in SARA, EPA, through two separate cooperative agreements with LCARA, was able to fund 1) the purchase and 2) the maintenance of many of the vacant homes in the EDA. LCARA rehabilitated and sold the majority of the homes in EDA 4 and 5. LCARA had other homes in the EDA demolished as a result of safety concerns to the surrounding community.

Overall, LCARA demolished over 250 homes and rehabilitated and sold over 260 homes. By 2003, all rehabilitation, demolition and sale efforts of LCARA had been completed. LCARA was formally abolished on August 31, 2003, by the NYS legislature.

Institutional Controls

The NFBE and Niagara Falls are the owners of the property within the containment area of LCL. Niagara Falls granted NYS a permanent easement on the Site property, providing NYS with exclusive use and occupancy of the Site property. NYS, pursuant to a 1994 Consent Judgment (CJ), related to the original 1989 Partial Consent Decree (PCD), granted OXY exclusive use and occupancy of the Site property for the purpose of providing continued O&M and groundwater monitoring. OXY will retain exclusive use and occupancy as long as the CJ remains in effect.

Institutional controls (ICs), in the form of deed notices and zoning restrictions, discussed below, are in place on the parcels in EDA Areas 1 through 3 in order to comply with the NYS HD, identifying commercial and/or industrial use only for EDA Areas 1 through 3, unless the parcels are remediated.

The ICs are maintained by 1) formal notices that were placed on the deeds for certain parcels and 2) the area zoning in order to comply with the original NYS HD. The deeds also indicate that all identified use limitations shall run with the land and bind the current owner and any successors in perpetuity or until such time as NYSDEC shall determine that such ICs are no longer necessary for the protection of human health and the environment. If any use other than what is specified above, *i.e.*, residential, is considered for these properties, a minimum of six inches of surface soil must be removed and a minimum of six inches of new clean soil must be placed back on the property before any such use can be initiated. Prior to any redevelopment in this area, EPA and NYSDEC will be notified about its intended use.

NYSDEC is currently evaluating the possibility of placing Environmental Notices on the 12

remaining occupied residential properties located in EDA Areas 2 and 3. These Notices would reduce the potential that future owners and/or tenants when purchasing or leasing the affected properties would do so without knowledge of the HD restrictions placed on residential use in EDA Areas 2 and 3. There are no occupied residential properties in EDA Area 1.

Operation, Monitoring and Maintenance

In April 1995, the day-to-day O&M of the Site was transferred from NYSDEC to OXY, reflecting the 1994 CJ, with NYSDEC oversight. Currently, Glenn Springs Holdings, Inc. (GSH), a subsidiary of Occidental Petroleum Corporation, contracts with Geosyntec to perform the daily operation, maintenance and monitoring activities and prepare the annual Periodic Review Reports (PRRs) or O&M reports.

The O&M of the remedial systems at the Site ensures that there is no off-site migration of chemical contaminants from the Site. **Figure 2** shows the overall Site plan. The leachate is treated at the on-site treatment facility and, subsequently, discharged into the Niagara Falls sanitary sewer system. Quarterly effluent sampling is conducted. All results are well below the permitted discharge limits.

NYSDEC oversees GSH's O&M activities and provides direction to GSH on the scope and extent of the annual monitoring and reporting tasks, including groundwater quality monitoring at various wells on or around the Site to evaluate the effectiveness of the LCL containment system; groundwater elevation measurement at piezometers located on the Site; O&M of the LCTF; and an annual performance assessment of the LCTF and the associated barrier drain system and appurtenances.

The barrier drain system (northern/central section and southern section) is designed to collect overburden groundwater and leachate continuously. The system remained operational and functioned, as designed, throughout this FYR period with no major maintenance required. Semiannual inspections of the barrier drain components, including manholes and pump chambers, are conducted (see **Table 2**).

The Site Management Periodic Review Report (i.e., the annual O&M report) that is completed annually by GSH provides an overview of the long-term monitoring program that is in effect for the Site and examines both the hydrogeologic and the chemical data from the Site in order to evaluate the effectiveness of the containment system.

Chemical monitoring is performed annually by sampling select overburden and bedrock monitoring wells. The groundwater samples are analyzed for site-specific volatile organic compound (VOCs), semi volatile organic compounds (SVOCs), pesticides and polychlorinated biphenyls (PCBs).

Both hazardous and nonhazardous wastes are generated from various activities at the Site. During this FYR period, 54,350 pounds of hazardous waste, consisting of granular activated carbon, personal protective equipment, spent filter bags, and general debris were generated. The waste materials were sent off-site, in accordance with applicable laws and regulations, and were disposed through incineration by Veolia ES Technical Solutions.

Potential Site impacts from climate change have been assessed, and the performance of the remedy is currently not at risk from the expected effects of climate change in the region of Niagara Falls and/or near the Site. Please see **Appendix D** for the full climate change assessment.

III. PROGRESS SINCE LAST FIVE-YEAR REVIEW

The fourth FYR concluded that "the implemented remedies for the Site protect human health and the environment." The Site has ongoing O&M activities which are subject to routine modifications and/or adjustments. The previous FYR did not require any formal recommendations or follow-up actions which would be necessary to protect human health or the environment.

Some additional adjustments were suggested:

1) Consider developing separate groundwater contour maps for the overburden aquifer and/or the bedrock aquifer in future annual reports.
   Status: Completed
2) Provide trend analysis of the contaminants in MW-10135, since it continues to be the well that is most impacted.
   Status: Completed-trend analyses for MW-10135 are being included in the PRR.
3) Add MW-10135 to the hydraulic monitoring events in order to ensure that there is an inward gradient from this well to the barrier wall.
   Status: Completed

IV. FIVE-YEAR REVIEW PROCESS

Community Notification and Involvement

On August 7, 2023, EPA Region 2 posted a notice on its website indicating that it would be reviewing site cleanups and remedies at Superfund sites in New York, New Jersey, Puerto Rico, and the U.S Virgin Islands, including the Love Canal Superfund Site. The announcement can be found at the following web address: https://www.epa.gov/superfund/R2-fiveyearreviews.

In addition, the EPA published a notice on February 2, 2024, on the City of Niagara Falls website, notifying the community of the FYR process. The notice indicated that the EPA would be conducting the fifth FYR of the remedy for the Site to ensure that the implemented remedy remains protective of human health and the environment and is functioning as designed. It also indicated that once the FYR is completed, the results will be made available in the EPA Public Information Office, the local Site repository, located in the EPA's Western New York Public Information Office at 130 South Elmwood Avenue, Suite 427, Buffalo, New York 14204. In addition, the notice included the RPM's address, telephone number and e-mail address for questions related to the FYR process for the Site.

Data Review

Appendix C of this FYR presents a listing of many of the Site documents that have been issued since 1978, according to subject, and provides a comprehensive summary of the major activities that have been conducted at the Site during the more than 40-year period since the Site was first identified.

Groundwater Treatment System and Effluent Sampling

The LCTF (see **Figure 3**) consists of the following: clarification through gravity settling of the collected leachate which separates out the sludges and non-aqueous phase liquids (NAPLs) from the contaminated wastewater; removal of solids through bag filtration; and filtration of organics through 40,000 pounds of granular activated carbon prior to effluent discharge to the sanitary sewer system under a permit issued by Niagara Falls. Any collected sludges and NAPLs are sent off-site to OXY's permitted Niagara Falls liquids incinerator or to out of state RCRA-permitted incinerators.

During this FYR period, approximately 15,624,065 gallons of groundwater and leachate from the Love Canal and the 102nd Street Landfill sites were treated by the LCTF. During 2022, the LCTF processed a total of 3,937,991 gallons of groundwater and leachate: 1) 3,832,205 gallons from Love Canal and 2) 103,786 gallons from 102nd Street Landfill (see **Table 3**). Sampling of the effluent, discharged to the Niagara Falls Water Board sanitary sewer system, occurs quarterly, as per the Site's Significant Industrial User Permit. For this FYR period, effluent sample results were in compliance with the requirements of the Site's discharge permit.

Groundwater Quality

Chemical monitoring is performed annually by sampling select overburden and bedrock monitoring wells. The groundwater samples are analyzed for site specific VOCs, SVOCs, pesticides and PCBs.

Currently, there are 153 active monitoring wells for the Site (132 overburden and 21 bedrock). Historically, NYSDEC selected the monitoring wells which it would require OXY to sample each year. As of 2010, a list of monitoring wells to be sampled each year was developed and agreed upon by NYSDEC and OXY, which included: 1) 18 named bedrock wells and 2) four named overburden wells. Also, two additional groups of overburden wells were selected to be sampled on a biannual basis: Group I – 17 overburden wells and Group II – eight overburden wells. Additionally, GSH may add other monitoring wells to the annual sampling list which is, ultimately, provided to NYSDEC prior to any sampling activity. An areawide view of the Site (**Figure 4**) identifies the locations of the select groundwater monitoring wells, both inside and outside of the fenced containment area.

The 2022 summary of detected compounds in sampled monitoring wells is presented in **Table 4.** The 2022 data from the overburden and bedrock wells are shown in **Tables 5** and **6.**

Overburden Monitoring Wells

Groundwater analytical results for the overburden monitoring wells during this FYR period are consistent with previous long-term monitoring analytical results and were either non-detect or were detected at low levels with the exception of MW-7115, which is located adjacent to the drum storage facility. Pesticides alpha-BHC (0.030 µg/L) and delta-BHC (0.098 µg/L) exceeded the NYSDEC Class GA Groundwater Standards (0.01 µg/L and 0.04 µg/L, respectively) in 2022. These pesticides were also detected sporadically at low levels in MW-7115 in June 2008 and June 2010.

Groundwater in MW-10135, which is installed in the southwestern portion of the Site in an area of known impacts, had concentrations of VOCs, SVOCs, and pesticides that exceeded the NYSDEC Class GA Groundwater Standards. In 2022, 29 compounds were detected in this well. Some of the highest contaminant exceedances reported during this FYR period include toluene at 25,000 µg/L (2021), benzene at 6,800 µg/L (2021), chlorobenzene at 2,600 µg/L (2022), and napthalene at 2,000 µg/L (2022). Since MW-10135 historically has had the most detected compounds and the highest compound concentrations, a trend analysis of total VOC, SVOC, and pesticide concentrations was performed which demonstrates long-term stability of parameter concentrations. The total concentrations of VOCs and SVOCs in this well have remained stable since the early 1990s and the total concentration of pesticides have fluctuated but with no long-term increasing or decreasing trends observed, since approximately 2005.

Monitoring wells to the west of MW-10135 are sampled annually to ensure that contamination in this area remains isolated. Overburden and bedrock monitoring wells located farther west of MW-10135 (MW-10178A and MW-10278, respectively) have shown no impact which further confirms the contamination at MW-10135 is isolated to the immediate area around the well. In addition, MW-10178B was also sampled and added to the annual monitoring program in April 2022 to monitor groundwater quality in the vicinity of MW-10135. Most constituents were non-detect and concentrations of detected contaminants were well below NYSDEC Class GA Groundwater Standards, which further supports that contamination in MW-10135 is not migrating offsite. MW-10135, MW-10178A, MW-10178B, and MW-10278 will continue to be monitored annually for groundwater quality. Please see the Emerging Contamiants section below.

Bedrock Monitoring Wells

Groundwater analytical results for the bedrock monitoring wells during this FYR period are consistent with previous long-term monitoring analytical results. Contaminant concentrations were either non-detect or detected at low levels. In 2022, one VOC and two SVOCs were detected in bedrock monitoring wells at concentrations greater than the NYSDEC Class GA Groundwater Standards. The exceedances include chloroform at 15 µg/L in MW-10225A, 1,2,4-trichlorobenzene at 5.5 µg/L in MW-10225C and benzoic acid at 37 µg/L in MW-8210. In addition, exceedances of pesticides were reported in several bedrock wells (MW-8210 and MW-9205) upgradient of the waste disposal area. These concentrations are consistent with the low-level concentrations of VOCs, SVOCs, and pesticides sporadically detected in the bedrock wells during past sampling events. Hexachlorobenzene was not detected in MW-10225A or adjacent bedrock monitoring wells MW-10225B and MW-10225C during this FYR period.

Colvin Boulevard Sewer System NAPL Presence

Overburden MW-3 was installed on July 1, 2011, within the bedding material of a repaired sanitary sewer line on Colvin Boulevard. The purpose of this well was to monitor for the presence of residual NAPL that was observed during construction/repair activities in the bedding material. Following well development, MW-3 was monitored for the presence of NAPL on a weekly basis from July 19, 2011 to October 7, 2011. No NAPL or visible sheen was detected during those weekly monitoring events. Based on these results, the conclusion was made that the NAPL, which had been observed sporadically during the sewer repair activities, was likely limited in volume and mobility. Since November 5, 2012, MW-3 has been monitored on a quarterly basis for the presence of NAPL. As of December 2022, no NAPL or visible sheen has been detected in this well.

Emerging Contaminants

In 2020, the NYSDOH adopted a maximum contaminant level (MCL) of 10 nanograms per liter (ηg/L) for both perfluorooctanoic acid (PFOA) and perfluorooctane sulfonic acid (PFOS) and 1 µg/L for 1,4-dioxane. In October 2019, as part of a state-led sampling program, monitoring wells MW-7182, MW-9130, MW-9140, MW-10135, MW-10205, MW-10225C, MW-10278, and MW-6209 were sampled for emerging contaminants, including 1,4-dioxane and per- and poly-fluoroalkyl substances (PFAS). MW-10135 showed PFOS at 11 ηg/L and PFOA at 65 ηg/L, both exceeding the MCL of 10 ηg/L. MW-10135 showed 1-4,dioxane at 2,300 µg/L, exceeding the MCL of 1 µg/L. As stated herein, MW-10135 was the only well which showed exceedances of the emerging contaminants. As part of the groundwater monitoring program, MW-10135 and select monitoring wells will continue to be sampled for the emerging contaminants.

Hydraulic Containment

Hydraulic monitoring consists of water level measurements conducted quarterly from six nested-piezometer strings (1140, 1150, 1160, 1170, 1180, and 1190) as per the NYSDEC-approved Long-Term Groundwater Monitoring Plan, as well as water level measurements collected from four wells (MW-7161, MW-9130, MW-9140, and MW-10135) to demonstrate hydraulic containment created by the barrier drain. MW-10135 was added to the hydraulic monitoring program during the first quarter of 2020 to evaluate the hydraulic gradient in the vicinity of the Site's most impacted monitoring well.

During this FYR period, groundwater contours indicate that there is a minimum of one foot difference in groundwater elevation between the wells on the outside of the barrier drain and the water level within the barrier drain. This indicates that groundwater on the outside of the barrier drain is flowing toward and downward into the barrier drain. In addition, groundwater flow on the inside of the barrier drain is also towards the barrier drain; therefore, the barrier drain and the lateral trenches are capturing both leachate from the landfill area and a portion of groundwater outside the barrier drain. This capture prevents off-site migration of chemicals and off-site groundwater from migrating into the landfill area.

Historically, as discussed above, MW-10135 is the most contaminated of the long-term monitoring wells located within the Love Canal containment area. Although located outside the barrier drain, MW-10135 is within the influence of the barrier drain based on hydraulic monitoring conducted at the adjacent nested-piezometer string 1160, as indicated in the previous (2019) FYR Report. Based on the inward gradient, impacts identified at MW-10135 are being captured by the barrier drain. MW-10135 is also sampled as a representative control well and is used as a comparison well to confirm any potential presence of low levels of contamination that may be found in other monitoring wells.

Site Inspection

A Site inspection of the landfill cap and the LCTF was conducted on November 30, 2023. The Site inspection team included the following personnel: from EPA: Damian Duda (Supervisor), Mike Basile (CIC), Liana Agrios (hydrogeologist) and Abigail Debofsky (ecological risk assessor); from NYSDEC: Andrew Zwack; from GSH: Clint Babcock, Joseph Branch and Tim Bathory; from Geosyntec: Dennis Hoyt, Shawn Gardener and Christa Bucor. GSH together with its contractor, Geosyntec, prepares the annual PRRs or O&M reports.

