NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Division of Environmental Remediation, Region 9
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March 2, 2023

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

Re: Periodic Review Report (PRR) Response Letter
Durez Div. - Occidental Chemical Corp., Site No.: 932018
North Tonawanda, Niagara County

Dear Joseph Branch (as the Certifying Party):

The Department has reviewed your Periodic Review Report (PRR) and IC/EC Certification for following period: December 31, 2021 to December 31, 2022.

The Department hereby accepts the PRR and associated Certification. The frequency of Periodic Reviews for this site is 1 year(s), your next PRR is due on January 30, 2024. You will receive a reminder letter and updated certification form 75-days prior to the due date. Regardless of receipt or not, of the reminder notice, the next PRR including the signed certification form, is still due on the date specified above.

While the PRR has been accepted for both the Plant (OU1) and Inlet (OU3), the Department has comments on both reports that are included in the attached. These comments will be clarified/revised as appropriate for the nature of the comment.

If you have any questions, or need additional certification forms, please contact me at 716-851-7220 or e-mail: benjamin.mcpherson@dec.ny.gov.

Sincerely,

Benjamin J McPherson

DN: cn=Benjamin McPherson, o=NYSDEC, ou=DER, email=benjamin.mcpherson@dec.ny.gov, c=US
Date: 2023.03.02 14:20:33 -05'00'

Benjamin McPherson
Project Manager
Professional Engineer 1 (Environmental)

Attachment

Ec:
Andrea Caprio – DEC

NEW YORK STATE | Department of Environmental Conservation

Benjamin McPherson – DEC
Clint Babcock – GSH (clint_babcock@oxy.com)
Joseph Branch – GSH (joseph_branch@oxy.com)
Dennis Hoyt – Geosyntec (DHoyt@Geosyntec.com)
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Ian Richardson – Geosyntec (IRichardson@Geosyntec.com)

Durez Plant (OU1):

1) Section 2.2.1, T-2A: the report indicates that there was insufficient NAPL for recovery. Since NAPL has not been removed from the piezometer since 2013 consideration should be given to purging the well dry of both groundwater and any NAPL to see if the formation still contains mobile NAPL;

2) Section 3.1, Walck Road Sewer Lateral: it is stated in this section that the sewer bedding collection lateral was installed to intercept any contamination that may be present in the sewer bedding. Consideration for sampling this lateral to determine if the water does require collection should be completed. If the sewer bedding water is no longer impacted by the site the lateral could be closed, reducing the amount of water treated by the IT system thus reducing energy consumption;

3) Section 4.3, NAPL: the units for the amount of NAPL disposed of off-site is missing from this section.

North Lobe/Inlet (OU3):

1) Section 2.2.2, Second Paragraph: it is not clear what the relevance of the top of the containment wall is relative to the top of the extraction well sumps. Given that DNAPL is of concern in the North Lobe it would seem more relevant to compare the sump elevations to the bottom elevation of the containment wall. This paragraph will be clarified as appropriate;

2) Section 3.1, Purge Logs: the groundwater sampling/purge record forms from Appendix C of the *Inlet Monitoring Plan (IMP)* [2019] are not included in the PRR. The logs from 2022 will be provided to the Department, and included in all future PRRs;

3) Section 3.1.1, MW-22I: in the last sentence of the second paragraph of this section it is believed that “MW-20I” should be revised to “MW-22I”;

4) Section 4, Second Paragraph: the first sentence in this paragraph states that the groundwater quality north and east of the cutoff wall has improved since the 2011/2012 injection events. It is not clear how much effect, if any, the injections would have had in these areas as the injections were primarily west of the cutoff wall and downgradient of the eastern wells. This statement was commented on in the 2021 PRR, and does not appear to have been revised; and

5) Section 5.1, Purging Modification: the field procedures in the IMP are for low flow monitoring, it is the text in Section 2.2.2 of the IMP that states that volumetric

purging will be completed prior to groundwater sampling. The Department is not opposed to updating procedures used at the site, but the proposed change would require a revision to the IMP, not a field procedure;

6) Table 2.4, NAPL Removal: there has been limited volume of NAPL removed from the extraction wells since 2015. Consideration should be given to removing all NAPL that is present in the sumps (regardless of NAPL elevation) to remove a potential source of groundwater contamination from the subsurface and allow for a better assessment of NAPL mobility within the containment wall;

7) Table 2.5, MW-17I: for the April 2022 monitoring event there is a depth to water reported for MW-17I, but the table note indicates the well could not be accessed due to a large boat being parked over it. It is not clear where this depth to water value came from;

8) Table 2.5, Installed Depth: for the extraction wells, and to a lesser degree the monitoring wells, there is a difference in the installed depth reported in this table and the well completion logs provided in Appendix A of the IMP. The reason for this difference will be clarified; and

9) Chart Index, Moving Average: clarification is requested on what period is used to generate the running averages shown on the charts in this index.

B&B Engineers & Geologists
of new york, p.c.

an affiliate of Geosyntec Consultants

2022 Site Management Periodic Review Report – Durez North Tonawanda

NYSDEC Site No. 932018
Durez North Tonawanda Interceptor Trench
700 Walck Road
North Tonawanda, New York

Prepared for

Glenn Springs Holdings, Inc.

Prepared by

B&B Engineers & Geologists of New York, P.C.
PO Box 351
Ransomville, NY 14131

Project Number TR1045-03A

January 30, 2023

EXECUTIVE SUMMARY

Glenn Springs Holdings, Inc. (GSH), an Occidental Chemical Corporation (OCC) affiliate, assumed operation, maintenance, and monitoring (OM&M) responsibilities for the former Durez North Tonawanda Facility Interceptor Trench (IT) (Site) from OCC effective July 1, 1998. Since that time, pursuant to the individual Site documents and subsequent approved modifications, GSH has conducted routine monitoring and maintenance programs at the Site. On October 1, 2008, GHD Services, Inc. (GHD), formerly Conestoga-Rovers & Associates (CRA), was retained to perform operation, maintenance, monitoring, and reporting activities for the Site under contract to and direct management of GSH. Effective August 1, 2022, B&B Engineers and Geologists of New York, P.C. (B&B), an affiliate of Geosyntec Consultants, Inc. (Geosyntec), was retained by GSH to perform operation, maintenance, monitoring, and reporting activities for the Site. GHD completed all tasks required on the Site through July 31, 2022, and then shared responsibilities for the Site tasks with B&B from August 1, 2022 through August 31, 2022. B&B took over responsibility for all tasks beginning September 1, 2022.

Approximately 38.8 million gallons of groundwater was collected from the IT, treated, and discharged in calendar year 2022. Water is discharged to the nearby City of North Tonawanda stormwater sewer under the authority of a New York State Department of Environmental Conservation State Pollutant Discharge Elimination System Permit (SPDES) (Permit No. NY0001198). The volume of water treated and discharged was reported in the monthly SPDES Discharge Monitoring Reports (DMRs) submitted to the New York State Department of Environmental Conservation (NYSDEC). The 2022 semiannual groundwater contours and measured water levels at the piezometer clusters indicate that an overall inward gradient to the IT is being maintained. Therefore, the purpose and primary objective of the IT are being met.

Groundwater samples are collected annually from the Site for chemical analysis. The analytical results from the April 2022 groundwater monitoring event indicate that no volatile organic compounds (VOCs) or total recoverable phenolics were detected at concentrations greater than the laboratory method detection limits (MDLs). These results are consistent with Site historical data.

In 2022, GSH monitored non-aqueous phase liquid (NAPL) presence at piezometer T-2A during two NAPL thickness measurement and semiannual water level rounds at select wells to demonstrate an inward gradient in the vicinity of T-2A (as indicated by a lower groundwater elevation in T-2A than monitoring wells farther outside of the IT than T-2A). The water level rounds were completed in March and September 2022. The thickness of the NAPL at T-2A observed during the annual NAPL thickness monitoring event in May 2022 was insufficient to allow pumping at the well. Therefore, no NAPL was removed.

The groundwater monitoring program is conducted to collect the hydraulic and groundwater chemical data necessary to evaluate both the effectiveness of the IT and long-term trends in groundwater chemistry in select monitoring wells. The hydraulic data collected in calendar year 2022 indicates that the IT is functioning effectively, and the chemical groundwater data collected demonstrates that the IT continues to prevent off-Site migration of impacted groundwater.

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1. INTRODUCTION

Glenn Springs Holdings, Inc. (GSH), an Occidental Chemical Corporation (OCC) affiliate, assumed operation, maintenance, and monitoring (OM&M) responsibilities for the former Durez North Tonawanda Facility Interceptor Trench (IT) (Site) from OCC effective July 1, 1998. On October 1, 2008, GHD Services, Inc. (GHD), formerly Conestoga-Rovers & Associates (CRA), was retained to perform operation, maintenance, monitoring, and reporting activities for the Site under contract to and direct management of GSH. Effective August 1, 2022, B&B Engineers and Geologists of New York, P.C. (B&B), an affiliate of Geosyntec Consultants, Inc. (Geosyntec), was retained by GSH to perform operation, maintenance, monitoring, and reporting activities for the Site. GHD completed all tasks required on the Site through July 31, 2022 and then shared responsibilities for the Site tasks with B&B from August 1, 2022 through August 31, 2022. B&B took over responsibility for all tasks beginning September 1, 2022.

This report was prepared on behalf of OCC and covers operation, maintenance, and monitoring activities for calendar year 2022. The completed 2022 NYSDEC Institutional and Engineering Controls Certification Form is included as Appendix A.

This report describes the monitoring and maintenance activities conducted and presents the data collected at the Site between January 1, 2022 and December 31, 2022.

2. DUREZ NORTH TONAWANDA FACILITY/IT SITE

Pursuant to Appendix B of the *Durez Partial Consent Judgment* (PCJ), groundwater monitoring at the former OCC Durez Division North Tonawanda Plant is being conducted as part of the Site-wide groundwater remediation program. This monitoring began on October 2, 1989, prior to the installation of a groundwater remediation system, the principal component of which is a perimeter groundwater interceptor trench. This report presents data obtained during the 2022 calendar year.

Site-wide semiannual hydraulic monitoring for the period covered by this annual report was conducted in March and September 2022. The annual groundwater quality monitoring was conducted in May 2022. All work conducted during 2022 was performed in accordance with the protocols and requirements in Appendix B of the PCJ "*Monitoring, Operations, and Maintenance Plan*" (1989) and subsequent *Minor Modification #10, Rev. 2 "Minor Change to Appendix B "Monitoring, Operations, and Maintenance Plan*" (September 1999).

This report summarizes the purpose and scope of the current groundwater monitoring program, discusses the hydraulic effectiveness of the IT, and provides a summary of groundwater chemistry monitoring results. The completed NYSDEC 2022 *Institutional and Engineering Controls Certification Form* is included in Appendix A.

2.1 Site Monitoring

2.1.1 Purpose

The purpose and primary design objectives of the IT are:

- To collect and capture groundwater located inside the IT that could otherwise migrate off the Site
- To collect and capture groundwater located outside the Site by creating an inward hydraulic gradient toward the IT (lower groundwater elevation in the trench than in the piezometers outside the trench)

The IT groundwater monitoring program is conducted to collect the hydraulic and groundwater quality data necessary to evaluate the effectiveness of the IT and the long-term trends in groundwater quality in selected monitoring wells.

2.1.2 Scope

The hydraulic monitoring program consists of semiannual measurements of water levels in 48 monitoring wells located on and off the Site and semiannual measurement of water levels in 36 on-Site piezometers. The piezometer arrays consist of three wells (A, B, and C): the first well (A) is located on the outside perimeter of IT; the second well (B) is located in the IT bedding material; and the third well (C) is located in the Plant side of the IT for a total of twelve, 3-well piezometers arrays. The piezometer arrays are referred to as the "T-Series" piezometers and have

been monitored since their installation in August 1990. The monitoring well and piezometer locations are presented on Figure 1.1.

The groundwater quality monitoring program at the Site consists of annual sampling and chemical analyses of groundwater collected from seven monitoring wells located off and on the Site. The selection and utilization of these wells are consistent with the requirements specified in the PCJ or from approved minor changes to the PCJ. All groundwater samples collected in 2022 were analyzed for the Site-specific list of targeted organic compounds, total recoverable phenolics, and total organic carbon (TOC).

Specific conductance, pH, and temperature were measured in the field during sample collection. The results of the annual monitoring are further discussed in Section 2.3.

2.2 Hydraulic Effectiveness of the IT

Total monthly precipitation in Niagara Falls and Buffalo, New York during 2022 (obtained from the National Oceanic and Atmospheric Administration [NOAA]) is provided in Table 2.1. Monthly precipitation for both areas is provided since the Site is approximately equidistant between both official weather stations.

Groundwater elevation contour maps developed using groundwater elevations measured on March 8 and September 14, 2022 (presented as Figures 2.1 and 2.2, respectively) show the configuration of the water table surface for each measurement event. Due to the steep hydraulic gradient created by the IT (lower groundwater elevation in the trench than in the piezometers outside the trench), not all of the contour lines immediately adjacent to the IT can be shown on the contour maps. Groundwater elevations for 2022 are presented in Table 2.2. Two additional monitoring wells, NP-19 and NP-27 were hydraulically monitored in addition to the monitoring wells and piezometers in the current hydraulic monitoring program to provide additional hydraulic information in the vicinity of piezometer T-2A. The significance of piezometer T-2A is further discussed sin Section 2.2.1.

Groundwater elevations for the T-series piezometers are presented on Figures 2.1 and 2.2 to show the magnitude of the hydraulic gradient adjacent to the IT. The water levels in a number of the piezometers (A, B, and C piezometers, respectively) were dry when measured due to the influence of the trench and limited local recharge. Pumping from the IT is maintained such that the water level is below the top of the glaciolacustrine clay unit, which serves as the lower confining unit for the overburden groundwater at the Site. Maintaining this lowered groundwater elevation causes the IT to act as a continuous sump surrounding the Site.

During the March 8, 2022 hydraulic monitoring event (refer to Figure 2.1), an inward gradient was observed at all trench piezometer arrays with the exception of piezometer array T-8 and T-13. A review of the elevation data for piezometer array T-8, shows that the elevation of the IT (T-8B-574.98 feet [ft]) was very slightly higher than the interior (T-8C - 574.15 ft) and exterior (T-8A - 574.69 ft) piezometer elevations. The T-8 piezometer array is located on the northeast portion of the IT at the near highest point of the IT. The nearest monitoring well to the T-8C is

MW-3 which had a groundwater elevation of 573.58 ft which would indicate that a slight outward gradient may be present at this location during the monitoring event. Further evaluation of the hydrogeological conditions proximate to the T-8 piezometer array is further discussed in Section 5 conclusions. A review of the groundwater elevation data for the piezometer array T-13 shows that the elevation of the IT (T-13B, 570.55 ft) was very slightly higher than the interior T-13C piezometer elevation (570.53 ft). The T-13 piezometer array is located in the southwest corner of the site along Walck Road near the main gate entrance. Nearby wells located to the north of the piezometer array inside the IT indicate that the groundwater gradient for that area is towards the IT. None of the 12 piezometer arrays were dry during monitoring.

During the September 14, 2022 hydraulic monitoring event (refer to Figure 2.2), an inward gradient was observed at all trench piezometer arrays except at piezometer T-8. A review of the T-8 elevation data indicates that the exterior piezometer (T-8C) was dry with a bottom elevation of 571.02 ft. while the IT piezometer T-8B elevation was 574.32 ft, which would be indicative of a possible outward gradient at this location. The groundwater elevation at the nearby well MW-3 was 568.61 ft which would also be indicative of a possible outward gradient from the IT. At 10 of the 12 piezometer arrays (T-2, T-3, T-4, T-5, T-6, T-7, T-8, T-9, T-10, and T-11), at least one of the A or B piezometers in the array was dry. However, an inward gradient was still observed at each of these locations except T-8 which was previously discussed. The following discussions provide additional information for the each dry piezometer sets to support an inward gradient towards the IT.

- When the bottom depth of piezometer T-2B (563.93 ft) is compared to the groundwater elevation in piezometer T-2A (567.31 ft), which is located directly outside of the IT, an inward hydraulic gradient towards the trench was present at this array.
- When the groundwater elevation in piezometer T-3B (566.20 ft) is compared to the groundwater elevation in the nearby monitoring well NP-35 (568.13 ft), which is located outside of the IT and in close proximity to array T-3, an inward hydraulic gradient towards the trench was present at this location.
- When the groundwater elevation in piezometer T-4B (566.11 ft) is compared to the groundwater elevation in the nearby monitoring well MW-1 (569.59 ft), which is located outside of the IT and in close proximity to array T-4, an inward hydraulic gradient towards the trench was present at this location.
- When the groundwater elevation in piezometer T-5B (565.80 ft) is compared to the groundwater elevation in the nearby monitoring well NP-22A (569.10 ft), which is located outside of the IT and in close proximity to array T-5, an inward hydraulic gradient towards the trench was present at this location.
- When the groundwater elevation in piezometer T-6B (566.84 ft) is compared to the groundwater elevation in the nearby monitoring well NP-22A (569.10 ft), which is located outside of the IT and in close proximity to array T-6, an inward hydraulic gradient towards the trench can be assumed to be present at this location.

- Piezometer array T-7 is located on a lateral of the IT that is perpendicular to the IT. As such T-7A and T-7C would both be considered exterior piezometers. Piezometers T-7B and T-7A were both dry during the monitoring event with bottom elevations of 565.80 ft and 569.46 ft, respectively. However, piezometer T-7C had water present and a groundwater elevation of 567.10 ft. which would indicate an inward gradient. In addition, the nearest wells in the direction of the T-7A piezometer with groundwater present are wells NP-42 (570.60 ft) and NP-46 (567.68 ft). The nearest dry well is NP-43 with a bottom elevation of 570.11 ft). These three nearby wells would indicate an inward gradient towards T-7A and the IT.
- When the groundwater elevation in piezometer T-9B (567.93 ft) is compared to the groundwater elevation in the nearby monitoring well NP-37 (571.26 ft), which is located outside of the IT and the nearest well with groundwater present in it, it is reasonable to conclude that an inward gradient towards the IT likely exists in that area. Also, the nearest well to T-9A is NP-38 which was dry with a well bottom elevation of 571.17. This means that the true groundwater elevation is less than the bottom of the well NP-38 since it was dry during the monitoring event. Well NP-38 is located between well NP-37 and T-9A. The groundwater gradient from NP-37 towards NP-38 further supports the conclusion that a groundwater gradient towards T-9A and the IT exists in this area.
- When the groundwater elevation in piezometer T-10B (567.67 ft) is compared to the groundwater elevation in the nearby monitoring well NP-24 (570.98 ft), which is located outside of the IT and in close proximity to array T-10, an inward hydraulic gradient towards the trench can be assumed to be present at this location.
- When the bottom depth of piezometer T-11B (566.25 ft) is compared to the groundwater elevations in piezometer T-11A (569.90 ft) an inward hydraulic gradient towards the trench was present at this location.

2.2.1 Hydraulic Containment at the T-2 Piezometer Cluster

In December 2008, GSH submitted a letter to the NYSDEC detailing 1) the discovery of NAPL presence in T-2A, and 2) the investigation activities that were conducted to identify the cause of the NAPL presence. Subsequently, GSH and the NYSDEC agreed that GSH would continue to pump the NAPL from the T-2A location and monitor hydraulic conditions at T-2A and surrounding wells to demonstrate a continued inward gradient towards the IT in this area.

During 2022, no NAPL was removed from the T-2A piezometer (see Table 2.3) as the thickness was insufficient to allow for pumping. Table 2.4 presents the groundwater elevations observed during the semiannual (March and September) hydraulic monitoring at T-2A and surrounding monitoring wells. Groundwater elevations in these wells and piezometers from the March 8 and September 14, 2022 monitoring events are shown on Figures 2.3 and 2.4, respectively. As indicated in Section 2.2, an inward gradient into the trench was present at piezometer array T-2 during both semiannual monitoring events.

2.3 Groundwater Quality Monitoring

Groundwater quality monitoring at the Site consists of seven monitoring wells (NP-22A, NP-23, NP-27, P-32A, NP-35, NP-44, and NP-46) being sampled annually. The annual groundwater sampling event was conducted in May 2022. Four of the seven monitoring wells (NP-22A, NP-27, P-32A, and NP-46) produced a sufficient volume of groundwater for sampling during this event. Wells NP-23, NP-35, and NP-44 did not yield sufficient groundwater to either purge prior to sampling or sample after purging and, therefore, were considered "dry". Purge records for this event are presented in Appendix B.

Groundwater samples were submitted to the New York State Department of Health (NYSDOH) National Environmental Laboratory Approval Program (NELAP New York ID #10145) certified laboratory ALS Environmental (ALS) located in Rochester, New York for analysis for the following analytes/parameters and associated required method detection and reporting limits:

Table 1 Analytical Analytes/Parameters

Targeted Organic Compounds	Reporting Limit (RL) (µg/L)	Method Detection Limit (MDL) (µg/L)
Benzene	1	0.20
Chlorobenzene	1	0.20
Toluene	1	0.20
2-Chlorotoluene	1	0.20
1,2-Dichlorobenzene	1	0.20
1,4-Dichlorobenzene	1	0.20
1,2,3-Trichlorobenzene	1	0.25
1,2,4-Trichlorobenzene	1	0.34
Total Recoverable Phenolics	5	2.9
TOC	1,000	500

Notes:
µg/L – micrograms per liter

In addition to the above analytes, measurements of pH, temperature, and specific conductivity were conducted and documented in the field by the sampling team. The quality assurance/quality control (QA/QC) review for the sampling event is presented in Appendix C.

