2021 Annual Corrective Measures Implementation Summary Report Eastman Business Park Rochester, New York Site No. 828177

December 2023

Prepared for:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DEPARTMENT OF ENVIRONMENTAL REMEDIATION
625 Broadway, 12th Floor
Albany, New York 12233-7013

Prepared by:

ECOLOGY AND ENVIRONMENT ENGINEERING AND GEOLOGY, P.C.
40 La Riviere Drive, Suite 320
Buffalo, NY 14202

Table of Contents

Section **Page**

1 Introduction 1-1
1.1 General 1-1
1.2 System Performance Measurement 1-2

2 Operational Performance 2-1
2.1 WIA-EBPW North Fence-line Containment System 2-1
2.1.1 Operation Summary 2-1
2.1.2 Water Level Measurements 2-2
2.1.3 Water Quality Monitoring 2-2
2.2 Parking Lot 50 Migration Control System (MCS) 2-3
2.2.1 Operation Summary 2-3
2.2.2 Water Level Measurements 2-4
2.2.3 Water Quality Monitoring 2-4
2.3 Building 329/349 Area Remedial System 2-4
2.3.1 Operation Summary 2-4
2.3.2 Water Level Measurements 2-5
2.3.3 Water Quality Monitoring 2-5
2.4 Northern EBP-M Migration Control System 2-5
2.4.1 Operation Summary 2-5
2.4.2 Water Level Measurements 2-6
2.4.3 Water Quality Monitoring 2-6
2.5 MIA-301 (EBP-M) Groundwater Remediation System 2-7
2.5.1 Operation Summary 2-7
2.5.2 Water Level Measurements 2-7
2.5.3 Water Quality Monitoring 2-7
2.6 Northeast EBP-X Overburden Migration Control System 2-8
2.6.1 Operation Summary 2-8
2.6.2 Water Level Measurements 2-8
2.6.3 Water Quality Monitoring 2-8
2.7 Parking Lot 73 Remedial System 2-9
2.7.1 Operation Summary 2-9
2.7.2 Water Level Measurements 2-9
2.7.3 Water Quality Monitoring 2-9
2.8 Weiland Road Landfill Top-of-Rock Remedial System 2-9
2.8.1 Operation Summary 2-9
2.8.2 Water Level Measurements 2-10
2.8.3 Water Quality Monitoring 2-10

Table of Contents (cont.)

Section **Page**

2.9 Northeast EBP-E Migration Control System 2-10
2.9.1 Operation Summary 2-10
2.9.2 Water Level Measurements 2-10
2.9.3 Water Quality Monitoring 2-11
2.10 MIA-333 Remediation System (M-95) 2-11
2.10.1 Operation Summary 2-11
2.10.2 Water Level Measurements 2-12
2.10.3 Water Quality Monitoring 2-12
2.11 Individual Systems 2-12
2.11.1 Operation Summary 2-12
2.11.2 Water Level Measurements 2-13
2.11.3 Water Quality Monitoring 2-14

3 Protective Cover Integrity Program 3-1

4 Conclusions 4-1
4.1 Remedial Pumping Well Systems 4-1
4.2 Protective Cover Systems 4-1

5 References 5-1

Appendix

A Concentration-Time Series Plots A-1

B Soil Protective Cover Inspection Forms and Site Maps B-1

List of Tables

Table		Page
1	Eastman Business Park Remediation Systems, Rochester, New York	T-3
2	Total Groundwater Volume Extracted in 2021 (Gallons), Eastman Business Park Remediation Systems, Rochester, New York	T-4
3	Annual Groundwater Extraction Volumes Since 1988 (Gallons), Eastman Business Park Remediation Systems, Rochester, New York	T-5
4	Summary of 2021 Analytical Results for Groundwater Samples from Pumping Wells, Eastman Business Park Remediation Systems, Rochester, New York	T-8
5	Total Annual Contaminant Mass Extracted (Pounds), Eastman Business Park Remediation Systems, Rochester, New York	T-13
6	Analytical Results for Groundwater Samples from M-95 Area Wells, Eastman Business Park Remediation Systems, Rochester, New York	T-17
7	WIA-EBPW North Fence-line Containment System Maintenance Activities	T-22
8	Parking Lot 50 Migration Control System Maintenance Activities	T-32
9	Building 329/349 Area Remedial Systems Maintenance Activities	T-33
10	Northern EBP-M Migration Control System Maintenance Activities	T-34
11	MIA-301 (EBP-M) Groundwater Remediation System Maintenance Activities	T-37
12	Northeast EBP-X Overburden Migration Control System Maintenance Activities	T-38
13	Parking Lot 73 Remedial System Maintenance Activities	T-39
14	Weiland Road Landfill Top of Rock Remedial System Maintenance Activities	T-40
15	Northeast EBP-E Remedial System Maintenance Activities	T-41
16	MIA-333 (M-95) Remedial System Maintenance Activities	T-42
17	Maintenance Activities for Individual Systems	T-43

List of Figures

Figure **Page**

1 Site Location and Pumping Well Locations, Eastman Business Park, Rochester, New York F-2

2 EBP-E 2020 Overburden Groundwater Potentiometric Surface, Eastman Business Park, Rochester, New York F-4

3 EBP-E 2020 Top-of-Rock Groundwater Potentiometric Surface, Eastman Business Park, Rochester, New York F-6

4 EBP-E 2020 Grimsby-Queenston Groundwater Potentiometric Surface, Eastman Business Park, Rochester, New York F-8

5 EBP-M 2020 Overburden Groundwater Potentiometric Surface, Eastman Business Park, Rochester, New York F-10

6 EBP-M 2020 Top-of-Rock Groundwater Potentiometric Surface, Eastman Business Park, Rochester, New York F-12

7 EBP-M 2020 Grimsby-Queenston Groundwater Potentiometric Surface, Eastman Business Park, Rochester, New York F-14

8 EBP-W 2020 Overburden Groundwater Potentiometric Surface, Eastman Business Park, Rochester, New York F-16

9 EBP-W 2020 Top-of-Rock Groundwater Potentiometric Surface, Eastman Business Park, Rochester, New York F-18

10 EBP-W 2020 Grimsby-Queenston Groundwater Potentiometric Surface, Eastman Business Park, Rochester, New York F-20

11 EBP-X 2020 Overburden Groundwater Potentiometric Surface, Eastman Business Park, Rochester, New York F-22

12 EBP-X 2020 Top-of-Rock Groundwater Potentiometric Surface, Eastman Business Park, Rochester, New York F-24

13 EBP-X 2020 Grimsby-Queenston Groundwater Potentiometric Surface, Eastman Business Park, Rochester, New York F-26

List of Abbreviations and Acronyms

EBP	Eastman Business Park
EBP-E	Eastman Business Park – East (also referred to as KPE in Appendix B)
EBP-M	Eastman Business Park – Mount Read (also referred to as KPM in Appendix B)
EBP-W	Eastman Business Park – West (also referred to as KPW in Appendix B)
EBP-X	Eastman Business Park – Extension (also referred to as KPX in Appendix B)
E & E	Ecology and Environment Engineering and Geology, P.C.
GQ	Grimsby-Queenston
GSAP	Groundwater Sampling and Analysis Plan
Kodak	Eastman Kodak Company
Lot 50 MCS	Parking Lot 50 Migration Control System
mg/L	milligrams per liter
NEBP-M MCS	Northern EBP-M Migration Control System
NE-EBPX MCS	Northeast EBP-X Overburden Migration Control System
NFCS	North Fence-line Containment System
NYSDEC	New York State Department of Environmental Conservation
TOR	top-of-rock
VOC	volatile organic compound
WIA-EBPW	EBP-W North Fence-line Containment System
WRLF	Weiland Road Landfill

1 Introduction

1.1 General

Ecology and Environment Engineering and Geology, P.C. (E & E) is conducting site management activities on behalf of the New York State Department of Environmental Conservation (NYSDEC) for remedies that have been implemented under the Kodak Park Corrective Action Program at the Eastman Kodak Company (Kodak)/Eastman Business Park (EBP) facility (herein referred to as "the site") in Rochester, New York (Site No. 828177). As a consequence of Kodak's Chapter 11 filing in United States Bankruptcy Court and subsequent settlement agreements made in relation to the bankruptcy, NYSDEC has become responsible for implementing the site management activities of existing remedial programs. E & E is implementing these activities under contract D009807.

The pumping wells and associated systems collectively represent components of the final corrective measures implemented by Kodak at the EBP facility with NYSDEC's approval to address groundwater hydraulic control and contaminant mass removal. This report presents summarized data on the operation and performance of groundwater remedial measures conducted at the EBP facility from January 1 through December 31, 2021. During this time period, 40 pumping wells were operated, maintained, and monitored at the site. In addition, the Site Management Plan for the site includes maintenance of soil protective covers that are part of the final corrective measures for a number of EBP investigation areas (Kodak 2016). This report also summarizes inspection and maintenance activities for the soil covers.

The pumping wells that comprise the remediation systems each extract groundwater using downhole pumps. There are 40 active pumping wells in 11 remediation areas. Each individual well and/or well system was physically inspected weekly. The weekly physical checks are made to ensure that the pumping and control systems function and maintain the prescribed groundwater control elevation (setpoint). Development of remote monitoring features for these systems to assist in weekly data collection and well condition assessment is being evaluated. A system is considered to be non-functional when it is not pumping or is unable to maintain hydraulic containment. When a system is non-functional, maintenance is performed to return the system to operational status.

Table 1 identifies the name of each active remediation system, the individual pumping wells that comprise each system, and the purpose of the system. An

overall map showing the site's four delineated sections, namely Eastman Business Park – East (EBP-E), Eastman Business Park – West (EBP-W), Eastman Business Park – Extension (EBP-X), and Eastman Business Park – Mount Read Boulevard (EBP-M), and the location of pumping wells is included as Figure 1. Section 1.2 describes the methods performance data were collected and reported, including groundwater level measurements, water quality monitoring, and volume of extracted groundwater. Section 2 provides an overview of the operational condition of each system and any associated maintenance performed during the reporting period along with an overall summary of performance.

1.2 System Performance Measurement

This report presents three measures of system performance: 1) the volume of groundwater extracted by each well; 2) the potentiometric groundwater surface near the respective well; and 3) the concentration of organic constituents in the well water. Extraction rates for the systems are monitored by magnetic or mechanical flow meter instrumentation. These instruments monitor flow rates and record totalized flow values for each system.

The total monthly volume of groundwater extracted by the individual pumping wells for the period of January 1 through December 31, 2021, is summarized in Table 2 and the annual volume of groundwater extracted from 1988 to 2021 is summarized in Table 3.

The potentiometric surfaces for the principal hydrostratigraphic flow zones at EBP (overburden, top-of-rock [TOR], and Grimsby-Queenston [GQ]) were determined based on site-wide water level measurements conducted between April 19 and July 1, 2021. Most pumping wells were sampled in May and June 2021. Pumping well PB326SW9 was not sampled as there was no water available in the well due to the groundwater drawdown caused by the two nearby wells (PB326SW5 and PB326SW8). Maps illustrating these respective flow-zone surfaces are presented in Figures 2 through 13 for EBP-E, EBP-M, EBP-W, and EBP-X. Hydraulic flow conditions are illustrated on these maps based on the field measurements.

Groundwater elevations were collected concurrently with sampling on a park-section-by-park-section basis to provide relatively contemporaneous readings by section. Because multiple weeks may pass between groundwater elevation collection and sampling in adjacent park sections, the groundwater potentiometric surface maps are not depicted for the entire EBP but by park section for the overburden, TOR, and GQ zones. Pumping well areas of influence are depicted in these potentiometric surface maps prepared by section in this report. Captures zones are not explicitly depicted on these figures because overall hydraulic containment is collectively affected by pumping well systems across the park. The section-specific groundwater flow patterns are similar in 2021 to those determined in prior years resulting in similar capture zones. Therefore, it appears that the majority of groundwater throughout the EBP is contained where necessary by the pumping well systems.

The areas of groundwater influence for each pumping well system depicted for the time of measurement in spring and summer 2021 show that the systems met remedial objectives for containment.

Potentiometric surfaces were created using set-point levels in a well if the average recorded water level in that well was below the set-point over the course of the year. For wells where this condition was not met, the following methods were used:

- Northeast EBP-E Migration Control System pumping well PL41N transducer consistently malfunctioned since 2020 (and was later replaced); thus the average groundwater elevation during 2019 was used.
- Northeast EBP-X Overburden Migration Control System setpoint elevation for pumping well PB218N was used as groundwater elevation.
- Groundwater elevations for pumping wells PB307E2, PB307N3, PB322NE2, PB322NE4, PB326SW5, PB326SW8, and PB326SW9 are based on the top of pump elevations. The pneumatic pumps at these locations are capable of sustaining groundwater elevation at the top of the pump or deeper.

In 2021, E & E collected groundwater samples from 39 pumping wells, 150 monitoring wells, one storm sewer manhole, and the M7 leachate sump. All pumping well samples were analyzed for volatile organic compounds (VOCs). Pumping wells in the EBP-M section of the EBP were tested for 1,4-dioxane, as described in the 2022 Groundwater Sampling and Analysis Report (E & E 2023a). The WRLF pumping well was also tested for 1,4-dioxane in addition to leachate parameters as described in the WRLF 2021 Environmental Monitoring Report (E & E 2023b). A summary of the compounds detected in each pumping well is presented in Table 4. The analytical data and the respective volumes of water extracted were used to calculate the mass of organic contaminants removed from each pumping well during 2021. A summary of the 2021 contaminant mass extracted and a comparison to previous year's data is presented in Table 5.

As a follow-up to the system conversion performed at the M-95 remediation system (formerly the MIA-333 dual-phase extraction system), four monitoring wells and two active pumping wells within the M-95 area were sampled as part of the 2021 Groundwater Sampling and Analysis Plan (GSAP). Samples were analyzed for VOCs and 1,4-dioxane. A summary of the compounds detected in 2021 and previous years in the pumping and monitoring wells within the M-95 area are presented in Table 6.

The 2021 GSAP Report contains the results of monitoring well sampling conducted in May and June 2021 (E & E 2023a). That report was prepared as a requirement of the EBP GSAP (Kodak 2012) and Site Management Plan (Kodak 2016). Monitoring well data from that report are not presented herein.

2 Operational Performance

2.1 WIA-EBPW North Fence-line Containment System

Eight pumping wells comprise the EBP-W North Fence-line Containment System (referred to as WIA-EBPW or NFCS). The NFCS is designed to prevent migration of groundwater contaminants beyond the EBP property line in the overburden and TOR flow zones in the WIA-EBPW. The eight electric submersible pumping wells are: PL54E, PL54NE, PL54NE2, PL54W, PB119ER, PB119NER, PB135ER, and PB143NW.

2.1.1 Operation Summary

A summary of the 2021 maintenance activities for the WIA-EBPW system is provided in Table 7. A new motor was installed in PB135ER on March 3, 2021; a new pump and motor were installed in PL54NE on March 10, 2021; a new pump was installed in PL54E on August 25, 2021 and a new motor was installed on October 28, 2021; a new pump was installed in PL54NE2 on September 21, 2021. Routine cleanings of pumps, motors, transducers, and flow meters occurred at all eight wells at various times throughout 2021. Additional repairs throughout the years include plumbing repairs, cleaning and jetting of discharge lines, well vault maintenance, shed maintenance, electrical repairs, and routine visits to ensure the pumping wells are running correctly. A Warrick controller was installed at pumping well PB135ER as a replacement to the old level controller and transducer as a solution to add resiliency against the heavy iron fouling encountered in those wells. The Warrick control was installed on May 13, 2021. Continued troubleshooting occurred with the Warrick controls previously installed at pumping wells PL54W and PL54E to optimize their operation. Sheds D1, D2, D6, and D7 had various repairs and maintenance done. New floors were installed at sheds D1, D6, and D7. The groundwater elevations at pumping well PL54NE was over the set-point for more than half of the year, likely as a result of reduced flows associated with iron fouling. Pumping wells PL54W and PL54E no longer have water level readings recorded due to the replacement of the transducers with Warrick controllers.

Mechanical well cleaning occurred at the following pumping wells and dates:

- PB135ER on August 13 and September 9, 2021;
- PL54E on August 25, 2021;
- PL54NE on June 15 and August 19, 2021; and
- PL54NE2 on May 18, 2021.

Discharge lines cleaning from the wells to the sheds and to the industrial sewer occurred at the following pumping wells and dates:

- PB135ER on April 6, June 23, and August 23, 2021;
- PL54E on April 30 and August 25, 2021;
- PL54NE on August 11 and August 19, 2021; and
- PL54NE2 on May 18, 2021.

2.1.2 Water Level Measurements

Contours of the overburden, TOR, and GQ groundwater potentiometric surfaces in the EBP-W area are presented in Figures 8 through 10. The effect of the NFCS on groundwater is visually demonstrated for the overburden and TOR zones in Figures 8 and 9 by the hydraulic depressions around the pumping wells in the TOR zone and around the area of the pumping wells in the overburden. The extent of influence in the TOR zone extends beyond the property boundary to the north, indicating that groundwater is pulled back to the site by this system.

2.1.3 Water Quality Monitoring

Groundwater samples for the majority of the NFCS pumping wells were collected on June 2-3, 2021. A summary of the detected compounds is presented in Table 4. These data and the total annual flow were used to calculate the mass of contaminants removed by each well in the system during 2021 (see Table 5). In addition, concentration-time series plots were prepared for each well and are presented in Appendix A.

Total VOC concentrations increased in two of the NFCS pumping wells (PL54NE, and PL54NE2) and decreased in all other NFCS pumping wells in 2021.

- Total VOC concentrations in PL54E have been variable since inception in 1997. Total concentrations in this well reached a historical minimum in 2015 (non-detect) and have since increased to 0.008 milligrams per liter (mg/L) in 2021, down from 0.09 mg/L in 2020.

- Total VOC concentrations at PL54W have remained relatively consistent since inception aside from a few years of anomalous organic concentration increases. In 2021, the total VOC concentration was 0.18 mg/L, down from 0.27 mg/L in 2020.

- Total VOC concentrations in PL54NE have been variable, with the highest concentration of organics observed in 2002 (28 mg/L) and the lowest concentration (0.003 mg/L) observed in 2004. Total concentrations in PL54NE have generally decreased since 2008 to 0.04 mg/L in 2021.

- Total VOC concentrations in PL54NE2 have been variable since inception in 2008, with the highest concentration of total organics occurring in 2002 at 29.2 mg/L. Total VOC concentrations in this well have exhibited a gen-

erally declining trend since inception, the only organic compounds detected in this well in 2021 was vinyl chloride with a concentration of 0.0017 mg/L.

- Total VOC concentrations in PB143NW have generally remained consistent since 2003 with the exception of significantly increased concentrations between 2010 and 2012. Total concentrations in this well have remained below 0.01 mg/L since 2013. The total VOC concentration detected in this well in 2021 was 0.0014 mg/L, down from 0.0017 mg/L in 2020.

- Total VOC concentrations in PB119ER have been highly variable, ranging from 12 mg/L in 2002 to 0.093 mg/L in 2008 and the lowest concentration recorded in 2013 at 0.018 mg/L. The value has only slightly increased since 2013, recorded at 0.049 in 2020 and 0.039 in 2021, but overall concentrations have indicated a general decreasing trend.

- Total VOC concentrations in PB119NER have been highly variable, although similar to PB119ER, have exhibited a generally decreasing trend since inception in 1997. Total organics in 2020 were detected at 0.014 mg/L, but were non-detect in 2021.

- Total VOC concentrations in PB135ER have been generally decreasing since inception in 1994. Total organics were detected in both 2020 and 2021 at 0.006 mg/L.

2.2 Parking Lot 50 Migration Control System (MCS)

Four pumping wells (PL50N2, PL50N3, PL50NW3, and PL50W) comprise the Lot 50 MCS. The system is designed to prevent the migration of groundwater contaminants in the GQ flow zone in the EBP-W area beyond the southern property line.

2.2.1 Operation Summary

A summary of the 2021 maintenance activities for this system is provided in Table 8. No maintenance or part replacements were required at PL50N2 or PL50W during 2021. No new motors or pumps were installed at any of these pumping wells. The well vaults for all four pumping wells need their actuator struts replaced. Pumping well PL50N3 began having issues with the flowmeter recording flowrate and flow totals in September 2021. As of the end of 2021 quotes were being acquired to replace the flowmeter, the pump was still running efficiently despite totals not being recorded. The discharge hoses at PL50N3 and PL50NW3 had to have their fittings replaced with stainless steel to prevent corrosion.

No chemical or mechanical cleaning occurred at these wells during 2021.

2.2.2 Water Level Measurements

Contours of the overburden, TOR, and GQ groundwater potentiometric surfaces in EBP-W area are presented in Figures 8 through 10. The effect of the Lot 50 MCS within the GQ flow zone is illustrated in Figure 10 by the depressions in the contour lines. Within this area of influence, groundwater in the overburden, TOR, and GQ flows towards the wells within the Lot 50 MCS. The extent of capture in the GQ zone extends beyond the property boundary to the south, indicating that groundwater is pulled back to the site by this system (see Figure 10).

2.2.3 Water Quality Monitoring

Groundwater samples were collected from all of the Lot 50 MCS pumping wells on June 2, 2021. A summary of the detected compounds is presented in Table 4. These data and the total annual flow volumes were used to calculate the mass of contaminants removed by each pumping well in the system during 2020. These values are presented in Table 5. In addition, concentration-time series plots were prepared for each well and are presented in Appendix A.

Total VOC concentrations in three of the four wells (PL50N3, PL50NW3, and PL50W) show a general decrease in concentration from inception to 2021. The exception was well PL50N2, where overall VOC concentrations indicate an increasing trend from inception through 2021 (1,000 mg/L), although there was a slight decrease to 849 mg/L in 2020.

- Total VOC concentrations in well PL50N3 decreased from 0.0057 mg/L in 2020 to 0.0021 mg/L in 2021.

- Total VOC concentrations in well PL50NW3 have been slowly decreasing since 2019 to a concentration of 0.0073 mg/L in 2021.

- Total VOC concentrations in well PL50W have been slowly decreasing since 2019 to a concentration of 0.012 mg/L in 2021.

- Total VOC concentrations in well PL50N2 have been variable since 2019, but stayed relatively around 1,000 mg/L.

2.3 Building 329/349 Area Remedial System

Two fractured rock trenches and two pumping wells (PB329E2 and PB349N) comprise the Building 329/349 Area Remedial System. The system is designed to prevent the migration of groundwater contaminants in the overburden and TOR flow zones in the northwestern portion of the EBP-M area across the northern property line.

2.3.1 Operation Summary

A summary of the 2021 maintenance activities for this system is provided in Table 9. A new flow meter at PB349N was installed on April 14, 2021. The pump head for PB329E2 was replaced on May 19, 2021.

None of these wells required chemical cleaning in 2021. Pumping well PB329E2 was mechanically cleaned on May 14, 2021.

2.3.2 Water Level Measurements

Contours of the overburden, TOR, and GQ groundwater potentiometric surfaces in EBP-M area are presented in Figures 5 through 7. The effect of the Building 329/349 Area Remediation System within the TOR surface is illustrated by the depressions in the contour lines on Figure 6, with groundwater flowing toward the trenches/pumping wells within the system. The system does not appear to have any hydraulic influence within the GQ zone.

2.3.3 Water Quality Monitoring

Groundwater samples were collected from PB349N on May 4, 2021 and PB329E2 on June 1, 2021. A summary of the detected compounds is presented in Table 4. These data and the total annual flow were used to calculate the mass of contaminants removed by each pumping well in the system during 2021. These values are presented in Table 5. In addition, concentration-time series plots were prepared for each well and are presented in Appendix A.

VOC concentrations have remained low or non-detect for the majority of time since 1998. Any VOC detections in recent years have been steadily decreasing.

- Total VOC concentrations in PB349N have remained non-detect since 2008. Only two isolated sampling events since 1998 have resulted in detections (2001 and 2007).

- Total VOC concentrations in PB329E2 remained undetected or below a value of 0.001 mg/L for several years subsequent to 2004; however, a general increase in total organic concentration was observed in 2013, with total organic concentrations remaining consistent between 0.107 mg/L and 0.155 mg/L between 2013 and 2021, with 0.107 mg/L being the concentration in 2021.

2.4 Northern EBP-M Migration Control System

One overburden French drain with pumping well (PB350NE2), and two fractured rock trenches with related pumping wells (PB319N and PB350NW) comprise the Northern EBP-M Migration Control System (NEBP-M MCS). The system is designed to prevent the migration of groundwater contaminants in the overburden and TOR flow zones in the northern portion of the EBP-M area across the northern EBP-M area property line.

2.4.1 Operation Summary

A summary of the 2021 maintenance activities for this system is provided in Table 10. A new pump was installed in PB319N on March 12, 2021 and a new pump and motor was installed in PB350NW on August 5, 2021. Repairs and maintenance of electrical and plumbing components were conducted at each of

the wells throughout the year. The area was flooded on two occasions that resulted in large amounts of sediment and debris being washed into the wells; in early May 2021 burst underground piping flooded the area and in early July heavy rainfall overwhelmed the stormwater drains and flooded the area. The wells required cleaning after these events. New discharge hoses were installed at all three wells. New flooring and shelving were installed at the M10 shed that houses the pump controls. The shed was also painted and cleaned.

Mechanical cleaning occurred at the following wells and dates:

- PB319N on March 11 and August 5, 2021;
- PB350NE2 on August 25, 2021. RED-Rochester also attempted to clean this well on August 20, 2021; however, their equipment was unable to remove the built-up sediment; and
- PB350NW on July 16, 2021.

Discharge lines cleaning from the wells to the shed and to the industrial sewer occurred at the following pumping wells and dates:

- PB319N on April 9 through April 13 and July 2, 2021;
- PB350NE2 on August 23, 2021; and
- PB350NW on July 16, 2021.

2.4.2 Water Level Measurements

Contours of the overburden, TOR, and GQ groundwater potentiometric surfaces in EBP-M area are presented in Figures 5 through 7. The effects of the NEBP-M MCS in the overburden and the TOR surfaces are illustrated by the depressions in the contour lines in Figures 5 and 6. Within the overburden and TOR areas of influence, groundwater flows towards the trench and three pumping wells within the system.