The LCTF, which includes both the Operations Building and the Administration Building, was inspected, and the various segments of the collection, treatment and discharge process were identified. It was noted during the treatment process tour that very little sludge or NAPL is being generated and collected. The bag filters are changed twice a year, and the spent carbon in one of the two carbon beds is replaced every other year. The entire process treats and discharges approximately 150-175 gallons per minute up to approximately three to four million gallons per year, as reflected in the annual O&M reports.

The inspection team also performed a walk-through across the cap and inspected some of the monitoring wells, particularly MW-10135, wet wells and piezometers, both immediately within the Site fence line and outside the Site fence line in the former EDA. The inspection team also performed a drive-through of the former EDA area, including both the Black and Bergholtz creeks and the 93rd Street School site locations. No deficiencies were observed.

V. TECHNICAL ASSESSMENT

Question A: Is the remedy functioning as intended by the decision documents?

Yes, the remedy is functioning as intended by the 1982 Decision Memorandum,1985 ROD, 1987 ROD, 1988 ROD, 1991 ROD Amendment and the 1989, 1996 and 1998 ESDs.

The remedies involved a number of remedial actions, including installation of a landfill cap, fencing, Site drainage, a leachate collection and treatment system, the cleaning and plugging of the EDA sewers within Rings I and II, the removal of contaminated creek sediments, deed notices and installation of many monitoring wells to identify contaminant concentrations at the edge of the LCL. The remedies described above are all intact and in good repair. The barrier drain is successfully capturing leachate from the Site and preventing off-site migration of chemicals. The data from the on-site monitoring wells and those surrounding the Site indicate

that contaminated groundwater and NAPL releases from the LCL are being contained by the collection and treatment system. Proper ICs are in place. Overall, the remediation system for the Site is functioning as designed. Continued O&M activities at the Site ensure that no exposures to human or environmental receptors will occur in the future.

The Buffalo office of the NYSDEC performs yearly oversight sampling and overview of operations at the LCTF. NYSDEC provides EPA the oversight information, including any split-sampling data, if any, and Site inspections, as well as, its review of GSH PRRs. In each annual O&M report for this FYR period, NYSDEC concluded that, for both inside and outside the containment area, the Site remedy continues to be effective.

The community receives its potable drinking water from the City of Niagara Falls public water supply. The groundwater in the EDA is not used for drinking water purposes. Water level measurements and contaminant concentration data from monitoring wells, located both inside and outside the LCL property throughout the Site, indicate that contaminated groundwater and NAPL released from the LCL are being contained by the collection and treatment system and that exposure to the contaminated groundwater, on-site, is not occurring.

ICs, in the form of deed notices and zoning restrictions, are in place on the parcels of land in EDA Areas 1 through 3 in order to comply with the New York State Habitability Decision, identifying commercial and/or industrial use only, unless the parcels are remediated.

The remedial actions and ICs have addressed or interrupted the direct exposure pathways of direct contact with the contaminated groundwater and soils. The remedies are functioning as intended in the decision documents.

Question B: Are the exposure assumptions, toxicity data, cleanup levels and remedial action objectives used at the time of the remedy, still valid?

As discussed above, remedial actions have been conducted at the Site to interrupt potential exposures and there are no changes in the physical conditions of the site or site uses that would affect the protectiveness of the selected remedy. As described in previous FYRs, some of the exposure assumptions and toxicity values have been updated, however, the process that was used to evaluate risk was valid and there are currently no completed pathways of exposure to contamination at the site. Although land use is not expected to change over the next five years, EPA and the NYSDEC will review any planned development to ensure that the ICs, such as deed restrictions, are enforced.

As discussed in the previous FYR, the 1985 ROD for OU1 did not identify RAOs for the Site. However, the remedial actions completed have interrupted all exposures and continue to prevent off-site migration of contaminants in groundwater. In addition, residents in the area obtain their drinking water from the Niagara Falls public water supply.

Changes in Toxicity Values

The ROD discussed a cleanup goal of 1 ug/L for dioxin in soils and sediments as a basis for taking remedial action. The surface soils and sediments exceeding this value were excavated, treated and disposed of off-site or placed under the LCL cap. There have been no further changes

in the toxicity of this compound that would impact the protectiveness of the remedy.

The 1988 93rd Street School ROD identified several metals (antimony, arsenic, lead, and mercury), PAHs (benzo(a)anthracene, benzo(b)fluoranthene, benzo(a)pyrene, chrysene, and indeno(1,2,3-cd)pyrene), pesticides (BHC isomers) and dioxin as contaminants of concern (COCs). The toxicity assessments for arsenic and mercury are currently being updated through the Agency's Integrated Risk Information System or IRIS process (www.epa.gov/iris). IRIS is the Agency's consensus database of toxicity values for chemical compounds and any changes in the toxicity values will be evaluated in the next FYR. Nevertheless, all contaminated soils located at the 93rd Street School site were excavated, removed and used as alternate grading material below the final cap that was installed at the 102nd Street Landfill Superfund site in 1992. Thus, the remedial action has interrupted potential exposures to soils.

Emerging Contaminants

As stated under Data Review, MW-10135 exhibited concentrations of PFAS and 1,4-dioxane exceeding NYS MCLs. This monitoring well has historically contained the most detected site-related compounds at the highest concentrations. However, as mentioned above, MW-10135 is within the influence of the barrier drain based on hydraulic monitoring conducted. In addition, groundwater at the site is not used for potable purposes and ICs that have been implemented will continue to prevent exposures in the future. Therefore, the detections of emerging contaminants at this monitoring well do not impact protectiveness. Nevertheless, MW-10135 and select monitoring wells will continue to be sampled for the emerging contaminants as part of the groundwater monitoring program.

Vapor Intrusion

Indoor air sampling was performed as part of LCHS which did not find any indoor air issues within the homes in the EDA. The current groundwater VOC data, collected at off-site monitoring wells, are primarily non-detect. Buildings on-site include project administration offices and the LCTF. Consistent with the updated the EPA vapor intrusion guidance (OSWER Publication 9200.2-154), inhabited buildings located more than 100 feet laterally or vertically from known or interpolated soil gas or groundwater are screened from further consideration for monitoring for soil vapors. Since there are no known buildings within this distance, further evaluation of vapor intrusion is not necessary.

Ecological Risk

Ecological risk assessments were not conducted for the Site. However, the potential for exposure to ecological receptors has been eliminated. Specifically, the excavation and removal of the Black and Bergholtz creek bed sediments, as well as the placement of clean backfill and rip/rap in the beds, prevent any exposure to potential residual contamination. Also, substantial portions of the creeks' banks were removed and newly sodded which further assures that no contamination remains. The sewers were scoured of contaminated sediments, and those which were interior to the LCL/Rings I and II were cut off from the LCL EDA. The contaminated soils at the 93rd·Street School were removed. Hence, any potential pathways for ecological receptors have been interrupted.

Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

Based on the evaluation of the potential exposures to human and ecological receptors at the Site, there is no new information which could call into question the protectiveness of this remedy.

VI. ISSUES, RECOMMENDATIONS AND FOLLOW-UP ACTIONS

No issues were identified as part of this FYR.

VII. PROTECTIVENESS STATEMENT

Protectiveness Statement(s)	
Operable Unit: 01	*Protectiveness Determination:* Protective
Protectiveness Statement: The OU-1 remedy at the Love Canal site is protective of human health and the environment.	

Sitewide Protectiveness Statement (if applicable)
Protectiveness Determination: Protective
Protectiveness Statement: The implemented remedies for the Site protect human health and the environment.

VIII. NEXT FIVE-YEAR REVIEW

The next FYR for the Love Canal Superfund site is required five years from the completion date of this FYR.

APPENDIX A

FIGURES

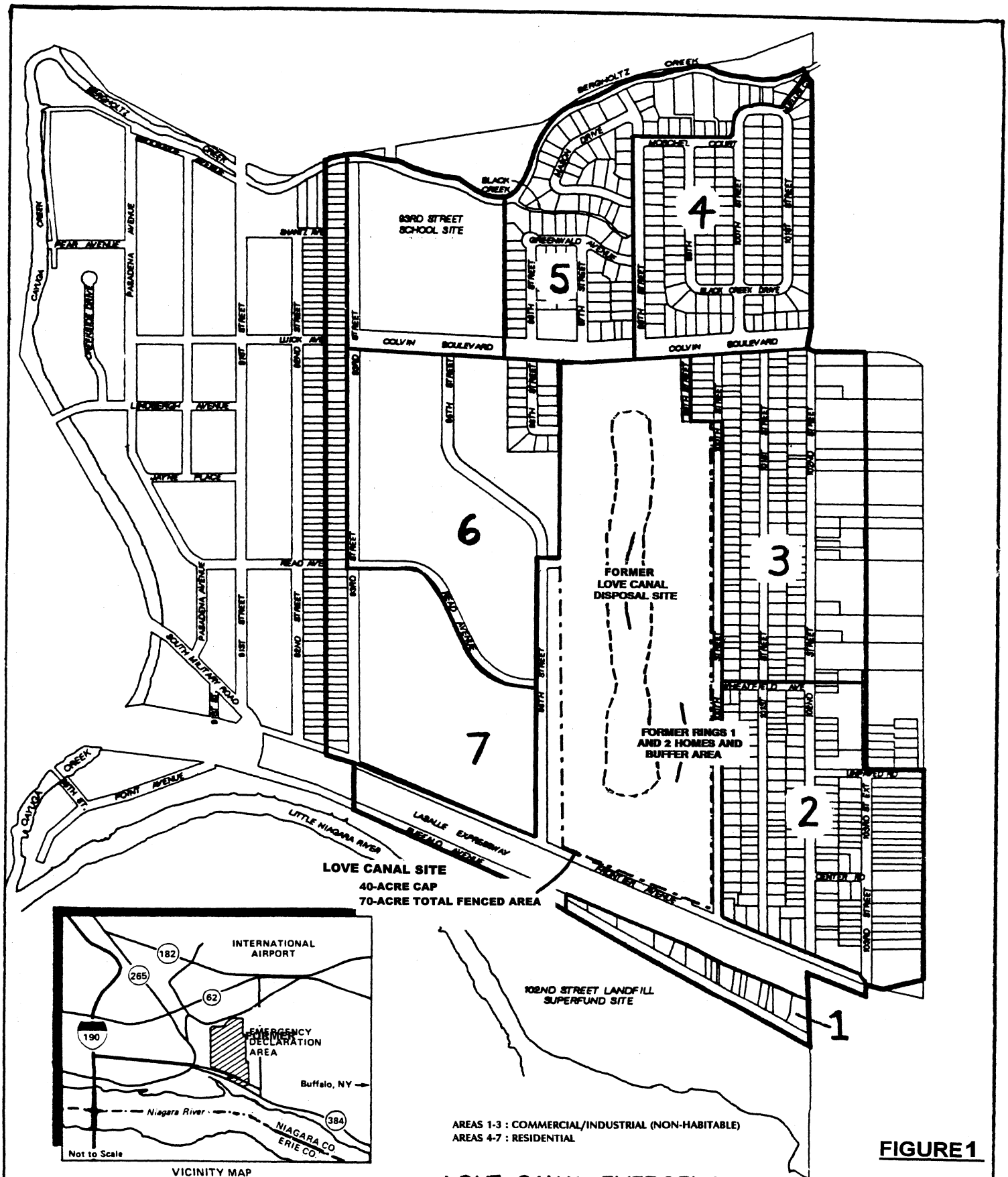


FIGURE 1

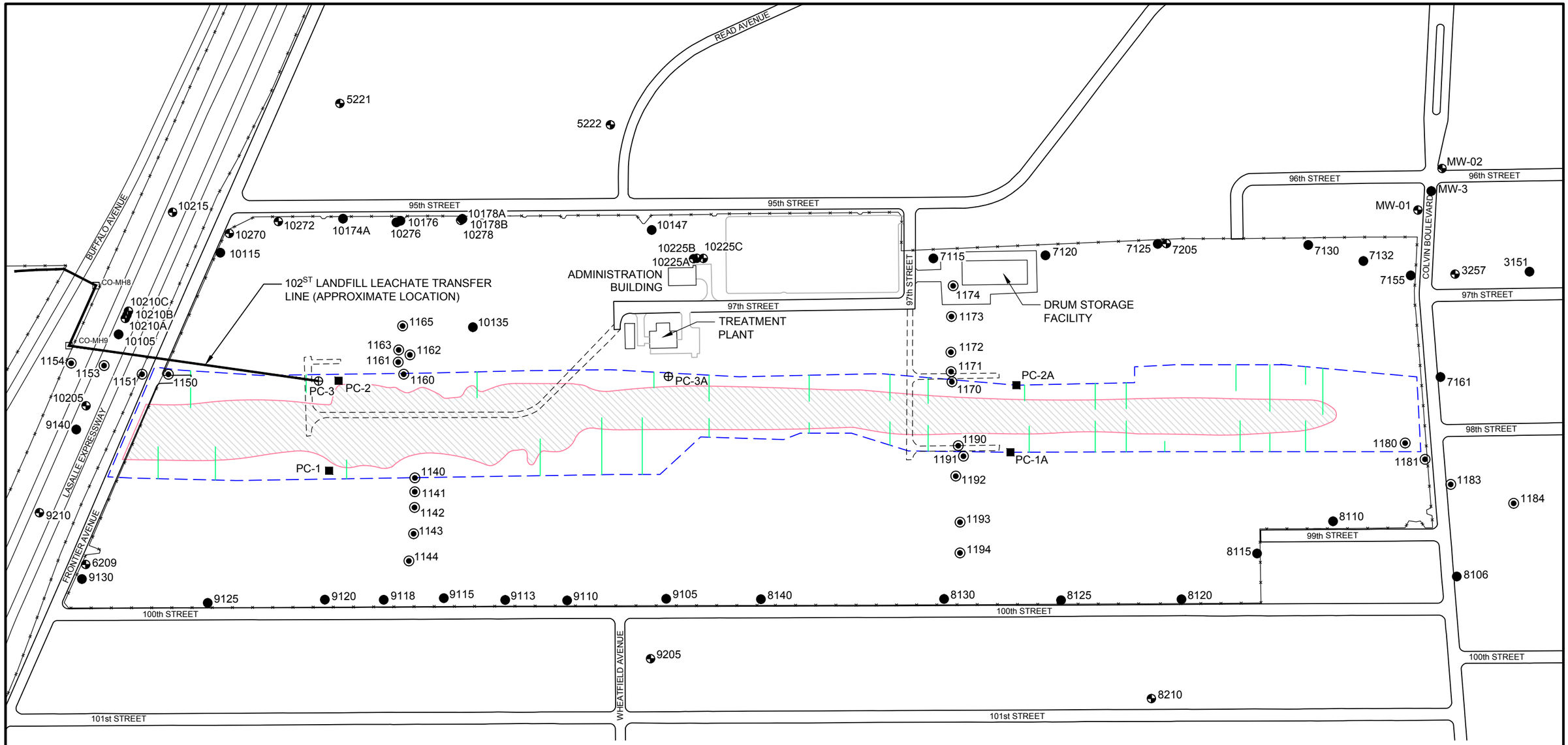
LOVE CANAL EMERGENCY DECLARATION AREA

NIAGARA FALLS, NEW YORK SCALE: 1"=750' (SEVEN EDA NEIGHBORHOODS)

LEGEND

EMERGENCY DECLARATION AREA (EDA) BOUNDARY

SOURCE:
EDA BOUNDARIES TAKEN FROM NEW YORK STATE REAL PROPERTY TAX LAW ARTICLE 17, SECTION 1702



LEGEND

- FENCE LINE
- BARRIER DRAIN
- LATERAL TRENCH
- APPROXIMATE LIMITS OF DISPOSED WASTE
- ■ PC-1 — PUMP CHAMBER FOR LEACHATE COLLECTION
- ⊕ PC-3 — PUMP CHAMBER / UNDERGROUND LEACHATE STORAGE TANK FOR LEACHATE COLLECTION AND TRANSFER
- ◉ 7105 — PIEZOMETER
- ● 9120 — OVERBURDEN OBSERVATION WELL
- ◓ 10270 — BEDROCK OBSERVATION WELL

