Primo-shield, Inc.
Oneida County
Utica, New York

Periodic Review Report
January 2016 – December 2021
NYSDEC Site No. 633027
(Work Assignment No. D009806-34)

Prepared for

New York State Department of Environmental Conservation
625 Broadway
Albany, New York 12233

Prepared by

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LIST OF ACRONYMS AND ABBREVIATIONS

µg/L	Microgram(s) per liter
AWQS	Ambient water quality standards
COC	Contaminant of concern
DER	Division of Environmental Remediation
EA	EA Engineering and Geology, P.C.
EC	Engineering control
EPA	U.S. Environmental Protection Agency
GWCS	Groundwater collection system
GWTS	Groundwater treatment system
IC	Institutional control
LTM	Long-term monitoring
MACTEC	MACTEC Engineering and Consulting, P.C.
M-K	Mann Kendall (Trend Analysis)
No.	Number
NYSDEC	New York State Department of Environmental Conservation
NYSDOH	New York State Department of Health
PDB	Passive diffusion bag
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctane sulfonic acid
POTW	Publicly-Owned Treatment Works
PRR	Periodic Review Report
RI	Remedial investigation
ROD	Record of Decision
SCGs	Standards, criteria, and guidance values
SCOs	Soil Cleanup Objectives
Site	Primo-shield, Inc. Site
SMP	Site Management Plan
SSF	State Superfund
TCE	Trichloroethene
VOC	Volatile organic compound(s)

ES. EXECUTIVE SUMMARY

The Primoshield, Incorporated site (Site No. 633027; hereinafter referred to as the Site) is located at 1212 St. Vincent Street in Utica, Oneida County, New York. The Site is a New York State Department of Environmental Conservation (NYSDEC) Class 4 site that has been properly closed but requires continued site management consisting of operation, maintenance and/or monitoring.

The Site was a metal electroplating facility that operated from the early 1970s until it was abandoned in August of 1985. When the facility was abandoned, several drums and open vats (some containing acids, cyanide solutions and spent plating solutions) were left scattered over the entire property. A Remedial Investigation (RI) /Feasibility Study (FS) was completed in 1995, and a ROD was signed on March 22, 1995. The ROD called for construction of a groundwater pump and treat (P&T) system where contaminated groundwater was treated by carbon filtration prior to being discharged to a Publicly-Owned Treatment Works (POTW). The ROD established the following Remedial Action Objectives (RAOs) for the Site:

- Reduce, control, or eliminate the contamination present within the soils on Site
- Eliminate the threat to surface waters by eliminating future contaminated surface water run-off from the contaminated soils on Site, and potential future discharge from site sewer lines to the Oneida County Sewer System
- Eliminate the potential for direct human contact with the contaminated soils onsite
- Mitigate the impacts of contaminated groundwater to the environment and to nearby residents
- Prevent to the extent possible migration of contaminants in the soils to groundwater
- Provide for attainment of standards, criteria, and guidance values for groundwater quality at the limits of the area of concern
- Remediate the Site and adjoining property to provide for future delisting and unrestricted use.

The Site was assigned by NYSDEC as a State Superfund project in November of 1996. Since entering the State Superfund program, the NYSDEC has completed the remediation, including building demolition and soil removal in 1998, and assumed responsibility for Operations and Maintenance (O&M) of the treatment system that was installed in 1998. The pump and treat system worked effectively, the groundwater contaminant levels dropped to below discharge criteria, and the system was modified in 2001 to bypass the carbon treatment prior to discharge to the POTW. Groundwater collection continues at the Site with an objective of intercepting and collecting contaminated groundwater upgradient of the nearest receptors. Groundwater is currently pumped from the groundwater collection system and discharged directly to the POTW.

Residual contamination in the groundwater is being managed under a Site Management Plan, which outlines the controls established to meet the RAOs. Because remaining contaminated groundwater exists beneath the Site, engineering controls (ECs)/institutional controls are required to protect human health and the environment (**Table ES-1**). EC systems at the Site include: the groundwater collection system (not running as of 2020), site access controls, and groundwater monitoring wells. Site management is currently underway to monitor the effect of the groundwater collection system on contaminant concentrations, evaluate if contaminants are migrating off-site, monitor long-term trends in concentrations of contaminants, and evaluate the effectiveness of the remedial actions. Site management consists of the following:

- Semi-annual site inspections
- Semi-annual POTW discharge monitoring
- Long-term monitoring consisting of groundwater monitoring every 15 months.

This Periodic Review Report summarizes Site Management activities completed at the Site from 2016 through 2021. Based on activities completed during this period, the Site use and activities are in compliance with the Site Management Plan requirements, and the institutional controls/engineering controls remaining in-place are effective in protecting public health and the environment.

Table ES-1. Site Summary (NYSDEC Site No. 633027)

Category	Summary/Results
	1. The property may be used for: • "Industrial Use" as defined in New York State Department of Environmental Conservation (NYSDEC) Regulations Title 6of the New York Codes, Rules, and Regulations Part 375 – 1.8(g)(2)(iii) and (iv).

Table ES-1. Site Summary (NYSDEC Site No. 633027)

Category	Summary/Results
Institutional Controls:	2. Institutional controls (ICs) for the site are: • Access to the site for maintaining the groundwater collection system (GWCS) must be allowed. The GWCS was operational from 2001 to 2020 when NYSDEC approved shutdown and has not been operational since. • Groundwater extraction for anything other than monitoring is prohibited. • Animal production for human consumption is prohibited. • Vegetable gardens are prohibited on-site unless planted in gardens where soil achieves the residential use Soil Cleanup Objectives. • Site use is limited to industrial uses only. The Site may not be used for a less restrictive use without additional remediation and amendment of the Site Management Plan (SMP) by the NYSDEC. Should any development of the Site be considered, soil and soil vapor sampling would be necessary to evaluate current conditions relative to soil Standards, Criteria, and Guidance values. • Excavation on the property is prohibited without written permission from the NYSDEC. • Compliance by the Grantor and the Grantor's successors and assigns with the SMP. • Engineering controls (ECs) must be operated and maintained as specified in the SMP. • ECs on the Controlled Property must be inspected at a frequency and in a manner defined in the SMP. • Groundwater and other environmental or public health monitoring must be performed as defined in the SMP. • Data and information pertinent to site management for the Controlled Property must be reported at the frequency and in a manner defined in the SMP. • On-site environmental monitoring devices, including but not limited to groundwater monitoring wells, must be protected and replaced as necessary to ensure the devices function in the manner specified in the SMP. • Future activities on the site that will disturb remaining contaminated material are prohibited unless they are conducted in accordance with the SMP. • NYSDEC retains the right to access the Site in order to evaluate the continued maintenance of controls.
	3. ECs must be inspected at a frequency and in a manner defined in the SMP.
Engineering Controls:	1. GWCS (turned off) 2. Groundwater monitoring wells 3. Site Access Controls

Table ES-2. Inspections, Monitoring, Maintenance, and Reporting Frequency

Inspections	**Frequency**
1. Fencing, gates, and Site access	Semi-annually
2. Monitoring well integrity and water levels from 7 wells	15-month interval
3. Groundwater collection trenches	As needed
4. Groundwater treatment system building and piping	As needed
Monitoring	**Frequency**
1. Monitoring well groundwater sampling and analysis from 7 monitoring wells	Every 15 months
Maintenance	**Frequency**
1. Mowing	Annually
2. Fence repair	As needed
3. Building structures	As needed
4. Groundwater collection trenches	As needed
5. Monitoring wells	As needed
Reporting	**Frequency**
1. Inspection Report	Semi-annual
2. Long-Term Monitoring Report	With the Annual Report or Periodic Review Report (PRR) following the sampling event
3. Annual Report	Annually for years without a PRR
4. PRR	Every 5 years

1. INTRODUCTION

EA Engineering and Geology, P.C. (EA) was tasked by the New York State Department of Environmental Conservation (NYSDEC) under State Superfund (SSF) Standby Contract Work Assignment Number (No.) D009806-34 to prepare a Periodic Review Report (PRR) for the Primo-shield Inc. Plating Site (Site No. 633027) that covers activity from January 2016 through December 2021. The purpose of this PRR is to certify the engineering controls (ECs) and institutional controls (ICs) required by the remedy, report the results of the site inspection and groundwater sampling, and summarize and evaluate the remedy implemented at the site, relative to the requirements of the Record of Decision (ROD) dated March 1995 (NYSDEC 1995). This report was prepared in accordance with the NYSDEC Division of Environmental Remediation (DER)-10, Technical Guidance for Site Investigation and Remediation (NYSDEC 2010).

1.1 SITE LOCATION, OWNERSHIP, AND DESCRIPTION

The Primo-shield, Inc. Site (Site), which has a Classification Code of 4 (Site Management), is a former metal electroplating facility located at 1212 St. Vincent Street, Utica, New York (**Figure 1**). The Site is bordered by Conkling Avenue to the northwest and St. Vincent Street and St. Agnes R.C. cemetery to the southeast. The Mohawk River is located approximately 1.5 miles north and downgradient of the Site. The Site is approximately 2.4 acres in size and is comprised of four parcels. The City of Utica owns 2 parcels totaling approximately 0.82 acres and enclosed by a chain link fence. The fenced portion of the Site, designated as 1223 Conkling Avenue (tax map parcel No. 41; **Appendix A**) and 1212 St. Vincent Street (tax map parcel No. 33), is in a mixed commercial/residential area (**Figure 2**). The remaining parcels correspond to the DePaul cinder and gravel parking lot located south of the Site. The owner of the fenced Site parcels is the City of Utica.

1.2 INVESTIGATION AND REMEDIAL HISTORY

Primo-shield, Inc. was a metal electroplating facility that operated from the early 1970s until it was abandoned in August of 1985. The property consisted of office and factory buildings, a small laboratory, and a storage trailer. Included in the original Site was an adjacent gravel parking lot not owned by Primo-shield, Inc. Following a fire in 1985, the facility was abandoned by its owners. When the facility was abandoned, several drums and open vats (some containing acids, cyanide solutions and spent plating solutions) were left scattered over the entire property. The City of Utica subsequently assumed ownership of the property in 1989 due to non-payment of taxes.

1.2.1 Site Investigation History

Following an initial site reconnaissance and sampling effort by NYSDEC in December 1985, laboratory sample results obtained indicated a very high risk to the public from the Site. On 12 March 1986, the NYSDEC formally petitioned the U.S. Environmental Protection Agency (EPA) Region II Office to perform an Emergency Response and Removal Action at the Site, including but not limited to, the cleanup and removal of the surficial and containerized hazardous wastes and the installation of a fence and gate system to resecure the Site. In 1986 and 1987, EPA removed all containerized wastes and disposed of the wastes at approved disposal locations. All structures

on the property were demolished and removed. In November 1987, EPA emergency response and cleanup actions at the Site were completed and jurisdiction for further remedial action at the Site was returned to NYSDEC.

In December 1989, NYSDEC signed a negotiated Consent Order with the City of Utica in which the city agreed to perform a Remedial Investigation (RI)/Feasibility Study to further investigate and remediate residual hazardous waste contamination remaining at the Site. The RI was conducted from September/October 1992 through October 1993 (O'Brien & Gere Engineers Inc. and Harza Northeast Inc. 1994). The RI identified cadmium, chromium, nickel, and cyanide in surficial soils and trichloroethene, 1,1,1-trichloroethane, 1,1-dichloroethane, and chromium in groundwater. At the time of the RI, the shallow groundwater plume at the Site was estimated at ½ acre in size and to contain a 6-foot saturated thickness beginning at 4 feet below ground surface. The shallow surficial overburden strata (generally less than 20 feet in total thickness) are underlain by approximately 35 feet or more of dense silt/clay rich glacial till, which limits the vertical migration of contaminated groundwater at the Site. Both the surficial soil contamination and the shallow groundwater contamination extended a short distance to the north from the Site onto the adjoining property (MACTEC Engineering and Consulting, P.C. [MACTEC] 2019a).

1.2.2 Site Remediation History

Two Interim Remedial Measures[1] were implemented at the Site prior to completion of the RI/FS as follows:

- On 15 June 1993, an interim structural brace (tubular metal scaffolding system) was installed in the center of the main production building to transfer loading from an unbraced vertical column which appeared to be close to failure.

- On 19 April 1994. a site surficial cleanup was conducted at the Site. Scrap metal and scrap lumber were collected and stockpiled for later recycling and/or disposal. Brush was cleared and stockpiled, and miscellaneous debris was collected and stockpiled for later off-site disposal.

The ROD was signed on 22 March 1995 and called for the following (NYSDEC 1995):

- Excavation and disposal of hazardous and non-hazardous soils

- Building demolition

- Groundwater collection trench installation

- Operation, maintenance, and monitoring of a groundwater collection system, the purpose of which was to intercept, collect, and discharge contaminated groundwater.

[1] Interim Remedial Measures are conducted at sites when sources of contamination or exposure pathways can be effectively addressed before completion of the RI/FS.

The Site was re-assigned by NYSDEC as a State Superfund project in November 1996 because the City of Utica had inadequate funds to complete the remediation. Since entering the State Superfund program, the NYSDEC has completed the remediation, including building demolition and soil removal in 1998, and assumed responsibility for Operations and Maintenance (O&M) of the treatment system that was installed in 1998.

The originally installed groundwater treatment system was designed to intercept and collect the plume of contaminated groundwater and treat the water by carbon filtration, with effluent discharged to the Oneida County Sewer System Publicly Owned Treatment Works (POTW). The pump and treat system worked effectively, the groundwater contaminant levels dropped to below discharge criteria, and the system was modified in 2001 to bypass the carbon treatment prior to discharge to the POTW. The groundwater treatment system continued to be used for groundwater collection until the fourth quarter of 2020 with an objective of intercepting and collecting contaminated groundwater upgradient of the nearest receptors. Groundwater is currently pumped from the groundwater collection system, which was shut down in 2020, and discharged directly to the POTW. The Site was subsequently reclassified as Class 4 (Site Management). Site Management is currently underway and consists of:

- Semi-annual site inspections
- Semi-annual POTW discharge monitoring (while the system was operational)
- Long term monitoring (LTM) consisting of groundwater monitoring every 15 months.

Existing wells are monitored to evaluate COC concentrations (i.e., cadmium, chromium, lead, nickel, cyanide, and VOCs) in groundwater. Ten groundwater monitoring wells installed at and near the Site during the RI in the mid-1990s were initially included in the LTM program (P-103, P-104, P-105, P-106S, P-106D, P-107S, P-107D, P-108, P-101S, and P-101D). One additional groundwater monitoring well (GW-01) was installed downgradient of the collection trench in 2015 to obtain data for evaluating the effectiveness of the groundwater collection system (GWCS). In addition, an evaluation of the monitoring well network in 2015 determined that four wells (P-101S, P-101D, P-104, P-108) were no longer needed, and the wells were decommissioned in October 2016 (MACTEC Engineering and Consulting, P.C. [MACTEC] 2016).

1.3 REMEDIAL ACTION OBJECTIVES

The ROD signed in March 1995 established the following remedial action objectives:

- Reduce, control, or eliminate the contamination present within the soils on-site.

- Eliminate the threat to surface waters by eliminating future contaminated surface water runoff from the contaminated soils on Site, and potential future discharge from Site sewer lines to the Oneida County Sewer System.

- Eliminate the potential for direct human contact with the contaminated soils on-Site.

- Mitigate the impacts of contaminated groundwater to the environment and to nearby residents.

- To the extent possible, prevent migration of contaminants in the soil to groundwater.
- Provide for attainment of SCGs for groundwater quality at the limits of the area of concern.
- Remediate the Site and adjoining property to provide for future delisting and unrestricted use.

The ROD defined cleanup criteria for the various media at the Site (surface soil; groundwater; sump sediments/solids; and basement seepage, sump water, and groundwater) (NYSDEC 1995). The shallow soil (12 inches) clean-up goals defined in the ROD for cadmium, chromium, and lead are less stringent than the current residential and/or commercial Part 375 SCOs (MACTEC 2019a).

2. INSTITUTIONAL AND ENGINEERING CONTROL PLAN COMPLIANCE

Due to remaining contaminated groundwater and soil existing beneath the Site, IC/ECs are required to protect human health and the environment. ICs are required to: (1) ensure unimpeded operation of the EC systems (GWCS, site access controls, and groundwater monitoring wells); and (2) limit the reuse of the Site to industrial uses. A SMP presenting the ICs and ECs for the Site was approved by NYSDEC in August 2013 (MACTEC 2013) and updated in 2016 (MACTEC 2016) and 2019 (MACTEC 2019a). The SMP includes an Institutional and Engineering Control Plan, Long-Term Monitoring Plan, Operation and Maintenance Plan, and a Site Management Reporting and Certification Plan.

2.1 INSTITUTIONAL CONTROLS

The ICs established for the Site include the following:

- Access to the Site for maintaining the GWCS must be allowed.
- Groundwater extraction for anything other than monitoring is prohibited.
- Animal production for human consumption is prohibited.
- Vegetable gardens are prohibited on-site unless planted in gardens where soil achieves the residential use SCOs.
- Site use is limited to industrial uses only. The Site may not be used for a less restrictive use without additional remediation and amendment of the Site Management Plan (SMP) by NYSDEC. Should any development of the Site be considered, soil and soil vapor sampling would be necessary to evaluate current conditions relative to soil SCGs.
- Excavation on the property is prohibited without written permission from the NYSDEC.
- Compliance with the SMP by the Grantor, the Grantor's successors and assigns is required.
- ECs must be operated and maintained as specified in the SMP.
- ECs on the Site must be inspected at a frequency and in a manner defined in the SMP.
- Groundwater and other environmental or public health monitoring must be performed as defined in the SMP.
- Data and information pertinent to the site management must be reported at the frequency and in a manner defined in the SMP.
- On-site environmental monitoring devices, including but not limited to groundwater monitoring wells, must be protected and replaced as necessary to ensure the devices function in the manner specified in the SMP.

- Future activities on the Site that will disturb remaining contaminated material are prohibited unless they are conducted in accordance with the SMP.

- NYSDEC retains the right to access the Site in order to evaluate the continued maintenance of controls.

2.2 ENGINEERING CONTROLS

EC systems at the Site include the GWCS (formerly the GWTS), Site access controls, and groundwater monitoring wells.

Unauthorized access to the Site is restricted by 6 foot chain link fence with locked gates. The fence will be inspected quarterly to ensure the fence is in good repair. Results of this inspection will be recorded on the Inspection Log sheet (**Appendix B**). If maintenance is required, it will be noted in the quarterly inspection report and repairs will be performed as soon as possible.

Seven groundwater monitoring wells at and near the Site are sampled as part of the LTM every 15 months. The groundwater monitoring wells are to be inspected during the sampling event for cracking, ruptures or leaks, or concrete pads cracking and sediment build up.

The following ECs have been established for the Site:

- GWCS
- Site access controls
- Groundwater monitoring wells

2.3 LONG-TERM MONITORING PLAN

A Monitoring and Sampling Plan is in place for the Site and provides methods for evaluating the groundwater plume originating at the Site and includes groundwater elevation monitoring, monitoring well inventory and repair, and groundwater sampling and analysis. Elements of the Monitoring and Sampling Plan include, but are not limited to:

- Requirements and protocols for inspection and maintenance, groundwater sampling and analysis, sample locations and sampling frequency

- Assessment of remedial performance and groundwater standards compliance

- Reporting and Quality Assurance/Quality Control requirements.

Monitoring has been conducted since 1999 and the Site is currently scheduled for sampling at 15 month intervals. The well network currently consists seven on-site and off-site wells, including P-103, P-105, P-106S, P-106D, P-107S, P-107D, and GW-01 (Figure 2). Existing wells are monitored to evaluate contaminant of concern concentrations (i.e., cadmium, chromium, lead, nickel, cyanide and VOCs) in groundwater compared to the Site cleanup goals (New York State Class GA Standards [6 New York Codes, Rules and Regulations Parts 700-705].

3. EVALUATION OF REMEDY PERFORMANCE, EFFECTIVENESS, AND PROTECTIVENESS

The SMP (MACTEC 2019a) included requirements for site management activities, including site-wide inspections and soil cover monitoring and groundwater monitoring (**Table ES-1**). The subsections below present site management activities completed during the period from January 2016 through December 2021, including site inspections and groundwater monitoring.

3.1 SITE-WIDE INSPECTION AND SOIL COVER MONITORING

ICs/ECs have been established for the Site and require inspection and certification. The site-wide inspection requires confirmation that ICs are adhered to and that ECs are evaluated, including:

- Site security – fencing, gates, and site access (semi-annual)
- Performance of the collection system (as needed)
- Monitoring well integrity (15-month interval during LTM sampling events)

Site-wide inspections were conducted during the following months: September 2016, April and October 2017, March and November 2018, June and October 2019, and April, July, and December 2020. No site inspections were completed in 2021. Visual observation and maintenance of the site security in the form of the perimeter fence was completed to evaluate and document the conditions including:

- Breaches in the fence
- Condition of the gates and locks
- Vegetation growing on or near the fence that could cause damage (vegetation that can be removed with hand tools will be cut back during inspections).

Site inspection forms for September 2016, April and October 2017, March 2018, and October 2019 are not available. Site-wide inspection forms for the June 2016, November 2018, June 2019, and April, July, and December 2020 inspections are provided in **Appendix B**.

No evidence of major disturbances to the site or changes to the designated site use were observed during the site inspections. There has not been a change in property use and the Site is in compliance with ICs. The ECs are in place; EC observations made site inspections include:

- During the November 2018 inspection, it was noted that silty water was pooling in the southeast corner of the site while the GWTS was operating, likely due to system blockage.
- During the June 2019 inspection, P-106S, P-106D, P-107S, and P-107D received new concrete pads and repairs were made to trench 2.

Visual observation of the monitoring wells was conducted during LTM events in December 2016, March 2018, June 2019, and August 2021. No inspections were completed in 2020. Inspections included observation and documentation of monitoring well condition including:

- Guard post
- Protective casing
- Well lock
- Concrete pad
- Well riser/cap

The monitoring wells were observed to be in good condition following repairs in June 2019.

3.2 GROUNDWATER MONITORING

The requirement for the groundwater monitoring program in the SMP includes groundwater elevation monitoring and groundwater sampling and analysis at 15 month intervals. During the period of this PRR, groundwater elevation monitoring and groundwater sampling was conducted at seven monitoring wells (GW-01, P-103, P-105, P-106S, P-106D, P-107S, and P-107D) as discussed in the subsections below. Monitoring well locations are presented on **Figure 2-1**. Available field forms for groundwater elevation monitoring and groundwater sampling are provided in **Appendix B**.

3.2.1 Groundwater Elevation Monitoring

Monitoring well gauging was conducted in December 2016, October 2017, March and November 2018, June 2019, April, July and December 2020, and August 2021. Gauging forms from December 2016, October 2017, March 2018, and April 2020 are not available. Gauging forms from November 2018, June 2019, July 2020, and December 2020, and gauging information from August 2021 are provided in **Appendix B**.

Groundwater levels were measured with an electronic water level meter to the nearest 0.01 ft from a reference point marked on the top of the inner casing. Water levels and groundwater elevations are provided in **Table 2**. Local groundwater flow direction from each event was variable but overall trended dominantly to the north toward the Mohawk River. Each well's depth to water varied as much as 5.91 ft over the five-year period between 2016 and 2021, with the greatest variance noted in shallow well P-107S and the least variance observed in deep well P-107D (1.02 ft). **Figure 3** presents groundwater elevation contours from August 2021.

3.2.2 Groundwater Sampling

Groundwater sampling at GW-01 was conducted in May, June, July, and November 2016 following well installation for analysis of VOCs only. Groundwater sampling at each of the seven wells in the well network was conducted on a 15-month frequency in December 2016, March 2018, June 2019, and August 2021 using low-flow sampling procedures. Sampling was not conducted in 2020. Water quality field parameters including temperature, pH, dissolved oxygen, conductivity, turbidity, and oxidation-reduction potential were monitored throughout purging and groundwater

samples were collected when groundwater parameters had stabilized over three consecutive readings, indicating that formation water was being drawn. Groundwater samples collected from each well during each event were analyzed for VOCs, pH, and metals. Quality assurance /quality control samples collected for groundwater samples included one field duplicate and one matrix spike /matrix spike duplicate per event. Analytical results for site COCs are presented in **Table 3a**. A complete table of laboratory analytical results is presented in **Appendix C**.

Metals and VOC COCs detected in one or more groundwater samples from 2016 through 2021 included cadmium, total chromium, lead, nickel, 1,1,1-Trichloroethane (TCA), 1,1-Dichloroethane, and Trichloroethylene (TCE). COCs detected at concentrations above Class GA Standards included lead, nickel, and TCE as follows (**Figure 4**):

- Lead, detected above the Class GA standard of 25 micrograms per liter (µg/L) in one monitoring well in December 2016 (GW-01 at 29 µg/L)

- Nickel detected above the Class GA standard of 100 µg/L in two monitoring wells in December 2016 (GW-01 at 110 µg/L and P-107S at 290 µg/L); in one monitoring well in March 2018 (P-107S at 174 µg/L); in one monitoring well in June 2019 (P-107S at 313 µg/L); and in two monitoring wells in August 2021 (GW-01 at 220 µg/L and P-107S at 170 µg/L)

- TCE detected above the Class GA standard of 5 µg/L in one monitoring well during December 2016, March 2018, June 2019, and August 2021 (P-107S, with concentrations of 14.1 µg/L, 7.1 µg/L, 7.5 µg/L, and 14.0 µg/L, respectively).

- Although cyanide is a site COC, no samples were analyzed for cyanide during this five-year period.

Mann-Kendall (M-K) trend analysis was used to evaluate TCE, nickel, and lead detected in monitoring wells for the period beginning December 2011 and ending August 2021. Trend plots were prepared to visually evaluate trends, which generally have no trend or are stable. The M-K plots are provided in **Appendix D**. Concentrations above NYSDEC AWQS are as follows:

GW-01

- Lead — Concentrations were last above AWQS in December 2016 (29 µg/L).
- Nickel — Concentrations were reported above standards in December 2016 (110 µg/L) and August 2021 (220 µg/L).

P-107S

- Nickel — All four samples taken during the 2016 through 2020 reporting period had concentrations above AWQS. Reported concentrations are as follows: 290 µg/L (December 2016), 174 µg/L (March 2018), 313 µg/L (June 2019), and 170 µg/L (August 2021).

- TCE — All four samples taken during the 2016 through 2020 reporting period had concentrations above AWQS. Reported concentrations are as follows: 14.1 µg/L (December 2016), 7.1 µg/L (March 2018), 7.5 µg/L (June 2019), and 14.0 µg/L (August 2021).

The March 2018 groundwater monitoring event included sampling and analysis of emergent contaminants (1,4-dioxane and per-and polyfluoroalkyl substances [PFAS]) at the request of the NYSDEC. Samples collected from four wells (GW-01, P-105, P-106S, and P-106D) were analyzed for 1,4-dioxane and samples from three wells (P-105, P-106S, and P-106D) were analyzed for PFAS. GW-01 was not analyzed for per- and polyfluoroalkyl substances due to high turbidity during sampling. Analytical results are presented in **Table 3a** and **Appendix C**. 1,4-Dioxane was not detected in groundwater samples collected in March 2018. PFAS analytes were detected at concentrations below groundwater screening levels and included the following:

- Perfluorobutanesulfonic acid (PFBS) detected at P-106S (estimated 0.38 nanograms per liter [ng/L]

- Perfluorobutanoic acid detected at P-105 (estimated 0.55 ng/L), P-106S (estimated 1 ng/L), P-106D (estimated 0.6 ng/L)

- Perfluorooctanesulfonic acid (PFOS) detected at P-106S (estimated 0.66 ng/L)

3.2.3 Performance Monitoring

Discharge of effluent from the groundwater collection system is permitted by the Oneida County Department of Water Quality & Water Pollution Control. Groundwater Remediation Discharge Permit No. GW-040 establishes semiannual monitoring requirements and discharge criteria. During the reporting period, effluent samples were collected every 5-8 months beginning in September 2016 through June 2019, with sampling events conducted in September 2016, April 2017, October 2017, March 2018, November 2018, and June 2019. Samples were analyzed for VOCs by EPA Method 624; copper, nickel and zinc by EPA Method 200.7, and cyanide by EEPA Method 9012B. Discharge reports were submitted to the Oneida County Sewer District.

A summary of site COC concentrations between 2016 and 2019 is provided in **Table 3b** and a complete list of analytical data is presented in **Appendix C**. No effluent samples were reported in exceedance of permitted limits.

3.3 OPERATION AND MAINTENANCE PLAN

According to the SMP, site wide inspections are to be conducted semi-annually. The semi-annual inspections include the inspection and maintenance of the perimeter fence, and inspection and monitoring of the groundwater collection system. Inspections and LTM were conducted as described in the sections above.

The flowmeter readings for the GWCS presented in the 2016, 2018, and 2019 annual site activities reports and site inspection forms (**Appendix B)** indicate that the totalizer was advancing between June 2016 (2,447,800 gal), November 2018 (4,445,400 gal), and June 2019 (5,132,155 gal) but no longer advancing between July 2020 (6,094,238 gal) and December 2020 (6,094,238 gal). At this point, NYSDEC confirmed system shutdown, and the system was no longer operational (MACTEC 2019b, MACTEC 2020).