2.4.3 Water Quality Monitoring

Groundwater samples were collected from the three Northern EBP-M MCS pumping wells on June 1, 2021. A summary of the detected compounds is presented in Table 4. These data and the total annual flow volumes were used to calculate the mass of contaminants removed by each pumping well during 2021. These values are presented in Table 5. The concentration-time series plots prepared for the wells in this system are presented in Appendix A.

- Total VOC concentrations in PB319N have been non-detect since 2019 with the exception of 1,4-dioxane, which as been decreasing since 2019 and was detected at a concentration of 0.0064 mg/L in 2021.

- Total VOC concentrations in PB350NE2 have generally been decreasing since inception, however concentrations have been variable since 2015. The only VOCs detected in 2021 were chloroform at a concentration of 0.0004 mg/L and 1,4-dioxane with a concentration of 0.046 mg/L.

- Total VOC concentrations in PB350NW have generally been decreasing since inception, however concentrations have been variable since 2015. The only VOCs detected in 2021 were chloroform and 1,4-dioxane. Chloroform was detected at a concentration of 0.0085 mg/L in 2021, which is up from 0.0077 mg/L from 2020. 1,4-Dioxane was detected at a concentration of 0.046 mg/L in 2021, which is down from 0.064 mg/L from 2020.

2.5 MIA-301 (EBP-M) Groundwater Remediation System

This system consists of three pneumatic groundwater pumping wells (PB303SW, PB303W2, and PB323SE2) that were installed to recover groundwater contaminants from the interior area of EBP-M in the vicinity of a former drum storage pad west of the Building 301 – 304 complex.

2.5.1 Operation Summary

A summary of the 2021 maintenance activities for this system is provided in Table 11. Maintenance of the pumps, air supply, and discharge lines were conducted throughout 2021. The vaults for wells PB323SE2 and PB303W2 had drainage holes installed on September 17, 2021. Repairs to the walls of the vault for PB303SW were done on October 14, 2021.

Mechanical cleaning of the vault for PB323SE2 occurred on April 19, 2021, and for the vault for PB303SW on October 14, 2021.

2.5.2 Water Level Measurements

Contours of the overburden, TOR, and GQ groundwater potentiometric surfaces in EBP-M area are presented in Figures 5 through 7. The effects of the MIA-301 Groundwater Remediation System in the overburden and the TOR surfaces are illustrated by depressions in the contour lines on Figures 5 and 6, with groundwater flowing toward the three pumping wells within the system. The system has no influence or hydraulic capture within the GQ zone.

2.5.3 Water Quality Monitoring

Groundwater samples were collected from MIA-301 pumping wells PB303SW, PB303W2, and PB323SE2 between May 27 and June 1, 2021. A summary of the detected compounds is presented in Table 4. These data and the total annual flow were used to calculate the mass of contaminants removed by each of the three pumping wells during 2021. These values are presented in Table 5. The concentration-time series plots prepared for the wells in this system are presented in Appendix A.

- Total organic concentrations in PB303SW have shown relatively high variability since inception, but an overall decreasing trend was since 2012. 1,1- Dichloroethane, 1,2-dichloroethane, isopropyl ether, and 1,4-dioxane were detected in 2021 at concentrations of 0.0064 mg/L, 0.00032 mg/L, 0.011 mg/L, and 0.022 mg/L respectively. All analytes have decreased since an anomalous and historical high in 2019.

- Total organic concentrations in PB303W2 generally show a decreasing trend with a slight uptick in concentrations since 2019. Concentrations have either decreased or remained relatively constant since 2019. Noteworthy concentrations in 2021 include: isopropyl ether, methylene chloride, xylenes, and 1,4-dioxane with concentrations of 0.25 mg/L, 0.15 mg/L, 13 mg/L, and 1.9 mg/L, respectively.

- Total organic concentrations in PB323SE2 have increased since 2015 and reached a historical high in 2018. Concentrations have generally been decreasing since 2018. Noteworthy concentrations in 2021 include: 1,1-dichloroethane, chloroform, methylene chloride, and 1,4-dioxane with concentrations of 0.0017 mg/L, 0.00078 mg/L, 0.0010 mg/L, and 0.053 mg/L, respectively.

2.6 Northeast EBP-X Overburden Migration Control System

One overburden French drain and pumping well PB218N comprise the Northeast EBP-X Overburden Migration Control System (NE-EBP-X MCS). The NE-EBP-X MCS is designed to prevent the migration of groundwater contaminants in the overburden in XIA-218 from leaving the NE-EBPX area.

2.6.1 Operation Summary

A summary of the 2021 maintenance activities for this system is provided in Table 12. Deterioration and damage to the well was assessed on September 24, 2021. Repairs were planned out and planned for 2022.

This well did not require any cleaning in 2021.

2.6.2 Water Level Measurements

Contours of the overburden, TOR, and GQ groundwater potentiometric surfaces in the NE-EBPX MCS area are presented in Figures 11 through 13. The effect of pumping well PB218N on the overburden surface is illustrated in Figure 11 by the depressions in the contour lines.

2.6.3 Water Quality Monitoring

Groundwater samples were collected from pumping well PB218N on June 2, 2021. A summary of the detected compounds is presented in Table 4. These data and the total annual flow were used to calculate the mass of contaminants removed by the pumping well during 2021. These values are presented in Table 5. The concentration-time series plot for the groundwater extracted at PB218N is presented in Appendix A. In general, the total organic concentrations in groundwater at this location has steadily decreased over time. Concentrations have remained below 0.001 mg/L since 2013, with non-detect concentrations in 2014, 2016, 2018, 2020, and 2021.

2.7 Parking Lot 73 Remedial System

One overburden French drain and pumping well PL73N comprise the Parking Lot 73 Remedial System. The system is designed to prevent surface seepage and to afford some control over the migration of groundwater contaminants in the shallow overburden in this area.

2.7.1 Operation Summary

A summary of the 2021 maintenance activities for this system is provided in Table 13. Troubleshooting and optimization of the float system occurred during the first quarter of the year. A ventilation fan was installed on the control cabinet on November 16, 2021. A cover was installed on the back of the control cabinet and electrical conduits on December 29, 2021 to prevent salt spray from the roads from corroding the case and conduits.

The well did not require cleaning in 2021.

2.7.2 Water Level Measurements

Contours of the overburden, TOR, and GQ groundwater potentiometric surfaces in EBP-M are presented in Figures 5 through 7. The Parking Lot 73 system was not designed based on a hydraulic capture zone specification, and as such, a hydraulic area of influence is not illustrated. However, continued operation of the pump shows that capture of overburden groundwater in the French drain system remains effective.

2.7.3 Water Quality Monitoring

A groundwater sample was collected from PL73N on June 1, 2021. A summary of the detected compounds is presented in Table 4. These data and the total annual flow were used to calculate the mass of contaminants removed by the pumping well during 2019. These values are presented in Table 5. The concentration-time series plot for the groundwater extracted at PL73N is presented in Appendix A. In general, the total organic concentrations in groundwater at this location has decreased over time, with the lowest concentration (0.007 mg/L) observed in 2011. Concentrations have been variable since 2015 with alternating cycles of slightly increasing or decreasing from year to year since then. Concentrations have slightly increased from 0.12 mg/L in 2020 to 0.13 mg/L in 2021. Noteworthy contaminants include: dichloroethylenes, vinyl chloride, and 1,4-dioxone with concentrations of 0.019 mg/L, 0.0043 mg/L, and 0.044 mg/L, respectively.

2.8 Weiland Road Landfill Top-of-Rock Remedial System

A single fractured rock trench and pumping well, PWRNW3, comprise the WRLF TOR Remedial System. This system is designed to prevent groundwater contaminants in the overburden and TOR flow zones from the landfill from migrating across the western EBP-M property line.

2.8.1 Operation Summary

A summary of the 2021 maintenance activities for this system is provided in Table 14. A new discharge hose was installed in the well on February 5, 2021. A

windstorm in early December 2021 knocked down multiple utility poles and power lines leading to the M7 leachate shed and subsequently pumping well PWRNW3. Power was out to the pump from December 12 through December 29, 2021. Upon power being restored the level controller had to be reprogrammed to restart automatic running of the pump.

This well did not require any cleaning in 2021.

2.8.2 Water Level Measurements

Contours of the overburden, TOR, and GQ groundwater potentiometric surfaces in EBP-M are presented in Figures 5 through 7. The effect of the WRLF Remedial System is illustrated for the TOR zone in Figure 6, with groundwater flowing to the pumping well.

2.8.3 Water Quality Monitoring

Groundwater samples were collected at pumping well PWRNW3 on May 14, 2021. A summary of the detected compounds is presented in Table 4. These data and the total annual flow were used to calculate the mass of contaminants removed by the pumping well during 2021. This value is presented in Table 5. The concentration-time series plot for the groundwater extracted at PWRNW3 is presented in Appendix A. In general, the total organics concentration in groundwater extracted at this location has steadily decreased over time and is very low compared to other remedial systems at EBP. The total concentration in this well decreased from 0.043 mg/L in 2017 to 0.016 mg/L in 2020, primarily due to decreases in the concentration of 1,4-dioxane. An increase in 1,4-dioxane in 2021 contributed to an increase in total VOC concentrations to 0.051 mg/L.

2.9 Northeast EBP-E Migration Control System

Two fractured-rock trenches and four associated pumping wells (PL41N, PL41S, PL42E, and PL42W) located in parking lots 41 and 42, comprise the Northeast EBP-E Migration Control System. This system was installed to prevent the migration of contaminants in the bedrock groundwater (TOR and GQ flow zones) from migrating beyond the northeast EBP-E area.

2.9.1 Operation Summary

A summary of the 2021 maintenance activities for this system is provided in Table 15. No maintenance, beyond general cleaning of the vaults, occurred at PL41N or PL42E during 2021. PL41N ran constantly for all of 2021 as the water level has not been drawn down to the set-point. The discharge hose in PL41S was replaced on June 22, 2021. The discharge hose in PL42W was replaced on May 12, 2021 and the level controller was reprogrammed on May 28, 2021.

No cleaning occurred in the wells during 2021.

2.9.2 Water Level Measurements

Contours of the overburden, TOR, and GQ groundwater potentiometric surfaces in the northeast EBP-E area are presented in Figures 2 through 4. The effect of

the system is illustrated for the TOR and GQ surfaces in Figures 3 and 4 by the depressions in the contour lines. Within the areas of influence, groundwater flows toward the four pumping wells within the system.

2.9.3 Water Quality Monitoring

Groundwater samples were collected from the four pumping wells on June 3, 2021 . A summary of the detected compounds is presented in Table 4. These data and the total annual flow were used to calculate the mass of contaminants removed by each well in the system during 2021. These values are presented in Table 5. In addition, a concentration-time series plot for total organic concentrations at these locations are presented in Appendix A. The total organic concentrations in groundwater extracted at these locations has fluctuated significantly between 2007 and 2013, indicating possible seasonal fluctuation (generally lower in the fall and higher in the spring). Concentrations in all four wells have decreased significantly since 2012, however an increase has been observed between 2019 and 2021.

- Total VOC concentrations in PL41N increased in 2021 due to a steady increase in chloroform to a value of 0.0057 mg/L as well as the first detection of TCE at a value of 0.00049 mg/L.

- Total VOC concentrations in PL41S also showed an increase in chloroform to a concentration of 0.0067 mg/L.

- Total VOC concentrations in PL42E increased in 2021 due to an increase in PCE to a concentration of 0.00067 mg/L as well as the first detection of cyclohexane at a concentration of 0.00039 mg/L.

- Total VOC concentrations in PL42W in 2021 due to a significant increase in methylene chloride. Methylene chloride was detected in 2021 at a concentration of 0.19 mg/L, up from 0.00088 mg/L in 2019. 1,2-Dichloropropane also increased in 2021 to a concentration of 0.0035 mg/L, up from 0.0033 mg/L in 2020.

2.10 MIA-333 Remediation System (M-95)

This system was converted in May 2019 from four dual-phase extraction wells (and a dual-phase extraction unit and related equipment) to a three-well, overburden, groundwater extraction system. All three extraction wells are equipped with pneumatic pumps (PB326SW5, PB326SW8, and PB326SW9).

2.10.1 Operation Summary

A summary of the 2021 maintenance activities for this system is provided in Table 16. General maintenance was conducted at the M-95 trailer throughout the year including regularly inspecting the air filters and air pressure and repairing plumbing and heat tape inside the site trailer and conduits. A drip leg was installed at the air supply shutoff valve and the aboveground supply hose insulated

on February 19, 2021 to prevent moisture buildup from freezing the air supply. A new QED pump was installed in PB326SW9 on June 8, 2021.

Discharge lines from the wells to the trailer and from the trailer to the industrial sewer were cleaned on June 23, 2021. All three wells were cleaned on June 4, 2021.

2.10.2 Water Level Measurements

Contours of the overburden, TOR, and GQ groundwater potentiometric surfaces in EBP-M are presented in Figures 5 through 7. The effects of the system are illustrated for the overburden surfaces in Figure 5 and by the depressions in the contour lines. Withing this area of influence, groundwater flows towards the three pumping wells in the system.

2.10.3 Water Quality Monitoring

Groundwater samples were collected from PB326SW5 and PB326SW8 on June 1, 2021. PB326SW9 was skipped because it was not pumping. A summary of the detected compounds is presented in Table 4. A summary of detected compounds across the M-95 system area including pumping wells and monitoring wells is shown in Table 6. These data and the total annual flow were used to calculate the mass of contaminants removed by the pumping wells during 2021. These values are presented in Table 5. In addition, a concentration-time series plot for total organic concentrations at the pumping well locations are presented in Appendix A. Total organic concentrations in the two wells tested in 202]1 showed a decrease from the 2019 and 2020 concentrations

- Total VOC concentrations in PB326SW5 decreased from 4.5 mg/L in 2019 to 0.0064 mg/L in 2021. All detected VOCs decreased, however, 1,4-dioxane slightly increased to 0.00073 mg/L in 2021.

- Total VOC concentrations in PB326SW8 decreased from 0.70 mg/L in 2019 to 0.052 mg/L in 2021. All detected VOCs decreased, however, 1,4-dioxane increased to 0.00025 mg/L in 2021.

2.11 Individual Systems

Ten pumping wells fall into the category of individual remedial systems. These wells were installed for the purpose of groundwater contaminant mass removal within the EBP. These wells include PB53N2 (electric submersible), PB54NW (pneumatic), PB54SE (pneumatic), PB57W (pneumatic), PB115N (pneumatic), PB136S (electric submersible), PB307E2 (pneumatic), PB307N3 (pneumatic), PB322NE2 (pneumatic), and PB322NE4 (pneumatic).

2.11.1 Operation Summary

A summary of the 2021 maintenance activities for this system is provided in Table 17.

- PB53N2: A new transducer was installed on April 7, 2021, with associated reprogramming of the level controller occurring on May 11, 2021. A sample port was installed in the vault on November 9, 2021. The discharge drainage line to the industrial sewer was cleaned on September 17, 2021. General cleaning of the vault and surrounding area occurred on September 16, 2021, and November 9, 2021.
- PB54NW: General cleaning of the vault and surrounding area occurred on September 16, 2021.
- PB54SE: General cleaning of the vault and surrounding area occurred on June 10, 2021, and September 16, 2021. The discharge drainage line to the industrial sewer was cleaned on September 17, 2021.
- PB57W: A new pump was installed on March 29, 2021. The new pump continued to have issues with stalling that the replaced pump had. On 6/9/2021 the pump was removed and replaced with a QED pump to match the manufacture of the other pneumatic pumps used at EBP. The removed pump was returned to the manufacturer for a refund of the cost. The well was mechanically cleaned on June 9, 2021 with the vault and surrounding area cleaned on June 10, 2021.
- PB115N: The totalizer was replaced on August 26, 2021. General cleaning of the vault and surrounding area occurred on September 16, 2021.
- PB136S: General cleaning of the vault and surrounding area occurred on September 16, 2021.
- PB322NE2: Maintenance and repair of the pump was conducted on March 23, 2021. A sample port was installed on the discharge line on November 10, 2021.
- PB322NE4: A sample port was installed on the discharge line on November 10, 2021.
- PB307E2: The well was mechanically cleaned on May 24, 2021. A sample port was installed on the discharge line on November 10, 2021.
- PB307N3: the well was mechanically cleaned on May 24, 2021. A sample port was installed on the discharge line on November 10, 2021.

2.11.2 Water Level Measurements

Contours of the overburden, TOR, and GQ groundwater potentiometric surfaces in EBP-E, EBP-M, and EBP-W areas are presented in Figures 2 through 10, respectively. These systems were not designed based on a hydraulic capture zone specification, although groundwater is influenced within the overburden, TOR, and GQ groundwater potentiometric surfaces. Groundwater in the TOR and GQ flow zones is influenced by pumping wells PB53N2, PB54SE, and PB57W, as shown in Figures 3 and 4; groundwater in the GQ flow zone is influenced by pumping well PB54NW, as shown in Figure 4. Groundwater in the overburden and TOR flow zones is influenced by pumping well PB115N, as shown in Figures 8 and 9. Groundwater in the TOR flow zone is influenced by pumping well

PB136S, as shown in Figure 9. Groundwater in the overburden flow zone is influenced by pumping wells PB307E2, PB307N3, PB322NE2, and PB322NE4, as shown in Figure 5. Groundwater in the TOR flow zone is also influenced by pumping well PB322NE2, as shown in Figure 6.

2.11.3 Water Quality Monitoring

Groundwater samples were collected from wells PB307N3 and PB322NE2 on May 25, 2021, from wells PB307E2 and PB322NE4 on May 26, 2021, from wells PB115N and PB136S on June 2, 2021, from wells PB53N2, PB54NW, and PB54SE on June 3, 2021, and from well PB57W on June 29, 2021. A summary of the detected compounds is presented in Table 4. These data and the total annual flow were used to calculate the mass of contaminants removed by each well in the system during 2021. These values are presented in Table 5. In addition, concentration-time series plots for these wells are presented in Appendix A. Total organic concentrations in well PB115N are decreasing. Total organic concentrations are either increasing or exhibit varying degrees of fluctuation between sampling events in the following wells:

- In PB307N3, concentrations declined from 2011 to 2014 (0.22 mg/L), but rebounded in 2015 to 3.27 m/L. Concentrations decreased from 3.3 mg/L in 2015 to 0.18 mg/L in 2018. In 2019 and 2020, concentrations increased over 2018 values to 0.70 mg/L 2018 and 1.5 mg/L in 2020. Concentrations decreased slightly to 1.13 mg/L in 2021.
- In PB322NE2, concentrations remained relatively stable between 2011 and 2021 with a minimum concentration of 17 mg/L in 2011 and a maximum of 32 mg/L in 2013. Total concentrations declined significantly in 2020 to 0.015 mg/L, but rebounded to 24 mg/L in 2021.
- In PB307E2, the total organic concentrations are variable, but have generally remained below 0.7 mg/L until 2020 where a historical maximum of 0.77 mg/L was detected. Total concentrations in 2021 were 0.59 mg/L.
- In PB322NE4, concentrations steadily decreased to 0.019 mg/L in 2020 and rose slightly to 0.079 mg/L in 2021.
- In PB136S, concentrations have been variable since inception in 1994, although have generally indicated declining concentrations. In 2020, total organics were detected at 1.6 mg/L, then rose to 15 mg/L in 2021 with the first detections of contaminants: 1,2-dichloroethane, 1,2-dichloropropane, and toluene.
- Total organic concentrations in wells PB53N2 have been decreasing since inception. In 2020 concentrations reached 0.0026 mg/L then rose slightly in 2021 to a concentration of 0.018 mg/L.
- Total organic concentrations in PB54NW showed a high degree of variability prior to 2001, were relatively stable from 2001 to 2007, and showed an increasing trend until 2013. In 2014, the total organic concentration dropped to 10 mg/L (a 14-year low), but rebounded in 2015 to 470mg/L, entirely due to methylene chloride. Total organic concentrations have remained high since

2015 with concentrations ranging from 350 mg/L in 2016 to 630 mg/L in 2021. The total organic concentration at this well has been generally increasing since 2009.

- In PB54SE, concentrations have been highly variable since inception in 1994, although have generally indicated declining concentrations and have remained below 1 mg/L since 2013. In 2021, total organics were detected at 0.0073 mg/L.
- Total organic concentrations have been highly variable in well PB57W. A general decrease trend was observed from 1994 to 2006, concentrations increased to 1,250 mg/L in 2008, with a consistently decreasing concentration trend since 2008. Two groundwater sampling events were conducted at PB57W in 2016 (April and September) because the initial concentration detected (0.20 mg/L in April) varied significantly from 2015 concentration (412 mg/L). The total organic concentrations in this well since 2016 have been consistent with concentrations ranging from 0.030 mg/L in September 2016 to 0.44 mg/L in 2021.

3 Protective Cover Integrity Program

Soil protective covers are part of the final corrective measures for a number of EBP investigation areas and provide physical barriers to subsurface soils that may contain elevated contaminant concentrations. Potential exposures are controlled through observation and maintenance of soil covers in areas where exceedances of industrial/commercial soil cleanup objectives or site-specific criteria have been identified. Currently, the following investigation areas are subject to an annual inspection of protective cover conditions. Locations identified with an asterisk (*) are not above or within 100 feet of any existing pumping wells:

1. MIA-WRL
2. MIA-329
3. MIA-351
4. MIA-301
5. XIA-218
6. WIA-KPW
7. NE-KPE
8. EIA-KL
9. MIA-317*
10. XIA-202*
11. XIA-208
12. B-642 Area*
13. WRLF

Maintenance issues and corresponding site location maps for each soil protective cover area are documented in Appendix B. No deficiencies were observed during the July 2021 soil cover inspections and no maintenance was performed.

4 Conclusions

4.1 Remedial Pumping Well Systems

The maintenance, volumetric, analytical, and potentiometric surface data, as presented in this report, demonstrate that the systems generally perform according to the design objectives and remain effective components of the Corrective Action Program for the EBP Site, subject to addressing the required individual well maintenance needs. There are outstanding maintenance issues that affect some pumping wells that, once addressed, will improve overall system performance. These issues are in the process of being addressed in 2022 as well as further preventative measures that will prolong the life of the pumping systems throughout the park. Maintenance issues and repair measures are discussed in monthly status reports.

4.2 Protective Cover Systems

The inspections completed in 2021 indicate that the protective cover system conditions are as prescribed in the Corrective Action Program for the EBP Site. There were no surficial damages requiring repairs to correct deficiencies in 2021. Inspections will continue in 2022.

5 References

Eastman Kodak Company (Kodak). 2012. *Eastman Business Park Groundwater Sampling and Analysis Plan*. Rochester, New York, revised August 2012.

_____. 2016. *Site Management Plan, Eastman Kodak Company, Eastman Business Park.* Rochester, New York, January 2016.

Ecology and Environment Engineering and Geology, P.C. (E & E). 2023a. 2021 *Groundwater Sampling and Analysis Report, Eastman Kodak Company - Eastman Business Park*. November 2023.

_____. 2023b. *Weiland Road Landfill 2021 Environmental Monitoring Report, Eastman Business Park, Rochester, New York.* December 2023.