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

0 250'
SCALE IN FEET

SITE PLAN

GLENN SPRINGS HOLDINGS, INC.
LOVE CANAL SITE
NYSDEC SITE NO. 932020
NIAGARA FALLS, NEW YORK

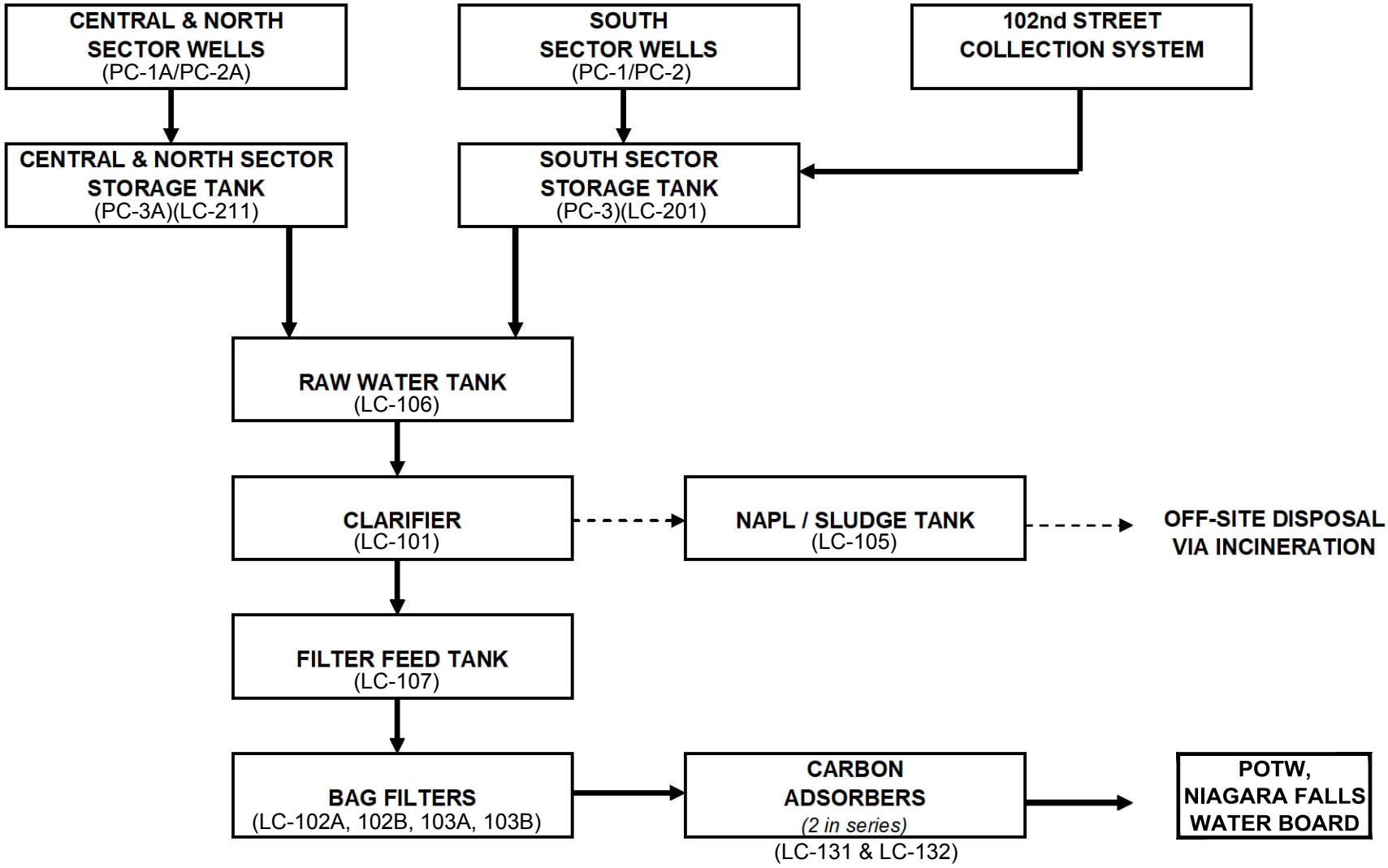
Geosyntec consultants

PROJECT NO: TR1045-01A | JANUARY 2023

FIGURE 2

DATA SOURCE: GHD, 2021 PERIODIC REVIEW REPORT, SITE PLAN, DECEMBER 2021.

\\WATERLOO-01\DATA\PRJ\PROJECTS\TR1045 GSH WNY O&M\09-CADD\01-LOVE CANAL\01 - 2022 PERIODIC REVIEW REPORT\DRAWINGS\SHEETS\TR1045-001 - MJerome 1/25/23



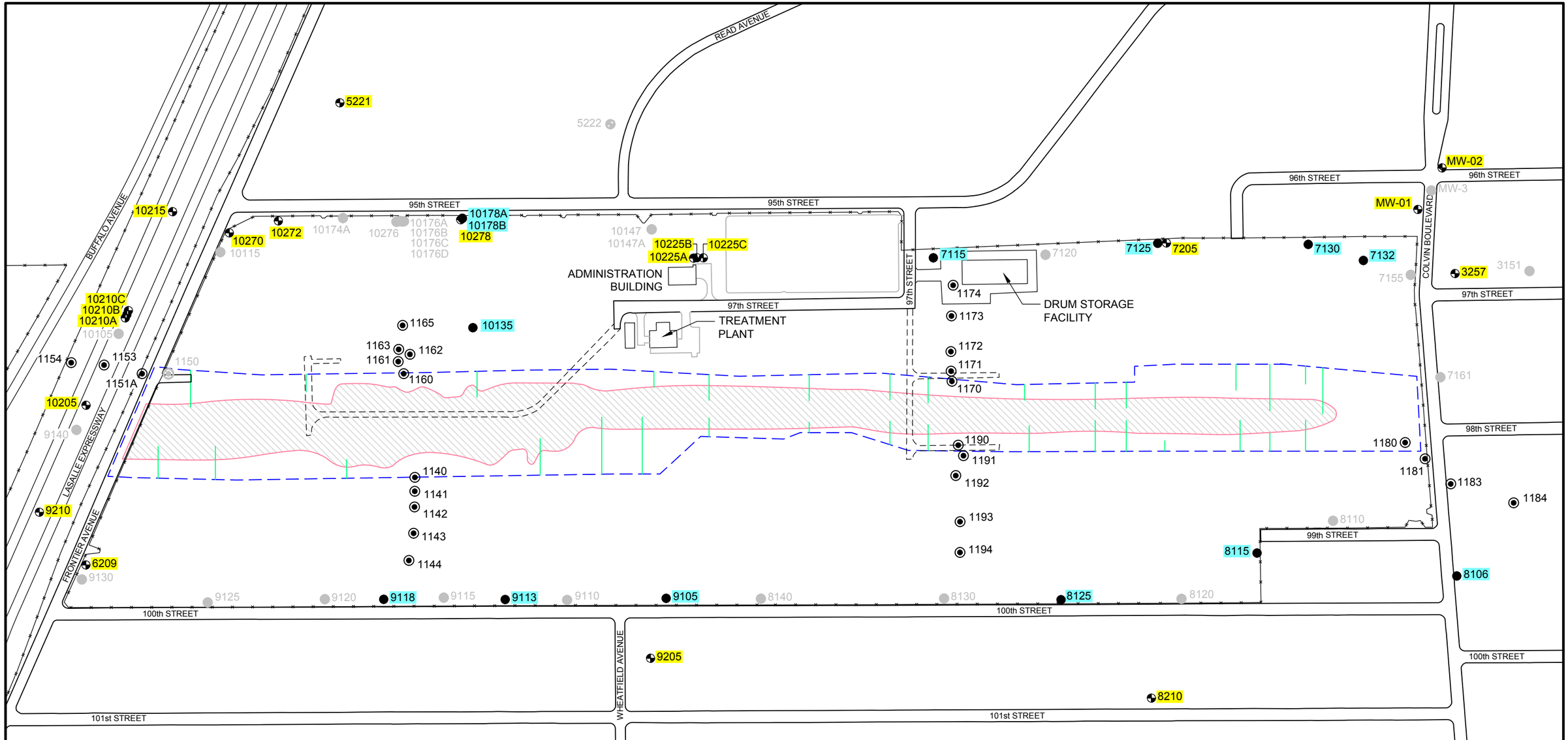
PROCESS SCHEMATIC

GLENN SPRINGS HOLDINGS, INC.
LOVE CANAL SITE
NYSDEC SITE NO. 932020
NIAGARA FALLS, NEW YORK

Geosyntec consultants

FIGURE
3

PROJECT NO: TR1045-01A | JANUARY 2023



LEGEND

FENCE LINE	7120 OVERBURDEN OBSERVATION WELL SAMPLED IN 2022
BARRIER DRAIN	3257 BEDROCK OBSERVATION WELL SAMPLED IN 2022
LATERAL TRENCH	7105 PIEZOMETER HYDRAULICALLY MONITORED IN 2022
APPROXIMATE LIMITS OF DISPOSED WASTE	9122 OVERBURDEN OBSERVATION WELL NOT SAMPLED IN 2022
	5222 BEDROCK OBSERVATION WELL NOT SAMPLED IN 2022

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

0 250'
SCALE IN FEET

2022 GROUNDWATER MONITORING LOCATIONS
GLENN SPRINGS HOLDINGS, INC.
LOVE CANAL SITE
NYSDEC SITE NO. 932020
NIAGARA FALLS, NEW YORK

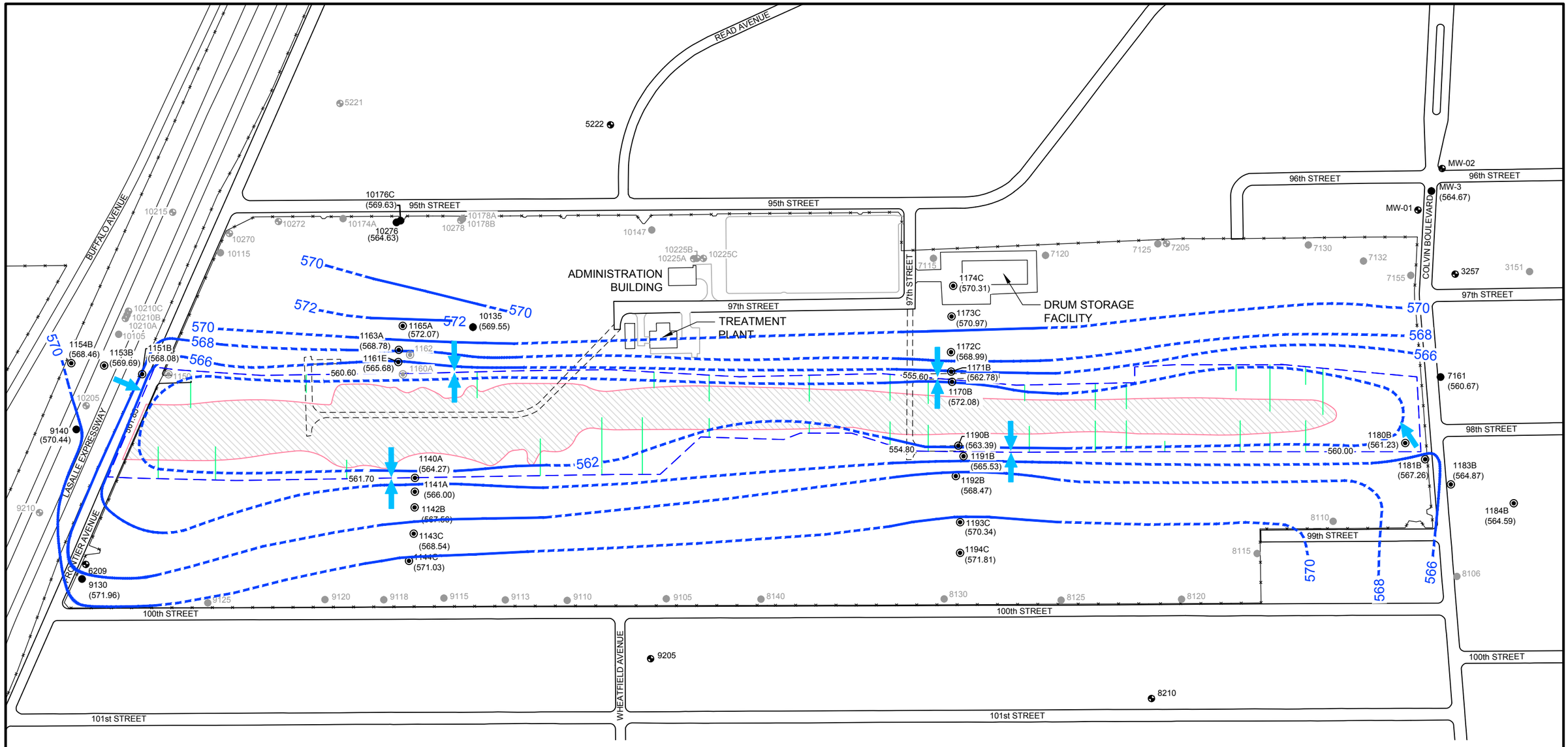
Geosyntec consultants

PROJECT NO: TR1045-01A | JANUARY 2023

FIGURE 4

DATA SOURCE: GHD, 2021 PERIODIC REVIEW REPORT, SITE PLAN, DECEMBER 2021.

\\WATERLOO-01\DATA\PRJ\PROJECTS\TR1045 GSH WNY O&M\09-CADD\01-LOVE CANAL\01 - 2022 PERIODIC REVIEW REPORT\DRAWINGS\SHEETS\TR1045-003 - MJerome 1/25/23



LEGEND

- FENCE LINE
- 554.80 — ELEVATION OF THE BOTTOM OF THE BARRIER DRAIN
- LATERAL TRENCH
- APPROXIMATE LIMITS OF DISPOSED WASTE
- (571.03) GROUNDWATER ELEVATION
- 570 — GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION
- 7105 PIEZOMETER (NOT PART OF HYDRAULIC MONITORING PROGRAM)
- 9120 OVERBURDEN OBSERVATION WELL (NOT PART OF HYDRAULIC MONITORING PROGRAM)
- 5221 BEDROCK OBSERVATION WELL (NOT PART OF HYDRAULIC MONITORING PROGRAM)
- 7105 PIEZOMETER
- 9120 OVERBURDEN OBSERVATION WELL
- 10270 BEDROCK OBSERVATION WELL

0 250'
SCALE IN FEET

OVERBURDEN GROUNDWATER CONTOURS DECEMBER 2, 2022

GLENN SPRINGS HOLDINGS, INC.
LOVE CANAL SITE
NYSDEC SITE NO. 932020
NIAGARA FALLS, NEW YORK

Geosyntec consultants

FIGURE 5

PROJECT NO: TR1045-01A | JANUARY 2023

DATA SOURCE: GHD, 2021 PERIODIC REVIEW REPORT, SITE PLAN, DECEMBER 2021.