3.4 ADDITIONAL SITE MANAGEMENT ACTIVITIES

Based on an evaluation of the monitoring well network in 2015, four wells (P-101S, P-101D, P-104, P-108) were no longer needed. P-101 S/D and P-108 were background wells used to evaluate groundwater upgradient of the Site. These wells were decommissioned in October 2016 (MACTEC Engineering and Consulting, P.C. [MACTEC] 2016).

4. GREEN REMEDIATION AND CLIMATE CHANGE RESILIENCE

Consistent with NYSDEC DER-31 Green Remediation Policy, this section provides a brief summary and qualitative assessment of the overall environmental impacts or environmental footprint of the Site for the current reporting period. In accordance with the NYSDEC's Executive Order No. 24, consideration has been given to reducing the consumption of energy and materials; and thereby, reducing the production of greenhouse gases, in the operation and maintenance of the Site. Implementation of NYSDEC DER-31 and Executive Order No. 24 have not compromised the selected remedy's protectiveness of public health and the environment, nor has it hindered achievement of the remedial goals established for the site.

As each discrete step of any site operation and maintenance activity consumes resources and energy, consideration has been given to reducing/eliminating those activities which may not be critical to the protectiveness of the selected remedy.

A climate vulnerability assessment was not completed during this certifying period. An assessment would generally be utilized to evaluate the potential consequences climate changes may have on a site, as well as any ongoing site management activities.

4.1 GREEN REMEDIATION ASSESSMENT

In accordance with the NYSDEC's DER-31 Green Remediation policy, the following section provides a qualitative assessment of the overall environmental impacts, or environmental footprint associated with the remedy.

4.1.1 Electric Usage

Implementation of the selected remedy uses electricity to operate the GWCS. The GWCS was operated between January 2016 and fourth quarter 2020.

4.1.2 Fossil Fuel Usage

Implementation of the selected remedy does not directly use fossil fuels as part of SM; however, fossil fuels are indirectly used during the completion of maintenance and monitoring activities associated with the groundwater monitoring well network.

Indirect fossil fuel use results from completion of the following site-related activities:

- Transportation to and from the site for monitoring, sampling, and well rehabilitation.
- Maintenance of site vegetation.
- Off-site transportation and shipment of samples collected for laboratory analysis.
- Disposal of waste generated at the Site.

4.1.3 Water Usage

Implementation of the selected remedy does not directly require the use of water at this Site. However, a *de minimis* quantity of water is used during sampling events for equipment decontamination.

4.1.4 Air Emissions

Implementation of the selected remedy emits a *de minimis* quantity of VOCs indirectly through the operation of the GWCS. The remedy emits contaminants to the air through the combustion of fossil fuels in vehicles and use in generators, as described above.

4.1.5 Consumption of Materials and Generation of Waste

Monitoring, maintenance and reporting activities associated with groundwater sampling events result in material consumption and the generation of waste. A summary of the current material consumption and waste generation activities for the Site are summarized below:

- Personal protective equipment associated with groundwater sampling, such as nitrile gloves, etc.
- Consumables associated with groundwater sampling such as polyethylene tubing, paper towels, trash bags, etc.
- Packaging material and ice used to pack and preserve samples to be submitted for laboratory analysis.
- Paper and office supplies associated with site logs, monitoring logs, and report preparation.
- Repair and replacement of equipment associated with the monitoring well network.

4.2 CLIMATE CHANGE VULNERABILITY ASSESSMENT

Increases in both the severity and frequency of storms and weather events, an increase in sea-level elevations along with accompanying flooding impacts, shifting precipitation patterns and wide temperature fluctuations, resulting from global climate change and instability, have the potential to significantly impact the performance, effectiveness, and protectiveness of a given site remedy. The intent of this vulnerability assessment is to provide information to allow the site remedy to better prepare for the impacts of the increasing frequency and intensity of severe storms, weather events, and associated flooding brought on by global climate changes and instabilities, in order to ultimately enhance the remedy's resilience to such events.

This section briefly summarizes the vulnerability of the Site and/or the remedy to severe storms, weather events and associated flooding.

This assessment included consideration of the following:

- ***Flood Plain***—The current monitoring well network lies immediately adjacent to low-lying wetlands. Given the site topography, it is reasonable to assume that severe rain events may cause temporary flooding of the Site. However, the overall performance and effectiveness of the bulk of the monitoring wells would not be impacted.

- ***Site Drainage and Storm Water Management***—The Site drains by overland flow northward to the adjacent wetland. Like the overall site topography, the gradients of the drainage swales and drainage ditches on-site are generally quite low. However, the accessible monitoring wells are located just outside of the wetland in areas of higher elevation and all regrading efforts completed during the remedial action mitigated the environmental threat due to migration of fill contaminants to the wetlands.

- ***Erosion***—There is no evidence of erosion at the Site, though the slopes of the drainage ditch and soil caps may be susceptible to erosion during periods of severe rain events. Any erosion at these areas should not impact the monitoring well network.

- ***High Wind***—The monitoring wells at the Site are stick-ups and may be susceptible to damage from falling trees resulting from periods of high winds.

4.3 CONSIDERATIONS FOR OPTIMIZATION OF PHYSICAL SYSTEMS

Environmental and energy conservation measures and other methods to reduce energy consumption, resource usage, waste generation, and water usage have been considered and are described below. During the certifying period, 8 groundwater sampling events were conducted, which required the purging of water from the observation wells prior to sampling. For future events, the use of HydraSleeves would significantly reduce or negate the need for purging observation wells and would reduce or negate the need for associated equipment and energy/fuel consumption. The advantages of HydraSleeve samplers is that they are inexpensive and have the potential to eliminate or substantially reduce the amount of purge water associated with sampling. The samplers are easy to deploy and recover. Because HydraSleeve samplers are disposable, there is no down-hole sampling equipment to be decontaminated between wells.

Additionally, electric powered trimmers and non-powered hand tools have been used as much as possible to reduce the amount of fossil fuel use at site. Further evaluation and reduction of vegetative clearing areas could potentially reduce the amount of fossil fuel use at the Site while enhancing habitat.

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5. CONCLUSIONS AND RECOMMENDATIONS

Current SM activities being conducted according to the requirements of the SMP, except for semi-annual inspections in 2021, and groundwater monitoring and well inspections in 2020. Based on a review of the data collected during this reporting period, the remedy continues to be protective of public health and the environment and is in compliance with the remedial action objectives (RAOs) established in the ROD. Site inspections conducted between January 2016 and December 2021 indicate that between July 2020 and December 2020, the collection system was no longer operational.

Based on the findings presented in this PRR, the following recommendations are provided:

ICs/ECs Plan

With no major deficiencies of the ICs noted at the Site, and with the GWCS not being utilized at this time, it is recommended that inspection items presented in the Executive Summary and in **Table 1** be synchronized with the 15-month frequency for groundwater sampling. This change would facilitate the reduction of the environmental footprint associated with semi-annual site visits.

Monitoring Plan

The limited analytical results following the remediation efforts are not yet robust enough to fully identify trends, and additional sampling events would provide for a more thorough and robust trend evaluation. The last available groundwater sampling data in monitoring well P-107S (2019) yielded an exceedance of the Class GA standard of 5 µg/L for TCE; it is recommended that groundwater sampling continue to be performed at a 15-month frequency. If the groundwater collection system becomes operational again, performance monitoring of effluent will continue as required by the POTW permit.

Periodic Review Reporting

The requirements for discontinuing site management activities have not been met. Therefore, the monitoring schedule set forth by the SMP (MACTEC 2019a) for the Site will continue. The next PRR is expected in 2024 and will evaluate groundwater data from sampling events in September 2022 and the first quarter of 2024.

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6. FUTURE SITE ACTIVITIES

Based on the recommendations in Section 5, the following site management activities will be completed during the next PRR reporting period (2021 through 2026):

- Site Inspection – Monthly (between April 2023 and May 2024); Semi-Annually (beginning August 2024)
- On-site maintenance (i.e., fence repair, building structures, monitoring wells) – as needed.
- Groundwater sampling – 15-month (First quarter 2024, Second quarter 2025, and third quarter 2026)

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7. REFERENCES

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Tables

Table 1. Inspections, Monitoring, Maintenance, and Reporting Frequency

Inspections	**Frequency**
1. Fencing, gates, and Site access	Semi-annually
2. Monitoring well integrity and water levels from 10 wells	15-month interval
3. Groundwater collection trenches	As needed
4. Groundwater treatment system building and piping	As needed
Monitoring	**Frequency**
1. Monitoring well groundwater sampling and analysis from 7 monitoring wells	Every 15 months
Maintenance	**Frequency**
1. Mowing	Annually
2. Fence repair	As needed
3. Building structures	As needed
4. Groundwater collection trenches	As needed
5. Monitoring wells	As needed
Reporting	**Frequency**
1. Inspection Report	Semi-annual
2. Long-Term Monitoring Report	Following groundwater sampling events
3. PRR	Every 5 years

Table 2. Groundwater Levels (2016 - 2021)

Well ID	Ground Elevation[1] (ft AMSL)	Estimated Measurement Point Elevation[2]	Stickup on Casing (ft)	TOC to TOR (ft)	Depth to BOW (ft below TOR)	Water Level (ft below TOR)	Water Level (ft below TOR)	Water Level (ft below TOR)	Water Level (ft below TOR)	Water Level (ft below TOR)	Water Level (ft below TOR)	Water Level (ft below TOR)	Water Level (ft below TOR)	Water Level (ft below TOR)
Date					07/02/2020	12/19/2016	10/23/2017	03/26/2018	11/28/2018	06/18/2019	04/29/2020	07/02/2020	12/01/2020	08/20/2021
GW-01	517	517	0	0.41	17.30	4.56	5.39	3.76	NM	5.56	5.41	7.10	4.35	3.05
P-103	521.8	524.3	2.8	0.34	18.15	6.70	8.65	5.96	5.95	6.66	5.65	8.39	5.39	6.05
P-105	522.7	525.1	2.9	0.48	18.20	4.21	4.97	3.98	3.81	4.02	4.40	5.30	4.30	4.32
P-106S	521.1	524.8	4.0	0.27	18.50	6.36	9.87	5.78	5.00	7.67	7.05	9.80	6.65	6.00
P-106D	520.8	524.3	3.9	0.39	77.60	29.54	29.15	29.15	28.11	28.48	28.88	29.96	29.95	28.65
P-107S	519.4	522.1	2.9	0.21	17.15	6.06	10.19	6.13	4.39	8.33	7.00	10.30	6.15	4.60
P-107D	519.3	522.0	3.2	0.50	77.60	30.04	29.56	29.65	28.57	29.02	29.32	29.45	29.54	29.15

Notes:
1) Ground Elevation from monitoring well logs included in Monitoring Plan for Primoshield Plating January 2004.
2) Measurement Point Elevation calculated using the ground elevation and field measurements of casing stickup and the distance from the top of riser to the top of casing; therefore, the water elevations are approximate

AMSL = Above mean sea level

ft = Foot (feet)

NM = Not measured
TOC = Top of casing
TOR = Top of riser

Table 3a. Summary of Site Contaminants of Concern in Groundwater Monitoring Wells (2016-2021)

Location ID			GW-01								P-103				P-105			
Sample Name			633027GW01	GW-01	GW-01	GW-01	633027GW01	633027 - GW01	633027-GW01	GW-01	633027P103	633027 - P103	633027-P103	P-103	633027P105	633027 - P105	633027-P105	P-105
Parent Sample ID																		
Sample Date			5/4/2016	6/28/2016	7/20/2016	9/13/2016	12/20/2016	3/27/2018	6/19/2019	8/20/2021	12/19/2016	3/27/2018	6/18/2019	8/20/2021	12/19/2016	3/27/2018	6/18/2019	8/20/2021
Analyte	**NYSDEC AWQS[1]**	**Unit**																
Total Metals (Various Methods)																		
Cadmium	5	µg/L	NA	NA	NA	NA	0.43 J	NA	< 5 U	< 0.50 U	< 1.1 U	< 5 U	< 5 U	< 0.50 U	< 1.1 U	< 5 U	< 5 U	0.63 J
Chromium, Total	50	µg/L	NA	NA	NA	NA	21	NA	< 10 U	8.5	1.3 J	< 10 U	< 10 U	< 1.0 U	2.1 J	< 10 U	< 10 U	< 1.0 U
Lead	25	µg/L	NA	NA	NA	NA	29	NA	< 50 U	3.7 J	< 2.2 U	< 50 U	< 50 U	< 3.0 U	< 2.2 U	< 50 U	< 50 U	< 3.0 U
Nickel	100	µg/L	NA	NA	NA	NA	110	NA	9.2 J	220	< 5.6 U	< 40 U	< 40 U	1.4 J	2.3 J	< 40 U	< 40 U	< 1.3 U
VOCs (Various Methods)																		
1,1,1-Trichloroethane (TCA)	5	µg/L	1.4	0.36 J	0.49 J	0.38 J	1.4	0.5 J	< 1 U	1.9	2.8	2.1	4.6	1.3	< 1 U	< 1 U	< 1 U	< 0.82 U
1,1-Dichloroethane	5	µg/L	0.63 J	< 1 U	< 1 U	< 1 U	0.36 J	< 1 U	< 1 U	0.79 J	< 1 U	< 1 U	0.59 J	< 0.38 U	< 1 U	< 1 U	< 1 U	< 0.38 U
Trichloroethylene (TCE)	5	µg/L	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 0.46 U	1.2	0.84 J	2.1	0.98 J	< 1 U	< 1 U	< 1 U	< 0.46 U
PFAS																		
Perfluorobutanesulfonic acid (PFBS)	NSL	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2 U	NA	NA
Perfluorobutanoic Acid	NSL	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.55 J**	NA	NA
Perfluorodecanesulfonic acid (PFDS)	NSL	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2 U	NA	NA
Perfluorodecanoic acid (PFDA)	NSL	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2 U	NA	NA
Perfluorododecanoic acid (PFDoA)	NSL	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2 U	NA	NA
Perfluoroheptanesulfonic acid (PFHpS)	NSL	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2 U	NA	NA
Perfluoroheptanoic acid (PFHpA)	NSL	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2 U	NA	NA
Perfluorohexanesulfonic acid (PFHxS)	NSL	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2 U	NA	NA
Perfluorohexanoic acid (PFHxA)	NSL	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2 U	NA	NA
Perfluorononanoic acid (PFNA)	NSL	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2 U	NA	NA
Perfluorooctane Sulfonamide (PFOSA)	NSL	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2 U	NA	NA
Perfluorooctanesulfonic acid (PFOS)	2.7	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2 U	NA	NA
Perfluorooctanoic acid (PFOA)	6.7	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2 U	NA	NA
Perfluoropentanoic Acid (PFPeA)	NSL	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2 U	NA	NA
Perfluorotetradecanoic acid (PFTeDA)	NSL	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2 U	NA	NA
Perfluorotridecanoic Acid (PFTriA/PFTrDA)	NSL	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2 U	NA	NA
Perfluoroundecanoic Acid (PFUnA)	NSL	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2 U	NA	NA
TOTAL PFOA AND PFOS	NSL	ng/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2 U	NA	NA
1,4-Dioxane																		
1,4-Dioxane	0.35	µg/L	NA	NA	NA	NA	NA	0.4 U	NA	NA	NA	NA	NA	NA	NA	0.4 U	NA	NA

Notes:
(1) New York State Department of Environmental Conservation (NYSDEC) Ambient Water Quality Standard (AWQS) Class GA (Standard/guidance values) (Technical and Operational Guidance Series [TOGS] 1.1.1).
µg/L = Microgram(s) per liter
H = Sample analyzed after maximum recommended holding time
J = Concentration is estimated
NA = Not analyzed
U = Analyte not detected
VOC = Volatile organic compound
Concentrations exceeding the screening level are shaded gray.

Table 3a. Summary of Site Contaminants of Concern in Groundwater Monitoring Wells (2016-2021)

Location ID			P-106D				P-106S				P-107D				P-107S			
Sample Name			633027P106D	633027 - P106D	633027-P106D	P-106D	633027P106S	633027 - P106S	633027-P106S	P-106S	633027P107D	633027 - P107D	633027-P107D	P-107D	633027P107S	633027 - P107S	633027-P107S	P-107S
Parent Sample ID																		
Sample Date			12/19/2016	3/27/2018	6/18/2019	8/20/2021	12/19/2016	3/27/2018	6/18/2019	8/20/2021	12/20/2016	3/28/2018	6/18/2019	8/20/2021	12/20/2016	3/28/2018	6/19/2019	8/20/2021
Analyte	**NYSDEC AWQS[1]**	**Unit**																
Total Metals (Various Methods)																		
Cadmium	5	µg/L	< 1.1 U	< 5 U	< 5 U	< 0.50 U	< 1.1 U	< 5 U	< 5 U	< 0.50 U	< 1.1 U	< 5 U	< 5 U	< 0.50 U	3.1	< 5 U	3.7 J	3
Chromium, Total	50	µg/L	4.1	1.7 J	< 10 U	1.6 J	2.1 J	< 10 U	< 10 U	1.8 J	5.8	< 10 U	< 10 U	5.4	8.6	2.4 J	1.1 J	1.6 J
Lead	25	µg/L	4.1	< 50 U	< 50 U	< 3.0 U	< 2.2 U	< 50 U	< 50 U	< 3.0 U	7.2	< 50 U	< 50 U	< 3.0 U	< 2.2 U	< 50 U	< 50 U	< 3.0 U
Nickel	100	µg/L	5.2 J	< 40 U	< 40 U	< 1.3 U	< 5.6 U	< 40 U	< 40 U	1.7 J	11	< 40 U	< 40 U	4.9 J	290	174	313	170
VOCs (Various Methods)																		
1,1,1-Trichloroethane (TCA)	5	µg/L	< 1 U	< 1 U	< 1 U	< 0.82 U	0.44 J	< 1 U	0.64 J	< 0.82 U	< 1 U	< 1 U	< 1 U	< 0.82 U	1.6	0.44 J	1.4	1.7
1,1-Dichloroethane	5	µg/L	< 1 U	< 1 U	< 1 U	< 0.38 U	< 1 U	< 1 U	< 1 U	< 0.38 U	< 1 U	< 1 U	< 1 U	< 0.38 U	0.75 J	0.32 J	1.2	0.79 J
Trichloroethylene (TCE)	5	µg/L	< 1 U	< 1 U	< 1 U	< 0.46 U	0.68 J	< 1 U	0.7 J	< 0.46 U	< 1 U	< 1 U	< 1 U	< 0.46 U	14.1	7.1	7.5	14
PFAS																		
Perfluorobutanesulfonic acid (PFBS)	NSL	ng/L	NA	< 2 U	NA	NA	NA	**0.38 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorobutanoic Acid	NSL	ng/L	NA	**0.6 J**	NA	NA	NA	**1 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorodecanesulfonic acid (PFDS)	NSL	ng/L	NA	< 2 U	NA	NA	NA	< 2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorodecanoic acid (PFDA)	NSL	ng/L	NA	< 2 U	NA	NA	NA	< 2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorododecanoic acid (PFDoA)	NSL	ng/L	NA	< 2 U	NA	NA	NA	< 2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluoroheptanesulfonic acid (PFHpS)	NSL	ng/L	NA	< 2 U	NA	NA	NA	< 2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluoroheptanoic acid (PFHpA)	NSL	ng/L	NA	< 2 U	NA	NA	NA	< 2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorohexanesulfonic acid (PFHxS)	NSL	ng/L	NA	< 2 U	NA	NA	NA	< 2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorohexanoic acid (PFHxA)	NSL	ng/L	NA	< 2 U	NA	NA	NA	< 2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorononanoic acid (PFNA)	NSL	ng/L	NA	< 2 U	NA	NA	NA	< 2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorooctane Sulfonamide (PFOSA)	NSL	ng/L	NA	< 2 U	NA	NA	NA	< 2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorooctanesulfonic acid (PFOS)	2.7	ng/L	NA	< 2 U	NA	NA	NA	**0.66 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorooctanoic acid (PFOA)	6.7	ng/L	NA	< 2 U	NA	NA	NA	< 2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluoropentanoic Acid (PFPeA)	NSL	ng/L	NA	< 2 U	NA	NA	NA	< 2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorotetradecanoic acid (PFTeDA)	NSL	ng/L	NA	< 2 U	NA	NA	NA	< 2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorotridecanoic Acid (PFTriA/PFTrDA)	NSL	ng/L	NA	< 2 U	NA	NA	NA	< 2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluoroundecanoic Acid (PFUnA)	NSL	ng/L	NA	< 2 U	NA	NA	NA	< 2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TOTAL PFOA AND PFOS	NSL	ng/L	NA	< 2 U	NA	NA	NA	**0.66 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dioxane																		
1,4-Dioxane	0.35	µg/L	NA	0.4 U	NA	NA	NA	0.4 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

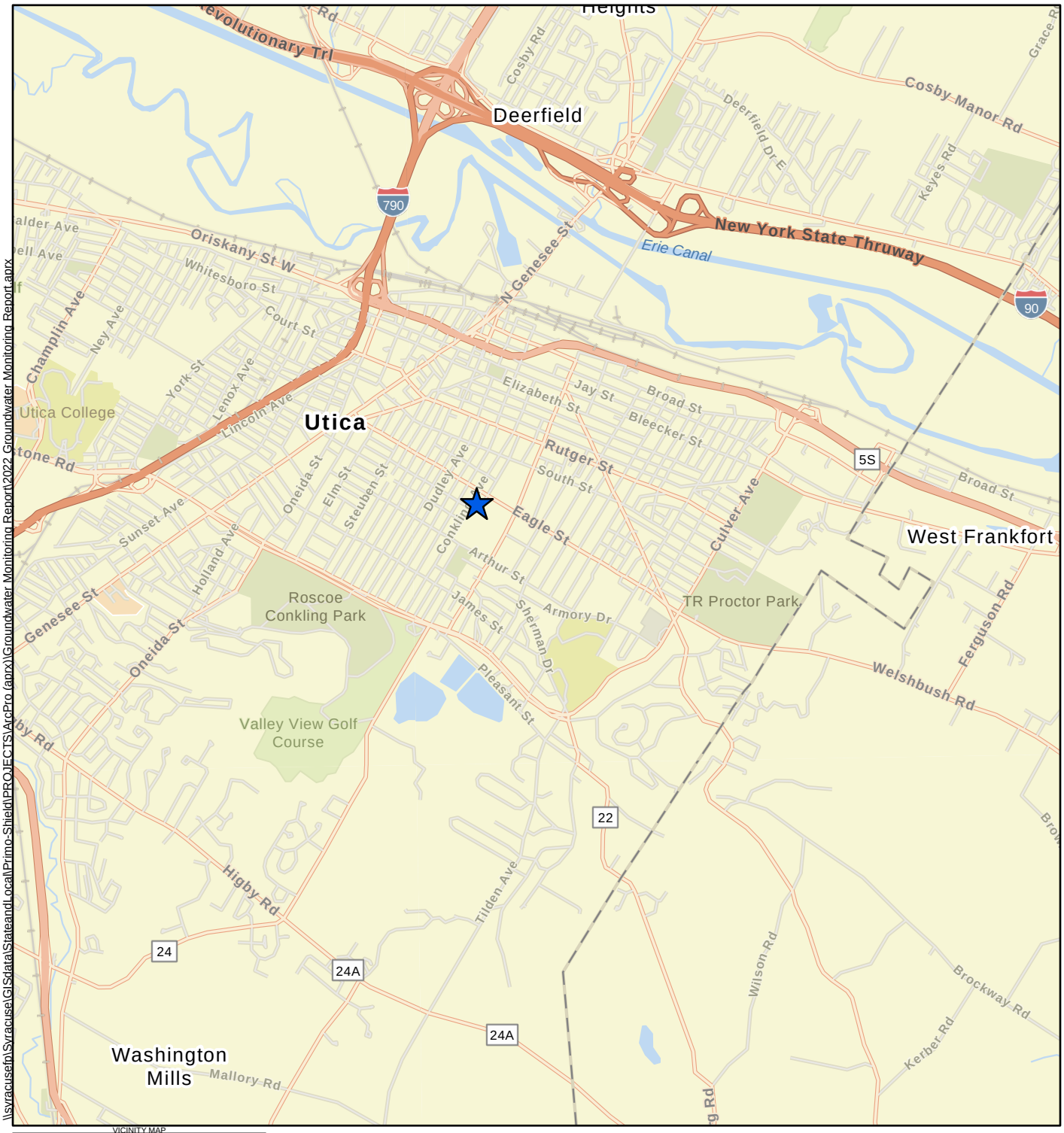
Notes:
(1) New York State Department of Environmental Conservation (NYSDEC) Ambnt Water Quality Standard (AWQS) Class GA (Standard/guidance values) (Technical and Operational Guidance Series [TOGS] 1.1.1).
µg/L = Microgram(s) per liter
H = Sample analyzed after maximum recommended holding time
J = Concentration is estimated
NA = Not analyzed
U = Analyte not detected
VOC = Volatile organic compound
Concentrations exceeding the screening level are shaded gray.