Tables

Table 1 Eastman Business Park Remediation Systems

System	Component Pumping Wells	Purpose
WIA-EBP-W North Fence-line Containment System	PB119ER, PB119NER, PB135ER, PB143NW, PL54E, PL54NE, PL54NE2, PL54W	Groundwater hydraulic control
Parking Lot 50 Migration Control System	PL50N2, PL50N3, PL50NW3, PL50W	Groundwater hydraulic control
Building 329/349 Area Remedial System	PB329E2, PB349N	Groundwater hydraulic control
Northern EBP-M Migration Control System	PB350NE2, PB350NW, PB319N	Groundwater hydraulic control
MIA-301 (EBP-M) Groundwater Remediation System	PB323SE2, PB303SW, PB303W2	Groundwater hydraulic control/contaminant mass removal
Northeast EBP-X Overburden Migration Control System	PB218N	Groundwater hydraulic control
Parking Lot 73 Remedial System	PL73N	Groundwater hydraulic control
Weiland Road Landfill Top-of-Rock Remedial System	PWRNW3	Groundwater hydraulic control
Northeast EBP-E Migration Control Systems	PL41N, PL41S, PL42E, PL42W	Groundwater hydraulic control
MIA-333 Dual-phase Remediation System (offline in 2018) Replaced in 2019 with the M-95 Remediation System	PB326SW5, PB326SW8, PB326SW9	Contaminant mass removal
Individual Systems	PB53N2, PB54NW, PB54SE, PB115N, PB136S, PB57W, PB322NE2, PB322NE4, PB307E2, PB307N3	Contaminant mass removal

Table 2 Total Groundwater Volume Extracted in 2021 (Gallons)
Eastman Business Park Remediation Systems, Rochester, New York

Well ID	2021												
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
PB57W	92	0	97	185	254	323	501	439	620	499	549	548	**4,107**
PB53N2	113	106	273	10	14,592	15,784	17,422	7,431	13,366	10,787	13,656	13,945	**107,485**
PB54SE	12,259	7,315	10,643	9,145	8,194	9,083	12,853	8,243	10,987	10,184	10,492	12,035	**121,432**
PB54NW	3,056	10,199	15,096	8,149	11,052	11,788	11,678	28,813	12,851	11,078	11,563	8,342	**143,666**
PL42E	29,125	17,668	18,953	14,549	17,952	20,293	21,060	25,555	23,340	15,721	28,388	28,514	**261,118**
PL42W	137,078	83,792	89,055	54,090	276	91,877	78,041	79,520	83,513	57,304	75,354	83,971	**913,871**
PL41N	1,690,280	1,048,957	1,234,062	679,774	782,520	1,319,596	1,131,135	1,293,643	898,285	705,028	1,357,599	1,345,416	**13,486,295**
PL41S	636,647	369,308	487,543	377,833	398,086	261,561	501,179	450,490	518,441	398,244	563,822	553,726	**5,516,880**
EBP-E TOTAL	**2,508,650**	**1,537,344**	**1,855,721**	**1,143,736**	**1,232,926**	**1,730,305**	**1,773,869**	**1,894,135**	**1,561,403**	**1,208,845**	**2,061,422**	**2,046,497**	**20,554,853**
PL50W	4,939	3,805	4,638	3,741	3,988	4,751	4,213	4,132	5,232	3,508	3,529	4,740	**51,216**
PL50NW3	17,910	15,384	16,145	12,759	12,803	15,764	10,803	11,355	13,795	10,679	11,959	17,138	**166,494**
PB136S	28,241	21,001	28,470	22,654	22,703	24,616	23,929	21,117	29,350	21,978	24,425	27,709	**296,192**
PL50N2	1,871	1,445	1,379	530	1,042	1,349	1,248	1,172	1,545	1,276	1,322	1,728	**15,905**
PL50N3	3	0	9,807	5,217	6,333	8,553	11,628	16,623	10,239	8,826	8,826	11,032	**97,087**
PB115N	3,262	2,165	3,187	3,032	3,187	3,857	3,445	2,700	3,348	3,007	2,953	3,601	**37,743**
PB143NW	18,623	17,440	23,500	18,802	19,887	24,237	20,944	19,169	24,192	14,475	17,370	21,610	**240,249**
PL54E	441,160	293,894	332,356	110,348	210,465	404,159	355,200	154,958	397,234	44,880	343,224	393,611	**3,481,489**
PL54W	33,324	24,593	28,694	26,065	27,896	30,024	28,971	27,945	35,021	28,056	30,796	35,807	**357,192**
PL54NE2	310,399	297,216	370,515	277,800	290,027	263,262	338,147	266,106	405,330	347,710	365,628	423,108	**3,955,248**
PL54NE	44,531	19	243,604	288,171	268,176	299,915	176,579	147,477	372,364	253,658	181,648	142,688	**2,418,830**
PB119ER	90,062	75,565	91,447	70,547	70,798	90,629	69,450	65,739	86,469	68,103	68,776	88,524	**936,109**
PB119NER	166,368	1,130,906	124,050	97,018	140,709	169,837	183,335	166,552	209,789	159,700	159,543	203,023	**2,910,830**
PB135ER	325,126	292,264	320,083	0	293,807	321,168	253,344	231,628	365,448	255,473	254,297	290,406	**3,203,044**
EBP-W TOTAL	**1,485,818**	**2,175,697**	**1,597,875**	**936,684**	**1,371,821**	**1,662,121**	**1,481,235**	**1,136,673**	**1,959,356**	**1,221,328**	**1,474,296**	**1,664,726**	**18,167,628**
PB218N	197,699	125,075	228,645	146,820	136,463	117,193	148,207	122,848	119,264	116,546	240,672	217,465	**1,916,897**
EBP-X TOTAL	**197,699**	**125,075**	**228,645**	**146,820**	**136,463**	**117,193**	**148,207**	**122,848**	**119,264**	**116,546**	**240,672**	**217,465**	**1,916,897**
PL73N	145,970	154,159	229,347	132,360	275,115	314,415	437,344	350,148	381,560	356,730	382,198	603,106	**3,762,452**
PWRNW3	89,077	98,970	181,372	139,599	136,696	150,717	124,634	118,884	141,212	101,994	125,585	147,739	**1,556,479**
PB326SW5	137,260	83,527	148,017	118,646	122,185	126,590	124,501	128,774	147,795	117,652	147,465	170,474	**1,572,886**
PB326SW8	196,781	91,128	188,106	144,930	148,839	171,955	152,581	153,277	188,290	145,477	163,124	201,974	**1,946,463**
PB326SW9	0	8	5	8	0	7	1,115	126	204	475	230	64	**2,243**
PB349N	44,505	35,604	44,505	33,010	29,419	34,378	29,605	28,177	34,811	26,641	29,259	37,648	**407,560**
PB329E2	120,433	93,343	122,008	95,326	72,502	79,411	69,284	68,971	89,931	76,377	92,758	123,092	**1,103,436**
PB350NW	171,112	51,815	66,101	53,207	52,799	63,112	27,528	103,454	105,931	80,602	94,909	100,982	**971,552**
PB350NE2	74,109	180,000	390,000	280,000	220,000	140,000	80,000	20,000	120,000	220,000	400,000	320,000	**2,444,109**
PB319N	23,085	16,346	20,762	1,203	17,958	21,207	23,464	18,411	22,170	18,040	21,332	30,530	**234,508**
PB323SE2	14,551	10,931	11,297	8,576	9,358	12,008	14,287	12,247	15,373	1,357	13,482	17,831	**141,299**
PB303SW	23,332	15,878	20,479	15,322	14,831	16,156	15,159	13,911	16,793	14,598	16,756	20,876	**204,092**
PB303W2	19,936	12,353	16,405	13,690	12,319	13,126	22,999	12,965	16,389	19,273	19,029	16,786	**195,269**
PB307N3	92,612	64,040	84,857	63,416	63,220	71,638	63,809	58,250	75,958	62,436	111,460	103,903	**915,600**
PB307E2	321,543	223,266	325,605	222,910	319,784	311,467	285,373	278,654	298,048	268,320	299,972	368,198	**3,523,140**
PB322NE2	625	57	846	1,096	989	1,309	1,976	1,420	1,567	1,862	1,709	1,577	**15,034**
PB322NE4	6,198	4,496	5,801	4,761	4,751	5,689	4,516	4,162	5,486	4,421	4,604	5,962	**60,846**
EBP-M TOTAL	**1,481,130**	**1,135,921**	**1,855,514**	**1,328,061**	**1,500,765**	**1,533,185**	**1,478,174**	**1,371,831**	**1,661,519**	**1,516,255**	**1,923,872**	**2,270,743**	**19,056,969**
TOTAL	**5,673,296**	**4,974,037**	**5,537,755**	**3,555,300**	**4,241,975**	**5,042,805**	**4,881,485**	**4,525,487**	**5,301,541**	**4,062,974**	**5,700,261**	**6,199,431**	**59,696,347**
Precipitation (inches)[1]	1.74	1.64	0.92	3.38	1.3	1.72	6.69	2.55	3.16	7.45	1.66	1.99	**34.2**

Notes:

1. Total monthly precipitation in inches from The Weather Company, LLC
   https://www.wunderground.com/history/monthly/us/ny/rochester/KROC/date/2021-12

Key:

EBP = Eastman Business Park

Source: Ecology and Environment Engineering and Geology, P.C., 2021

Table 3 Annual Groundwater Extraction Volumes Since 1988 (Gallons)
Eastman Business Park Remediation Systems, Rochester, New York

Pumping Well / System ID	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
PB53N2	400,000	160,000	260,000	360,000	291,733	304,171	310,801	311,992	455,591	563,726	438,201	479,490
PB54NW	64,000	280,000	1,200,000	270,000	151,289	117,767	94,059	34,616	73,362	218,909	297,911	56,580
PB54SE	150,000	29,000	32,000	26,000	25,421	25,510	21,943	17,027	14,104	45,991	54,065	32,678
PB57W	29,000	36,000	110,000	19,000	8,174	9,875	14,044	--	--	--	--	--
PB115N	44,000	120,000	390,000	920,000	659,330	260,845	150,949	199,919	205,226	224,905	1,256,912	226,800
PB135ER	1,700,000	2,400,000	3,700,000	3,800,000	2,315,972	1,182,744	820,610	1,818,093	1,723,355	1,243,010	1,574,593	3,159,722
PB136S	30,000	750,000	1,200,000	640,000	998,743	652,899	688,917	516,678	478,311	479,265	364,489	403,546
PL50N2	--	--	--	20,000	261,939	201,884	197,705	146,573	169,285	98,010	50,582	33,439
PL50N3	--	--	--	7,300	221,882	488,336	408,348	227,446	247,668	235,105	169,713	33,166
PL50NW3	--	--	--	220,000	2,426,891	1,862,707	1,311,292	869,167	556,899	724,221	367,447	601,661
PL50W	--	--	--	190,000	1,946,848	1,334,402	763,278	622,999	882,664	1,506,188	1,030,931	926,797
PB218N	--	--	--	--	1,033,459	2,524,201	2,155,336	1,782,108	2,182,780	1,741,571	947,410	1,393,007
PB329E2	--	--	--	--	--	--	--	960,509	1,429,625	1,553,221	1,530,904	1,285,934
PB349N	--	--	--	--	--	--	--	1,267,064	1,713,202	1,295,565	944,794	1,217,784
PB350NE2	--	--	--	--	1,916,144	4,970,240	4,524,716	3,962,716	5,022,512	3,056,354	2,672,765	2,122,187
PWRNW3	--	--	--	--	--	--	1,917,592	3,256,060	2,787,448	2,258,815	2,206,006	2,207,980
PL73N	--	--	--	--	--	--	--	2,402,028	19,347,120	16,816,042	13,694,890	6,890,311
PB350NW	--	--	--	--	--	--	--	--	--	982,757	1,432,503	1,462,796
PB319N	--	--	--	--	--	--	--	--	--	496,128	668,127	2,273,560
PB119ER	--	--	--	--	--	--	--	--	--	2,275,382	2,557,874	3,677,658
PB119NER	--	--	--	--	--	--	--	--	--	2,868,519	3,314,288	5,335,835
PB143NW	--	--	--	--	--	--	--	--	--	2,883,489	3,827,804	3,470,591
PL54W	--	--	--	--	--	--	--	--	--	1,095,447	662,196	2,038,270
PL54E	--	--	--	--	--	--	--	--	--	3,185,256	4,927,583	6,970,188
PL54NE	--	--	--	--	--	--	--	--	--	--	2,631,942	3,225,498
PL54NE2	--	--	--	--	--	--	--	--	--	--	2,501,077	3,676,141
PL41N	--	--	--	--	--	--	--	--	--	--	--	--
PL41S	--	--	--	--	--	--	--	--	--	--	--	--
PL42E	--	--	--	--	--	--	--	--	--	--	--	--
PL42W	--	--	--	--	--	--	--	--	--	--	--	--
PB323SE2	--	--	--	--	--	--	--	--	--	--	--	--
PB303SW	--	--	--	--	--	--	--	--	--	--	--	--
PB303W2	--	--	--	--	--	--	--	--	--	--	--	--
PB326SW5	--	--	--	--	--	--	--	--	--	--	--	--
PB326SW8	--	--	--	--	--	--	--	--	--	--	--	--
PB326SW9	--	--	--	--	--	--	--	--	--	--	--	--
PB307N3	--	--	--	--	--	--	--	--	--	--	--	--
PB307E2	--	--	--	--	--	--	--	--	--	--	--	--
PB322NE2	--	--	--	--	--	--	--	--	--	--	--	--
PB322NE4	--	--	--	--	--	--	--	--	--	--	--	--
TOTAL	**4,798,000**	**6,400,000**	**12,920,000**	**11,114,300**	**16,598,801**	**19,135,558**	**18,880,767**	**24,134,822**	**40,901,719**	**46,041,976**	**50,125,007**	**53,201,619**

Key at end of table.

Source: Ecology and Environment Engineering and Geology, P.C., 2021

Table 3 Annual Groundwater Extraction Volumes Since 1988 (Gallons)
Eastman Business Park Remediation Systems, Rochester, New York

Pumping Well / System ID	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
PB53N2	534,364	534,654	818,117	633,988	762,354	712,835	739,313	737,324	761,768	875,301	865,096	537,802
PB54NW	49,960	440,146	460,126	293,407	380,190	365,558	381,201	355,768	364,147	1,597,504 (1)	154,631	545,632
PB54SE	342,829	356,347	129,432	182,864	177,621	190,275	163,752	175,461	184,622	218,768	92,257	81,224
PB57W	3,589	3,628	2,585	3,565	3,884	3,416	2,173	3,134	2,907	19,029	17,711	16,256
PB115N	240,480	423,293	607,664	183,656	159,608	167,027	148,281	161,962	149,887	94,670	51,628	59,333
PB135ER	3,758,331	4,565,976	4,087,584	3,187,073	2,363,554	2,288,284	2,365,621	2,362,449	2,317,769	3,631,966	2,448,784	3,644,869
PB136S	321,066	211,999	116,373	15,210	12,965	15,467	15,964	14,839	15,424	79,086	152,685	139,262
PL50N2	48,964	21,725	26,101	30,201	39,065	30,412	28,830	31,256	31,083	11,146	8,513	12,333
PL50N3	48,833	27,339	28,186	19,251	23,174	19,666	19,859	20,798	22,574	16,346	25,043	25,474
PL50NW3	1,287,587	747,727	502,628	255,412	244,351	288,056	264,748	273,207	274,494	126,338	183,672	329,654
PL50W	1,589,685	588,025	679,792	672,908	498,602	538,896	681,339	602,989	638,276	159,404	143,974	163,942
PB218N	1,097,199	1,212,259	1,619,503	1,737,570	2,072,878	1,910,862	1,880,298	1,975,760	1,933,643	1,373,621	1,361,290	1,571,412
PB329E2	2,132,181	1,945,825	1,935,262	1,639,342	1,859,235	1,823,499	1,918,330	1,848,044	1,819,600	1,655,272	1,536,266	1,551,654
PB349N	1,381,326	1,109,695	880,705	637,279	733,112	653,587	689,817	687,416	696,959	459,634	442,860	433,253
PB350NE2	4,382,135	5,657,907	4,295,250	3,252,147	3,831,813	2,836,998	2,735,721	2,990,357	2,959,370	2,251,590	2,680,186	3,694,087
PWRNW3	3,070,080	2,439,570	2,395,908	2,494,698	2,855,654	2,548,854	2,568,851	2,624,625	2,460,400	2,369,928	2,288,099	2,208,320
PL73N	5,865,811	6,020,704	6,777,203	6,595,636	9,288,368	9,418,492	7,879,900	8,839,818	8,808,474	6,846,013	5,241,636	7,998,984
PB350NW	1,959,415	2,332,131	1,916,435	1,620,928	2,033,178	1,603,136	1,426,011	1,625,106	1,554,129	870,498	699,104	871,598
PB319N	449,859	452,833	198,375	225,753	264,780	208,088	151,967	194,322	184,793	196,603	255,318	250,461
PB119ER	3,573,099	3,717,631	2,906,659	2,915,390	2,942,828	2,393,444	3,061,421	2,706,014	2,713,810	2,506,189	2,224,013	2,244,063
PB119NER	5,333,017	4,816,193	4,112,935	2,446,460	2,489,969	2,863,173	2,302,570	2,582,944	2,394,339	773,829	522,066	987,799
PB143NW	1,966,669	1,134,930	855,662	700,460	663,312	693,006	809,421	667,538	571,430	346,741	335,560	163,799
PL54W	1,889,229	1,177,282	1,112,706	479,017	536,478	473,102	755,111	626,422	723,180	700,403	601,045	433,937
PL54E	7,674,340	8,996,365	8,525,678	6,241,692	8,933,412	11,350,138	6,766,935	8,161,225	7,529,138	6,339,395	4,242,242	3,391,300
PL54NE	3,441,552	2,666,627	2,324,971	957,156	580,612	459,720	551,198	527,813	512,909	2,907,187	1,048,081	2,430,502
PL54NE2	4,053,574	4,166,237	4,872,393	3,534,160	2,612,529	3,488,319	3,767,021	3,440,760	3,589,449	6,032,970	4,863,760	4,412,678
PL41N	--	--	--	3,281,440	2,857,617	4,135,945	5,456,997	4,344,487	4,906,127	13,210,961	13,188,211	17,102,330
PL41S	--	--	--	3,233,012	2,736,056	3,693,618	4,354,380	3,720,322	4,028,035	8,394,502	13,180,297	16,942,574
PL42E	--	--	--	560,806	580,650	427,747	323,252	445,790	412,558	378,085	400,015	494,143
PL42W	--	--	--	443,556	569,392	416,237	351,027	422,715	374,877	490,103	331,251	316,829
PB323SE2	--	--	--	--	--	107,808	145,247	144,503	144,029	191,860	162,433	145,895
PB303SW	--	--	--	--	--	700,886	1,020,004	974,230	960,581	541,014	530,017	282,908
PB303W2	--	--	--	--	--	248,077	356,952	343,968	342,470	187,495	170,410	129,035
PB326SW5	--	--	--	--	--	--	--	--	--	--	--	--
PB326SW8	--	--	--	--	--	--	--	--	--	--	--	--
PB326SW9	--	--	--	--	--	--	--	--	--	--	--	--
PB307N3	--	--	--	--	--	--	--	--	--	--	--	2,181,492
PB307E2	--	--	--	--	--	--	--	--	--	--	--	45,055
PB322NE2	--	--	--	--	--	--	--	--	--	--	--	21,889
PB322NE4	--	--	--	--	--	--	--	--	--	--	--	150,545
TOTAL	**56,495,174**	**55,767,048**	**52,188,233**	**48,474,037**	**53,107,241**	**57,074,628**	**54,083,512**	**54,633,366**	**54,383,251**	**65,882,531**	**61,732,897**	**76,907,916**

Key at end of table.

Source: Ecology and Environment Engineering and Geology, P.C., 2021

Table 3 Annual Groundwater Extraction Volumes Since 1988 (Gallons)
Eastman Business Park Remediation Systems, Rochester, New York

Pumping Well / System ID	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
PB53N2	442,776	279,462	194,538	87,181	769,144	276,559	189,929	229,887	97,987	107,485
PB54NW	539,779	602,460	638,380	205,256	1,414,083	234,419	382,126	128,554	134,686	143,666
PB54SE	81,858	75,882	49,852	25,573	626,212	32,323	53,284	218,027	132,826	121,432
PB57W	9,934	11,065	10,817	8,903	9,154	9,368	8,381	608,417	6,446	4,107
PB115N	54,284	55,718	43,537	49,740	46,106	44,450	35,496	35,891	41,068	37,743
PB135ER	4,088,352	2,975,060	2,776,622	1,258,345	3,117,955	2,901,574	1,410,281	2,349,615	3,174,267	3,203,044
PB136S	135,006	153,232	114,058	87,508	126,800	139,683	244,498	280,180	240,077	296,192
PL50N2	13,096	13,188	24,435	16,081	128,235	28,624	25,504	19,158	16,007	15,905
PL50N3	21,022	23,200	123,042	97,968	428,387	104,125	85,497	74,696	224,763	97,087
PL50NW3	225,814	125,964	67,541	105,557	165,769	218,846	172,747	196,551	152,077	166,494
PL50W	122,321	81,377	72,259	72,955	156,476	104,117	39,294	79,371	56,855	51,216
PB218N	1,669,594	1,903,957	1,957,493	1,744,318	1,373,797	1,663,292	1,891,083	1,911,173	1,532,901	1,916,897
PB329E2	1,363,797	1,433,549	1,395,081	785,171	1,070,099	840,055	1,159,096	759,678	892,167	1,103,436
PB349N	402,038	617,814	353,359	343,167	537,776	554,379	479,048	443,030	453,946	407,560
PB350NE2	3,023,863	3,702,632	3,484,263	3,459,711	1,886,758	4,196,255	4,149,461	4,136,423	3,305,891	2,444,109
PWRNW3	2,085,452	2,125,197	2,120,897	1,664,752	1,594,377	1,980,143	1,153,091	1,538,407	1,809,372	1,556,479
PL73N	5,418,056	6,672,781	8,910,152	951,918	3,716,731	7,584,332	6,223,652	6,256,086	4,748,422	3,762,452
PB350NW	754,780	690,450	716,936	622,580	775,028	727,042	674,507	618,945	813,473	971,552
PB319N	182,919	246,947	438,420	134,406	165,726	142,511	53,881	168,732	196,681	234,508
PB119ER	2,191,227	2,127,150	1,884,174	350,549	892,200	1,268,700	952,628	3,913,481	1,048,794	936,109
PB119NER	1,644,712	1,694,582	1,605,674	1,331,530	1,670,158	1,034,743	1,338,682	3,292,775	1,694,468	2,910,830
PB143NW	287,732	205,507	131,384	42,776	77,456	76,099	19,022	492,022	868,947	240,249
PL54W	439,668	311,971	273,516	261,616	105,699	78,854	43,621	155,614	405,934	357,192
PL54E	2,779,679	1,421,870	3,585,396	2,738,310	2,461,076	2,540,112	2,182,091	2,098,946	3,211,703	3,481,489
PL54NE	899,930	1,547,974	1,913,607	1,166,110	948,969	2,048,652	2,136,802	2,290,941	2,657,028	2,418,830
PL54NE2	3,822,750	3,760,580	3,852,394	3,809,761	3,403,838	5,136,648	3,175,306	4,570,176	2,156,434	3,955,248
PL41N	16,686,979	15,611,969	12,338,991	1,933,860	10,049,136	16,936,829	17,282,548	14,374,789	16,063,962	13,486,295
PL41S	12,814,921	7,719,710	6,778,939	15,171,550	9,870,861	10,486,541	11,690,721	9,190,395	7,122,062	5,516,880
PL42E	361,880	338,031	335,184	370,125	312,910	382,046	329,316	305,479	254,994	261,118
PL42W	294,488	263,627	263,969	256,112	219,210	408,852	336,431	284,965	436,878	913,871
PB323SE2	137,764	129,947	125,120	120,282	121,588	129,314	113,076	127,045	131,473	141,299
PB303SW	370,126	184,315	152,534	161,677	176,705	55,441	31,564	1,325,987	257,131	204,092
PB303W2	101,526	107,730	124,240	69,946	72,236	92,056	109,019	391,537	208,137	195,269
PB326SW5	--	--	--	--	--	--	--	676,756	1,629,162	1,572,886
PB326SW8	--	--	--	--	--	--	--	1,543,794	1,883,489	1,946,463
PB326SW9	--	--	--	--	--	--	--	860	83	2,243
PB307N3	1,731,086	1,282,739	1,218,412	2,142,543	877,891	1,414,153	817,128	2,096,465	860,308	915,600
PB307E2	35,927	192,240	277,991	774,870	1,048,907	1,457,116	653,954	1,754,066	3,676,462	3,523,140
PB322NE2	13,293	11,517	12,301	12,035	12,710	11,740	13,683	8,624	8,941	15,034
PB322NE4	98,678	88,459	80,104	73,914	67,873	66,526	180,721	60,636	85,741	60,846
TOTAL	**66,078,956**	**59,657,501**	**58,847,565**	**42,511,287**	**50,498,036**	**65,406,519**	**59,837,169**	**69,008,175**	**62,692,043**	**59,696,347**

Notes:
All values are in gallons
"--" System not yet commissioned, or system decommissioned (systems decommissioned for 2 or more years are not shown)
(1) Potentially anomalous volume in 2009 at PB54NW, based on volume at PB54NW for 2008 and 2010 (Kodak 2011).

Key at end of table.

Source: Ecology and Environment Engineering and Geology, P.C., 2021

Table 4 Summary of 2021 Positive Analytical Results for Groundwater Samples from Pumping Wells
Former Eastman Business Park, Rochester, New York

Analyte	Screening Criteria [1]	Notes	Location ID: PB115N Depth: 0 - 41 ft Date: 6/2/2021	PB119ER 0 - 45 ft 6/2/2021	PB119NER 0 - 44 ft 6/3/2021	PB135ER 0 - 47 ft 6/2/2021	PB136S 0 - 34 ft 6/2/2021	PB143NW 0 - 38 ft 6/2/2021	PB218N 0 - 0 ft 6/2/2021	PB303SW 0 - 0 ft 5/27/2021	PB303W2 0 - 0 ft 6/1/2021
Volatile Organics by Method SW8260C (µg/L)											
1,1,1-Trichloroethane (TCA)	5		330 U	**9.4**	0.82 U	0.82 U	33 U	0.82 U	0.82 U	0.82 U	160 U
1,1-Dichloroethane	5		150 U	**2.4**	0.38 U	0.38 U	15 U	0.38 U	0.38 U	**6.4**	76 U
1,1-Dichloroethene	5		120 U	**0.80 J**	0.29 U	0.29 U	12 U	0.29 U	0.29 U	0.29 U	58 U
1,2-Dichloroethane	0.6		**1600 J**	0.21 U	0.21 U	0.21 U	**1700 J**	0.21 U	0.21 U	**0.32 J**	42 U
1,2-Dichloropropane	1		**980**	0.72 U	0.72 U	0.72 U	**1800 J**	0.72 U	0.72 U	0.72 U	140 U
Acetone	50	G	1200 U	3.0 U	3.0 U	3.0 U	120 U	3.0 U	3.0 U	3.0 U	600 U
Benzene	1		160 U	**2.0**	0.41 U	0.41 U	**26 J**	0.41 U	0.41 U	0.41 U	82 U
Chlorobenzene	5		**840**	**5.9**	0.75 U	**2.9**	**150**	0.75 U	0.75 U	0.75 U	150 U
Chloroform	7		140 U	0.34 U	0.34 U	0.34 U	14 U	0.34 U	0.34 U	0.34 U	68 U
Cyclohexane	N/A		**3000**	**1.1**	0.18 U	0.18 U	**1400 J**	0.18 U	--	--	--
Dichloroethylenes	5		320 U	0.81 U	0.81 U	0.81 U	32 U	**1.4 J**	0.81 U	0.81 U	160 U
Diethyl Ether (Ethyl Ether)	N/A		290 U	**3.6**	0.72 U	**0.94 J**	29 U	0.72 U	--	--	--
Ethylbenzene	5		300 U	0.74 U	0.74 U	0.74 U	30 U	0.74 U	0.74 U	0.74 U	150 U
Isopropyl Ether	N/A		240 U	**2.4**	0.59 U	**0.72 J**	24 U	0.59 U	0.59 U	**11**	**250**
Methylene Chloride	5		**9900**	0.44 U	0.44 U	0.44 U	**9800**	0.44 U	0.44 U	0.44 U	**150 J**
N-Hexane	N/A		160 U	0.40 U	0.40 U	0.40 U	16 U	0.40 U	--	0.40 U	80 U
Tetrachloroethylene (PCE)	5		140 U	0.36 U	0.36 U	0.36 U	14 U	0.36 U	0.36 U	0.36 U	72 U
Tetrahydrofuran	50	G	500 UJ	**10**	1.3 U	1.3 U	50 UJ	1.3 U	1.3 U	1.3 U	250 U
Toluene	5		**3300**	0.51 U	0.51 U	0.51 U	**83 J**	0.51 U	0.51 U	0.51 U	100 U
Trichloroethylene (TCE)	5		180 U	0.46 U	0.46 U	0.46 U	18 U	0.46 U	0.46 U	0.46 U	92 U
Vinyl Chloride	2		360 U	**0.90 J**	0.90 U	**1.3**	36 U	0.90 U	0.90 U	0.90 U	180 U
Xylenes	5		**590 J**	0.66 U	0.66 U	0.66 U	**46 J**	0.66 U	0.66 U	0.66 U	**13000**
Semi Volatile Organics by Method SW82270D SIM ID (µg/L)											
1,4-Dioxane (p-Dioxane)	0.35	G	--	--	--	--	--	--	--	**22**	**1900 J**

Key at end of table.