\\WATERLOO-01\DATA\PRJ\PROJECTS\TR1045 GSH WNY O&M\09-CADD\01-LOVE CANAL\01 - 2022 PERIODIC REVIEW REPORT\DRAWINGS\SHEETS\TR1045-007 - MJerome 1/25/23

APPENDIX B

TABLES

TABLE 1 – Chronology of Love Canal Site Events	
Event	**Date**
President Carter issued the first Emergency Declaration at the Love Canal landfill.	August 1978
Construction of the LC leachate collection system and treatment facility (LCTF).	October 1978 - December 1979
President Carter issued the second Emergency Declaration at the LCL. The Emergency Declaration Area (EDA) surrounding the Love Canal landfill was established.	May 1980
Love Canal Area Revitalization Agency (LCARA) created to revitalize the EDA.	June 18, 1980
The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) enacted. A National Priorities List (NPL) of Superfund sites established.	December 1980
NYSDEC assumes control of LCTF from Elia Construction Company, using contractor Conestoga Rovers and Associates.	March 1981
Love Canal site proposed to the NPL.	1981
EPA issued Environmental Monitoring at Love Canal study.	May 1982
Rings I and II homes and 99th Street School demolished.	June 1982
EPA issued a Decision Memorandum: Cooperative Agreement with the State of New York for Love Canal (1982 DM), a precursor to the Superfund Record of Decision (ROD).	July 1982
EPA opened a Public Information Office in Niagara Falls to manage Superfund sites in the City of Niagara Falls area.	September 1982
New York State Department of Environmental Conservation (NYSDEC) opened a Public Information Office in the EDA.	March 1983
EPA initiated Love Canal EDA Habitability Study (LCHS).	1983
Love Canal Superfund site was added to the NPL.	1983
EPA established multi-agency Love Canal Technical Review Committee (TRC) [EPA, Centers for Disease Control, NYSDOH and NYSDEC].	August 1983
Collection system cleaned [high pressure] by OH Materials with NYSDEC oversight.	1983
NYSDEC installed 40-acre high-density polyethylene liner cap over the Love Canal landfill.	November 1984
Technical modifications made to the LCTF.	December 1984

EPA issued a ROD (ROD 1985) to remediate the EDA sewers and Black Creek and Bergholtz Creek.	May 1985
Superfund Amendments and Reauthorization Act (SARA): Section 312 Provisions for Love Canal: Love Canal EDA Habitability Study (LCHS), Property Acquisition and Maintenance and Technical Assistance Cooperative Agreements.	1986
Sewer sediments' remediation.	1986-1987
Construction of a new Administration Building at the LCTF.	1987
EPA entered into first cooperative agreement with LCARA to implement the property acquisition mandates of Section 312 of SARA.	June 1987
EPA issued ROD (ROD 1987) to address final disposal of sewer and creek sediments.	October 1987
EPA issued a ROD (ROD 1988) for the 93rd Street School selected remedy [separate study].	September 1988
The NYS Commissioner of Health issued a Decision on Habitability of the EDA, determining that EDA Areas 1-3 were nonhabitable but available for commercial and/or industrial use; EDA Areas 4-7 were deemed habitable.	September 1988
Creek sediments remediation: 1) dewatered, 2) stabilized and 3) bagged at 93rd Street School staging facility. Previously remediated sewer sediments were bagged during this operation.	1987-1989
All dewatered, stabilized and bagged sewer and creek sediments stored at Occidental Chemical Corporation's (OXY) Niagara Falls Main Plant.	1989-1998
OXY and EPA sign partial consent decree for OXY to perform part of the Love Canal cleanup activities.	May 1989
EPA entered into second cooperative agreement with LCARA to implement the maintenance assistance mandates of Section 312 of SARA.	May 1989
EPA published an Explanation of Significant Differences (1989 ESD) to the 1985 and 1987 RODs.	1989
Rehabilitated EDA homes offered for sale by LCARA.	1990
EPA issued an amendment to the 1988 ROD for the 93rd Street School to excavate soils and dispose of off-site.	May 1991
Programmable Logic Controller system installed at LCTF to operate field pumps, holding tank and process tanks.	Summer 1991
Collection system was high pressure cleaned and videotaped with NYSDEC oversight.	November 1991

93rd Street School soils' remediation completed, as identified in the 1991 ROD Amendment.	September 1992
NYSDEC closed its public information office in the EDA.	March 1993
NYSDEC cost recovery settlement with OXY: $130 million.	1995
OXY begins operation of LCTF monitoring program and issuance of periodic operation and maintenance reports.	April 1995
EPA cost recovery settlement with OXY: $129 million plus interest.	March 1996
EPA issued the second ESD (ESD 1996), authorizing thermal treatment and/or land disposal of Love Canal waste materials at off-site commercial incinerator and landfill.	November 1996
OXY shipped bagged Love Canal wastes for final disposal.	February 1998-August 1999
EPA issued the third ESD (1998 ESD), granting a treatability variance to OXY to eliminate requirement that Love Canal waste materials containing dioxin at concentrations between 1 ppb and 10 ppb be incinerated.	December 1998
Love Canal Preliminary Close-Out Report [construction completion].	September 1999
Bagged Love Canal wastes incineration [completed].	October 1999
First Five-Year Review Site Inspection.	June 2003
LCARA, as an agency of NYS, formally dissolved by NYS statute.	August 27, 2003
Five-Year Review Report issued.	September 30, 2003
Remedial Action Report for LCARA.	September 30, 2003
Love Canal Final Close Out Report.	March 4, 2004
Love Canal Superfund Site was deleted from the NPL.	September 30, 2004
Second Five-Year Review Site Inspection.	April 10, 2008
Second Five-Year Review Report issued.	September 29, 2008
Third Five-Year Review Site Inspection.	July 11, 2013
Third Five-Year Review Report issued.	January 15, 2014
Fourth Five-Year Review Site Inspection.	November 7, 2018
Fourth Five-Year Review Report issued.	April 11, 2019
Fifth Five-Year Review Site Inspection.	November 30, 2023

TABLE 2

LOVE CANAL MAINTENANCE/ REPLACEMENT /REPAIR ACTIVITIES CONDUCTED DURING 2022

PROCESS ACTIVITIES

- Removal and disposal of hazardous waste
- Cleaning of all pump chambers
- Cleaning of all storage tanks
- Cleaning of sludge from clarifier
- Replaced carbon in the lead carbon bed

NON-PROCESS ACTIVITIES

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

- Performance of preventative maintenance
- Repair DCP pump
- Grass cutting, tree removal (two trees behind the drum storage barn), and flower bed maintenance
- Repair of roof and gutter on east side of the Administration Building
- Heating and cooling system maintenance
- Repair of fire inspection communications
- Repair and replacement of exit lights
- Removal of trees along 95th Street
- Replacement of circuit board at PC3A
- Performance of minor well maintenance

COMMUNITY OUTREACH

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

BEAUTIFICATION

- 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

TABLE 2

Monthly Volumes of Groundwater Treated
Love Canal Long-Term Monitoring Program
Niagara Falls, New York

		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
January	Gross [1]	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	499,356	566,916	775,829	436,659
	Net [2]	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	485,778	558,881	765,891	423,081
	Days [3]	21	20	21	14	10	17	16	20	18	16	17	18	15	18	20	14	18	19	20	26	29	24
February	Gross	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	692,324	486,978	499,075	230,037
	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	683,928	480,242	490,839	221,641
	Days	21	19	20	13	9	11	9	7	16	13	10	19	16	19	15	16	19	13	24	26	28	19
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	492,694	356,288	544,126	373,191
	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	483,834	345,457	534,539	364,331
	Days	23	21	21	17	21	13	13	16	12	18	17	21	16	20	17	20	21	20	24	16	27	24
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	751,811	632,012	359,309	219,074
	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	743,111	621,937	349,735	210,374
	Days	20	20	20	16	17	14	6	14	12	16	15	11	18	22	20	17	19	24	28	25	28	19
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	169,570	579,868	214,573	134,023
	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	160,916	570,737	205,645	125,369
	Days	20	17	20	14	10	5	4	12	11	14	18	17	16	18	21	12	15	25	18	19	23	19
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	110,862	248,940	147,455	103,047
	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	102,480	239,997	138,115	94,665
	Days	20	16	14	13	9	6	5	4	6	7	13	16	12	18	12	19	11	15	10	12	14	11
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	103,168	134,549	91,978	594,326
	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	93,383	125,685	84,682	584,541
	Days	20	16	16	11	7	3	5	6	6	7	4	5	9	19	15	16	12	18	8	10	8	24
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	91,721	105,894	77,128	125,988
	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	81,389	99,061	64,652	115,656
	Days	23	18	17	8	10	5	10	5	6	18	8	13	8	21	9	7	6	17	7	8	8	16
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	95,188	217,213	101,043	294,866
	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	85,785	204,446	89,450	285,463
	Days	20	16	12	7	12	8	7	4	9	7	2	6	17	23	13	12	11	8	8	11	10	18
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	132,231	333,060	92,146	440,128
	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	120,540	319,915	79,713	428,437
	Days	20	18	13	9	4	10	18	8	13	8	5	14	19	20	18	11	11	12	11	19	15	22
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	635,923	450,485	100,055	449,377
	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	626,034	433,375	89,382	439,488
	Days	17	16	14	12	5	14	14	3	14	12	15	12	20	19	12	15	11	22	21	25	18	27
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	626,070	728,072	353,581	557,307
	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	615,325	716,352	343,524	546,562
	Days	17	18	15	14	14	12	12	8	20	17	17	19	14	17	14	13	14	19	28	28	22	28
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	4,400,918	4,840,275	3,356,298	3,958,023
	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	4,282,503	4,716,085	3,236,167	3,839,608
	Days	242	215	203	148	128	118	119	107	143	153	141	171	180	234	186	172	168	212	207	225	230	251
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	366,743	403,356	279,692	329,835
	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	356,875	393,007	269,681	319,967
	Days	20	18	17	12	11	10	10	9	12	13	12	14	15	20	16	14	14	18	17	19	19	21
Precipitation Inches [4]		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	34.93	35.81	24.46	21.26

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.

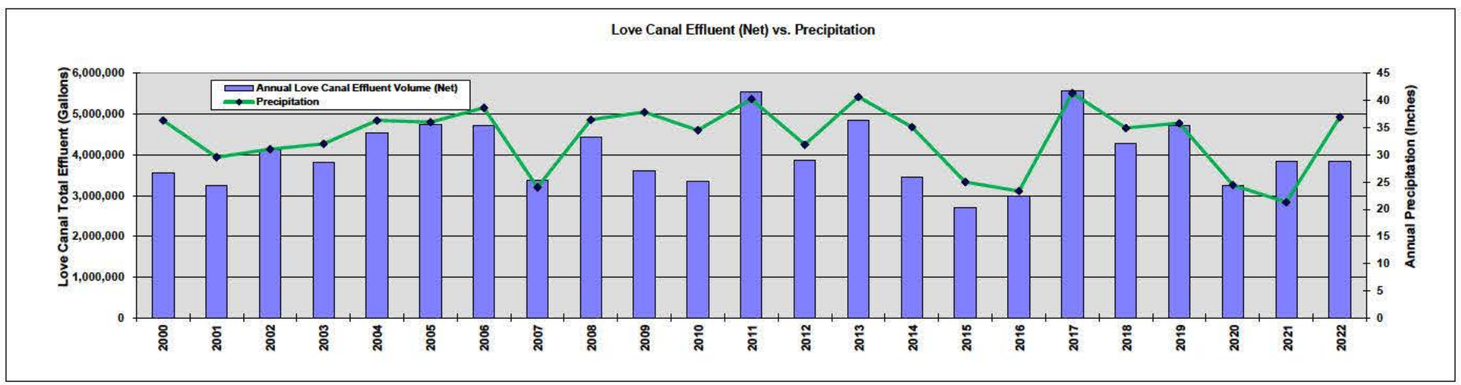


TABLE 4

2022 Detection Summary
Love Canal Long-Term Monitoring Program
Niagara Falls, New York

		Number of Discrete Compounds Detected			
Overburden Wells (without well 10135)	**Well Group**	**VOCs**	**SVOCs**	**PCBs**	**Pesticides**
7115	B	0	0	0	4
7125	B	0	0	0	0
7130	A	0	0	0	0
7132	A	1	0*	0	0
8106	A	0	0*	0	0
8115	B	0	0	0	0
8125	B	0	0	0	0
9105	B	0	0*	0	0
9113	B	0*	0	0	0
9118	B	0 (0)	0* (0*)	0 (0)	0 (0)
10178A	B	0	0*	0	0
10178B		2*	0*	0*	3
Total Overburden Well Detections		**2 (0)**	**0 (0)**	**0 (0)**	**2 (0)**
Number of Discrete Compounds Detected		**2 (0)**	**0 (0)**	**0 (0)**	**4 (0)**

Well 10135	**Well Group**	**VOCs**	**SVOCs**	**PCBs**	**Pesticides**
10135	A	7	17*	4	5
Total Well 10135 Well Detections		**1**	**1**	**0**	**1**
Number of Discrete Compounds Detected		**7**	**17**	**0**	**5**

Bedrock Wells	**Well Group**	**VOCs**	**SVOCs**	**PCBs**	**Pesticides**
3257	A	1	0*	0	0
5221	A	1	0	0	0
6209	A	1	0	0	0
7205	A	2	0	0	3
8210	A	1	1	0	3
9205	A	2	0	0	1
9210	A	0 (0)	0 (0)	0 (0)	3 (3)
10205	A	2	0**	0	0
10210A	A	3	0**	0	3
10210B	A	3	0**	0	3
10210C	A	1	0**	0	3
10215	A	1	0**	0	3
10225A	A	5	0**	0	0
10225B	A	2	0**	0	0
10225C	A	0	1	0	3
10270	A	0 (1)	0 (0)	0 (0)	2 (0)
10272	A	1	0	0	2
10278	A	1	0	0	4
MW-01	X	1	0	0	0
MW-02	X	1	0	0	0
Total Bedrock Well Detections		**17 (1)**	**2 (0)**	**0 (0)**	**12 (1)**
Number of Discrete Compounds Detected		**6 (1)**	**1 (1)**	**0 (0)**	**4 (3)**

Notes:

* - A portion of the data was rejected during data validation; rejected data is not included in total. Rejected results were non-detect.
** - All data rejected during data validation; rejected data is not included in total. Rejected results were non-detect.
NA - Not available
U - No parameters detected at or above detection limits
A - Annual Well
B - Biannual Well
X - Additional annual well added to program in 2011
( ) - Results for duplicate sample
PCBs - Polychlorinated Biphenyls
SVOCs - Semi-Volatile Organic Compounds
VOCs - Volatile Organic Compounds
Total Well Detections = total of wells with detections
Number of Discrete Compounds Detected = number of the compounds that were detected in all wells with detections