2.3.1 Summary of Groundwater Chemistry Results

A summary of the analytical results for the 2022 groundwater quality monitoring event is presented in Table 2.5. Volatile organic compounds (VOCs) and total recoverable phenolics were not detected above the laboratory RLs in the samples collected from the four wells sampled. As indicated in the QA/QC review in Appendix C, the laboratory reported results down to the laboratory's MDL for each analyte. These MDLs are shown in the table above. With the exception

of the MDL for total recoverable phenolics, these MDLs are less than or equal to the New York State (NYS) Class GA Groundwater Standards (Class GA Groundwater Standards) set forth in the NYSDEC *Division of Water Technical and Operational Guidance Series (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations (June 1998)*. The MDL for total recoverable phenolics increased from 1 µg/L to 2.9 µg/L in 2020 based on a change in laboratory guidance for MDL determination. No analyte detections less than the RL but greater than the MDL were reported. TOC concentrations were detected above the RL, but there is no NYS water quality standard for TOC. Historical groundwater data are presented in Appendix D of this report and demonstrate that the May 2022 sample results are within the historical range for the Site and that the IT continues to prevent off-Site migration of Site groundwater.

3. GROUNDWATER COLLECTION SYSTEM AND PANHANDLE REMEDIATION

This section has been prepared to fulfill the requirements for the Groundwater Collection System and Panhandle Remediation Annual Report as set forth in Appendix B of the PCJ. The *Operation and Maintenance (O&M) Manual*, dated July 2019, provides procedures and protocols for the instrumentation, operation, maintenance, and inspection of the system.

3.1 Groundwater Collection System

The groundwater collection system consists of an 8,300-foot long groundwater IT, one lateral trench that extends off the former plant property to the south in the southwest corner of the IT, one lateral trench that extends to the north of the IT on the north portion of the property, three lift stations, and a main collection pump station (Figure 1.1). The IT creates a closed-loop groundwater sink and a groundwater flow divide around the Site between on-site impacted areas and clean off-site areas. Underground piping conveys collected groundwater to a NAPL decanter and then into two aboveground steel storage tanks from which the water is pumped to an on-Site activated carbon treatment system. The collected water is treated by the on-Site process. After treatment with granular activated carbon (GAC), the treated water is discharged under the Site's NYSDEC SPDES permit (No. NY0001198) to the City of North Tonawanda storm sewer system.

Since 2011, all collected groundwater has been recovered through the IT. Approximately 38.8 million gallons of groundwater from the IT were collected, treated, and discharged in 2022 compared to 28.0 million gallons in 2021. The volume of water treated and discharged was reported to the NYSDEC in the monthly NYSDEC SPDES Discharge Monitoring Reports (DMRs). No NAPL was collected in the decanter in 2022.

A lateral drain is present and runs from the bedding of the City of North Tonawanda storm sewer located in Walck Road to trench manhole MH-4+20.2. This lateral is designed to drain the sewer bedding into the IT system to capture any chemistry potentially present in the bedding.

Semiannual inspections of each of the trench manholes and NAPL collectors were performed on May 11 and November 4, 2022. The inspection results are included in Appendix E. The November 2022 inspection revealed surcharged conditions in several manholes from manhole MH26+55.5 downstream to manhole MH13+99.3 which is adjacent to Lift Station 13+73.2 (LS #1). The surcharged conditions were likely a result of a possible blockage in the IT within that section, possibly from root growth within the IT in this area (historically root blockages have been observed in this section of the IT which results in periodic cleaning of the line to remove the root blockages). In December 2022, Sevenson Environmental Services, Inc was retained to operate a high-pressure jetter vac truck to “cut out” the root blockages. Cleaning activities took place over one day and surcharge conditions began to recede once the cleaning was complete.

Inspection of the treatment system carbon beds and groundwater collection system is conducted on a monthly basis. The inspections conducted in 2022 show that the treatment system carbon bed and the groundwater collections system are functioning as designed.

3.2 Panhandle Remediation

The inspections required by the panhandle monitoring program were conducted on April 9, 2022 and November 8, 2022. The inspection forms for 2022 are included in Appendix E.

Vegetation is plentiful, native species of wetland/forestland plants are colonizing the area, and there are no obvious symptoms of stress. In addition to the native colonization, native trees and shrubs were planted in the areas surrounding the engineered wetlands and along the access road on the east side of the panhandle area. The ditch culverts are in good condition, and there is good accessibility to monitoring wells.

4. SITE ACTIVITIES

The activities and repairs performed in 2022 are summarized in the sections below. The activities are grouped into four categories: IT Maintenance, Monitoring Well/Piezometer Maintenance, Process, and Non-Process. Process Activities are activities that influenced the treatment system for the Site; Non-Process Activities are activities performed on Site during the year that had no impact on the treatment system for the Site.

4.1 IT Maintenance

The semiannual inspections of the trench manholes, which were performed on May 11, 2022 and November 4, 2022, verified that no appreciable sediment buildup was occurring within the IT. Inspection forms are included in Appendix E. However, the November 2022 inspection did reveal surcharged conditions in several manholes from manhole MH26+55.5 downstream to manhole MH13+99.3 which is adjacent to Lift Station 13+73.2 (LS #1). The surcharged conditions were likely a result of a possible blockage in the IT within that section likely from root growth infiltrating the IT piping. Root growth blockages have been a historical occurrence within this section of the IT resulting in periodic cleaning of the IT to remove root growth. In December 2022, Sevenson Environmental Services, Inc. was retained to operate a high-pressure jetter vac truck to "cut out" the root blockages. Cleaning activities took place over one day and surcharge conditions began to recede once the cleaning was complete.

4.2 Well Maintenance and Replacement

Well inspections conducted during July 2021 indicated that repairs were required at well P-16 at the Site. In 2021, a permanent repair was not able to be completed due to flooded conditions at the well. A temporary plug was affixed to the hole at that time. In 2022, permanent repairs were not able to be completed due to overgrown vegetation and flooded conditions at the well. Repairs are scheduled to be completed in the summer of 2023 when water conditions in the wetland area should be at the lowest.

Piezometers T-4C, T-5A and T-8C had minor repairs completed which included new concrete base pads.

Routine maintenance performed included repairing locks and replacing J-plugs.

4.3 Process Activities

Activities that were performed during 2022 related to the Site's collection and treatment process are listed below:

- Performed preventative maintenance on Site equipment throughout the year
- Replaced pressure gauges on filters, carbon beds, and sac beds
- Replaced valve, pipe, and flanges by sand filter effluent valve

- Software upgrades to the SCDA system
- Repaired Lift Station 2 AMP meter
- Repaired Lift Station 2 pump
- Maintenance on air compressor
- Repaired air compressor blow off valve
- Repaired backwash pipe outside treatment building – replaced gasket and cleaned flange surfaces
- Transported hazardous waste generated at the Site for off-Site disposal

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

A total of 47,989 pounds of hazardous waste was generated from Site activities in 2022. The waste materials were sent off Site for disposal in accordance with applicable laws and regulations. Wastes generated in 2022 were disposed through incineration by Veolia ES Technical Solutions, LLC. and Clean Harbors El Dorado, LLC.

The hazardous waste shipped off Site for disposal in 2022 consisted of activated carbon, soil/debris, personal protective equipment, spent filter bags, and 6 of NAPL.

4.4 Non-Process Activities

Activities that were performed on Site during the year that were not part of the collection and/or treatment process are as follows:

- Performed Site beautification and maintenance of shrubs and bushes around the Treatment Process Building and mowed grassed areas
- Performed annual backflow preventer inspection
- Repaired backflow preventer test port
- Removed downed tree and branches
- Added stone to roadway near Lift Station 2
- Replaced process building lights to low voltage LEDs
- Replaced power cable at main gate
- Performed maintenance on the heating and cooling system

5. CONCLUSIONS

5.1 Summary

The purpose and primary design objective of the IT is to capture and collect groundwater that could otherwise migrate off the Site and to capture and collect groundwater located outside the Site by creating a hydraulic gradient toward the trench. Approximately 38.8 million gallons of groundwater from the IT were collected, treated, and discharged in calendar year 2022. The 2022 groundwater contours and measured water levels at the piezometer clusters indicate that an inward gradient to the IT is being maintained. Therefore, the purpose and primary objective of the IT are being met.

The IT groundwater monitoring program is conducted to collect the hydraulic and groundwater chemical data necessary to evaluate the effectiveness of the IT and long-term trends in groundwater chemistry in selected monitoring wells. The hydraulic data collected in 2022 indicate that the IT is functioning effectively. The chemical groundwater data collected in 2022 demonstrate that the IT continues to intercept impacted groundwater and prevent it from migrating off the Site.

The analytical results from the 2022 groundwater monitoring event showed no detectable concentrations of VOCs or total recoverable phenolics above the laboratory MDLs. Historical groundwater data demonstrate that the May 2022 sample results are within the historical range for the Site and that the IT continues to prevent off-Site migration of Site groundwater.

In 2022, the NAPL presence at piezometer T-2A was monitored through an annual measurement and semiannual water level rounds at select wells to demonstrate an inward gradient in the vicinity of T-2A (as indicated by a lower groundwater elevation in T-2A than monitoring wells farther outside of the IT besides T-2A). The thickness of the NAPL at T-2A in 2022 was insufficient to warrant pumping at the well. Therefore, no NAPL was removed.

Piezometer array T-8 continued to exhibit the potential for an outward gradient from the IT during both semiannual hydraulic monitoring events. As such GSH recommends continuing to monitor the T-8 piezometer array semiannually as required. In addition, GSH plans to further evaluate the IT from MH26+55.5 downstream to Lift Station 1 where root blockages were observed in November 2022 (these blockages were removed in December 2022). As a component of that evaluation, GSH will be video inspecting the IT in that section to verify the condition of the IT and that all root blockages were adequately removed. During the video inspection activities, GSH will also video inspect the IT from manhole MH49+48.4 downstream to manhole MH36+90.3 which is the area upstream and downstream of the T-8 piezometer array to verify there is no blockage in the IT or the line is damaged and flow is being restricted, thereby impairing the functionality of the IT and potentially having an adverse effect on groundwater gradients near the T-8 piezometer array.

Tables

Table 2.1

2022 Precipitation Data
Durez North Tonawanda
Glenn Springs Holdings, Inc.
North Tonawanda, New York

Month	Niagara Falls (Inches of Water)	Buffalo (Inches of Water)
January	2.48	3.59
February	3.71	4.57
March	2.19	2.21
April	1.10	2.79
May	2.53	3.02
June	2.43	2.87
July	2.65	2.31
August	4.74	2.81
September	3.58	4.30
October	3.92	3.73
November	3.83	5.13
December	3.80	10.31
Total	**36.96**	**47.64**

Notes:
Data shown are for Niagara Falls and Buffalo, New York, obtained from the National Oceanic & Atmospheric Administration

Table 2.2

2022 Groundwater Elevations
Durez North Tonawanda
Glenn Springs Holdings, Inc.
North Tonawanda, New York

Well ID	Reference Elevation (ft. AMSL)	Bottom of Well Elevation (ft. AMSL)	March 8, 2022	September 14, 2022
MW-1	574.52	565.29	574.27	569.59
MW-3	577.01	564.77	573.58	568.68
MW-4	576.40	564.18	573.68	568.68
NP-10	579.79	567.99	576.35	571.08
NP-13	576.69	567.72	572.81	Dry, <567.64
NP-15	578.91	568.28	576.80	569.31
NP-16	578.35	570.91	576.52	Dry, <570.85
NP-19	576.66	568.86	573.10	569.13
NP-2	577.37	567.64	573.96	571.60
NP-20	577.62	569.09	569.02	Dry, <569.1
NP-21	576.90	568.62	574.83	569.67
NP-22A	577.63	565.69	574.95	569.10
NP-23	577.92	569.03	569.35	569.38
NP-24	578.97	569.14	574.92	570.98
NP-25	578.33	568.35	575.77	573.50
NP-26	577.71	571.13	575.49	573.39
NP-27	577.22	567.37	573.86	Dry, <567.3
NP-32	577.25	571.45	574.73	Dry, <571.36
NP-35	577.42	567.50	569.30	568.13
NP-37	577.45	571.10	571.22	571.26
NP-38	578.09	571.21	575.55	Dry, <571.17
NP-4	577.16	567.81	576.98	576.84
NP-41	577.65	570.97	574.16	Dry, <570.81
NP-42	576.58	570.15	570.61	570.60
NP-43	577.08	571.12	574.34	Dry, <570.11
NP-44	576.63	570.31	566.35	565.82
NP-45	576.33	572.66	568.81	567.79
NP-46	576.87	567.71	574.06	567.68
NP-51	577.36	568.38	572.95	572.82
NP-6	575.21	568.87	571.41	570.75
NP-8	577.20	568.37	575.37	572.61
P-1	578.88	571.27	574.45	573.88
P-11	580.14	569.95	576.21	572.26
P-13	581.43	568.54	577.40	572.66
P-16	577.11	570.99	NM	575.01
P-17	577.46	572.00	574.49	574.27
P-1-96	574.93	567.85	571.57	567.89
P-19A	580.01	567.83	575.24	570.63
P-23	578.83	571.70	574.44	Dry, <571.65
P-27	580.25	569.50	573.67	571.88
P-29	578.74	570.98	576.35	572.54
P-2-96	574.57	568.49	570.22	Dry, <568.58
P-30	579.28	571.28	573.24	572.65
P-31	578.15	569.10	570.39	569.83
P-32A	577.67	565.70	570.99	569.00
P-34	576.12	566.39	574.15	568.94
P-3-96	574.42	567.76	571.45	Dry, <567.88
P-6A	578.93	566.13	574.02	570.55
P-7	577.46	567.91	575.15	571.52
SP-3	575.30	565.77	570.87	NM

Table 2.2

2022 Groundwater Elevations
Durez North Tonawanda
Glenn Springs Holdings, Inc.
North Tonawanda, New York

Well ID	Reference Elevation (ft. AMSL)	Bottom of Well Elevation (ft. AMSL)	March 8, 2022	September 14, 2022
T-10A	576.64	569.73	571.78	Dry, <569.69
T-10B	577.29	567.69	570.66	567.67
T-10C	577.00	569.71	570.86	570.07
T-11A	577.10	569.56	571.13	569.90
T-11B	577.27	565.89	570.89	Dry, <566.25
T-11C	577.69	570.54	571.47	Dry, <570.5
T-12A	574.64	567.41	574.64	569.79
T-12B	574.92	563.81	570.47	564.04
T-12C	575.45	568.43	571.94	570.02
T-13A	575.09	568.18	570.53	568.30
T-13B	575.07	561.78	570.55	562.30
T-13C	574.98	569.39	571.98	569.62
T-2A	577.86	565.94	572.98	567.31
T-2B	578.73	563.90	570.53	Dry, <563.93
T-2C	578.81	570.28	572.30	Dry, <570.19
T-3A	577.71	569.02	570.02	Dry, <568.96
T-3B	577.92	564.26	567.08	566.20
T-3C	578.00	565.83	570.40	566.66
T-4A	579.68	569.95	573.20	Dry, <569.97
T-4B	579.72	565.62	571.03	566.11
T-4C	580.17	568.21	NM	Dry, <575.59
T-5A	579.40	570.75	574.37	Dry, <570.99
T-5B	578.63	564.14	573.75	565.80
T-5C	575.74	572.41	575.00	571.91
T-6A	578.98	569.94	574.29	Dry, <569.98
T-6B	579.22	565.18	573.76	566.84
T-6C	580.41	568.62	576.22	569.04
T-7A	578.77	571.52	574.23	Dry, <569.46
T-7B	576.07	570.13	571.59	Dry, <565.8
T-7C	576.72	571.33	571.87	567.10
T-8A	575.87	571.11	574.69	Dry, <571.02
T-8B	575.97	565.99	574.98	574.32
T-8C	578.82	572.78	574.15	572.68
T-9A	579.12	571.04	574.56	Dry, <570.97
T-9B	575.91	568.43	572.30	567.93
T-9C	578.24	571.79	575.87	Dry, <571.68

Notes:

ft. AMSL	- Feet above mean sea level
Dry	- No water found in well at time of measurement
NM	- Not measured
P-7	- Couldn't be measured as car was on top of well
P-16	- Couldn't be measured as well was under water
T-4C	- Well damaged-unable to measure water level

Table 2.3

T-2A NAPL Pumping - 2008-2022
Durez North Tonawanda
Glenn Springs Holdings, Inc.
North Tonawanda, New York

Date	NAPL Extracted (ounces)	NAPL Thickness (inches)
10/29/2008	32	NM
10/30/2008	8	NM
10/31/2008	8	NM
11/3/2008	8	NM
11/11/2008	8	NM
11/18/2008	6	3
12/3/2008	6	3
12/30/2008	6	3
03/31/2009	6	3
4/14/2009	6	3
04/28/2009	6	3
05/14/2009	5	3
05/28/2009	3	2
06/10/2009	3	2
06/16/2009	3	2
06/24/2009	3	3
07/07/2009	3	3
07/15/2009	3	3
07/31/2009	1	1
08/14/2009	1	1
08/31/2009	1	1
09/08/2009	1	1
09/24/2009	1	1
10/8/2009	1	1
10/22/2009	1	1
11/5/2009	1	1
11/18/2009	1	1
11/25/2009	1	1
12/9/2009	1	1
12/23/2009	1	1
04/06/2010	1	1
04/19/2010	1	1
05/03/2010	1	1
05/19/2010	1	1
06/02/2010	1	1
06/16/2010	1	1
06/30/2010	1	1
07/13/2010	1	1
03/28/2011	1	1
10/4/2011	0.2	0.2
03/23/2012	2	0.04
06/11/2012	2	0.02
08/14/2012	2	0.02
11/06/2012	8	0.08

Table 2.3

T-2A NAPL Pumping - 2008-2022
Durez North Tonawanda
Glenn Springs Holdings, Inc.
North Tonawanda, New York

Date	NAPL Extracted (ounces)	NAPL Thickness (inches)
02/06/2013	0	1.2
05/03/2013	0	0.2
08/01/2013	0	0.3
11/06/2013	0	Trace
02/24/2014	0	0.8
05/23/2014	0	0.8
08/08/2014	0	27.0*
11/19/2014	0	0.5
02/19/2015	0	0.1
04/08/2015	0	0.17
09/02/2015	0	0.17
11/19/2015	0	0.36
02/04/2016	0	0.15
05/04/2016	0	0.11
08/12/2016	0	0.11
11/30/2016	0	Trace
02/10/2017	0	0.03
05/26/2017	0	0.09
08/02/2017	0	Trace
12/07/2017	0	Trace
11/21/2018	0	Trace
11/12/2019	0	0.24
08/05/2020	0	0.48
08/25/2021	0	Trace
05/21/2022	0	Trace
Total NAPL Removed:	**158.2 ounces**	

Notes:
NAPL - Non-Aqueous Phase Liquid
* - NAPL thickness represents an outlier reading with possible measurement error
NM - Not measured

Table 2.4

2021 T-2A NAPL Presence - Hydraulic Monitoring
Durez North Tonawanda
Glenn Springs Holdings, Inc.
North Tonawanda, New York

Well ID	Groundwater Elevations	
	March 8, 2022	September 14, 2022
NP-13	572.81	Dry, <567.64
NP-19	573.10	569.13
NP-20	569.02	Dry, <569.1
NP-27	573.86	Dry, <567.3
NP-35	569.30	568.13
NP-4	576.98	576.84
P-1	574.45	573.88
P-1-96	571.57	567.89
P-2-96	570.22	Dry, <568.58
P-3-96	571.45	Dry, <567.88
T-12A	574.64	569.79
T-12B	570.47	564.04
T-12C	571.94	570.02
T-13A	570.53	568.30
T-13B	570.55	562.30
T-13C	571.98	569.62
T-2A	572.98	567.31
T-2B	570.53	Dry, <563.93
T-2C	572.30	Dry, <570.19
T-3A	570.02	Dry, <568.96
T-3B	567.08	566.20
T-3C	570.40	566.66

Notes:
Elevations shown are in feet above mean sea level
Dry - No water found in well at time of measurement
NAPL - Non-Aqueous Phase Liquid
NM - Not measured

Table 2.5

2022 Groundwater Monitoring Analytical Results
Durez North Tonawanda
Glenn Springs Holdings, Inc.
North Tonawanda, New York

			Sample Location:	NP-22A[3]	NP-22A[3]	NP-27	NP-46	P-32A
			Sample ID:	NP-22A-0422	NP-70-0422	NP-27-0422	NP-46-0422	P-32A-0422
			Sample Date:	5/10/2022	5/10/2022 (Duplicate)	5/10/2022	5/10/2022	5/10/2022
Parameter[1]	**Groundwater Standard**[2]	**Units**	**Reporting Limit**					
Volatile Organic Compounds								
1,2,3-Trichlorobenzene	5	µg/L	1.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	5	µg/L	1.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	3	µg/L	1.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	3	µg/L	1.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Chlorotoluene	5	µg/L	1.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	1	µg/L	1.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	5	µg/L	1.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	5	µg/L	1.0	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
General Chemistry								
Phenolics (total)	0.001	mg/L	0.0050	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U
Total organic carbon (TOC)	-	mg/L	1.0	4.3	3.9	4.1	2.3	1.7
Field Parameters								
Temperature, field	-	Deg C	-	11.7	11.7	10.3	11.7	13.3
pH, field	6.5-8.5	s.u.	-	7.01	7.01	8.18	7.0	7.31
Conductivity, field	-	mS/cm	-	4.13	4.13	0.644	1.01	4.40

Notes:
(1) - Monitoring wells and compounds are in accordance with Appendix B, Durez Partial Consent Judgement; except analyses for
(2) - Total Recoverable Phenolics were reported as Phenols in February 1984
(3) - Groundwater standards are NYS Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 1998
NP-22A was installed in November 1993, approximately 10 feet from the former location of NP-22
µg/L - Micrograms per liter
mg/L - Milligrams per liter
s.u. - Standard Unit
mS/cm- Millisiemens per centimeter
U - Not detected at associated value
- Not applicable

Table 3.1

Amount of Groundwter Collected, Treated, and Discharged
Durez North Tonawanda
Glenn Springs Holdings, Inc.
North Tonawanda, New York