Source: Ecology and Environment Engineering and Geology, P.C. 2021

Table 4 Summary of 2021 Positive Analytical Results for Groundwater Samples from Pumping Wells
Former Eastman Business Park, Rochester, New York

Analyte	Screening Criteria [1]	Notes	Location ID: PB307E2 Depth: 0 - 0 ft Date: 5/26/2021	PB307N3 0 - 0 ft 5/25/2021	PB319N 0 - 0 ft 6/1/2021	PB322NE2 0 - 0 ft 5/25/2021	PB322NE4 0 - 0 ft 5/26/2021	PB323SE2 0 - 0 ft 6/1/2021	PB326SW5 0 - 0 ft 6/1/2021	PB326SW8 0 - 0 ft 6/1/2021	PB329E2 0 - 0 ft 6/1/2021
Volatile Organics by Method SW8260C (µg/L)											
1,1,1-Trichloroethane (TCA)	5		8.2 U	16 UJ	0.82 U	160 UJ	0.82 U	1.6 U	0.82 U	0.82 U	1.6 U
1,1-Dichloroethane	5		3.8 U	7.6 U	0.38 U	76 U	0.38 U	**1.7 J**	0.38 U	0.38 U	0.76 U
1,1-Dichloroethene	5		2.9 U	5.8 U	0.29 U	58 U	0.29 U	0.58 U	0.29 U	0.29 U	0.58 U
1,2-Dichloroethane	0.6		2.1 U	4.2 UJ	0.21 U	42 UJ	0.21 U	0.42 U	0.21 U	0.21 U	0.42 U
1,2-Dichloropropane	1		7.2 U	14 U	0.72 U	140 U	0.72 U	1.4 U	0.72 U	0.72 U	1.4 U
Acetone	50	G	30 U	60 U	3.0 U	600 U	**3.6 J**	6.0 U	3.0 U	3.0 U	6.0 U
Benzene	1		4.1 U	8.2 U	0.41 U	82 U	0.41 U	0.82 U	0.41 U	**3.6**	0.82 U
Chlorobenzene	5		7.5 U	15 U	0.75 U	150 U	0.75 U	1.5 U	0.75 U	0.75 U	1.5 U
Chloroform	7		3.4 U	6.8 U	0.34 U	68 U	0.34 U	**0.78 J**	**0.52 J**	**0.36 J**	0.68 U
Cyclohexane	N/A		--	--	--	--	--	--	--	--	--
Dichloroethylenes	5		**110**	**82**	0.81 U	160 U	0.81 U	1.6 U	0.81 U	0.81 U	1.6 U
Diethyl Ether (Ethyl Ether)	N/A		--	--	--	--	--	--	--	--	--
Ethylbenzene	5		7.4 U	15 U	0.74 U	150 U	0.74 U	1.5 U	**0.96 J**	**5.2**	1.5 U
Isopropyl Ether	N/A		**440**	**1000**	0.59 U	**24000**	**75**	1.2 U	0.59 U	0.59 U	**100**
Methylene Chloride	5		4.4 U	8.8 U	0.44 U	88 U	0.44 U	**1.0 J**	0.44 U	0.44 U	**0.92 J**
N-Hexane	N/A		4.0 U	8.0 U	0.40 U	80 U	0.40 U	0.80 U	0.40 U	**1.0 J**	0.80 U
Tetrachloroethylene (PCE)	5		3.6 U	7.2 U	0.36 U	72 U	0.36 U	0.72 U	0.36 U	0.36 U	0.72 U
Tetrahydrofuran	50	G	13 U	25 U	1.3 U	250 UJ	1.3 U	2.5 U	1.3 U	1.3 U	2.5 U
Toluene	5		5.1 U	10 U	0.51 U	100 U	0.51 U	1.0 U	**1.5**	**5.4**	1.0 U
Trichloroethylene (TCE)	5		4.6 U	9.2 U	0.46 U	92 U	0.46 U	0.92 U	0.46 U	0.46 U	0.92 U
Vinyl Chloride	2		**43**	**49**	0.90 U	180 U	0.90 U	1.8 U	0.90 U	0.90 U	**6.4**
Xylenes	5		6.6 U	13 U	0.66 U	130 U	0.66 U	1.3 U	**2.7**	**36**	1.3 U
Semi Volatile Organics by Method SW82270D SIM ID (µg/L)											
1,4-Dioxane (p-Dioxane)	0.35	G	0.10 U	**0.19 J**	**6.4 J**	**0.88**	0.10 U	**53 J**	**0.73**	**0.25**	**7.5 J**

Key at end of table.

Source: Ecology and Environment Engineering and Geology, P.C. 2021

Table 4 Summary of 2021 Positive Analytical Results for Groundwater Samples from Pumping Wells
Former Eastman Business Park, Rochester, New York

Analyte	Screening Criteria [1]	Notes	Location ID: / Depth: / Date: PB349N 0 - 37 ft 5/4/2021	PB350NE2 0 - 0 ft 6/1/2021	PB350NW 0 - 0 ft 6/1/2021	PB53N2 160 - 60 ft 6/3/2021	PB54NW 180 - 36 ft 6/3/2021	PB54SE 180 - 47 ft 6/3/2021	PB57W 8 - 48.8 ft 6/29/2021	PL41N 0 - 90 ft 6/3/2021	PL41S 130 - 89 ft 6/3/2021	PL42E 140 - 85 ft 6/3/2021	PL42W 0 - 85 ft 6/3/2021
Volatile Organics by Method SW8260C (µg/L)													
1,1,1-Trichloroethane (TCA)	5		0.82 U	0.82 U	0.82 U	0.82 U	8200 U	0.82 U	3.3 U	0.82 U	0.82 U	0.82 U	0.82 U
1,1-Dichloroethane	5		0.38 U	0.38 U	0.38 U	0.38 U	3800 U	0.38 U	1.5 U	0.38 U	0.38 U	0.38 U	0.38 U
1,1-Dichloroethene	5		0.29 U	0.29 U	0.29 U	0.29 U	2900 U	**0.33 J**	1.2 U	0.29 U	0.29 U	0.29 U	0.29 U
1,2-Dichloroethane	0.6		0.21 U	0.21 U	0.21 U	0.21 U	2100 U	**0.32 J**	0.84 U	0.21 U	0.21 U	0.21 U	0.21 U
1,2-Dichloropropane	1		0.72 U	0.72 U	0.72 U	0.72 U	7200 U	**4.3**	2.9 U	0.72 U	0.72 U	0.72 U	**3.5**
Acetone	50	G	3.0 U	3.0 U	3.0 U	3.0 U	30000 U	3.0 U	12 U	3.0 U	3.0 U	3.0 U	3.0 U
Benzene	1		0.41 U	0.41 U	0.41 U	0.41 U	4100 U	0.41 U	1.6 U	0.41 U	0.41 U	0.41 U	0.41 U
Chlorobenzene	5		0.75 U	0.75 U	0.75 U	0.75 U	7500 U	0.75 U	3.0 U	0.75 U	0.75 U	0.75 U	0.75 U
Chloroform	7		0.34 U	**0.39 J**	**8.5**	0.34 U	3400 U	0.34 U	1.4 U	**5.7**	**6.7**	0.34 U	0.34 U
Cyclohexane	N/A		0.18 U	--	--	0.18 U	1800 U	0.18 U	**280**	0.18 U	0.18 U	**0.39 J**	0.18 U
Dichloroethylenes	5		--	0.81 U	0.81 U	0.81 U	8100 U	**0.97 J**	**120**	0.81 U	0.81 U	0.81 U	0.81 U
Diethyl Ether (Ethyl Ether)	N/A		--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	5		0.74 U	0.74 U	0.74 U	0.74 U	7400 U	0.74 U	3.0 U	0.74 U	0.74 U	0.74 U	0.74 U
Isopropyl Ether	N/A		--	0.59 U	0.59 U	--	--	--	--	--	--	--	--
Methylene Chloride	5		0.44 U	0.44 U	0.44 U	**18**	**630000**	**1.4**	**4.1**	0.44 U	0.44 U	0.44 U	**190**
N-Hexane	N/A		--	0.40 U	0.40 U	0.40 U	4000 U	0.40 U	1.6 U	0.40 U	0.40 U	0.40 U	0.40 U
Tetrachloroethylene (PCE)	5		0.36 U	0.36 U	0.36 U	0.36 U	3600 U	0.36 U	**8.4**	**0.38 J**	0.36 U	**0.67 J**	0.36 U
Tetrahydrofuran	50	G	--	1.3 U	1.3 U	--	--	--	--	--	--	--	--
Toluene	5		0.51 U	0.51 U	0.51 U	0.51 U	5100 U	0.51 U	2.0 U	0.51 U	0.51 U	0.51 U	0.51 U
Trichloroethylene (TCE)	5		0.46 U	0.46 U	0.46 U	0.46 U	4600 U	0.46 U	**17**	**0.49 J**	0.46 U	0.46 U	0.46 U
Vinyl Chloride	2		0.90 U	0.90 U	0.90 U	0.90 U	9000 U	0.90 U	**11**	0.90 U	0.90 U	0.90 U	0.90 U
Xylenes	5		0.66 U	0.66 U	0.66 U	0.66 U	6600 U	0.66 U	2.6 U	0.66 U	0.66 U	0.66 U	0.66 U
Semi Volatile Organics by Method SW82270D SIM ID (µg/L)													
1,4-Dioxane (p-Dioxane)	0.35	G	0.10 U	**16**	**46 J**	--	--	--	--	--	--	--	--

Key at end of table.

Source: Ecology and Environment Engineering and Geology, P.C. 2021

Table 4 Summary of 2021 Positive Analytical Results for Groundwater Samples from Pumping Wells
Former Eastman Business Park, Rochester, New York

Analyte	Screening Criteria [1]	Notes	Location ID: / Depth: / Date: PL50N2 0 - 71 ft 6/2/2021	PL50N3 0 - 77 ft 6/2/2021	PL50NW3 0 - 79 ft 6/2/2021	PL50W 1 - 2 ft 6/2/2021	PL54E 0 - 41 ft 6/2/2021	PL54NE 0 - 45 ft 6/2/2021	PL54NE2 0 - 46 ft 6/2/2021	PL54W 0 - 39 ft 6/2/2021	PL73N 0 - 0 ft 6/1/2021	PWRNW3 0 - 42 ft 5/14/2021
Volatile Organics by Method SW8260C (µg/L)												
1,1,1-Trichloroethane (TCA)	5		16000 U	0.82 U	0.82 U	0.82 U	0.82 U	**1.5 J**	0.82 U	**17**	1.6 U	0.82 U
1,1-Dichloroethane	5		7600 U	**0.47 J**	0.38 U	0.38 U	0.38 U	**1.3**	0.38 U	**1.1 J**	0.76 U	0.38 U
1,1-Dichloroethene	5		5800 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	0.29 U	**0.79 J**	0.58 U	0.29 U
1,2-Dichloroethane	0.6		**120000**	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.42 U	0.42 U	0.21 U
1,2-Dichloropropane	1		**100000**	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	1.4 U	1.4 U	0.72 U
Acetone	50	G	60000 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	3.0 U	6.0 U	6.0 U	3.0 U
Benzene	1		8200 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.82 U	0.82 U	0.41 U
Chlorobenzene	5		15000 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	1.5 U	1.5 U	0.75 U
Chloroform	7		6800 U	0.34 U	0.34 U	0.34 U	**3.0**	0.34 U	0.34 U	0.68 U	0.68 U	0.34 U
Cyclohexane	N/A		3600 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.36 U	--	--
Dichloroethylenes	5		16000 U	0.81 U	0.81 U	**1.5 J**	**2.3**	**25**	0.81 U	**73**	**19**	0.81 U
Diethyl Ether (Ethyl Ether)	N/A		14000 U	0.72 U	**4.4**	**5.1**	0.72 U	0.72 U	0.72 U	1.4 U	--	--
Ethylbenzene	5		15000 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	1.5 U	1.5 U	0.74 U
Isopropyl Ether	N/A		12000 U	**1.6**	**2.6**	**3.8**	**0.84 J**	0.59 U	0.59 U	1.2 U	**59**	0.59 U
Methylene Chloride	5		**780000**	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.88 U	**1.0 J**	0.44 U
N-Hexane	N/A		8000 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.80 U	0.80 U	--
Tetrachloroethylene (PCE)	5		7200 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U	**16**	**2.7**	0.36 U
Tetrahydrofuran	50	G	25000 U	1.3 UJ	1.3 U	1.3 UJ	1.3 UJ	1.3 UJ	1.3 U	2.5 U	2.5 U	1.3 U
Toluene	5		10000 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	0.51 U	1.0 U	1.0 U	0.51 U
Trichloroethylene (TCE)	5		9200 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	0.46 U	**74**	**1.4 J**	0.46 U
Vinyl Chloride	2		18000 U	0.90 U	0.90 U	**1.9**	**2.1**	**14**	**1.7**	**1.9 J**	**4.3**	0.90 U
Xylenes	5		13000 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	0.66 U	1.3 U	1.3 U	0.66 U
Semi Volatile Organics by Method SW82270D SIM ID (µg/L)												
1,4-Dioxane (p-Dioxane)	0.35	G	--	--	--	--	--	--	--	--	**44**	**46**

Key at end of table.

Source: Ecology and Environment Engineering and Geology, P.C. 2021

Table 4 Summary of 2021 Positive Analytical Results for Groundwater Samples from Pumping Wells
Former Eastman Business Park, Rochester, New York

		Location ID:
		Depth:
		Date:
Analyte	Screening Criteria [1]	Notes

Key:

Qualifiers

J = Estimated value

U = Not detected (method detection limit shown)

UJ = Estimated non-detected value

Other

µg/L = Micrograms per liter

ft = feet

G = Guidance value (no standard available)

N/A = No standard or guidance value available

-- = Analyte not analyzed for

Bold values denotes positive hits.

Shaded cells exceed NYSDEC groundwater standard or guidance value.

Notes:

1. New York State Department of Environmental Conservation, Technical and Operational Guidance Series Memorandum #1.1.1: *Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations,* 1998 (with updates), Class GA Groundwater Standards and Guidance Values; 1,4-dioxane value from draft update October 5, 2021.

Table 5 Total Annual Contaminant Mass Extracted (Pounds)
Eastman Business Park Remediation Systems, Rochester, New York

Pumping Well / System ID	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
PB53N2	325	323	157	212	188	136	101	32	96	20	26
PB54NW	248	279	310	125	34	29	306	1,733	<1	<1	652
PB54SE	74	54	42	65	7	<1	3	3	<1	<1	10
PB57W	41	36	34	71	--	--	--	--	--	3	7
PL41N	--	--	--	--	--	--	--	--	--	--	--
PL41S	--	--	--	--	--	--	--	--	--	--	--
PL42E	--	--	--	--	--	--	--	--	--	--	--
PL42W	--	--	--	--	--	--	--	--	--	--	--
PB115N	8,068	4,827	2,503	1,221	1,037	1,132	647	3,535	763	240	536
PB136S	1,105	1,379	505	238	603	107	65	17	62	23	10
PL50N2	147	2,216	1,354	462	325	219	13	9	198	12	19
PL50N3	7	18	6	2	1	<1	1	1	<1	<1	<1
PL50NW3	<1	48	6	2	1	1	2	<1	1	2	<1
PL50W	<1	2	<1	1	<1	1	2	1	<1	<1	<1
PB119ER	308	8	8	10	54	6	21	15	93	14	20
PB119NER	68	21	72	101	299	5	16	5	43	2	1
PB135ER	546	26	10	1	9	9	5	5	9	6	9
PB143NW	--	--	--	--	--	--	5	<1	14	<1	<1
PL54W	--	--	--	--	--	--	11	5	28	10	5
PL54E	--	--	--	--	--	--	2	166	429	4	7
PL54NE	--	--	--	--	--	--	--	7	4	5	4
PL54NE2	--	--	--	--	--	--	--	3	2	1	1
PB218N	--	3	2	6	2	2	2	1	<1	<1	<1
PB329E2	--				1	2	4	4	<1	<1	<1
PB349N	--				<1	<1	<1	<1	<1	<1	<1
PB350NE2	--	9	5	5	3	8	14	3	2	2	2
PB319N	--	--	--	--	--	--	<1	<1	<1	<1	<1
PB350NW	--	--	--	--	--	--	5	6	3	<1	3
PWRNW3	--	--	--	1	2	2	1	2	2	3	3
PL73N	--	--	--	--	--	167	196	101	68	32	21
PB323SE2	--	--	--	--	--	--	--	--	--	--	--
PB303SW	--	--	--	--	--	--	--	--	--	--	--
PB303W2	--	--	--	--	--	--	--	--	--	--	--
PB326SW5	--	--	--	--	--	--	--	--	--	--	--
PB326SW8	--	--	--	--	--	--	--	--	--	--	--
PB326SW9	--	--	--	--	--	--	--	--	--	--	--
PB307N3	--	--	--	--	--	--	--	--	--	--	--
PB307E2	--	--	--	--	--	--	--	--	--	--	--
PB322NE2	--	--	--	--	--	--	--	--	--	--	--
PB322NE4	--	--	--	--	--	--	--	--	--	--	--
TOTAL	**10,941**	**9,253**	**5,070**	**2,538**	**2,573**	**1,887**	**1,422**	**5,654**	**1,817**	**379**	**1,336**

Key at end of table.

Source: Ecology and Environment Engineering and Geologly, P.C., 2021

Table 5 Total Annual Contaminant Mass Extracted (Pounds)
Eastman Business Park Remediation Systems, Rochester, New York

Pumping Well / System ID	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
PB53N2	38	21	13	8	11	3	86	47	32	0.05
PB54NW	837	484	597	580	575	496	1060	981 (1)	248	872
PB54SE	1	12	1	33	0.1	0.1	6	409	3	0.2
PB57W	<1	0.07	0.03	0.5	0.1	0.3	22	83	40	10
PL41N	--	0.09	0.03	0.08	0.12	1.7	530	436	468	207
PL41S	--	<1	<1	0.05	0.07	1.28	155	259	165	245
PL42E	--	0.06	0.05	0.01	0.005	0.02	16	8	6	16
PL42W	--	0.03	0.01	0.01	0.03	13	16	20	4	4
PB115N	1,144	349	275	143	124	176	177	64	26	58
PB136S	15	0.4	0.2	2	0.2	0.3	0.2	1.9	6	3
PL50N2	79	265	329	211	93	101	34	55	24	44
PL50N3	2	0.04	0.06	2	0.02	0.02	0.02	0.01	0.3	0.1
PL50NW3	84	0.1	0.1	29	0.1	0.1	0.1	3.8	0.1	3.8
PL50W	49	0.2	0.2	70	0.2	0.1	0.1	0.02	2	1
PB119ER	150	7	6	3	3	46	36	87	2	36
PB119NER	172	0.4	2	1	0.3	94	109	0.1	0.06	6
PB135ER	255	2	2	1	1	29	1	1	25	13
PB143NW	428	0.2	0.03	0.03	0.03	0.02	0.03	0.01	3	7
PL54W	681	2	3	3	3	3	9	16	11	6
PL54E	82	3	3	2	0.5	2	0.3	0.3	146	121
PL54NE	271	2	1	3	1	1	13	3	5	25
PL54NE2	751	1	4	0.5	0.9	0.3	143	1	17	52
PB218N	<1	0.6	0.3	0.1	0.1	0.05	0.1	0.5	0.09	0.09
PB329E2	<1	0.04	<1	4	<1	<1	<1	<1	<1	0.03
PB349N	<1	<1	<1	<1	<1	6.7	<1	<1	<1	<1
PB350NE2	2	3	1	0.3	0.3	0.3	0.4	0.4	0.7	0.4
PB319N	<1	0.1	0.01	0.003	0.003	0.002	0.007	0.004	0.01	0.9
PB350NW	4	3	3	128	1	2	1	0.3	0.3	3
PWRNW3	2	2	1	1	1	0.8	0.6	0.5	0.6	0.5
PL73N	12	28	44	1,129	11	18	27	20	15	12
PB323SE2	--	--	--	2	2	1	1	1	0.4	0.9
PB303SW	--	--	--	28	1	1	0.1	10	6	3
PB303W2	--	--	--	138	187	49	71	63	47	22
PB326SW5	--	--	--	--	--	--	--	--	--	--
PB326SW8	--	--	--	--	--	--	--	--	--	--
PB326SW9	--	--	--	--	--	--	--	--	--	--
PB307N3	--	--	--	--	--	--	--	--	--	59.9
PB307E2	--	--	--	--	--	--	--	--	--	0.04
PB322NE2	--	--	--	--	--	--	--	--	--	4
PB322NE4	--	--	--	--	--	--	--	--	--	23
TOTAL	**5,059**	**1,186**	**1,286**	**2,523**	**1,017**	**1,047**	**2,515**	**1,591**	**1,313**	**1,864**

Key at end of table.

Source: Ecology and Environment Engineering and Geologly, P.C., 2021

Table 5 Total Annual Contaminant Mass Extracted (Pounds)
Eastman Business Park Remediation Systems, Rochester, New York

Pumping Well / System ID	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
PB53N2	4.1	0.1	0.029	0.025	0.00032	0.15	0.11	0.063	0.002	0.016
PB54NW	1010	1363	54	805	4130	782	1710	542	663.095	755.338
PB54SE	0.8	0.02	0.14	0.0029	0.46	0.047	0.0040	1.4	0.012	0.007
PB57W	13	0.1	5.4	31	0.0025	0.012	0.015	1.3	0.009	0.015
PL41N	137	0.3	0.24	0.028	0.44	0.99	1.1	0.61	0.831	0.739
PL41S	193	0.1	0.051	0.19	0.25	0.81	0.40	0.59	0.428	0.308
PL42E	3	0.01	0.0017	0.0015	0.0015	0.023	0.0017	0.0012	0.001	0.002
PL42W	2	0.04	0.0060	0.023	0.0022	0.026	0.0034	0.0021	0.175	1.476
PB115N	24	27	38	23	11	14	10	20	7.4	6.4
PB136S	2	2	1.4	2.1	1.9	6.3	3.7	3.0	3.3	37.1
PL50N2	33	33	62	0.047	941	227	208	188	113	133
PL50N3	0.02	0.003	0.0072	0.0072	0.044	0.015	0.012	0.0063	0.011	0.002
PL50NW3	0.1	0.01	0.0058	0.016	0.022	0.034	0.014	0.017	0.010	0.010
PL50W	0.03	0.01	0.0084	0.0025	0.017	0.015	0.0047	0.011	0.007	0.005
PB119ER	18	0.3	0.36	0.23	0.24	0.40	0.53	1.9	0.430	0.301
PB119NER	0.4	0.1	0.20	0.34	0.32	0.16	2.2	0.030	0.204	0.000
PB135ER	33	0.2	0.17	0.048	0.099	0.28	0.14	0.12	0.153	0.157
PB143NW	2	0.004	0.0061	0.00090	0.0012	0.0010	0.00024	0.0078	0.012	0.003
PL54W	2	1	0.81	0.49	0.28	0.20	0.070	0.25	0.912	0.548
PL54E	23	0.2	0.66	0	0.55	0.089	0.077	0.23	2.3	0.2
PL54NE	8	1	1.0	0.25	0.41	0.91	0.22	0.95	0.611	0.844
PL54NE2	0.3	0.1	0.030	1.4	0.26	0.48	0.30	0.046	<0.1 (3)	0.05611
PB218N	0.14	0.01	<1 (3)	0.0079	<0.1 (3)	0.0071	<0.1 (3)	0.0081	<0.1 (3)	<0.1 (3)
PB329E2	<1 (3)	1.4	1.8	0.79	1.1	0.86	1.5	0.93	1.004	1.057
PB349N	<1 (3)	<1 (3)	<1 (3)	<0.1 (3)	<0.1 (3)	<0.1 (3)	<0.1 (3)	<0.1 (3)	<0.1 (3)	<0.1 (3)
PB350NE2	10.4	0.8	0.25	0.012	0.35	0.17	0.67	0.28	0.619	0.395
PB319N	0.01	0.01	0.028	0	0.064	0.0064	0.0024	0.016	0.010	0.013
PB350NW	2.9	0.3	0.21	0.0027	0.34	0.03	0.39	0.28	0.503	0.442
PWRNW3	0.5	0.4	0.43	0.23	0.32	0.71	0.41	0.50	0.242	0.598
PL73N	12	20	29	1.7	7.5	31.52	1.2	16	4.6	4.1
PB323SE2	1	0.1	0.12	0.013	0.060	0.09	41	0.14	0.130	0.067
PB303SW	4	0.8	0.48	0.25	0.23	0.01	6.0	4.3	0.225	0.068
PB303W2	18	19	22	15	14	15.41	0.11	49	27.6	24.9
PB326SW5	--	--	--	--	--	--	--	21	0.35	0.08
PB326SW8	--	--	--	--	--	--	--	9.0	0.898	0.842
PB326SW9	--	--	--	--	--	--	--	0.00022	0.004	-- (2)
PB307N3	33	14	2.2	59	20	8.95	1.3	12	10.5	8.6
PB307E2	0.2	1	0.013	1.6	5.6	0.18	2.2	0.12	23.6	17.4
PB322NE2	2	3	3.1	3.0	2.3	2.06	2.7	1.8	0.001	3.011
PB322NE4	15	11	3.0	2.8	5.7	0.90	0.18	0.0014	0.014	0.040
TOTAL	**1,608**	**1,504**	**228**	**947**	**5,144**	**1,095**	**1,995**	**875**	**864**	**998**

Key at end of table.