TABLE 4

2022 Analytical Results Summary - Overburden
Love Canal Long-Term Monitoring Program
Niagara Falls, New York

Sample Location:				7115	7125	7130	7132	8106	8115	8125	9105	9113	9118	9118	10135	10178A	10178B
Sample ID:	Units	Class GA Standard	Class GA Guidance	WG-TR1045-01A-091922-SG-001	WG-TR1045-01A-091922-SG-002	WG-TR1045-01A-091922-SG-003	WG-TR1045-01A-091922-SG-004	WG-TR1045-01A-092622-SG-030	WG-TR1045-01A-091922-SG-005	WG-TR1045-01A-091922-SG-006	WG-TR1045-01A-092622-SG-032	WG-TR1045-01A-092622-SG-033	WG-TR1045-01A-092622-SG-034	WG-TR1045-01A-092622-SG-035	WG-TR1045-01A-092622-SG-036	WG-TR1045-01A-092022-SG-012	WG-TR1045-01A-092322-SG-029
Sample Date:				09/19/2022	09/19/2022	09/19/2022	09/19/2022	09/26/2022	09/19/2022	09/19/2022	09/26/2022	09/26/2022	09/26/2022	09/26/2022 (Duplicate)	09/26/2022	09/20/2022	09/23/2022
Parameters																	
Volatile Organic Compounds																	
1,1,1-Trichloroethane	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	R	5.0 U
1,1,2,2-Tetrachloroethane	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
1,1,2-Trichloroethane	ug/L	1		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
1,1-Dichloroethane	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
1,1-Dichloroethene	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
1,2-Dichloroethane	ug/L	0.6		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 UJ
1,2-Dichloropropane	ug/L	1		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	NA		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2000 U	10 U	2.0 J
2-Hexanone	ug/L		50	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2000 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	NA		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2000 U	10 U	10 U
Acetone	ug/L		50	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2000 U	10 U	10 U
Benzene	ug/L	1		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**6200**	5.0 U	5.0 U
Bromodichloromethane	ug/L		50	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**68 J**	5.0 U	5.0 U
Bromoform	ug/L		50	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
Carbon disulfide	ug/L		60	5.0 U	10 U	10 U	0.51 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2000 U	10 U	1.7 J
Carbon tetrachloride	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 UJ
Chlorobenzene	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**2600**	5.0 U	5.0 U
Chloroethane	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	7		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**270 J**	5.0 U	5.0 U
Chloromethane (Methyl chloride)	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
cis-1,3-Dichloropropene	ug/L	0.4		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
Dibromochloromethane	ug/L		50	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
Ethylbenzene	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
Methylene chloride	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
Styrene	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
Tetrachloroethene	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
Toluene	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**23000**	5.0 U	5.0 U
trans-1,2-Dichloroethene	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	ug/L	0.4		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
Trichloroethene	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**48 J**	5.0 U	5.0 U
Vinyl acetate	ug/L	NA		5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2000 U	10 U	10 U
Vinyl chloride	ug/L	2		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
Xylenes (total)	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**48 J**	5.0 U	5.0 U
Discrete Compounds Detected:				0	0	0	1	0	0	0	0	0	0	0	7	0	2
Semi-Volatile Organic Compounds																	
1,2,4-Trichlorobenzene	ug/L	5		9.3 U	9.8 U	9.1 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	**65**	R	8.8 U
1,2-Dichlorobenzene	ug/L	3		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	**25**	R	R
1,3-Dichlorobenzene	ug/L	3		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	**3.0 J**	R	R
1,4-Dichlorobenzene	ug/L	3		9.3 U	9.8 U	9.1 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	**72**	R	R
2,2'-Oxybis(1-chloropropane) (bis(2-chloro-1-methylethyl)ether)	ug/L	5		9.3 UJ	9.8 UJ	9.1 UJ	8.8 UJ	R	8.8 UJ	8.8 UJ	R	R	R	R	R	R	R
2,4,5-Trichlorophenol	ug/L	1		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	**17**	9.3 U	8.8 U
2,4,6-Trichlorophenol	ug/L	1		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	9.3 U	8.8 U
2,4-Dichlorophenol	ug/L	5		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	**69**	9.3 U	R
2,4-Dimethylphenol	ug/L	1	50	9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	9.3 U	8.8 U
2,4-Dinitrophenol	ug/L	1	10	46 U	49 U	45 U	44 U	R	44 U	44 U	R	R	R	R	R	46 U	44 U
2,4-Dinitrotoluene	ug/L	5		9.3 U	9.8 U	9.1 U	8.8 U	8.8 UJ	8.8 U	8.8 U	8.8 UJ	8.8 UJ	8.8 UJ	8.8 UJ	**6.0 J**	R	8.8 U
2,6-Dinitrotoluene	ug/L	5		9.3 U	9.8 U	9.1 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	R	8.8 U
2-Chloronaphthalene	ug/L	NA	10	9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	2.5 J	R	8.8 U
2-Chlorophenol	ug/L	1		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	**13**	9.3 U	R
2-Methylnaphthalene	ug/L	NA		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
2-Methylphenol	ug/L	1		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	**15**	9.3 U	R
2-Nitroaniline	ug/L	5		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
2-Nitrophenol	ug/L	1		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	9.3 U	R
3&4-Methylphenol	ug/L	NA		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	45	9.3 U	R
3,3'-Dichlorobenzidine	ug/L	5		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
3-Nitroaniline	ug/L	5		9.3 U	9.8 U	9.1 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	R	8.8 U
4,6-Dinitro-2-methylphenol	ug/L	1		46 U	49 U	45 U	44 U	R	44 U	44 U	R	R	R	R	R	46 U	44 U
4-Bromophenyl phenyl ether	ug/L	NA		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
4-Chloro-3-methylphenol	ug/L	1		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	**16**	9.3 U	8.8 U
4-Chloroaniline	ug/L	5		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
4-Chlorophenyl phenyl ether	ug/L	NA		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
4-Nitroaniline	ug/L	5		9.3 U	9.8 U	9.1 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	R	R
4-Nitrophenol	ug/L	1		46 U	49 U	45 U	44 U	44 U	44 U	44 U	44 U	44 U	44 U	44 U	44 U	46 U	44 U
Acenaphthene	ug/L	NA	20	9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	R
Acenaphthylene	ug/L	NA		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	R
Anthracene	ug/L	NA	50	9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Benzo(a)anthracene	ug/L	NA	0.002	9.3 U	9.8 U	9.1 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	R	8.8 U
Benzo(a)pyrene	ug/L	ND		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Benzo(b)fluoranthene	ug/L	NA	0.002	9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Benzo(g,h,i)perylene	ug/L	NA		9.3 UJ	9.8 UJ	9.1 UJ	8.8 UJ	R	8.8 UJ	8.8 UJ	R	R	R	R	R	R	8.8 U
Benzo(k)fluoranthene	ug/L	NA	0.002	9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Benzoic acid	ug/L	NA		46 UJ	49 UJ	45 UJ	44 UJ	44 U	44 UJ	44 UJ	44 U	44 U	44 U	44 U	**2200**	R	44 UJ
Benzyl alcohol	ug/L	NA		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	66	9.3 U	8.8 U
bis(2-Chloroethoxy)methane	ug/L	5		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	R
bis(2-Chloroethyl)ether	ug/L	1		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	**17**	R	R
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	5		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U

TABLE 4 (cont'd)

2022 Analytical Results Summary - Overburden
Love Canal Long-Term Monitoring Program
Niagara Falls, New York

Sample Location:	Units	Class GA Standard	Class GA Guidance	7115	7125	7130	7132	8106	8115	8125	9105	9113	9118	9118	10135	10178A	10178B
Sample ID:				WG-TR1045-01A-091922-SG-001	WG-TR1045-01A-091922-SG-002	WG-TR1045-01A-091922-SG-003	WG-TR1045-01A-091922-SG-004	WG-TR1045-01A-092622-SG-030	WG-TR1045-01A-091922-SG-005	WG-TR1045-01A-091922-SG-006	WG-TR1045-01A-092622-SG-032	WG-TR1045-01A-092622-SG-033	WG-TR1045-01A-092622-SG-034	WG-TR1045-01A-092622-SG-035	WG-TR1045-01A-092622-SG-036	WG-TR1045-01A-092022-SG-012	WG-TR1045-01A-092322-SG-029
Sample Date:				09/19/2022	09/19/2022	09/19/2022	09/19/2022	09/26/2022	09/19/2022	09/19/2022	09/26/2022	09/26/2022	09/26/2022	09/26/2022 (Duplicate)	09/26/2022	09/20/2022	09/23/2022
Parameters																	
Butyl benzylphthalate (BBP)	ug/L	NA	50	9.3 U	9.8 U	9.1 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	R	8.8 U
Chrysene	ug/L	NA	0.002	9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Dibenz(a,h)anthracene	ug/L	NA		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Dibenzofuran	ug/L	NA		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Diethyl phthalate	ug/L	NA	50	9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Dimethyl phthalate	ug/L	NA	50	9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Di-n-butylphthalate (DBP)	ug/L	50		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	R
Di-n-octyl phthalate (DnOP)	ug/L	NA	50	9.3 U	9.8 U	9.1 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	R	8.8 U
Fluoranthene	ug/L	NA	50	9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Fluorene	ug/L	NA	50	9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Hexachlorobenzene	ug/L	0.04		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Hexachlorobutadiene	ug/L	0.5		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Hexachlorocyclopentadiene	ug/L	5		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Hexachloroethane	ug/L	5		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	R
Indeno(1,2,3-cd)pyrene	ug/L	NA	0.002	9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Isophorone	ug/L	NA	50	9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Naphthalene	ug/L	NA	10	9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	**2000**	R	R
Nitrobenzene	ug/L	0.4		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	R
N-Nitrosodi-n-propylamine	ug/L	NA		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	R
N-Nitrosodiphenylamine	ug/L	NA	50	9.3 U	9.8 U	9.1 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	R	8.8 U
Pentachlorophenol	ug/L	1		46 U	49 U	45 U	44 U	R	44 U	44 U	R	R	R	R	R	46 U	44 U
Phenanthrene	ug/L	NA	50	9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Phenol	ug/L	1		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	**21**	9.3 U	8.8 U
Pyrene	ug/L	NA	50	9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Discrete Compounds Detected:				0	0	0	0	0	0	0	0	0	0	0	17	0	0
Polychlorinated Biphenyls																	
Aroclor-1016 (PCB-1016)	ug/L	0.09		0.91 U	0.88 U	0.88 U	0.89 U	0.88 U	0.89 U	0.89 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U
Aroclor-1221 (PCB-1221)	ug/L	0.09		1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
Aroclor-1232 (PCB-1232)	ug/L	0.09		0.91 U	0.88 U	0.88 U	0.89 U	0.88 U	0.89 U	0.89 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U
Aroclor-1242 (PCB-1242)	ug/L	0.09		0.91 U	0.88 U	0.88 U	0.89 U	0.88 U	0.89 U	0.89 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U
Aroclor-1248 (PCB-1248)	ug/L	0.09		0.91 U	0.88 U	0.88 U	0.89 U	0.88 U	0.89 U	0.89 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U
Aroclor-1254 (PCB-1254)	ug/L	0.09		0.91 U	0.88 U	0.88 U	0.89 U	0.88 U	0.89 U	0.89 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U
Aroclor-1260 (PCB-1260)	ug/L	0.09		0.91 U	0.88 U	0.88 U	0.89 U	0.88 U	0.89 U	0.89 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U
Discrete Compounds Detected:				0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pesticides																	
4,4'-DDD	ug/L	0.3		0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	0.13 U	0.044 U	0.044 U
4,4'-DDE	ug/L	0.2		0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	0.13 U	0.044 U	0.044 U
4,4'-DDT	ug/L	0.2		0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	0.13 U	0.044 U	0.044 U
Aldrin	ug/L	ND		0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	**0.35**	0.044 U	0.044 U
alpha-BHC	ug/L	0.01		**0.030 J**	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	**9.0**	0.044 U	**0.042 J**
alpha-Chlordane	ug/L	0.05		0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	0.13 U	0.044 U	0.044 U
beta-BHC	ug/L	0.04		0.023 J	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	**2.8**	0.044 U	0.044 U
delta-BHC	ug/L	0.04		**0.098**	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	**4.7**	0.044 U	0.033 J
Dieldrin	ug/L	0.004		0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	0.13 U	0.044 U	0.044 U
Endosulfan I	ug/L	NA		0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	0.13 U	0.044 U	0.044 U
Endosulfan II	ug/L	NA		0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	0.13 U	0.044 U	0.044 U
Endosulfan sulfate	ug/L	NA		0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	0.13 U	0.044 U	0.044 U
Endrin	ug/L	ND		0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	0.13 U	0.044 U	0.044 U
Endrin ketone	ug/L	5		0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	0.13 U	0.044 U	0.044 U
gamma-BHC (lindane)	ug/L	0.05		0.038 J	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	**1.6**	0.044 U	**0.048**
gamma-Chlordane	ug/L	0.05		0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	0.13 U	0.044 U	0.044 U
Heptachlor	ug/L	0.04		0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	0.13 U	0.044 U	0.044 U
Heptachlor epoxide	ug/L	0.03		0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	0.13 U	0.044 U	0.044 U
Methoxychlor	ug/L	35		0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	0.13 U	0.044 U	0.044 U
Toxaphene	ug/L	0.06		0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.5 U	0.50 U	0.50 U
Discrete Compounds Detected:				4	0	0	0	0	0	0	0	0	0	0	5	0	3

Notes:
J - Estimated concentration
U - Not detected at the associated reporting limit
UJ - Not detected; associated reporting limit is estimated
ND - Not detected
NA - Not available
4.0 -Exceeds New York State Ambient Water Quality Standard (Class GA Standard)

TABLE 5

2022 Analytical Results Summary - Overburden
Love Canal Long-Term Monitoring Program
Niagara Falls, New York

Sample Location:				7115	7125	7130	7132	8106	8115	8125	9105	9113	9118	9118	10135	10178A	10178B
Sample ID:	Units	Class GA Standard	Class GA Guidance	WG-TR1045-01A-091922-SG-001	WG-TR1045-01A-091922-SG-002	WG-TR1045-01A-091922-SG-003	WG-TR1045-01A-091922-SG-004	WG-TR1045-01A-092622-SG-030	WG-TR1045-01A-091922-SG-005	WG-TR1045-01A-091922-SG-006	WG-TR1045-01A-092622-SG-032	WG-TR1045-01A-092622-SG-033	WG-TR1045-01A-092622-SG-034	WG-TR1045-01A-092622-SG-035 (Duplicate)	WG-TR1045-01A-092622-SG-036	WG-TR1045-01A-092022-SG-012	WG-TR1045-01A-092322-SG-029
Sample Date:				09/19/2022	09/19/2022	09/19/2022	09/19/2022	09/26/2022	09/19/2022	09/19/2022	09/26/2022	09/26/2022	09/26/2022	09/26/2022	09/26/2022	09/20/2022	09/23/2022
Parameters																	
Volatile Organic Compounds																	
1,1,1-Trichloroethane	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	R	5.0 U
1,1,2,2-Tetrachloroethane	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
1,1,2-Trichloroethane	ug/L	1		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
1,1-Dichloroethane	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
1,1-Dichloroethene	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
1,2-Dichloroethane	ug/L	0.6		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 UJ
1,2-Dichloropropane	ug/L	1		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	NA		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2000 U	10 U	2.0 J
2-Hexanone	ug/L		50	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2000 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	NA		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2000 U	10 U	10 U
Acetone	ug/L		50	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2000 U	10 U	10 U
Benzene	ug/L	1		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**6200**	5.0 U	5.0 U
Bromodichloromethane	ug/L		50	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**68 J**	5.0 U	5.0 U
Bromoform	ug/L		50	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
Carbon disulfide	ug/L		60	5.0 U	10 U	10 U	0.51 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2000 U	10 U	1.7 J
Carbon tetrachloride	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 UJ
Chlorobenzene	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**2600**	5.0 U	5.0 U
Chloroethane	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	7		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**270 J**	5.0 U	5.0 U
Chloromethane (Methyl chloride)	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
cis-1,3-Dichloropropene	ug/L	0.4		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
Dibromochloromethane	ug/L		50	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
Ethylbenzene	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
Methylene chloride	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
Styrene	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
Tetrachloroethene	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
Toluene	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**23000**	5.0 U	5.0 U
trans-1,2-Dichloroethene	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	ug/L	0.4		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
Trichloroethene	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**48 J**	5.0 U	5.0 U
Vinyl acetate	ug/L	NA		5.0 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2000 U	10 U	10 U
Vinyl chloride	ug/L	2		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1000 U	5.0 U	5.0 U
Xylenes (total)	ug/L	5		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	**48 J**	5.0 U	5.0 U
Discrete Compounds Detected:				0	0	0	1	0	0	0	0	0	0	0	7	0	2
Semi-Volatile Organic Compounds																	
1,2,4-Trichlorobenzene	ug/L	5		9.3 U	9.8 U	9.1 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	**65**	R	8.8 U
1,2-Dichlorobenzene	ug/L	3		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	**25**	R	R
1,3-Dichlorobenzene	ug/L	3		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	**3.0 J**	R	R
1,4-Dichlorobenzene	ug/L	3		9.3 U	9.8 U	9.1 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	**72**	R	R
2,2'-Oxybis(1-chloropropane) (bis(2-chloro-1-methylethyl)ether)	ug/L	5		9.3 UJ	9.8 UJ	9.1 UJ	8.8 UJ	R	8.8 UJ	8.8 UJ	R	R	R	R	R	R	R
2,4,5-Trichlorophenol	ug/L	1		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	**17**	9.3 U	8.8 U
2,4,6-Trichlorophenol	ug/L	1		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	9.3 U	8.8 U
2,4-Dichlorophenol	ug/L	5		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	**69**	9.3 U	R
2,4-Dimethylphenol	ug/L	1	50	9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	9.3 U	8.8 U
2,4-Dinitrophenol	ug/L	1	10	46 U	49 U	45 U	44 U	R	44 U	44 U	R	R	R	R	R	46 U	44 U
2,4-Dinitrotoluene	ug/L	5		9.3 U	9.8 U	9.1 U	8.8 U	8.8 UJ	8.8 U	8.8 U	8.8 UJ	8.8 UJ	8.8 UJ	8.8 UJ	**6.0 J**	R	8.8 U
2,6-Dinitrotoluene	ug/L	5		9.3 U	9.8 U	9.1 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	R	8.8 U
2-Chloronaphthalene	ug/L	NA	10	9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	2.5 J	R	8.8 U
2-Chlorophenol	ug/L	1		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	**13**	9.3 U	R
2-Methylnaphthalene	ug/L	NA		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
2-Methylphenol	ug/L	1		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	**15**	9.3 U	R
2-Nitroaniline	ug/L	5		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
2-Nitrophenol	ug/L	1		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	9.3 U	R
3&4-Methylphenol	ug/L	NA		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	45	9.3 U	R
3,3'-Dichlorobenzidine	ug/L	5		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
3-Nitroaniline	ug/L	5		9.3 U	9.8 U	9.1 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	R	8.8 U
4,6-Dinitro-2-methylphenol	ug/L	1		46 U	49 U	45 U	44 U	R	44 U	44 U	R	R	R	R	R	46 U	44 U
4-Bromophenyl phenyl ether	ug/L	NA		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
4-Chloro-3-methylphenol	ug/L	1		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	**16**	9.3 U	8.8 U
4-Chloroaniline	ug/L	5		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
4-Chlorophenyl phenyl ether	ug/L	NA		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
4-Nitroaniline	ug/L	5		9.3 U	9.8 U	9.1 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	R	R
4-Nitrophenol	ug/L	1		46 U	49 U	45 U	44 U	44 U	44 U	44 U	44 U	44 U	44 U	44 U	44 U	46 U	44 U
Acenaphthene	ug/L	NA	20	9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	R
Acenaphthylene	ug/L	NA		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	R
Anthracene	ug/L	NA	50	9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Benzo(a)anthracene	ug/L	NA	0.002	9.3 U	9.8 U	9.1 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	R	8.8 U
Benzo(a)pyrene	ug/L	ND		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Benzo(b)fluoranthene	ug/L	NA	0.002	9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Benzo(g,h,i)perylene	ug/L	NA		9.3 UJ	9.8 UJ	9.1 UJ	8.8 UJ	R	8.8 UJ	8.8 UJ	R	R	R	R	R	R	8.8 U
Benzo(k)fluoranthene	ug/L	NA	0.002	9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Benzoic acid	ug/L	NA		46 UJ	49 UJ	45 UJ	44 UJ	44 U	44 UJ	44 UJ	44 U	44 U	44 U	44 U	**2200**	R	44 UJ
Benzyl alcohol	ug/L	NA		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	66	9.3 U	8.8 U
bis(2-Chloroethoxy)methane	ug/L	5		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	R
bis(2-Chloroethyl)ether	ug/L	1		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	**17**	R	R
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	5		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U