	Flow (gallons/day)													
	2009	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**
January	3,485,190	3,854,930	2,650,700	5,335,740	3,231,360	4,586,280	1,934,470	3,048,280	3,145,950	4,550,700	4,361,440	5,541,190	3,580,021	2,881,880
February	4,612,420	2,209,340	2,978,010	4,444,102	4,124,780	3,409,460	986,810	2,897,631	2,599,070	4,004,679	4,596,070	4,870,160	1,180,919	3,423,608
March	3,881,280	5,066,000	6,251,990	2,705,340	3,531,350	4,826,570	4,195,900	5,775,869	4,298,730	5,187,190	4,649,250	5,149,140	3,538,430	5,451,527
April	4,021,260	3,996,780	5,471,000	2,535,380	3,691,220	5,182,290	5,870,300	4,796,230	5,191,048	5,309,607	4,698,900	3,841,705	2,176,840	5,263,058
May	1,930,190	2,023,190	6,065,870	2,810,520	2,280,410	5,079,766	2,141,730	1,851,760	5,559,150	3,563,278	4,949,220	3,209,035	1,858,220	5,214,183
June	595,340	1,693,990	3,351,220	857,290	4,342,820	1,485,230	1,963,520	582,440	2,256,230	915,630	1,971,240	1,149,370	1,064,800	2,735,077
July	2,080,260	646,180	1,275,310	224,970	2,947,920	697,720	1,409,860	182,150	1,295,926	116,300	360,630	735,150	2,441,750	1,836,383
August	2,157,280	669,660	272,930	205,560	1,234,630	837,390	539,320	428,300	2,003,040	428,220	1,385,590	545,670	1,134,480	1,308,156
September	695,660	313,300	715,090	213,460	942,990	480,540	773,640	189,880	586,360	550,600	772,620	197,160	1,753,210	1,765,447
October	1,179,660	0	3,694,708	1,355,530	4,396,380	409,690	1,331,590	521,980	1,996,940	659,860	1,367,960	291,870	1,973,280	1,855,375
November	2,092,380	1,783,707	2,620,180	1,694,640	4,239,560	286,940	1,337,830	575,645	3,937,280	3,534,687	3,152,030	875,099	4,027,370	3,011,779
December	5,686,910	3,022,380	5,363,970	2,699,450	3,946,630	1,726,420	1,708,220	1,763,175	2,814,870	4,117,818	5,043,910	2,180,211	3,263,500	4,040,583
Total	**32,417,830**	**25,279,457**	**40,710,978**	**25,081,982**	**38,910,050**	**29,008,296**	**24,193,190**	**22,613,340**	**35,684,594**	**32,938,569**	**37,308,860**	**28,585,760**	**27,992,820**	**38,787,056**

Figures

NP-46
NP-51
NP-43
NP-42
MH
NP-41
NP-44
T-7
MW-3
MW-4
T-8
MH37+13.6
NP-45
MH
MH49+48.4
MH36+90.3
NP-15
MH40+76.1
MH43+54.3
LIFT STATION 46+28.2
NP-16
LEE AVENUE
SP-3
P-30
T-6
RAILROAD
P-17
P-23
WAYNE AVENUE
REVERE AVENUE
MH33+35.6
MH53+51.7
P-27
T-9
NP-22A
T-5
P-16
MH56+80.5
HARDING AVENUE
MW-1
MH57+97.1
NP-38
NASH ROAD
MH19+76.3
MH23+55.1
T-4
MH26+55.5
LIFT STATION 29+85.3
MH58+56.3
NP-35
T-3
NP-2
NP-10
NP-37
NIAGARA MOHAWK ROW
NP-32
WILSON AVENUE
NP-13
P-13
MH13+99.3
MH61+20.2
LIFT STATION 13+73.2
NP-20
MH17+20.8
NP-27
P-19A
P-29
NP-19
MH10+75.0
MH12+58.3
MH64+84.2
NP-26
T-2
P-11
MH66+26.5
MH8+13.9
T-10
NP-25
P-1-96
P-3-96
P-2-96
P-1
RETENTION TANKS
P-7
NP-24
TREATMENT BUILDING
DECANTER
MH5+54.7
VISITORS PARKING
OUTFALL 009
P-6A
MH69+97.0
MH4+20.2
T-13
MH80+95.2
T-12
MH77+30.7
MH74+90.0
MH72+65.1
T-11
NP-23
MH77+72.0
MH74+88.8
MH72+96.0
MH71+54.1
WALCK ROAD
NP-4
NP-6
MAIN LIFT STATION/ COLLECTION SUMP 0+19.0
P-32A
P-31
MAIN GATE
NP-21
NP-8
PROSPECT AVENUE
P-34

N

0 300'

SCALE IN FEET

LEGEND

- FENCE LINE
- INTERCEPTOR TRENCH
- MONITORING WELL
- TRENCH PIEZOMETER
- MANHOLE

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

SITE PLAN

GLENN SPRINGS HOLDINGS, INC.
DUREZ NORTH TONAWANDA SITE
NYSDEC SITE NO. 932018
NORTH TONAWANDA, NEW YORK

Geosyntec consultants

FIGURE 1.1

PROJECT NO: TR1045-03A | JANUARY 2023

WATER LEVELS AT INTERCEPTOR TRENCH (IT)

MEASURED

TRENCH PIEZOMETER	A	B	C
T-2	572.98	570.53	572.30
T-3	570.02	567.08	570.40
T-4	573.20	571.03	NM
T-5	574.37	573.75	575.00
T-6	574.29	573.76	576.22
T-7	574.23	571.59	571.87
T-8	574.69	574.98	574.15
T-9	574.56	572.30	575.87
T-10	571.78	570.66	570.86
T-11	571.13	570.89	571.47
T-12	574.64	570.47	571.94
T-13	570.53	570.55	571.87

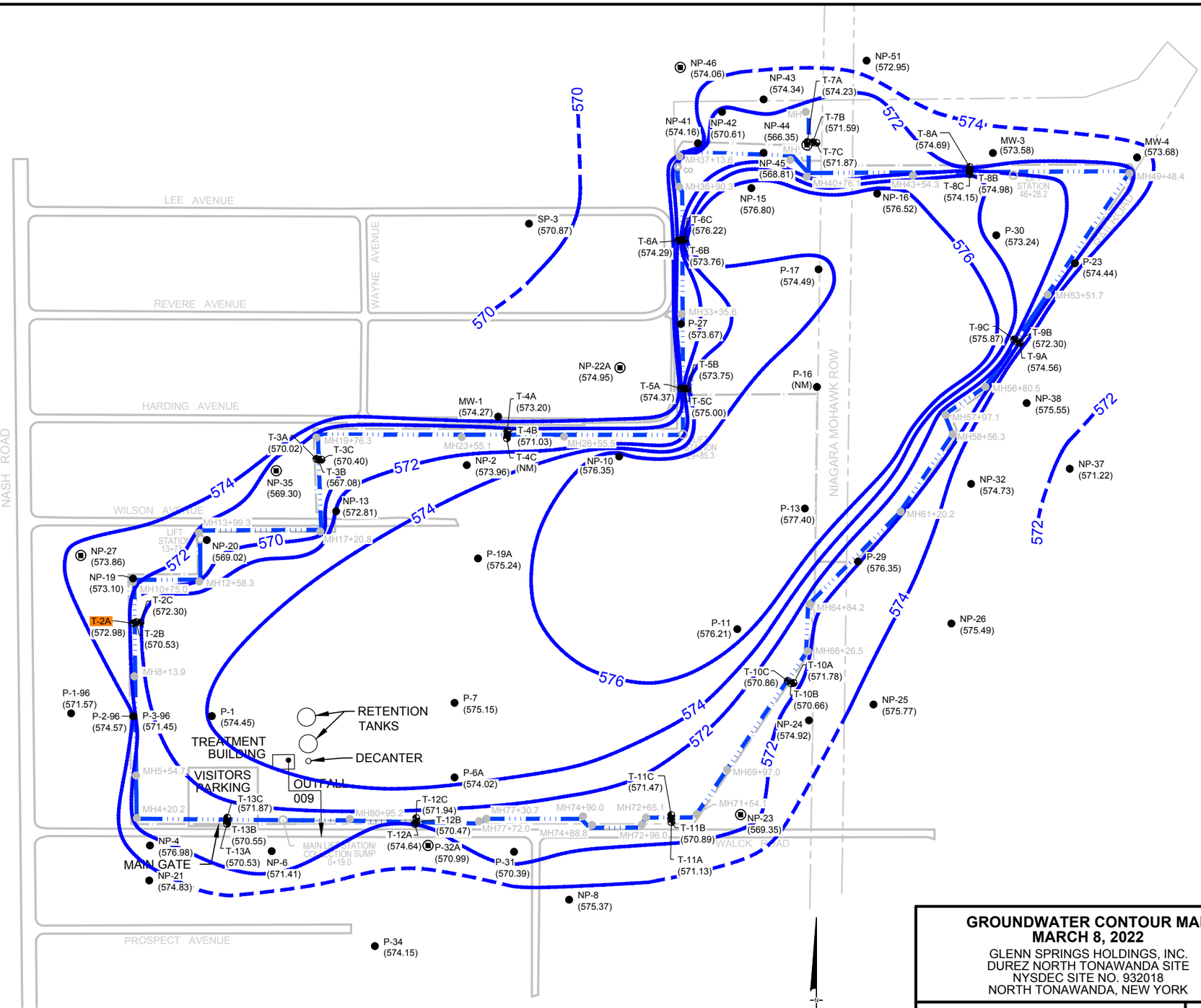
KEY

A OFFSITE SIDE OF IT
B IN IT BACKFILL
C PLANT SIDE OF IT

LEGEND

- INTERCEPTOR TRENCH INWARD GRADIENT (SEE NOTE 1)
- INTERCEPTOR TRENCH OUTWARD GRADIENT (SEE NOTE 2)
- 572 GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- MONITORING WELL
- (571.57) GROUNDWATER ELEVATION (ft AMSL)
- PIEZOMETER
- PIEZOMETER T-2A (SEE NOTES)
- MONITORING WELL PART OF GROUNDWATER CHEMISTRY MONITORING PROGRAM
- MANHOLE
- (NM) NOT MEASURED

NOTES:
1. INWARD GRADIENT INDICATES WATER LEVELS AT TRENCH PIEZOMETER B (IN IT BACKFILL) IS LOWER THAN THE CORRESPONDING TRENCH PIEZOMETER A (OFFSITE SIDE OF IT).
2. OUTWARD GRADIENT INDICATES WATER LEVELS AT TRENCH PIEZOMETER B IS EQUAL TO OR HIGHER THAN THE CORRESPONDING TRENCH PIEZOMETER A.
3. PIEZOMETER T-2A IS MONITORED SEMIANNUALLY FOR NAPL PRESENCE. 16.2 OUNCES OF NAPL HAVE BEEN EXTRACTED SINCE JULY 2010.



GROUNDWATER CONTOUR MAP
MARCH 8, 2022
GLENN SPRINGS HOLDINGS, INC.
DUREZ NORTH TONAWANDA SITE
NYSDEC SITE NO. 932018
NORTH TONAWANDA, NEW YORK

Geosyntec consultants

PROJECT NO: TR1045-03A | JANUARY 2023

FIGURE 2.1

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

\\WATERLOO-01\DATA\PRJ\PROJECTS\TR1045 GSH WNY O&M\09-CADD\03-DUREZ NT\01 - 2022 PERIODIC REVIEW REPORT\DRAWINGS\SHEETS\TR1045-002 - MJerome 1/10/23

WATER LEVELS AT INTERCEPTOR TRENCH (IT)

MEASURED

TRENCH PIEZOMETER	A	B	C
T-2	567.31	DRY	DRY
T-3	DRY	566.20	566.66
T-4	DRY	566.11	DRY
T-5	DRY	565.80	571.91
T-6	DRY	566.84	569.04
T-7	DRY	DRY	567.10
T-8	DRY	574.32	572.68
T-9	DRY	567.93	DRY
T-10	DRY	567.67	570.07
T-11	569.90	DRY	DRY
T-12	569.79	564.04	570.02
T-13	568.30	562.30	569.62

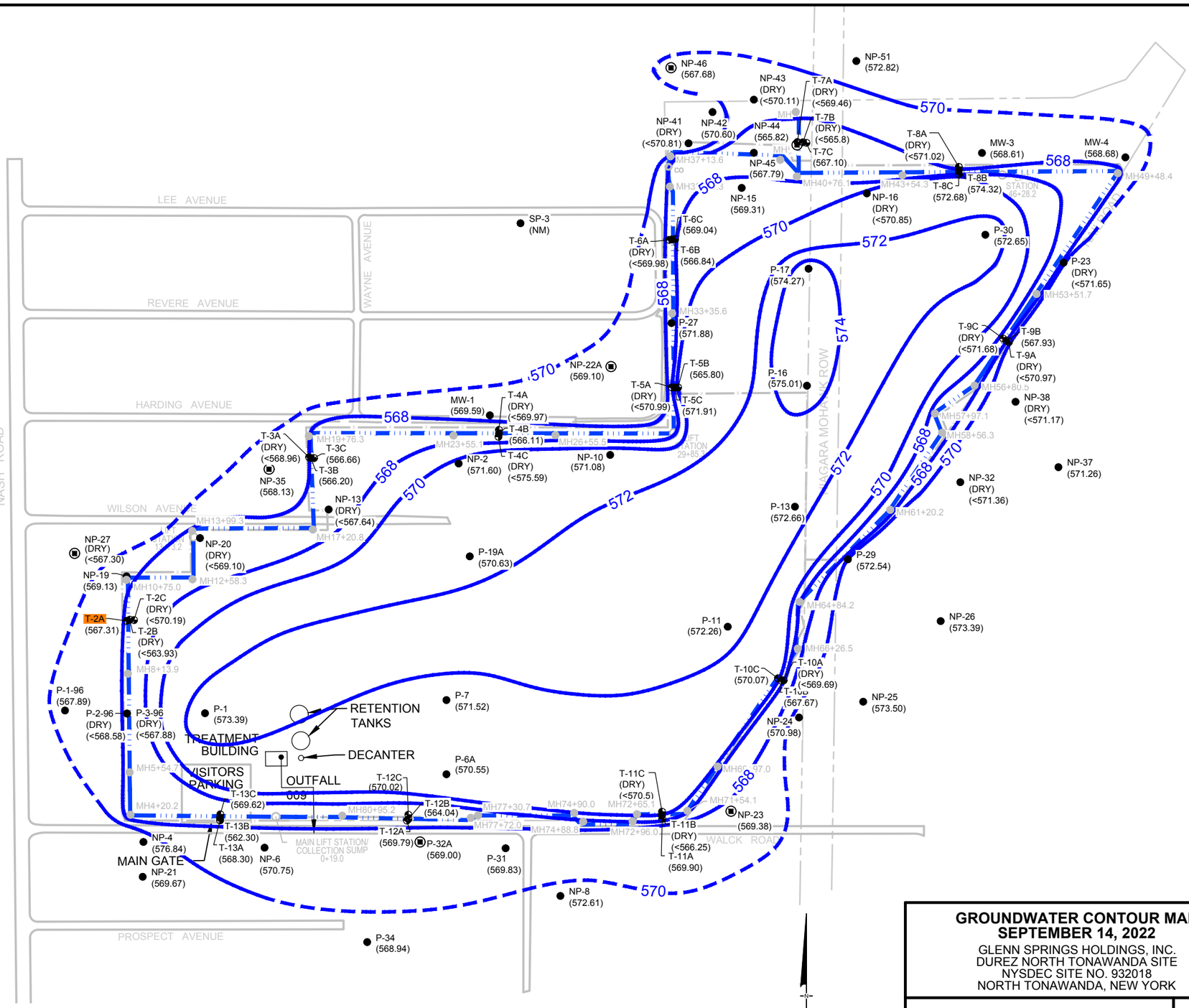
KEY

A OFFSITE SIDE OF IT
B IN IT BACKFILL
C PLANT SIDE OF IT

LEGEND

- INTERCEPTOR TRENCH INWARD GRADIENT (SEE NOTE 1)
- INTERCEPTOR TRENCH OUTWARD GRADIENT (SEE NOTE 2)
- 572 — GROUNDWATER CONTOUR (DASHED WHERE INFERRED)
- ● MONITORING WELL
- (567.89) GROUNDWATER ELEVATION (ft AMSL)
- (<568.58) DRY DEPTH ELEVATION (ft AMSL)
- PIEZOMETER
- PIEZOMETER T-2A (SEE NOTES)
- MONITORING WELL PART OF GROUNDWATER CHEMISTRY MONITORING PROGRAM
- MANHOLE
- (NM) NOT MEASURED

NOTES:
1. INWARD GRADIENT INDICATES WATER LEVELS AT TRENCH PIEZOMETER B (IN IT BACKFILL) IS LOWER THAN THE CORRESPONDING TRENCH PIEZOMETER A (OFFSITE SIDE OF IT).
2. OUTWARD GRADIENT INDICATES WATER LEVELS AT TRENCH PIEZOMETER B IS EQUAL TO OR HIGHER THAN THE CORRESPONDING TRENCH PIEZOMETER A.
3. PIEZOMETER T-2A IS MONITORED SEMIANNUALLY FOR NAPL PRESENCE. 16.2 OUNCES OF NAPL HAVE BEEN EXTRACTED SINCE JULY 2010.



GROUNDWATER CONTOUR MAP
SEPTEMBER 14, 2022
GLENN SPRINGS HOLDINGS, INC.
DUREZ NORTH TONAWANDA SITE
NYSDEC SITE NO. 932018
NORTH TONAWANDA, NEW YORK

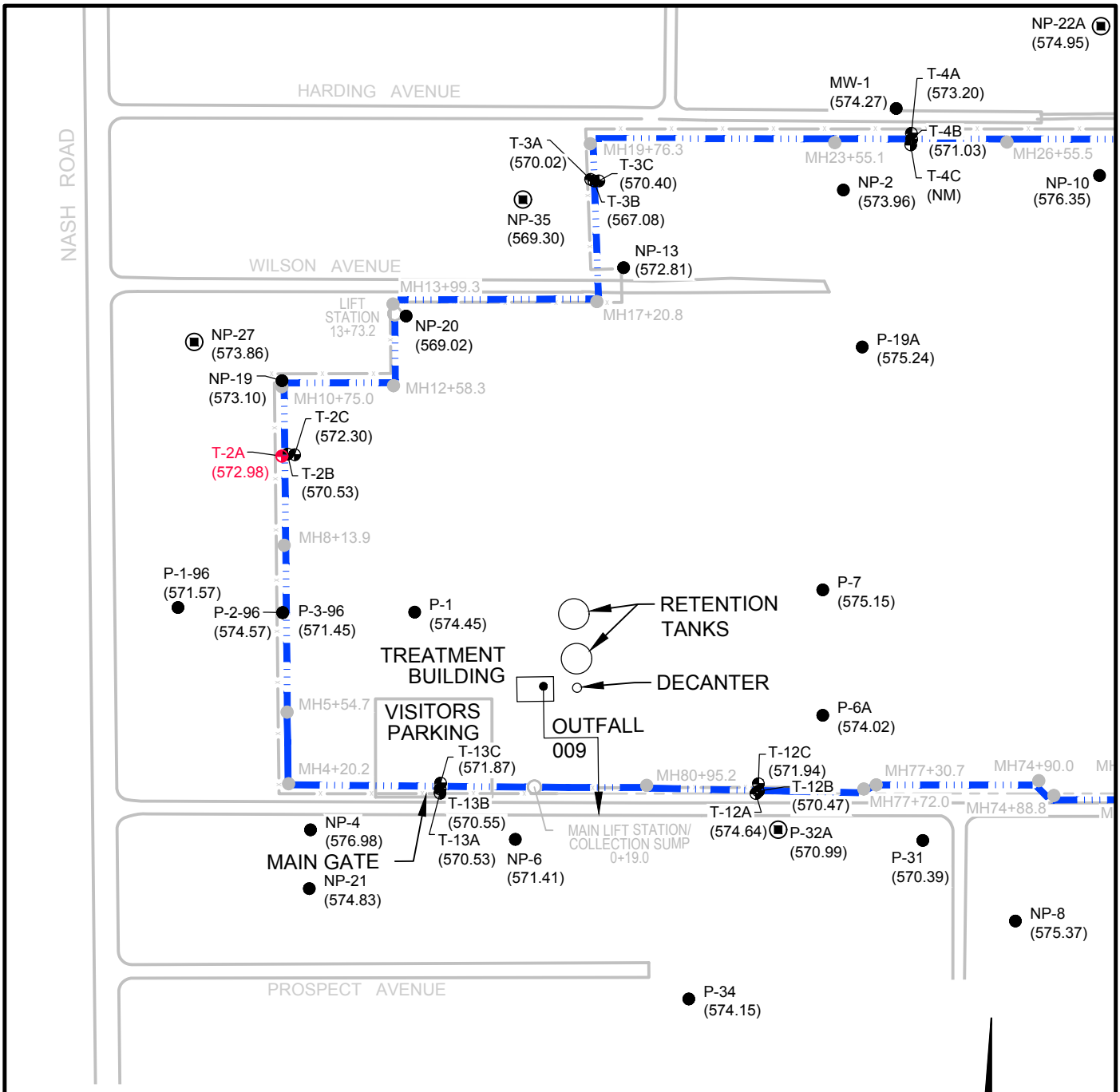
Geosyntec consultants

PROJECT NO: TR1045-03A | JANUARY 2023

FIGURE 2.2

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

\\WATERLOO-01\DATA\PRJ\PROJECTS\TR1045 GSH WNY O&M\09-CADD\03-DUREZ NT\01 - 2022 PERIODIC REVIEW REPORT\DRAWINGS\SHEETS\TR1045-003 - MJerome 1/10/23



LEGEND

- INTERCEPTOR TRENCH INWARD GRADIENT (SEE NOTE 1)
- MONITORING WELL USED IN SEMIANNUAL HYDRAULIC MONITORING OF T-2A
- MONITORING WELL PART OF GROUNDWATER CHEMISTRY MONITORING PROGRAM
- (571.57) GROUNDWATER ELEVATION (ft AMSL)
- (NM) NOT MEASURED
- PIEZOMETER T-2A WHERE NAPL IS PRESENT
- MANHOLE
- PIEZOMETER

NOTE:
1. WATER LEVELS AT TRENCH PIEZOMETERS B (IN IT BACKFILL) ARE LOWER THAN THE CORRESPONDING TRENCH PIEZOMETER A (OFFSITE SIDE OF IT). INDICATING AN INWARD GRADIENT.