Source: Ecology and Environment Engineering and Geologly, P.C., 2021

Table 5 Total Annual Contaminant Mass Extracted (Pounds)
Eastman Business Park Remediation Systems, Rochester, New York

Pumping Well / System ID	1991	1992	1993	1994	1995	1996	1997	1998

Notes:

All units are in pounds; contaminant mass based on the sum of detected mass concentrations of volatile organics plus 1,4-dioxane in EBP-M.

Data prior to 2015 obtained from Eastman Kodak Company.

"--" System decommissioned or yet to be commissioned. (systems decommissioned for 2 or more years are not shown)

(1) Potential anomalous mass; the mass is calculated using the 2009 volume at PB54NW that is potentially anomalous based on 2008 and 2010 volumes at PB54NW (Kodak 2011).

(2) A sample was not collected from PB326SW9 in 2021 (well was dry during sampling event).

(3) The sample results were non-detect at these locations; total extracted mass assumed <0.1 pound based on typical annual mass removal.

Key at end of table.

Source: Ecology and Environment Engineering and Geologly, P.C., 2021

Table 6 Analytical Results for M95 Groundwater Samples,
Former Eastman Business Park, Rochester, New York

		Location ID:	GB326SWR				PB326SW5				
		Depth:	0 - 52.6 ft				0 - 22 ft				
		Date:	9/7/2018	5/23/2019	6/23/2020	6/3/2021	9/7/2018	4/24/2019*	5/24/2019**	6/24/2020	6/1/2021
Analyte	Screening Criteria [1]	Notes									
Volatile Organics by Method SW8260C (µg/L)											
Acetone	50	G	3.0 U	3.0 U	3.0 U	3.0 U	300 U	120 U	300 U	3.0 U	3.0 U
Benzene	1		0.41 U	0.41 U	0.41 U	0.41 U	41 U	16 U	41 U	0.41 U	0.41 U
Carbon Disulfide	60	G	0.19 U	0.19 U	0.19 U	0.19 U	19 U	7.6 U	19 U	0.19 U	0.19 U
Carbon Tetrachloride	5		0.27 U	0.27 U	0.27 U	0.27 U	27 U	11 U	27 U	0.27 U	0.27 U
Chloroform	7		0.34 U	0.34 U	0.34 U	0.34 U	34 U	14 U	34 U	**0.43 J**	**0.52 J**
Cyclohexane	N/A		--	--	--	0.18 U	--	--	--	--	--
Ethyl Acetate	5		0.66 U	0.66 U	0.66 U	**45**	66 U	26 U	66 U	0.66 U	0.66 U
Ethylbenzene	5		0.74 U	0.74 U	0.74 U	0.74 U	74 U	**34 J**	**260**	**4.0**	**0.96 J**
Methyl Ethyl Ketone (2-Butanone)	50	G	1.3 U	1.3 U	1.3 U	1.3 U	130 U	53 U	130 U	1.3 U	1.3 U
Methylene Chloride	5		0.44 U	0.44 U	0.44 U	0.44 U	44 U	**33 J**	44 U	**0.75 J**	0.44 U
N-Heptane		N/A	--	--	--	0.42 U	--	--	--	--	--
N-Hexane	N/A		0.40 U	0.40 U	0.40 U	0.40 U	**42 J**	**26 J**	40 U	**0.64 J**	0.40 U
Tetrahydrofuran	50	G	1.3 U	1.3 U	1.3 U	--	130 U	50 U	130 U	1.3 U	1.3 U
Toluene	5		0.51 U	0.51 U	0.51 U	0.51 U	**530**	**260**	**480**	**8.5**	**1.5**
Xylenes, Total	5		0.66 U	0.66 U	0.66 U	--	**4200**	**3700 J**	**3000**	**11**	--
Semi-Volatile Organics by Method SW8270DSIM (µg/L)											
1,4-Dioxane (p-Dioxane)	1	see note 2	--	--	--	--	--	--	0.48 U	**0.41**	**0.73**

Key at end of table.

Source: Ecology and Environment Engineering and Geology, P.C. 2021

Table 6 Analytical Results for M95 Groundwater Samples,
Former Eastman Business Park, Rochester, New York

Location ID:			PB326SW6				PB326SW8			PB326SW9	
Depth:			0 - 25.48 ft				8 - 28 ft			0 - 20 ft	
Date:			9/7/2018	5/23/2019	6/24/2020	6/3/2021	5/23/2019	6/24/2020	6/1/2021	5/24/2019	6/24/2020
Analyte	Screening Criteria [1]	Notes									
Volatile Organics by Method SW8260C (µg/L)											
Acetone	50	G	**3.5 J**	**4.5 J**	3.0 U	3.0 U	30 U	3.0 U	3.0 U	15 U	150 U
Benzene	1		0.41 U	0.41 U	0.41 U	0.41 U	**24**	**5.9**	**3.6**	**5.3**	21 U
Carbon Disulfide	60	G	0.19 U	0.19 U	0.19 U	0.19 U	1.9 U	0.19 U	0.19 U	0.95 U	9.5 U
Carbon Tetrachloride	5		0.27 U	0.27 U	0.27 U	0.27 U	2.7 U	0.27 U	0.27 U	1.4 U	14 U
Chloroform	7		0.34 U	0.34 U	0.34 U	0.34 U	3.4 U	0.34 U	**0.36 J**	1.7 U	17 U
Cyclohexane	N/A		--	--	--	0.18 U	--	--	--	--	--
Ethyl Acetate	5		0.66 U	0.66 U	0.66 U	**120**	6.6 U	0.66 U	0.66 U	3.3 U	33 U
Ethylbenzene	5		0.74 U	0.74 U	0.74 U	0.74 U	**47**	**7.1**	**5.2**	3.7 U	37 U
Methyl Ethyl Ketone (2-Butanone)	50	G	1.3 U	1.3 U	1.3 U	1.3 U	13 U	1.3 U	1.3 U	6.6 U	**500**
Methylene Chloride	5		0.44 U	0.44 U	0.44 U	0.44 U	4.4 U	0.44 U	0.44 U	2.2 U	22 U
N-Heptane		N/A	--	--	--	0.42 U	--	--	--	--	--
N-Hexane	N/A		0.40 U	0.40 U	0.40 U	0.40 U	**8.4 J**	**1.4 J**	**1.0 J**	2.0 U	20 U
Tetrahydrofuran	50	G	1.3 U	1.3 U	1.3 U	--	13 U	1.3 U	1.3 U	6.3 U	**5200**
Toluene	5		0.51 U	0.51 U	0.51 U	0.51 U	**67**	**8.6**	**5.4**	2.6 U	26 U
Xylenes, Total	5		0.66 U	0.66 U	0.66 U	--	**550**	**34**	--	**25**	33 U
Semi-Volatile Organics by Method SW8270DSIM (µg/L)											
1,4-Dioxane (p-Dioxane)	1	see note 2	--	--	--	--	**0.14 J**	**0.15 J**	**0.25**	--	--

Key at end of table.

Source: Ecology and Environment Engineering and Geology, P.C. 2021

Table 6 Analytical Results for M95 Groundwater Samples,
Former Eastman Business Park, Rochester, New York

Analyte	Screening Criteria [1]	Notes	Location ID:	SB326SW10			SB326SW2		SB326SW3	
			Depth:	0 - 23.5 ft			0 - 14 ft		0 - 15 ft	
			Date:	9/7/2018	5/24/2019	6/23/2020	6/3/2021	9/7/2018	5/23/2019	9/7/2018	5/23/2019
Volatile Organics by Method SW8260C (µg/L)											
Acetone	50	G		**5.8 J**	3.0 U	3.0 U	3.0 U	6.0 U	3.0 U	**9.3 J**	3.0 U
Benzene	1			**20**	**7.6**	0.41 U	0.41 U	0.82 U	0.41 U	0.41 U	0.41 U
Carbon Disulfide	60	G		0.19 U	0.19 U	0.19 U	0.19 U	0.38 U	0.19 U	**0.57 J**	0.19 U
Carbon Tetrachloride	5			0.27 U	0.27 U	0.27 U	0.27 U	0.54 U	0.27 U	0.27 U	0.27 U
Chloroform	7			0.34 U	0.34 U	0.34 U	0.34 U	0.68 U	0.34 U	0.34 U	**0.80 J**
Cyclohexane	N/A			--	--	--	0.18 U	--	--	--	--
Ethyl Acetate	5			0.66 U	0.66 U	0.66 U	**49**	1.3 U	0.66 U	0.66 U	0.66 U
Ethylbenzene	5			**6.5**	**1.8**	0.74 U	0.74 U	1.5 U	0.74 U	0.74 U	0.74 U
Methyl Ethyl Ketone (2-Butanone)	50	G		1.3 U	1.3 U	1.3 U	1.3 U	2.6 U	1.3 U	**2.6 J**	1.3 U
Methylene Chloride	5			0.44 U	0.44 U	0.44 U	0.44 U	0.88 U	0.44 U	0.44 U	0.44 U
N-Heptane		N/A		--	--	--	0.42 U	--	--	--	--
N-Hexane	N/A			0.40 U	0.40 U	0.40 U	0.40 U	0.80 U	0.40 U	0.40 U	0.40 U
Tetrahydrofuran	50	G		1.3 U	1.3 U	1.3 U	--	2.5 U	1.3 U	1.3 U	1.3 U
Toluene	5			**47**	**18**	0.51 U	0.51 U	1.0 U	0.51 U	0.51 U	0.51 U
Xylenes, Total	5			**40**	**14**	0.66 U	--	1.3 U	0.66 U	0.66 U	0.66 U
Semi-Volatile Organics by Method SW8270DSIM (µg/L)											
1,4-Dioxane (p-Dioxane)	1	see note 2		--	--	--	--	19 U	--	9.3 U	--

Key at end of table.

Source: Ecology and Environment Engineering and Geology, P.C. 2021

Table 6 Analytical Results for M95 Groundwater Samples,
Former Eastman Business Park, Rochester, New York

		Location ID:	SB326SW7			
		Depth:	0 - 23 ft			
		Date:	9/7/2018	5/23/2019	6/23/2020	6/3/2021
Analyte	Screening Criteria [1]	Notes				
Volatile Organics by Method SW8260C (µg/L)						
Acetone	50	G	1500 U	750 U	120 UJ	60 U
Benzene	1		210 U	100 U	16 U	8.2 U
Carbon Disulfide	60	G	95 U	48 U	7.6 U	3.8 U
Carbon Tetrachloride	5		140 U	68 U	11 U	5.4 U
Chloroform	7		170 U	85 U	14 U	6.8 U
Cyclohexane	N/A		--	--	--	**110**
Ethyl Acetate	5		330 U	170 U	26 U	13 U
Ethylbenzene	5		**790**	**710**	30 U	15 U
Methyl Ethyl Ketone (2-Butanone)	50	G	660 U	330 U	53 U	26 U
Methylene Chloride	5		220 U	110 U	18 U	8.8 U
N-Heptane		N/A	--	--	--	**10 J**
N-Hexane	N/A		200 U	**190 J**	**26 J**	**33 J**
Tetrahydrofuran	50	G	630 U	310 U	50 U	--
Toluene	5		**1500**	**1700**	20 U	**39**
Xylenes, Total	5		**14000**	**14000**	**3100 J**	--
Semi-Volatile Organics by Method SW8270DSIM (µg/L)						
1,4-Dioxane (p-Dioxane)	1	see note 2	--	--	--	--

Key at end of table.

Source: Ecology and Environment Engineering and Geology, P.C. 2021

Table 6 Analytical Results for M95 Groundwater Samples, Former Eastman Business Park, Rochester, New York

		Location ID:
		Depth:
		Date:
Analyte	Screening Criteria (1)	Notes

Key:

Qualifiers

J = Estimated value

U = Not detected (method detection limit shown)

UJ= Estimated non-detect

Other

µg/L = Micrograms per liter

G = Guidance value (no standard available)

N/A = No standard or guidance value available

-- = Analyte not analyzed for

* = PB326SW5 sample collected before the M95 system was brought online.

** = PB326SW5 sample collected after the M95 system was brought online.

Bold values denotes positive hits.

Shaded cells exceed screening criteria.

Notes:

1. New York State Department of Environmental Conservation, Technical and Operational Guidance Series Memorandum #1.1.1: *Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations*, 1998 (with updates), Class GA Groundwater Standards and Guidance Values.

2. The 1,4-dioxane screening criteria is represented by the New York State Drinking Water Quality Council's recommendation to the Department of Health to adopt the maximum contaminant level of 1 part per billion (ppb).

Key at end of table.

Table 7 WIA-EBPW North Fence-line Containment System Maintenance Activities

Pumping Well / System ID	Date	Description of Issue/Maintenance
D1 Shed	1/4/2021	Reconstructed and reframed the shed floor and spray foamed all air gaps
	1/5/2021	Finished framing floor, added insulation foam board. Installed sub floor and began installing top flooring
	1/6/2021	Finished installing vinyl top flooring and rubber base molding in shed. Replaced broken heater. Installed door sweep and made minor repairs where door was deteriorating and corroded.
	1/7/2021	Fixed shed door, added aluminum lintel. Cleaned off all boxes, pipes, and walls. Installed exterior patio blocks and entrance rug.
	2/11/2021	Heater broken
	2/17/2021	Fixed heater - the rollover switch was bad
	2/22/2021	Fan working well, PB119NER has low flowrate when PB119ER is on
	2/24/2021	Shed downspout disconnected from gutter
	7/15/2021	Cleaned dirt, mud, and debris buildup from around wells caused by heavy rain.
	9/10/2021	Painted door of shed
	9/15/2021	Located and marked industrial sewer locations for the shed pumps. Wiped down floors, walls, and piping in shed. Cleaned out inside shed, removed trash and unnecessary clutter.
	9/24/2021	Installed and mounted new fire extinguisher in shed. Conducted general cleanup around shed.
	10/5/2021	Power turned off the shed by RED during sewer inspections
	11/8/2021	Prepping shed for winter - sealed up openings or gaps in walls, general cleanup, tested heater operation.
	11/15/2021	Ordered parts for installation of wall exhaust/ventilation fans.
	12/12/2021	Inspected shed after wind storm, no immediate damage was observed.
D2 Shed	5/11/2021	Replaced the gutters and downspouts on the shed
	9/10/2021	Painted door of shed
	9/15/2021	Located and marked industrial sewer locations for the shed pump. Wiped down floors, walls, and piping in shed. Cleaned out inside shed, removed trash and unnecessary clutter.
	9/24/2021	Installed and mounted new fire extinguisher in shed. Conducted general cleanup around shed.
	11/8/2021	Prepping shed for winter - sealed up openings or gaps in walls, general cleanup, tested heater operation.
	11/15/2021	Ordered parts for installation of wall exhaust/ventilation fans.
	12/12/2021	Inspected shed after wind storm, no immediate damage was observed.

Table 7 WIA-EBPW North Fence-line Containment System Maintenance Activities

Pumping Well / System ID	Date	Description of Issue/Maintenance
D6 Shed	1/25/2021	Continued to frame the floor with pressure treated 2x6. Installed foam board insulation between the framing.
	1/26/2021	Finished floor framing and insulation. Installed pressure treated deck boards.
	1/27/2021	Finished decking, installed plywood subfloor over deck boards. Started
	1/28/2021	Continued installing vinyl floor planks. Installed vinyl base molding.
	1/29/2021	Installed threshold on shed entrance. Cleaned inside shed and removed debris.
	2/1/2021	Fixed door handles, braced off interior pipes with metal bars. Placed carpets in shed, finished and cleaned interior.
	2/2/2021	Constructed form and poured concrete for step at entrance to shed.
	6/4/2021	Replaced broken sample port
	6/18/2021	RED identified locations for the discharge line to the industrial sewer.
	7/1/2021	Shut power to shed off. Cleaned starters, contacts and lugs, checked wiring. Turned power back on.
	7/2/2021	Need screens for windows - need more air flow in shed.
	9/3/2021	Painted shed
	9/10/2021	Painted shed door
	9/15/2021	Located and marked industrial sewer locations for the shed pumps. Wiped down floors, walls, and piping in shed. Cleaned inside shed, removed garbage and bad parts, removed old piping and deteriorated hose around shed, cleaned up around shed, removed drum.
	9/24/2021	Installed and mounted new fire extinguisher in shed. Conducted general cleanup around shed.
	10/5/2021	Power turned off the shed by RED during sewer inspections
	10/14/2021	RED shut off power to shed for industrial sewer work. Caused the PB143NW control panel to malfunction and PL54E to stop pumping and tripped the coil. Brief troubleshooting did not identify the issue, further troubleshooting needed.
	11/8/2021	Prepping shed for winter - closed windows, sealed up openings or gaps in walls, general cleanup, tested heater operation.
	11/15/2021	Ordered parts for installation of wall exhaust/ventilation fans.
	12/12/2021	Inspected shed after wind storm, no immediate damage was observed.
D7 Shed	1/11/2021	Laid floor framing and added insulation foam, let foam cure overnight.
	1/12/2021	Cut away excess insulation foam, installed insulation boards, installed deck boards and sprayed insulation in any gaps. Installed 1/4" baseboard.
	1/13/2021	Installed vinyl floor planks, insulated base moldings.
	6/18/2021	RED identified locations for the discharge line to the industrial sewer.
	8/18/2021	RED relocated the shed discharges
	9/2/2021	Cleaned surrounding area of piping and equipment
	9/15/2021	Located and marked industrial sewer locations for the shed pumps. Wiped down floors, walls, and piping in shed. Cleaned out inside and outside shed, removed trash and un-needed piping.
	9/24/2021	Installed and mounted new fire extinguisher in shed. Conducted general cleanup around shed.
	10/5/2021	Power turned off the shed by RED during sewer inspections
	11/8/2021	Prepping shed for winter - sealed up openings or gaps in walls, general cleanup, tested heater operation.
	11/9/2021	Investigated heater issue, found loose wiring connection and repaired it.
	11/15/2021	Ordered parts for installation of wall exhaust/ventilation fans.
	12/12/2021	Inspected shed after wind storm, no immediate damage was observed.

Table 7 WIA-EBPW North Fence-line Containment System Maintenance Activities

Pumping Well / System ID	Date	Description of Issue/Maintenance
PB119ER	4/29/2021	Need to jet lines and fix a leak in the flowmeter.
	5/4/2021	Removed flange fittings around flowmeter and replaced gaskets, leakage around flowmeter stopped.
	11/12/2021	Shut down pump, pulled the transducer and observed heavy iron fouling, disassembled and cleaned. Reinstalled transducer in well and turned back on - pumping good.
	12/7/2021	Installed two plastic jersey barriers in front of the well to prevent snow plows from piling snow on top of it.
PB119NER	3/24/2021	Pulled pump and brought to maintenance shop to clean
	3/25/2021	Reinstalled the pump and motor in well and turned back on. It was only pumping at 4.91 gpm, will need to jet discharge lines soon to clear them out. Need to identify a way to prevent PB119ER from discharging into PB119NER shed both are operating.
	4/29/2021	Need to jet lines
	5/4/2021	Removed flange fittings around flowmeter and replaced gaskets. Flow is extremely restricted and still leaked after gasket replacement. Shut down pump to stop leak and pulled pump for cleaning. Need to clean out lines to allow more flow, lines are restricted down to 1/4" with solid iron fouling.
	5/6/2021	Reinstalled cleaned pump. Cleaned piping and flowmeter to pump, line is plugged. Dug out manway and cleaned transducer. Picked up material to make piping easier to remove. Adjusted flowrate and fixed leak out of flowmeter. Pumping well after maintenance.
	5/26/2021	Tested problem with pump, it was tripping on overload. Found loose wire in control box and fixed, pump still tripping due to high pump draw to motor causing the motor to stall.
	6/1/2021	Cleaned contact and starter. Need to pull pump and motor to check on.
	6/2/2021	Shut down for troubleshooting.
	6/3/2021	Pulled pump and found broken wire. Need to fix.
	11/12/2021	Shut down pump, pulled the transducer. Minimal iron fouling. Disassembled, cleaned, and reinstalled in the well and turned pump back on.

Table 7 WIA-EBPW North Fence-line Containment System Maintenance Activities

Pumping Well / System ID	Date	Description of Issue/Maintenance
PB135ER	2/24/2021	Need to pull and clean pump, it is not keeping up with water recharge.
	3/1/2021	Investigated decreased flowrate. Pump/motor and discharge line heavily fouled with iron buildup. Cleaned transducer and motor onsite, brought pump and discharge hose to DDS to spray off and clean. Brought pump to shop to disassemble and clean, found heavy iron fouling on pump vanes and impellers.
	3/2/2021	Continued cleaning pump vanes. Reassembled and conducted operation check prior to installing in well. Motor seized and wiring is in bad condition. Ordered a new motor.
	3/3/2021	Picked up new motor and installed with new wiring to pump. Operating well at dry run check. Reassembled and installed in well. Flowrate only at 7.82 gpm, probable cause is clogging in discharge line. Awaiting jetter trailer to clean line.
	3/8/2021	Running constantly and does not read transducer.
	4/6/2021	Mobilized jetter equipment, modified water tank to allow for water pump inside tank for the jetter. Acquired water from DDS site. Opened cleanout point in parking lot for access. Flowrate at 6.53 gpm prior to jetting. Shut pump off and jetted from cleanout points to shed and to main sewer. Cleaned heavily in both directions (250 gal of water used each way). After jetting, flowrate was 18.05 gpm, level controller was still reading "-over". Level did not reset after letting the pump run for a while. Shut pump off as it was running the well dry. Require further transducer troubleshooting.
	4/7/2021	Installed new transducer down the well. Reading ok and needs to have setpoint programmed. Pump turned off during maintenance.
	4/8/2021	Turned pump on and coil started to make noise. Sprayed and cleaned the coil and contacts, lubed the contacts and tightened lugs. Runs much quieter.
	4/9/2021	Turned on at start of day and off at end of day, continued issues with transducer through 5/5/2021
	5/11/2021	Tech expert troubleshooting transducer. Adjusted range on datum level but there were fluctuations on the readings. Pulled transducer and found that no matter where the transducer was located in the well, the fluctuations continued. Possibly faulty transducer or atmospheric pressure tube damaged or plugged.
	5/12/2021	Cleaned out well vault and pulled new wire to install new Warrick controls. Installed probes in well. Checked on depth in well to top of casing. Installed Warrick controller in shed and checked action of controller. Checked cycle and lowered probes.
	5/13/2021	No longer using transducer for level control, fully switched over to Warrick controls.
	5/14/2021	Pump tripped. Checked amp draw on motor, restarted motor and brought probes up. Pump cycling well.
	5/17/2021	Pump tripped on overload.
	5/19/2021	System tripped and running constantly
	5/20/2021	Pump tripped and contacts chattering. Installed O-rings in probe and shortened reference probe. Need new starter and coil.
	5/24/2021	Checked on pump. Separated probes to 24' for longer on-time. Reset and cleaned probes of heavy iron fouling.
	5/26/2021	Need a fan to circulate air in shed.
	6/3/2021	Pump tripped. Reset pump and checked pump draw, looked good.

Table 7 WIA-EBPW North Fence-line Containment System Maintenance Activities

Pumping Well / System ID	Date	Description of Issue/Maintenance
	6/23/2021	Jetted sewer line back to shed, removed piping and cleaned. Jet line from shed to pumping well and cleaned flowmeter. Jetted to sewer and could only get 100', unsure why. Piping to be reinstalled tomorrow.
	6/24/2021	Closed cleanout openings, turned pump on and pressure blew out fernco fittings placed in shed piping for jetting access. Installed threaded union instead and held with pressure. Flowrate at 14.25 gpm. Cleaned water and iron out of shed. Possible piping obstruction downstream in discharge line that the jetter cannot reach that is restricting flow.
	7/1/2021	Pump not shutting off and flowrate fluctuating between 12.6 and 4.3 gpm. Shut down pump and cleaned and lowered probes. May need to clean probes every two weeks. Flow leveled out at 12.8 gpm. Located second vault at turn in discharge piping and located outlet to sewer. Need a cleanout in second vault for better discharge jetting. Called Kodak to see who can install it.
	7/14/2021	Cleaned probes
	7/20/2021	Cleaned probes. Met with RED to discuss piping layout and how the jet lines.
	7/21/2021	Showed RED place to install cleanout in piping for better jetting.
	7/29/2021	Pump tripped and could not reset. Potential motor or wiring issue.
	8/4/2021	Troubleshooting pump issues. Warrick controller on to operate starter, cleaned the coil and starter and pump still tripping. Tested amp to motor, it was high. Pulled pump and found pinched wire near bottom of pump/motor. Cleaned off pump, probes, and hose at DDS and reinstalled. No longer tripping. Called PJ Plumbing for quote to install cleanout in discharge line.
	8/13/2021	Prepped well for jetting. Assembled backflow drain for water and sediment coming back up pipe. Ran jetter using about 400 gal of water. Found crack in ball check valve. Installed new valve and required piping. Turned pump on and flowrate at 12.39 gpm.
	8/23/2021	Jetted drain line
	8/26/2021	Pump not cycling. Pulled and cleaned probes.
	9/9/2021	Pulled pump and probes for cleaning and venturi flushing. Brought pump, and discharge hose to DDS and sprayed out. Disassembled pump and cleaned. Ran piping down well for venturi flush, found lot of sediment at bottom of well. Continued cleaning pump while well was being flushed. Removed piping and equipment from well.
	9/10/2021	Pump reinstalled in well.
	9/14/2021	Pump flowrate at 7.47 gpm. Pulled pump and found gasket on discharge was heavily deteriorated and leaking. Acquired replacement gasket and reinstalled. Discarded old piping near shed.