Table 3b. Summary of Site Contaminants of Concern in Groundwater Treatment System (2016-2019)

			Location ID	EFFLUENT	EFFLUENT	EFFLUENT	EFFLUENT	EFFLUENT	EFFLUENT
			Sample Name	633027-Effluent	633027-EFFLUENT	R1710120-001	633027 - Effluent	633027 - Effluent	633027 - Effluent
			Parent Sample ID						
			Sample Date	9/13/2016	4/13/2017	10/23/2017	3/28/2018	11/28/2018	6/17/2019
Analyte	**Permitted Limit**	**Unit**							
Total Metals (Various Methods)									
Cadmium	1000	µg/L	< 0.5 U	< 5 U	< 1 U	< 5 U	< 5 U	< 5 U
Chromium, Total	5000	µg/L	0.38 J	< 10 U	< 2.5 U	< 10 U	< 10 U	< 10 U
Lead	5000	µg/L	< 1 U	< 50 U	< 3 U	< 50 U	< 50 U	< 50 U
Nickel	2000	µg/L	45	< 40 U	51	< 40 U	< 40 U	< 40 U
Cyanide	3000	µg/L	1.0 J	U	6.0	U	U	U
VOCs (Various Methods)									
Total VOCs*	2000	µg/L	34.1	16.5	28.9	10.22	25.94	19.99

Notes:
*Total VOCs is the sum of all detectable VOC substances as determined using the USEPA Method 624.
µg/L = Microgram(s) per liter
J = Concentration is estimated
U = Analyte not detected
VOC = Volatile organic compound

Figures



Legend

Site Location

Figure 1
Site Location
Primoshield Inc. (633027)
Utica, New York

Map Date: 2/27/2023
Projection: NAD 83 State Plane
New York Central 3102 (US Feet)
Source: Esri

0 0.5 1
Miles

N

NEW YORK STATE Department of Environmental Conservation

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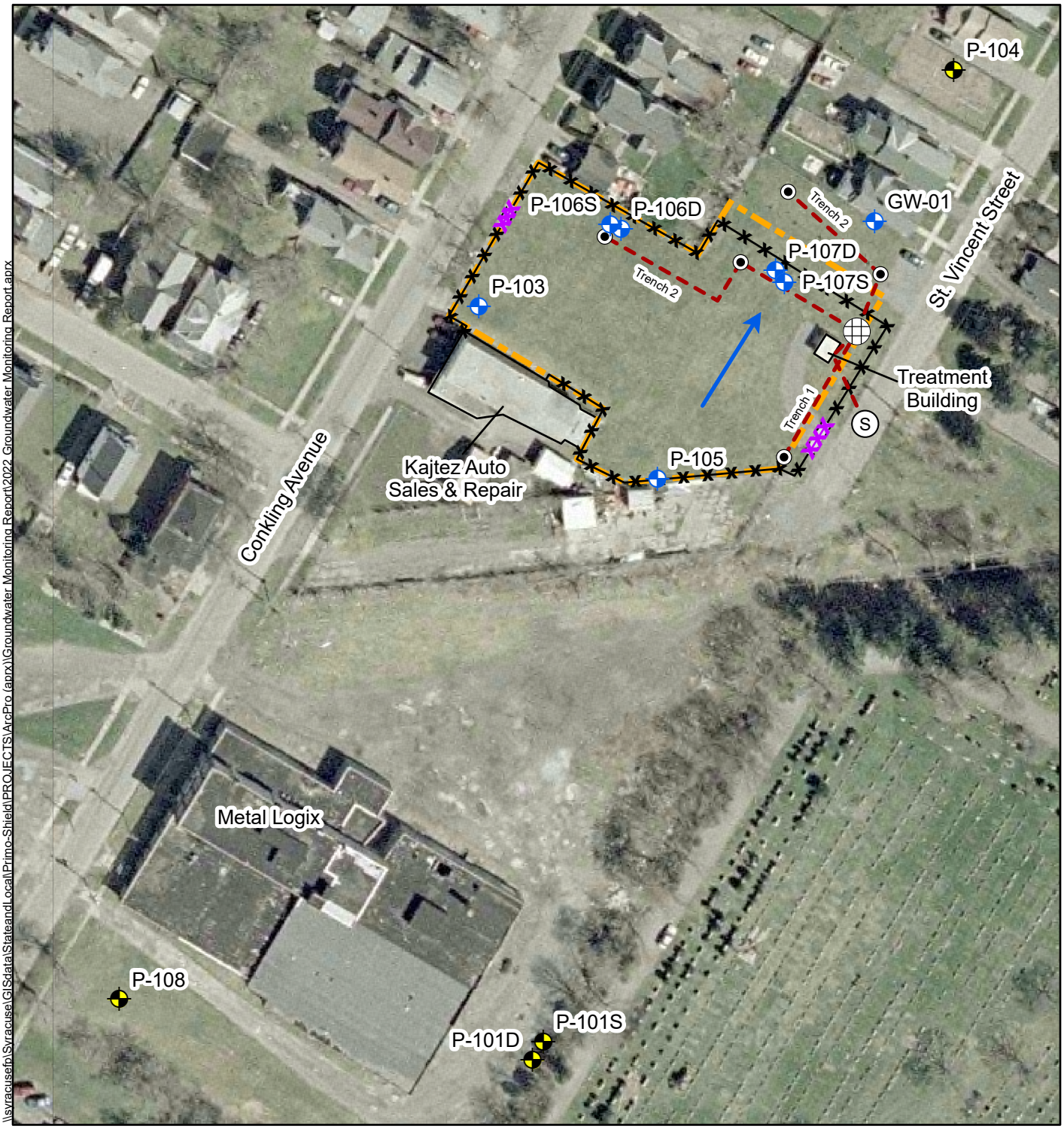

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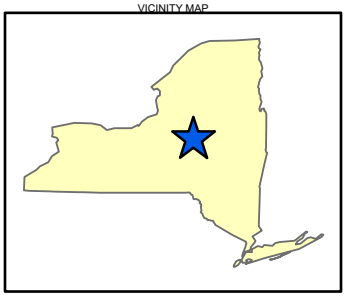
VICINITY MAP



Legend

- Site Boundary
- Building Footprint
- Fence Perimeter
- Fence Gate
- Underground Collection Trench
- Approximate Groundwater Flow Direction
- Site Location
- Discharge to Sanitary Sewer
- 4-foot Diameter Manhole
- Cleanout Access Point
- Decommissioned Well (October 2016)
- Monitoring Well

0 50 100
Feet

N

NEW YORK STATE Department of Environmental Conservation

EA

Figure 2
Site Features and Monitoring Locations
Primoshield Inc. (633027)
Utica, New York

Map Date: 3/11/2024
Projection: NAD 83 State Plane New York Central 3102 (US Feet)
Source: Esri

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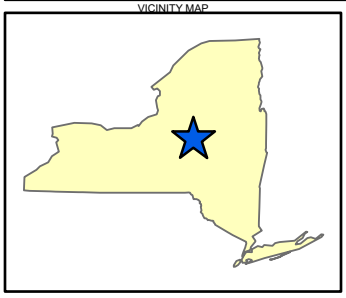
VICINITY MAP



Legend

- Site Boundary
- Fence Perimeter
- Building Footprint
- Discharge to Sanitary Sewer
- 4-foot Diameter Manhole
- Underground Collection Trench
- Site Location
- GW Elevation (Shallow wells only)
- Approximate Groundwater Flow Direction
- Fence Gate
- Deep Monitoring Well
- Shallow Monitoring Well

0 40 80
Feet

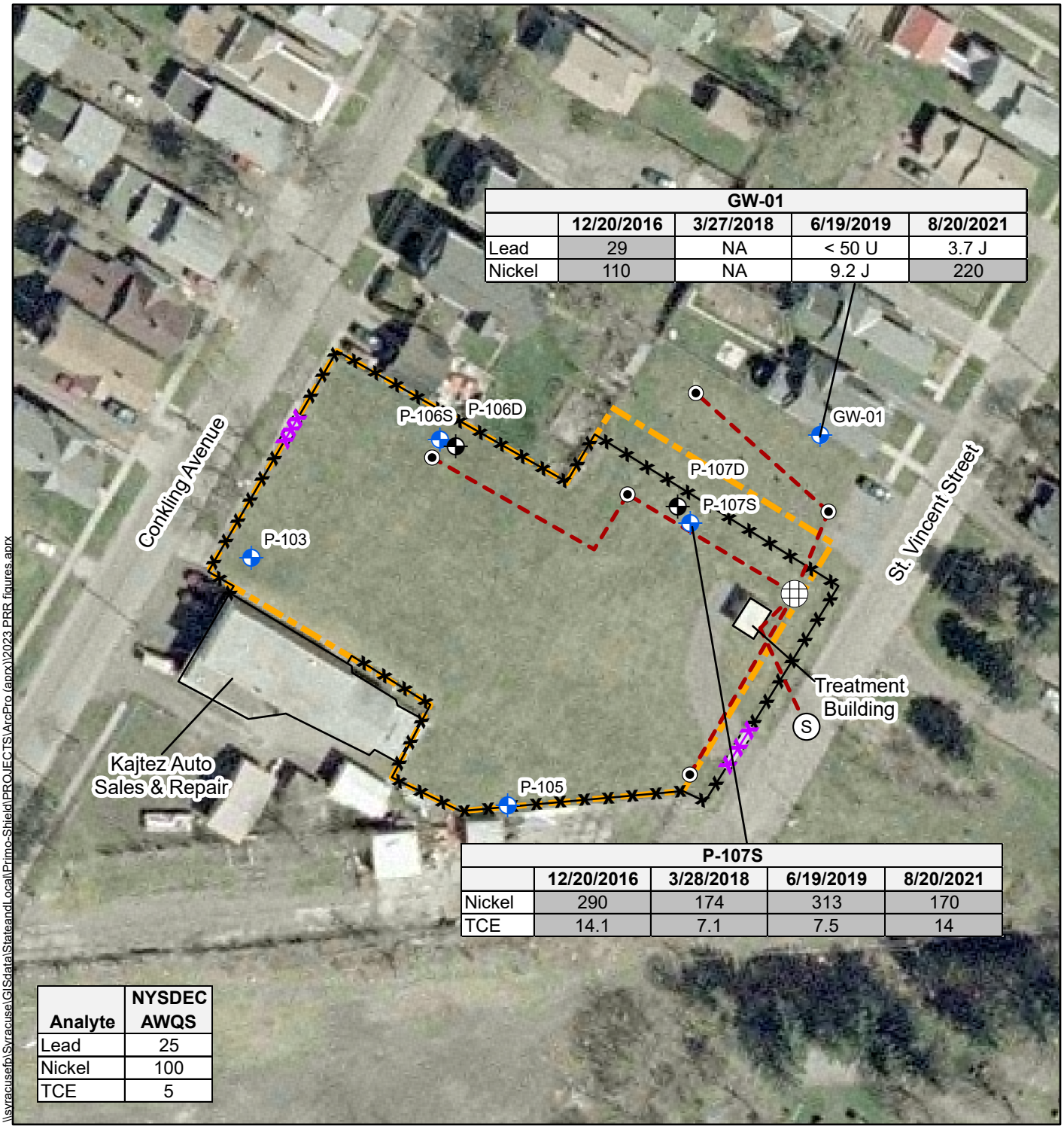
N

Figure 3
Groundwater Elevation Contour Map (August 2021)

Primoshield Inc. (633027)
Utica, New York

Map Date: 3/11/2024
Projection: NAD 83 State Plane New York Central 3102 (US Feet)
Source: Esri

NEW YORK STATE Department of Environmental Conservation



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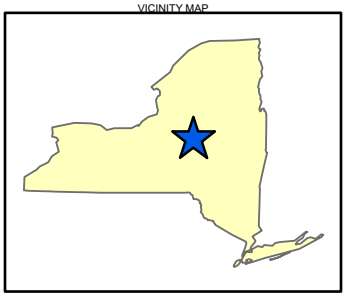
VICINITY MAP



Legend

- Site Boundary
- Building Footprint
- Fence Perimeter
- Fence Gate
- Underground Collection Trench
- Discharge to Sanitary Sewer
- 4-foot Diameter Manhole
- Cleanout Access Point
- Shallow Monitoring Well
- Deep Monitoring Well
- Site Location

0 40 80
Feet

N

Note: Concentrations exceeding NYSDEC AWQS are highlighted gray. Values are recorded in microgram(s) per liter (µg/L).
AWQS = Ambient Water Quality Standards
NYSDEC = New York State Department of Environmental Conservation
TCE = Trichloroethylene

NEW YORK STATE Department of Environmental Conservation

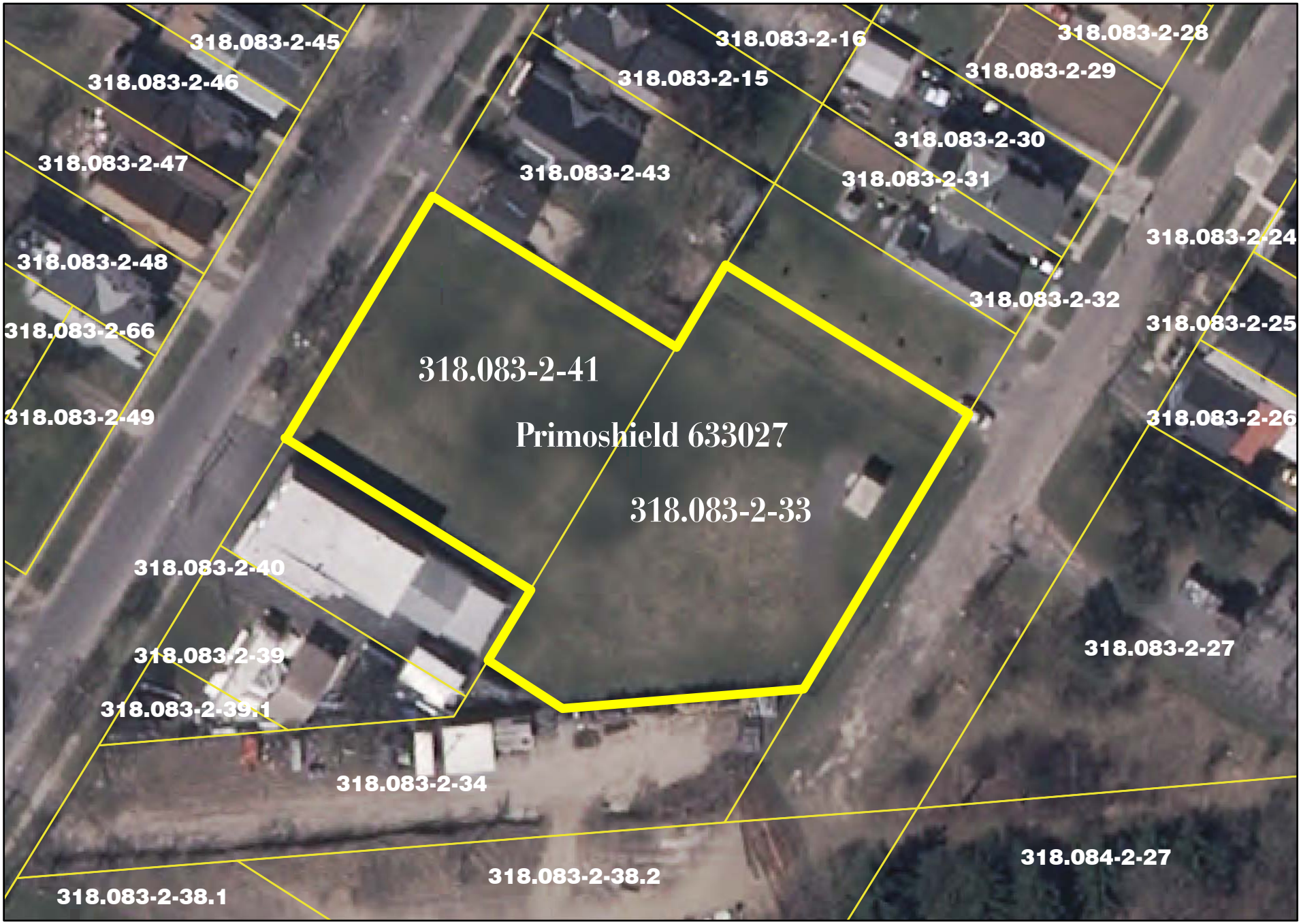
Figure 4
Site Groundwater COC Exceedances (2016-2021)

Primoshield Inc. (633027)
Utica, New York

Map Date: 6/10/2024
Projection: NAD 83 State Plane New York Central 3102 (US Feet)
Source: Esri

Appendix A

Real Property Map



Primoshield 633027 - Parcels

Source: Oneida County GIS Tax Map https://hoccpp.maps.arcgis.com/apps/webappviewer/index.html?id=18e988c601f54b62a60f36f39fce5a92

Appendix B

Inspection and Gauging Forms

Primoshield Site Visit 06-03-2016

DER Site Management, Photo report by Will Welling, NYSDEC. 06-03-2016

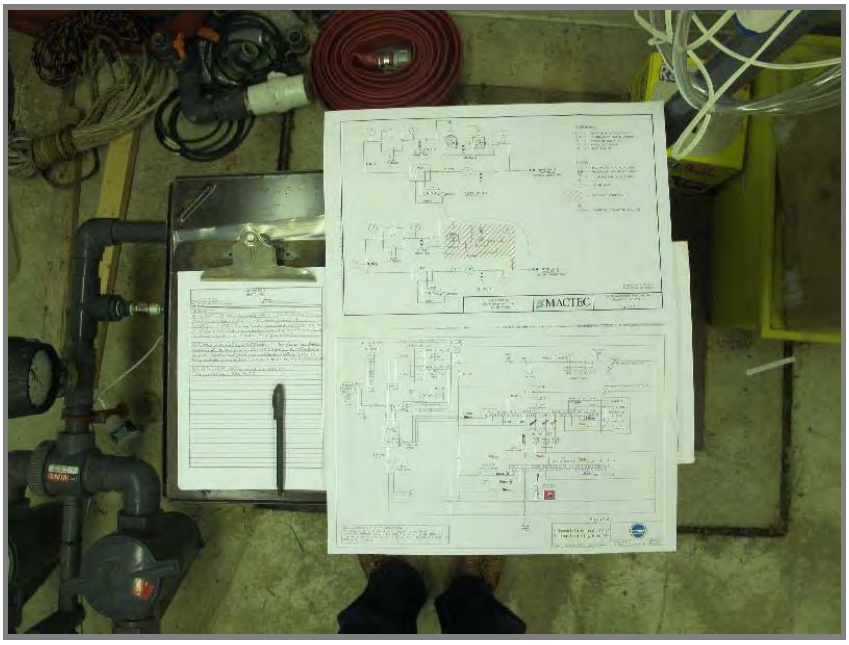
Photos with Notes

Photo	Description
	3:45 PM I arrived at Primoshield. A bit of the city's pipe is being stored along the Primoshield fence.
	The empty lot at the end of the street has been scraped, spread with stone and bladed smooth.

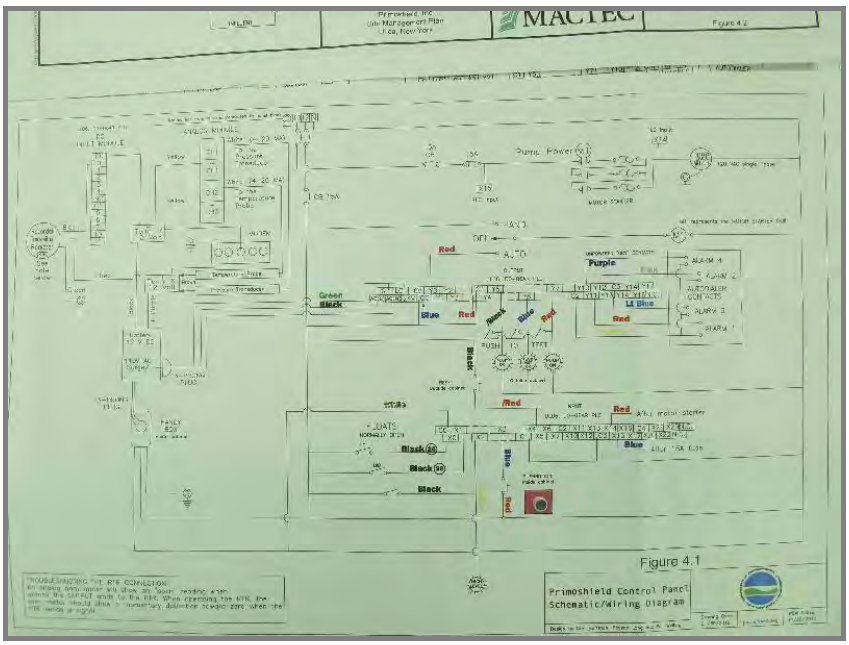
Panning around

Panning around

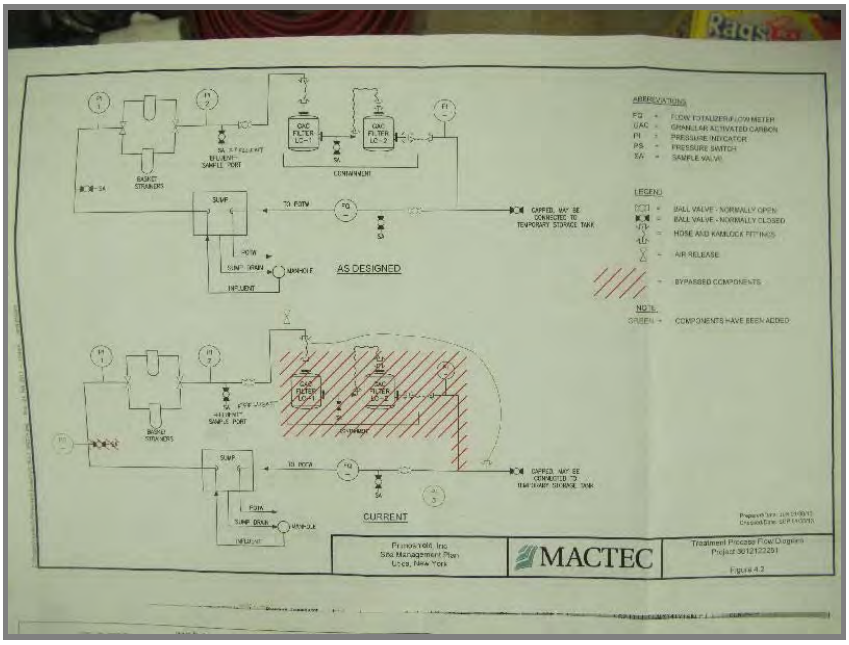
The lockup.



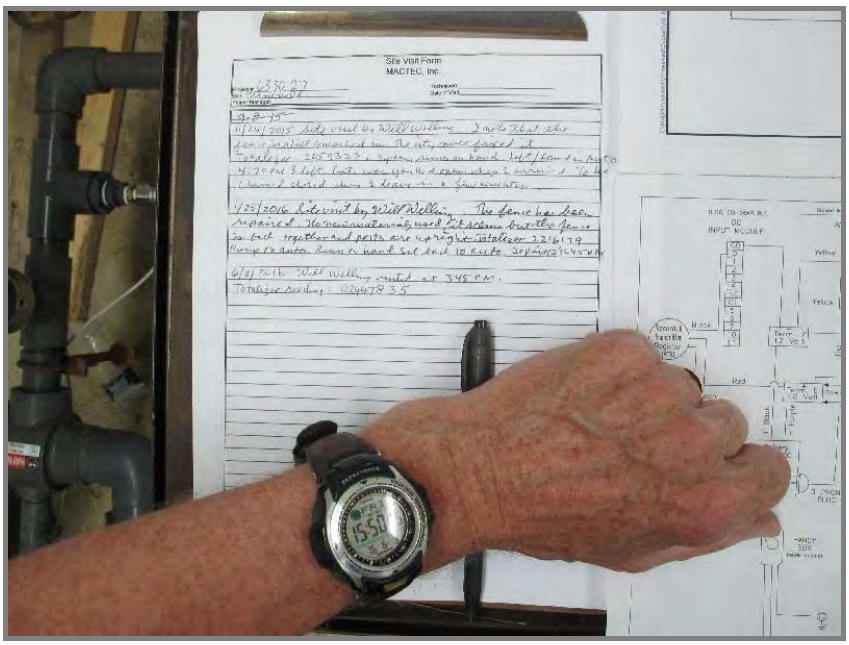
AMEC's schematic, my circuit drawing and a sign-in page are available on the table on the middle of the floor of the building.



My circuit, schematic/wiring diagram



Process diagram



Documentation

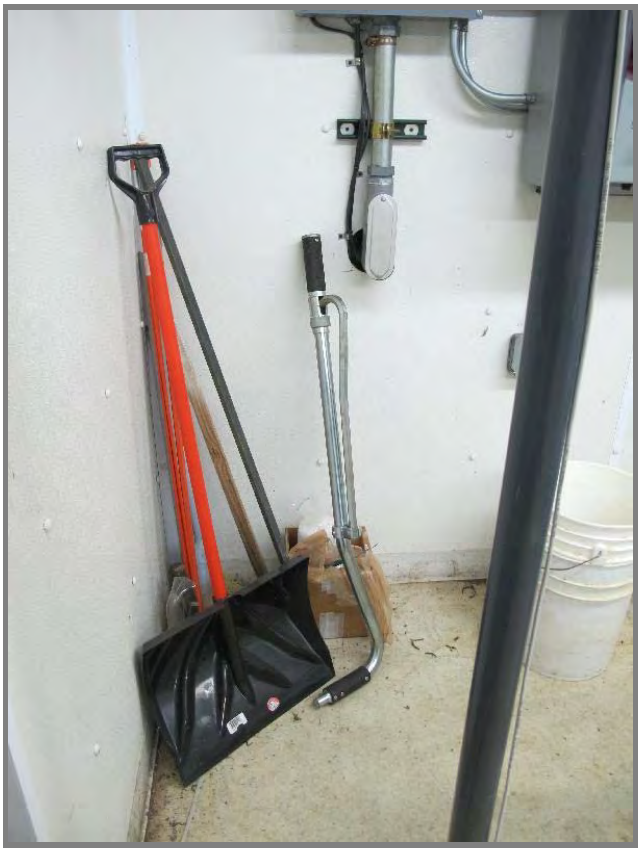


Photo documentation

Photo documentation

Photo documentation

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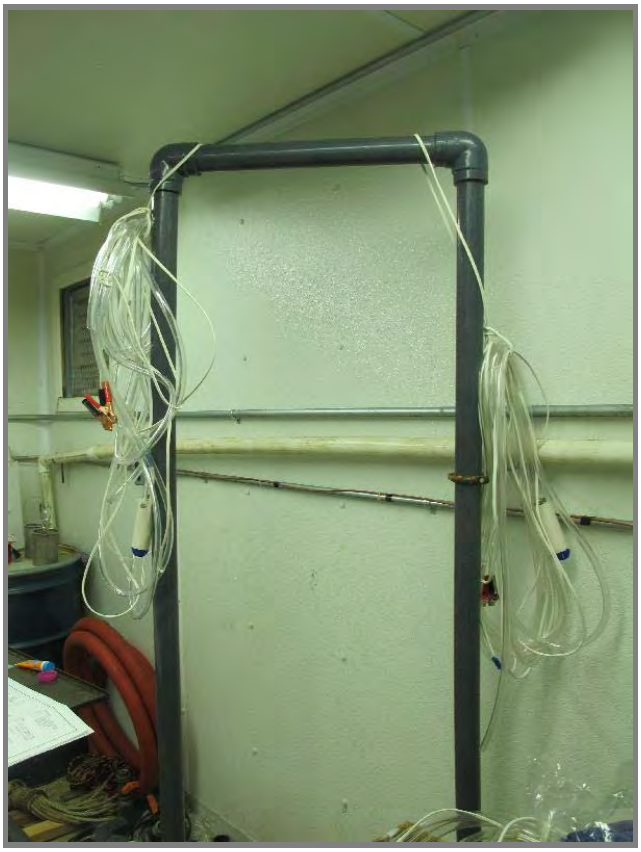


Photo documentation

Photo documentation

Photo documentation

Photo documentation

Photo documentation

Photo documentation

Photo documentation

New York Department of Environmental Conservation
Inactive Hazardous Waste Site
Inspection Form-Treatment Systems

Site Name: *Primoshield Inc.*		**NYSDEC Site Number:** *633027*	**NYSDEC PM:** *Will Welling*
Site Location: *1212 St. Vincent Street, Utica, NY*		**Site Classification #:** *4*	**Primary Site Contact:** *Will Welling*
Site Inspection Date: 11/28/18	**Purpose of Inspection:** *Semi-annual inspection*		
Name of Inspector: RENE AUBE	**Title:** SR. ENG. TECH.	**Agency/Company:** *MACTEC/Amec Foster Wheeler*	**Address:** *511 Congress Street, Suite 200 Portland, ME 04101*
Phone Number: 860-888-3377			

Treatment Systems

System Status				General Observations:
System in operation during visit?	(Yes)	No		
Manned on a fulltime basis?		(No)		
Pump working?	(Yes)	No		
Initial flow rate (gpm):	UNKNOWN			
Totalizer reading (gallons):	04445400			
Discharge Monitoring				
Discharge to the POTW?	*Oneida County Sewer District Permit GW-040*			
Was permit performance monitoring conducted?	(Yes)	No		
Condition of Operational Controls				
Condition of gauges?	(Good)	Poor	NE	
(TOTALIZER) Condition of flow meters?	(Good)	Poor	NE	
Condition of system alarms?	Good	Poor	(NE)	TEST METHOD UNKNOWN.
Condition of flow pipes and hoses?	(Good)	Poor	NE	
Pipes labeled with direction of flow and contents?		(No)	NE	
Condition of valves?	(Good)	Poor	NE	
Evidence of leaking?	Yes	(No)	NE	
Condition of extraction/sump pump?	(Good)	Poor	NE	
Lighting in Work Areas Adequate?	(Yes)	No	NE	
Collection Vault and Pump				
Vault condition - outside (floor level)?	(Good)	Poor	NE	
Vault condition - inside (observed from floor level)?	(Good)	Poor	NE	
Collection/Discharge Trenches				
Condition of clean-out covers?	(Good) *	Poor	NE	* TRENCH 2 NORTH CLEAN-OUT COVER NOT SITTING FLUSH.
Evidence of sedimentation?	Yes	(No)	NE	

Site Features

Site Security and Fence				General Observations:
Condition of the access gates and locks?	(Good)	Poor	NE	
Condition building?	(Good)	Poor	NE	
Condition of the perimeter fence	(Good)	Poor	NE	
Is vegetation infringing on the fence?	(Yes)	No	NE	YOUNG TREES REQUIRE REMOVAL W/POWER EQUIP TO DIG OUT ROOTS.
Was a monitoring well inspection completed?	(Yes) see attached		No	
NE- not evaluated, provide explanation				

Additional Observation Notes:

ARRIVED ONSITE TO FIND SYSTEM TURNED OFF. CALLED WOOD PM, PER HIS DIRECTION TURN SYSTEM BACK TO AUTO RUN MODE, LET RUN FOR 1 HR, THEN COLLECT EFFLUENT SAMPLES. LEAVE SYSTEM RUNNING. WHILE PACKING UP FOR DEPARTURE, NOTICED SILTY WATER FLOODING SW CORNER OF SITE AND ADJACENT PROPERTY, WHICH WASN'T PRESENT ON ARRIVAL. TOOK PHOTOS, TURNED SYSTEM BACK OFF. PROBABLE BLOCKAGE IN SYSTEM DISCHARGE. CALLED WOOD PM, LEFT SYSTEM OFF.

New York Department of Environmental Conservation
Inactive Hazardous Waste Site
Inspection Form-Treatment Systems

Previously observed: Review and comment as to status (include photo documentation)

1. Is there vegetation infringing on the perimeter fence? (Remove infringing vegetation that can be removed without the use of power tools.)
   YES, YOUNG TREES NEED TO BE DUG OUT WITH POWER EQUIPMENT.
2. What is the condition of the protective casings on P-107 and P-106?
   P106S, P106D, P107S CASINGS LOOSE IN GROUND. P107S FROST HEAVED UP.
3. What is the condition of the northernmost intake/access port in Trench 2? Was it repaired?
   NOT REPAIRED, COVER STILL NOT SITTING FLUSH.
4. What is the condition of the metal rail in the north-central area of the fence where the fence height changes?
   STILL MISSING.
5. What is the condition of the loose and/or damaged barbed wire along the fencing previously noted?
   STILL RUSTY/LOOSE.
6. What is the condition of the fence posts supporting the St Vincent Street gate?
   TILTED INWARD BUT SERVICABLE.
7. What is the condition of the top rail of fence along the north-central Site area where the fence changes in height?
   SAME AS #4.