GROUNDWATER ELEVATIONS NEAR T-2A MARCH 8, 2022

GLENN SPRINGS HOLDINGS, INC.
DUREZ NORTH TONAWANDA SITE
NYSDEC SITE NO. 932018
NORTH TONAWANDA, NEW YORK

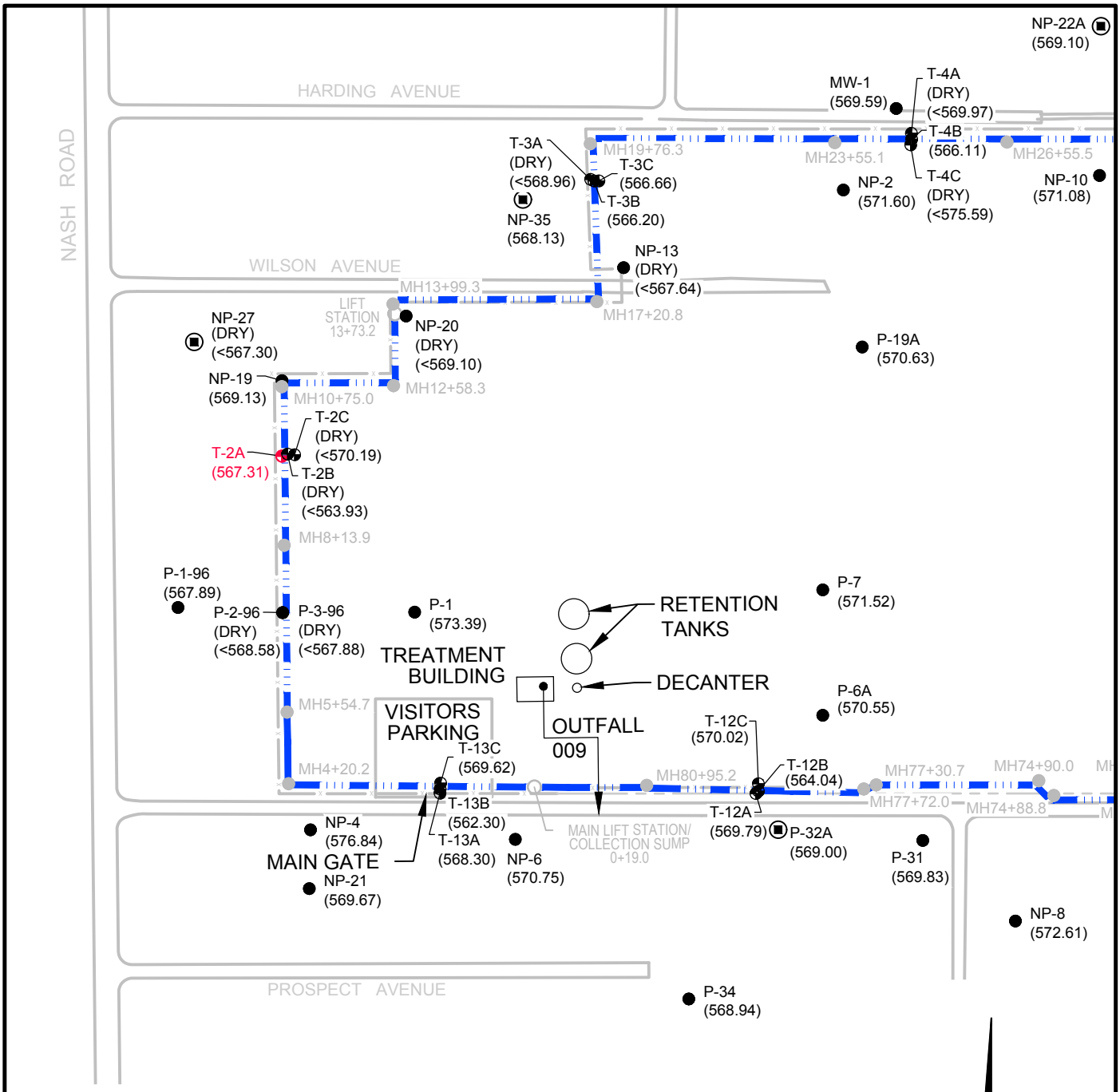
Geosyntec consultants

FIGURE 2.3

PROJECT NO: TR1045-03A | 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\03-DUREZ NT\01 - 2022 PERIODIC REVIEW REPORT\DRAWINGS\SHEETS\TR1045-002 - MJerome 1/10/23



LEGEND

- INTERCEPTOR TRENCH INWARD GRADIENT (SEE NOTE 1)
- MONITORING WELL USED IN SEMIANNUAL HYDRAULIC MONITORING OF T-2A
- MONITORING WELL PART OF GROUNDWATER CHEMISTRY MONITORING PROGRAM
- (571.57) GROUNDWATER ELEVATION (ft AMSL)
- (<568.09) DRY DEPTH ELEVATION (ft AMSL)
- (NM) NOT MEASURED
- PIEZOMETER T-2A WHERE NAPL IS PRESENT
- MANHOLE
- PIEZOMETER

NOTE:
1. WATER LEVELS AT TRENCH PIEZOMETERS B (IN IT BACKFILL) ARE LOWER THAN THE CORRESPONDING TRENCH PIEZOMETER A (OFFSITE SIDE OF IT). INDICATING AN INWARD GRADIENT.

GROUNDWATER ELEVATIONS NEAR T-2A SEPTEMBER 14, 2022

GLENN SPRINGS HOLDINGS, INC.
DUREZ NORTH TONAWANDA SITE
NYSDEC SITE NO. 932018
NORTH TONAWANDA, NEW YORK

Geosyntec consultants

FIGURE 2.4

PROJECT NO: TR1045-03A | 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\03-DUREZ NT\01 - 2022 PERIODIC REVIEW REPORT\DRAWINGS\SHEETS\TR1045-003 - MJerome 1/10/23

Appendix A
2022 Institutional and Engineering Controls Certification Form

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
Division of Environmental Remediation
625 Broadway, 11th Floor, Albany, NY 12233-7020
P: (518)402-9543 | F: (518)402-9547
www.dec.ny.gov

11/29/2022

Joseph Branch
Project Manager
OCC/Glenn Springs Holdings, Inc.
7601 Old Channel Trail
Montague, MI 49437
Joseph_Branch@oxy.com

Re: Reminder Notice: Site Management Periodic Review Report and IC/EC Certification Submittal
Site Name: Durez Div. - Occidental Chemical Corp.
Site No.: 932018
Site Address: Walck Road/River Road
North Tonawanda, NY 14120

Dear Joseph Branch:

This letter serves as a reminder that sites in active Site Management (SM) require the submittal of a periodic progress report. This report, referred to as the Periodic Review Report (PRR), must document the implementation of, and compliance with, site-specific SM requirements. Section 6.3(b) of DER-10 *Technical Guidance for Site Investigation and Remediation* (available online at http://www.dec.ny.gov/regulations/67386.html) provides guidance regarding the information that must be included in the PRR. Further, if the site is comprised of multiple parcels, then you as the Certifying Party must arrange to submit one PRR for all parcels that comprise the site. The PRR must be received by the Department no later than **January 30, 2023**. Guidance on the content of a PRR is enclosed.

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

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

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

All site-related documents and data, including the PRR, must be submitted in electronic format to the Department of Environmental Conservation. The required format for documents is an Adobe PDF file with optical character recognition and no password protection. Data must be submitted as an electronic data deliverable (EDD) according to the instructions on the following webpage:

https://www.dec.ny.gov/chemical/62440.html

Documents may be submitted to the project manager either through electronic mail or by using the Department's file transfer service at the following webpage:

https://fts.dec.state.ny.us/fts/

The Department will not approve the PRR unless all documents and data generated in support of the PRR have been submitted using the required formats and protocols.

You may contact Benjamin Mcpherson, the Project Manager, at 716-851-7220 or benjamin.mcpherson@dec.ny.gov with any questions or concerns about the site. Please notify the project manager before conducting inspections or field work. You may also write to the project manager at the following address:

New York State Department of Environmental Conservation
700 Delaware Ave

Buffalo, NY 14209-2202

Enclosures

PRR General Guidance
Certification Form Instructions
Certification Forms

ec: w/ enclosures

Occidental Chemical Corporation - joseph_branch@oxy.com

ec: w/ enclosures

Benjamin Mcpherson, Project Manager

Andrea Caprio, Hazardous Waste Remediation Supervisor, Region 9

GHD - Margaret Popek - margaret.popek@ghd.com
GHD - John Pentilchuk - jpentilchuk@ghd.com
B&B Engineers and Geologists of New York, P.C. - Dennis Hoyt - dhoyt@geosyntec.com

The following parcel owner did not receive an ec:

National Grid - Parcel Owner
Oar Marina, Llc - Parcel Owner

Enclosure 1

Certification Instructions

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

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

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

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

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

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

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

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

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

- For the Institutional Controls on the use of the property, the certification statement in Box 6 shall be completed and may be made by the property owner or designated representative.

- For the Engineering Controls, the certification statement in Box 7 must be completed by a Professional Engineer or Qualified Environmental Professional, as noted on the form.

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

Site Details **Box 1**

Site No. 932018

Site Name Durez Div. - Occidental Chemical Corp.

Site Address: Walck Road/River Road Zip Code: 14120
City/Town: North Tonawanda
County: Niagara
Site Acreage: ~~73.300~~ 72.23

Walck Road = 67.45 acres
River Road = 4.78 acres

Reporting Period: December 31, 2021 to December 31, 2022

	YES	NO
1. Is the information above correct?	☐	☒
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	☒
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	☒
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☒
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	☐	☒

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Industrial	☒	☐
7. Are all ICs in place and functioning as designed?	☒	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

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

Signature of Owner, Remedial Party or Designated Representative Date

SITE NO. 932018 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
181.20-2-9	Oar Marina, LLC	
		Monitoring Plan O&M Plan

Site Operation, Maintenance and Monitoring (OMM) is conducted by the RP in accordance with the February 1989 Record of Decision and approved work plans. At the Inlet Site, site management includes groundwater quality monitoring, NAPL removal from extraction wells during the off-boating season, and maintenance of the cover system.

Groundwater Quality Monitoring; Durez Third Stipulation and PCJ and associated minor changes to the PCJ (currently minor change number 10, Rev.2, September 1999).

DNAPL Removal: Inlet Monitoring Plan, GHD 2019.

182.06-3-19	Occidental Chemical Corporation	
		Monitoring Plan O&M Plan

Site Operation, Maintenance and Monitoring (OMM) is conducted by the RP in accordance with the February 1989 Record of Decision and approved work plans.

182.06-3-20	Occidental Chemical Corporation	
		Monitoring Plan O&M Plan

Site Operation, Maintenance and Monitoring (OMM) is conducted by the RP in accordance with the February 1989 Record of Decision and approved work plans.

182.06-3-21	Occidental Chemical Corporation	
		Monitoring Plan O&M Plan

Site Operation, Maintenance and Monitoring (OMM) is conducted by the RP in accordance with the February 1989 Record of Decision and approved work plans.

182.07-1-14	Occidental Chemical Corporation	
		Monitoring Plan O&M Plan

Record of Decision (ROD); February 25, 1989.

Appendix B, Durez Partial Consent Judgement (PCJ) "Monitoring, Operations,and Maintenance Plan" (1989) Subsequent Minor Modification #10, Rev. 2 "Minor Change to Appendix B" Monitoring, Operations, and Maintenace Plan"(September 1999) (Minor Change No. 10) groundwater monitoring.

PCJ 1992; amended by Minor Change No. 5 to allow for semi-annual reporting to the NYSDEC on quarterly hydraulic groundwater data.

Plant Site: OMM includes operation, maintenance and monitoring of the cover system, groundwater collection system, groundwater conveyance system, groundwater treatment system, groundwater monitoring wells, fencing/access points and the panhandle area.

182.32.-1-47 Occidental Chemical Corporation

Monitoring Plan
O&M Plan

Site Operation, Maintenance and Monitoring (OMM) is conducted by the RP in accordance with the February 1989 Record of Decision and approved work plans.

p/o 182.07-1-17 National Grid

Monitoring Plan
O&M Plan

Site Operation, Maintenance and Monitoring (OMM) is conducted by the RP in accordance with the February 1989 Record of Decision and approved work plans.

Box 4

Description of Engineering Controls

Parcel	Engineering Control
181.20-2-9	Cover System Groundwater Containment Monitoring Wells Subsurface Barriers

Sheet pile wall, NAPL extraction wells and cover system.

182.06-3-19	Groundwater Treatment System Cover System Groundwater Containment Leachate Collection Fencing/Access Control

At the Plant Site, OMM includes operation, maintenance and monitoring of the cover system, groundwater collection system, groundwater conveyance system, groundwater treatment system, goundwater monitoring wells, fencing/access points and the panhandle area.

182.06-3-20	Groundwater Treatment System Cover System Groundwater Containment Leachate Collection Fencing/Access Control

At the Plant Site, OMM includes operation, maintenance and monitoring of the cover system, groundwater collection system, groundwater conveyance system, groundwater treatment system, groundwater monitoring wells,fencing/access points and the panhandle area.

182.06-3-21

Parcel	Engineering Control
	Groundwater Treatment System Cover System Groundwater Containment Leachate Collection Fencing/Access Control

At the Plant Site, OMM includes operation, maintenance and monitoring of the cover system, groundwater collection system, groundwater conveyance system, groundwater treatment system, goundwater monitoring wells, fencing/access points and the panhandle area.

182.07-1-14

Point-of-Entry Water Treatment
Monitoring Wells
Groundwater Treatment System
Cover System
Groundwater Containment
Leachate Collection
Fencing/Access Control

Soil cover system with encompassing groundwater interceptor trench and conveyance to an onsite treatment plant.

182.32.-1-47

Groundwater Treatment System
Cover System
Groundwater Containment
Leachate Collection
Fencing/Access Control

At the Plant Site, OMM includes operation, maintenance and monitoring of the cover system, groundwater collection system, groundwater conveyance system, groundwater treatment system, groundwater monitoring wells, fencing/access points and the panhandle area.

p/o 182.07-1-17

Monitoring Wells
Groundwater Treatment System
Cover System
Groundwater Containment
Leachate Collection
Fencing/Access Control

At the Plant Site, OMM includes operation, maintenance and monitoring of the cover system, groundwater collection system, groundwater conveyance system, groundwater treatment system, groundwater monitoring wells and fencing/access points. The Right Of Way (ROW) for National Grid is on site. Reporting is done by the RP; OCC/Glenn Springs Holdings, Inc.

Box 5

Periodic Review Report (PRR) Certification Statements

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

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

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

YES	NO
☒	☐

2. For each Engineering control listed in Box 4, I certify by checking "YES" below that all of the following statements are true:

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

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

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

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

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

YES	NO
☒	☐

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

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

Signature of Owner, Remedial Party or Designated Representative

Date

IC CERTIFICATIONS
SITE NO. 932018

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

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

I Joseph Branch (print name) at 7601 Old channel Trail (print business address),

am certifying as Owner (Owner or Remedial Party)

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

Signature of Owner, Remedial Party, or Designated Representative Rendering Certification

1-19-2023
Date

EC CERTIFICATIONS

Box 7

Professional Engineer Signature

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

I Ian Richardson at B&B Engineers & Geologists of New York P.C. P.O Box 351 Ransomville NY, 14131,
print name print business address

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

Signature of Professional Engineer, for the Owner or Remedial Party, Rendering Certification

Jan 30, 2023
Date

Enclosure 3
Periodic Review Report (PRR) General Guidance

I. Executive Summary: (1/2-page or less)
   A. Provide a brief summary of site, nature and extent of contamination, and remedial history.
   B. Effectiveness of the Remedial Program - Provide overall conclusions regarding;
      1. progress made during the reporting period toward meeting the remedial objectives for the site
      2. the ultimate ability of the remedial program to achieve the remedial objectives for the site.
   C. Compliance
      1. Identify any areas of non-compliance regarding the major elements of the Site Management Plan (SMP, i.e., the Institutional/Engineering Control (IC/EC) Plan, the Monitoring Plan, and the Operation & Maintenance (O&M) Plan).
      2. Propose steps to be taken and a schedule to correct any areas of non-compliance.
   D. Recommendations
      1. recommend whether any changes to the SMP are needed
      2. recommend any changes to the frequency for submittal of PRRs (increase, decrease)
      3. recommend whether the requirements for discontinuing site management have been met.

II. Site Overview (one page or less)
   A. Describe the site location, boundaries (figure), significant features, surrounding area, and the nature and extent of contamination prior to site remediation.
   B. Describe the chronology of the main features of the remedial program for the site, the components of the selected remedy, cleanup goals, site closure criteria, and any significant changes to the selected remedy that have been made since remedy selection.

III. Evaluate Remedy Performance, Effectiveness, and Protectiveness
   Using tables, graphs, charts and bulleted text to the extent practicable, describe the effectiveness of the remedy in achieving the remedial goals for the site. Base findings, recommendations, and conclusions on objective data. Evaluations and should be presented simply and concisely.

IV. IC/EC Plan Compliance Report (if applicable)
   A. IC/EC Requirements and Compliance
      1. Describe each control, its objective, and how performance of the control is evaluated.
      2. Summarize the status of each goal (whether it is fully in place and its effectiveness).
      3. Corrective Measures: describe steps proposed to address any deficiencies in ICECs.
      4. Conclusions and recommendations for changes.
   B. IC/EC Certification
      1. The certification must be complete (even if there are IC/EC deficiencies), and certified by the appropriate party as set forth in a Department-approved certification form(s).

V. Monitoring Plan Compliance Report (if applicable)
   A. Components of the Monitoring Plan (tabular presentations preferred) - Describe the requirements of the monitoring plan by media (i.e., soil, groundwater, sediment, etc.) and by any remedial technologies being used at the site.
   B. Summary of Monitoring Completed During Reporting Period - Describe the monitoring tasks actually completed during this PRR reporting period. Tables and/or figures should be used to show all data.
   C. Comparisons with Remedial Objectives - Compare the results of all monitoring with the remedial objectives for the site. Include trend analyses where possible.
   D. Monitoring Deficiencies - Describe any ways in which monitoring did not fully comply with the monitoring plan.
   E. Conclusions and Recommendations for Changes - Provide overall conclusions regarding the monitoring completed and the resulting evaluations regarding remedial effectiveness.

VI. Operation & Maintenance (O&M) Plan Compliance Report (if applicable)
   A. Components of O&M Plan - Describe the requirements of the O&M plan including required activities, frequencies, recordkeeping, etc.
   B. Summary of O&M Completed During Reporting Period - Describe the O&M tasks actually completed during this PRR reporting period.

C. Evaluation of Remedial Systems - Based upon the results of the O&M activities completed, evaluated the ability of each component of the remedy subject to O&M requirements to perform as designed/expected.
D. O&M Deficiencies - Identify any deficiencies in complying with the O&M plan during this PRR reporting period.
E. Conclusions and Recommendations for Improvements - Provide an overall conclusion regarding O&M for the site and identify any suggested improvements requiring changes in the O&M Plan.

VII. Overall PRR Conclusions and Recommendations
A. Compliance with SMP - For each component of the SMP (i.e., IC/EC, monitoring, O&M), summarize;
1. whether all requirements of each plan were met during the reporting period
2. any requirements not met
3. proposed plans and a schedule for coming into full compliance.
B. Performance and Effectiveness of the Remedy - Based upon your evaluation of the components of the SMP, form conclusions about the performance of each component and the ability of the remedy to achieve the remedial objectives for the site.
C. Future PRR Submittals
1. Recommend, with supporting justification, whether the frequency of the submittal of PRRs should be changed (either increased or decreased).
2. If the requirements for site closure have been achieved, contact the Departments Project Manager for the site to determine what, if any, additional documentation is needed to support a decision to discontinue site management.

VIII. Additional Guidance

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

Appendix B
Monitoring Well Purge Records

Well No.: P-32A Sampling Event: 202204-WG-A SSOW Code: 281-402-D02-3100

Monitoring Well Record for Low-Flow Purging

Project Name: Durez NT Annual GW sampling Ref. No.: 11225877-61-410 Personnel: David Tyran GHD Date: 5/9/2022 1:44:32 PM

Monitoring Well Data

Well Diameter:	2.0	in	Constructed Well Depth:	10.0	ft	Measured Well Depth:	10.0	ft
Screen Material:	Unknown					Water Column Length:	1.47	ft
Screen Start Depth:	.00000	ft	Ref Point Elev:	577.67	ft			
Screen End Depth:	10.00000	ft	Static Water Depth:	8.53	ft	Measurement Type:		
Screen Length:	10	ft	Static Water Elev:	569.14	ft	Sampling Method:	Peristaltic pump	

Time	Pumping Rate (mL/ min)	Depth to Water (ft BREF)	Drawdown from Initial Water Level (ft)	Temperature Deg C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	TDS (mg/L)	ORP (millivolts)	Volume Purged, Vp (gal)	No. of Well Screen Volumes Purged
			Precision Required	±% 3	±% 3	±% 10 ≤ 10	±% 10	± 0.1		± 10		
5/9 13:44	152	8.60	8.60	12.9	5.48	8.19	30.80	7.49		70.6	0	
5/9 13:49	152	8.60	8.60	13.5	5.17	5.50	14.84	7.49		70.0	.18	
5/9 13:54	152	8.60	8.60	13.4	5.00	2.61	9.81	7.37		75.5	.39	
5/9 13:59	152	8.60	8.60	13.7	4.82	1.16	8.80	7.36		76.4	.58	
5/9 14:04	152	8.60	8.60	13.5	4.71	1.32	8.56	7.33		76.0	.78	
5/9 14:09	152	8.60	8.60	13.6	4.43	0.58	8.31	7.30		77.2	.99	
5/9 14:14	152	8.60	8.60	13.6	4.37	0.65	8.06	7.29		78.7	1.19	
5/9 14:19	152			13.3	4.40	0.54	7.81	7.31		79.1	1.39	

Field Parameters:

Comments: Purge and sample well using low flow procedures. MS/MSD Taken here.