Table 7 WIA-EBPW North Fence-line Containment System Maintenance Activities

Pumping Well / System ID	Date	Description of Issue/Maintenance
PB143NW	7/1/2021	Cleaned transducer
	10/7/2021	Transducer reading fluctuating drastically. Cleaned transducer and turned back on. Still slight oscillation in readings but very minor.
	10/18/2021	Troubleshooting control panel issue, panel erratically changes displays and turning on and off. Inspected wiring and connections, checked amp draw and power, no issues found. Disassembled control panel and found power wire pinched from box being closed on it. Cut back wire and repaired damage to wire, reconnected wiring and turned panel back on. Problem fixed.
PL54E	1/28/2021	Lowered probe 2', new cycle has pump on for longer.
	2/9/2021	Pump not shutting off. Continued through 2/11/2021
	2/17/2021	Pulled probe and cleaned. Added a reference rod and reinstalled probe. Still not shutting off.
	2/19/2021	Raised the probe to the off setting, checked amp on probe on/off, and readjusted probe. May need to take out box at well.
	3/4/2021	Lowered probes for Warrick controls in well by 1'. Pump running for 20+ min.
	3/8/2021	Pump running constantly through 4/15/2021
	4/29/2021	Pump tripped. Reset pump and flowrate was at 2.58 gpm.
	4/30/2021	Pulled pump and jetted discharge line from well to shed. Flushed the pump and took to shop to disassemble and clean. Ordered new pump and motor as backup.
	5/4/2021	Finished cleaning pump, reassembled and reinstalled in the well. Pump running well at flowrate of 11.78 gpm. Choked to 7.65 gpm to maintain steady cycles.
	6/3/2021	Need to clean probes
	6/9/2021	Pump running fast, restricted flow to 12 gpm to lengthen on time.
	6/18/2021	Pump on constantly at a low flow rate. Needs cleaning.
	6/30/2021	Lowered probes
	8/5/2021	Pump running constantly.
	8/18/2021	Cleaned probes, pump still running constantly.
	8/23/2021	Pulled pump to investigate tripped coil.
	8/25/2021	New pump acquired due to damaged vanes within pump. Performed jetting from well towards shed, ran 150' (max effective distance) down line with 100' left uncleaned. Removed piping in shed and jetted from shed to well. Backpressure forced water into shed. Cleaned 1" pipe where flowmeter is. Reassembled piping and cleaned the shed of water and iron spray. Performed venturi flush of well to remove sediment. Installed new pump head to motor and discharge hose. Installed back in well and turned on. Before cleaning, flowrate was 3.65 gpm, after was 18.76 gpm. Throttled rate to 15.15 gpm to increase cycle time.
	8/26/2021	Flow rate throttled further to increase cycle time.
	9/1/2021	Pump cycling fast, about every 30 sec.

Table 7 WIA-EBPW North Fence-line Containment System Maintenance Activities

Pumping Well / System ID	Date	Description of Issue/Maintenance
	9/2/2021	Lowered probes in well by 6" and adjusted flow to 11.69 gpm to increase cycle time.
	10/7/2021	Pump tripped, reset and cleaned probes.
	10/8/2021	Pump tripped again. Inspected wiring and connections. Amp draw per leg was ~4 amps, flow was not restricted. Cleaned electrical contacts around coil. Pulled probes to inspect and found more iron caked on the reference probe. Cleaned and turned pump back on, adjusted flow to 11.03 gpm.
	10/18/2021	Pump constantly tripping, pulled pump and probes to clean and inspect. Disassembled and cleaned pump vanes, found no deviation or damage to motor spline. Reassembled and reinstalled in well. Requires further troubleshooting.
	10/19/2021	Inspected connections in vault, disconnected and cleaned all connections and inspected for water or moisture in the transfer boxes. No noticeable moisture or connection issues. Found two legs coming from the soil to have amp draw of 34 amps and the middle leg had no amp draw. The outer legs were heating up and causing the trip. Need further troubleshooting on cause of no amp draw.
	10/27/2021	Navigated through controller settings and checked that alarms and setpoints are correct. Disassembled and cleaned coil contacts. Reattempted pump cycling and it tripped after 80 sec. Either wiring in well is damaged or motor is faulty.
	10/28/2021	Pulled pump and probes, disassembled and inspected components. Found damaged wire. Repaired the damage and reinstalled pump and still resulted in tripping. Pulled pump and performed bump start on the motor. Motor spline spun but was very weak, most likely caused by a hot spot or hard spot in the motor. Pulled motor from reserve stock, replaced motor and reinstalled in well. Pump working well.
	12/7/2021	Low flowrate. Pulled pump and cleaned pump and discharge hose and reinstalled. Flowrate up to 11.67 gpm.
	12/9/2021	Removed pump and replaced vanes in pump and reinstalled. Discharge line needs to be jetted soon to improve performance.

Table 7 WIA-EBPW North Fence-line Containment System Maintenance Activities

Pumping Well / System ID	Date	Description of Issue/Maintenance
PL54W	2/4/2021	Pulled pump to dislodge pump from probes. The pipe in well broke, need a replacement 2" HDPE pipe.
	2/9/2021	Reinstalled pump with new discharge hose. Fixed wire in probes and shortened length. Still having issues with pump not shutting off.
	2/11/2021	Checked the junction box in the well for water leakage, did not find any problems. Installed a reference rod for the probes. Restarted the pump.
	2/17/2021	Pump not shutting off
	2/19/2021	Adjusted the flowrate to 9.14 gpm and adjusted probe heights in the well.
	2/24/2021	Pump on constantly
	3/2/2021	Adjusted the probes and performed operation check
	3/4/2021	Lowered probes in well by 1'
	3/9/2021	Lowered probes in well by 1'
	4/10/2021	Pump not shutting off. Pulled probes and cleaned them, readjusted location in well. Picked up new flanges for flowmeter.
	5/19/2021	Cleaned probes.
	6/2/2021	probes only allowing 4-5 sec of pump operation. They may need to be adjusted or cleaned.
	9/24/2021	Need materials to repair leaking sample port.
	10/8/2021	Reassembled sample port with new fittings to repair leak.

Table 7 WIA-EBPW North Fence-line Containment System Maintenance Activities

Pumping Well / System ID	Date	Description of Issue/Maintenance
PL54NE	1/27/2021	Pump off due to electrical problems, pump exceeding amp draw. Continued through 3/2/2021
	3/9/2021	Tested motor, potentially a bad spot in the motor.
	3/10/2021	Reinstalled new pump and motor and added new wire. Level controller not connected and pump set to run constantly. Continued through 5/11/2021
	5/11/2021	Technical expert troubleshooting issues with the level controller. Wires for the transducer run through a decommissioned telecom system. Unable to identify which wires were in use and there is a possible issue with power getting to the transducer.
	5/14/2021	Checked flow rates for jetting. Pump on constantly. Continued through 5/26/2021
	6/14/2021	Shut off pump due to low flow rate. Pulled pump and found heave iron buildup. Disassembled pump and discharge hose and sprayed down at DDS. Disassembled pump at shop for cleaning.
	6/15/2021	Used jetter to stir up sediment at the bottom of the well and venturi flush. Large amount of iron and small stone found from flushing. Jetted the discharge pipe and vacuum cleaned around the well vault.
	6/16/2021	Finished cleaning pump and reassembled. Conducted another venturi flush of the well and reinstalled the pump and hose. Pump running well.
	7/7/2021	Pump running constantly. Voltage test was ok, conductivity test at well pipe was ok. Rewired transducer and level controller was reading "-over". Called manufacturer support, they said transducer may be bad.
	7/8/2021	Rechecked connectivity of wire to transducer. Connected different transducer to system and it still had a wandering range. Connected second voltage from working transducer to non-functional one and it was working. Voltage coming from transformer was bad. Ordered new transformer and temporarily wired second voltage to transducer.
	7/20/2021	Need to clean pump. Installed new transformer.
	7/21/2021	Installed rail for transformer. Pump running constantly at low flow rate.
	8/11/2021	Shut pump off and assembled makeshift drainage system for water or sediment that could come out of the piping while jetting. Cleaned out sediment tank and placed in a labeled drum at the DDS. Jetted the discharge line which was very clogged and could only go 120'. Unable to clean out to industrial sewer.
	8/19/2021	Pulled pump and jetted line to shed multiple times. Disassembled pump, transducer, and hose and cleaned at DDS. Performed venturi flush of well and reinstalled pump in well.
	8/20/2021	Removed all piping from shed and attempted to jet piping from shed to well however water was backflowing into the shed and the pump check valve was not letting water go anywhere. Disassembled check valve and found heavy iron fouling. Flushed piping and cleaned fittings. Flow up to 13.9 gpm after reassembly.
	10/19/2021	Flowrate down to 7 gpm, will require cleaning soon.
	11/3/2021	Disassembled piping in shed and found light iron fouling. Pulled pump and transducer and found heavy iron fouling and one of the wires broken. Brought pump and hose to shop for disassembly and cleaning.
	11/5/2021	Cleaned pump vanes and reassembled pump. Cleaned discharge hose at DDS. Repaired the broken wire and reinstalled in well. Turned pump back on. Flowrate up to 9.86 gpm

Table 7 WIA-EBPW North Fence-line Containment System Maintenance Activities

Pumping Well / System ID	Date	Description of Issue/Maintenance
PL54NE2	3/24/2021	Pump slowing down and not meeting setpoint. Continued through 5/14/2021
	5/17/2021	Pulled pump and found heavy iron fouling and transducer stuck in the well. Will jet well soon.
	5/18/2021	Disassembled and cleaned pump at the shop and cleaned discharge hose. Venturi flushed the well to remove sediment and unstick the transducer. Jetted discharge line between well and shed. Reinstalled pump and hose.
	6/14/2021	Pump tripped and does not appear to be receiving an accurate signal to turn off. Amp draw is good. Pump will run of breaker is reset. Turned off power to avoid damage during troubleshooting.
	6/18/2021	Found broken wire between shed and well. Fixed break and amp draw to motor good.
	8/12/2021	Pulled pump and found heavy iron fouling and transducer lower than where it was supposed to be. Cleaned the transducer, pump, and hose at DDS. Disassembled and cleaned pump vanes. Reinstalled in well and adjusted transducer to be 2' above pump. Reset pump and it tripped after 15 sec. Heater solid found to be hot, potential wire malfunction or break in lines.
	8/18/2021	Connected wires from motor in well and turned back on. Working well.
	9/20/2021	Pump coil tripping. Reset trip switch and pump still off. Pulled pump and transducer to inspect. Transducer and wiring looked good, motor looked good and functioned during an operation check. Pump spline completely seized, most likely from sucking sediment and stone. Removed pump and ordered a new one.
	9/21/2021	Cleaned off discharge hose ad DDS. Assembled new pump with motor and installed in well. Pump cycling good.

Table 8 Parking Lot 50 Migration Control System Maintenance Activities

Pumping Well / System ID	Date	Description of Issue/Maintenance
Lot 50	9/8/2021	Weed wacked plants and weeds around wells, shoveled dirt, moss, and stones away from the vaults. Removed old discharge piping left next to wells.
PL50N2	N/A	No maintenance required during 2021
PL50N3	1/26/2021	Pulled transducer to inspect, found to be in good condition. Pump running in hand or auto mode creates oscillation in the totalizer reading. Down well observations indicate that when the pump is on the water is being stirred. Could not pull pump due to weather conditions. Turned pump off, continued through 2/24/2021.
	2/24/2021	Tested pump and found problem with run/start controller. Ordered a new controller that is sized appropriately.
	2/25/2021	Installed new motor controller and started pump and water did not pump. Pulled pump and cleaned. Found hole in pipe to hose connection, repaired and added a fernco over the pipe to stop corrosion. Reinstalled pump and added a new brace for the cabling.
	3/4/2021	Needs new controller panel as it is very difficult to see displayed data through panel window.
	3/10/2021	Flowmeter not showing flowrate when pump on manual mode.
	9/21/2021	Pump cycling however flowmeter did not record total or flowrate. Investigating for replacement flowmeter.
	10/5/2021	Disassembled flowmeter and inspected piping, found no plug or restriction in piping. Pulled well piping and found heavy corrosion on hose fitting. Removed damaged hose and replaced with spare one and reinstalled pump. Pump cycling with measured flowrate at 10 gpm. Reinstalled flowmeter and still did not record properly.
	10/6/2021	Disassembled flowmeter and inspected. Found water puddled near connections and slight corrosion throughout. Disconnected all wiring and cleaned out connection points, cutback wires and restriped to reveal workable wiring, applied dielectric grease to prevent further corrosion and cleaned out the inside of the flowmeter. Reconnected wiring and reassembled piping, an operation check still showed a false reading. May need to reconfigure piping.
	10/7/2021	Acquired piping and fittings for reconfiguration. Shut down pump and disassembled discharge piping. Reassembled piping so water is always on the flowmeter contact. Turned system back on and flowmeter still showing a false reading. Will acquire quotes for replacement flowmeter.
PL50W	N/A	No maintenance required during 2021
PL50NW3	7/15/2021	Pump not turning on. Tested voltage and the 3-phase is not working, potentially a problem with the controller. Checked the compensator and had a thermostat overload. Ordered a new controller.
	7/20/2021	Picked up new controller. Tested voltage to pump.
	7/21/2021	Installed new controller and problem persisted. Pulled pump and found discharge hose fitting rotted. Installed new stainless steel fitting and reinstalled pump. Pump running good.
	9/16/2021	Pressure washed, shoveled, swept, and cleaned out vault.

Table 9 Building 329/349 Area Remedial System Maintenance Activities

Pumping Well / System ID	Date	Description of Issue/Maintenance
PB349N	1/21/2021	Awaiting installation of new totalizer. Continued through 4/8/2021
	4/8/2021	Installed brackets for the pump and began installation of the flowmeter.
	4/14/2021	Finished installation of flowmeter in the vault and new bracket for pump support. Installed new silicone pipe fittings and blocks to keep the flowmeter off the floor of the vault.
	4/15/2021	Worked on calibrating total gallons on the flow meter.
	4/16/2021	Troubleshooting setup of net flowmeter. Was able to get flow total displayed and recording properly.
	9/16/2021	Pressure washed, shoveled, swept, and cleaned out vault.
PB329E2	5/14/2021	Pulled pump for cleaning. Flushed well of heavy iron fouling and cleaned piping. Will repair the wet end of the pump with vanes that can easily be replaced and cleaned. Ordered 45' of discharge hose to replace piping.
	5/19/2021	Ordered new pump head and impellers. Cleaned flow meter and transducer. Replaced down-well discharge piping with hose.
	9/8/2021	Discharge pipe in the vault was not routed into the drain. Removed the pipe and replaced it with a barb fitting and hose, and routed the hose into the vault drain. Cleaned the vault of pads, iron residue, and sediment. Removed old discharge piping and disposed of it.
	12/29/2021	Minor leak coming from sample port location
	12/30/2021	Found sample port ball valve cracked and damaged. Replaced with a new valve and added barb fitting for sampling.

Table 10 Northern EBP-M Migration Control System Maintenance Activities

Pumping Well / System ID	Date	Description of Issue/Maintenance
M10 Shed	2/2/2021	Cleaned out the shed and installed new shelving. Temporarily moved items to the D7 Shed for storage
	2/3/2021	Started removal of the shed floor. Debris were disposed of properly.
	2/4/2021	Completed removal of floor.
	2/5/2021	Began cutting 2x6 lumber for floor framing. Finished installing shed floor in February
	4/22/2021	Acquired hasp lock for shed door. Need equipment to install lock on door.
	4/29/2021	Installed hasp and lock on door to shed.
	5/11/2021	Replaced gutters and downspouts on shed.
	5/12/2021	Observed flooding near the shed. Shut down the pumps and notified RED. An underground tank breach caused the flooding and pushed silt and mud down the wells.
	5/26/2021	Cleaned off heavy amount of dust on road from flooding.
	7/14/2021	Heavy rain and clogging of the storm drains caused sediment runoff from the road into the wells.
	9/2/2021	Power washed the shed in preparation for painting. Sprayed bees nest in gutter with hornet spray.
	9/3/2021	Painted shed
	9/8/2021	Cleaned shed and rugs, and removed trash.
	9/10/2021	Painted the door of the shed.
	9/15/2021	Applied another coat of paint to the door. Sprayed bees nest again. Cleaned out inside of shed and removed old trash and un-needed parts. Located and marked industrial sewer locations from the shed.
	9/24/2021	Installed and mounted new fire extinguisher in the shed. Conducted general cleanup of the shed.
	11/8/2021	Prepping the shed for winter. Closed windows, sealed up openings or gaps in walls, and tested heaters.
	11/15/2021	Ordered parts for wall exhaust/ventilation fans.
	12/12/2021	Inspected shed post wind storm, no immediate damage observed.

Table 10 Northern EBP-M Migration Control System Maintenance Activities

Pumping Well / System ID	Date	Description of Issue/Maintenance
PB319N	3/10/2021	Pulled pump and brought to shop to clean. Ordered discharge hose for well.
	3/11/2021	Flushed the well with an air compressor and captured sediment in a tank, found heavy iron fouling in the well.
	3/12/2021	Installed new pump in well. Low flowrate, will need to clean discharge line to shed.
	3/31/2021	Potential blockage in discharge line, may need to jet.
	4/2/2021	Flowrate less than 0.5 gpm so pump was shut off to prevent damage.
	4/9/2021	Took apart pipe in shed and snaked pipe. Attempted to jet the 1" line to the shed however the jetter would not feed into the pipe. Purchased material to snake line.
	4/10/2021	Turned on system to flush drain-o from line, resulted in some increased flow. Attempted to snake line from well with electrical snake, could not go past bend in pipe.
	4/13/2021	Brought generator and vac to clean out the drain in the vault as the drain was plugged with wet road sediment. Successfully cleaned out drain. Reattempted jetting of discharge line with forward jetting tip but could not get jetter into the pipe. May need smaller diameter jetting hose.
	4/14/2021	Reconnected piping in shed. Still need to clear the line and the transducer did not hit the low shutoff point.
	4/16/2021	Investigated transducer issue, pump will draw down water level but not shut off. Adjusted the depth of the transducer but did not correct the issue.
	5/26/2021	Pump functioning however the totalizer was reading "error20" with a red blinking light. Reset the totalizer and error was cleared.
	7/1/2021	Cleaned transducer in well and cleaned vault area of mud from flooding. Measured from vault to turn in piping to determine location for cleanout. Discussed with RED on location of cleanout.
	7/2/2021	Jetted line from well to shed and having difficulty getting past bend in pipe.
	7/14/2021	Well off due to heavy sedimentation from runoff during heavy rain.
	8/5/2021	Cleaned out vault of sediment and dried out transducer.

Table 10 Northern EBP-M Migration Control System Maintenance Activities

Pumping Well / System ID	Date	Description of Issue/Maintenance
PB350NE2	6/18/2021	Pulled pump for cleaning and found a heavy plug at the pump inlet and damage to the camlock end of the discharge hose. Ordered new discharge hose, cleaned the plug and reinstalled the pump. Ran for a bit and then stopped with a possible thermostat issue in the motor.
	7/14/2021	Well off due to heavy sedimentation from runoff during heavy rain.
	8/11/2021	Turned off due to sediment clogging pump. Waiting on RED to clear debris from road.
	8/18/2021	Pulled pump for cleaning, found heavy iron fouling at pump inlet and damage to camlock head on discharge hose. Ordered new hose.
	8/20/2021	RED attempted to vac out the sediment in the well vault however was unable to remove water to get to the sediment. May require a heavier vac truck.
	8/23/2021	Jetted the drain line.
	8/25/2021	Pump still not installed, waiting on stainless steel hose fittings. Flushed the well and pulled up sediment from the casing but had difficulty cleaning up trench shelf due to venturi restrictions. Continued flushing as much as possible.
	8/31/2021	Assembled pump and motor with fixed discharge hose and reinstalled in well. Transducer stuck and elevation of 215.5.
	9/1/2021	Pulled transducer and transfer box and found slight moisture in the box and the wiring looked rough and corroded. Cut the wiring back, cleaned, and applied dielectric grease and spliced the wires back together. Pump began running constantly, need further troubleshooting on level controller.
	9/2/2021	Transducer had been bypassed during the flooding in July. Removed the bypass and transducer functioned properly.
	9/21/2021	Pulled pump and found heavy leaf/twig buildup at the pump inlet. Disassembled the pump and cleared out debris. Reinstalled pump and turned on.
PB350NW	7/14/2021	Pulled transducer. Could not pull pump. Cleaned out vault. Need to raise cover and replace vault brick.
	7/16/2021	Was able to unstick pump and pull, jetted line from well to shed and pumped out sediment from well. Ordered new pump and motor.
	8/5/2021	Installed new hose, pump and motor.
	9/16/2021	Pressure washed, shoveled, swept, and cleaned out vault.

Table 11 MIA-301 (EBP-M) Groundwater Remediation System Maintenance Activities

Pumping Well / System ID	Date	Description of Issue/Maintenance
PB323SE2	4/19/2021	Removed and properly disposed of a large amount of sediment in the vault.
	7/6/2021	Pulled pump and noticed multiple loose connections and heavy iron fouling. Disassembled and cleaned pump at the DDS. Reassembled and reinforced loose connections and reinstalled pump in the well.
	9/17/2021	Drilled a drainage hole in the vault bottom and cleaned out sediment in the vault.
	9/21/2021	Float valve may be sticking. Shut off air and pulled pump and disassembled to check mechanisms. No issues observed so reassembled pump and reinstalled and turned air back on.
	10/19/2021	Totalizer not cycling, continued through 10/27/2021
	10/28/2021	Investigate cycling issue. Pulled pump and found air supply was good but there was a lot of water in the vent line. Cleaned out the pump and blew water out of the vent line. Reassembled and reinstalled in the well. Pump cycled but totalizer did not record. Pulled apart the totalizer and found the internal spring/magnet damaged. Replaced the totalizer and turned pump back on, working well.
	12/1/2021	Measured manhole cover for replacement with a lighter version than cast iron.
PB303SW	10/14/2021	Shoveled out large debris and shop vacuumed sediment out of the vault. Applied hydraulic cement to voids in vault casing.
	12/1/2021	Measured manhole cover for replacement with a lighter version than cast iron.
PB303W2	7/14/2021	Vault flooded up to top of casing of the well.
	9/17/2021	Drilled another drainage hole in the vault and cleaned out the existing drainage hole. Water did not drain, the area may have a compact subsurface.
	12/1/2021	Measured manhole cover for replacement with a lighter version than cast iron.

Table 12 Northeast EBP-X Overburden Migration Control System Maintenance Activities

Pumping Well / System ID	Date	Description of Issue/ Maintenance
PB218N	1/5/2021	Pump running at 3.1 gpm. Shut down and disassembled conduit in well to pull the transducer for cleaning. Transducer model can not be disassembled for thorough cleaning and can not adjust depth of transducer due to conduit assembly. Reinstalled clean transducer, pump cycled normally until returning to not pumping at setpoint of 224.
	3/10/2021	Large amounts of snowmelt causing pump to run pretty constantly to maintain levels.
	9/24/2021	Assessed damage and deterioration to well manhole and planned out repairs.

Table 13 Parking Lot 73 Remedial System Maintenance Activities

Pumping Well / System ID	Date	Description of Issue/Maintenance
PL73N	1/22/2021	Turned pump of at start of day and off at the end of the day while troubleshooting repairs. Continued through 4/22/2021.
	1/27/2021	Pump off, installed floats no sending a signal to the controller.
	2/9/2021	Problem with the coil on the magnetic starter or bad wiring to the floats.
	2/11/2021	Wire to controller sending a weak signal, may need to run a new wire.
	2/17/2021	Shoveled off well manhole, checked on heaters for the motor starter.
	3/22/2021	Cleaned out control cabinet of old parts and trash and drilled holes in the bottom of the cabinet.
	4/2/2021	Picked up wire and new box replacement for the well. Wires rusted dur to salt runoff from the road. Installed new box in well and began pulling wires.
	4/7/2021	Finished pulling new wires for level and float control. Rewired and installed new fittings in the box to make water tight. Started system and found needed gems control.
	4/8/2021	Ordered a new gems control, current one has broken latch inside the action.
	4/29/2021	Installed new floats for the pump. Readjusted float level. Installed new gems controller.
	7/2/2021	Need a small fan to ventilate the control cabinet.
	9/24/2021	Applied primer to conduits beneath control cabinet.
	11/15/2021	Ordered parts for ventilation fan.
	11/16/2021	Installed a case fan to control cabinet. Found that the step-down transformer that supplies power to the 120v fan and outlet is not working. Ordered replacement transformer.
	11/23/2021	Replaced transformer.
	12/1/2021	Finished installing new transformer, replaced all fuses in the panel and checked input and output voltage. Finished wiring and tested functionality of new case fan.
	12/29/2021	Brought conduit cover and test fitted on back of electrical cabinet. Drilled mount bolt holes and secured cover to cabinet and conduits.

Table 14 Weiland Road Landfill Top of Rock Remedial System Maintenance Activities

Pumping Well / System ID	Date	Description of Issue/ Maintenance
PWRNW3	1/19/2021	Pulled pump and found pump broken from discharge hose at camlock fitting. Heavy iron fouling on discharge hose and camlocks heavily corroded. Tested motor and would not run, investigating wiring issue. Cleaned pump and reassembled with new fittings, new discharge hose on order.
	1/21/2021	System off awaiting new discharge hose. Continued until 2/5/2021.
	2/5/2021	Installed new hose to pump and installed in the well. Problem with the controller. Replaced with a spare controller and functioning well.
	2/9/2021	Fixed fernco fitting at well.
	7/14/2021	Kodak turned well off for maintenance.
	9/16/2021	Pressure washed, shoveled, swept, and cleaned out vault.
	12/12/2021	Conducted post windstorm inspection. No extreme damage identified on related control panels or landfill leachate shed electrical panels. No power to anything on that section of Weiland Road.
	12/13/2021	Landfill power still out. Landfill leachate shed holding tanks do not look to be overflowing. 3 utility poles to the landfill were broken by the wind storm. RG&E replaced electrical poles yesterday and they need to replace the meter to the landfill leachate shed. Poles and lines replaced today but power not restored, awaiting installation of new electric meter.
	12/20/2021	Inspected status of repairs to electrical cables and ensured that power was cut off to pump to prevent damage from maintenance or power surges.
	12/29/2021	Power restored and troubleshooting level controller issues. Pump was running constantly at a low flow rate. Reprogrammed the level controller and pump functioning well.