TABLE 5 (cont'd)

2022 Analytical Results Summary - Overburden
Love Canal Long-Term Monitoring Program
Niagara Falls, New York

Sample Location:	Units	Class GA Standard	Class GA Guidance	7115	7125	7130	7132	8106	8115	8125	9105	9113	9118	9118	10135	10178A	10178B
Sample ID:				WG-TR1045-01A-091922-SG-001	WG-TR1045-01A-091922-SG-002	WG-TR1045-01A-091922-SG-003	WG-TR1045-01A-091922-SG-004	WG-TR1045-01A-092622-SG-030	WG-TR1045-01A-091922-SG-005	WG-TR1045-01A-091922-SG-006	WG-TR1045-01A-092622-SG-032	WG-TR1045-01A-092622-SG-033	WG-TR1045-01A-092622-SG-034	WG-TR1045-01A-092622-SG-035	WG-TR1045-01A-092622-SG-036	WG-TR1045-01A-092022-SG-012	WG-TR1045-01A-092322-SG-029
Sample Date:				09/19/2022	09/19/2022	09/19/2022	09/19/2022	09/26/2022	09/19/2022	09/19/2022	09/26/2022	09/26/2022	09/26/2022	09/26/2022 (Duplicate)	09/26/2022	09/20/2022	09/23/2022
Parameters																	
Butyl benzylphthalate (BBP)	ug/L	NA	50	9.3 U	9.8 U	9.1 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	R	8.8 U
Chrysene	ug/L	NA	0.002	9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Dibenz(a,h)anthracene	ug/L	NA		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Dibenzofuran	ug/L	NA		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Diethyl phthalate	ug/L	NA	50	9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Dimethyl phthalate	ug/L	NA	50	9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Di-n-butylphthalate (DBP)	ug/L	50		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	R
Di-n-octyl phthalate (DnOP)	ug/L	NA	50	9.3 U	9.8 U	9.1 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	R	8.8 U
Fluoranthene	ug/L	NA	50	9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Fluorene	ug/L	NA	50	9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Hexachlorobenzene	ug/L	0.04		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Hexachlorobutadiene	ug/L	0.5		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Hexachlorocyclopentadiene	ug/L	5		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Hexachloroethane	ug/L	5		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	R
Indeno(1,2,3-cd)pyrene	ug/L	NA	0.002	9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Isophorone	ug/L	NA	50	9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Naphthalene	ug/L	NA	10	9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	**2000**	R	R
Nitrobenzene	ug/L	0.4		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	R
N-Nitrosodi-n-propylamine	ug/L	NA		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	R
N-Nitrosodiphenylamine	ug/L	NA	50	9.3 U	9.8 U	9.1 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	8.8 U	R	8.8 U
Pentachlorophenol	ug/L	1		46 U	49 U	45 U	44 U	R	44 U	44 U	R	R	R	R	R	46 U	44 U
Phenanthrene	ug/L	NA	50	9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Phenol	ug/L	1		9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	**21**	9.3 U	8.8 U
Pyrene	ug/L	NA	50	9.3 U	9.8 U	9.1 U	8.8 U	R	8.8 U	8.8 U	R	R	R	R	R	R	8.8 U
Discrete Compounds Detected:				0	0	0	0	0	0	0	0	0	0	0	17	0	0
Polychlorinated Biphenyls																	
Aroclor-1016 (PCB-1016)	ug/L	0.09		0.91 U	0.88 U	0.88 U	0.89 U	0.88 U	0.89 U	0.89 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U
Aroclor-1221 (PCB-1221)	ug/L	0.09		1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U
Aroclor-1232 (PCB-1232)	ug/L	0.09		0.91 U	0.88 U	0.88 U	0.89 U	0.88 U	0.89 U	0.89 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U
Aroclor-1242 (PCB-1242)	ug/L	0.09		0.91 U	0.88 U	0.88 U	0.89 U	0.88 U	0.89 U	0.89 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U
Aroclor-1248 (PCB-1248)	ug/L	0.09		0.91 U	0.88 U	0.88 U	0.89 U	0.88 U	0.89 U	0.89 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U
Aroclor-1254 (PCB-1254)	ug/L	0.09		0.91 U	0.88 U	0.88 U	0.89 U	0.88 U	0.89 U	0.89 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U
Aroclor-1260 (PCB-1260)	ug/L	0.09		0.91 U	0.88 U	0.88 U	0.89 U	0.88 U	0.89 U	0.89 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U
Discrete Compounds Detected:				0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pesticides																	
4,4'-DDD	ug/L	0.3		0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	0.13 U	0.044 U	0.044 U
4,4'-DDE	ug/L	0.2		0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	0.13 U	0.044 U	0.044 U
4,4'-DDT	ug/L	0.2		0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	0.13 U	0.044 U	0.044 U
Aldrin	ug/L	ND		0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	**0.35**	0.044 U	0.044 U
alpha-BHC	ug/L	0.01		**0.030 J**	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	**9.0**	0.044 U	**0.042 J**
alpha-Chlordane	ug/L	0.05		0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	0.13 U	0.044 U	0.044 U
beta-BHC	ug/L	0.04		0.023 J	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	**2.8**	0.044 U	0.044 U
delta-BHC	ug/L	0.04		**0.098**	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	**4.7**	0.044 U	0.033 J
Dieldrin	ug/L	0.004		0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	0.13 U	0.044 U	0.044 U
Endosulfan I	ug/L	NA		0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	0.13 U	0.044 U	0.044 U
Endosulfan II	ug/L	NA		0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	0.13 U	0.044 U	0.044 U
Endosulfan sulfate	ug/L	NA		0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	0.13 U	0.044 U	0.044 U
Endrin	ug/L	ND		0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	0.13 U	0.044 U	0.044 U
Endrin ketone	ug/L	5		0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	0.13 U	0.044 U	0.044 U
gamma-BHC (lindane)	ug/L	0.05		0.038 J	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	**1.6**	0.044 U	**0.048**
gamma-Chlordane	ug/L	0.05		0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	0.13 U	0.044 U	0.044 U
Heptachlor	ug/L	0.04		0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	0.13 U	0.044 U	0.044 U
Heptachlor epoxide	ug/L	0.03		0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	0.13 U	0.044 U	0.044 U
Methoxychlor	ug/L	35		0.045 U	0.044 U	0.044 U	0.045 U	0.044 U	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.044 U	0.13 U	0.044 U	0.044 U
Toxaphene	ug/L	0.06		0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.5 U	0.50 U	0.50 U
Discrete Compounds Detected:				4	0	0	0	0	0	0	0	0	0	0	5	0	3

Notes:
J - Estimated concentration
U - Not detected at the associated reporting limit
UJ - Not detected; associated reporting limit is estimated
ND - Not detected
NA - Not available
4.0 -Exceeds New York State Ambient Water Quality Standard (Class GA Standard)

TABLE 6

2022 Analytical Results Summary - Bedrock
Love Canal Long-Term Monitoring Program
Niagara Falls, New York

Sample Location:	Units	Class GA Standard	Class GA Guidance	3257	5221	6209	7205	8210	9205	9210	9210	10205	10210A	10210B
Sample ID:				WG-TR1045-01A-092622-SG-031	WG-TR1045-01A-922222-SG-019	WG-TR1045-01A-092222-SG-017	WG-TR1045-01A-092122-SG-016	WG-TR1045-01A-092122-SG-013	WG-TR1045-01A-092222-SG-018	WG-TR1045-01A-092222-SG-020	WG-TR1045-01A-092222-SG-021	WG-TR1045-01A-092322-SG-029	WG-TR1045-01A-092322-SG-023	WG-TR1045-01A-092322-SG-024
Sample Date:				9/26/2022	9/22/2022	9/22/2022	9/21/2022	9/21/22	9/22/2022	9/22/2022	09/22/22 (Duplicate)	9/23/2022	9/23/22	9/23/2022
Parameters														
Volatile Organic Compounds														
1,1,1-Trichloroethane	ug/L	5		25 U	25 U	50 U	5.0 U	5.0 U	50 U	250 U	250 U	5.0 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	ug/L	5		25 U	25 U	50 U	5.0 U	5.0 U	50 U	250 U	250 U	5.0 U	5.0 U	5.0 U
1,1,2-Trichloroethane	ug/L	1		25 U	25 U	50 U	5.0 U	5.0 U	50 U	250 U	250 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethane	ug/L	5		25 U	25 U	50 U	5.0 U	5.0 U	50 U	250 U	250 U	5.0 U	5.0 U	5.0 U
1,1-Dichloroethene	ug/L	5		25 U	25 U	50 U	5.0 U	5.0 U	50 U	250 U	250 U	5.0 U	5.0 U	5.0 U
1,2-Dichloroethane	ug/L	0.6		25 U	25 U	50 U	5.0 U	5.0 U	50 U	250 U	250 U	5.0 UJ	5.0 U	5.0 UJ
1,2-Dichloropropane	ug/L	1		25 U	25 U	50 U	5.0 U	5.0 U	50 U	250 U	250 U	5.0 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	NA		50 U	50 U	100 U	10 U	10 U	100 U	500 U	500 U	0.92 J	10 U	10 U
2-Hexanone	ug/L		50	50 U	50 U	100 U	10 U	10 U	100 U	500 U	500 U	10 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	NA		50 U	50 U	100 U	10 U	10 U	100 U	500 U	500 U	10 U	10 U	10 U
Acetone	ug/L		50	50 U	50 U	100 U	10 U	10 U	100 U	500 U	500 U	10 U	10 U	10 U
Benzene	ug/L	1		25 U	25 U	50 U	5.0 U	5.0 U	50 U	250 U	250 U	5.0 U	5.0 U	5.0 U
Bromodichloromethane	ug/L		50	25 U	25 U	50 U	5.0 U	5.0 U	50 U	250 U	250 U	5.0 U	5.0 U	5.0 U
Bromoform	ug/L		50	25 U	25 U	50 U	5.0 U	5.0 U	50 U	250 U	250 U	5.0 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	ug/L	5		25 U	25 U	50 U	5.0 UJ	5.0 UJ	50 U	250 U	250 U	5.0 U	5.0 U	5.0 U
Carbon disulfide	ug/L		60	8.7 J	3.6 J	100 U	1.0 J	1.4 J	6.5 J	500 U	500 U	1.7 J	6.6 J	1.9 J
Carbon tetrachloride	ug/L	5		25 U	25 U	50 U	5.0 U	5.0 U	50 U	250 U	250 U	5.0 UJ	5.0 UJ	5.0 U
Chlorobenzene	ug/L	5		25 U	25 U	50 U	5.0 U	5.0 U	50 U	250 U	250 U	5.0 U	5.0 U	5.0 U
Chloroethane	ug/L	5		25 U	25 U	50 U	5.0 U	5.0 U	50 U	250 U	250 U	5.0 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	7		25 U	25 U	2.8 J	5.0 U	5.0 U	50 U	250 U	250 U	5.0 U	5.0 U	5.0 U
Chloromethane (Methyl chloride)	ug/L	5		25 U	25 U	50 U	5.0 U	5.0 U	50 U	250 U	250 U	5.0 UJ	5.0 UJ	5.0 UJ
cis-1,2-Dichloroethene	ug/L	5		25 U	25 U	50 U	5.0 U	5.0 U	50 U	250 U	250 U	5.0 U	5.0 U	5.0 U
cis-1,3-Dichloropropene	ug/L	0.4		25 U	25 U	50 U	5.0 U	5.0 U	50 U	250 U	250 U	5.0 U	5.0 U	5.0 U
Dibromochloromethane	ug/L		50	25 U	25 U	50 U	5.0 U	5.0 U	50 U	250 U	250 U	5.0 U	5.0 U	5.0 U
Ethylbenzene	ug/L	5		25 U	25 U	50 U	5.0 U	5.0 U	50 U	250 U	250 U	5.0 U	5.0 U	5.0 U
Methylene chloride	ug/L	5		25 U	25 U	50 U	5.0 U	5.0 U	50 U	250 U	250 U	5.0 U	5.0 U	5.0 U
Styrene	ug/L	5		25 U	25 U	50 U	5.0 U	5.0 U	50 U	250 U	250 U	5.0 U	5.0 U	5.0 U
Tetrachloroethene	ug/L	5		25 U	25 U	50 U	5.0 U	5.0 U	50 U	250 U	250 U	5.0 U	5.0 U	5.0 U
Toluene	ug/L	5		25 U	25 U	50 U	0.67 J	5.0 U	2.8 J	250 U	250 U	5.0 U	0.78 J	5.0 U
trans-1,2-Dichloroethene	ug/L	5		25 U	25 U	50 U	5.0 U	5.0 U	50 U	250 U	250 U	5.0 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	ug/L	0.4		25 U	25 U	50 U	5.0 U	5.0 U	50 U	250 U	250 U	5.0 U	5.0 U	5.0 U
Trichloroethene	ug/L	5		25 U	25 U	50 U	5.0 U	5.0 U	50 U	250 U	250 U	5.0 U	5.0 U	0.27 J
Vinyl acetate	ug/L	NA		50 U	50 U	100 U	10 U	10 U	100 U	500 U	500 U	10 U	10 U	10 U
Vinyl chloride	ug/L	2		25 U	25 U	50 U	5.0 U	5.0 U	50 U	250 U	250 U	5.0 U	5.0 U	5.0 U
Xylenes (total)	ug/L	5		25 U	25 U	50 U	5.0 U	5.0 U	50 U	250 U	250 U	5.0 U	0.23 J	0.36 J
Discrete Compounds Detected:				1	1	1	2	1	2	0	0	2	3	3
Semi-volatile Organic Compounds														
1,2,4-Trichlorobenzene	ug/L	5		8.8 U	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
1,2-Dichlorobenzene	ug/L	3		R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
1,3-Dichlorobenzene	ug/L	3		R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
1,4-Dichlorobenzene	ug/L	3		8.8 U	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	5		R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
2,4,5-Trichlorophenol	ug/L	1		R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
2,4,6-Trichlorophenol	ug/L	1		R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
2,4-Dichlorophenol	ug/L	5		R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
2,4-Dimethylphenol	ug/L	1	50	R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
2,4-Dinitrophenol	ug/L	1	10	R	44 U	46 U	45 U	45 U	44 U	44 U	44 U	R	R	R
2,4-Dinitrotoluene	ug/L	5		8.8 UJ	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
2,6-Dinitrotoluene	ug/L	5		8.8 U	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
2-Chloronaphthalene	ug/L	NA	10	R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
2-Chlorophenol	ug/L	1		R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
2-Methylnaphthalene	ug/L	NA		R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
2-Methylphenol	ug/L	1		R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
2-Nitroaniline	ug/L	5		R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
2-Nitrophenol	ug/L	1		R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
3&4-Methylphenol	ug/L	NA		R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
3,3'-Dichlorobenzidine	ug/L	5		R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
3-Nitroaniline	ug/L	5		8.8 U	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
4,6-Dinitro-2-methylphenol	ug/L	1		R	44 U	46 U	45 U	45 U	44 U	44 U	44 U	R	R	R
4-Bromophenyl phenyl ether	ug/L	NA		R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
4-Chloro-3-methylphenol	ug/L	1		R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
4-Chloroaniline	ug/L	5		R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
4-Chlorophenyl phenyl ether	ug/L	NA		R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
4-Nitroaniline	ug/L	5		8.8 U	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
4-Nitrophenol	ug/L	1		44 U	44 U	46 U	45 U	45 U	44 U	44 U	44 U	R	R	R
Acenaphthene	ug/L	NA	20	R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
Acenaphthylene	ug/L	NA		R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
Anthracene	ug/L	NA	50	R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
Benzo(a)anthracene	ug/L	NA	0.002	8.8 U	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
Benzo(a)pyrene	ug/L	ND		R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
Benzo(b)fluoranthene	ug/L	NA	0.002	R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
Benzo(g,h,i)perylene	ug/L	NA		R	8.8 U	9.3 U	8.9 UJ	8.9 UJ	8.8 U	8.8 U	8.8 U	R	R	R