Photograph Log:

Photograph 1

Photograph 2

Photograph 3

Photograph 4

Photograph 5

Photograph 6

Photograph 7

Photograph 8

Photograph 9

Photograph 10

Performance Monitoring:

Were check samples collected during this visit? (Yes) No

Sample type collected *(circle or write in other)* : **Groundwater** (Effluent)

List Parameters/Methods Collected Per Media:
pH (150.1) METALS (200.7)
VOC (624) CYANIDE (9010)

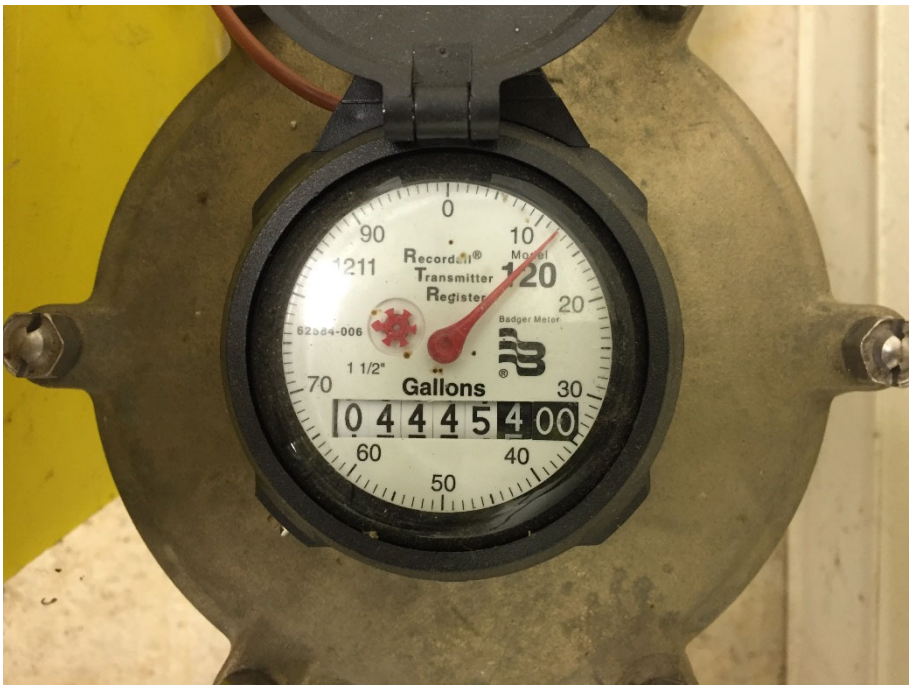
Analytical Laboratory/Location:
ALS ENVIRONMENTAL, ROCHESTER NY.

Sample Observations: CLEAR, NO ODOR.

TEMP	SP. COND	pH	DO	ORP	TURB
10.17°C	.544 MS/CM	6.50	5.51 MG/L	209.0 MV	4.22 NTU

Attachment 1 –Photographic Log

Client:	NYSDEC	***Project Number:***	3612122251
Site Name:	Primoshield, Inc.	***Site Location:***	Utica, New York.

Photographer: Rene Aube ***Date:*** 11/28/2018 ***Photograph:*** 1 ***Direction:*** n/a ***Description:*** Flow meter/totalizer reading	
Photographer: Rene Aube ***Date:*** 11/28/2018 ***Photograph:*** 2 ***Direction:*** n/a ***Description:*** System was turned to "off" position upon arrival.	

Attachment 1 –Photographic Log

Client:	NYSDEC	***Project Number:***	3612122251
Site Name:	Primoshield, Inc.	***Site Location:***	Utica, New York.

Photographer: Rene Aube ***Date:*** 11/28/2018 ***Photograph:*** 3 ***Direction:*** n/a ***Description:*** Well pad heaved at P-107S and casing is loose.	
Photographer: Rene Aube ***Date:*** 11/28/2018 ***Photograph:*** 4 ***Direction:*** n/a ***Description:*** Northwest end collection trench #2 cleanout lid does not sit properly.	

Attachment 1 –Photographic Log

Client:	NYSDEC	***Project Number:***	3612122251
Site Name:	Primoshield, Inc.	***Site Location:***	Utica, New York.

Photographer: Rene Aube ***Date:*** 11/28/2018 ***Photograph:*** 5 ***Direction:*** ESE ***Description:*** View of the property from the western corner of the property boundary.	
Photographer: Alex Klein ***Date:*** 12/20/2018 ***Photograph:*** 6 ***Direction:*** N ***Description:*** Overgrown fence portions along the northern property boundary.	

Attachment 1 –Photographic Log

Client:	NYSDEC	***Project Number:***	3612122251
Site Name:	Primoshield, Inc.	***Site Location:***	Utica, New York.

Photographer: Rene Aube ***Date:*** 11/28/2018 ***Photograph:*** 7 ***Direction:*** NW ***Description:*** Previous fence repair at the northwestern property boundary, vegetation encroaching on the fenceline.	
Photographer: Alex Klein ***Date:*** 12/20/2018 ***Photograph:*** 8 ***Direction:*** SE ***Description:*** Overgrown fence portions along the southern property near P-105 and the St. Vincent Street gate.	

Attachment 1 –Photographic Log

Client:	NYSDEC	***Project Number:***	3612122251
Site Name:	Primoshield, Inc.	***Site Location:***	Utica, New York.

Photographer: Rene Aube ***Date:*** 11/28/2018 ***Photograph:*** 9 ***Direction:*** n/a ***Description:*** Silty water observed at Trench 1 cleanout after the system was turned on.	
Photographer: Rene Aube ***Date:*** 11/28/2018 ***Photograph:*** 10 ***Direction:*** SW ***Description:*** Silty water observed at the southern property boundary near the Trench 1 cleanout after the system was turned on.	

Monitoring Well Inspection Form

Inspector(s): RENE AUBE
Date: 11-28-18 **Reviewed by:** RMB 12/3/18

Well ID	Ground Elevation[1] (feet msl)	Estimated Measurement Point Elevation[2] (feet msl)	Water Level (feet TOR)	Stickup on Casing (feet)	TOC to TOR (feet)	Depth to BOW (feet TOR)	Well ID Clearly Labeled (Y/N)	Well Lock (Y/N)	Cap on Well Riser (G/P/F)	Cap on Protective Casing (G/F/P)	Protective Casing (G/F/P)	Concrete Pad (G/F/P)	Comments
P-103	521.8	524.3	5.95	2.82	0.33	18.10	Y	Y	G	G	G	G	
P-105	522.7	525.1	3.81	3.03	0.48	18.22	Y	Y	G	G	G	G	
P-106S	521.1	524.8	5.00	4.12	0.28	18.50	Y	Y	G	G	G	P	CASING LOOSE IN GROUND.
P-106D	520.8	524.3	28.11	4.07	0.40	77.70	Y	Y	G	G	G	P	CASING LOOSE IN GROUND.
P-107S	519.4	522.1	4.39	3.15	0.21	17.16	Y	Y	G	G	G	P	CASING LOOSE IN GROUND, PAD FROST-HEAVED UP.
P-107D	519.3	522.0	28.57	3.25	0.49	77.73	Y	Y	G	G	G	G	
GW-01[3]	BURRIED IN SNOW.												

Notes:
1) Ground Elevation from monitoring well logs included in Monitoring Plan for Primoshield Plating January 2004.
2) Measurement Point Elevation calculated using the ground elevation and field measurements of casing stickup and the distance from the top of riser to the top of casing; therefore, the water elevations are approximate
3) GW-01 not surveyed as of 12/14/2016.

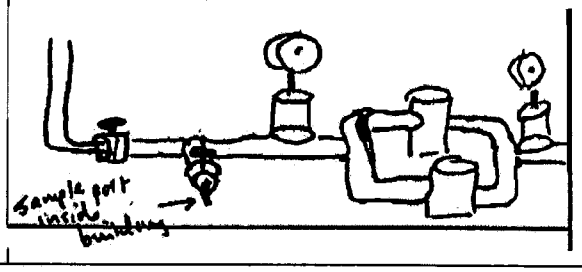
NM = Not measured
msl = mean sea level
TOC = top of casing
TOR = top of riser
BOW = bottom of well
F = Fair
G = Good
N = No
P = Poor
Y = yes

EFFLUENT SAMPLING RECORD

PROJECT NAME	**Primoshield Inc.**
PROJECT NUMBER	3612122251.03
SAMPLER NAME	RENE AUBE
SAMPLER SIGNATURE	Rene Aube
CHECKED BY: RMB	**DATE:** 12/3/18

Monitoring Location	Collection System Effluent
Sample ID	633027-Effluent
Sample Date/Time	11/28/18 1415

SKETCH/NOTES:



ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED
X	VOCs	624	NONE/ICE	3x40 mL
X	Metals*	200.7	HNO3/ICE	1x125 pL
X	pH	150.1	NONE/ICE	1x150 pL
X	Cyanide	9010	NAOH/ICE	1x125 pL

MACTEC

511 Congress Street, Portland Maine 04101

*- cadmium, chromium, copper, lead, nickel and zinc

TEMP 10.17 °C
SP. COND 0.544 MS/CM
pH 6.50
DO 5.51 MG/L
ORP 209.0 MV
TURB 4.22 NTU

CLEAR, NO TINT, NO ODOR.

FIELD INSTRUMENTATION CALIBRATION RECORD

PROJECT NAME: Primoshield
PROJECT NUMBER: 3612122251
PROJECT LOCATION: Utica, NY
WEATHER CONDITIONS (AM): —
WEATHER CONDITIONS (PM): CLOUDY COLD WINDY L-SNOW

TASK NO: 03 DATE: 11-28-18
MACTEC CREW:
SAMPLER NAME: RENE AUBE
SAMPLER SIGNATURE: Rene Aube
CHECKED BY: KMB DATE: 12/3/18

MULTI-PARAMETER WATER QUALITY METER

METER TYPE YSI
MODEL NO. 556 MPS
UNIT ID NO. M015-10

AM CALIBRATION Start Time 1335 / End Time 1400

POST CALIBRATION CHECK Start Time 1430 / End Time 14450

	Units	Standard Value	Meter Value	*Acceptance Criteria (AM)	Standard Value	Meter Value	*Acceptance Criteria (PM)
pH (4)	SU	4.0	4.00	+/- 0.1 pH Units			
pH (7)	SU	7.0	7.00	+/- 0.1 pH Units	7.0	7.02	+/- 0.3 pH Units
pH (10)	SU	10.0	—	+/- 0.1 pH Units			
Redox	+/- mV	250 ~~240~~	230.0	+/- 10 mV	250 ~~240~~	249.1	+/- 10 mV
Conductivity	mS/cm	1.413	1.413	+/- 0.5 % of standard	1.413	1.415	+/- 5% of standard
DO (saturated)	%	100	98.7	+/- 2% of standard			
DO (saturated)	mg/L[1] (see Chart 1)	10.87	10.89	+/- 0.2 mg/L	10.87	10.90	+/- 0.5 mg/L of standard
DO (<0.1)	mg/L	<0.1	—	< 0.5 mg/L			
Temperature	°C		9.98			9.98	
Baro. Press.	mmHg		733.1			733.1	

TURBIDITY METER

METER TYPE HACH
MODEL NO. 2100 Q
UNIT ID NO. M024-37

	Units	Standard Value	Meter Value	Standard Value	Meter Value	*Acceptance Criteria (PM)
10 Standard	NTU	10	9.98	10	9.97	+/- 5% of standard
20 Standard	NTU	20	~~19.92~~ 19.2	20	19.2	+/- 5% of standard
100 Standard	NTU	100	100	100	101	+/- 5% of standard
800 Standard	NTU	800	791	800	790	+/- 5% of standard

PHOTOIONIZATION DETECTOR

METER TYPE NA
MODEL NO. NA
UNIT ID NO. NA

	Units	Standard Value	Meter Value	Standard Value	Meter Value	
Background	ppmv	<0.1		<0.1		within 5 ppmv of BG
Span Gas	ppmv	100		100		+/- 10% of standard

O_2-LEL 4 GAS METER

METER TYPE NA
MODEL NO. NA
UNIT ID NO. NA

		Standard Value		Standard Value		
Methane	%	50		50		+/- 10% of standard
O_2	%	20.9		20.9		+/- 10% of standard
H_2S	ppmv	25		25		+/- 10% of standard
CO	ppmv	50		50		+/- 10% of standard

OTHER METER

METER TYPE
MODEL NO.
UNIT ID NO.

See Notes Below for Additional Information

☑ Equipment calibrated within the Acceptance Criteria specified for each of the parameters listed above.
☐ Equipment (not) calibrated within the Acceptance Criteria specified for each of the parameters listed above**.

MATERIALS RECORD

Deionized Water Source:
Lot#/Date Produced:
Trip Blank Source:
Sample Preservatives Source:
Disposable Filter Type: 0.45 um cellulose
Calibration Fluids / Standard Source:
- DO Calibration Fluid (<0.1 mg/L)
- Other
- Other
- Other

	Cal. Standard Lot Number	Exp. Date
pH (4)	8GC347	3-20
pH (7)	8GC117	3-20
pH (10)	—	—
ORP	2340	12-22
Conductivity	8GC421	3-19
10 Turb. Stan.	A8232	11-19
20 Turb. Stan.	A8239	12-19
100 Turb. Stan.	A8236	11-19
800 Turb. Stan.	A8236	11-19
PID Span Gas	—	—
O_2-LEL Span Gas	—	—
Other	—	—

NOTES:

* = Unless otherwise noted, calibration procedures and acceptance criteria are in general accordance with USEPA Region 1 SOPs for Field Instrument Calibration (EQASOP-FieldCalibrat) and Low Stress Purging and Sampling (EQASOP-GW001), each dated 1/19/2010. Additional acceptance criteria obtained from instrument specific manufacturer recommendations.
** = If meter reading is not within acceptance criteria, clean/replace probe and re-calibrate, or use calibrated back-up meter if available. If project requirements necessitate use of the instrument, clearly document any deviations from acceptance criteria on all data sheets and log book entries.
1 = DO Saturated standard value is calculated based on Oxygen Solubility at Indicated Pressure Chart from the USEPA Region 1 SOP for Field Instrument Calibration (EQASOP-FieldCalibrat), dated 1/19/2010.

checked by: NV 6/21/19

New York Department of Environmental Conservation
Inactive Hazardous Waste Site
Inspection Form-Treatment Systems

Site Name: *Primoshield Inc.*	**NYSDEC Site Number:** *633027*	**NYSDEC PM:** Payson Long
Site Location: *1212 St. Vincent Street, Utica, NY*	**Site Classification # :** 4	**Primary Site Contact:** *Payson Long*
Site Inspection Date: 06/17/19	**Purpose of Inspection:** *Semi-annual inspection - Spring 2019*	

Name of Inspector: Alex Howe	**Title:** geologist	**Agency/Company:** MACTEC/Amec Foster Wheeler	**Address:** *511 Congress Street, Suite 200 Portland, ME 04101*
Phone Number: (860) 257-5536			

Treatment Systems

System Status			
System in operation during visit?	(Yes)	No	
Manned on a fulltime basis?		(No)	
Pump working?	(Yes)	No	
Initial flow rate (gpm):	unknown		
Totalizer reading (gallons)	513255		
Discharge Monitoring			
Discharge to the POTW?	*Oneida County Sewer District Permit GW-040*		
Was permit performance monitoring conducted?	(Yes)	No	
Condition of Operational Controls			
Condition of gauges?	(Good)	Poor	NE
Condition of flow meters	Good	Poor	(NE)
Condition of system alarms?	Good	Poor	(NE)
Condition of flow pipes and hoses?	(Good)	Poor	NE
Pipes labeled with direction of flow and contents?	No		NE
Condition of valves?	(Good)	Poor	NE
Evidence of leaking?	Yes	(No)	NE
Condition of extraction/sump pump?	Good	Poor	NE
Lighting in Work Areas Adequate?	(Yes)	No	NE
Collection Vault and Pump			
Vault condition - ground surface	(Good)	Poor	NE
Vault condition - inside (visual observation from ground level)?	(Good)	Poor	NE
Collection/Discharge Trenches			
Condition of clean-out covers?	(Good)	Poor	NE
Evidence of sedimentation?	Yes	(No)	NE

General Observations:

on automatic

4:20 pm 06/18/19

unknown

clean out covers at end of NE trench fixed by driller 06/17/19. not visible

Site Features

Site Security and Fence			
Condition of the access gates and locks?	(Good)	(Poor)	NE
Condition building?	(Good)	Poor	NE
Condition of the perimeter fence	(Good)	Poor	NE
Is vegetation infringing on the fence?	(Yes)	No	NE
Was a monitoring well inspection completed?	(Yes - see attached)		No

NE- not evaluated, provide explanation

General Observations:

no pad lock on gate when arrived. lawn care company opened gate. gates at both sides of site are saggy somewhat no post to keep them sturdy.

Additional Observation Notes:

- grass was mowed on 06/17/19.
- Repairs to P-106 S/D and P-107 S/D were completed on 06/17/19 - new concrete pads.
- repairs were made to clean out at end of trench 2 cap now sits flush.

New York Department of Environmental Conservation
Inactive Hazardous Waste Site
Inspection Form-Treatment Systems

Previously observed: Review and comment as to status (include photo documentation)

1. Is there vegetation infringing on the perimeter fence? Remove infringing vegetation that can be removed without the use of power tools.

yes, vegetation has infringed in multiple locations. Power tools are required at this point for removal.

2. What is the condition of the protective casings on P-107 and P-106?

wells were repaired during this event. Driller reset the stand pipe with new concrete pad. PVC riser of P-107S has kink at ground surface.

3. What is the condition of the northernmost intake/access port in Trench 2? Was it repaired?

intake port was fixed at same time as P-107 S/D. ☐ yes

4. What is the condition of the metal rail in the north-central area of the fence where the fence height changes?

good managed condition.

5. What is the condition of the loose and/or damaged barbed wire along the fencing previously noted?

no change from previous events

6. What is the condition of the fence posts supporting the St Vincent Street gate?

good to managed condition.

Photograph Log:

Photograph 1	Flow meter / totalizer in treatment building
Photograph 2	Interior of manhole
Photograph 3	end of top rail where fence height changes (west of P-107 S/D)
Photograph 4	NW end of Trench 2, sits flush after being fixed by drillers.
Photograph 5	North fence near P-106 S/D new tree growth, requires power tools
Photograph 6	SW corner of Cortlang Ave tree branch pulled away.
Photograph 7	not visible due to tree and plant growth damaged barbed wire.
Photograph 8	new tree growth near P-105
Photograph 9	st vincent street gate entrance.
Photograph 10	Effluent sample port

Performance Monitoring

Were check samples collected during this visit? (Yes) No

Sample type collected *(circle or write in other)* : (Groundwater) (Effluent)

List Parameters/Methods Collected Per Media:

(LTM) - VOCs (8260), TAL metals (Cd, Cr, Cu, Pb, Ni, Zn) note: P-107D and GW-01 field filtered due to high turbidity.

effluent - VOCs (624), metals (Cd, Cr, Cu, Pb, Ni, Zn), Arsnic, PH.

Analytical Laboratory/Location:

ALS laboratories 1565 Jefferson Road, BLDG 300, Suite 360, Rochester NY 14623

Sample Observations:

none.

Monitoring Well Inspection Form

Inspector(s): Alex Howe
Date: 06/17/2019 **Reviewed by:** NV 6/21/19

Well ID	Ground Elevation[1] (feet msl)	Estimated Measurement Point Elevation[2] (feet msl)	Water Level (feet TOR)	Stickup on Casing (feet)	TOC to TOR (feet)	Depth to BOW (feet TOR)	Well ID Clearly Labeled (Y/N)	Well Lock (Y/N)	Cap on Well Riser (G/P/F)	Cap on Protective Casing (G/F/P)	Protective Casing (G/F/P)	Concrete Pad (G/F/P)	Comments
P-103	521.8	524.3	6.70	2.84	0.32	18.05	Y	Y	G	G	G	G	no visible pad
P-105	522.7	525.1	4.14	2.93	0.46	18.17	Y	Y	G	G	G	G	no visible pad
P-106S	521.1	524.8	7.81	3.98	0.29	18.46	Y	Y	G	G	G	G	Fixed by Drillers on 06/17/19
P-106D	520.8	524.3	28.63	3.79	0.40	77.41	Y	Y	G	G	G	G	" "
P-107S	519.4	522.1	8.47	3.15	0.22	17.1	Y	Y	G	G	G	G	" "
P-107D	519.3	522.0	29.10	3.14	0.48	77.9	Y	Y	G	G	G	G	" "
GW-01[3]	NA	NA	5.56	NA	0.41	17.4	Y	N	G	G	G	G	Road box

Notes:
1) Ground Elevation from monitoring well logs included in Monitoring Plan for Primoshield Plating January 2004.
2) Measurement Point Elevation calculated using the ground elevation and field measurements of casing stickup and the distance from the top of riser to the top of casing; therefore, the water elevations are approximate
3) GW-01 not surveyed as of 12/14/2016.

NM = Not measured
msl = mean sea level
TOC = top of casing
TOR = top of riser
BOW = bottom of well

F = Fair
G = Good
N = No
P = Poor
Y = yes

Attachment 1 –Photographic Log

Client:	NYSDEC	***Project Number:***	3612122251
Site Name:	Primoshield, Inc.	***Site Location:***	Utica, New York.

Photographer: Alex Howe ***Date:*** 6/17/2019 ***Photograph:*** 1 ***Direction:*** n/a ***Description:*** Flow meter/totalizer reading	
Photographer: Alex Howe ***Date:*** 6/17/2019 ***Photograph:*** 2 ***Direction:*** n/a ***Description:*** View in Manhole	

Attachment 1 –Photographic Log

Client: NYSDEC ***Project Number:*** 3612122251

Site Name: Primoshield, Inc. ***Site Location:*** Utica, New York.

Photographer:
Alex Howe

Date:
6/17/2019

Photograph: 3

Direction:
WNW

Description:
End of top rail where fence height changes.

Photographer:
Alex Howe

Date:
6/17/2019

Photograph: 4

Direction:
n/a

Description:
Northwest end collection trench #2 cleanout lid repaired 6/17/19.

Attachment 1 –Photographic Log

Client:	NYSDEC	***Project Number:***	3612122251
Site Name:	Primoshield, Inc.	***Site Location:***	Utica, New York.

Photographer:
Alex Howe

Date:
6/17/2019

Photograph: 5

Direction:
West

Description:
Trees, vines, and other vegetation growing on north fence near P-106 well pair.

Photographer:
Alex Howe

Date:
6/17/2019

Photograph: 6

Direction:
SSW

Description:
Southwest corner, slightly damaged barbed wire.

Attachment 1 –Photographic Log

Client:	NYSDEC	***Project Number:***	3612122251
Site Name:	Primoshield, Inc.	***Site Location:***	Utica, New York.

Photographer:
Alex Howe

Date:
6/17/2019

Photograph: 7

Direction:
ESE

Description:
Heavy vegetation on south fence line near adjacent building.

Photographer:
Alex Howe

Date:
6/17/2019

Photograph: 8

Direction:
SE

Description:
Vegetation along fence east of P-105.

Attachment 1 –Photographic Log

Client:	NYSDEC	***Project Number:***	3612122251
Site Name:	Primoshield, Inc.	***Site Location:***	Utica, New York.

Photographer:
Alex Howe

Date:
6/17/2019

Photograph: 9

Direction:
South

Description:
St Vincent Street gate. Gate posts are tilting slightly, but the gate is functional.

Photographer:
Alex Howe

Date:
6/17/2019

Photograph: 10

Direction:
n/a

Description:
Effluent sample port inside treatment building.

EFFLUENT SAMPLING RECORD

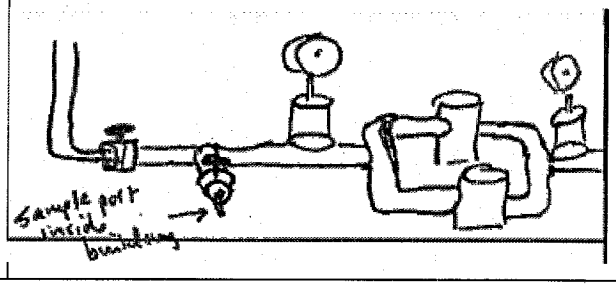
PROJECT NAME	**Primoshield Inc.**
PROJECT NUMBER	3612122251.03
SAMPLER NAME	Alex Howe
SAMPLER SIGNATURE	Alex Howe
CHECKED BY: AE	**DATE:** 6-19-19

Monitoring Location: Collection System Effluent

Sample ID: 633027-Effluent

Sample Date/Time: 06/17/2019 @ 1600

SKETCH/NOTES:



ANALYTICAL PARAMETERS

	PARAMETER	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED
X	VOCs	624	none	3 x 40mL
X	Metals*	200.7	HNO	125mL
X	pH	150.1	none	100mL
X	Cyanide	9010	NAOH	125mL

MACTEC

511 Congress Street, Portland Maine 04101

*- cadmium, chromium, copper, lead, nickel and zinc

temp = 13.01
spec = 0.816
Do = 99.0%
= 10.34 mg/L

pH = 6.92

Turb = 3.92

DAILY INSPECTION REPORT

Report No. (Site Name) - NYSDEC Site No. 633027 Date: 4-25-30

Primoshield

NYSDEC Division of Environmental Remediation	NYSDEC Contract No. D011107
Site Location: ~~West Islip, New York~~ Utica, NY	Superintendent: NYSDEC PM: Payson Long Consultant PM: John Johnson Consultant Site Inspectors: Patrick Sokolowski

Weather Conditions

General Description	Cloudy	AM	Cloudy	PM
Temperature	40s	AM	50s	PM
Wind		AM		PM

Health & Safety

If any box below is checked "Yes", provide explanation under "Health & Safety Comments".

Were there any changes to the Health & Safety Plan?	(*Yes)	No	NA
Were there any exceedances of the perimeter air monitoring reported on this date?	*Yes	No	(NA)
Were there any nuisance issues reported/observed on this date?	*Yes	(No)	NA

Health & Safety Comments

* COVID-19 protocol

Summary of Work Performed	Arrived at site: 0930	Departed Site: 1300

- Site inspection / Sample
- Cleaned garbage around fence
- fixed leak on effluent line
- Put up COVID posters and sign in sheet
- Recorded water level readings

Equipment/Material Tracking

If any box below is checked "Yes", provide explanation under "Material Tracking Comments".

Were there any vehicles which did not display proper D.O.T numbers and placards?	*Yes	No	(NA)
Were there any vehicles which were not tarped?	* Yes	No	(NA)
Were there any vehicles which were not decontaminated prior to exiting the work site?	* Yes	No	(NA)

Personnel and Equipment

Individual	Company	Trade	Total Hours
Patrick Sokolowski	Precision	Tech	3.5 hours

DAILY INSPECTION REPORT

Report No. (Site Name) - NYSDEC Site No. 633027 Date: 4-29-20

Primoshiek

Equipment Description	Contractor/Vendor	Quantity	Used
WLI	Precision	1	1

Material Description	Imported/ Delivered to Site	Exported off Site	Waste Profile (If Applicable)	Source or Disposal Facility (If Applicable)	Daily Loads	Daily Weight (tons)*

*On-Site scale for off-site shipment, delivery ticket for material received

Equipment/Material Tracking Comments:

DAILY INSPECTION REPORT

Report No. (Site Name) - NYSDEC Site No. 633027 Date: 4-29-20

Primoshield

Visitors to Site

NONE

Name	Representing	Entered Exclusion/CRZ Zone	
		Yes	No
		Yes	No
		Yes	No
		Yes	No
		Yes	No
		Yes	No
		Yes	No
		Yes	No
		Yes	No

Site Representatives

Name	Representing

Project Schedule Comments

Issues Pending

Interaction with Public, Property Owners, Media, etc.