Table 15 Northeast EBP-E Remedial System Maintenance Activities

Pumping Well / System ID	Date	Description of Issue/ Maintenance
PL41N	9/16/2021	Pressure washed, shoveled, swept, and cleaned out vault.
PL41S	6/9/2021	Pump not running and water level above setpoint. Power may not be getting to the motor due to a blown fuse or heater coil.
	6/10/2021	Electricity tested good. Pulled pump and found pump separated from hose. Replacing hose with stainless steel fittings.
	6/11/2021	Disassembled and cleaned pump at shop. Awaiting hose repair.
	6/22/2021	Reinstalled pump with repaired hose.
	9/16/2021	Pressure washed, shoveled, swept, and cleaned out vault.
PL42E	9/16/2021	Pressure washed, shoveled, swept, and cleaned out vault.
PL42W	1/29/2021	Water level over the setpoint, ran pump on manual to draw down the water level to reset the level controller.
	5/5/2021	Transducer needs reprogramming.
	5/7/2021	Starter engaged, either a bad motor or fuses.
	5/12/2021	Power and voltage operating properly. Pulled pump and found hose broke at fitting onto pump. Repaired fitting and reinstalled pump. Still has issues with the transducer.
	5/28/2021	Reset transducer/level controller programming and is now working properly.
	9/16/2021	Pressure washed, shoveled, swept, and cleaned out vault.

Table 16 MIA-333 (M95) Remedial System Maintenance Activities

Pumping Well / System ID	Date	Description of Issue/ Maintenance
M95	1/27/2021	Kodak turned air off for maintenance.
	2/1/2021	Air still off, checked on air line and found it frozen at the connection to the pipe bridge. Installed new hose.
	2/8/2021	Found air off and line frozen again. Thawed out connection and air flowing to system.
	2/11/2021	Pump frozen in shed, need to check air line.
	2/17/2021	Thawed out air line and insulated air valve on pipe bridge connection.
	2/18/2021	Shoveled out around gate.
	2/19/2021	Pumps off again. Added drip leg to the air supply and reinsulated with high density foam.
	6/23/2021	Shut pumps down to jet the lines into the trailer and from the trailer to the industrial sewer. Need to reseal the heat tape around the drain line and fix crack in drain line piping.
	7/2/2021	Fixed fittings outside of trailer.
	8/27/2021	Discharge piping from trailer was leaking. Shut down pumps and power, removed cracked adapters and replaced as required. Applied new insulating tape around remounted piping. Disconnected electrical wiring that had been exposed to leaking water and applied dielectric grease and respliced and resealed into the electrical box. Turned pumps and power back on. Cleaned out sediment tank and consolidated sediment into one drum and stored at the M95 area.
	9/10/2021	Cleaned up debris and old piping from fenced area.
	12/1/2021	Performed voltage and resistance test of all 5 heat tapes on belowground piping to assess functionality prior to cold weather. Winterized area and cleaned up in and around trailer.
PB326SW8	6/4/2021	Blew out the well with an air compressor and pulled and cleaned the pump at the DDS, found lots of iron fouling on the pump and in the well.
	6/9/2021	Let sediment in the well settle and performed a venturi flush of the remaining sediment. Reinstalled pump in the well.
PB326SW9	2/4/2021	No pump in well. Continued through 6/8/2021
	6/4/2021	Blew out the well with an air compressor.
	6/8/2021	Installed new QED pump in the well.
PB326SW5	6/4/2021	Blew out the well with an air compressor and pulled and cleaned the pump at the DDS, found lots of iron fouling on the pump and in the well.

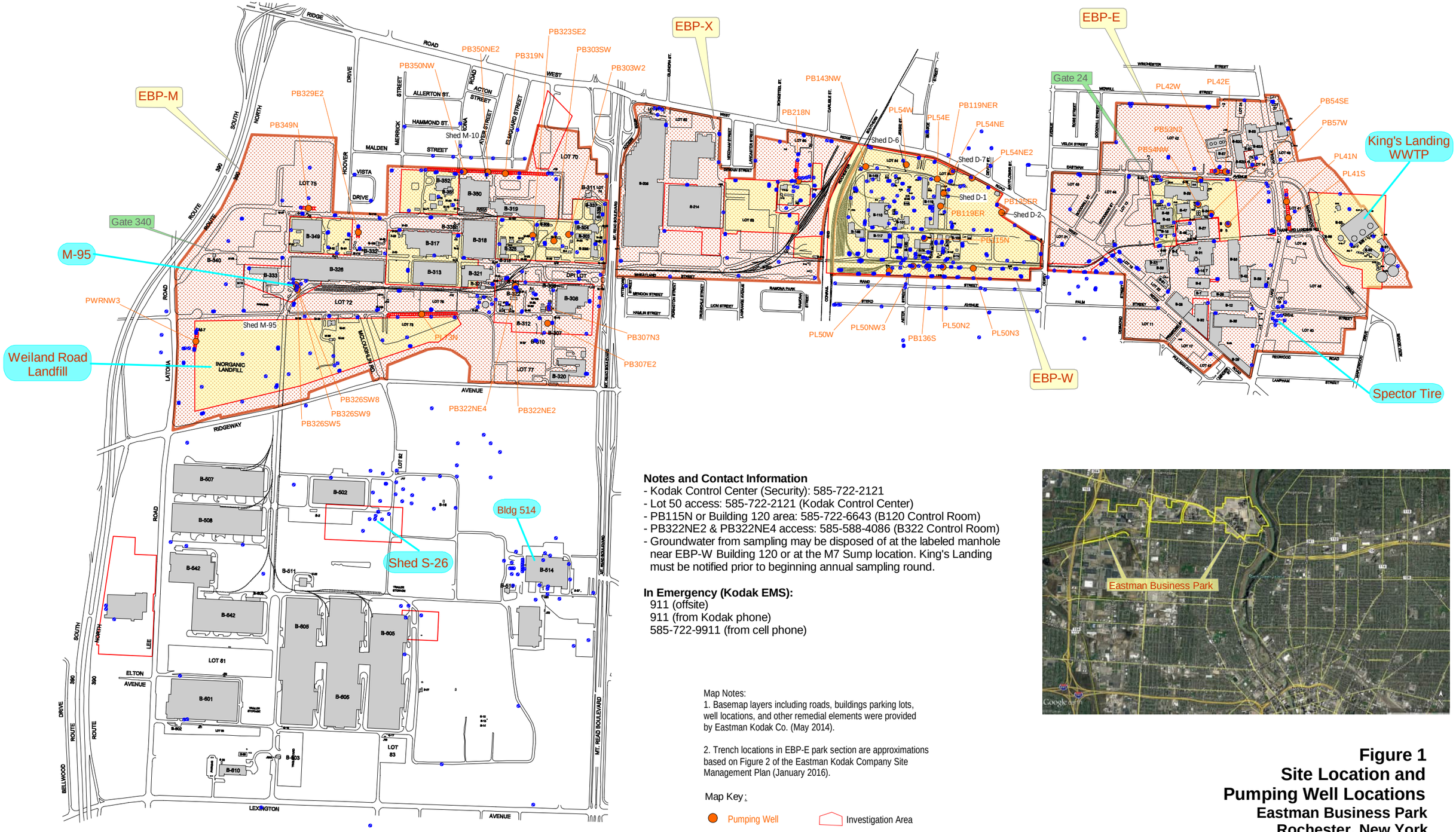
Table 17 Maintenance Activities for Individual Systems

Pumping Well / System ID	Date	Description of Issue/Maintenance
PB53N2	1/21/2021	Pump currently off awaiting fix of the level controller. Continued through 5/11/2021
	4/7/2021	Installed new transducer in well, need to reprogram level controller.
	5/11/2021	Programmed setpoint, alarm, and hysteresis for level controller.
	5/28/2021	Readjusted level controller programming.
	6/9/2021	Level controller is off, pump is running.
	6/10/2021	Set point display on level controller is faded and difficult to read.
	9/14/2021	Reprogrammed setpoint to shut off at the correct elevation.
	9/16/2021	Pressure washed, shoveled, swept, and cleaned out vault.
	9/17/2021	Jetted the discharge drain in vault.
	11/9/2021	Installed sample port on discharge line and checked for any leaks. No leaks found. Cleaned out sediment and debris in vault and vault drain.
PB54NW	4/7/2021	RED had shut off power to pump for maintenance and forgot to turn back on. Turned pump on.
	9/16/2021	Pressure washed, shoveled, swept, and cleaned out vault.
PB54SE	2/24/2021	Discharge line is almost full of water, may need to check for clogs.
	3/3/2021	Checked vault discharge line for blockage. Likely a partial plug and large amount of snowmelt. Will jet discharge line.
	6/10/2021	Swept around berm and vault to push stones and dirt away from the vault. Cleaned the inside of the vault and placed bag/cover over the well.
	9/16/2021	Pressure washed, shoveled, swept, and cleaned out vault.
	9/17/2021	Jetted discharge line and cleaned out the vault.
PB57W	1/6/2021	Pump locked, pulled to exchange for repaired pump. Awaiting new pump for install. Continued through 3/29/2021.
	3/29/2021	Fixed air pump arrived and installed in the well. Sent out original pump for warranty repairs.
	3/30/2021	Pump locked between cycles similarly to original problem. Disassembled to check valves and found no issues. Reinstalled in well.
	3/31/2021	Pump still stalling. Continued through 5/21/2021.
	5/21/2021	Pulled pump and called on refund for pump.
	6/9/2021	Venturi cleaned out sediment from bottom of the well. Installed new QED pump.
	6/10/2021	Cleaned out and swept around silt sock. Lots of water in the filter to the air line at the pump. Need to change air fitting at pipe to prevent water collecting in the line and entering the system. Called RED to investigate piping change.
	6/11/2021	Very slow recharge in well but pump is working.
	6/18/2021	Checked on the air line and filter and found no water buildup. Discussed with Kodak on replacing the air line.
	6/22/2021	Discussed with Kodak on redoing air line to come off the side of the manifold instead of the bottom.
	6/30/2021	Lowered the pump 5'. Slow recharge of well.
	9/16/2021	Pressure washed, shoveled, swept, and cleaned out vault.
PB115N	8/26/2021	Disconnected air supply and checked on air quality. Removed totalizer and inspected operation. Found the totalizer magnet was not activating. Replaced totalizer and reconnected air supply.
	9/16/2021	Pressure washed, shoveled, swept, and cleaned out vault.
PB136S	9/16/2021	Pressure washed, shoveled, swept, and cleaned out vault.

Table 17 Maintenance Activities for Individual Systems

Pumping Well / System ID	Date	Description of Issue/Maintenance
PB322NE2	2/1/2021	Pump is stuck in the well but is functioning.
	2/22/2021	Attempted to use a magnet to help unstick pump, did not work. Pump is cycling but no change on the totalizer. There may not be enough water pumped in the cycle to change the counter.
	3/11/2021	Used a tripod winch to pull and unstick the pump.
	3/12/2021	Cleaned pump and reinstalled with new hoses.
	3/22/2021	Pump was locked between cycles and totalizer was not registering. Swapped vent and air lines and issue persisted. Can hear air leaking somewhere inside the pump. Pulled and brought to shop for troubleshooting.
	3/23/2021	Disassembled pump, found wear on the action valve for air transfer. Cleaned where the action valve opens and greased pins. Reassembled pump and reinstalled in well. Running smoothly through multiple cycles.
	11/10/2021	Turned off air and installed sample port on the discharge line. Reassembled airlines and turned air back on. Checked for leaks and valve operation, working good.
PB322NE4	11/10/2021	Turned off air and installed sample port on the discharge line. Reassembled airlines and turned air back on. Checked for leaks and valve operation, working good.
PB307E2	5/21/2021	Pulled pump and cleaned out the well, pulled rubber gaskets out of the well.
	5/24/2021	Continued to clean out the well and reinstalled the cleaned pump.
	11/10/2021	Turned off air and installed sample port on the discharge line. Reassembled airlines and turned air back on. Checked for leaks and valve operation, working good.
PB307N3	5/21/2021	Cleaned out pump and well. Heavy black sediment in bottom of well.
	5/24/2021	Finished cleaning out well and reinstalled pump.
	7/14/2021	Area around the vault was flooded.
	11/10/2021	Turned off air and installed sample port on the discharge line. Reassembled airlines and turned air back on. Checked for leaks and valve operation, working good.

Figures



Notes and Contact Information

- Kodak Control Center (Security): 585-722-2121
- Lot 50 access: 585-722-2121 (Kodak Control Center)
- PB115N or Building 120 area: 585-722-6643 (B120 Control Room)
- PB322NE2 & PB322NE4 access: 585-588-4086 (B322 Control Room)
- Groundwater from sampling may be disposed of at the labeled manhole near EBP-W Building 120 or at the M7 Sump location. King's Landing must be notified prior to beginning annual sampling round.

In Emergency (Kodak EMS):

911 (offsite)
911 (from Kodak phone)
585-722-9911 (from cell phone)

Map Notes:
1. Basemap layers including roads, buildings parking lots, well locations, and other remedial elements were provided by Eastman Kodak Co. (May 2014).

2. Trench locations in EBP-E park section are approximations based on Figure 2 of the Eastman Kodak Company Site Management Plan (January 2016).

Map Key:

- Pumping Well
- Monitoring Well
- Collection Trench
- Investigation Area
- Investigation Area with Soil Covers
- Park Section

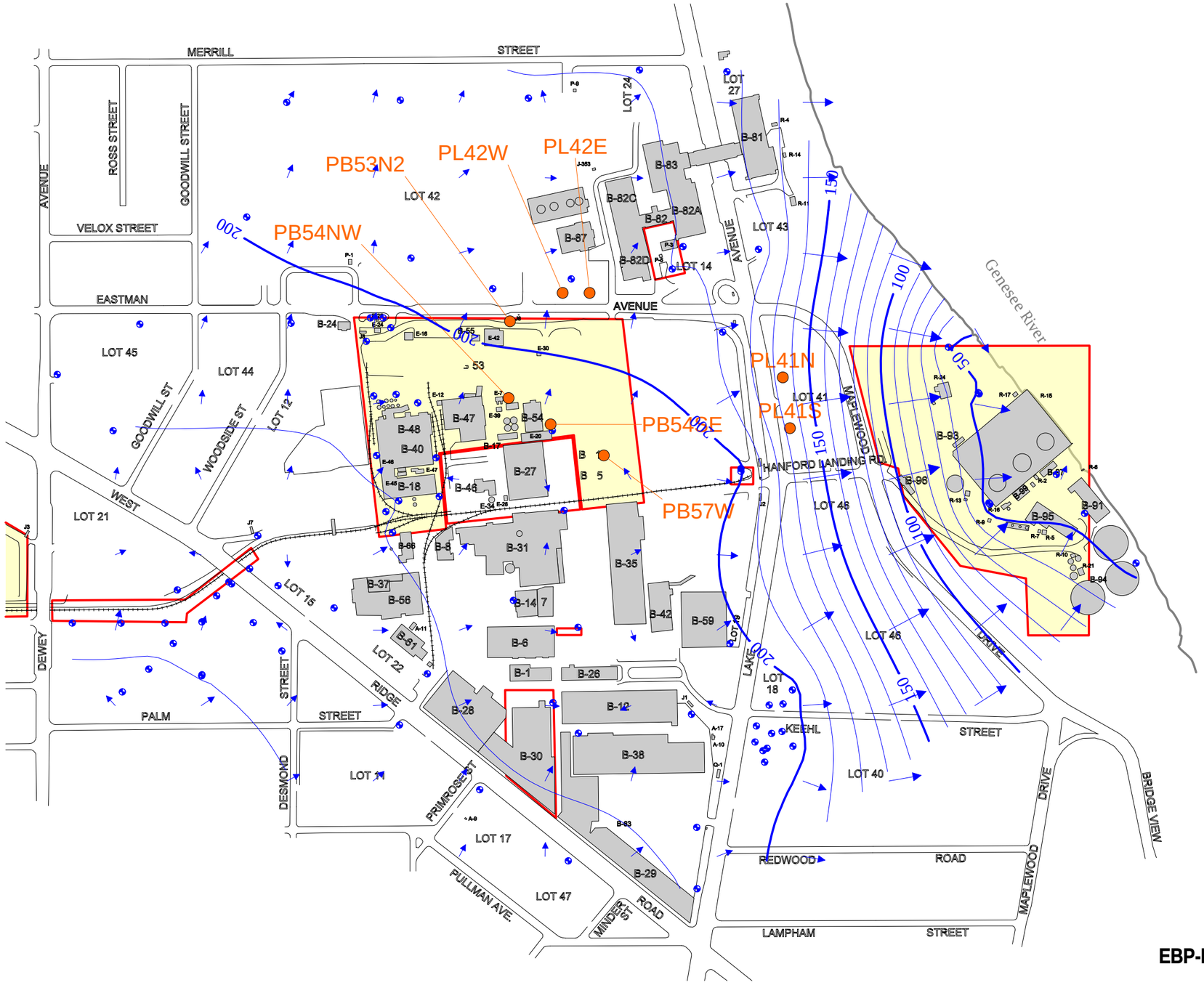
Figure 1
Site Location and Pumping Well Locations
Eastman Business Park
Rochester, New York

Meters
0 175 350 525 700

N

ecology and environment
engineering and geology, p.c.
Environmental Specialists

ecology and environment
engineering and geology, p.c.



KEY:

- Monitoring Well
- 50 foot Contour Interval
- 10 foot Contour Interval
- Depression
- Investigation Area
- Investigation Area with Soil Covers
- Existing Building
- Groundwater Flow Direction

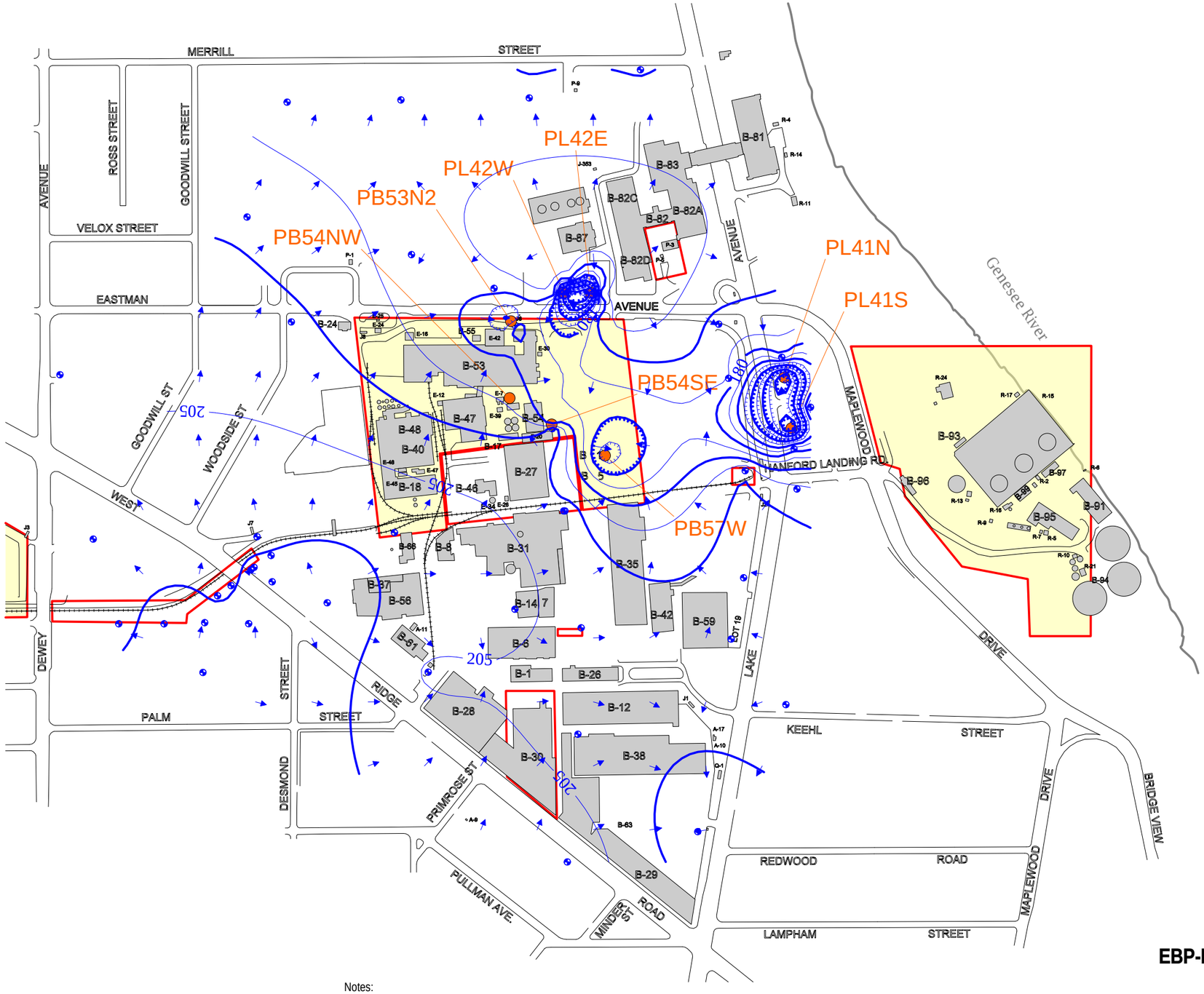
Notes:
1. Well Locations, elevation data, trench locations, and basemap features were provided by Eastman Kodak Company. Contours were created by E & E using water level measurements obtained in 2021.

2. All elevations are based on the Kodak Park Datum, which can be referenced to United States Coast Guard and National Geodetic Survey Datum (1911) by adding 201.75 feet to the elevation shown.

Figure 2
EBP-E 2021 Overburden Groundwater Potentiometric Surface
Eastman Business Park
Rochester, New York

feet
0 450 900
N

ecology and environment
engineering and geology, p.c.
Environmental Specialists



KEY:

- Monitoring Well
- Pumping Well
- 20 foot Contour Interval
- Investigation Area
- 4 foot Contour Interval
- Investigation Area with Soil Covers
- Depression
- Existing Building
- Groundwater Flow Direction

Notes:
1. Pumping well setpoint elevations are used for all electric submersible pumping wells and other pneumatic pumping wells with the exception of PL41N. The average groundwater elevation during 2019 was used at PL41N because the transducer read "over" since 2020.

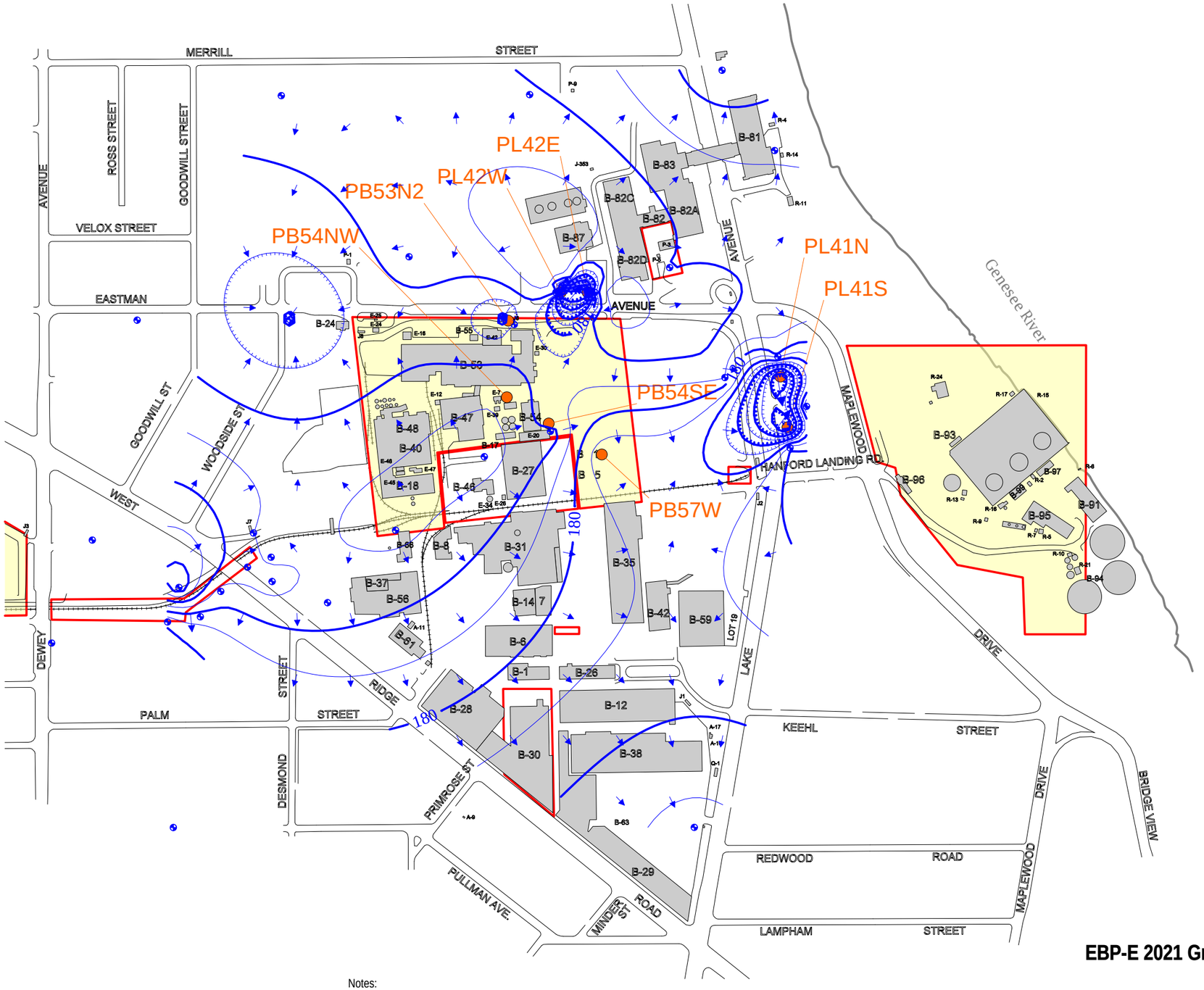
2. Well Locations, elevation data, trench locations, and basemap features were provided by Eastman Kodak Company. Contours were created by E & E using water level measurements obtained in 2021.