Total Volume Purged (gal): 1.39

Sample ID	Type	Matrix	Comp/Grab	DateTime	Filtered	Analysis	Container #
P-32A-0422	N	WG	G	5/9 14:30		VOCs, Phenols, TOC	12

Time	Pumping Rate (mL/ min)	Depth to Water (ft BREF)	Drawdown from Initial Water Level (ft)	Temperature Deg C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (millivolts)	Volume Purged, Vp (gal)	No. of Well Screen Volumes Purged
5/9 13:44	152	8.60	8.60	12.9	5.48	8.19	30.80	7.49	70.6	0	

Well No.: NP-27 Sampling Event: 202204-WG-A SSOW Code: 281-402-D02-3100

Monitoring Well Record for Low-Flow Purging

Project Name: Durez NT Annual GW sampling Ref. No.: 11225877-61-410 Personnel: David Tyran GHD Date: 5/9/2022 10:16:51 AM

Monitoring Well Data

Well Diameter:	1.25	in	Constructed Well Depth:	9.8000002	ft	Measured Well Depth:	9.8000002	ft
Screen Material:	Unknown		Screen Volume:			Water Column Length:	6.58	ft
Screen Start Depth:	.00000	ft	Ref Point Elev:	577.22	ft			
Screen End Depth:	9.80000	ft	Static Water Depth:	3.22	ft	Measurement Type:	Screen	
Screen Length:	9.8	ft	Static Water Elev:	574	ft	Sampling Method:	Peristaltic pump	

Time	Pumping Rate (mL/ min)	Depth to Water (ft BREF)	Drawdown from Initial Water Level (ft)	Temperature Deg C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	TDS (mg/L)	ORP (millivolts)	Volume Purged, Vp (gal)	No. of Well Screen Volumes Purged
			Precision Required	±% 3	±% 3	±% 10 ≤ 10	±% 10	± 0.1		± 10		
5/9 10:21	72	4.97	1.75	10.2	0.79	101	28.47	7.51		-147.9	0	
5/9 10:26	72	6.14	2.92	10.7	0.687	45.8	6.83	7.98		-154.0		
5/9 10:31	72	4.97	1.75	10.3	0.678	19.2	4.05	8.00		-150.0	.09	
5/9 10:36	72	8.79	5.57	10.1	0.664	8.15	4.12	8.04		-138.0	.18	
5/9 10:41	72	9.68	6.46	10.3	0.644	8.59	4.48	8.18		-136.4	.28	

Field Parameters:

Comments: Purge and sample using low flow procedures. Well purged dry final water level 10.00 ftBTOC.

Total Volume Purged (gal): .28

# of Screen Volumes:

Sample ID	Type	Matrix	Comp/Grab	DateTime	Filtered	Analysis	Container #
NP-27-0422	N	WG	G	5/10 10:25		VOCs, TOC, Phenols	4

Time	Pumping Rate (mL/ min)	Depth to Water (ft BREF)	Drawdown from Initial Water Level (ft)	Temperature Deg C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (millivolts)	Volume Purged, Vp (gal)	No. of Well Screen Volumes Purged
5/9 10:21	72	4.97	1.75	10.2	0.79	101	28.47	7.51	-147.9	0	

Well No.: NP-22A Sampling Event: 202204-WG-A SSOW Code: 281-402-D02-3100

Monitoring Well Record for Low-Flow Purging

Project Name: Durez NT Annual GW sampling Ref. No.: 11225877-61-410 Personnel: David Tyran GHD Date: 5/10/2022 11:08:29

Monitoring Well Data

Well Diameter:	2.0	in	Constructed Well Depth:	12.5	ft	Measured Well Depth:	12.5	ft
Screen Material:	Unknown		Screen Volume:	1.24		Water Column Length:	7.59	ft
Screen Start Depth:	.00000	ft	Ref Point Elev:	577.63	ft			
Screen End Depth:	12.50000	ft	Static Water Depth:	4.91	ft	Measurement Type:	Screen	
Screen Length:	12.5	ft	Static Water Elev:	572.72	ft	Sampling Method:	Peristaltic pump	

Time	Pumping Rate (mL/ min)	Depth to Water (ft BREF)	Drawdown from Initial Water Level (ft)	Temperature Deg C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	TDS (mg/L)	ORP (millivolts)	Volume Purged, Vp (gal)	No. of Well Screen Volumes Purged
			Precision Required	±% 3	±% 3	±% 10 ≤ 10	±% 10	± 0.1		± 10		
5/10 11:28	68	5.11	0.20	12.7	8.89	7.34	4.05	6.83		-18.2	0	
5/10 11:33	68		-4.91	12.4	8.87	3.25	2.42	6.92		-47.0	.09	
5/10 11:38	68	5.11	0.20	11.7	8.84	3.08	2.29	6.96		-49.5	.18	
5/10 11:43	68		-4.91	11.6	8.75	4.99	1.90	6.97		-72.6	.28	
5/10 11:48	68	5.15	0.24	11.9	6.53	2.66	1.80	7.02		-74.8	.36	
5/10 11:53	68	5.15	0.24	12.1	4.19	4.99	1.67	7.06		-69.3	.47	
5/10 11:58	68	5.15	0.24	12.0	4.60	2.97	1.59	7.01		-57.8	.55	
5/10 12:03	68	5.15	0.24	11.8	4.03	4.81	1.69	7.03		-64.2	.64	
5/10 12:08	68		-4.91	11.6	4.10	5.32	1.59	7.00		-52.2	.72	
5/10 12:13	68	5.15	0.24	11.7	4.13	8.70	1.58	7.01		-50.5	.81	

Field Parameters:

Comments: Purge and sample well using low flow procedures. Blind duplicate taken here.

Total Volume Purged (gal): .81

# of Screen Volumes:

Sample ID	Type	Matrix	Comp/Grab	DateTime	Filtered	Analysis	Container #
NP-22A-0422	N	WG	G	5/10 12:25		VOCs, TOC, Phenols	4
NP-70-0422	FD	WG	G	5/10 12:25	Yes	VOCs, TOC, Phenols	4

Time	Pumping Rate (mL/ min)	Depth to Water (ft BREF)	Drawdown from Initial Water Level (ft)	Temperature Deg C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (millivolts)	Volume Purged, Vp (gal)	No. of Well Screen Volumes Purged
5/10 11:28	68	5.11	0.20	12.7	8.89	7.34	4.05	6.83	-18.2	0	

Well No.: NP-46 Sampling Event: 202204-WG-A SSOW Code: 281-402-D02-3100 **Monitoring Well Record for Low-Flow Purging**

Project Name: Durez NT Annual GW sampling Ref. No.: 11225877-61-410 Personnel: David Tyran GHD Date: 5/9/2022 12:19:24 PM

Monitoring Well Data

Well Diameter:	1.25	in	Constructed Well Depth:	9.0100002	ft	Measured Well Depth:	9.0100002	ft
Screen Material:	Unknown		Screen Volume:			Water Column Length:	3.61	ft
Screen Start Depth:	.00000	ft	Ref Point Elev:	576.87	ft			
Screen End Depth:	9.01000	ft	Static Water Depth:	5.40	ft	Measurement Type:	Screen	
Screen Length:	9.01	ft	Static Water Elev:	571.47	ft	Sampling Method:	Peristaltic pump	

Time	Pumping Rate (mL/ min)	Depth to Water (ft BREF)	Drawdown from Initial Water Level (ft)	Temperature Deg C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	TDS (mg/L)	ORP (millivolts)	Volume Purged, Vp (gal)	No. of Well Screen Volumes Purged
			Precision Required	±% 3	±% 3	±% 10 ≤ 10	±% 10	± 0.1		± 10		
5/9 12:20	104	5.45	0.05	12.4	1.01	50.7	10.76	7.01		82.4	0	
5/9 12:25	104	5.46	0.06	11.7	1.01	6.94	4.13	7.07		73.4	.15	
5/9 12:30	104	5.46	0.06	11.5	1.01	2.88	3.66	7.12		74.4	.27	
5/9 12:35	104	5.46	0.06	11.7	1.01	2.90	3.31	7.03		73.1	.41	
5/9 12:40	104	5.46	0.06	11.7	1.01	1.67	3.17	7.0		73.	.55	

Field Parameters:

Comments: Purge and sample well using low flow procedures.

Total Volume Purged (gal): .55

# of Screen Volumes:

Sample ID	Type	Matrix	Comp/Grab	DateTime	Filtered	Analysis	Container #
NP-46-0422	N	WG	G	5/9 12:50		VOCs, Phenols, TOC	4

Time	Pumping Rate (mL/ min)	Depth to Water (ft BREF)	Drawdown from Initial Water Level (ft)	Temperature Deg C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (millivolts)	Volume Purged, Vp (gal)	No. of Well Screen Volumes Purged
5/19 12:20	104	5.45	0.05	12.4	1.01	50.7	10.76	7.01	82.4	0	

Well No.: NP-35 Sampling Event: 202204-WG-A SSOW Code: 281-402-D02-3100

Monitoring Well Record for Low-Flow Purging

Project Name: Durez NT Annual GW sampling Ref. No.: 11225877-61-410 Personnel: David Tyran Date: 5/6/2022 3:05:23 PM

Monitoring Well Data

Well Diameter:	1.25	in	Constructed Well Depth:	7.5	ft	Measured Well Depth:		ft
Screen Material:	Unknown		Screen Volume:	0		Water Column Length:	User Entry	ft
Screen Start Depth:	.00000	ft	Ref Point Elev:	577.42	ft			
Screen End Depth:	7.50000	ft	Static Water Depth:	7.68	ft	Measurement Type:	Screen	
Screen Length:	7.5	ft	Static Water Elev:	569.74	ft	Sampling Method:	Peristaltic pump	

Time	Pumping Rate (mL/ min)	Depth to Water (ft BREF)	Drawdown from Initial Water Level (ft)	Temperature Deg C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	TDS (mg/L)	ORP (millivolts)	Volume Purged, Vp (gal)	No. of Well Screen Volumes Purged
			Precision Required	±% 3	±% 3	±% 10 ≤ 10	±% 10	± 0.1		± 10		
5/9 11:10	64	8.98	1.30	12.3	0.284	214	31.06	9.64		27.3	0	
5/9 11:15	64	9.73	2.05	12.2	0.251	57.4	5.03	9.76		23.5	.08	

Field Parameters:

Comments: Purge well using low flow procedures. Well purged dry final water level 9.75. Will allow well to recover overnight and try to sample tomorrow. 5/10/22 water level 9.72 no recovery well deemed dry for this event.

Total Volume Purged (gal): .08

# of Screen Volumes:

Sample ID	Type	Matrix	Comp/Grab	DateTime	Filtered	Analysis	Container #

Time	Pumping Rate (mL/ min)	Depth to Water (ft BREF)	Drawdown from Initial Water Level (ft)	Temperature Deg C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (millivolts)	Volume Purged, Vp (gal)	No. of Well Screen Volumes Purged
5/9 11:10	64	8.98	1.30	12.3	0.284	214	31.06	9.64	27.3		

Well No.: Tripblank Sampling Event: 202204-WG-A SSOW Code: 281-402-D02-3100 Monitoring Well Record for Low-Flow Purging

Project Name: Durez NT Annual GW sampling Ref. No.: 11149902 Personnel: David Tyran Date: 5/9/2022 1:06:02 PM

Monitoring Well Data

Well Diameter: Constructed Well Depth: Measured Well Depth:

Screen Material: Water Column Length:

Screen Start Depth: Ref Point Elev:

Screen End Depth: Static Water Depth: Measurement Type:

Screen Length: Static Water Elev: Sampling Method: Peristaltic pump

Time	Pumping Rate (mL/ min)	Depth to Water (ft BREF)	Drawdown from Initial Water Level (ft)	Temperature Deg C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	TDS (mg/L)	ORP (millivolts)	Volume Purged, Vp (gal)	No. of Well Screen Volumes Purged
			Precision Required	±% 3	±% 3	±% 10 ≤ 10	±% 10	± 0.1		± 10		

Field Parameters: **Comments**: Total Volume Purged (gal):

Sample ID	Type	Matrix	Comp/Grab	DateTime	Filtered	Analysis	Container #
NTTRIP-050922	TB	WQ	G	5/9 12:15		VOCs	3

Time	Pumping Rate (mL/ min)	Depth to Water (ft BREF)	Drawdown from Initial Water Level (ft)	Temperature Deg C	Conductivity (mS/cm)	Turbidity NTU	DO (mg/L)	pH	ORP (millivolts)	Volume Purged, Vp (gal)	No. of Well Screen Volumes Purged

Appendix C
Quality Assurance/Quality Control Report

Technical Memorandum

June 13, 2022

To	Joseph Branch	**Tel**	716-205-1970
Copy to	John Pentilchuk, Darrell Crockett, Maggie Popek, Paul Fowler	**Email**	Paul.McMahon@ghd.com
From	Paul McMahon/cs/30	**Ref. No.**	11223794
Subject	Analytical Results and Reduced Validation Annual Groundwater Monitoring Program Former North Tonawanda Plant Site North Tonawanda, New York May 2022		

1. Introduction

Groundwater samples were collected on May 9 and 10, 2022 in support of the Annual Groundwater Monitoring Program at the Former North Tonawanda Plant Site (Site). ALS Environmental (ALS) in Rochester, New York analyzed the samples for the following:

Parameter	Methodology
Volatile Organic Compounds (VOCs)	USEPA 624.1[1]
Total Recoverable Phenolics	USEPA 420.4[2]
Total Organic Carbon (TOC)	Standard Method 5310B

A field sample key is presented in Table 1. The analytical results are summarized in Table 2.

A copy of the chain of custody is attached.

Standard GHD report deliverables were submitted by the laboratory. The final results and supporting quality assurance/quality control (QA/QC) data were assessed. Evaluation of the data was based on information obtained from the chain of custody form, finished report forms, method blank data, recovery data from surrogate spikes, laboratory control samples (LCS), and matrix spikes, and field QC samples.

The QA/QC criteria by which these data have been assessed are outlined in the analytical methods and the documents entitled:

I) "United States Environmental Protection Agency (USEPA) National Functional Guidelines for Inorganic Superfund Data Review", USEPA 540-R-2016-001, September 2016

II) "USEPA National Functional Guidelines for Superfund Organic Methods Data Review", USEPA 540-R-2016-002, September 2016

[1] 40 CFR Part 136 "Guidelines Establishing Test Procedures for the Analysis of Pollutants", United States Environmental Protection Agency (USEPA).
[2] "Methods for Chemical Analysis of Water and Wastes", USEPA-600/4-79-220, March 1983 (with all subsequent revisions).

Items i) and ii) will subsequently be referred to as the "Guidelines" in this Memorandum.

2. Sample Holding Time and Preservation

The sample holding time criteria for the analyses are summarized in the analytical methods. The sample chain of custody document and analytical report were used to determine sample holding times. All samples were analyzed within the required holding times.

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

3. Laboratory Method Blank Analyses

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

For this study, laboratory method blanks were analyzed at a minimum frequency of 1 per analytical batch. All method blank results were non-detect, demonstrating laboratory contamination was not a factor for this investigation.

4. Surrogate Spike Recoveries - Organic Analyses

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

All samples submitted for VOC analyses were spiked with the appropriate number of surrogate compounds prior to sample analysis.

Surrogate recoveries were assessed against the laboratory control limits. All surrogate recoveries were within the laboratory acceptance criteria.

5. Laboratory Control Sample Analyses

LCS are prepared and analyzed as samples to assess the analytical efficiencies of the methods employed, independent of sample matrix effects.

For this study, LCS were analyzed at a minimum frequency of 1 per analytical batch.

5.1 Organic Analyses

The LCS contained the compounds of interest. All LCS recoveries were within the laboratory control limits, demonstrating acceptable analytical accuracy.

5.2 Inorganic Analyses

The LCS contained all analytes of interest. LCS recoveries were assessed per the "Guidelines". All LCS recoveries were within the control limits, demonstrating acceptable analytical accuracy.

6. Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

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

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

6.1 Organic Analyses

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

6.2 Inorganic Analyses

The MS/MSD sample was spiked with the analytes of interest, and the results were evaluated using the "Guidelines". All percent recoveries and RPD values were within the control limits, demonstrating acceptable analytical accuracy.

7. Field QA/QC Samples

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

7.1 Trip Blank Sample Analysis

To evaluate contamination from sample collection, transportation, storage, and analytical activities, one trip blank was submitted to the laboratory for VOC analysis. All results were non-detect for the compounds of interest.

7.2 Field Duplicate Sample Analysis

To assess the analytical and sampling protocol precision, one field duplicate sample set was collected and submitted "blind" to the laboratory, as specified in Table 1. The RPDs associated with these duplicate samples must be less than 50 percent.

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

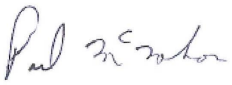
8. Analyte Reporting

The laboratory reported detected results down to the laboratory's method detection limit (MDL) for each analyte. No positive analyte detections less than the reporting limit (RL) but greater than the MDL were reported. Non-detect results were presented as non-detect at the RL in Table 2.

9. Conclusion

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

Regards,



Paul McMahon
Data Management Lead Team-Specialist

Table 1

Sample Collection and Analysis Summary
Annual Groundwater Monitoring Program
Former North Tonawanda Plant Site
North Tonawanda, New York
May 2022

				Analysis/Parameters			
Sample ID	**Location ID**	**Collection Date**	**Collection Time**	**VOCs**	**Phenols**	**TOC**	***Comments***
NP-46-0422	NP-46	05/09/2022	12:50	X	X	X	
P-32A-0422	P-32A	05/09/2022	14:30	X	X	X	MS/MSD
NP-27-0422	NP-27	05/10/2022	10:25	X	X	X	
NP-22A-0422	NP-22A	05/10/2022	12:25	X	X	X	
NP-70-0422	NP-22A	05/10/2022	12:25	X	X	X	Duplicate of NP-22A-0422
NTTRIP-050922	-	05/09/2022	-	X			Trip Blank

Notes:

TOC - Total Organic Compounds
VOCs - Volatile Organic Compounds
MS - Matrix Spike
MSD - Matrix Spike Duplicate

Table 2

Analytical Results Summary
Annual Groundwater Monitoring Program
Former North Tonawanda Plant Site
North Tonawanda, New York
May 2022

Location ID:		NP-22A	NP-22A	NP-27	NP-46	P-32A
Sample Name:		NP-22A-0422	NP-70-0422	NP-27-0422	NP-46-0422	P-32A-0422
Sample Date:		05/10/2022	05/10/2022 Duplicate	05/10/2022	05/09/2022	05/09/2022
Parameters	**Unit**					
Volatile Organic Compounds						
1,2,3-Trichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Chlorotoluene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Benzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
General Chemistry						
Phenolics (total)	mg/L	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U
Total organic carbon (TOC)	mg/L	4.3	3.9	4.1	2.3	1.7

Notes:

U - Not detected at the associated reporting limit

CHAIN OF CUSTODY / LABORATORY ANALYSIS REQUEST FORM

SR# _____

T047006

ALS Environmental
9143 Phillips Highway, Suite 200, Jacksonville, FL 32256
Phone (904) 739-2277 / 800-695-7222 x06 / FAX (904) 739-2011

004, 005, 006, 007, 008, 009, 010, 011, 012, 013, 014

Project Name: NT Durez/261-402-D02-3100	
Project Number: 7406: Annual GW	Report To: Paul McMahon
Company / Address: GHD Services Inc. 2055 Niagara Falls Blvd., Suite 3 Niagara Falls NY, 14304	
Phone # 716-297-2160	FAX # 716-297-2265
Sampler Signature: David Tyran	Sampler Printed Name: David Tyran

CLIENT SAMPLE ID	LABID	SAMPLING Date	SAMPLING Time	Matrix	NUMBER OF CONTAINERS	7D: 624 / VOC_UNP	28D: 420.4 / Phenol inLine	28D: SM 5310 C-2000	1	2	3	4	5	Remarks
1.				Liquid	8	X	X	X						
2. NP-22A-0422		5/10/22	1225	Liquid	4	X	X	X						
3. NP-27-0422		5/10/22	1025	Liquid	4	X	X	X						
4. NP-46-0422		5/9/22	1250	Liquid	4	X	X	X						
5. P-32A-0422		5/9/22	1430	Liquid	12	X	X	X						MS/MSD
6. NP-70-0422		5/10/22	1225	Liquid	4	X	X	X						
7. NTTRIP-050922		5/9/22	1215	Liquid	3	X	~~X~~	~~X~~						
8.				Liquid	4	X	X	X						
9.				Liquid	4	X	X	X						
10.				Liquid	4	X	X	X						

Special Instructions/Comments:

Turnaround Requirements

___ RUSH (SURCHARGES APPLY)

___ Standard

_____ REQUESTED FAX DATE

_____ Requested Report Date

Report Requirements

___ I. Results Only

___ II. Results + QC Summaries (LCS, DUP, MS/MSD as required)

___ III. Results + QC and Cilibration Summaries

___ IV. Data Validation Report with Raw Data

EData ____Yes ____No

Invoice Information

P.O.# _____

Bill To: _____

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature: David Tyran	Signature: Mike Schuette	Signature	Signature	Signature	Signature
Printed Name: David Tyran	Printed Name: Mike Schuette	Printed Name	Printed Name	Printed Name	Printed Name
Firm: GHD	Firm: ALS	Firm	Firm	Firm	Firm
Date/Time: 5/10/22 1415	Date/Time: 5/11/22 13:05	Date/Time	Date/Time	Date/Time	Date/Time

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GHD Services Inc.
NT Durez/261-402-D02-3100

Appendix D
Historical Groundwater Chemistry Monitoring Analytical Results

Appendix D
Table D.1

Groundwater Chemistry Monitoring Analytical Results
Durez Interceptor Trench
North Tonawanda, New York
NP-22/NP-22A