TABLE 6 (cont'd)

2022 Analytical Results Summary - Bedrock
Love Canal Long-Term Monitoring Program
Niagara Falls, New York

Sample Location:	Units	Class GA Standard	Class GA Guidance	3257	5221	6209	7205	8210	9205	9210	9210	10205	10210A	10210B
Sample ID:				WG-TR1045-01A-092622-SG-031	WG-TR1045-01A-922222-SG-019	WG-TR1045-01A-092222-SG-017	WG-TR1045-01A-092122-SG-016	WG-TR1045-01A-092122-SG-013	WG-TR1045-01A-092222-SG-018	WG-TR1045-01A-092222-SG-020	WG-TR1045-01A-092222-SG-021	WG-TR1045-01A-092322-SG-029	WG-TR1045-01A-092322-SG-023	WG-TR1045-01A-092322-SG-024
Sample Date:				9/26/2022	9/22/2022	9/22/2022	9/21/2022	9/21/22	9/22/2022	9/22/2022	09/22/22 (Duplicate)	9/23/2022	9/23/22	9/23/2022
Parameters														
Benzo(k)fluoranthene	ug/L	NA	0.002	R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
Benzoic acid	ug/L	NA		44 U	44 UJ	46 UJ	45 UJ	37 J	44 U	44 U	44 UJ	R	R	R
Benzyl alcohol	ug/L	NA		R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
bis(2-Chloroethoxy)methane	ug/L	5		R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
bis(2-Chloroethyl)ether	ug/L	1		R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	5		R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
Butyl benzylphthalate (BBP)	ug/L	NA	50	8.8 U	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
Chrysene	ug/L	NA	0.002	R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
Dibenz(a,h)anthracene	ug/L	NA		R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
Dibenzofuran	ug/L	NA		R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
Diethyl phthalate	ug/L	NA	50	R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
Dimethyl phthalate	ug/L	NA	50	R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
Di-n-butylphthalate (DBP)	ug/L	50		R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
Di-n-octyl phthalate (DnOP)	ug/L	NA	50	8.8 U	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
Fluoranthene	ug/L	NA	50	R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
Fluorene	ug/L	NA	50	R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
Hexachlorobenzene	ug/L	0.04		R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
Hexachlorobutadiene	ug/L	0.5		R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
Hexachlorocyclopentadiene	ug/L	5		R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
Hexachloroethane	ug/L	5		R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
Indeno(1,2,3-cd)pyrene	ug/L	NA	0.002	R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
Isophorone	ug/L	NA	50	R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
Naphthalene	ug/L	NA	10	R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
Nitrobenzene	ug/L	0.4		R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
N-Nitrosodi-n-propylamine	ug/L	NA		R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
N-Nitrosodiphenylamine	ug/L	NA	50	8.8 U	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
Pentachlorophenol	ug/L	1		R	44 U	46 U	45 UJ	45 UJ	44 U	44 U	44 U	R	R	R
Phenanthrene	ug/L	NA	50	R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
Phenol	ug/L	1		R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
Pyrene	ug/L	NA	50	R	8.8 U	9.3 U	8.9 U	8.9 U	8.8 U	8.8 U	8.8 U	R	R	R
Discrete Compounds Detected:				0	0	0	0	1	0	0	0	0	0	0
Polychlorinated Biphenyls														
Aroclor-1016 (PCB-1016)	ug/L	0.09		0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.93 U	0.88 U	0.88 U	0.88 U	0.88 U
Aroclor-1221 (PCB-1221)	ug/L	0.09		1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U	1.8 U	1.8 U	1.8 U	1.8 U
Aroclor-1232 (PCB-1232)	ug/L	0.09		0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.93 U	0.88 U	0.88 U	0.88 U	0.88 U
Aroclor-1242 (PCB-1242)	ug/L	0.09		0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.93 U	0.88 U	0.88 U	0.88 U	0.88 U
Aroclor-1248 (PCB-1248)	ug/L	0.09		0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.93 U	0.88 U	0.88 U	0.88 U	0.88 U
Aroclor-1254 (PCB-1254)	ug/L	0.09		0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.93 U	0.88 U	0.88 U	0.88 U	0.88 U
Aroclor-1260 (PCB-1260)	ug/L	0.09		0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.93 U	0.88 U	0.88 U	0.88 U	0.88 U
Discrete Compounds Detected:				0	0	0	0	0	0	0	0	0	0	0
Pesticides														
4,4'-DDD	ug/L	0.3		0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.046 U	0.044 U	0.044 U	0.044 U	0.044 U
4,4'-DDE	ug/L	0.2		0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.046 U	0.044 U	0.044 U	0.044 U	0.044 U
4,4'-DDT	ug/L	0.2		0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.046 U	0.044 U	0.044 U	0.044 U	0.044 U
Aldrin	ug/L	ND		0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.046 U	0.044 U	0.044 U	0.044 U	0.044 U
alpha-BHC	ug/L	0.01		0.044 U	0.044 U	0.044 U	0.12	0.079	0.044 U	0.13	0.077	0.044 U	0.035 J	0.091
alpha-Chlordane	ug/L	0.05		0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.046 U	0.044 U	0.044 U	0.044 U	0.044 U
beta-BHC	ug/L	0.04		0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.046 U	0.044 U	0.044 U	0.044 U	0.044 U
delta-BHC	ug/L	0.04		0.044 U	0.044 U	0.044 U	0.10	0.060	0.021 J	0.18	0.12	0.044 U	0.040 J	0.027 J
Dieldrin	ug/L	0.004		0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.046 U	0.044 U	0.044 U	0.044 U	0.044 U
Endosulfan I	ug/L	NA		0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.046 U	0.044 U	0.044 U	0.044 U	0.044 U
Endosulfan II	ug/L	NA		0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.046 U	0.044 U	0.044 U	0.044 U	0.044 U
Endosulfan sulfate	ug/L	NA		0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.046 U	0.044 U	0.044 U	0.044 U	0.044 U
Endrin	ug/L	ND		0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.046 U	0.044 U	0.044 U	0.044 U	0.044 U
Endrin ketone	ug/L	5		0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.046 U	0.044 U	0.044 U	0.044 U	0.044 U
gamma-BHC (lindane)	ug/L	0.05		0.044 U	0.044 U	0.044 U	0.12	0.073	0.044 U	0.12	0.078	0.044 U	0.030 J	0.039 J
gamma-Chlordane	ug/L	0.05		0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.046 U	0.044 U	0.044 U	0.044 U	0.044 U
Heptachlor	ug/L	0.04		0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.046 U	0.044 U	0.044 U	0.044 U	0.044 U
Heptachlor epoxide	ug/L	0.03		0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.046 U	0.044 U	0.044 U	0.044 U	0.044 U
Methoxychlor	ug/L	35		0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.044 U	0.046 U	0.044 U	0.044 U	0.044 U	0.044 U
Toxaphene	ug/L	0.06		0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Discrete Compounds Detected:				0	0	0	3	3	1	3	3	0	3	3

Notes:
J - Estimated concentration
U - Not detected at the associated reporting limit
UJ - Not detected; associated reporting limit is estimated
R - Rejected
ND - Not detected
NA - Not available
0.18 -Exceeds New York State Ambient Water Quality Standard (Class GA Standard)

TABLE 6 (cont'd)

2022 Analytical Results Summary - Bedrock
Love Canal Long-Term Monitoring Program
Niagara Falls, New York

Sample Location:	Units	Class GA Standard	10210C	10215	10225A	10225B	10225C	10270	10270	10272	10278	MW-01	MW-02
Sample ID:			WG-TR1045-01A-092322-SG-025	WG-tR1045-01A-092322-SG-026	WG-TR1045-01A-092322-SG-027	WG-TR1045-01A-092322-SG-028	WG-TR1045-01A-092022-SG-007	WG-TR1045-01A-092022-SG-009	WG-TR1045-01A-092022-SG-010	WG-TR1045-01A-092022-SG-008	WG-TR1045-01A-092022-SG-011	WG-TR1045-01A-092122-SG-015	WG-TR1045-01A-092122-SG-014
Sample Date:			09/23/2022	09/23/2022	09/23/2022	09/23/2022	09/20/2022	09/20/2022	09/20/2022 (Duplicate)	09/20/2022	9/20/2022	09/21/2022	09/21/2022
Parameters													
Volatile Organic Compounds													
1,1,1-Trichloroethane	ug/L	5	5.0 U	5.0 U	5.0 U	5.0 U	250 U	50 U	50 U	250 U	25 U	5.0 U	5.0 U
1,1,2,2-Tetrachloroethane	ug/L	5	5.0 U	5.0 U	5.0 U	5.0 U	250 U	50 U	50 U	250 U	25 U	5.0 U	5.0 U
1,1,2-Trichloroethane	ug/L	1	5.0 U	5.0 U	5.0 U	5.0 U	250 U	50 U	50 U	250 U	25 U	5.0 U	5.0 U
1,1-Dichloroethane	ug/L	5	5.0 U	5.0 U	5.0 U	5.0 U	250 U	50 U	50 U	250 U	25 U	5.0 U	5.0 U
1,1-Dichloroethene	ug/L	5	5.0 U	5.0 U	5.0 U	5.0 U	250 U	50 U	50 U	250 U	25 U	5.0 U	5.0 U
1,2-Dichloroethane	ug/L	0.6	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	250 U	50 U	50 U	250 U	25 U	5.0 U	5.0 U
1,2-Dichloropropane	ug/L	1	5.0 U	5.0 U	5.0 U	5.0 U	250 U	50 U	50 U	250 U	25 U	5.0 U	5.0 U
2-Butanone (Methyl ethyl ketone) (MEK)	ug/L	NA	10 U	10 U	1.1 *J*	0.83 *J*	500 U	100 U	100 U	500 U	50 U	10 U	10 U
2-Hexanone	ug/L		10 U	10 U	10 U	10 U	500 U	100 U	100 U	500 U	50 U	10 U	10 U
4-Methyl-2-pentanone (Methyl isobutyl ketone) (MIBK)	ug/L	NA	10 U	10 U	10 U	10 U	500 U	100 U	100 U	500 U	50 U	10 U	10 U
Acetone	ug/L		10 U	10 U	10 U	10 U	500 U	100 U	100 U	500 U	50 U	10 U	10 U
Benzene	ug/L	1	5.0 U	5.0 U	5.0 U	5.0 U	250 U	50 U	50 U	250 U	25 U	5.0 U	5.0 U
Bromodichloromethane	ug/L		5.0 U	5.0 U	5.0 U	5.0 U	250 U	50 U	50 U	250 U	25 U	5.0 U	5.0 U
Bromoform	ug/L		5.0 U	5.0 U	5.0 U	5.0 U	250 U	50 U	50 U	250 U	25 U	5.0 U	5.0 U
Bromomethane (Methyl bromide)	ug/L	5	5.0 U	5.0 U	5.0 U	5.0 U	250 U	50 U	50 U	250 U	25 U	5.0 UJ	5.0 UJ
Carbon disulfide	ug/L		2.1 *J*	3.5 *J*	53	7.9 *J*	500 U	100 U	6.9 *J*	500 U	10 *J*	0.81 *J*	0.77 *J*
Carbon tetrachloride	ug/L	5	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	250 U	50 U	50 U	250 U	25 U	5.0 U	5.0 U
Chlorobenzene	ug/L	5	5.0 U	5.0 U	5.0 U	5.0 U	250 U	50 U	50 U	250 U	25 U	5.0 U	5.0 U
Chloroethane	ug/L	5	5.0 U	5.0 U	5.0 U	5.0 U	250 U	50 U	50 U	250 U	25 U	5.0 U	5.0 U
Chloroform (Trichloromethane)	ug/L	7	5.0 U	5.0 U	5.0 U	5.0 U	250 U	50 U	50 U	18 J	25 U	5.0 U	5.0 U
Chloromethane (Methyl chloride)	ug/L	5	5.0 UJ	5.0 UJ	5.0 UJ	5.0 UJ	250 U	50 U	50 U	250 U	25 U	5.0 U	5.0 U
cis-1,2-Dichloroethene	ug/L	5	5.0 U	5.0 U	5.0 U	5.0 U	250 U	50 U	50 U	250 U	25 U	5.0 U	5.0 U
cis-1,3-Dichloropropene	ug/L	0.4	5.0 U	5.0 U	5.0 U	5.0 U	250 U	50 U	50 U	250 U	25 U	5.0 U	5.0 U
Dibromochloromethane	ug/L		5.0 U	5.0 U	5.0 U	5.0 U	250 U	50 U	50 U	250 U	25 U	5.0 U	5.0 U
Ethylbenzene	ug/L	5	5.0 U	5.0 U	0.60 *J*	5.0 U	250 U	50 U	50 U	250 U	25 U	5.0 U	5.0 U
Methylene chloride	ug/L	5	5.0 U	5.0 U	5.0 U	5.0 U	250 U	50 U	50 U	250 U	25 U	5.0 U	5.0 U
Styrene	ug/L	5	5.0 U	5.0 U	5.0 U	5.0 U	250 U	50 U	50 U	250 U	25 U	5.0 U	5.0 U
Tetrachloroethene	ug/L	5	5.0 U	5.0 U	5.0 U	5.0 U	250 U	50 U	50 U	250 U	25 U	5.0 U	5.0 U
Toluene	ug/L	5	5.0 U	5.0 U	0.46 *J*	5.0 U	250 U	50 U	50 U	250 U	25 U	5.0 U	5.0 U
trans-1,2-Dichloroethene	ug/L	5	5.0 U	5.0 U	5.0 U	5.0 U	250 U	50 U	50 U	250 U	25 U	5.0 U	5.0 U
trans-1,3-Dichloropropene	ug/L	0.4	5.0 U	5.0 U	5.0 U	5.0 U	250 U	50 U	50 U	250 U	25 U	5.0 U	5.0 U
Trichloroethene	ug/L	5	5.0 U	5.0 U	5.0 U	5.0 U	250 U	50 U	50 U	250 U	25 U	5.0 U	5.0 U
Vinyl acetate	ug/L	NA	10 U	10 U	10 U	10 U	500 U	100 U	100 U	500 U	50 U	10 U	10 U
Vinyl chloride	ug/L	2	5.0 U	5.0 U	5.0 U	5.0 U	250 U	50 U	50 U	250 U	25 U	5.0 U	5.0 U
Xylenes (total)	ug/L	5	5.0 U	5.0 U	0.68 *J*	5.0 U	250 U	50 U	50 U	250 U	25 U	5.0 U	5.0 U
Discrete Compounds Detected:			1	1	5	2	0	0	1	1	1	1	1
Semi-volatile Organic Compounds													
1,2,4-Trichlorobenzene	ug/L	5	R	R	R	R	5.5 *J*	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
1,2-Dichlorobenzene	ug/L	3	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
1,3-Dichlorobenzene	ug/L	3	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
1,4-Dichlorobenzene	ug/L	3	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
2,2'-Oxybis(1-chloropropane) (bis(2-Chloroisopropyl) ether)	ug/L	5	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
2,4,5-Trichlorophenol	ug/L	1	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
2,4,6-Trichlorophenol	ug/L	1	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
2,4-Dichlorophenol	ug/L	5	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
2,4-Dimethylphenol	ug/L	1	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
2,4-Dinitrophenol	ug/L	1	R	R	R	R	44 U	45 U	45 U	44 U	46 U	45 U	45 U
2,4-Dinitrotoluene	ug/L	5	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
2,6-Dinitrotoluene	ug/L	5	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
2-Chloronaphthalene	ug/L	NA	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
2-Chlorophenol	ug/L	1	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
2-Methylnaphthalene	ug/L	NA	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
2-Methylphenol	ug/L	1	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
2-Nitroaniline	ug/L	5	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
2-Nitrophenol	ug/L	1	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
3&4-Methylphenol	ug/L	NA	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
3,3'-Dichlorobenzidine	ug/L	5	R	R	R	R	8.8 UJ	8.9 UJ	8.9 UJ	8.8 UJ	9.3 UJ	8.9 U	9.1 U
3-Nitroaniline	ug/L	5	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
4,6-Dinitro-2-methylphenol	ug/L	1	R	R	R	R	44 U	45 U	45 U	44 U	46 U	45 U	45 U
4-Bromophenyl phenyl ether	ug/L	NA	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
4-Chloro-3-methylphenol	ug/L	1	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
4-Chloroaniline	ug/L	5	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
4-Chlorophenyl phenyl ether	ug/L	NA	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
4-Nitroaniline	ug/L	5	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
4-Nitrophenol	ug/L	1	R	R	R	R	44 U	45 U	45 U	44 U	46 U	45 U	45 U
Acenaphthene	ug/L	NA	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
Acenaphthylene	ug/L	NA	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
Anthracene	ug/L	NA	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
Benzo(a)anthracene	ug/L	NA	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
Benzo(a)pyrene	ug/L	ND	R	R	R	R	8.8 UJ	8.9 UJ	8.9 UJ	8.8 UJ	9.3 UJ	8.9 U	9.1 U
Benzo(b)fluoranthene	ug/L	NA	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
Benzo(g,h,i)perylene	ug/L	NA	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 UJ	9.1 UJ