NONE

DAILY INSPECTION REPORT

Report No. Primoshield **(Site Name) - NYSDEC Site No.** 633027 Date: 4-24-20

Include (insert) figures with markups showing location of work and job progress

DAILY INSPECTION REPORT

Report No. **(Site Name) - NYSDEC Site No.** C3302) Date: 4-29-26

Primosh Ave H

DAILY INSPECTION REPORT

Report No. **(Site Name) - NYSDEC Site No.** 733027 Date: 4-29-20

Photographs

Site Photographs (Descriptions Below)	

DAILY INSPECTION REPORT

Report No. **(Site Name) - NYSDEC Site No.** 633027 Date: 4-29-20

Primrose Ld

Comments

Site Inspector(s):	**Date:**

DAILY INSPECTION REPORT

Report No. **(Site Name) - NYSDEC Site No.** 633027 Date: 4-29-20

Primo Shield

DAILY HEALTH CHECKLIST

Is social distancing being practiced?	Yes ☐	No ☐	NA ☒
Is the tail gate safety meeting held outdoors?	Yes ☐	No ☐	NA ☒
Are remote/call in job meetings being held in lieu of meeting in person where possible?	Yes ☐	No ☐	NA ☒
Were personal protective gloves, masks, and eye protection being used?	Yes ☒	No ☐	
Are sanitizing wipes, wash stations or spray available?	Yes ☒	No ☐	
Have any workers/visitors been excluded based on close contact with individuals diagnosed with COVID-19, have recently traveled to restricted areas or countries, or are symptomatic (fever, chills, cough/shortness of breath)?	Yes ☐	No ☒	
Comments: ★ ONLY 1 Person onsite			

REMEDIAL ACTIVITIES AT PROPERTIES

1. Have anyone at this location been tested and confirmed to have COVID-19?	Yes ☐	No ☒	
2. Is anyone at this location isolated or quarantined for COVID-19?	Yes ☐	No ☒	
3. Has anyone at this locaton had contact with anyone known to have COVID-19 in the past 14 days?	Yes ☐	No ☒	
4. Does anyone at this locaton have any symptoms of a respiratory infection (e.g., cough, sore throat, fever, or shortness of breath)?	Yes ☐	No ☒	
5. Does the Department and its contractors have your permission to enter the property at this time?	Yes ☐	No ☐	NA ☒
If Yes to <u>any</u> of 1-4 above: • If it is <u>not</u> critical that service/entry be carried out immediately and can be postponed until the risk of COVID-19 is lower, or can be accomplished remotely/without entry, postpone or conduct service without entry. • If it <u>is</u> critical that service/entry be carried out immediately, advise occupants that as a precaution and for our own protection, project personnel will be donning appropriate PPE* (including respiratory protection) - and do so prior to entry.	Yes ☐	No ☐	
Comments:			

DAILY INSPECTION REPORT

Report No. **(Site Name) - NYSDEC Site No.** C33027 Date: 4-29-20

Primoshield

NUISANCE CHECKLIST

Were there any community complaints related to work on this date?	Yes ☐	No ☐	N/A ☒
Were there any odors detected on this date?	Yes ☐	No ☐	N/A ☒
Was noise outside specification and/or above background on this date?	Yes ☐	No ☐	N/A ☒
Were vibration readings outside specification and/or above background on this date?	Yes ☐	No ☐	N/A ☒
Any visible dust observed beyond the work perimeter on this date?	Yes ☐	No ☐	N/A ☒
Any visible contrast (turbidity) beyond engineering controls observed on this date?	Yes ☐	No ☐	N/A ☒
Was turbidity checked at the Montauk Highway outfall?	AM ☐	PM ☐	N/A ☒
Were any property owners NOT provided advance notice for work performed on this property on this date?	Yes ☐	No ☐	N/A ☒
Was the temporary fabric structure closed at the end of the day?	Yes ☐	No ☐	N/A ☒
Has Contractor failed to protect all foundations and structures adjacent to and adjoining the site which are affected by the excavations or other operations connected with performance of the Work?	Yes ☐	No ☐	N/A ☒
If yes, has Contractor been notified?	Yes ☐	No ☐	N/A ☒
Comments:			

Precision Environmental Services, Inc.
831 Rt. 67, Lot 38
Ballston Spa, NY 12020

Tel #: 518-885-4399
Fax #: 518-885-4416

Well Gauging Data Sheet

Project: Primeshield **Date:** 7-2-20

Location: St. Vincent St., Utica **Project No.:** 633027

Personnel: PS **Field Conditions:** Sunny 80s

Well ID	DTP	DTW	DTB	Purge Amount	Remarks	(color, odor, well conditions, roadbox conditions, etc.)
P-107D		29.45	77.60			
P-107S		10.30	17.15			
P-106S		9.80	18.50			
P-106D		29.96	77.60			
P-103		8.39	18.15			
P-105		5.30	18.20			
GW-01		7.10	17.30			
	Water	Level	in manhole	-	8.93	below grade
		Totalizer	- 6094238			

Purge Amount =
*DTB-DTW*ConversionFactor*3*

Conversion Factors:
1" Well = 0.04 gal/ft
2" Well = 0.17 gal/ft
3" Well = 0.37 gal/ft
4" Well = 0.66 gal/ft
6" Well = 1.47 gal/ft

DAILY INSPECTION REPORT

Report No. (Site Name) - NYSDEC Site No. 633027 Date: 7-2-20

Primoshield

NYSDEC
Division of Environmental Remediation

NEW YORK STATE | Department of Environmental Conservation

NYSDEC Contract No. D011107

Superintendent:

NYSDEC PM: Payson Long

Consultant PM: John Johnson

Consultant Site Inspectors: Pat Sokolowski

Site Location: ~~West Islip, New York~~ Utica, NY

Weather Conditions

General Description	Sunny	AM	Sunny	PM
Temperature	80s	AM	80s	PM
Wind	–	AM	–	PM

Health & Safety
If any box below is checked "Yes", provide explanation under "Health & Safety Comments".

Were there any changes to the Health & Safety Plan?	*Yes	(No) circled	NA
Were there any exceedances of the perimeter air monitoring reported on this date?	*Yes	No	(NA) circled
Were there any nuisance issues reported/observed on this date?	*Yes	No	(NA) circled

Health & Safety Comments

None

Summary of Work Performed | Arrived at site: 11:00 | Departed Site: 12:30

- performed inspection
- shut system down, insured floats in sump would not activate.
- gauged wells

Equipment/Material Tracking
If any box below is checked "Yes", provide explanation under "Material Tracking Comments".

Were there any vehicles which did not display proper D.O.T numbers and placards?	*Yes	No	(NA) circled
Were there any vehicles which were not tarped?	*Yes	No	(NA) circled
Were there any vehicles which were not decontaminated prior to exiting the work site?	*Yes	No	(NA) circled

Personnel and Equipment

Individual	Company	Trade	Total Hours
Patrick Sokolowski	Precision	Tech	1.5 onsite

DAILY INSPECTION REPORT

Report No. (Site Name) - NYSDEC Site No. 633027 Date: 7-2-20

Primeshield

Equipment Description	Contractor/Vendor	Quantity	Used

Material Description	Imported/ Delivered to Site	Exported off Site	Waste Profile (If Applicable)	Source or Disposal Facility (If Applicable)	Daily Loads	Daily Weight (tons)*

*On-Site scale for off-site shipment, delivery ticket for material received

Equipment/Material Tracking Comments:

Visitors to Site

Name	Representing	Entered Exclusion/CRZ Zone	
		Yes	No
		Yes	No
		Yes	No
		Yes	No
		Yes	No
		Yes	No
		Yes	No
		Yes	No

Site Representatives

Name	Representing

Project Schedule Comments

Issues Pending

Interaction with Public, Property Owners, Media, etc.

NONE

Include (insert) figures with markups showing location of work and job progress

DAILY INSPECTION REPORT

Report No. (Site Name) - NYSDEC Site No. 633027 Date: 7-2-20

Primoshield

Site Photographs (Descriptions Below)

Comments	
Site Inspector(s):	**Date:**

DAILY HEALTH CHECKLIST

Is social distancing being practiced?	Yes ☐	No ☐	NA ☒
Is the tail gate safety meeting held outdoors?	Yes ☐	No ☐	NA ☒
Are remote/call in job meetings being held in lieu of meeting in person where possible?	Yes ☒	No ☐	
Were personal protective gloves, masks, and eye protection being used?	Yes ☒	No ☐	
Are sanitizing wipes, wash stations or spray available?	Yes ☒	No ☐	
Have any workers/visitors been excluded based on close contact with individuals diagnosed with COVID-19, have recently traveled to restricted areas or countries, or are symptomatic (fever, chills, cough/shortness of breath)?	Yes ☐	No ☒	
Comments:			

REMEDIAL ACTIVITIES AT PROPERTIES

1. Have anyone at this location been tested and confirmed to have COVID-19?	Yes ☐	No ☒
2. Is anyone at this location isolated or quarantined for COVID-19?	Yes ☐	No ☒
3. Has anyone at this locaton had contact with anyone known to have COVID-19 in the past 14 days?	Yes ☐	No ☒
4. Does anyone at this locaton have any symptoms of a respiratory infection (e.g., cough, sore throat, fever, or shortness of breath)?	Yes ☐	No ☒
5. Does the Department and its contractors have your permission to enter the property at this time?	Yes ☒	No ☐
If Yes to any of 1-4 above: • If it is not critical that service/entry be carried out immediately and can be postponed until the risk of COVID-19 is lower, or can be accomplished remotely/without entry, postpone or conduct service without entry. • If it is critical that service/entry be carried out immediately, advise occupants that as a precaution and for our own protection, project personnel will be donning appropriate PPE* (including respiratory protection) - and do so prior to entry.	Yes ☐	No ☐
Comments:		

NUISANCE CHECKLIST

Were there any community complaints related to work on this date?	Yes ☐	No ☐	N/A ☒
Were there any odors detected on this date?	Yes ☐	No ☐	N/A ☒
Was noise outside specification and/or above background on this date?	Yes ☐	No ☐	N/A ☒
Were vibration readings outside specification and/or above background on this date?	Yes ☐	No ☐	N/A ☒
Any visible dust observed beyond the work perimeter on this date?	Yes ☐	No ☐	N/A ☒
Any visible contrast (turbidity) beyond engineering controls observed on this date?	Yes ☐	No ☐	N/A ☒
Was turbidity checked at the Montauk Highway outfall?	AM ☐	PM ☐	N/A ☒
Were any property owners NOT provided advance notice for work performed on this property on this date?	Yes ☐	No ☐	N/A ☒
Was the temporary fabric structure closed at the end of the day?	Yes ☐	No ☐	N/A ☒
Has Contractor failed to protect all foundations and structures adjacent to and adjoining the site which are affected by the excavations or other operations connected with performance of the Work?	Yes ☐	No ☐	N/A ☒
If yes, has Contractor been notified?	Yes ☐	No ☐	N/A ☒
Comments:			

Precision Environmental Services, Inc.
831 Rt. 67, Lot 28
Ballston Spa, NY 12020

Tel #: 518-885-4399
Fax #: 518-885-4416

Well Gauging Data Sheet

Project: Brownfield — **Date:** 12-1-20

Location: St. Vincent St., Utica — **Project No.:** 633027

Personnel: PS — **Field Conditions:** Cloudy, showers

Well ID	DTP	DTW	DTB	Purge Amount	Remarks (color, odor, well conditions, roadbox conditions, etc.)
P-106S		6.65	18.50		
P-106D		29.95	77.66		
P-103		5.39	18.15		
P-105		4.30	18.20		
P-107D		29.54	77.60		
P-107S		6.15	17.15		
GW-01		4.35	17.30		
	Collection	Sump Pit - #		~3.80'	to ground
		Totalizer - 6094238			
		"High" Alarm on panel in manhole			is on for high water

Purge Amount=
DTB-DTW*Conversion Factor*3

Conversion Factors:
2" Well = .17 gal/ft
3" Well = .37 gal/ft
4" Well = .66 gal/ft
6" Well = 1.47 gal/ft

DAILY INSPECTION REPORT

Report No. (Site Name) - NYSDEC Site No. 633027 Date: 12-1-20

Primeshield

NYSDEC
Division of Environmental Remediation

NEW YORK STATE | Department of Environmental Conservation

NYSDEC Contract No.
D011107

Superintendent:

NYSDEC PM: Payson Long

Consultant PM: John Johnson

Consultant Site Inspectors: Pat Sokolowski

Site Location: ~~West Islip, New York~~ Utica, NY

Weather Conditions

General Description	Cloudy, Showers	AM	cloudy	PM
Temperature	50s	AM	50s	PM
Wind	None	AM	None	PM

Health & Safety
If any box below is checked "Yes", provide explanation under "Health & Safety Comments".

Were there any changes to the Health & Safety Plan?	*Yes	(No)	NA
Were there any exceedances of the perimeter air monitoring reported on this date?	*Yes	No	(NA)
Were there any nuisance issues reported/observed on this date?	*Yes	No	(NA)

Health & Safety Comments

None

Summary of Work Performed	Arrived at site:	1130	Departed Site:	1315

- mob to site to gauge wells and collection pit
- inspected remedial shed
- took pics

Equipment/Material Tracking
If any box below is checked "Yes", provide explanation under "Material Tracking Comments".

Were there any vehicles which did not display proper D.O.T numbers and placards?	*Yes	No	(NA)
Were there any vehicles which were not tarped?	*Yes	No	(NA)
Were there any vehicles which were not decontaminated prior to exiting the work site?	*Yes	No	(NA)

Personnel and Equipment

Individual	Company	Trade	Total Hours
Patrick Sokolowski	PES	Tech	1.75 on site

Report No. (Site Name) - NYSDEC Site No. 633027 Date: 12-1-20

Primosheld

Equipment Description	Contractor/Vendor	Quantity	Used
100' water level Indicator	PSS	1	1

Material Description	Imported/ Delivered to Site	Exported off Site	Waste Profile (If Applicable)	Source or Disposal Facility (If Applicable)	Daily Loads	Daily Weight (tons)*

*On-Site scale for off-site shipment, delivery ticket for material received

Equipment/Material Tracking Comments:

Poland Shield

Visitors to Site

Name	Representing	Entered Exclusion/CRZ Zone	
		Yes	No
		Yes	No
		Yes	No
		Yes	No
		Yes	No
		Yes	No
		Yes	No
		Yes	No
		Yes	No

Site Representatives

Name	Representing

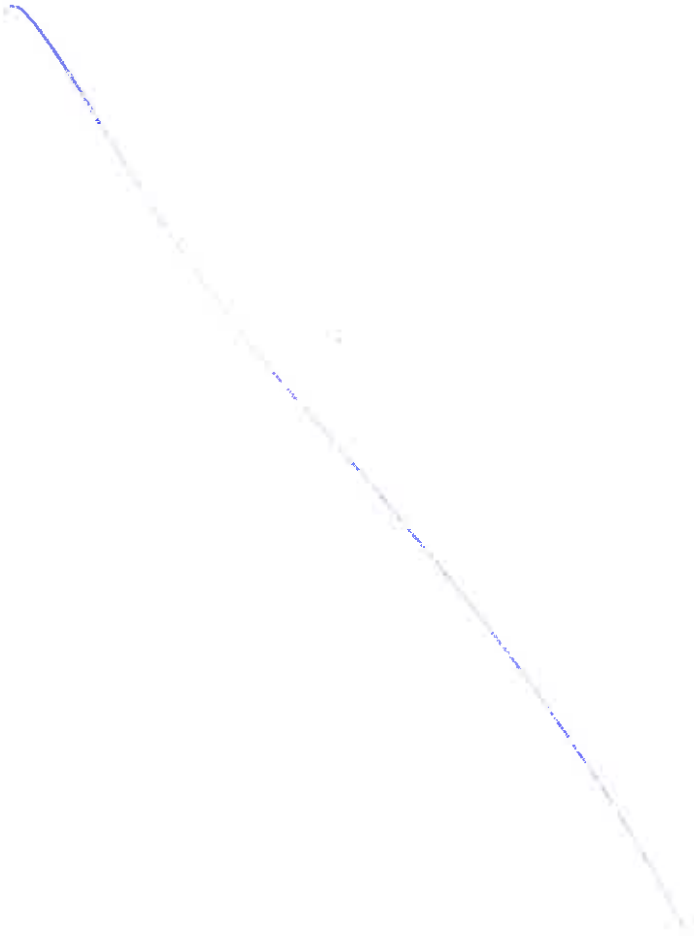
Project Schedule Comments

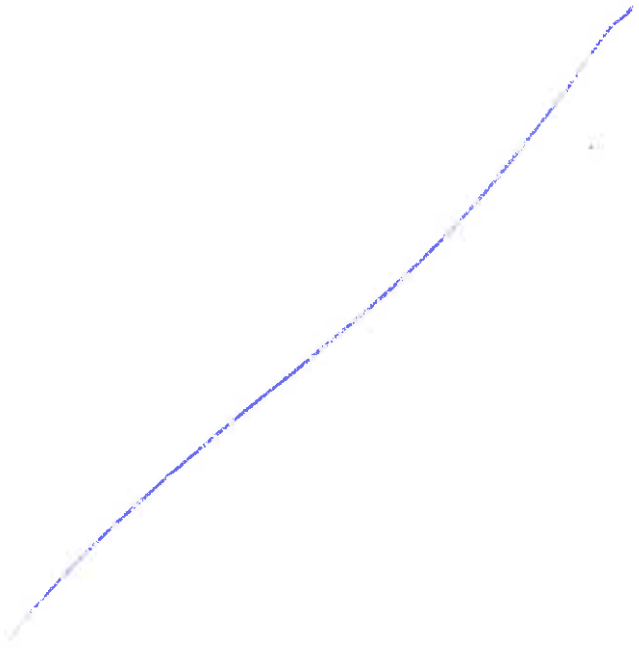
Issues Pending

Interaction with Public, Property Owners, Media, etc.

Report No. Primefield (Site Name) - NYSDEC Site No. 633027 Date: 12-1-20

Include (insert) figures with markups showing location of work and job progress





DAILY INSPECTION REPORT

Report No. (Site Name) - NYSDEC Site No. 633027 Date: 12-1-20

Primeshield

Site Photographs (Descriptions Below)	

DAILY INSPECTION REPORT

Report No. **(Site Name) - NYSDEC Site No. 633027** Date: 12-1-20

Primeshield

Comments

Site Inspector(s):	**Date:**

MONITORING WELL INSPECTION FORM AND PURGE LOG

Site: Primeshield

Date: 8-20-21
Time: 1140
Weather: Sunny 80s

Company: PES
Inspector: PS
Signature:

WELL ID: GW-01

EXTERIOR ITEMS:

Protective Casing: Yes (manhole)
Lock/Hasp: No
Hinge/Lid: Manhole cover
Well Pad: Yes
Bollards: No
Label/ID: No
Other (Specify):

INTERIOR ITEMS:

Well Riser: PVC
Annular Space: -
Well Cap/Plug: Plug
Well Diameter: 1"
Depth to Water: 3.05
Depth to Bottom: 17.20
Other (Specify):

Purging/ Sampling Device: Peri-Pump (PES)
Tubing Type: LDPE
Tubing Inlet Location: ~2' off bottom

PURGE PARAMETERS

TIME	Flow Rate	pH	TEMP	TDS	DO	TURB	ORP	COND		
1145	~200 ml/min	6.71	20.61	.482	3.09	345	10	.762		
1150		6.70	20.96	.492	2.90	294	11	.770		
1155		6.73	21.46	.495	2.84	225	9	.773		
1200		went	dry							
1205										
1210										
1245		6.93	24.89	.505	6.69	550	89	.802		

Sensing Equipment: Horiba (Pine); Generator Used (PES)
Sampling Personnel: PS
Notes/Comments: Sampled @ 1245

MONITORING WELL INSPECTION FORM AND PURGE LOG

Site: Primoshield

Date: 8-20-21

Time: 1000

Weather: Cloudy 80s

Company: PES

Inspector: PS

Signature:

WELL ID: P-103

EXTERIOR ITEMS:

Protective Casing: Yes

Lock/Hasp: Lock

Hinge/Lid: Hinge

Well Pad: No

Bollards: No

Label/ID: No

Other (Specify):

INTERIOR ITEMS:

Well Riser: PVC

Annular Space: -

Well Cap/Plug: Cap

Well Diameter: 2"

Depth to Water: 6.05

Depth to Bottom: 18.10

Other (Specify):

Purging/ Sampling Device: Ref. - Pump (PES)

Tubing Type: LDPE

Tubing Inlet Location: ~14'

PURGE PARAMETERS

TIME	Flow Rate	pH	TEMP	TDS	DO	TURB	ORP	COND		
1005		6.85	20.16	.338	4.99	4.3	163	.528		
1010		6.76	19.59	.338	3.97	2.4	153	.527		
1015		6.72	19.97	.340	3.54	6.5	93	.535		
1020		6.70	20.06	.344	3.33	6.3	46	.538		
1025		6.69	20.04	.345	3.32	6.4	34	.541		
1030		6.68	20.07	.353	3.31	4.1	-22	.551		

Sensing Equipment: Horiba (Pinn); Generator (PES)

Sampling Personnel: PS

Notes/Comments: Sampled @ 1035

MONITORING WELL INSPECTION FORM AND PURGE LOG

Site: Primeshield

Date: 8-20-21 Company: PES

Time: 1040 Inspector: PS

Weather: Sunny 80s Signature: [signature]

WELL ID: P-105

EXTERIOR ITEMS:

Protective Casing: Yes

Lock/Hasp: Lock

Hinge/Lid: Hinge

Well Pad: No

Bollards: No

Label/ID: No

Other (Specify):

INTERIOR ITEMS:

Well Riser: PVC

Annular Space: -

Well Cap/Plug: Cap

Well Diameter: 2"

Depth to Water: 4.36

Depth to Bottom: 18.20

Other (Specify): Had to put new tubing down well cause old tubing had a break

Purging/Sampling Device: Peri-Pump (PES) Tubing Type: ~~HDPE (all down well)~~ LDPE Tubing Inlet Location: ~2' off bottom

PURGE PARAMETERS

TIME	Flow Rate	pH	TEMP	TDS	DO	TURB	ORP	COND		
1100	~200 ml/min	7.07	19.10	.550	4.02	21.3	-77	.861		
1105		7.04	18.82	.543	2.63	28.3	-78	.848		
1110		7.01	19.01	.538	2.03	32.0	-81	.841		
1115		6.99	19.05	.534	1.74	28.2	-82	.834		
1120		6.99	19.02	.533	1.71	27.9	-82	.833		

Sensing Equipment: Horiba (PES); Generator used (PES); used ~25' LDPE 3/8"

Sampling Personnel: PS

Notes/Comments: Sampled @ 1120 ; Duplicate taken here

MONITORING WELL INSPECTION FORM AND PURGE LOG

Site: Primeshield

Date: 8-20-24 | Company: PES

Time: 0925 | Inspector: PS

Weather: Cloudy 70s | Signature:

WELL ID: P-10S

EXTERIOR ITEMS:

Protective Casing: Yes

Lock/Hasp: Lock

Hinge/Lid: Lid

Well Pad: No

Bollards: No

Label/ID: Yes

Other (Specify):

INTERIOR ITEMS:

Well Riser: PVC

Annular Space: -

Well Cap/Plug: Cap

Well Diameter: 2"

Depth to Water: 6.00

Depth to Bottom: 18.50

Other (Specify):

Purging/Sampling Device: Peri-Pump (PES) | Tubing Type: LDPE (already in well) | Tubing Inlet Location: ~2' off bottom

PURGE PARAMETERS

TIME	Flow Rate	pH	TEMP	TDS	DO	TURB	ORP	COND		
0930	~200 ml/min	7.03	18.42	.414	5.32	4.5	164	.649		
0935		6.99	18.75	.398	4.96	6.0	166	.620		
0940		6.82	19.64	.373	4.83	1.4	171	.581		
0945		6.84	19.85	.365	4.97	0.6	174	.576		
0950		6.81	20.38	.365	4.91	0.2	176	.571		

Sensing Equipment: Horiba (Pine); Generator (PES)

Sampling Personnel: PS

Notes/Comments: Sampled @ 0955

MONITORING WELL INSPECTION FORM AND PURGE LOG

Site: Primeshield

Date: 8-20-21 | Company: PES

Time: | Inspector: PS

Weather: | Signature:

WELL ID: P-10CD

EXTERIOR ITEMS:

Protective Casing: Yes

Lock/Hasp: Lock

Hinge/Lid: Lid

Well Pad: No

Bollards: No

Label/ID: Yes

Other (Specify):

INTERIOR ITEMS:

Well Riser: Pvc

Annular Space: -

Well Cap/Plug: Cap

Well Diameter: 2"

Depth to Water: 28.65

Depth to Bottom: 77.70

Other (Specify): Rental pump not working; had to hand bail (purged 25 gallons)

Purging/Sampling Device: Bailer - 3x well volume | Tubing Type: - | Tubing Inlet Location: -

PURGE PARAMETERS

TIME	Flow Rate	pH	TEMP	TDS	DO	TURB	ORP	COND		
1315	—	9.87	20.95	.194	4.65	42.4	-14	.295		

Sensing Equipment: Horiba (Pine)

Sampling Personnel: PS

Notes/Comments: Took readings @ time of sample; Sampled @ 1325

MONITORING WELL INSPECTION FORM AND PURGE LOG

Site: Primeshield

Date: 8-20-21 | Company: PES

Time: 0840 | Inspector: PS

Weather: Cloudy, 70s | Signature:

WELL ID: P-107S

EXTERIOR ITEMS:

Protective Casing: Yes

Lock/Hasp: Lock

Hinge/Lid: Lid

Well Pad: No

Bollards: No

Label/ID: Yes

Other (Specify):

INTERIOR ITEMS:

Well Riser: PVC

Annular Space: –

Well Cap/Plug: Cap

Well Diameter: 2"

Depth to Water: 4.60

Depth to Bottom: 17.15

Other (Specify):

Purging/Sampling Device: Peri. Pump (2") | Tubing Type: LDPE (already down well) | Tubing Inlet Location: ~14'

PURGE PARAMETERS

TIME	Flow Rate	pH	TEMP	TDS	DO	TURB	ORP	COND		
0835	~200 mL/min	7.48	18.52	.441	6.06	11.5	100	.692		
0855		7.22	18.50	.442	4.53	11.1	110	.691		
0900		6.98	18.81	.434	3.63	11.5	128	.678		
0905		6.91	19.01	.429	3.35	10.0	134	.668		
0910		6.85	19.38	.401	2.84	2.4	147	.626		
0915		6.82	19.40	.398	2.96	1.2	152	.607		

Sensing Equipment: Hanba (Pine); Generator used (PES)

Sampling Personnel: PS

Notes/Comments: Sampled @ 0920

MONITORING WELL INSPECTION FORM AND PURGE LOG

Site: Primachild

Date: 8-20-21 Company: PES

Time: 0745 Inspector: PS

Weather: Cloudy, 70s Signature:

WELL ID: P-107D

EXTERIOR ITEMS:

Protective Casing: Yes

Lock/Hasp: Lock

Hinge/Lid: Lid

Well Pad: NO

Bollards: NO

Label/ID: Yes

Other (Specify):

INTERIOR ITEMS:

Well Riser: PVC

Annular Space: -

Well Cap/Plug: Cap

Well Diameter: 2"

Depth to Water: 29.15

Depth to Bottom: 77.70

Other (Specify): Had to hand bail; Rental Pump not working (Purged 25 gallons

Purging/Sampling Device: Grundfos Redi-flow 2 Tubing Type: LDPE Tubing Inlet Location: 265' (thats where old tubing was)

PURGE PARAMETERS

TIME	Flow Rate	pH	TEMP	TDS	DO	TURB	ORP	COND		
1255	—	9.61	18.67	.224	3.69	38	-23	.346		

Sensing Equipment: Horiba (Pine)

Sampling Personnel: PS

Notes/Comments: Sampled @ 1300 (MS/MSD taken here)

Took readings @ time of sample

Appendix C

Full Analyte List Data Tables
(2016-2021; no data available for 2020)