Parameter [1]	Groundwater Standard [2]	Units	Feb-84	Jun-93	Oct-93	Dec-94	Mar-95	Jun-95	Sep-95	Dec-95	Mar-96	Jun-96
Benzene	1	µg/L	U	Dry	Dry	1 U	5 U	1 U	1 U/1 U	1 U/1 U	1 U/1 U	1 U/1 U
Toluene	5	µg/L	U	Dry	Dry	1 U	5 U	1 U	1 U/1 U	1 U/1 U	1 U/1 U	1 U/1 U
Monochlorobenzene	5	µg/L	U	Dry	Dry	1 U	5 U	1 U	1 U/1 U	1 U/1 U	1 U/1 U	1 U/1 U
2-Chlorotoluene	5	µg/L	U	Dry	Dry	1 U	5 U	1 U	1 U/1 U	1 U/1 U	1 U/1 U	1 U/1 U
1,4-Dichlorobenzene	3	µg/L	U	Dry	Dry	1 U	5 U	1 U	1 U/1 U	1 U/1 U	1 U/1 U	1 U/1 U
1,2-Dichlorobenzene	3	µg/L	U	Dry	Dry	1 U	5 U	1 U	1 U/1 U	1 U/1 U	1 U/1 U	1 U/1 U
1,2,4-Trichlorobenzene	5	µg/L	U	Dry	Dry	1 U	5 U	1 U	1 U/1 U	1 U/1 U	1 U/1 U	1 U/1 U
1,2,3-Trichlorobenzene	5	µg/L	U	Dry	Dry	1 U	5 U	1 U	1 U/1 U	1 U/1 U	1 U/1 U	1 U/1 U
Total Targeted Organics	NA	µg/L	0	Dry	Dry	0	0	0	0/0	0/0	0/0	0/0
Total Recoverable Phenolics	1	µg/L	1	Dry	Dry	15	13	9	5 U/5 U	5 U/5 U	5 U/5 U	5 U/5 U
TOC	NA	mg/L	4	Dry	Dry	7.4	3.5	4.6 U	6.0/4.6	3.6/3.6	2.7/3.0	2.2/2.0
pH	6.5 - 8.5	S.U.	6.6	Dry	Dry	7.5	6.92	6.63	7.55	7.75	6.69	7.88
Conductivity	NA	mS/cm	1,500	Dry	Dry	758	682	804	944	536	906	568
Temperature	NA	Celsius	3	Dry	Dry	6.4	5.6	20.6	16.2	5.0	4.4	16.1

			Sep-96	Dec-96	Mar-97	Jun-97	Sep-97	Dec-97	Mar-98	Jun-98	Sep-98	Dec-98
Benzene	1	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	Dry	1 U	Dry
Toluene	5	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	Dry	1 U	Dry
Monochlorobenzene	5	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	Dry	1 U	Dry
2-Chlorotoluene	5	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	Dry	1 U	Dry
1,4-Dichlorobenzene	3	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	Dry	1 U	Dry
1,2-Dichlorobenzene	3	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	Dry	1 U	Dry
1,2,4-Trichlorobenzene	5	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	Dry	1 U	Dry
1,2,3-Trichlorobenzene	5	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	Dry	1 U	Dry
Total Targeted Organics	NA	µg/L	0	0	0	0	0	0	0	Dry	0	Dry
Total Recoverable Phenolics	1	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	Dry	5 U	Dry
TOC	NA	mg/L	14	3.7 J	5.3	1.4	3.2	2.7	1.6	Dry	74.8	Dry
pH	6.5 - 8.5	S.U.	6.61	7.48	7.33	7.46	7.32	7.8	7.1	Dry	7.32	Dry
Conductivity	NA	mS/cm	680	890	900	860	1100	950	790	Dry	850	Dry
Temperature	NA	Celsius	15.5	7.9	5.1	14.4	13.8	7.2	5.0	Dry	16.2	Dry

Appendix D
Table D.1

Groundwater Chemistry Monitoring Analytical Results
Durez Interceptor Trench
North Tonawanda, New York
NP-22/NP-22A

Parameter [1]	Groundwater Standard [2]	Units	Mar-99	Jun-99	Sep-99	Dec-99	Apr-00	May-01	Apr-02	May-03	May-04	Jul-05
Benzene	1	µg/L	1 U	1 U	Dry	1 U	1 U	1 U	1 U	1 U	1.00 U	1.0 U
Toluene	5	µg/L	1 U	1 U	Dry	1 U	1 U	1 U	1 U	1 U	1.00 U	1.0 U
Monochlorobenzene	5	µg/L	1 U	1 U	Dry	1 U	1 U	1 U	1 U	1 U	1.00 U	1.0 U
2-Chlorotoluene	5	µg/L	1 U	1 U	Dry	1 U	1 U	1 U	1 U	1 U	1.00 U	1.0 U
1,4-Dichlorobenzene	3	µg/L	1 U	1 U	Dry	1 U	1 U	1 U	1 U	1 U	1.00 U	1.0 U
1,2-Dichlorobenzene	3	µg/L	1 U	1 U	Dry	1 U	1 U	1 U	1 U	1 U	1.00 U	1.0 U
1,2,4-Trichlorobenzene	5	µg/L	1 U	1 U	Dry	1 U	1 U	1 U	1 U	1 U	1.00 U	1.0 U
1,2,3-Trichlorobenzene	5	µg/L	1 U	1 U	Dry	1 U	1 U	1 U	1 U	1 U	1.00 U	1.0 U
Total Targeted Organics	-	µg/L	0	0	Dry	0	0	0	0	0	0	0
Total Recoverable Phenolics	1	µg/L	**6 J**	**13**	Dry	**9**	5 U	5 U	**239**	**7.66**	5 U	**29**
TOC	-	mg/L	2.6 U	2.78	Dry	2.28	2.9	5.1	4.6	3.8	4.9	3.7
pH	6.5 - 8.5	S.U.	**4.68**	**6.24**	Dry	**6.4**	**5.82**	**6.31**	7.46	6.58	6.99	7.08
Conductivity	-	mS/cm	600	800	Dry	8090	765	820	937	561	920	72.5
Temperature	-	Celsius	6.2	11.2	Dry	10	5.5	10.4	8	6.8	10.3	11

			Aug-06	Jun-07	Aug-08	Apr-09	May-10	May-11	Apr-12	Apr-13	Apr-14	Apr-15
Benzene	1	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Monochlorobenzene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Chlorotoluene	5	µg/L	1.0 U	0.32 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	3	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	3	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Targeted Organics	NA	µg/L	0	0.32	0	0	0	0	0	0	0	0
Total Recoverable Phenolics	1	µg/L	10 U	10 U	10 U	10U	**34**	**12**	10 U	0.01	**14**	10 U
TOC	NA	mg/L	2.9	3.4	2.8	2.02	3.5	2.7	2.8	2.4	2.4	1.6
pH	6.5 - 8.5	S.U.	6.96	6.82	6.78	7.89	8.14	6.95	5.73	7.28	7.28	7.05
Conductivity	NA	mS/cm	712	960	1041	10180	1030	902	944	1.242	1.242	0.78
Temperature	NA	Celsius	15.4	10.3	16.1	9.33	9.98	9.51	9.87	7.84	7.84	9.8

Appendix D
Table D.1

Groundwater Chemistry Monitoring Analytical Results
Durez Interceptor Trench
North Tonawanda, New York
NP-22/NP-22A

Parameter [1]	Groundwater Standard [2]	Units	Apr-16	Apr-17	Apr-18	Apr-19	May-20	Apr-21	May-22
Benzene	1	µg/L	1.0 U	1.0 U	1.0 U/1.0 U	1.0 U/1.0 U	1.0 U/1.0 U	1.0 U/1.0 U	1.0 U/1.0 U
Toluene	5	µg/L	1.0 U	1.0 U	1.0 U/1.0 U	1.0 U/1.0 U	1.0 U/1.0 U	1.0 U/1.0 U	1.0 U/1.0 U
Monochlorobenzene	5	µg/L	1.0 U	1.0 U	1.0 U/1.0 U	1.0 U/1.0 U	1.0 U/1.0 U	1.0 U/1.0 U	1.0 U/1.0 U
2-Chlorotoluene	5	µg/L	1.0 U	1.0 U	1.0 U/1.0 U	1.0 U/1.0 U	1.0 U/1.0 U	1.0 U/1.0 U	1.0 U/1.0 U
1,4-Dichlorobenzene	3	µg/L	1.0 U	1.0 U	1.0 U/1.0 U	1.0 U/1.0 U	1.0 U/1.0 U	1.0 U/1.0 U	1.0 U/1.0 U
1,2-Dichlorobenzene	3	µg/L	1.0 U	1.0 U	1.0 U/1.0 U	1.0 U/1.0 U	1.0 U/1.0 U	1.0 U/1.0 U	1.0 U/1.0 U
1,2,4-Trichlorobenzene	5	µg/L	1.0 U	1.0 U	1.0 U/1.0 U	1.0 U/1.0 U	1.0 U/1.0 U	1.0 U/1.0 U	1.0 U/1.0 U
1,2,3-Trichlorobenzene	5	µg/L	1.0 U	1.0 U	1.0 U/1.0 U	1.0 U/1.0 U	1.0 U/1.0 U	1.0 U/1.0 U	1.0 U/1.0 U
Total Targeted Organics	NA	µg/L	0	0	0/0	0/0	0/0	0/0	0/0
Total Recoverable Phenolics	1	µg/L	5.0 U	5.0 U	5.0 U/5.0 U	5.0 U/5.0 U	5.0 U/5.0 U	5.0 U/5.0 U	5.0 U/5.0 U
TOC	NA	mg/L	10.5	3.3	2.7/2.6	3.0/3.0	3.5/3.9	2.0/2.3	47.3/3.9
pH	6.5 - 8.5	S.U.	6.98	6.28	6.27	6.85	8.31	7.18	7.01
Conductivity	NA	mS/cm	0.94	0.97	1.19	1.05	1.71	5.05	4.13
Temperature	NA	Celsius	6.3	7.6	3.9	9.5	12.9	8.1	11.7

Notes:

(1) - Monitoring wells and compounds are in accordance with Appendix B, Durez Partial Consent Judgment; except analyses for Total Recoverable Phenolics were reported in Phenols in February 1984

(2) - Groundwater standards are New York State Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 1998

- Interceptor Trench operation began in October 1990; first full month of operation was November 1990; represented by dashed vertical line above

- NP-22A was installed in November 1993, approximately 10 feet from the former location of NP-22

Dry - Dry well or insufficient sample for analyses

J - Estimated at associated value

NA - Not analyzed or not available

S.U. - Standard Unit

TOC - Total Organic Carbon

U - Not detected at associated value

µg/L - Micrograms per liter

mS/cm - Microsiemens per centimeter

- Concentration exceeds New York State water quality standards

Appendix D
Table D.2

Groundwater Chemistry Monitoring Analytical Results
Durez Interceptor Trench
North Tonawanda, New York
NP-23 (Near Conrail Tracks)

Parameter [1]	Groundwater Standard [2]	Units	Sum-83	Jan-89	Dec-93	Mar-94	Jun-94	Sep-94	Dec-94	Mar-95	Jun-95	Sep-95
Benzene	1	µg/L	9	U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	Dry
Toluene	5	µg/L	U	U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	Dry
Monochlorobenzene	5	µg/L	U	U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	Dry
2-Chlorotoluene	5	µg/L	2	U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	Dry
1,4-Dichlorobenzene	3	µg/L	U	4	1 U	1 U	1 U	1 U	1 U	5 U	1 U	Dry
1,2-Dichlorobenzene	3	µg/L	U	U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	Dry
1,2,4-Trichlorobenzene	5	µg/L	3	1	1 U	1 U	1 U	1 U	1 U	5 U	1 U	Dry
1,2,3-Trichlorobenzene	5	µg/L	U	U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	Dry
Total Targeted Organics	-	µg/L	14	5	0	0	0	0	0	0	0	Dry
Total Recoverable Phenolics	1	µg/L	I	NA	5 U	5 U	27	10	2	5 U	5 U	Dry
TOC	-	mg/L	I	NA	3	6.7	3.8	8.5	4.5	2.8	I	Dry
pH	6.5 - 8.5	S.U.	7	6.5	8.25	7.68	7.7	7.45	7.75	7	6.71	Dry
Conductivity	-	mS/cm	610	3100	486	1440	740	870	851	356	430	Dry
Temperature	-	Celsius	20	5.7	7.5	8.8	19.3	12.1	7.8	6	21.3	Dry

			Dec-95	Mar-96	Jun-96	Sep-96	Dec-96	Mar-97	Jun-97	Sep-97	Dec-97	Mar-98
Benzene	1	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	5	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Monochlorobenzene	5	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Chlorotoluene	5	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	3	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	3	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	5	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	5	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Total Targeted Organics	-	µg/L	0	0	0	0	0	0	0	0	0	0
Total Recoverable Phenolics	1	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
TOC	-	mg/L	5.2	2.3	2.1	4.6	3.8 J	41	1.1	8.8	3.9	2.0
pH	6.5 - 8.5	S.U.	7.56	6.53	7.57	6.53	7.17	7.82	7.47	7.53	7.11	7.30
Conductivity	-	mS/cm	480	770	388	480	896	425	400	820	600	1055
Temperature	-	Celsius	5.4	3.9	16.7	16.4	7.9	5.0	15.1	16.2	8.8	6.8

Appendix D
Table D.2

Groundwater Chemistry Monitoring Analytical Results
Durez Interceptor Trench
North Tonawanda, New York
NP-23 (Near Conrail Tracks)

Parameter [1]	Groundwater Standard [2]	Units	Jun-98	Sep-98	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Apr-00	May-01	Apr-02
Benzene	1	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Toluene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Monochlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
2-Chlorotoluene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
1,4-Dichlorobenzene	3	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
1,2-Dichlorobenzene	3	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
1,2,4-Trichlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
1,2,3-Trichlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Total Targeted Organics	NA	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Total Recoverable Phenolics	1	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
TOC	-	mg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
pH	6.5 - 8.5	S.U.	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Conductivity	NA	mS/cm	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Temperature	NA	Celsius	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry

			May-03	May-04	Jul-05	Aug-06	Jun-07	Aug-08	Apr-09	May-10	May-11	Apr-12
Benzene	1	µg/L	Dry	Dry	Dry	Dry	Dry	1.0 U	Dry	Dry	Dry	Dry
Toluene	5	µg/L	Dry	Dry	Dry	Dry	Dry	1.0 U	Dry	Dry	Dry	Dry
Monochlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	Dry	1.0 U	Dry	Dry	Dry	Dry
2-Chlorotoluene	5	µg/L	Dry	Dry	Dry	Dry	Dry	1.0 U	Dry	Dry	Dry	Dry
1,4-Dichlorobenzene	3	µg/L	Dry	Dry	Dry	Dry	Dry	1.0 U	Dry	Dry	Dry	Dry
1,2-Dichlorobenzene	3	µg/L	Dry	Dry	Dry	Dry	Dry	1.0 U	Dry	Dry	Dry	Dry
1,2,4-Trichlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	Dry	1.0 U	Dry	Dry	Dry	Dry
1,2,3-Trichlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	Dry	1.0 U	Dry	Dry	Dry	Dry
Total Targeted Organics	NA	µg/L	Dry	Dry	Dry	Dry	Dry	0	Dry	Dry	Dry	Dry
Total Recoverable Phenolics	1	µg/L	Dry	Dry	Dry	Dry	Dry	10 U	Dry	Dry	Dry	Dry
TOC	NA	mg/L	Dry	Dry	Dry	Dry	Dry	18.6	Dry	Dry	Dry	Dry
pH	6.5 - 8.5	S.U.	Dry	Dry	Dry	Dry	Dry	7.74	Dry	Dry	Dry	Dry
Conductivity	NA	mS/cm	Dry	Dry	Dry	Dry	Dry	443	Dry	Dry	Dry	Dry
Temperature	NA	Celsius	Dry	Dry	Dry	Dry	Dry	20.8	Dry	Dry	Dry	Dry

Appendix D
Table D.2

Groundwater Chemistry Monitoring Analytical Results
Durez Interceptor Trench
North Tonawanda, New York
NP-23 (Near Conrail Tracks)

Parameter [1]	Groundwater Standard [2]	Units	Apr-13	Apr-14	Apr-15	Apr-16	Apr-17	Apr-18	Apr-19	May-20	Apr-21	May-22
Benzene	1	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Toluene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Monochlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
2-Chlorotoluene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
1,4-Dichlorobenzene	3	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
1,2-Dichlorobenzene	3	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
1,2,4-Trichlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
1,2,3-Trichlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Total Targeted Organics	NA	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Total Recoverable Phenolics	1	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
TOC	NA	mg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
pH	6.5 - 8.5	S.U.	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Conductivity	NA	mS/cm	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Temperature	NA	Celsius	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry

Notes:

(1) - Monitoring wells and compounds are in accordance with Appendix B, Durez Partial Consent Judgment; except analyses for Total Recoverable Phenolics were reported as Phenols in February 1984
(2) - Groundwater standards are New York State Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 1998
- Interceptor Trench operation began in October 1990; first full month of operation was November 1990
Dry - Dry well or insufficient sample for analyses
J - Estimated at associated value
I - Data unavailable
NA - Not analyzed or not available
S.U. - Standard Unit
TOC - Total Organic Carbon
U - Not detected at associated value
µg/L - Micrograms per liter
mS/cm - Microsiemens per centimeter
[ ] - Concentration exceeds New York State water quality standards

Appendix D
Table D.3

Groundwater Chemistry Monitoring Analytical Results
Durez Interceptor Trench
North Tonawanda, New York
NP-27 (Wilson and Nash)

Parameter [1]	Groundwater Standard [2]	Units	Sum-83	Dec-93	Mar-94	Jun-94	Sep-94	Dec-94	Mar-95	Jun-95	Sep-95	Dec-95
Benzene	1	µg/L	U	1 U	1 U	1 U	Dry	1 U	5 U	1 U	Dry	1 U
Toluene	5	µg/L	U	1 U	1 U	1 U	Dry	1 U	5 U	1 U	Dry	1 U
Monochlorobenzene	5	µg/L	U	1 U	1 U	1 U	Dry	1 U	5 U	1 U	Dry	1 U
2-Chlorotoluene	5	µg/L	U	1 U	1 U	1 U	Dry	1 U	5 U	1 U	Dry	1 U
1,4-Dichlorobenzene	3	µg/L	U	1 U	1 U	1 U	Dry	1 U	5 U	1 U	Dry	1 U
1,2-Dichlorobenzene	3	µg/L	U	1 U	1 U	1 U	Dry	1 U	5 U	1 U	Dry	1 U
1,2,4-Trichlorobenzene	5	µg/L	U	1 U	1 U	1 U	Dry	1 U	5 U	1 U	Dry	1 U
1,2,3-Trichlorobenzene	5	µg/L	U	1 U	1 U	1 U	Dry	1 U	5 U	1 U	Dry	1 U
Total Targeted Organics	NA	µg/L	0	0	0	0	Dry	0	0	0	Dry	0
Total Recoverable Phenolics	1	µg/L	14 U	3	5 U	5	Dry	6	5 U	5 U	Dry	5 U
TOC	NA	mg/L	4	2.4	11	2.9	Dry	5	1.6	2.6	Dry	3.4
pH	6.5 - 8.5	S.U.	6.8	7.58	7.48	6.96	Dry	7.43	7.46	6.41	Dry	7.52
Conductivity	NA	mS/cm	1,570	805	1890	840	Dry	716	546	631	Dry	555
Temperature	NA	Celsius	15	7.4	8.6	17.5	Dry	7.6	5.7	20.2	Dry	4.1

Parameter [1]	Groundwater Standard [2]	Units	Mar-96	Jun-96	Sep-96	Dec-96	Mar-97	Jun-97	Sep-97	Dec-97	Mar-98	Jun-98
Benzene	1	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	Dry
Toluene	5	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	Dry
Monochlorobenzene	5	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	Dry
2-Chlorotoluene	5	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	Dry
1,4-Dichlorobenzene	3	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	Dry
1,2-Dichlorobenzene	3	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	Dry
1,2,4-Trichlorobenzene	5	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	Dry
1,2,3-Trichlorobenzene	5	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	Dry
Total Targeted Organics	NA	µg/L	0	0	0	0	0	0	0	0	0	Dry
Total Recoverable Phenolics	1	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	Dry
TOC	NA	mg/L	1.2	1.1	2.9	4.2 J	3.7	1 U	2.4	3.0	1.3	Dry
pH	6.5 - 8.5	S.U.	6.85	7.37	6.94	7.34	7.42	8.01	7.27	7.13	7.28	Dry
Conductivity	NA	mS/cm	780	600	630	990	920	910	1000	850	820	Dry
Temperature	NA	Celsius	3.9	16.9	17.8	8.7	4.5	16.1	15.4	6.2	5.9	Dry

Appendix D
Table D.3

Groundwater Chemistry Monitoring Analytical Results
Durez Interceptor Trench
North Tonawanda, New York
NP-27 (Wilson and Nash)

Parameter [1]	Groundwater Standard [2]	Units	Sep-98	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Apr-00	May-01	Apr-02	May-03
Benzene	1	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Toluene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Monochlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
2-Chlorotoluene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
1,4-Dichlorobenzene	3	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
1,2-Dichlorobenzene	3	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
1,2,4-Trichlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
1,2,3-Trichlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Total Targeted Organics	NA	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Total Recoverable Phenolics	1	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
TOC	NA	mg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
pH	6.5 - 8.5	S.U.	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Conductivity	NA	mS/cm	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Temperature	NA	Celsius	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry

			May-04	Jul-05	Aug-06	Jun-07	Aug-08	Apr-09	May-10	May-11	Apr-12	Apr-13
Benzene	1	µg/L	Dry	Dry	Dry	Dry	1.0 U	Dry	1.0 U	Dry	1.0 U	1.0 U
Toluene	5	µg/L	Dry	Dry	Dry	Dry	1.0 U	Dry	1.0 U	Dry	1.0 U	1.0 U
Monochlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	1.0 U	Dry	1.0 U	Dry	1.0 U	1.0 U
2-Chlorotoluene	5	µg/L	Dry	Dry	Dry	Dry	6.0 U	Dry	1.0 U	Dry	1.0 U	1.0 U
1,4-Dichlorobenzene	3	µg/L	Dry	Dry	Dry	Dry	1.0 U	Dry	1.0 U	Dry	1.0 U	1.0 U
1,2-Dichlorobenzene	3	µg/L	Dry	Dry	Dry	Dry	1.0 U	Dry	1.0 U	Dry	1.0 U	1.0 U
1,2,4-Trichlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	1.0 U	Dry	1.0 U	Dry	1.1	1.0 U
1,2,3-Trichlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	1.0 U	Dry	1.0 U	Dry	1.0 U	1.0 U
Total Targeted Organics	NA	µg/L	Dry	Dry	Dry	Dry	0	Dry	0	Dry	1.1	0
Total Recoverable Phenolics	1	µg/L	Dry	Dry	Dry	Dry	12 U	Dry	25U	Dry	10 U	0.01
TOC	NA	mg/L	Dry	Dry	Dry	Dry	19.9	Dry	1.5	Dry	1.9	9.4
pH	6.5 - 8.5	S.U.	Dry	Dry	Dry	Dry	6.74	Dry	NA	Dry	7.05	7.85
Conductivity	NA	mS/cm	Dry	Dry	Dry	Dry	930	Dry	NA	Dry	504	0.627
Temperature	NA	Celsius	Dry	Dry	Dry	Dry	19.2	Dry	NA	Dry	11.52	6.9

Appendix D
Table D.3

Groundwater Chemistry Monitoring Analytical Results
Durez Interceptor Trench
North Tonawanda, New York
NP-27 (Wilson and Nash)

Parameter [1]	Groundwater Standard [2]	Units	Apr-14	Apr-15	Apr-16	Apr-17	Apr-18	Apr-19	May-20	Apr-21	May-22
Benzene	1	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	Dry	1.0 U	1.0 U
Toluene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	Dry	1.0 U	1.0 U
Monochlorobenzene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	Dry	1.0 U	1.0 U
2-Chlorotoluene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	Dry	1.0 U	1.0 U
1,4-Dichlorobenzene	3	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	Dry	1.0 U	1.0 U
1,2-Dichlorobenzene	3	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	Dry	1.0 U	1.0 U
1,2,4-Trichlorobenzene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	Dry	1.0 U	1.0 U
1,2,3-Trichlorobenzene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	Dry	1.0 U	1.0 U
Total Targeted Organics	NA	µg/L	0	0	0	0	0	0	Dry	0	0
Total Recoverable Phenolics	1	µg/L	**3.1 J**	10 U	5.0 U	5.0 U	5.0 U	5.0 U	Dry	5.0 U	5.0 U
TOC	NA	mg/L	1.6	1.0	11.3	2.4	2.5	1.6	Dry	2.0	4.1
pH	6.5 - 8.5	S.U.	7.85	7.74	7.62	6.62	7.93	6.84	Dry	7.69	8.18
Conductivity	NA	mS/cm	0.627	0.647	0.556	0.69	0.487	0.581	Dry	0.85	0.64
Temperature	NA	Celsius	6.9	6.9	5.9	6.8	5.3	7.3	Dry	7.6	10.3

Notes:

(1) - Monitoring wells and compounds are in accordance with Appendix B, Durez Partial Consent Judgment; except analyses for Total Recoverable Phenolics were reported as Phenols in February 1984

(2) - Groundwater standards are New York State Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 1998

- Interceptor Trench operation began in October 1990; first full month of operation was November 1990

Dry - Dry well or insufficient sample for analyses

J - Estimated at associated value

NA - Not analyzed or not available

S.U. - Standard Unit

TOC - Total Organic Carbon

U - Not detected at associated value

µg/L - Micrograms per liter

mS/cm - Microsiemens per centimeter

- Concentration exceeds New York State water quality standards

Appendix D
Table D.4

Groundwater Chemistry Monitoring Analytical Results
Durez Interceptor Trench
North Tonawanda, New York
P-32/P-32A (Walck Road)

Parameter [1]	Groundwater Standard [2]	Units	Sum-83	Jan-89	Jun-93	Oct-93	Jun-94	Sep-94	Dec-94	Mar-95	Jun-95	Sep-95
Benzene	1	µg/L	7	1	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U
Toluene	5	µg/L	U	U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U
Monochlorobenzene	5	µg/L	310	25	5	**10**	1 U	1 U	1 U	5 U	1 U	1 U
2-Chlorotoluene	5	µg/L	2	U	2	1 U	1 U	1 U	1 U	5 U	1 U	1 U
1,4-Dichlorobenzene	3	µg/L	120	7	3	**12**	1 U	1 U	1 U	5 U	1 U	3 U
1,2-Dichlorobenzene	3	µg/L	82	10	3	3	1 U	1 U	1 U	5 U	1 U	1 U
1,2,4-Trichlorobenzene	5	µg/L	U	U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U
1,2,3-Trichlorobenzene	5	µg/L	U	U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U
Total Targeted Organics	NA	µg/L	521	43	13	25	0	0	0	0	0	0
Total Recoverable Phenolics	1	µg/L	14 U	30	1	1	**5**	**19**	**16**	5 U	5 U	5 U
TOC	NA	mg/L	4	28	1	1	3.8	11	9.3	3.4	4.7	3.4
pH	6.5 - 8.5	S.U.	7.1	6.2	1	1	7.04	7.1	7.48	6.82	6.2	7.29
Conductivity	NA	mS/cm	1,940	100000	1	1	8120	759	6150	3830	951	12740
Temperature	NA	Celsius	20	12	1	1	20.2	6.3	10.3	8.2	18.6	20.2

Parameter [1]	Groundwater Standard [2]	Units	Dec-95	Mar-96	Jun-96	Sep-96	Dec-96	Mar-97	Jun-97	Sep-97	Dec-97	Mar-98
Benzene	1	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	5	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Monochlorobenzene	5	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Chlorotoluene	5	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	3	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	3	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	5	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	5	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Total Targeted Organics	NA	µg/L	0	0	0	0	0	0	0	0	0	0
Total Recoverable Phenolics	1	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
TOC	NA	mg/L	3.4	5.4	3.4	5.7	5.2	6.2	1.9	2.5	3.9	2.3
pH	6.5 - 8.5	S.U.	7.43	6.54	7.38	6.72	6.84	7.11	7.27	7.04	6.79	7.30
Conductivity	NA	mS/cm	5,310	4910	2460	2810	8120	3000	6200	4700	6200	5200
Temperature	NA	Celsius	6.9	4.4	16.1	16.9	11.3	6.2	15.1	17.7	10.9	7.2

Appendix D
Table D.4

Groundwater Chemistry Monitoring Analytical Results
Durez Interceptor Trench
North Tonawanda, New York
P-32/P-32A (Walck Road)

Parameter [1]	Groundwater Standard [2]	Units	Jun-98	Sep-98	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Apr-00	May-01	Apr-02
Benzene	1	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Toluene	5	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Monochlorobenzene	5	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2-Chlorotoluene	5	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	3	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	3	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	5	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	5	µg/L	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Total Targeted Organics	NA	µg/L	0	0	0	0	0	0	0	0	0	0
Total Recoverable Phenolics	1	µg/L	5 U	5 U	5 U	5 U	**28**	**5**	**10**	5 U	5 U	**185**
TOC	NA	mg/L	3.7	76.8	4	3.0 U	3.23	1 U.0	4.39	3	4.2	2.7
pH	6.5 - 8.5	S.U.	7.34	7.18	6.9	**6.12**	6.8	-	6.86	6.78	6.97	7.65
Conductivity	NA	mS/cm	4,000	4300	4000	3000	3500	3670	3570	3700	2520	3270
Temperature	NA	Celsius	16.7	17.1	14.1	5.5	16.9	20	12.8	6.5	13.5	9.3

			May-03	May-04	Jul-05	Aug-06	Jun-07	Aug-08	Apr-09	May-10	May-11	Apr-12
Benzene	1	µg/L	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U/1.0 U
Toluene	5	µg/L	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U/1.0 U
Monochlorobenzene	5	µg/L	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U/1.0 U
2-Chlorotoluene	5	µg/L	1.00 U	1.00 U	1.0 U	1.0 U	0.33 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U/1.0 U
1,4-Dichlorobenzene	3	µg/L	1.00 U	1.00 U	1.0 U	1.0 U	0.36 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U/1.0 U
1,2-Dichlorobenzene	3	µg/L	1.00 U	1.00 U	1.0 U	1.0 U	0.23 J	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U/1.0 U
1,2,4-Trichlorobenzene	5	µg/L	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U/1.0 U
1,2,3-Trichlorobenzene	5	µg/L	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U/1.0 U
Total Targeted Organics	NA	µg/L	0	0	0	0	0.92	0	0	0	0	0/0
Total Recoverable Phenolics	1	µg/L	5 U	5 U	10 U	10 U	10 U	10 U	10 U	26 U	**79**	10 U/10 U
TOC	NA	mg/L	3.6	4.3	3.3	2.2	3.9	3.1	2.31	2.5	2	2.0/1.9
pH	6.5 - 8.5	S.U.	7.35	7.17	7.28	7.42	6.87	6.82	8.12	NA	7.23	6.96
Conductivity	NA	mS/cm	3570	4290	3110	2270	3960	4180	3210	NA	5440	3790
Temperature	NA	Celsius	8.3	12	17.1	21.5	13.1	19.2	11.16	NA	10.44	11.58

Appendix D
Table D.4

Groundwater Chemistry Monitoring Analytical Results
Durez Interceptor Trench
North Tonawanda, New York
P-32/P-32A (Walck Road)

Parameter [1]	Groundwater Standard [2]	Units	Apr-13	Apr-14	Apr-15	Apr-16	Apr-17	Apr-18	Apr-19	May-20	Apr-21	May-22
Benzene	1	µg/L	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U/1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	5	µg/L	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U/1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Monochlorobenzene	5	µg/L	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U/1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Chlorotoluene	5	µg/L	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U/1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	3	µg/L	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U/1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	3	µg/L	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U/1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	5	µg/L	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U/1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	5	µg/L	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U/1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Targeted Organics	NA	µg/L	0	0	0	0	0/0	0	0	0	0	0
Total Recoverable Phenolics	1	µg/L	0.01	**4.1 J**	10 U	**3.5 J**	5 U/5 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
TOC	NA	mg/L	2.3	2.4	1.6	9.4	2.6/2.6	2.6	2.2	2.3	2.2	1.7
pH	6.5 - 8.5	S.U.	7.42	7.28	7.41	7.05	6.76	5.57	6.06	8.61	7.40	7.31
Conductivity	NA	mS/cm	3	1	2.9	3.18	3.12	4.88	4.32	4.14	4.85	4.4
Temperature	NA	Celsius	9.27	7.84	10.2	7.9	8.3	6.5	10.4	16.0	9.9	13.3

Notes:

(1) - Monitoring wells and compounds are in accordance with Appendix B, Durez Partial Consent Judgment; except analyses for Total Recoverable Phenolics were reported as Phenols in February 1984

(2) - Groundwater standards are New York State Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 1998

- Interceptor Trench operation began in October 1990; first full month of operation was November 1990

Dry - Dry well or insufficient sample for analyses

J - Estimated at associated value

NA - Not analyzed or not available

S.U. - Standard Unit

TOC - Total Organic Carbon

U - Not detected at associated value

µg/L - Micrograms per liter

mS/cm - Microsiemens per centimeter

bold - Concentration exceeds New York State water quality standards

Appendix D
Table D.5

Groundwater Chemistry Monitoring Analytical Results
Durez Interceptor Trench
North Tonawanda, New York
NP-35 (Harding and Wilson)

Parameter [1]	Groundwater Standard [2]	Units	Sum-83	Dec-93	Mar-94	Jun-94	Sep-94	Dec-94	Mar-95	Jun-95	Sep-95	Dec-95
Benzene	1	µg/L	U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U
Toluene	5	µg/L	U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U
Monochlorobenzene	5	µg/L	U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U
2-Chlorotoluene	5	µg/L	U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U
1,4-Dichlorobenzene	3	µg/L	U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U
1,2-Dichlorobenzene	3	µg/L	U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	5	µg/L	U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	5	µg/L	U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U
Total Targeted Organics	NA	µg/L	0	0	0	0	0	0	0	0	0	0
Total Recoverable Phenolics	1	µg/L	14 U	**11**	5 U	**80**	**14**	**12**	**10**	5 U	5 U	5 U
TOC	NA	mg/L	4	4	11	5.5	7	10	4.4	11	10.6	8.6
pH	6.5 - 8.5	S.U.	6.9	7.27	8.2	7.08	**6.45**	7.34	7.02	6.94	7.46	7.42
Conductivity	NA	umhos/cm	930	876	1590	920	740	825	499	694	905	696
Temperature	NA	Celsius	21	8	8.1	17.9	20	6.1	5.9	18.3	21.05	4.9

Parameter [1]	Groundwater Standard [2]	Units	Mar-96	Jun-96	Sep-96	Dec-96	Mar-97	Jun-97	Sep-97	Dec-97	Mar-98	Jun-84
Benzene	1	µg/L	1 U	1 U	1 U/1 U	1 U	1 U	1 U	1 U/1 U	1 U	1 U/1 U	Dry
Toluene	5	µg/L	1 U	1 U	1.9/1.6 J	1 U	1 U	1 U	1 U/1 U	1 U	1 U/1 U	Dry
Monochlorobenzene	5	µg/L	1 U	1 U	1 U/1 U	1 U	1 U	1 U	1 U/1 U	1 U	1 U/1 U	Dry
2-Chlorotoluene	5	µg/L	1 U	1 U	1 U/1 U	1 U	1 U	1 U	1 U/1 U	1 U	1 U/1 U	Dry
1,4-Dichlorobenzene	3	µg/L	1 U	1 U	1 U/1 U	1 U	1 U	1 U	1 U/1 U	1 U	1 U/1 U	Dry
1,2-Dichlorobenzene	3	µg/L	1 U	1 U	1 U/1 U	1 U	1 U	1 U	1 U/1 U	1 U	1 U/1 U	Dry
1,2,4-Trichlorobenzene	5	µg/L	1 U	1 U	1 U/1 U	1 U	1 U	1 U	1 U/1 U	1 U	1 U/1 U	Dry
1,2,3-Trichlorobenzene	5	µg/L	1 U	1 U	1 U/1 U	1 U	1 U	1 U	1 U/1 U	1 U	1 U/1 U	Dry
Total Targeted Organics	NA	µg/L	0	0	1.9/1.6 J	0	0	0	0/0	0	0/0	Dry
Total Recoverable Phenolics	1	µg/L	5 U	5 U	5 U	5 U	5 U	5 U	5 U/5 U	5 U	5 U/5 U	Dry
TOC	NA	mg/L	2.8	2.4	4.4	4.2 J	6.2	1.6/1.7	4.0/4.2	4.2	2.5/2.4	Dry
pH	6.5 - 8.5	S.U.	6.77	7.86	6.93	7.71	7.47	7.92	7.22	**8.66**	7.20	Dry
Conductivity	NA	umhos/cm	790	596	680	1000	1000	900	1100	1000	890	Dry
Temperature	NA	Celsius	3.9	20.5	17.3	7.9	4.7	18.0	16.8	5.3	5.9	Dry

Appendix D
Table D.5

Groundwater Chemistry Monitoring Analytical Results
Durez Interceptor Trench
North Tonawanda, New York
NP-35 (Harding and Wilson)

Parameter [1]	Groundwater Standard [2]	Units	Sep-98	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Apr-00	May-01	Apr-02	May-03
Benzene	1	µg/L	Dry	Dry	Dry	Dry	Dry	1 U	1 U	Dry	Dry	Dry
Toluene	5	µg/L	Dry	Dry	Dry	Dry	Dry	1.5	1 U	Dry	Dry	Dry
Monochlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	Dry	1 U	1 U	Dry	Dry	Dry
2-Chlorotoluene	5	µg/L	Dry	Dry	Dry	Dry	Dry	1 U	1 U	Dry	Dry	Dry
1,4-Dichlorobenzene	3	µg/L	Dry	Dry	Dry	Dry	Dry	1 U	1 U	Dry	Dry	Dry
1,2-Dichlorobenzene	3	µg/L	Dry	Dry	Dry	Dry	Dry	1 U	1 U	Dry	Dry	Dry
1,2,4-Trichlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	Dry	1 U	1 U	Dry	Dry	Dry
1,2,3-Trichlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	Dry	1 U	1 U	Dry	Dry	Dry
Total Targeted Organics	NA	µg/L	Dry	Dry	Dry	Dry	Dry	1.5	0	Dry	Dry	Dry
Total Recoverable Phenolics	1	µg/L	Dry	Dry	Dry	Dry	Dry	**69**	5 U	Dry	Dry	Dry
TOC	NA	mg/L	Dry	Dry	Dry	Dry	Dry	3.52	3.1	Dry	Dry	Dry
pH	6.5 - 8.5	S.U.	Dry	Dry	Dry	Dry	Dry	6.68	6.3	Dry	Dry	Dry
Conductivity	NA	umhos/cm	Dry	Dry	Dry	Dry	Dry	6863	564	Dry	Dry	Dry
Temperature	NA	Celsius	Dry	Dry	Dry	Dry	Dry	9.8	6.7	Dry	Dry	Dry

			May-04	Jul-05	Aug-06	Jun-07	Aug-08	Apr-09	May-10	May-11	Apr-12	Apr-13
Benzene	1	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Toluene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Monochlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
2-Chlorotoluene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
1,4-Dichlorobenzene	3	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
1,2-Dichlorobenzene	3	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
1,2,4-Trichlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
1,2,3-Trichlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Total Targeted Organics	NA	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Total Recoverable Phenolics	1	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
TOC	NA	mg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
pH	6.5 - 8.5	S.U.	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Conductivity	NA	umhos/cm	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Temperature	NA	Celsius	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry

Appendix D
Table D.5

Groundwater Chemistry Monitoring Analytical Results
Durez Interceptor Trench
North Tonawanda, New York
NP-35 (Harding and Wilson)

Parameter [1]	Groundwater Standard [2]	Units	Apr-14	Apr-15	Apr-16	Apr-17	Apr-18	Apr-19	May-20	Apr-21	May-22
Benzene	1	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Toluene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Monochlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
2-Chlorotoluene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
1,4-Dichlorobenzene	3	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
1,2-Dichlorobenzene	3	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
1,2,4-Trichlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
1,2,3-Trichlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Total Targeted Organics	NA	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Total Recoverable Phenolics	1	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
TOC	NA	mg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
pH	6.5 - 8.5	S.U.	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Conductivity	NA	umhos/cm	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Temperature	NA	Celsius	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry

Notes:

(1) - Monitoring wells and compounds are in accordance with Appendix B, Durez Partial Consent Judgment; except analyses for Total Recoverable Phenolics were reported as Phenols in February 1984

(2) - Groundwater standards are New York State Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 1998

- Interceptor Trench operation began in October 1990; first full month of operation was November 1990

Dry - Dry well or insufficient sample for analyses

J - Estimated at associated value

NA - Not analyzed or not available

S.U. - Standard Unit

TOC - Total Organic Carbon

U - Not detected at associated value

µg/L - Micrograms per liter

mS/cm - Microsiemens per centimeter

- Concentration exceeds New York State water quality standards

Appendix D
Table D.6

Groundwater Chemistry Monitoring Analytical Results
Durez Interceptor Trench
North Tonawanda, New York
NP-44 (Near Northeast Lateral of Interceptor Trench)

Parameter [1]	Groundwater Standard [2]	Units	May-85	Dec-85	Dec-88	Jun-93	Oct-93	Dec-93	Mar-94	Jun-94	Sep-94	Dec-94
Benzene	1	µg/L	700	70	920	1 U	Dry	Dry	Dry	1 U	Dry	1 U
Toluene	5	µg/L	13	2	6	1 U	Dry	Dry	Dry	1 U	Dry	1 U
Monochlorobenzene	5	µg/L	9500	2500	14000	1 U	Dry	Dry	Dry	1 U	Dry	1 U
2-Chlorotoluene	5	µg/L	U	1	3	1 U	Dry	Dry	Dry	1 U	Dry	1 U
1,4-Dichlorobenzene	3	µg/L	2700	2900	2900	1 U	Dry	Dry	Dry	1 U	Dry	1 U
1,2-Dichlorobenzene	3	µg/L	700	990	1100	1 U	Dry	Dry	Dry	1 U	Dry	1 U
1,2,4-Trichlorobenzene	5	µg/L	31	48	39	1 U	Dry	Dry	Dry	1 U	Dry	1 U
1,2,3-Trichlorobenzene	5	µg/L	15	14	2	1 U	Dry	Dry	Dry	1 U	Dry	1 U
Total Targeted Organics	NA	µg/L	13659	6525	18970	0	Dry	Dry	Dry	0	Dry	0
Total Recoverable Phenolics	1	µg/L	1750	4650	600	NA	Dry	Dry	Dry	24	Dry	5
TOC	NA	mg/L	131	33	19	9.4	Dry	Dry	Dry	8.8	Dry	12
pH	6.5 - 8.5	S.U.	7.7	6.8	6.9	7.01	Dry	Dry	Dry	1	Dry	7.15
Conductivity	NA	umhos/cm	140	1430	NA	885	Dry	Dry	Dry	1	Dry	1234
Temperature	NA	Celsius	19	10	NA	15	Dry	Dry	Dry	1	Dry	6.5