TABLE 6 (cont'd)

2022 Analytical Results Summary - Bedrock
Love Canal Long-Term Monitoring Program
Niagara Falls, New York

Sample Location: / Sample ID: / Sample Date:	Units	Class GA Standard	10210C WG-TR1045-01A-092322-SG-025 09/23/2022	10215 WG-tR1045-01A-092322-SG-026 09/23/2022	10225A WG-TR1045-01A-092322-SG-027 09/23/2022	10225B WG-TR1045-01A-092322-SG-028 09/23/2022	10225C WG-TR1045-01A-092022-SG-007 09/20/2022	10270 WG-TR1045-01A-092022-SG-009 09/20/2022	10270 WG-TR1045-01A-092022-SG-010 09/20/2022 (Duplicate)	10272 WG-TR1045-01A-092022-SG-008 09/20/2022	10278 WG-TR1045-01A-092022-SG-011 9/20/2022	MW-01 WG-TR1045-01A-092122-SG-015 09/21/2022	MW-02 WG-TR1045-01A-092122-SG-014 09/21/2022
Parameters													
Benzo(k)fluoranthene	ug/L	NA	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
Benzoic acid	ug/L	NA	R	R	R	R	44 UJ	45 UJ	45 UJ	44 UJ	46 UJ	45 UJ	45 UJ
Benzyl alcohol	ug/L	NA	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
bis(2-Chloroethoxy)methane	ug/L	5	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
bis(2-Chloroethyl)ether	ug/L	1	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
bis(2-Ethylhexyl)phthalate (DEHP)	ug/L	5	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
Butyl benzylphthalate (BBP)	ug/L	NA	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
Chrysene	ug/L	NA	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
Dibenz(a,h)anthracene	ug/L	NA	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
Dibenzofuran	ug/L	NA	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
Diethyl phthalate	ug/L	NA	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
Dimethyl phthalate	ug/L	NA	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
Di-n-butylphthalate (DBP)	ug/L	50	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
Di-n-octyl phthalate (DnOP)	ug/L	NA	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
Fluoranthene	ug/L	NA	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
Fluorene	ug/L	NA	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
Hexachlorobenzene	ug/L	0.04	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
Hexachlorobutadiene	ug/L	0.5	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
Hexachlorocyclopentadiene	ug/L	5	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
Hexachloroethane	ug/L	5	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
Indeno(1,2,3-cd)pyrene	ug/L	NA	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
Isophorone	ug/L	NA	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
Naphthalene	ug/L	NA	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
Nitrobenzene	ug/L	0.4	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
N-Nitrosodi-n-propylamine	ug/L	NA	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
N-Nitrosodiphenylamine	ug/L	NA	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
Pentachlorophenol	ug/L	1	R	R	R	R	44 U	45 U	45 U	44 U	46 U	45 UJ	45 UJ
Phenanthrene	ug/L	NA	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
Phenol	ug/L	1	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
Pyrene	ug/L	NA	R	R	R	R	8.8 U	8.9 U	8.9 U	8.8 U	9.3 U	8.9 U	9.1 U
Discrete Compounds Detected:			0	0	0	0	1	0	0	0	0	0	0
Polychlorinated Biphenyls													
Aroclor-1016 (PCB-1016)	ug/L	0.09	0.91 U	0.89 U	0.88 U	0.88 U	0.88 U	0.93 U	0.88 U	0.93 U	0.89 U	0.93 U	0.88 U
Aroclor-1221 (PCB-1221)	ug/L	0.09	1.8 U	1.8 U	1.8 U	1.8 U	1.8 U	1.9 U	1.8 U	1.9 U	1.8 U	1.9 U	1.8 U
Aroclor-1232 (PCB-1232)	ug/L	0.09	0.91 U	0.89 U	0.88 U	0.88 U	0.88 U	0.93 U	0.88 U	0.93 U	0.89 U	0.93 U	0.88 U
Aroclor-1242 (PCB-1242)	ug/L	0.09	0.91 U	0.89 U	0.88 U	0.88 U	0.88 U	0.93 U	0.88 U	0.93 U	0.89 U	0.93 U	0.88 U
Aroclor-1248 (PCB-1248)	ug/L	0.09	0.91 U	0.89 U	0.88 U	0.88 U	0.88 U	0.93 U	0.88 U	0.93 U	0.89 U	0.93 U	0.88 U
Aroclor-1254 (PCB-1254)	ug/L	0.09	0.91 U	0.89 U	0.88 U	0.88 U	0.88 U	0.93 U	0.88 U	0.93 U	0.89 U	0.93 U	0.88 U
Aroclor-1260 (PCB-1260)	ug/L	0.09	0.91 U	0.89 U	0.88 U	0.88 U	0.88 U	0.93 U	0.88 U	0.93 U	0.89 U	0.93 U	0.88 U
Discrete Compounds Detected:			0	0	0	0	0	0	0	0	0	0	0
Pesticides													
4,4'-DDD	ug/L	0.3	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.046 U	0.044 U	0.046 U	0.045 U	0.046 U	0.044 U
4,4'-DDE	ug/L	0.2	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.046 U	0.044 U	0.046 U	0.045 U	0.046 U	0.044 U
4,4'-DDT	ug/L	0.2	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.046 U	0.044 U	0.046 U	0.045 U	0.046 U	0.044 U
Aldrin	ug/L	ND	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.046 U	0.044 U	0.046 U	0.045 U	0.046 U	0.044 U
alpha-BHC	ug/L	0.01	**0.036 J**	**0.062**	0.044 U	0.044 U	**0.052 J**	0.046 U	0.044 U	0.046 U	**0.10 J**	0.046 U	0.044 U
alpha-Chlordane	ug/L	0.05	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.046 U	0.044 U	0.046 U	0.045 U	0.046 U	0.044 U
beta-BHC	ug/L	0.04	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.046 U	0.044 U	0.046 U	0.033 J	0.046 U	0.044 U
delta-BHC	ug/L	0.04	**0.047**	**0.055**	0.044 U	0.044 U	**0.23 J**	**0.061 J**	0.044 U	**0.20**	**0.18**	0.046 U	0.044 U
Dieldrin	ug/L	0.004	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.046 U	0.044 U	0.046 U	0.045 U	0.046 U	0.044 U
Endosulfan I	ug/L	NA	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.046 U	0.044 U	0.046 U	0.045 U	0.046 U	0.044 U
Endosulfan II	ug/L	NA	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.046 U	0.044 U	0.046 U	0.045 U	0.046 U	0.044 U
Endosulfan sulfate	ug/L	NA	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.046 U	0.044 U	0.046 U	0.045 U	0.046 U	0.044 U
Endrin	ug/L	ND	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.046 U	0.044 U	0.046 U	0.045 U	0.046 U	0.044 U
Endrin ketone	ug/L	5	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.046 U	0.044 U	0.046 U	0.045 U	0.046 U	0.044 U
gamma-BHC (lindane)	ug/L	0.05	0.039 J	0.049	0.044 U	0.044 U	**0.064 J**	**0.049 J**	0.044 U	**0.064 J**	**0.12 J**	0.046 U	0.044 U
gamma-Chlordane	ug/L	0.05	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.046 U	0.044 U	0.046 U	0.045 U	0.046 U	0.044 U
Heptachlor	ug/L	0.04	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.046 U	0.044 U	0.046 U	0.045 U	0.046 U	0.044 U
Heptachlor epoxide	ug/L	0.03	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.046 U	0.044 U	0.046 U	0.045 U	0.046 U	0.044 U
Methoxychlor	ug/L	35	0.045 U	0.045 U	0.044 U	0.044 U	0.044 U	0.046 U	0.044 U	0.046 U	0.045 U	0.046 U	0.044 U
Toxaphene	ug/L	0.06	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Discrete Compounds Detected:			3	3	0	0	3	2	0	2	4	0	0

Notes:
J - Estimated concentration
U - Not detected at the associated reporting limit
UJ - Not detected; associated reporting limit is estimated
R - Rejected
ND - Not detected
NA - Not available
0.18 -Exceeds New York State Ambient Water Quality Standard (Class GA Standard)

APPENDIX C

REFERENCES

LOVE CANAL SITE
REFERENCES (Complete)
DOCUMENTS and REPORTS

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APPENDIX D

CLIMATE CHANGE

In accordance with the Region 2 Guidance for Incorporating Climate Change Considerations in Five Year Reviews, three climate change tools were utilized to assess the Love Canal Site. Relevant screenshots from each of the tools assessed are referenced and shown below.

The first tool utilized to assess Love Canal site is called *The Climate Explorer.* Figure D-1 displays that the change in total precipitation and the number of dry days is minimal over the next 30+ years.

The second tool utilized is called *Risk Factor.* According to this tool, the flood factor is minimal over the next 30 years, as well as the threat of fire. See Figure D-2.

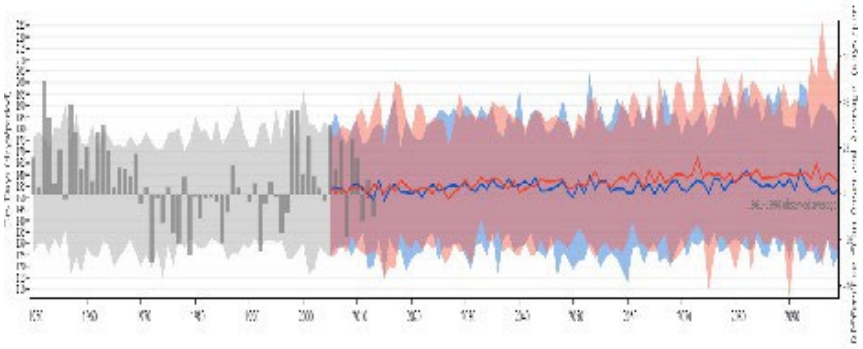
The final tool utilized is called *Sea Level Rise.* Niagara Falls is not at risk of flooding as a result of sea level rise nor high tide flooding and is not considered to be socially vulnerable. Figure D-3 shows no effect to the Love Canal site with a 10-foot sea level rise.

Based on this information, potential Site impacts from climate change have been assessed, and the performance of the remedy is currently not at risk from the expected effects of climate change in the region of Niagara Falls and/or near the Site.

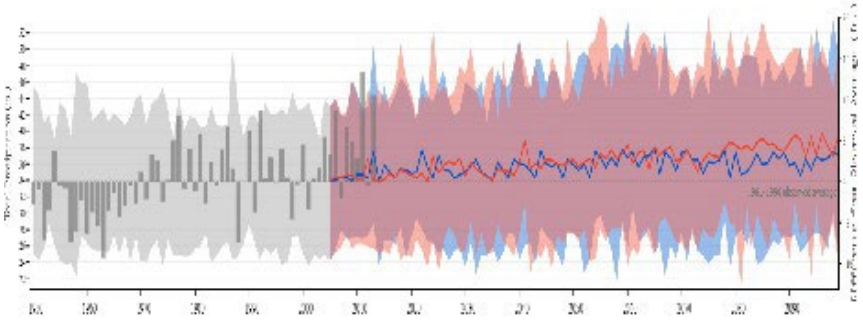
FIGURE D-1

Climate Explorer
NIAGARA FALLS, NEW YORK

GRAPH 1 – NUMBER OF DRY DAYS
GRAPH 2 – TOTAL PRECIPITATION



Graph 1



Graph 2

FIGURE D-2

RISK FACTOR TOOL
LOVE CANAL - NAGARA FALLS, NY

1/10 Flood Factor 2/10 Fire Factor 1/10 Wind Factor 2/10 Heat Factor

Create a Free Account to Get Access to Additional Features

Flood Factor

1 /10 Minimal FLOOD FACTOR

How is Flood Factor Calculated?

Good news! This property has minimal risk of flooding over the next 30 years.

Fire Factor

2 /10 Minor FIRE FACTOR

How is Fire Factor Calculated?

This property has minor risk from wildfires based on its building materials, distance to fire risk areas, and burnable materials such as vegetation.

This property is located in an ember zone of a potential nearby wildfire

FIGURE D-3: NOAA Sea Level Rise Viewer