Analyte	NYSDEC AWQS[1]	Unit	Location ID Sample Name Parent Sample ID Sample Date	EFFLUENT 633027-Effluent 9/13/2016	EFFLUENT 633027-EFFLUENT 4/13/2017	EFFLUENT R1710120-001 10/23/2017	EFFLUENT 633027 - Effluent 3/28/2018	EFFLUENT 633027 - Effluent 11/28/2018	EFFLUENT 633027 - Effluent 6/17/2019	GW-01 633027GW01 5/4/2016	GW-01 GW-01 6/28/2016	GW-01 GW-01 7/20/2016	GW-01 GW-01 9/13/2016	GW-01 633027GW01 12/20/2016	GW-01 633027 - GW01 3/27/2018	GW-01 633027-GW01 6/19/2019	GW-01 GW-01 8/20/2021	P-103 633027P103 12/19/2016	P-103 633027 - P103 3/27/2018	P-103 633027-P103 6/18/2019	P-103 P-103 8/20/2021	P-105 633027P105 12/19/2016	P-105 633027 - P105 3/27/2018	P-105 633027-P105 6/18/2019
Volatile Organic Compounds																									
1,1,1-Trichloroethane (TCA)	5	µg/L		11.3	6.6	10.8	2.35	10.2	6.34	1.4	0.36 J	0.49 J	0.38 J	1.4	0.5 J	< 1 U	1.9	2.8	2.1	4.6	1.3	< 1 U	< 1 U	< 1 U
1,1,2,2-Tetrachloroethane	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	< 1 U	< 0.21 U	< 1 U	< 1 U	< 1 U	< 0.21 U	< 1 U	< 1 U	< 1 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	5	µg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.31 U	NA	NA	NA	< 0.31 U	NA	NA	NA
1,1,2-Trichloroethane	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	< 1 U	< 0.23 U	< 1 U	< 1 U	< 1 U	< 0.23 U	< 1 U	< 1 U	< 1 U
1,1-Dichloroethane	5	µg/L		1.4	< 1 U	1.3	< 1 U	0.5 J	0.86 J	0.63 J	< 1 U	< 1 U	< 1 U	0.36 J	< 1 U	< 1 U	0.79 J	< 1 U	< 1 U	0.59 J	< 0.38 U	< 1 U	< 1 U	< 1 U
1,1-Dichloroethene	5	µg/L		0.85 J	< 1 U	< 1 U	< 1 U	1.64	0.72 J	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 0.29 U	< 1 U	< 1 U	< 1 U	< 0.29 U	< 1 U	< 1 U	< 1 U
1,2,3-Trichlorobenzene	5	µg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	5	µg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.41 U	NA	NA	NA	< 0.41 U	NA	NA	NA	NA
1,2-Dibromo-3-Chloropropane	0.04	µg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.39 U	NA	NA	NA	< 0.39 U	NA	NA	NA	NA
1,2-Dibromoethane (Ethylene Dibromide)	NSL	µg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.73 U	NA	NA	NA	< 0.73 U	NA	NA	NA	NA
1,2-Dichlorobenzene	3	µg/L		NA	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	NA	NA	NA	NA	NA	NA	NA	< 0.79 U	NA	NA	NA	< 0.79 U	NA	NA	NA	NA
1,2-Dichloroethane	0.6	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	< 1 U	< 0.21 U	< 1 U	< 1 U	< 1 U	< 0.21 U	< 1 U	< 1 U	< 1 U
1,2-Dichloropropane	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	< 1 U	< 0.72 U	< 1 U	< 1 U	< 1 U	< 0.72 U	< 1 U	< 1 U	< 1 U
1,3-Dichlorobenzene	3	µg/L		NA	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	NA	NA	NA	NA	NA	NA	NA	< 0.78 U	NA	NA	NA	< 0.78 U	NA	NA	NA	NA
1,4-Dichlorobenzene	3	µg/L		NA	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	NA	NA	NA	NA	NA	NA	NA	< 0.84 U	NA	NA	NA	< 0.84 U	NA	NA	NA	NA
2-Chloroethyl Vinyl Ether	NSL	µg/L		NA	< 10 U	< 2 U	< 10 U	< 10 U	< 10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Hexanone	50	µg/L		< 5 U	NA	NA	NA	NA	NA	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 1.2 U	< 5 U	< 5 U	< 5 U	< 1.2 U	< 5 U	< 5 U	< 5 U
Acetone	50	µg/L		< 10 U	NA	NA	NA	NA	NA	< 5 U	< 10 U	< 10 U	4.3 J	< 10 U	< 5 U	< 5 U	< 3.0 U	< 10 U	< 5 U	< 5 U	< 3.0 U	< 10 U	< 5 U	< 5 U
Acrolein	5	µg/L		NA	< 10 U	< 10 U	< 10 U	< 10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acrylonitrile	5	µg/L		NA	< 10 U	< 5 U	< 10 U	< 10 U	< 10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
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	< 1 U	< 0.41 U	< 1 U	< 1 U	< 1 U	< 0.41 U	< 1 U	< 1 U	< 1 U
Bromochloromethane	5	µg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	50	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	< 1 U	< 0.39 U	< 1 U	< 1 U	< 1 U	< 0.39 U	< 1 U	< 1 U	< 1 U
Bromoform	50	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	< 1 U	< 0.26 U	< 1 U	< 1 U	< 1 U	< 0.26 U	< 1 U	< 1 U	< 1 U
Bromomethane	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	< 1 U	< 0.69 U	< 1 U	< 1 U	< 1 U	< 0.69 U	< 1 U	< 1 U	< 1 U
Carbon Disulfide	60	µg/L		0.33 J	NA	NA	NA	NA	NA	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 0.19 U	< 1 U	< 1 U	< 1 U	< 0.19 U	< 1 U	< 1 U	< 1 U
Carbon Tetrachloride	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	< 1 U	< 0.27 U	< 1 U	< 1 U	< 1 U	< 0.27 U	< 1 U	< 1 U	< 1 U
Chlorobenzene	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	< 1 U	< 0.75 U	< 1 U	< 1 U	< 1 U	< 0.75 U	< 1 U	< 1 U	< 1 U
Chloroethane	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	< 1 U	< 0.32 U	< 1 U	< 1 U	< 1 U	< 0.32 U	< 1 U	< 1 U	< 1 U
Chloroform	7	µg/L		0.22 J	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 0.34 U	< 1 U	< 1 U	< 1 U	0.84 J	< 1 U	< 1 U	< 1 U
Chloromethane (Methyl Chloride)	NSL	µg/L		< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	0.32 J	< 1 U	< 1 U	< 0.35 U	< 1 U	< 1 U	< 1 U	< 0.35 U	< 1 U	< 1 U	< 1 U
Cis-1,2-Dichloroethylene	5	µg/L		3.1	NA	NA	NA	NA	2.35	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 0.81 U	< 1 U	< 1 U	< 1 U	< 0.81 U	< 1 U	< 1 U	< 1 U
Cis-1,3-Dichloropropene	0.4	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	< 1 U	< 0.36 U	< 1 U	< 1 U	< 1 U	< 0.36 U	< 1 U	< 1 U	< 1 U
Cyclohexane	NSL	µg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.18 U	NA	NA	NA	< 0.18 U	NA	NA	NA
Dibromochloromethane	50	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	< 1 U	< 0.32 U	< 1 U	< 1 U	< 1 U	< 0.32 U	< 1 U	< 1 U	< 1 U
Dichlorodifluoromethane	5	µg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.68 U	NA	NA	NA	< 0.68 U	NA	NA	NA
Ethylbenzene	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	< 1 U	< 0.74 U	< 1 U	< 1 U	< 1 U	< 0.74 U	< 1 U	< 1 U	< 1 U
Isopropylbenzene (Cumene)	5	µg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.79 U	NA	NA	NA	< 0.79 U	NA	NA	NA	NA
Methyl Acetate	NSL	µg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 1.3 U	NA	NA	NA	< 1.3 U	NA	NA	NA	NA
Methyl Ethyl Ketone (2-Butanone)	50	µg/L		< 10 U	NA	NA	NA	NA	NA	< 5 U	< 10 U	< 10 U	< 10 U	< 10 U	< 5 U	< 5 U	< 1.3 U	< 10 U	< 5 U	< 5 U	< 1.3 U	< 10 U	< 5 U	< 5 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	NSL	µg/L		< 5 U	NA	NA	NA	NA	NA	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 5 U	< 2.1 U	< 5 U	< 5 U	< 5 U	< 2.1 U	< 5 U	< 5 U	< 5 U
Methylcyclohexane	NSL	µg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.16 U	NA	NA	NA	< 0.16 U	NA	NA	NA	NA
Methylene Chloride	5	µg/L		< 1 U	< 1 U	< 1 U	1.4	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 0.44 U	< 1 U	< 1 U	< 1 U	< 0.44 U	< 1 U	< 1 U	< 1 U
M-P-Xylene	NSL	µg/L		< 2 U	< 2 U	NA	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	< 2 U	NA	< 2 U	< 2 U	< 2 U	NA	< 2 U	< 2 U	< 2 U
O-Xylene (1,2-Dimethylbenzene)	5	µg/L		< 1 U	< 1 U	NA	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	NA	< 1 U	< 1 U	< 1 U	NA	< 1 U	< 1 U	< 1 U
Styrene	5	µg/L		< 1 U	NA	NA	NA	NA	NA	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 0.73 U	< 1 U	< 1 U	< 1 U	< 0.73 U	< 1 U	< 1 U	< 1 U
Tert-Butyl Methyl Ether	10	µg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.16 U	NA	NA	NA	< 0.16 U	NA	NA	NA	NA
Tetrachloroethylene (PCE)	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	< 1 U	< 0.36 U	< 1 U	< 1 U	< 1 U	< 0.36 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	< 1 U	< 1 U	< 1 U	< 0.51 U	< 1 U	< 1 U	< 1 U	< 0.51 U	< 1 U	< 1 U	< 1 U
Trans-1,2-Dichloroethene	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	< 1 U	< 0.90 U	< 1 U	< 1 U	< 1 U	< 0.90 U	< 1 U	< 1 U	< 1 U
Trans-1,3-Dichloropropene	0.4	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	< 1 U	< 0.37 U	< 1 U	< 1 U	< 1 U	< 0.37 U	< 1 U	< 1 U	< 1 U
Trichloroethylene (TCE)	5	µg/L		18.3	9.9	16.8	6.47	14.1	11.3	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	< 0.46 U	1.2	0.84 J	2.1	0.98 J	< 1 U	< 1 U	< 1 U
Trichlorofluoromethane	5	µg/L		NA	< 1 U	< 1 U	< 1 U	< 1 U	< 1 U	NA	NA	NA	NA	NA	NA	NA	< 0.88 U	NA	NA	NA	< 0.88 U	NA	NA	NA	NA
Vinyl Chloride	2	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	< 1 U	< 0.90 U	< 1 U	< 1 U	< 1 U	< 0.90 U	< 1 U	< 1 U	< 1 U
Xylenes	5	µg/L		NA	NA	< 3 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.66 U	NA	NA	NA	< 0.66 U	NA	NA	NA	NA
Total Metals																									
Aluminum	NSL	µg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7600	NA	NA	NA	< 60 U	NA	NA	NA	NA
Antimony	3	µg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 6.8 U	NA	NA	NA	< 6.8 U	NA	NA	NA	NA
Arsenic	25	µg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 5.6 U	NA	NA	NA	< 5.6 U	NA	NA	NA	NA
Barium	1000	µg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	130	NA	NA	NA	82	NA	NA	NA	NA
Beryllium	3	µg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.34 J	NA	NA	NA	< 0.30 U	NA	NA	NA	NA
Cadmium	5	µg/L		< 0.5 U	< 5 U	< 1 U	< 5 U	< 5 U	< 5 U	NA	NA	NA	NA	0.43 J	NA	< 5 U	< 0.50 U	< 1.1 U	< 5 U	< 5 U	< 0.50 U	< 1.1 U	< 5 U	< 5 U	< 5 U
Calcium	NSL	µg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	130	NA	NA	NA	89.4	NA	NA	NA	NA
Chromium, Total	50	µg/L		0.38 J	< 10 U	< 2.5 U	< 10 U	< 10 U	< 10 U	NA	NA	NA	NA	21	NA	< 10 U	8.5	1.3 J	< 10 U	< 10 U	< 1.0 U	2.1 J	< 10 U	< 10 U	< 10 U
Cobalt	NSL	µg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.7 J	NA	NA	NA	< 0.63 U	NA	NA	NA	NA
Copper	200	µg/L		3.4	< 20 U	< 5 U	< 20 U	< 20 U	< 20 U	NA	NA	NA	NA	47	NA	< 20 U	7.6 J	11	< 20 U	< 20 U	3.1 J	5.7	< 20 U	< 20 U	< 20 U
Iron	300	µg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6100	NA	NA	NA	180	NA	NA	NA	NA
Lead	25	µg/L		< 1 U	< 50 U	< 3 U	< 50 U	< 50 U	< 50 U	NA	NA	NA	NA	29	NA	< 50 U	3.7 J	< 2.2 U	< 50 U	< 50 U	< 3.0 U	< 2.2 U	< 50 U	< 50 U	< 50 U
Magnesium	35000	µg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22700	NA	NA	NA	17000	NA	NA	NA	NA
Manganese	300	µg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	390	NA	NA	NA	10	NA	NA	NA	NA
Mercury	0.7	µg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 0.043 U	NA	NA	NA	< 0.043 U	NA	NA	NA	NA
Nickel	100	µg/L		45	< 40 U	51	< 40 U	< 40 U	< 40 U	NA	NA	NA	NA	110	NA	9.2 J	220	< 5.6 U	< 40 U	< 40 U	1.4 J	2.3 J	< 40 U	< 40 U	< 40 U
Potassium	NSL	µg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6100	NA	NA	NA	590	NA	NA	NA	NA
Selenium	10	µg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 8.7 U	NA	NA	NA	< 8.7 U	NA	NA	NA	NA
Silver	50	µg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 1.7 U	NA	NA	NA	< 1.7 U	NA	NA	NA	NA
Sodium	20000	µg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8000	NA	NA	NA	5400	NA	NA	NA	NA
Thallium	0.5	µg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 10 U	NA	NA	NA	< 10 U	NA	NA	NA	NA
Vanadium	NSL	µg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	12	NA	NA	NA	< 1.5 U	NA	NA	NA	NA
Zinc	2000	µg/L		2.1 J	< 20 U	< 10 U	< 20 U	< 20 U	< 20 U	NA	NA	NA	NA	73	NA	< 20 U	19 B	< 5.6 U	< 20 U	< 20 U	4.9 J B	2.7 J	< 20 U	< 20 U	< 20 U
PFAS																									
Perfluorobutanesulfonic acid (PFBS)	NSL	ng/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2 U	NA
Perfluorobutanoic Acid	NSL	ng/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.55 J	NA
Perfluorodecanesulfonic acid (PFDS)	NSL	ng/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2 U	NA
Perfluorodecanoic acid (PFDA)	NSL	ng/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2 U	NA
Perfluorododecanoic acid (PFDoA)	NSL	ng/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2 U	NA
Perfluoroheptanesulfonic acid (PFHpS)	NSL	ng/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2 U	NA
Perfluoroheptanoic acid (PFHpA)	NSL	ng/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2 U	NA
Perfluorohexanesulfonic acid (PFHxS)	NSL	ng/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2 U	NA
Perfluorohexanoic acid (PFHxA)	NSL	ng/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2 U	NA
Perfluorononanoic acid (PFNA)	NSL	ng/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2 U	NA
Perfluorooctane Sulfonamide (PFOSA)	NSL	ng/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2 U	NA
Perfluorooctanesulfonic acid (PFOS)	2.7	ng/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2 U	NA
Perfluorooctanoic acid (PFOA)	6.7	ng/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2 U	NA
Perfluoropentanoic Acid (PFPeA)	NSL	ng/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2 U	NA
Perfluorotetradecanoic acid (PFTeDA)	NSL	ng/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2 U	NA
Perfluorotridecanoic Acid (PFTriA/PFTrDA)	NSL	ng/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2 U	NA
Perfluoroundecanoic Acid (PFUnA)	NSL	ng/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2 U	NA
TOTAL PFOA AND PFOS	NSL	ng/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	< 2 U	NA
1,4-Dioxane																									
1,4-Dioxane	0.35	µg/L		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.4 U	NA	NA	NA	NA	NA	NA	NA	0.4 U	NA

Notes:
(1) NYSDEC Ambient Water Quality Standard (AWQS) Class GA (Standard/guidance values) (Technical and Operational Guidance Series [TOGS] 1.1.1).
µg/L = Microgram(s) per liter.
ng/L = Nanogram(s) per liter.
B = Compound was found in the blank and sample.
J = Concentration is estimated.
NA = Not analyzed.
NSL = No screening level available.
NYSDEC = New York State Department of Environmental Conservation
U = Analyte not detected.
Concentrations exceeding the screening level are shaded gray.

			Location ID	P-105	P-106D	P-106D	P-106D	P-106D	P-106S	P-106S	P-106S	P-106S	P-107D	P-107D	P-107D	P-107D	P-107S	P-107S	P-107S	P-107S
			Sample Name	P-105	633027P106D	633027 - P106D	633027-P106D	P-106D	633027P106S	633027 - P106S	633027-P106S	P-106S	633027P107D	633027 - P107D	633027-P107D	P-107D	633027P107S	633027 - P107S	633027-P107S	P-107S
			Parent Sample ID																	
			Sample Date	8/20/2021	12/19/2016	3/27/2018	6/18/2019	8/20/2021	12/19/2016	3/27/2018	6/18/2019	8/20/2021	12/20/2016	3/28/2018	6/18/2019	8/20/2021	12/20/2016	3/28/2018	6/19/2019	8/20/2021
Analyte	NYSDEC AWQS[1]	Unit																		
Volatile Organic Compounds																				
1,1,1-Trichloroethane (TCA)	5	µg/L	< 0.82 U	< 1 U	< 1 U	< 1 U	< 0.82 U	0.44 J	< 1 U	0.64 J	< 0.82 U	< 1 U	< 1 U	< 1 U	< 0.82 U	1.6	0.44 J	1.4	1.7
1,1,2,2-Tetrachloroethane	5	µg/L	< 0.21 U	< 1 U	< 1 U	< 1 U	< 0.21 U	< 1 U	< 1 U	< 1 U	< 0.21 U	< 1 U	< 1 U	< 1 U	< 0.21 U	< 1 U	< 1 U	< 1 U	< 0.21 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	5	µg/L	< 0.31 U	NA	NA	NA	< 0.31 U	NA	NA	NA	< 0.31 U	NA	NA	NA	< 0.31 U	NA	NA	NA	< 0.31 U
1,1,2-Trichloroethane	1	µg/L	< 0.23 U	< 1 U	< 1 U	< 1 U	< 0.23 U	< 1 U	< 1 U	< 1 U	< 0.23 U	< 1 U	< 1 U	< 1 U	< 0.23 U	< 1 U	< 1 U	< 1 U	< 0.23 U
1,1-Dichloroethane	5	µg/L	< 0.38 U	< 1 U	< 1 U	< 1 U	< 0.38 U	< 1 U	< 1 U	< 1 U	< 0.38 U	< 1 U	< 1 U	< 1 U	< 0.38 U	0.75 J	0.32 J	1.2	0.79 J
1,1-Dichloroethene	5	µg/L	< 0.29 U	< 1 U	< 1 U	< 1 U	< 0.29 U	< 1 U	< 1 U	< 1 U	< 0.29 U	< 1 U	< 1 U	< 1 U	< 0.29 U	< 1 U	< 1 U	< 1 U	< 0.29 U
1,2,3-Trichlorobenzene	5	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	5	µg/L	< 0.41 U	NA	NA	NA	< 0.41 U	NA	NA	NA	< 0.41 U	NA	NA	NA	< 0.41 U	NA	NA	NA	< 0.41 U
1,2-Dibromo-3-Chloropropane	0.04	µg/L	< 0.39 U	NA	NA	NA	< 0.39 U	NA	NA	NA	< 0.39 U	NA	NA	NA	< 0.39 U	NA	NA	NA	< 0.39 U
1,2-Dibromoethane (Ethylene Dibromide)	NSL	µg/L	< 0.73 U	NA	NA	NA	< 0.73 U	NA	NA	NA	< 0.73 U	NA	NA	NA	< 0.73 U	NA	NA	NA	< 0.73 U
1,2-Dichlorobenzene	3	µg/L	< 0.79 U	NA	NA	NA	< 0.79 U	NA	NA	NA	< 0.79 U	NA	NA	NA	< 0.79 U	NA	NA	NA	< 0.79 U
1,2-Dichloroethane	0.6	µg/L	< 0.21 U	< 1 U	< 1 U	< 1 U	< 0.21 U	< 1 U	< 1 U	< 1 U	< 0.21 U	< 1 U	< 1 U	< 1 U	< 0.21 U	< 1 U	< 1 U	< 1 U	< 0.21 U
1,2-Dichloropropane	1	µg/L	< 0.72 U	< 1 U	< 1 U	< 1 U	< 0.72 U	< 1 U	< 1 U	< 1 U	< 0.72 U	< 1 U	< 1 U	< 1 U	< 0.72 U	< 1 U	< 1 U	< 1 U	< 0.72 U
1,3-Dichlorobenzene	3	µg/L	< 0.78 U	NA	NA	NA	< 0.78 U	NA	NA	NA	< 0.78 U	NA	NA	NA	< 0.78 U	NA	NA	NA	< 0.78 U
1,4-Dichlorobenzene	3	µg/L	< 0.84 U	NA	NA	NA	< 0.84 U	NA	NA	NA	< 0.84 U	NA	NA	NA	< 0.84 U	NA	NA	NA	< 0.84 U
2-Chloroethyl Vinyl Ether	NSL	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Hexanone	50	µg/L	< 1.2 U	< 5 U	< 5 U	< 5 U	< 1.2 U	< 5 U	< 5 U	< 5 U	< 1.2 U	< 5 U	< 5 U	< 5 U	< 1.2 U	< 5 U	< 5 U	< 5 U	< 1.2 U
Acetone	50	µg/L	< 3.0 U	< 10 U	< 5 U	< 5 U	< 3.0 U	< 10 U	< 5 U	< 5 U	< 3.0 U	< 10 U	< 5 U	< 5 U	< 3.0 U	< 10 U	< 5 U	< 5 U	< 3.0 U
Acrolein	5	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acrylonitrile	5	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	1	µg/L	< 0.41 U	< 1 U	< 1 U	< 1 U	< 0.41 U	< 1 U	< 1 U	< 1 U	< 0.41 U	< 1 U	< 1 U	< 1 U	< 0.41 U	< 1 U	< 1 U	< 1 U	< 0.41 U
Bromochloromethane	5	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	50	µg/L	< 0.39 U	< 1 U	< 1 U	< 1 U	< 0.39 U	< 1 U	< 1 U	< 1 U	< 0.39 U	< 1 U	< 1 U	< 1 U	< 0.39 U	< 1 U	< 1 U	< 1 U	< 0.39 U
Bromoform	50	µg/L	< 0.26 U	< 1 U	< 1 U	< 1 U	< 0.26 U	< 1 U	< 1 U	< 1 U	< 0.26 U	< 1 U	< 1 U	< 1 U	< 0.26 U	< 1 U	< 1 U	< 1 U	< 0.26 U
Bromomethane	5	µg/L	< 0.69 U	< 1 U	< 1 U	< 1 U	< 0.69 U	< 1 U	< 1 U	< 1 U	< 0.69 U	< 1 U	< 1 U	< 1 U	< 0.69 U	< 1 U	< 1 UJ	< 1 U	< 0.69 U
Carbon Disulfide	60	µg/L	< 0.19 U	< 1 U	< 1 U	< 1 U	< 0.19 U	< 1 U	< 1 U	< 1 U	< 0.19 U	< 1 U	< 1 U	< 1 U	< 0.19 U	< 1 U	< 1 U	< 1 U	< 0.19 U
Carbon Tetrachloride	5	µg/L	< 0.27 U	< 1 U	< 1 U	< 1 U	< 0.27 U	< 1 U	< 1 U	< 1 U	< 0.27 U	< 1 U	< 1 U	< 1 U	< 0.27 U	< 1 U	< 1 U	< 1 U	< 0.27 U
Chlorobenzene	5	µg/L	< 0.75 U	< 1 U	< 1 U	< 1 U	< 0.75 U	< 1 U	< 1 U	< 1 U	< 0.75 U	< 1 U	< 1 U	< 1 U	< 0.75 U	< 1 U	< 1 U	< 1 U	< 0.75 U
Chloroethane	5	µg/L	< 0.32 U	< 1 U	< 1 U	< 1 U	< 0.32 U	< 1 U	< 1 U	< 1 U	< 0.32 U	< 1 U	< 1 U	< 1 U	< 0.32 U	< 1 U	< 1 U	< 1 U	< 0.32 U
Chloroform	7	µg/L	< 0.34 U	< 1 U	< 1 U	< 1 U	< 0.34 U	< 1 U	< 1 U	< 1 U	< 0.34 U	< 1 U	< 1 U	< 1 U	< 0.34 U	< 1 U	< 1 U	< 1 U	< 0.34 U
Chloromethane (Methyl Chloride)	NSL	µg/L	< 0.35 U	< 1 U	< 1 U	< 1 U	< 0.35 U	< 1 U	< 1 U	< 1 U	1.7	< 1 U	< 1 U	< 1 U	< 0.35 U	< 1 U	< 1 U	< 1 U	< 0.35 U
Cis-1,2-Dichloroethylene	5	µg/L	< 0.81 U	< 1 U	< 1 U	< 1 U	< 0.81 U	< 1 U	< 1 U	< 1 U	< 0.81 U	< 1 U	< 1 U	< 1 U	< 0.81 U	< 1 U	< 1 U	< 1 U	< 0.81 U
Cis-1,3-Dichloropropene	0.4	µg/L	< 0.36 U	< 1 U	< 1 U	< 1 U	< 0.36 U	< 1 U	< 1 U	< 1 U	< 0.36 U	< 1 U	< 1 U	< 1 U	< 0.36 U	< 1 U	< 1 U	< 1 U	< 0.36 U
Cyclohexane	NSL	µg/L	< 0.18 U	NA	NA	NA	< 0.18 U	NA	NA	NA	< 0.18 U	NA	NA	NA	< 0.18 U	NA	NA	NA	< 0.18 U
Dibromochloromethane	50	µg/L	< 0.32 U	< 1 U	< 1 U	< 1 U	< 0.32 U	< 1 U	< 1 U	< 1 U	< 0.32 U	< 1 U	< 1 U	< 1 U	< 0.32 U	< 1 U	< 1 U	< 1 U	< 0.32 U
Dichlorodifluoromethane	5	µg/L	< 0.68 U	NA	NA	NA	< 0.68 U	NA	NA	NA	< 0.68 U	NA	NA	NA	< 0.68 U	NA	NA	NA	< 0.68 U
Ethylbenzene	5	µg/L	< 0.74 U	< 1 U	< 1 U	< 1 U	< 0.74 U	< 1 U	< 1 U	< 1 U	< 0.74 U	< 1 U	< 1 U	< 1 U	< 0.74 U	< 1 U	< 1 U	< 1 U	< 0.74 U
Isopropylbenzene (Cumene)	5	µg/L	< 0.79 U	NA	NA	NA	< 0.79 U	NA	NA	NA	< 0.79 U	NA	NA	NA	< 0.79 U	NA	NA	NA	< 0.79 U
Methyl Acetate	NSL	µg/L	< 1.3 U	NA	NA	NA	< 1.3 U	NA	NA	NA	< 1.3 U	NA	NA	NA	< 1.3 U	NA	NA	NA	< 1.3 U
Methyl Ethyl Ketone (2-Butanone)	50	µg/L	< 1.3 U	< 10 U	< 5 U	< 5 U	< 1.3 U	< 10 U	< 5 U	< 5 U	< 1.3 U	< 10 U	< 5 U	< 5 U	< 1.3 U	< 10 U	< 5 U	< 5 U	< 1.3 U
Methyl Isobutyl Ketone (4-Methyl-2-Pentanone)	NSL	µg/L	< 2.1 U	< 5 U	< 5 U	< 5 U	< 2.1 U	< 5 U	< 5 U	< 5 U	< 2.1 U	< 5 U	< 5 U	< 5 U	< 2.1 U	< 5 U	< 5 U	< 5 U	< 2.1 U
Methylcyclohexane	NSL	µg/L	< 0.16 U	NA	NA	NA	< 0.16 U	NA	NA	NA	< 0.16 U	NA	NA	NA	< 0.16 U	NA	NA	NA	< 0.16 U
Methylene Chloride	5	µg/L	< 0.44 U	< 1 U	< 1 U	< 1 U	< 0.44 U	< 1 U	< 1 U	< 1 U	< 0.44 U	< 1 U	< 1 U	< 1 U	< 0.44 U	< 1 U	< 1 U	< 1 U	< 0.44 U
M-P-Xylene	NSL	µg/L	NA	< 2 U	< 2 U	< 2 U	NA	< 2 U	< 2 U	< 2 U	NA	< 2 U	< 2 U	< 2 U	NA	< 2 U	< 2 U	< 2 U	NA
O-Xylene (1,2-Dimethylbenzene)	5	µg/L	NA	< 1 U	< 1 U	< 1 U	NA	< 1 U	< 1 U	< 1 U	NA	< 1 U	< 1 U	< 1 U	NA	< 1 U	< 1 U	< 1 U	NA
Styrene	5	µg/L	< 0.73 U	< 1 U	< 1 U	< 1 U	< 0.73 U	< 1 U	< 1 U	< 1 U	< 0.73 U	< 1 U	< 1 U	< 1 U	< 0.73 U	< 1 U	< 1 U	< 1 U	< 0.73 U
Tert-Butyl Methyl Ether	10	µg/L	< 0.16 U	NA	NA	NA	< 0.16 U	NA	NA	NA	< 0.16 U	NA	NA	NA	< 0.16 U	NA	NA	NA	< 0.16 U
Tetrachloroethylene (PCE)	5	µg/L	< 0.36 U	< 1 U	< 1 U	< 1 U	< 0.36 U	< 1 U	< 1 U	< 1 U	< 0.36 U	< 1 U	< 1 U	< 1 U	< 0.36 U	< 1 U	< 1 U	< 1 U	< 0.36 U
Toluene	5	µg/L	< 0.51 U	< 1 U	< 1 U	< 1 U	< 0.51 U	< 1 U	< 1 U	< 1 U	< 0.51 U	< 1 U	< 1 U	< 1 U	< 0.51 U	< 1 U	< 1 U	< 1 U	< 0.51 U
Trans-1,2-Dichloroethene	5	µg/L	< 0.90 U	< 1 U	< 1 U	< 1 U	< 0.90 U	< 1 U	< 1 U	< 1 U	< 0.90 U	< 1 U	< 1 U	< 1 U	< 0.90 U	< 1 U	< 1 U	< 1 U	< 0.90 U
Trans-1,3-Dichloropropene	0.4	µg/L	< 0.37 U	< 1 U	< 1 U	< 1 U	< 0.37 U	< 1 U	< 1 U	< 1 U	< 0.37 U	< 1 U	< 1 U	< 1 U	< 0.37 U	< 1 U	< 1 U	< 1 U	< 0.37 U
Trichloroethylene (TCE)	5	µg/L	< 0.46 U	< 1 U	< 1 U	< 1 U	< 0.46 U	0.68 J	< 1 U	0.7 J	< 0.46 U	< 1 U	< 1 U	< 1 U	< 0.46 U	14 J	7.1	7.5	14
Trichlorofluoromethane	5	µg/L	< 0.88 U	NA	NA	NA	< 0.88 U	NA	NA	NA	< 0.88 U	NA	NA	NA	< 0.88 U	NA	NA	NA	< 0.88 U
Vinyl Chloride	2	µg/L	< 0.90 U	< 1 U	< 1 U	< 1 U	< 0.90 U	< 1 U	< 1 U	< 1 U	< 0.90 U	< 1 U	< 1 U	< 1 U	< 0.90 U	< 1 U	< 1 U	< 1 U	< 0.90 U
Xylenes	5	µg/L	< 0.66 U	NA	NA	NA	< 0.66 U	NA	NA	NA	< 0.66 U	NA	NA	NA	< 0.66 U	NA	NA	NA	< 0.66 U
Total Metals																			
Aluminum	NSL	µg/L	< 60 U	NA	NA	NA	490	NA	NA	NA	65 J	NA	NA	NA	940	NA	NA	NA	< 60 U
Antimony	3	µg/L	< 6.8 U	NA	NA	NA	< 6.8 U	NA	NA	NA	< 6.8 U	NA	NA	NA	< 6.8 U	NA	NA	NA	< 6.8 U
Arsenic	25	µg/L	7.6 J	NA	NA	NA	< 5.6 U	NA	NA	NA	< 5.6 U	NA	NA	NA	< 5.6 U	NA	NA	NA	< 5.6 U
Barium	1000	µg/L	66	NA	NA	NA	62	NA	NA	NA	53	NA	NA	NA	83	NA	NA	NA	61
Beryllium	3	µg/L	< 0.30 U	NA	NA	NA	< 0.30 U	NA	NA	NA	< 0.30 U	NA	NA	NA	< 0.30 U	NA	NA	NA	< 0.30 U
Cadmium	5	µg/L	0.63 J	< 1.1 U	< 5 U	< 5 U	< 0.50 U	< 1.1 U	< 5 U	< 5 U	< 0.50 U	< 1.1 U	< 5 U	< 5 U	< 0.50 U	3.1	< 5 U	3.7 J	3
Calcium	NSL	µg/L	61.6	NA	NA	NA	5.7	NA	NA	NA	96.5	NA	NA	NA	8.9	NA	NA	NA	99.2
Chromium, Total	50	µg/L	< 1.0 U	4.1	1.7 J	< 10 U	1.6 J	2.1 J	< 10 U	< 10 U	1.8 J	5.8	< 10 U	< 10 U	5.4	8.6	2.4 J	1.1 J	1.6 J
Cobalt	NSL	µg/L	< 0.63 U	NA	NA	NA	< 0.63 U	NA	NA	NA	< 0.63 U	NA	NA	NA	< 0.63 U	NA	NA	NA	< 0.63 U
Copper	200	µg/L	< 1.6 U	11	< 20 U	< 20 U	< 1.6 U	4.6 J	< 20 U	< 20 U	1.8 J	16	< 20 U	< 20 U	3.6 J	5.6	< 20 U	< 20 U	3.2 J
Iron	300	µg/L	170	NA	NA	NA	470	NA	NA	NA	44 J	NA	NA	NA	1100	NA	NA	NA	60
Lead	25	µg/L	< 3.0 U	4.1	< 50 U	< 50 U	< 3.0 U	< 2.2 U	< 50 U	< 50 U	< 3.0 U	7.2	< 50 U	< 50 U	< 3.0 U	< 2.2 U	< 50 U	< 50 U	< 3.0 U
Magnesium	35000	µg/L	68100	NA	NA	NA	490	NA	NA	NA	15000	NA	NA	NA	780	NA	NA	NA	16200
Manganese	300	µg/L	260	NA	NA	NA	8.8	NA	NA	NA	15	NA	NA	NA	16	NA	NA	NA	29
Mercury	0.7	µg/L	< 0.043 U	NA	NA	NA	< 0.043 U	NA	NA	NA	< 0.043 U	NA	NA	NA	< 0.043 U	NA	NA	NA	< 0.043 U
Nickel	100	µg/L	< 1.3 U	5.2 J	< 40 U	< 40 U	< 1.3 U	< 5.6 U	< 40 U	< 40 U	1.7 J	11	< 40 U	< 40 U	4.9 J	290	174	313	170
Potassium	NSL	µg/L	3400	NA	NA	NA	3700	NA	NA	NA	1100	NA	NA	NA	4900	NA	NA	NA	2800
Selenium	10	µg/L	< 8.7 U	NA	NA	NA	< 8.7 U	NA	NA	NA	< 8.7 U	NA	NA	NA	< 8.7 U	NA	NA	NA	< 8.7 U
Silver	50	µg/L	< 1.7 U	NA	NA	NA	< 1.7 U	NA	NA	NA	< 1.7 U	NA	NA	NA	< 1.7 U	NA	NA	NA	< 1.7 U
Sodium	20000	µg/L	14300	NA	NA	NA	50000	NA	NA	NA	4200	NA	NA	NA	66200	NA	NA	NA	2100
Thallium	0.5	µg/L	< 10 U	NA	NA	NA	< 10 U	NA	NA	NA	< 10 U	NA	NA	NA	< 10 U	NA	NA	NA	< 10 U
Vanadium	NSL	µg/L	< 1.5 U	NA	NA	NA	< 1.5 U	NA	NA	NA	< 1.5 U	NA	NA	NA	1.9 J	NA	NA	NA	< 1.5 U
Zinc	2000	µg/L	< 1.5 U	92	< 20 U	< 20 U	11 B	2.4 J	< 20 U	< 20 U	< 1.5 U	27	< 20 U	< 20 U	9.6 J B	8.9	< 20 U	14.5 J	8.3 J B
PFAS																			
Perfluorobutanesulfonic acid (PFBS)	NSL	ng/L	NA	NA	< 2 U	NA	NA	NA	0.38 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorobutanoic Acid	NSL	ng/L	NA	NA	0.6 J	NA	NA	NA	1 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorodecanesulfonic acid (PFDS)	NSL	ng/L	NA	NA	< 2 U	NA	NA	NA	< 2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorodecanoic acid (PFDA)	NSL	ng/L	NA	NA	< 2 U	NA	NA	NA	< 2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorododecanoic acid (PFDoA)	NSL	ng/L	NA	NA	< 2 U	NA	NA	NA	< 2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluoroheptanesulfonic acid (PFHpS)	NSL	ng/L	NA	NA	< 2 U	NA	NA	NA	< 2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluoroheptanoic acid (PFHpA)	NSL	ng/L	NA	NA	< 2 U	NA	NA	NA	< 2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorohexanesulfonic acid (PFHxS)	NSL	ng/L	NA	NA	< 2 U	NA	NA	NA	< 2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorohexanoic acid (PFHxA)	NSL	ng/L	NA	NA	< 2 U	NA	NA	NA	< 2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorononanoic acid (PFNA)	NSL	ng/L	NA	NA	< 2 U	NA	NA	NA	< 2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorooctane Sulfonamide (PFOSA)	NSL	ng/L	NA	NA	< 2 U	NA	NA	NA	< 2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorooctanesulfonic acid (PFOS)	2.7	ng/L	NA	NA	< 2 U	NA	NA	NA	0.66 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorooctanoic acid (PFOA)	6.7	ng/L	NA	NA	< 2 U	NA	NA	NA	< 2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluoropentanoic Acid (PFPeA)	NSL	ng/L	NA	NA	< 2 U	NA	NA	NA	< 2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorotetradecanoic acid (PFTeDA)	NSL	ng/L	NA	NA	< 2 U	NA	NA	NA	< 2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluorotridecanoic Acid (PFTriA/PFTrDA)	NSL	ng/L	NA	NA	< 2 U	NA	NA	NA	< 2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Perfluoroundecanoic Acid (PFUnA)	NSL	ng/L	NA	NA	< 2 U	NA	NA	NA	< 2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
TOTAL PFOA AND PFOS	NSL	ng/L	NA	NA	< 2 U	NA	NA	NA	0.66 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dioxane																			
1,4-Dioxane	0.35	µg/L	NA	NA	0.4 U	NA	NA	NA	0.4 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
(1) NYSDEC Ambient Water Quality Standard (AWQS) Class GA (Standard/guidance values) (Technical and Operational Guidance Series [TOGS] 1.1.1).