Parameter [1]	Groundwater Standard [2]	Units	Mar-95	Jun-95	Sep-95	Dec-95	Mar-96	Jun-96	Sep-96	Dec-96	Mar-97	Jun-97
Benzene	1	µg/L	5 U	1 U	Dry	1 U	1 U	0.22 J	1 U	1 U	1 U	1 U
Toluene	5	µg/L	5 U	1 U	Dry	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Monochlorobenzene	5	µg/L	5 U	1 U	Dry	1 U	1 U	1 U	1 U	1 U	1 U	1.9
2-Chlorotoluene	5	µg/L	5 U	1 U	Dry	1 U	1 U	1.4	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene	3	µg/L	5 U	1 U	Dry	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene	3	µg/L	5 U	1 U	Dry	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,4-Trichlorobenzene	5	µg/L	5 U	1 U	Dry	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2,3-Trichlorobenzene	5	µg/L	5 U	1 U	Dry	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Total Targeted Organics	NA	µg/L	0	0	Dry	0	0	1.6 J	0	0	0	0
Total Recoverable Phenolics	1	µg/L	**17**	**11**	Dry	5 U	5 U	5 U	5 U	5 U	5 U	5 U
TOC	NA	mg/L	5.8	7.1	Dry	9.1	2.4	2.2	6.2	3.2	6.1	1.3
pH	6.5 - 8.5	S.U.	**6.06**	**6.3**	Dry	7.56	7.14	8.01	6.63	7.38	7.12	7.73
Conductivity	NA	umhos/cm	1234	868	Dry	1080	965	832	1020	1200	1000	980
Temperature	NA	Celsius	6.5	20.2	Dry	4.3	3.3	20	16.2	7.2	3.5	19.0

Appendix D
Table D.6

Groundwater Chemistry Monitoring Analytical Results
Durez Interceptor Trench
North Tonawanda, New York
NP-44 (Near Northeast Lateral of Interceptor Trench)

Parameter [1]	Groundwater Standard [2]	Units	Sep-97	Dec-97	Mar-98	Jun-98	Sep-98	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99
Benzene	1	µg/L	Dry	1 U/1 U	1 U	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Toluene	5	µg/L	Dry	1 U/1 U	1 U	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Monochlorobenzene	5	µg/L	Dry	1 U/1 U	1 U	Dry	Dry	Dry	Dry	Dry	Dry	Dry
2-Chlorotoluene	5	µg/L	Dry	1 U/1 U	1 U	Dry	Dry	Dry	Dry	Dry	Dry	Dry
1,4-Dichlorobenzene	3	µg/L	Dry	1 U/1 U	1 U	Dry	Dry	Dry	Dry	Dry	Dry	Dry
1,2-Dichlorobenzene	3	µg/L	Dry	1 U/1 U	1 U	Dry	Dry	Dry	Dry	Dry	Dry	Dry
1,2,4-Trichlorobenzene	5	µg/L	Dry	1 U/1 U	1 U	Dry	Dry	Dry	Dry	Dry	Dry	Dry
1,2,3-Trichlorobenzene	5	µg/L	Dry	1 U/1 U	1 U	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Total Targeted Organics	NA	µg/L	Dry	0/0	0	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Total Recoverable Phenolics	1	µg/L	Dry	5 U/5 U	5 U	Dry	Dry	Dry	Dry	Dry	Dry	Dry
TOC	NA	mg/L	Dry	3.4/3.6	1.8	Dry	Dry	Dry	Dry	Dry	Dry	Dry
pH	6.5 - 8.5	S.U.	Dry	7.18	7.10	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Conductivity	NA	umhos/cm	Dry	1000	1000	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Temperature	NA	Celsius	Dry	7.0	3.5	Dry	Dry	Dry	Dry	Dry	Dry	Dry

Parameter [1]	Groundwater Standard [2]	Units	Apr-00	May-01	Apr-02	May-03	May-04	Jul-05	Aug-06	Jun-07	Aug-08	Apr-09
Benzene	1	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	1.0 U	Dry
Toluene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	1.0 U	Dry
Monochlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	0.26 J	Dry
2-Chlorotoluene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	1.0 U	Dry
1,4-Dichlorobenzene	3	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	0.26 J	Dry
1,2-Dichlorobenzene	3	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	0.14 J	Dry
1,2,4-Trichlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	1.0 U	Dry
1,2,3-Trichlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	1.0 U	Dry
Total Targeted Organics	NA	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	0.66	Dry
Total Recoverable Phenolics	1	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	NA	Dry
TOC	NA	mg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	NA	Dry
pH	6.5 - 8.5	S.U.	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	6.52	Dry
Conductivity	NA	umhos/cm	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	443	Dry
Temperature	NA	Celsius	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	23.1	Dry

Appendix D
Table D.6

Groundwater Chemistry Monitoring Analytical Results
Durez Interceptor Trench
North Tonawanda, New York
NP-44 (Near Northeast Lateral of Interceptor Trench)

Parameter [1]	Groundwater Standard [2]	Units	May-10	May-11	Apr-12	Apr-13	Apr-14	Apr-15	Apr-16	Apr-17	Apr-18	Apr-19
Benzene	1	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Toluene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Monochlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
2-Chlorotoluene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
1,4-Dichlorobenzene	3	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
1,2-Dichlorobenzene	3	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
1,2,4-Trichlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
1,2,3-Trichlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Total Targeted Organics	NA	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Total Recoverable Phenolics	1	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
TOC	NA	mg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
pH	6.5 - 8.5	S.U.	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Conductivity	NA	umhos/cm	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Temperature	NA	Celsius	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry

Parameter [1]	Groundwater Standard [2]	Units	May-20	Apr-21	May-22
Benzene	1	µg/L	Dry	Dry	Dry
Toluene	5	µg/L	Dry	Dry	Dry
Monochlorobenzene	5	µg/L	Dry	Dry	Dry
2-Chlorotoluene	5	µg/L	Dry	Dry	Dry
1,4-Dichlorobenzene	3	µg/L	Dry	Dry	Dry
1,2-Dichlorobenzene	3	µg/L	Dry	Dry	Dry
1,2,4-Trichlorobenzene	5	µg/L	Dry	Dry	Dry
1,2,3-Trichlorobenzene	5	µg/L	Dry	Dry	Dry
Total Targeted Organics	NA	µg/L	Dry	Dry	Dry
Total Recoverable Phenolics	1	µg/L	Dry	Dry	Dry
TOC	NA	mg/L	Dry	Dry	Dry
pH	6.5 - 8.5	S.U.	Dry	Dry	Dry
Conductivity	NA	umhos/cm	Dry	Dry	Dry
Temperature	NA	Celsius	Dry	Dry	Dry

Notes:

(1) - Monitoring wells and compounds are in accordance with Appendix B, Durez Partial Consent Judgment; except analyses for Total Recoverable Phenolics were reported as Phenols in February 1984
(2) - Groundwater standards are New York State Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 1998
- Interceptor Trench operation began in October 1990; first full month of operation was November 1990
Dry - Dry well or insufficient sample for analyses
J - Estimated at associated value
NA - Not analyzed or not available
S.U. - Standard Unit
TOC - Total Organic Carbon
U - Not detected at associated value
µg/L - Micrograms per liter
mS/cm - Microsiemens per centimeter

Appendix D
Table D.6

Groundwater Chemistry Monitoring Analytical Results
Durez Interceptor Trench
North Tonawanda, New York
NP-44 (Near Northeast Lateral of Interceptor Trench)

Parameter [1]	Groundwater Standard [2]	Units

- Concentration exceeds New York State water quality standards

Appendix D
Table D.7

Groundwater Chemistry Monitoring Analytical Results
Durez Interceptor Trench
North Tonawanda, New York
NP-46 (Northeast of Panhandle)

Parameter [1]	Groundwater Standard [2]	Units	Dec-85	Jan-89	Dec-93	Mar-94	Jun-94	Sep-94	Dec-94	Mar-95	Jun-95	Sep-95
Benzene	1	µg/L	U	U	1 U	1 U	1 U	Dry	1 U	5 U	1 U	Dry
Toluene	5	µg/L	10 U	U	1 U	1 U	1 U	Dry	1 U	5 U	1 U	Dry
Monochlorobenzene	5	µg/L	U	U	1 U	1 U	1 U	Dry	1 U	5 U	1 U	Dry
2-Chlorotoluene	5	µg/L	U	U	1 U	1 U	1 U	Dry	1 U	5 U	1 U	Dry
1,4-Dichlorobenzene	3	µg/L	U	U	1 U	1 U	1 U	Dry	1 U	5 U	1 U	Dry
1,2-Dichlorobenzene	3	µg/L	U	U	1 U	1 U	1 U	Dry	1 U	5 U	1 U	Dry
1,2,4-Trichlorobenzene	5	µg/L	U	U	1 U	1 U	1 U	Dry	1 U	5 U	1 U	Dry
1,2,3-Trichlorobenzene	5	µg/L	U	U	1 U	1 U	1 U	Dry	1 U	5 U	1 U	Dry
Total Targeted Organics	NA	µg/L	0	0	0	0	0	Dry	0	0	0	Dry
Total Recoverable Phenolics	1	µg/L	500 U	NA	**6**	5 U	**5**	Dry	**5**	5 U	5 U	Dry
TOC	NA	mg/L	10 U	NA	2.1	7.8	3.1	Dry	11	3.6	3.1	Dry
pH	6.5 - 8.5	S.U.	6	6.8	7.18	7.32	7.27	Dry	7.13	7	6.58	Dry
Conductivity	NA	mS/cm	1,045	11000	912	2030	990	Dry	927	650	810	Dry
Temperature	NA	Celsius	14	NA	8.3	8.1	17.4	Dry	6.9	5	16.9	Dry

Parameter	Groundwater Standard	Units	Dec-95	Mar-96	Jun-96	Sep-96	Dec-96	Mar-97	Jun-97	Sep-97	Dec-97	Mar-98
Benzene	1	µg/L	1 U	1 U	1 U	1 U	1 U/1 U	1 U/1 U	1 U/1 U	Dry	1 U	1 U
Toluene	5	µg/L	1 U	1 U	1 U	1 U	1 U/1 U	1 U/1 U	1 U/1 U	Dry	1 U	1 U
Monochlorobenzene	5	µg/L	1 U	1 U	1 U	1 U	1 U/1 U	1 U/1 U	1 U/1 U	Dry	1 U	1 U
2-Chlorotoluene	5	µg/L	1 U	1 U	1 U	1 U	1 U/1 U	1 U/1 U	1 U/1 U	Dry	1 U	1 U
1,4-Dichlorobenzene	3	µg/L	1 U	1 U	1 U	1 U	1 U/1 U	1 U/1 U	1 U/1 U	Dry	1 U	1 U
1,2-Dichlorobenzene	3	µg/L	1 U	1 U	1 U	1 U	1 U/1 U	1 U/1 U	1 U/1 U	Dry	1 U	1 U
1,2,4-Trichlorobenzene	5	µg/L	1 U	1.3	1 U	1 U	1 U/1 U	1 U/1 U	1 U/1 U	Dry	1 U	1 U
1,2,3-Trichlorobenzene	5	µg/L	1 U	1.2	1 U	1 U	1 U/1 U	1 U/1 U	1 U/1 U	Dry	1 U	1 U
Total Targeted Organics	NA	µg/L	0	2.5	0	0	0/0	0/0	0/0	Dry	0	0
Total Recoverable Phenolics	1	µg/L	5 U	5 U	5 U	5 U	5 U/5 U	5 U/5 U	5 U/5 U	Dry	5 U	5 U
TOC	NA	mg/L	3.4	1.4	1.7	2.8	3.2 J/3.7 J	5.8 J/3.6 J	1 U	Dry	2.3	1.2
pH	6.5 - 8.5	S.U.	7.71	6.95	7.52	**6.28**	7.09	7.06	7.00	Dry	7.2	6.85
Conductivity	NA	mS/cm	724	870	786	830	1100	1000	1000	Dry	1000	990
Temperature	NA	Celsius	5.3	3.9	18.9	14.9	7.2	3.7	12.5	Dry	6.3	4.5

Appendix D
Table D.7

Groundwater Chemistry Monitoring Analytical Results
Durez Interceptor Trench
North Tonawanda, New York
NP-46 (Northeast of Panhandle)

Parameter [1]	Groundwater Standard [2]	Units	Jun-98	Sep-98	Dec-98	Mar-99	Jun-99	Sep-99	Dec-99	Apr-00	May-01	Apr-02
Benzene	1	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	1 U	Dry	Dry
Toluene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	1 U	Dry	Dry
Monochlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	1	Dry	Dry
2-Chlorotoluene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	1 U	Dry	Dry
1,4-Dichlorobenzene	3	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	1 U	Dry	Dry
1,2-Dichlorobenzene	3	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	1 U	Dry	Dry
1,2,4-Trichlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	1 U	Dry	Dry
1,2,3-Trichlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	1 U	Dry	Dry
Total Targeted Organics	NA	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	1	Dry	Dry
Total Recoverable Phenolics	1	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	5 U	Dry	Dry
TOC	NA	mg/L	Dry	Dry	Dry	Dry	Dry	Dry	Dry	5.8	Dry	Dry
pH	6.5 - 8.5	S.U.	Dry	Dry	Dry	Dry	Dry	Dry	Dry	**5.52**	Dry	Dry
Conductivity	NA	mS/cm	Dry	Dry	Dry	Dry	Dry	Dry	Dry	806	Dry	Dry
Temperature	NA	Celsius	Dry	Dry	Dry	Dry	Dry	Dry	Dry	5.8	Dry	Dry

Parameter	Groundwater Standard	Units	May-03	May-04	Jul-05	Aug-06	Jun-07	Aug-08	Apr-09	May-10	May-11	Apr-12
Benzene	1	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	1.0 U	1.0 U	1.0 U/1.0 U	1.0 U
Toluene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	1.0 U	1.0 U	1.0 U/1.0 U	1.0 U
Monochlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	1.0 U	1.0 U	1.0 U/1.0 U	1.0 U
2-Chlorotoluene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	1.0 U	1.0 U	1.0 U/1.0 U	1.0 U
1,4-Dichlorobenzene	3	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	1.0 U	1.0 U	1.0 U/1.0 U	1.0 U
1,2-Dichlorobenzene	3	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	1.0 U	1.0 U	1.0 U/1.0 U	1.0 U
1,2,4-Trichlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	1.0 U	1.0 U	1.0 U/1.0 U	1.0 U
1,2,3-Trichlorobenzene	5	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	1.0 U	1.0 U	1.0 U/1.0 U	1.0 U
Total Targeted Organics	NA	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	0	0	0/0	0
Total Recoverable Phenolics	1	µg/L	Dry	Dry	Dry	Dry	Dry	Dry	10 U	26 U	**9.4 J/14**	10 U
TOC	NA	mg/L	Dry	Dry	Dry	Dry	Dry	Dry	1.67	1.6	1.9/1.8	2.1
pH	6.5 - 8.5	S.U.	Dry	Dry	Dry	Dry	Dry	Dry	7.73	**8.73**	6.83	6.69
Conductivity	NA	mS/cm	Dry	Dry	Dry	Dry	Dry	Dry	1013	1045	931	960
Temperature	NA	Celsius	Dry	Dry	Dry	Dry	Dry	Dry	11.8	11.49	8.72	10.43

Appendix D
Table D.7

Groundwater Chemistry Monitoring Analytical Results
Durez Interceptor Trench
North Tonawanda, New York
NP-46 (Northeast of Panhandle)

Parameter [1]	Groundwater Standard [2]	Units	Apr-13	Apr-14	Apr-15	Apr-16	Apr-17	Apr-18	Apr-19	May-20	Apr-21	May-22
Benzene	1	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Toluene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Monochlorobenzene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Chlorotoluene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	3	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichlorobenzene	3	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	5	µg/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Targeted Organics	NA	µg/L	0	0	0	0	0	0	0	0	0	0
Total Recoverable Phenolics	1	µg/L	0.01	**4.4 J**	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
TOC	NA	mg/L	2.1	3.2	10.4	10.4	2.3	3.2	3.3	3.1	2.5	2.3
pH	6.5 - 8.5	S.U.	7.24	7.24	6.75	6.75	6.18	7.02	5.99	7.78	8.69	7.0
Conductivity	NA	mS/cm	0.888	0.888	0.87	0.87	0.85	1.00	0.96	1.00	1.06	1.01
Temperature	NA	Celsius	9.1	9.1	6.9	6.9	7.8	5.1	7.7	14.7	9.7	11.7

Notes:

(1) - Monitoring wells and compounds are in accordance with Appendix B, Durez Partial Consent Judgment; except analyses for Total Recoverable Phenolics were reported as Phenols in February 1984

(2) - Groundwater standards are New York State Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations, June 1998

- Interceptor Trench operation began in October 1990; first full month of operation was November 1990

Dry - Dry well or insufficient sample for analyses

J - Estimated at associated value

NA - Not analyzed or not available

S.U. - Standard Unit

TOC - Total Organic Carbon

U - Not detected at associated value

µg/L - Micrograms per liter

mS/cm - Microsiemens per centimeter

- Concentration exceeds New York State water quality standards

Appendix E
Landfill Cap, Site Cover, and Fence Inspection and IT System Manhole and NAPL Collection Well Inspection Forms

Glenn Springs Holdings, Inc.

A subsidiary of Occidental Petroleum

SEMIANNUAL LANDFILL CAP, SITE COVER, AND FENCE INSPECTION

Site: Durez North Tonawanda

Date: 11-8.22 **Weather:** Sunny 47

Inspector: CC

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

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

Glenn Springs Holdings, Inc.
A subsidiary of Occidental Petroleum

Durez North Tonawanda Semiannual IT System Inspections

Date: 5/11/2022 Checked By: Darrell Crockett

	Manhole					NAPL Well		
Station Number	Condition	Visible Chemistry	Sediment	Water Depth	Flow Speed	NAPL	Amount Removed	Date Removed
Main Lift Station	Good	None	None	3.1'	Fast	None	None	
MH-4+20	Good	None	None	2"	Fast	None	None	
MH-5+54	Good	None	None	2"	Slow	None	None	
MH-8+13	Good	None	None	2"	Slow	None	None	
MH-10+75	Good	None	None	1"	Slow	None	None	
MH-12+58	Good	None	None	2"	Slow	None	None	
Lift Station #1	Good	None	None	2.5'	Fast	None	None	
MH-13+99	Good	None	None	2"	Fast	None	None	
MH-17+20	Good	None	None	2"	Slow	None	None	
MH-19+78	Good	None	None	2"	Slow	None	None	
MH-23+55	Good	None	None	2"	Slow	None	None	
MH-26_55	Good	None	None	2"	Slow	None	None	
Lift Station #2	Good	None	None	3.0'	Slow	None	None	
MH-33+35	Good	None	None	2"	Slow	None	None	
MH-37+13	Good	None	None	2"	None	None	None	
MH-40+70	Good	None	None	2"	Slow	None	None	
MH-43+54	Good	None	Yes	2"	Slow	None	None	
Lift Station #3	Good	None	None	2,4'	Slow	None	None	
MH-49+48	Good	None	None	2"	Slow	None	None	
MH-53+51	Good	None	None	2"	Slow	None	None	
MH-56+60	Good	None	None	Dry	Slow	None	None	
MH-57+97	Good	None	None	Dry	Slow	None	None	
MH-58+56	Good	None	None	Dry	Slow	None	None	
MH-61+20	Good	None	None	Dry	Slow	None	None	
MH-64+84	Good	None	None	2"	Slow	None	None	
MH-66+28	Good	None	None	2"	Slow	None	None	
MH-69+97	Good	None	None	2"	Slow	None	None	
MH-71+54	Good	None	None	2"	None	None	None	
MH-72+65	Good	None	None	1"	None	None	None	
MH-72+96	Good	None	None	2"	Slow	None	None	
MH-74+68	Good	None	None	2"	Slow	None	None	
MH-74+90	Good	None	None	2"	Slow	None	None	
MH-77+39	Good	None	None	2"	Slow	None	None	
MH-77+72	Good	None	None	2"	Slow	None	None	
MH-80+95	Good	None	None	2"	Slow	None	None	

Glenn Springs Holdings, Inc.
A subsidiary of Occidental Petroleum

Durez North Tonawanda Semiannual IT System Inspections

Date: 11/4/2022 Checked By: Christopher Carrigan

	Manhole					NAPL Well		
Station Number	Condition	Visible Chemistry	Sediment	Water Depth	Flow Speed	NAPL	Amount Removed	Date Removed
Main Lift Station	Good	None	None	2.9"	Fast	None	None	
MH-4+20	Good	None	None	2"	Fast	None	None	
MH-5+54	Good	None	None	5"	Slow	None	None	
MH-8+13	Good	None	None	5"	Slow	None	None	
MH-10+75	Good	None	None	3"	Slow	None	None	
MH-12+58	Good	None	None	3"	Slow	None	None	
Lift Station #1	Good	None	None	3.6'	Fast	None	None	
MH-13+99	Good	None	None	2"	Fast	None	None	
MH-17+20	Good	None	None	6"	Slow	None	None	
MH-19+78	Good	None	None	6"	Slow	None	None	
MH-23+55	Good	None	None	6"	Slow	None	None	
MH-26_55	Good	None	None	5"	Slow	None	None	
Lift Station #2	Good	None	None	3.2'	Slow	None	None	
MH-33+35	Good	None	None	2"	Slow	None	None	
MH-37+13	Good	None	None	2"	None	None	None	
MH-40+70	Good	None	None	2"	Slow	None	None	
MH-43+54	Good	None	Yes	3"	Slow	None	None	
Lift Station #3	Good	None	None	3.0'	Slow	None	None	
MH-49+48	Good	None	None	2"	Slow	None	None	
MH-53+51	Good	None	None	2"	Slow	None	None	
MH-56+60	Good	None	None	Dry	Slow	None	None	
MH-57+97	Good	None	None	Dry	Slow	None	None	
MH-58+56	Good	None	None	Dry	Slow	None	None	
MH-61+20	Good	None	None	Dry	Slow	None	None	
MH-64+84	Good	None	None	3"	Slow	None	None	
MH-66+28	Good	None	None	2"	Slow	None	None	
MH-69+97	Good	None	None	1"	Slow	None	None	
MH-71+54	Good	None	None	1"	None	None	None	
MH-72+65	Good	None	None	1"	None	None	None	
MH-72+96	Good	None	None	2"	Slow	None	None	
MH-74+68	Good	None	None	2"	Slow	None	None	
MH-74+90	Good	None	None	2"	Slow	None	None	
MH-77+39	Good	None	None	1"	Slow	None	None	
MH-77+72	Good	None	None	2"	Slow	None	None	
MH-80+95	Good	None	None	2"	Slow	None	None	