µg/L = Microgram(s) per liter.
ng/L = Nanogram(s) per liter.
B = Compound was found in the blank and sample.
J = Concentration is estimated.
NA = Not analyzed.
NSL = No screening level available.
NYSDEC = New York State Department of Environmental Conservation
U = Analyte not detected.
Concentrations exceeding the screening level are shaded gray.

Appendix D

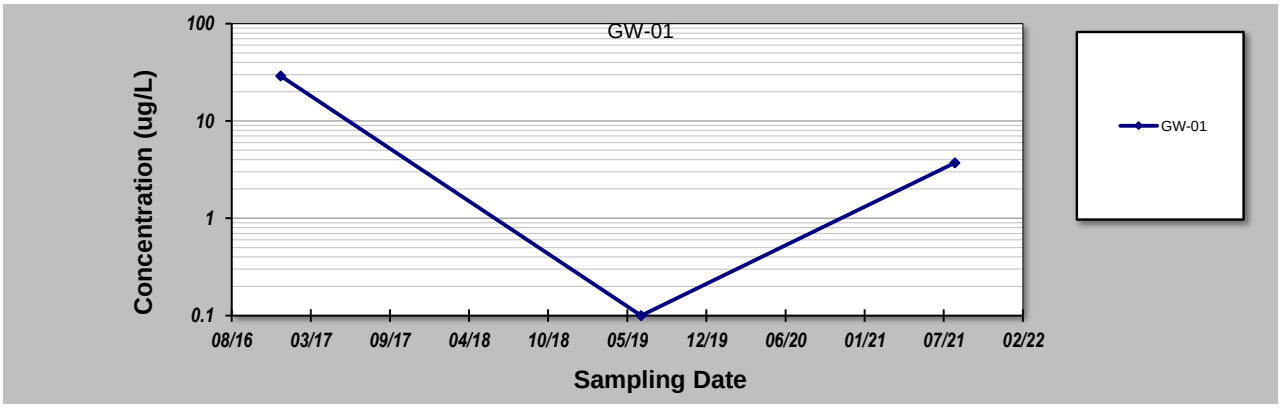
Mann-Kendall Trend Analysis of TCE, Lead, & Nickel in Monitoring Wells (December 2011-August 2021)

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	13-Jun-24	Job ID:	1602534 Primo Shield
Facility Name:	EA Engineering (Primo Shield)	Constituent:	Lead
Conducted By:	Cassandra Derrick	Concentration Units:	ug/L

Sampling Point ID: GW-01

Sampling Event	Sampling Date	LEAD CONCENTRATION (ug/L)
1	20-Dec-16	29
2	19-Jun-19	0.1
3	20-Aug-21	3.7
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
Coefficient of Variation:		1.44
Mann-Kendall Statistic (S):		-1
Confidence Factor:		
Concentration Trend:		



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	13-Jun-24	Job ID:	1602534 Primo Shield
Facility Name:	EA Engineering (Primo Shield)	Constituent:	Nickel
Conducted By:	Cassandra Derrick	Concentration Units:	ug/L

Sampling Point ID: GW-01

Sampling Event	Sampling Date	NICKEL CONCENTRATION (ug/L)
1	20-Dec-16	110
2	19-Jun-19	9.2
3	20-Aug-21	220
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
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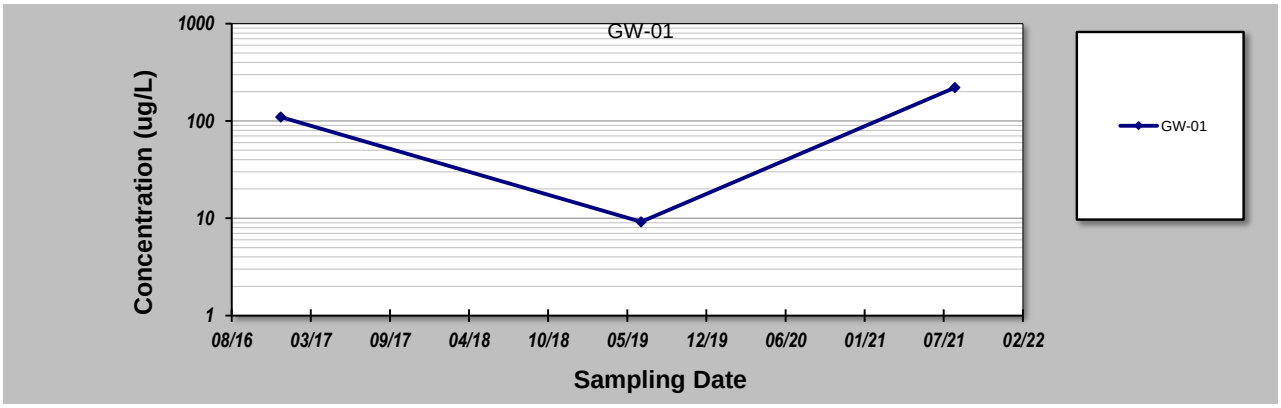
18		
19		
20		
Coefficient of Variation:		0.93
Mann-Kendall Statistic (S):		1
Confidence Factor:		
Concentration Trend:		



Notes:

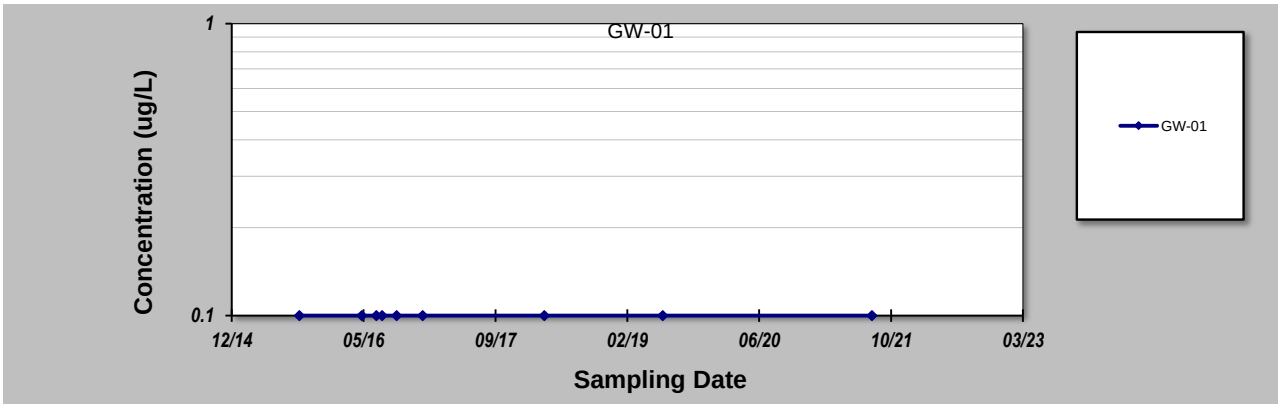
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	13-Jun-24	Job ID:	1602534 Primo Shield
Facility Name:	EA Engineering (Primo Shield)	Constituent:	TCE
Conducted By:	Cassandra Derrick	Concentration Units:	ug/L

Sampling Point ID: GW-01

Sampling Event	Sampling Date	TCE CONCENTRATION (ug/L)
1	10-Sep-15	0.1
2	4-May-16	0.1
3	28-Jun-16	0.1
4	20-Jul-16	0.1
5	13-Sep-16	0.1
6	20-Dec-16	0.1
7	27-Mar-18	0.1
8	19-Jun-19	0.1
9	20-Aug-21	0.1
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
Coefficient of Variation:		0.00
Mann-Kendall Statistic (S):		0
Confidence Factor:		46.0%
Concentration Trend:		Stable



Notes:

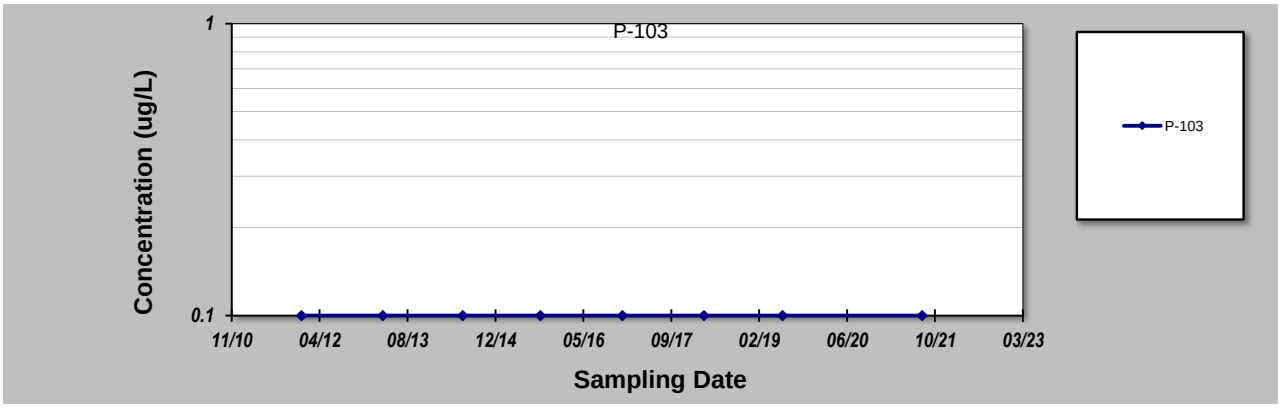
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	13-Jun-24	Job ID:	1602534 Primo Shield
Facility Name:	EA Engineering (Primo Shield)	Constituent:	Lead
Conducted By:	Cassandra Derrick	Concentration Units:	ug/L

Sampling Point ID: P-103

Sampling Event	Sampling Date	LEAD CONCENTRATION (ug/L)
1	20-Dec-11	0.1
2	27-Mar-13	0.1
3	24-Jun-14	0.1
4	9-Sep-15	0.1
5	19-Dec-16	0.1
6	27-Mar-18	0.1
7	18-Jun-19	0.1
8	20-Aug-21	0.1
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
Coefficient of Variation:		0.00
Mann-Kendall Statistic (S):		0
Confidence Factor:		45.2%
Concentration Trend:		Stable



Notes:

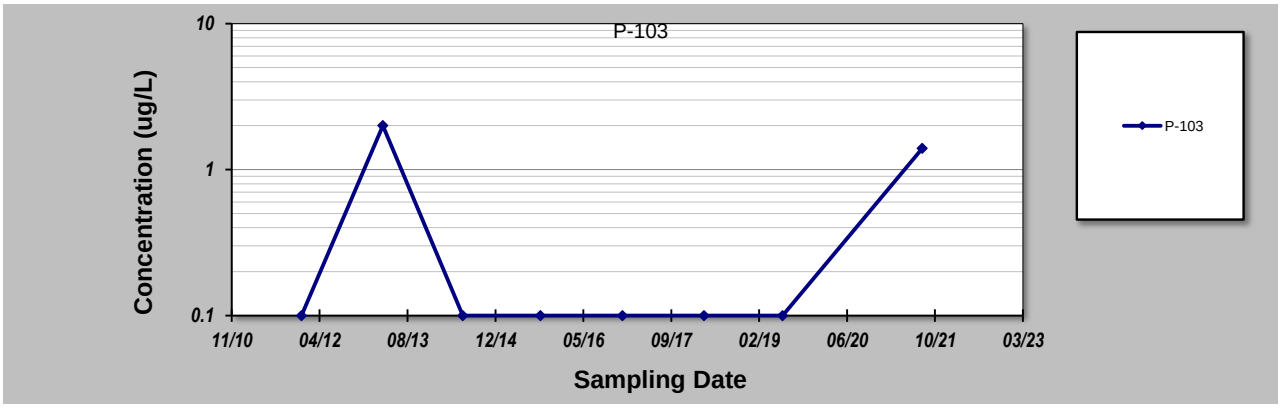
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	13-Jun-24	Job ID:	1602534 Primo Shield
Facility Name:	EA Engineering (Primo Shield)	Constituent:	Nickel
Conducted By:	Cassandra Derrick	Concentration Units:	ug/L

Sampling Point ID:	P-103						

Sampling Event	Sampling Date	NICKEL CONCENTRATION (ug/L)						
1	20-Dec-11	0.1						
2	27-Mar-13	2						
3	24-Jun-14	0.1						
4	9-Sep-15	0.1						
5	19-Dec-16	0.1						
6	27-Mar-18	0.1						
7	18-Jun-19	0.1						
8	20-Aug-21	1.4						
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		1.52						
Mann-Kendall Statistic (S):		1						
Confidence Factor:		50.0%						
Concentration Trend:		No Trend						



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	13-Jun-24	Job ID:	1602534 Primo Shield
Facility Name:	EA Engineering (Primo Shield)	Constituent:	TCE
Conducted By:	Cassandra Derrick	Concentration Units:	ug/L

Sampling Point ID: **P-103**

Sampling Event	Sampling Date	TCE CONCENTRATION (ug/L)
1	20-Dec-11	2
2	27-Mar-13	0.94
3	24-Jun-14	1.1
4	9-Sep-15	1.6
5	19-Dec-16	1.2
6	27-Mar-18	0.84
7	18-Jun-19	2.1
8	20-Aug-21	0.98
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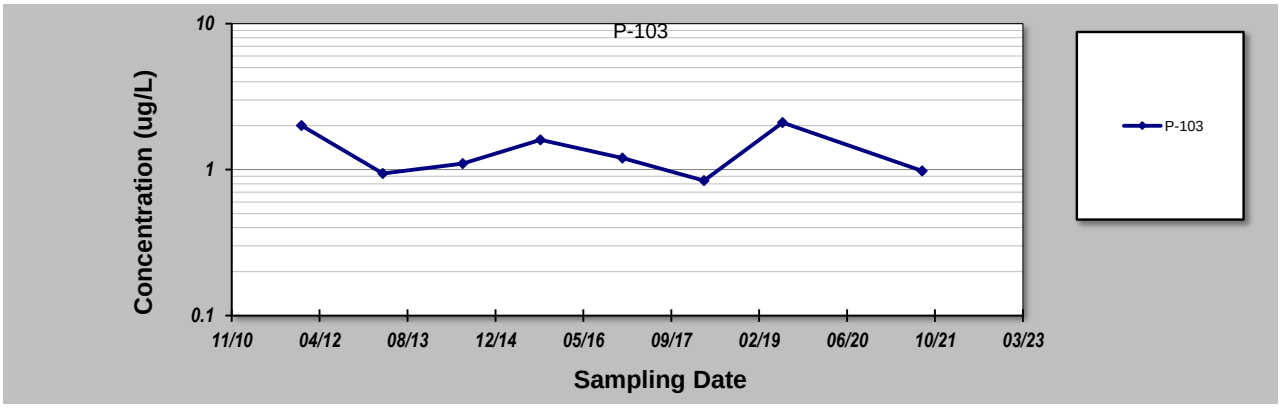
20		
Coefficient of Variation:		0.37
Mann-Kendall Statistic (S):		-2
Confidence Factor:		54.8%
Concentration Trend:		Stable



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	13-Jun-24	Job ID:	1602534 Primo Shield
Facility Name:	EA Engineering (Primo Shield)	Constituent:	Lead
Conducted By:	Cassandra Derrick	Concentration Units:	ug/L

Sampling Point ID: P-105

Sampling Event	Sampling Date	LEAD CONCENTRATION (ug/L)
1	21-Dec-11	0.1
2	26-Mar-13	0.1
3	23-Jun-14	0.1
4	9-Sep-15	0.1
5	19-Dec-16	0.1
6	27-Mar-18	0.1
7	18-Jun-19	0.1
8	20-Aug-21	0.1
9		
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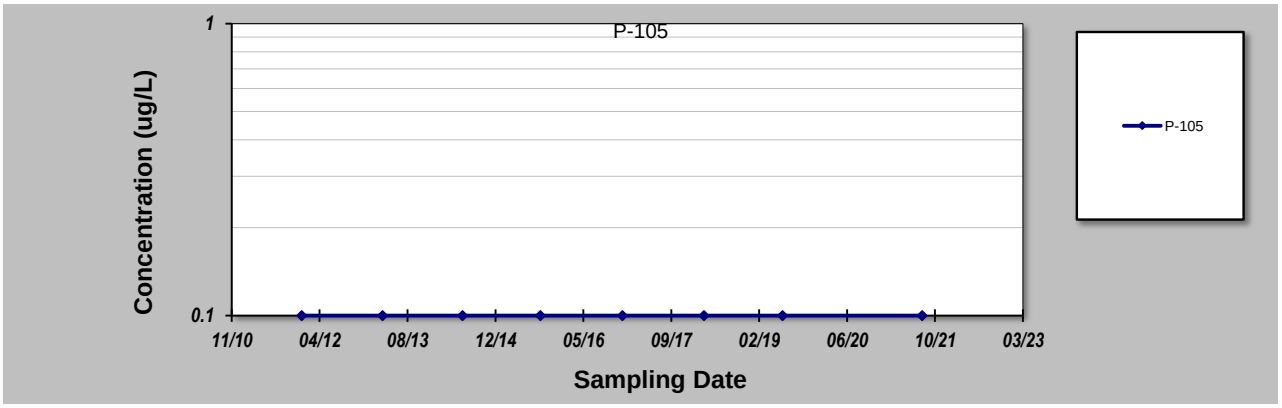
20		
Coefficient of Variation:		0.00
Mann-Kendall Statistic (S):		0
Confidence Factor:		45.2%
Concentration Trend:		Stable



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	13-Jun-24	Job ID:	1602534 Primo Shield
Facility Name:	EA Engineering (Primo Shield)	Constituent:	Nickel
Conducted By:	Cassandra Derrick	Concentration Units:	ug/L

Sampling Point ID: P-105

Sampling Event	Sampling Date	NICKEL CONCENTRATION (ug/L)
1	21-Dec-11	0.1
2	26-Mar-13	0.1
3	23-Jun-14	0.1
4	9-Sep-15	3
5	19-Dec-16	2.3
6	27-Mar-18	0.1
7	18-Jun-19	0.1
8	20-Aug-21	0.1
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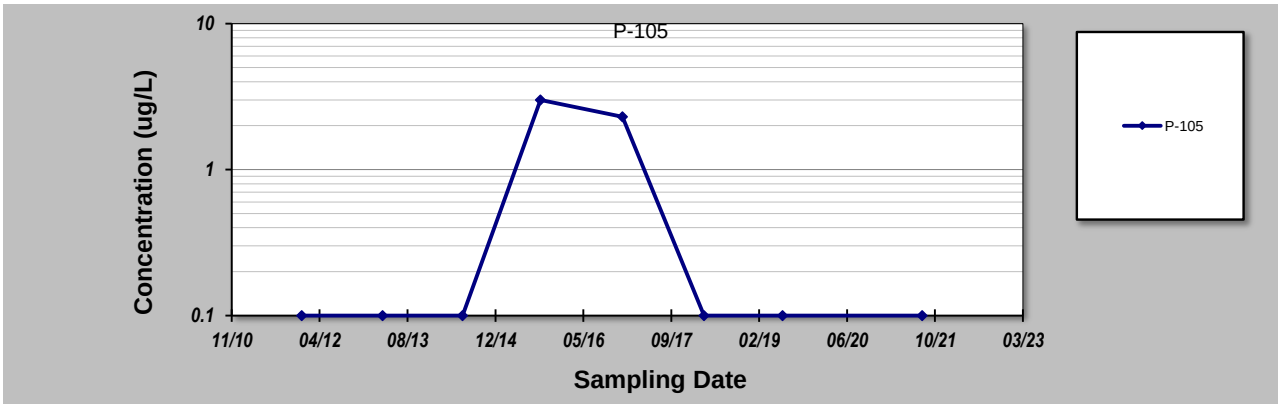
Coefficient of Variation:		1.62
Mann-Kendall Statistic (S):		-1
Confidence Factor:		50.0%
Concentration Trend:		No Trend



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	13-Jun-24	Job ID:	1602534 Primo Shield
Facility Name:	EA Engineering (Primo Shield)	Constituent:	TCE
Conducted By:	Cassandra Derrick	Concentration Units:	ug/L

Sampling Point ID: P-105

Sampling Event	Sampling Date	TCE CONCENTRATION (ug/L)
1	21-Dec-11	0.1
2	26-Mar-13	0.1
3	23-Jun-14	0.1
4	9-Sep-15	0.1
5	19-Dec-16	0.1
6	27-Mar-18	0.1
7	18-Jun-19	0.1
8	20-Aug-21	0.1
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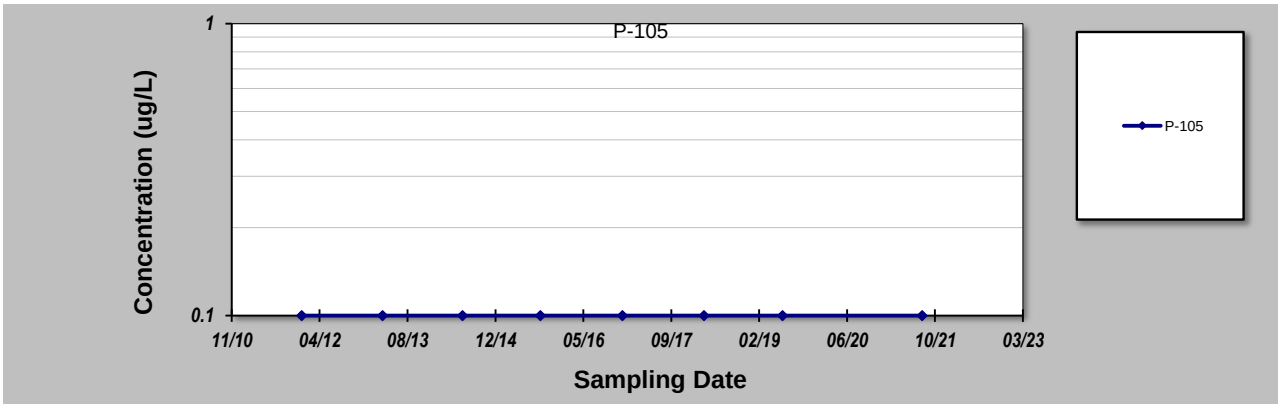
Coefficient of Variation:		0.00
Mann-Kendall Statistic (S):		0
Confidence Factor:		45.2%
Concentration Trend:		Stable



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	13-Jun-24	Job ID:	1602534 Primo Shield
Facility Name:	EA Engineering (Primo Shield)	Constituent:	Lead
Conducted By:	Cassandra Derrick	Concentration Units:	ug/L

Sampling Point ID: P-106D

Sampling Event	Sampling Date	LEAD CONCENTRATION (ug/L)
1	21-Dec-11	0.1
2	27-Mar-13	0.1
3	24-Jun-14	0.1
4	9-Sep-15	0.1
5	19-Dec-16	4.1
6	27-Mar-18	0.1
7	18-Jun-19	0.1
8	20-Aug-21	0.1
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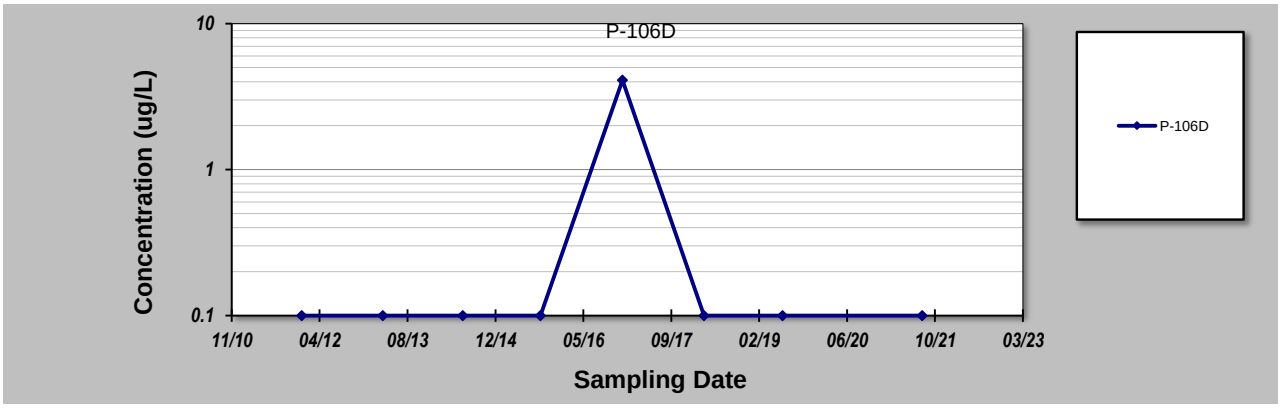
Coefficient of Variation:		2.36
Mann-Kendall Statistic (S):		1
Confidence Factor:		50.0%
Concentration Trend:		No Trend



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	13-Jun-24	Job ID:	1602534 Primo Shield
Facility Name:	EA Engineering (Primo Shield)	Constituent:	Nickel
Conducted By:	Cassandra Derrick	Concentration Units:	ug/L

Sampling Point ID: P-106D

Sampling Event	Sampling Date	NICKEL CONCENTRATION (ug/L)
1	21-Dec-11	0.1
2	27-Mar-13	0.1
3	24-Jun-14	0.1
4	9-Sep-15	0.1
5	19-Dec-16	5.2
6	27-Mar-18	0.1
7	18-Jun-19	0.1
8	20-Aug-21	0.1
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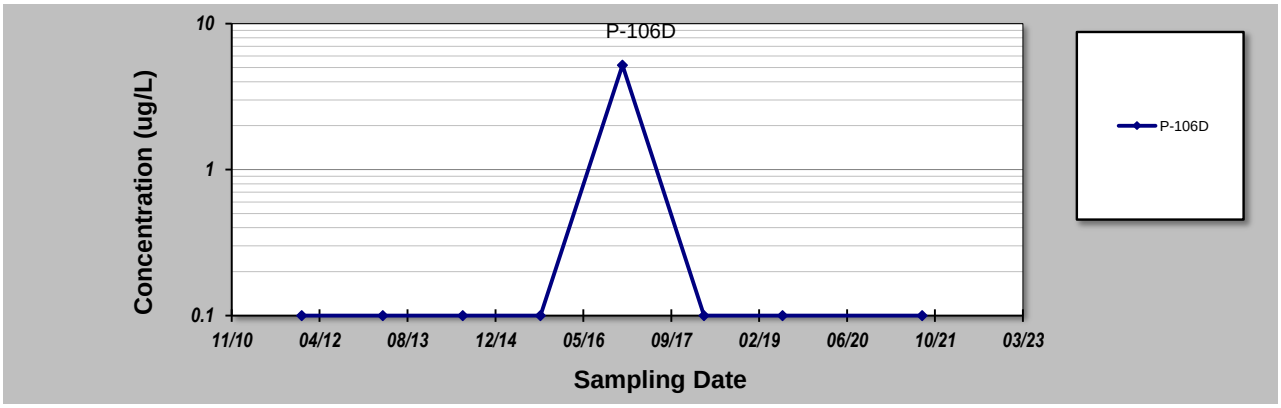
Coefficient of Variation:		2.44
Mann-Kendall Statistic (S):		1
Confidence Factor:		50.0%
Concentration Trend:		No Trend



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	13-Jun-24	Job ID:	1602534 Primo Shield
Facility Name:	EA Engineering (Primo Shield)	Constituent:	TCE
Conducted By:	Cassandra Derrick	Concentration Units:	ug/L

Sampling Point ID: P-106D

Sampling Event	Sampling Date	TCE CONCENTRATION (ug/L)
1	21-Dec-11	0.1
2	27-Mar-13	0.1
3	24-Jun-14	0.1
4	9-Sep-15	0.1
5	19-Dec-16	0.1
6	27-Mar-18	0.1
7	18-Jun-19	0.1
8	20-Aug-21	0.1
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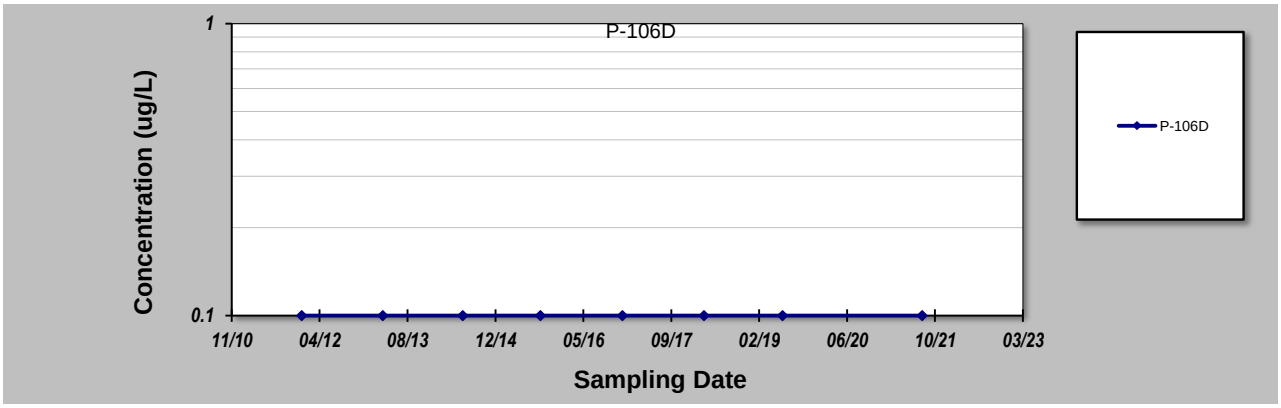
Coefficient of Variation:		0.00
Mann-Kendall Statistic (S):		0
Confidence Factor:		45.2%
Concentration Trend:		Stable



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	13-Jun-24	Job ID:	1602534 Primo Shield
Facility Name:	EA Engineering (Primo Shield)	Constituent:	Lead
Conducted By:	Cassandra Derrick	Concentration Units:	ug/L

Sampling Point ID:	P-106S

Sampling Event	Sampling Date	LEAD CONCENTRATION (ug/L)
1	20-Dec-11	0.1
2	27-Mar-13	0.1
3	24-Jun-14	0.1
4	9-Sep-15	0.1
5	19-Dec-16	0.1
6	27-Mar-18	0.1
7	18-Jun-19	0.1
8	20-Aug-21	0.1
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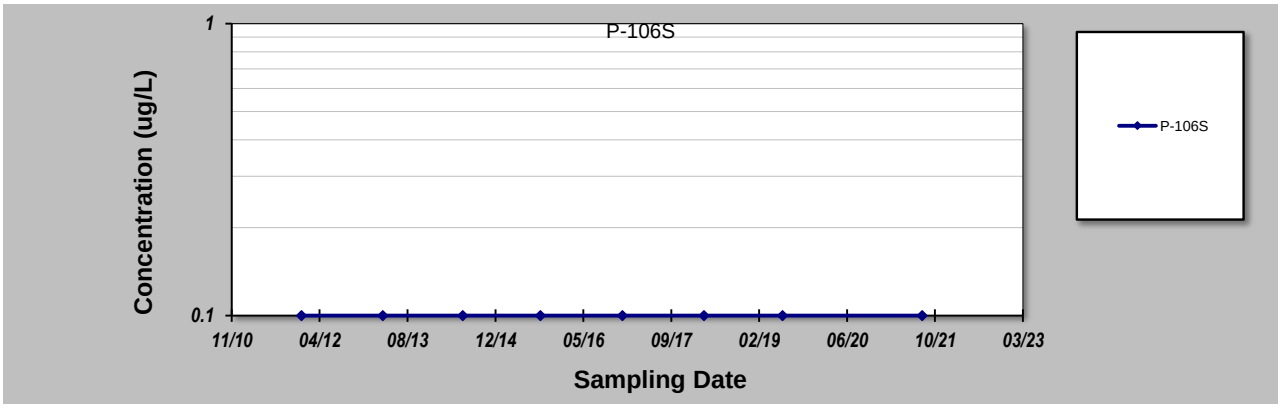
Coefficient of Variation:		0.00
Mann-Kendall Statistic (S):		0
Confidence Factor:		45.2%
Concentration Trend:		Stable



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	13-Jun-24	Job ID:	1602534 Primo Shield
Facility Name:	EA Engineering (Primo Shield)	Constituent:	Nickel
Conducted By:	Cassandra Derrick	Concentration Units:	ug/L

Sampling Point ID: P-106S

Sampling Event	Sampling Date	NICKEL CONCENTRATION (ug/L)
1	20-Dec-11	0.1
2	27-Mar-13	0.1
3	24-Jun-14	2
4	9-Sep-15	5
5	19-Dec-16	0.1
6	27-Mar-18	0.1
7	18-Jun-19	0.1
8	20-Aug-21	1.7
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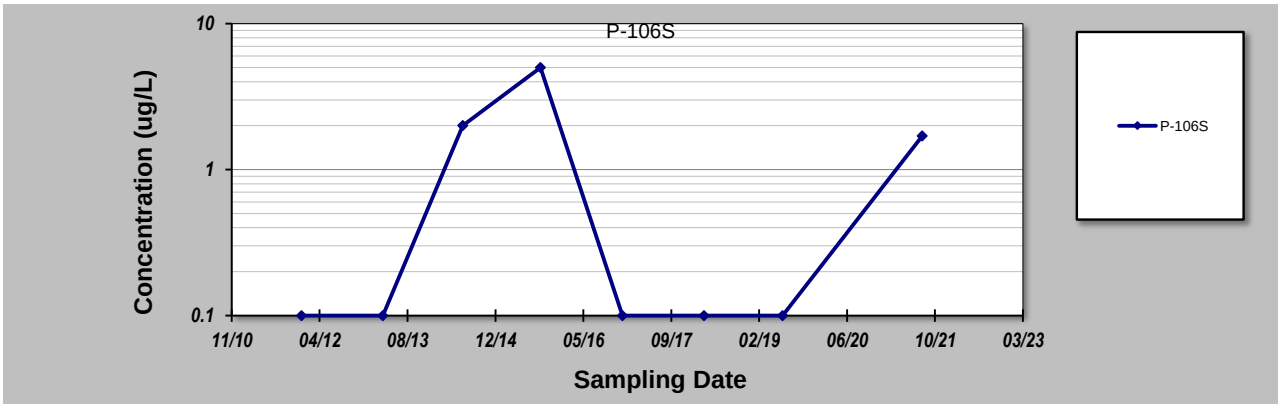
Coefficient of Variation:		1.52
Mann-Kendall Statistic (S):		2
Confidence Factor:		54.8%
Concentration Trend:		No Trend



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	13-Jun-24	Job ID:	1602534 Primo Shield
Facility Name:	EA Engineering (Primo Shield)	Constituent:	TCE
Conducted By:	Cassandra Derrick	Concentration Units:	ug/L

Sampling Point ID:	P-106S

Sampling Event	Sampling Date	TCE CONCENTRATION (ug/L)
1	20-Dec-11	0.1
2	27-Mar-13	0.6
3	24-Jun-14	0.97
4	9-Sep-15	0.92
5	19-Dec-16	0.68
6	27-Mar-18	0.1
7	18-Jun-19	0.7
8	20-Aug-21	0.1
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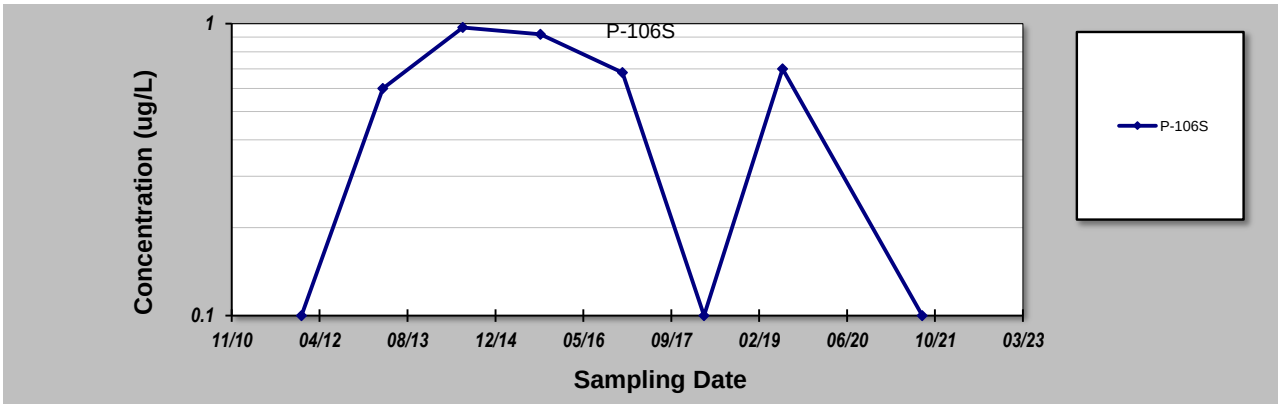
Coefficient of Variation:		0.71
Mann-Kendall Statistic (S):		-3
Confidence Factor:		59.4%
Concentration Trend:		Stable



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	13-Jun-24	Job ID:	1602534 Primo Shield
Facility Name:	EA Engineering (Primo Shield)	Constituent:	Lead
Conducted By:	Cassandra Derrick	Concentration Units:	ug/L

Sampling Point ID: P-107D

Sampling Event	Sampling Date	LEAD CONCENTRATION (ug/L)
1	21-Dec-11	5.7
2	27-Mar-13	0.1
3	23-Jun-14	10
4	9-Sep-15	0.1
5	20-Dec-16	7.2
6	28-Mar-18	0.1
7	18-Jun-19	0.1
8	20-Aug-21	0.1
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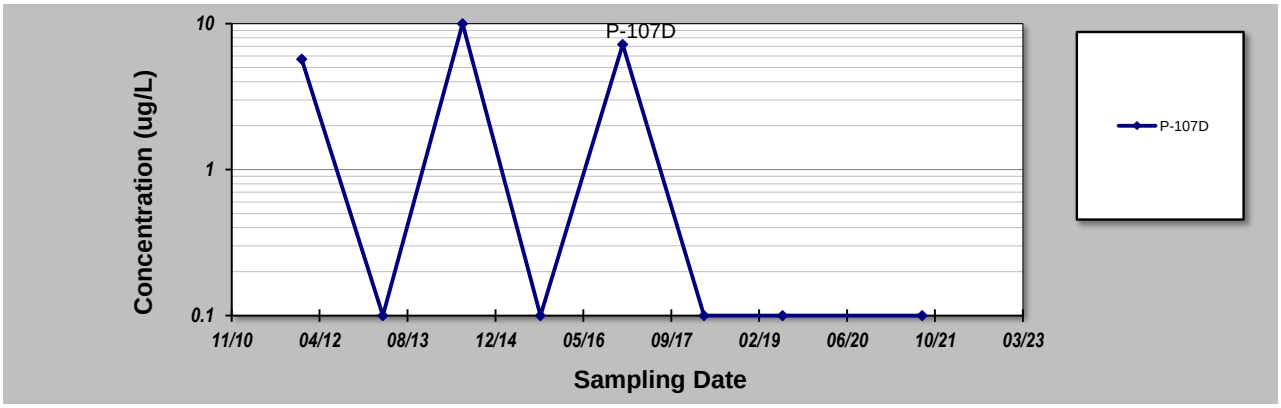
Coefficient of Variation:		1.39
Mann-Kendall Statistic (S):		-8
Confidence Factor:		80.1%
Concentration Trend:		No Trend



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	13-Jun-24	Job ID:	1602534 Primo Shield
Facility Name:	EA Engineering (Primo Shield)	Constituent:	Nickel
Conducted By:	Cassandra Derrick	Concentration Units:	ug/L

Sampling Point ID: P-107D

Sampling Event	Sampling Date	NICKEL CONCENTRATION (ug/L)
1	21-Dec-11	0.1
2	27-Mar-13	10.5
3	23-Jun-14	24
4	9-Sep-15	0.1
5	20-Dec-16	11
6	28-Mar-18	0.1
7	18-Jun-19	0.1
8	20-Aug-21	4.9
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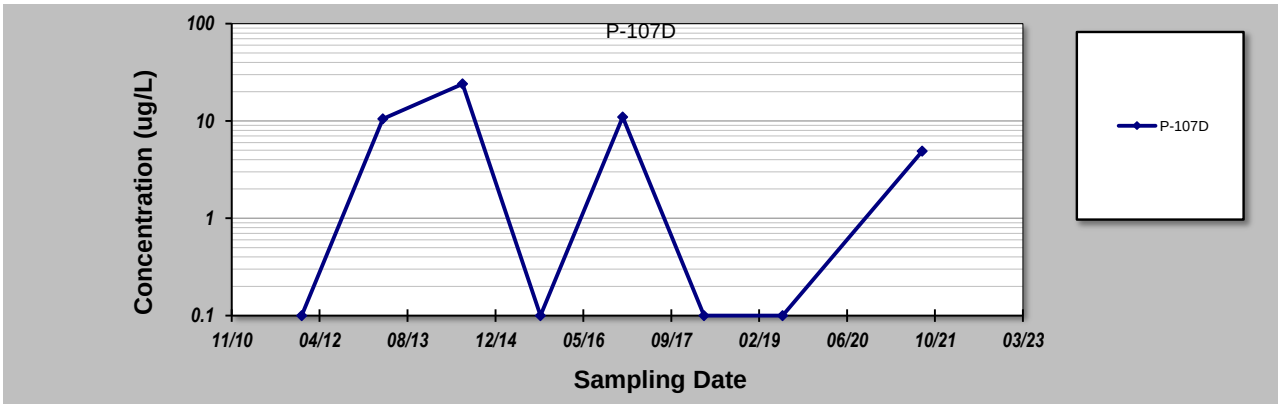
Coefficient of Variation:		1.34
Mann-Kendall Statistic (S):		-2
Confidence Factor:		54.8%
Concentration Trend:		No Trend



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	13-Jun-24	Job ID:	1602534 Primo Shield
Facility Name:	EA Engineering (Primo Shield)	Constituent:	TCE
Conducted By:	Cassandra Derrick	Concentration Units:	ug/L

Sampling Point ID: P-107D

Sampling Event	Sampling Date	TCE CONCENTRATION (ug/L)
1	21-Dec-11	0.1
2	27-Mar-13	0.1
3	23-Jun-14	0.1
4	9-Sep-15	0.1
5	20-Dec-16	0.1
6	28-Mar-18	0.1
7	18-Jun-19	0.1
8	20-Aug-21	0.1
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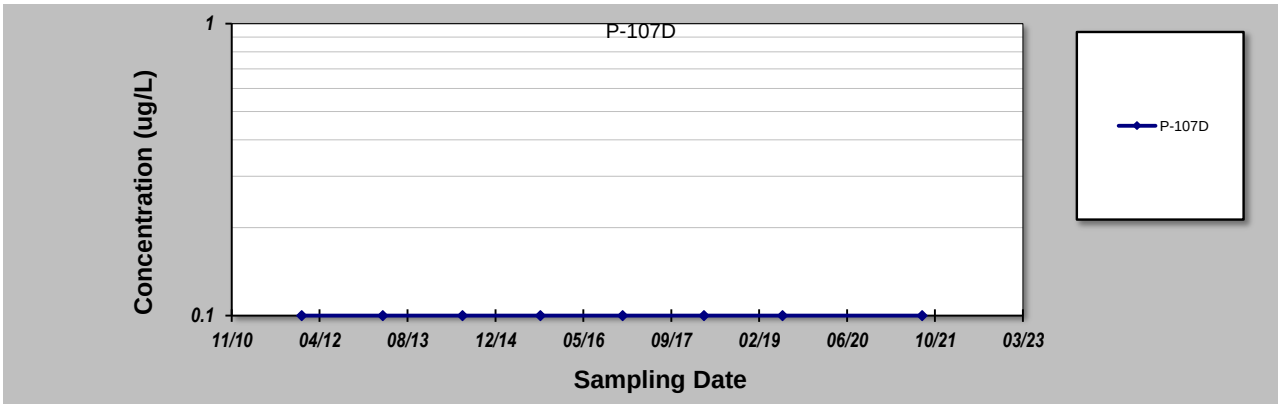
20		
Coefficient of Variation:		0.00
Mann-Kendall Statistic (S):		0
Confidence Factor:		45.2%
Concentration Trend:		Stable



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	13-Jun-24	Job ID:	1602534 Primo Shield
Facility Name:	EA Engineering (Primo Shield)	Constituent:	Lead
Conducted By:	Cassandra Derrick	Concentration Units:	ug/L

Sampling Point ID: P-107S

Sampling Event	Sampling Date	LEAD CONCENTRATION (ug/L)
1	21-Dec-11	0.1
2	27-Mar-13	0.1
3	24-Jun-14	0.1
4	9-Sep-15	6
5	20-Dec-16	0.1
6	28-Mar-18	0.1
7	19-Jun-19	0.1
8	20-Aug-21	0.1
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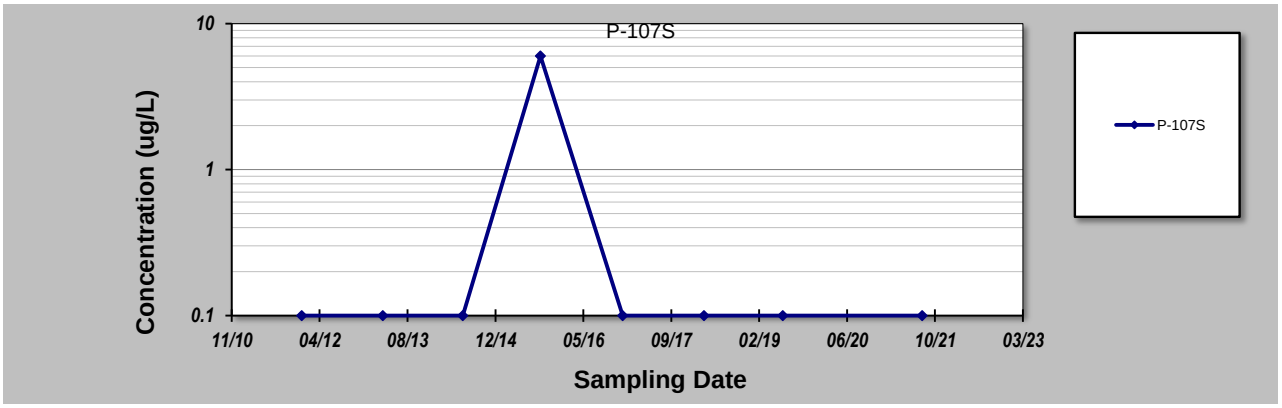
Coefficient of Variation:		2.49
Mann-Kendall Statistic (S):		-1
Confidence Factor:		50.0%
Concentration Trend:		No Trend



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	13-Jun-24	Job ID:	1602534 Primo Shield
Facility Name:	EA Engineering (Primo Shield)	Constituent:	Nickel
Conducted By:	Cassandra Derrick	Concentration Units:	ug/L

Sampling Point ID: P-107S

Sampling Event	Sampling Date	NICKEL CONCENTRATION (ug/L)
1	21-Dec-11	306
2	27-Mar-13	139
3	24-Jun-14	129
4	9-Sep-15	139
5	20-Dec-16	290
6	28-Mar-18	174
7	19-Jun-19	313
8	20-Aug-21	170
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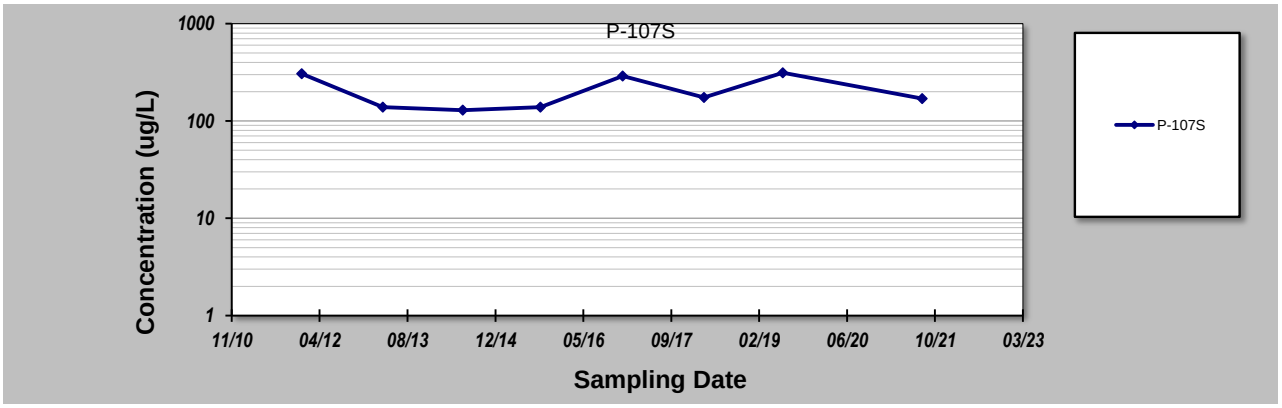
Coefficient of Variation:		0.39
Mann-Kendall Statistic (S):		5
Confidence Factor:		68.3%
Concentration Trend:		No Trend



Notes:

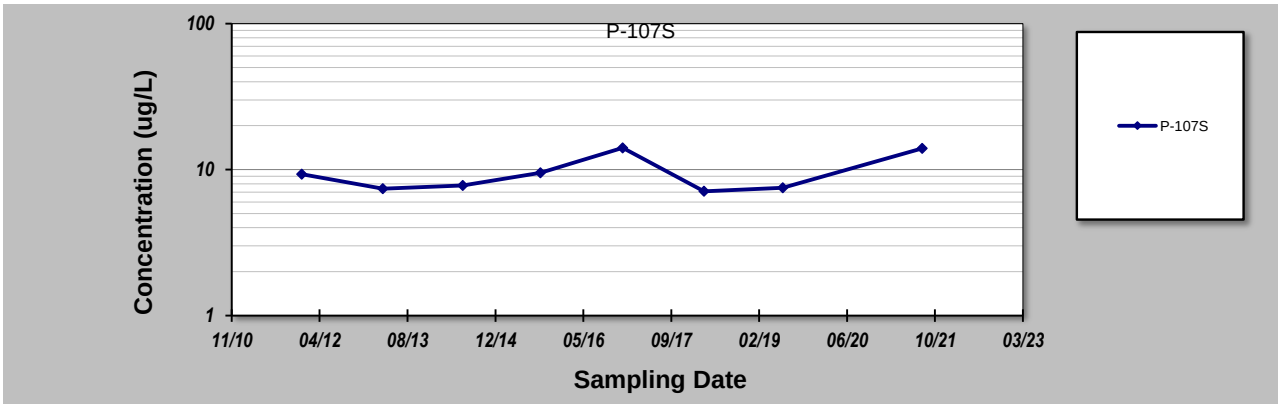
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date:	13-Jun-24	Job ID:	1602534 Primo Shield
Facility Name:	EA Engineering (Primo Shield)	Constituent:	TCE
Conducted By:	Cassandra Derrick	Concentration Units:	ug/L

Sampling Point ID: P-107S

Sampling Event	Sampling Date	TCE CONCENTRATION (ug/L)
1	21-Dec-11	9.3
2	27-Mar-13	7.4
3	24-Jun-14	7.8
4	9-Sep-15	9.5
5	20-Dec-16	14.1
6	28-Mar-18	7.1
7	19-Jun-19	7.5
8	20-Aug-21	14
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		
Coefficient of Variation:		0.30
Mann-Kendall Statistic (S):		4
Confidence Factor:		64.0%
Concentration Trend:		No Trend



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