3. All elevations are based on the Kodak Park Datum, which can be referenced to United States Coast Guard and National Geodetic Survey Datum (1911) by adding 201.75 feet to the elevation shown.

Figure 3
EBP-E 2021 Top of Rock Groundwater Potentiometric Surface
Eastman Business Park
Rochester, New York

feet
0 450 900
N

ecology and environment
engineering and geology, p.c.
Environmental Specialists



KEY:

- Monitoring Well
- Pumping Well
- 25 foot Contour Interval
- Investigation Area
- 5 foot Contour Interval
- Investigation Area with Soil Covers
- Depression
- Existing Building
- Groundwater Flow Direction

Notes:

1. Pumping well setpoint elevations are used for all electric submersible pumping wells and other pneumatic pumping wells with the exception of PL41N. The average groundwater elevation during 2019 was used at PL41N because the transducer read "over" since 2020.

2. Well Locations, elevation data, trench locations, and basemap features were provided by Eastman Kodak Company. Contours were created by E & E using water level measurements obtained in 2021.

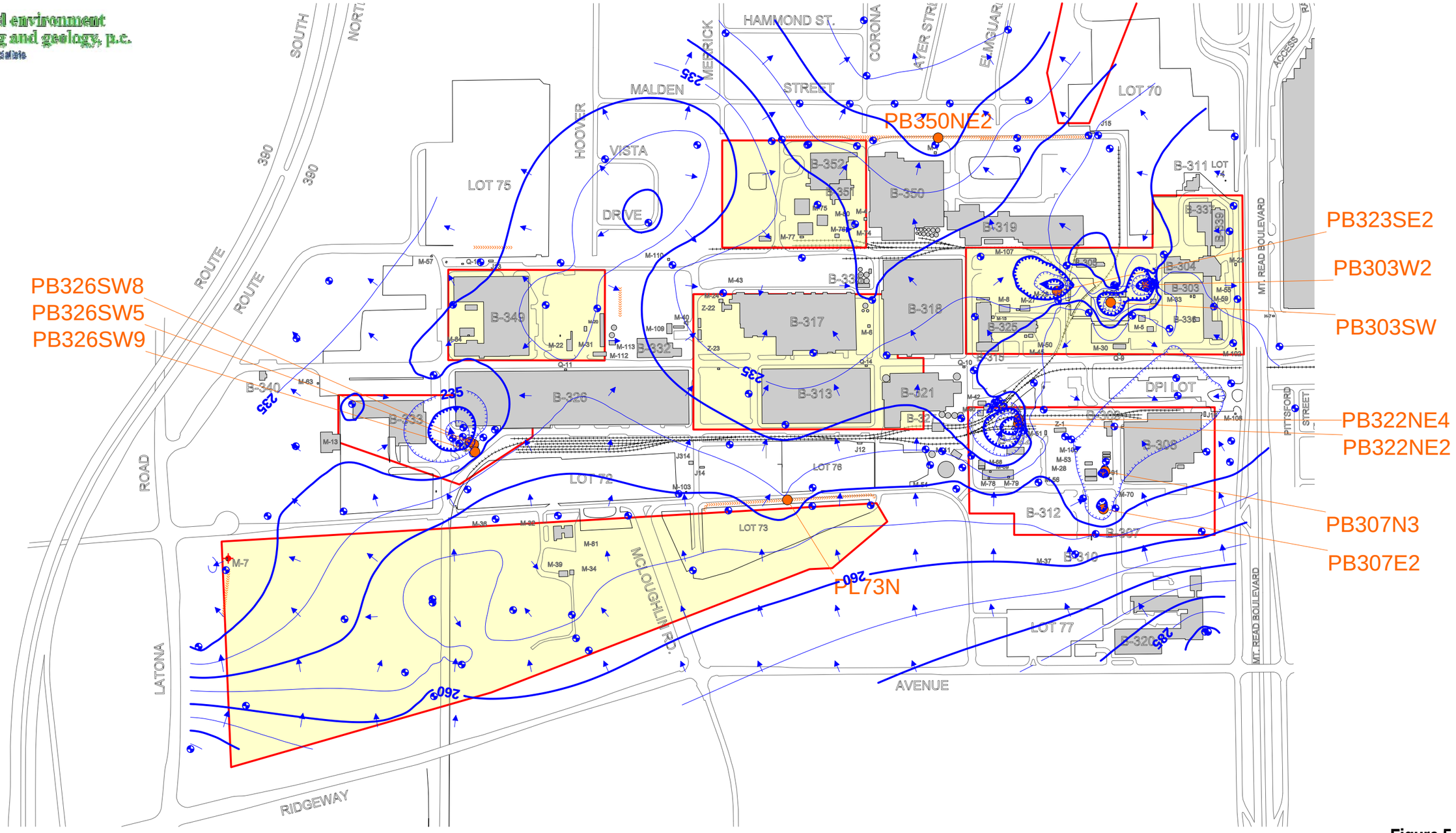
3. All elevations are based on the Kodak Park Datum, which can be referenced to United States Coast Guard and National Geodetic Survey Datum (1911) by adding 201.75 feet to the elevation shown.

Figure 4
EBP-E 2021 Grimsby-Queenston Groundwater Potentiometric Surface
Eastman Business Park
Rochester, New York

feet
0 450 900
N

ecology and environment
engineering and geology, p.c.
Environmental Specialists

PB326SW8
PB326SW5
PB326SW9
PB350NE2
PB323SE2
PB303W2
PB303SW
PB322NE4
PB322NE2
PB307N3
PB307E2
PL73N



KEY:

- Monitoring Well
- 20 foot Contour Interval
- 4 foot Contour Interval
- Depression
- Collection Trench
- Leachate Manhole
- Pumping Well
- Investigation Area
- Investigation Area with Soil Covers
- Existing Building
- Groundwater Flow Direction

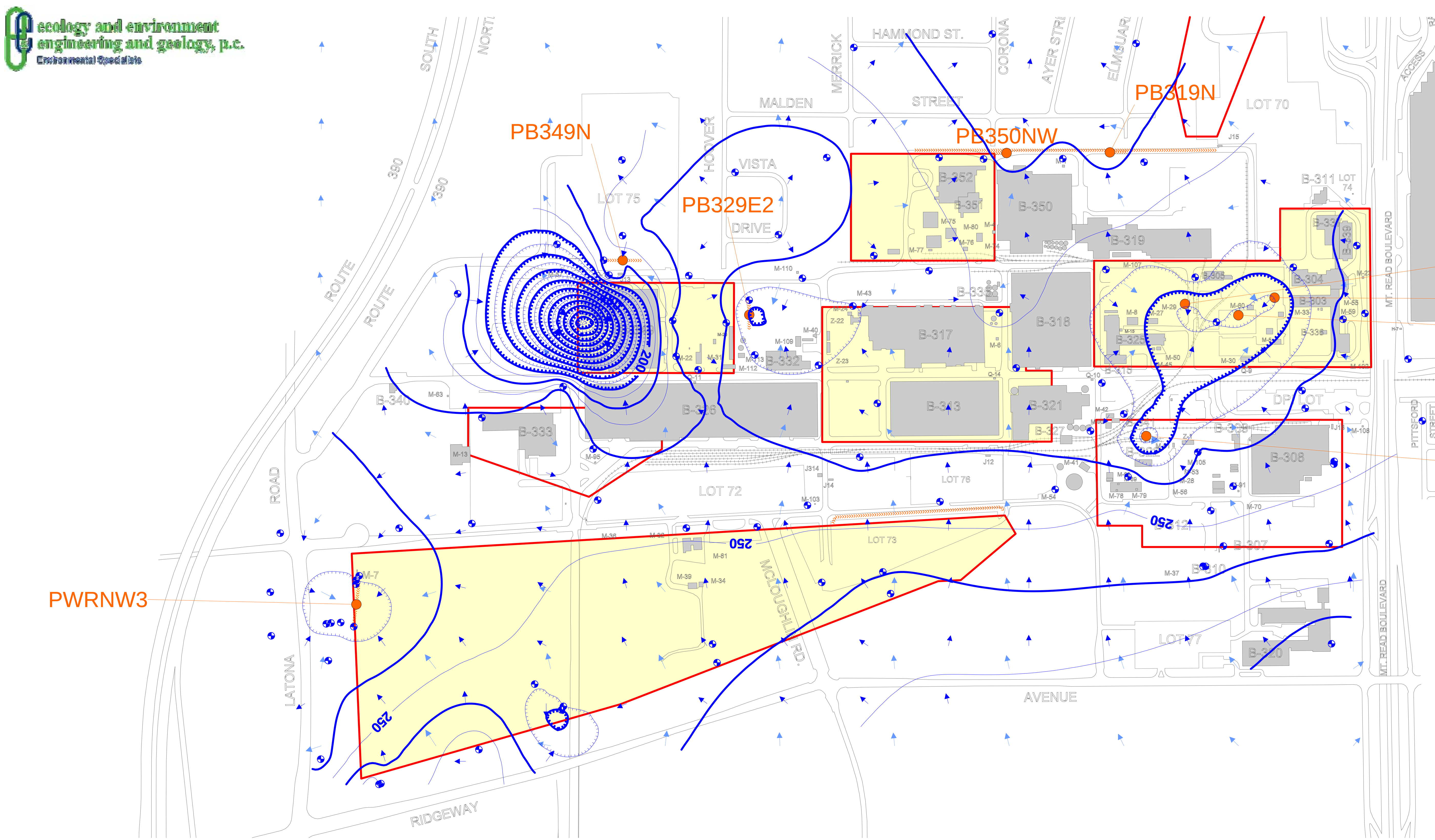
Notes:
1. Pumping well setpoint elevations are used for pumping wells PB323SE2, PB303SW, PB303W2, PB329E2, PB350NW, PB349N, PB350NE2, and PL73N. Groundwater elevations for pneumatic pumping wells PB307E2, PB307N3, PB322NE2, PB322NE4, PB326SW5, PB326SW8, and PB326SW9 are based on the top of pump elevations. The pneumatic pumps at these locations are capable of sustainaing a groundwater elevation at the top of the pump.

2.Well Locations, elevation data, trench locations, and basemap features were provided by Eastman Kodak Company. Contours were created by E & E using water level measurements obtained in 2021.

3. All elevations are based on the Kodak Park Datum, which can be referenced to United States Coast Guard and National Geodetic Survey Datum (1911) by adding 201.75 feet to the elevation shown.

Figure 5
EBP-M 2021 Overburden Groundwater Potentiometric Surface
Eastman Business Park
Rochester, New York

feet
0 500 1000
N



KEY:

- Monitoring Well
- Pumping Well
- 20 foot Contour Interval
- Investigation Area
- 4 foot Contour Interval
- Investigation Area with Soil Covers
- Depression
- Existing Building
- Collection Trench
- Groundwater Flow Direction

Notes:

1. Pumping well setpoint elevations are used for pumping wells PB323SE2, PB303SW, PB303W2, PB329E2, PB350NW, PB349N, PB350NE2, and PL73N. Groundwater elevations for pneumatic pumping wells PB307E2, PB307N3, PB322NE2, PB322NE4, PB326SW5, PB326SW8, and PB326SW9 are based on the top of pump elevations. The pneumatic pumps at these locations are capable of sustainaing a groundwater elevation at the top of the pump.

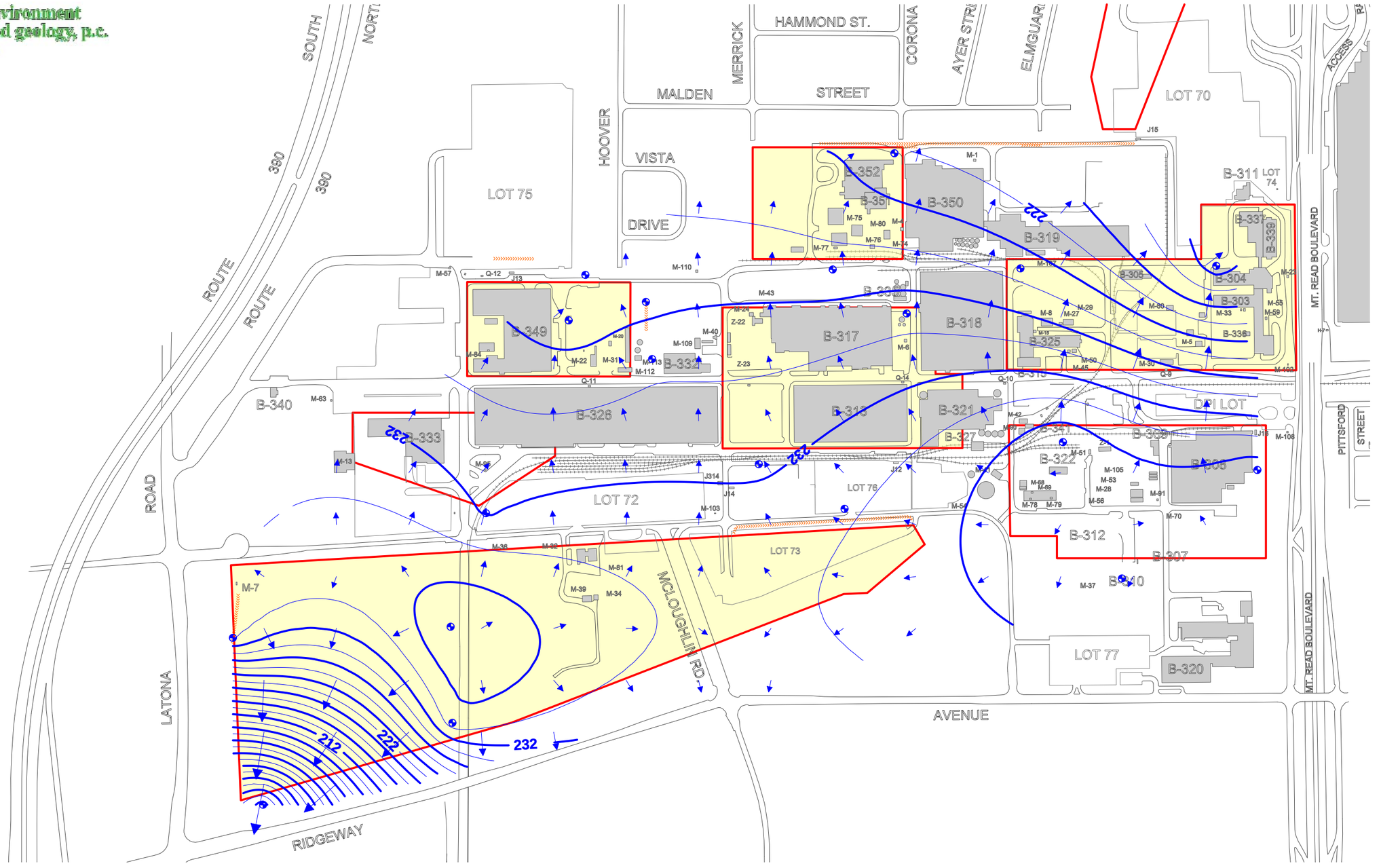
2. Well Locations, elevation data, trench locations, and basemap features were provided by Eastman Kodak Company. Contours were created by E & E using water level measurements obtained in 2021.

3. All elevations are based on the Kodak Park Datum, which can be referenced to United States Coast Guard and National Geodetic Survey Datum (1911) by adding 201.75 feet to the elevation shown.

Figure 6
EBP-M 2021 Top of Rock Groundwater Potentiometric Surface
Eastman Business Park
Rochester, New York

feet
0 500 1000
N

ecology and environment
engineering and geology, p.c.
Environmental Specialists



KEY:

- Monitoring Well
- Pumping Well
- 10 foot Contour Interval
- Investigation Area
- 2 foot Contour Interval
- Investigation Area with Soil Covers
- Depression
- Existing Building
- Collection Trench
- Groundwater Flow Direction

Notes:

1. Pumping well setpoint elevations are used for pumping wells PB323SE2, PB303SW, PB303W2, PB329E2, PB350NW, PB349N, PB350NE2, and PL73N. Groundwater elevations for pneumatic pumping wells PB307E2, PB307N3, PB322NE2, PB322NE4, PB326SW5, PB326SW8, and PB326SW9 are based on the top of pump elevations. The pneumatic pumps at these locations are capable of sustainaing a groundwater elevation at the top of the pump.

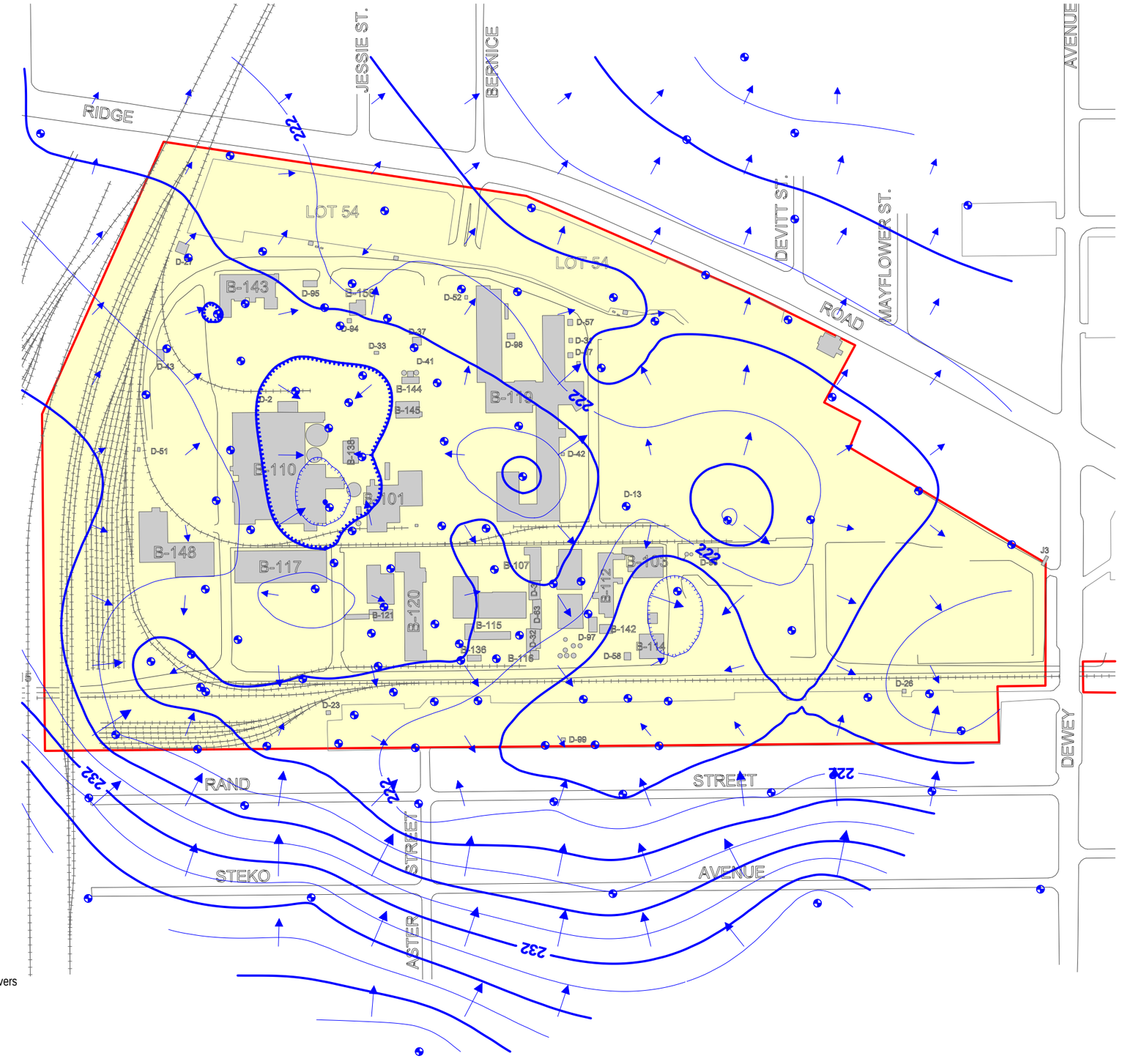
2.Well Locations, elevation data, trench locations, and basemap features were provided by Eastman Kodak Company. Contours were created by E & E using water level measurements obtained in 2021.

3. All elevations are based on the Kodak Park Datum, which can be referenced to United States Coast Guard and National Geodetic Survey Datum (1911) by adding 201.75 feet to the elevation shown.

Figure 7
EBP-M 2021 Grimsby-Queenston Groundwater Potentiometric Surface
Eastman Business Park
Rochester, New York

feet
0 500 1000
N

ecology and environment
engineering and geology, p.c.
Environmental Specialists



KEY:

- Monitoring Well
- 10 foot Contour Interval
- 2 foot Contour Interval
- Depression
- Investigation Area
- Investigation Area with Soil Covers
- Existing Building
- Groundwater Flow Direction

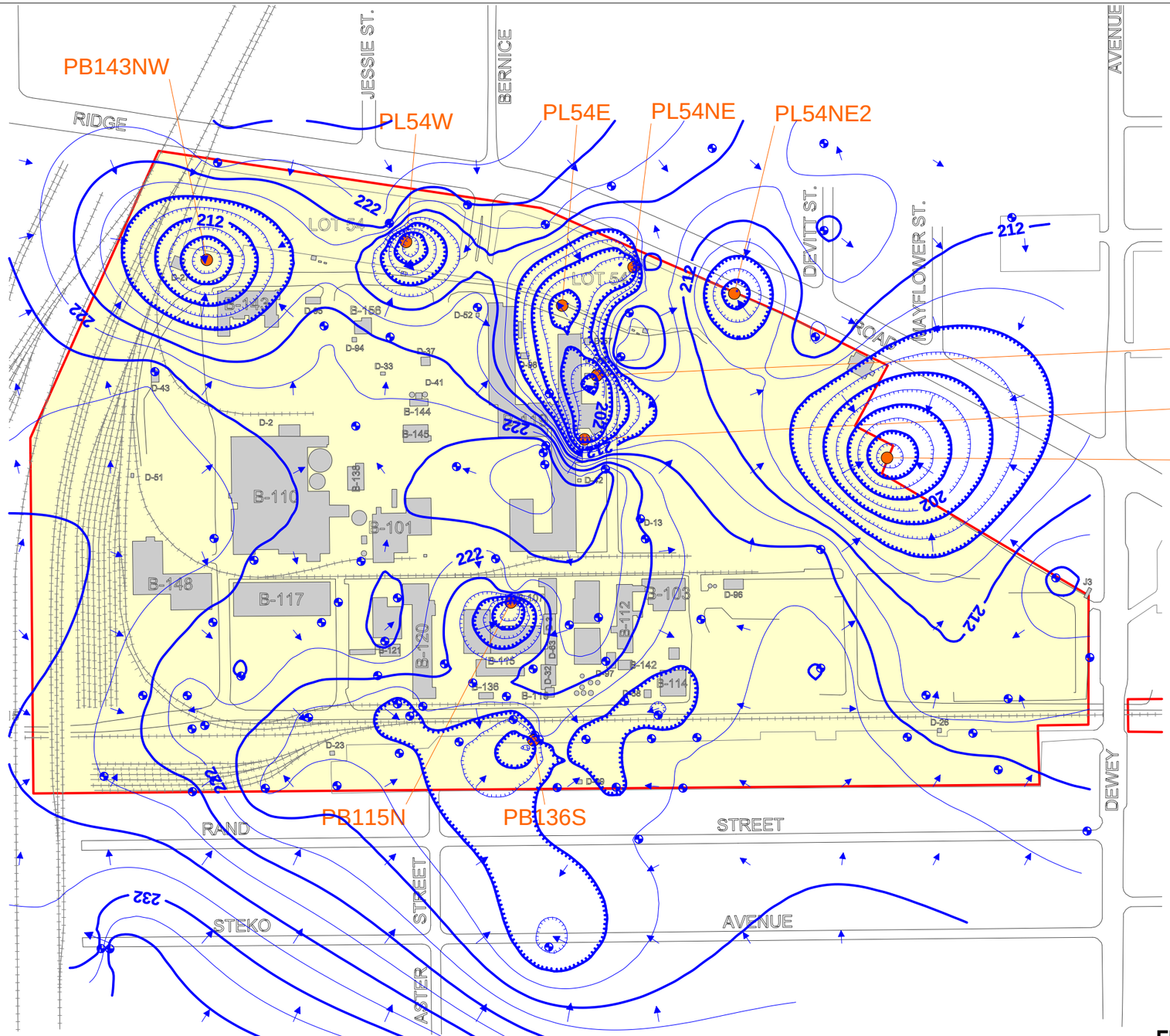
Notes:
1. Well Locations, elevation data, trench locations, and basemap features were provided by Eastman Kodak Company. Contours were created by E & E using water level measurements obtained in 2021.

2. All elevations are based on the Kodak Park Datum, which can be referenced to United States Coast Guard and National Geodetic Survey Datum (1911) by adding 201.75 feet to the elevation shown.

Figure 8
EBP-W 2021 Overburden Groundwater Potentiometric Surface
Eastman Business Park
Rochester, New York

feet
0 300 600
N

ecology and environment
engineering and geology, p.c.
Environmental Specialists



KEY:

- Monitoring Well
- Pumping Well
- 10 foot Contour Interval
- Investigation Area
- 2 foot Contour Interval
- Investigation Area with Soil Covers
- Depression
- Existing Building
- Groundwater Flow Direction

Notes:
1. Pumping well setpoint elevations are used for all electric submersible pumping wells and other pneumatic pumping wells with the exceptions of PB135ER, PL54E, and PL54W. PB135ER, PL54E and PL54W utilize a conductivity sensor to maintain groundwater elevation. The elevation the conductivity sensors are set are used as the groundwater elevation level at PB135ER, PL54E and PL54W.

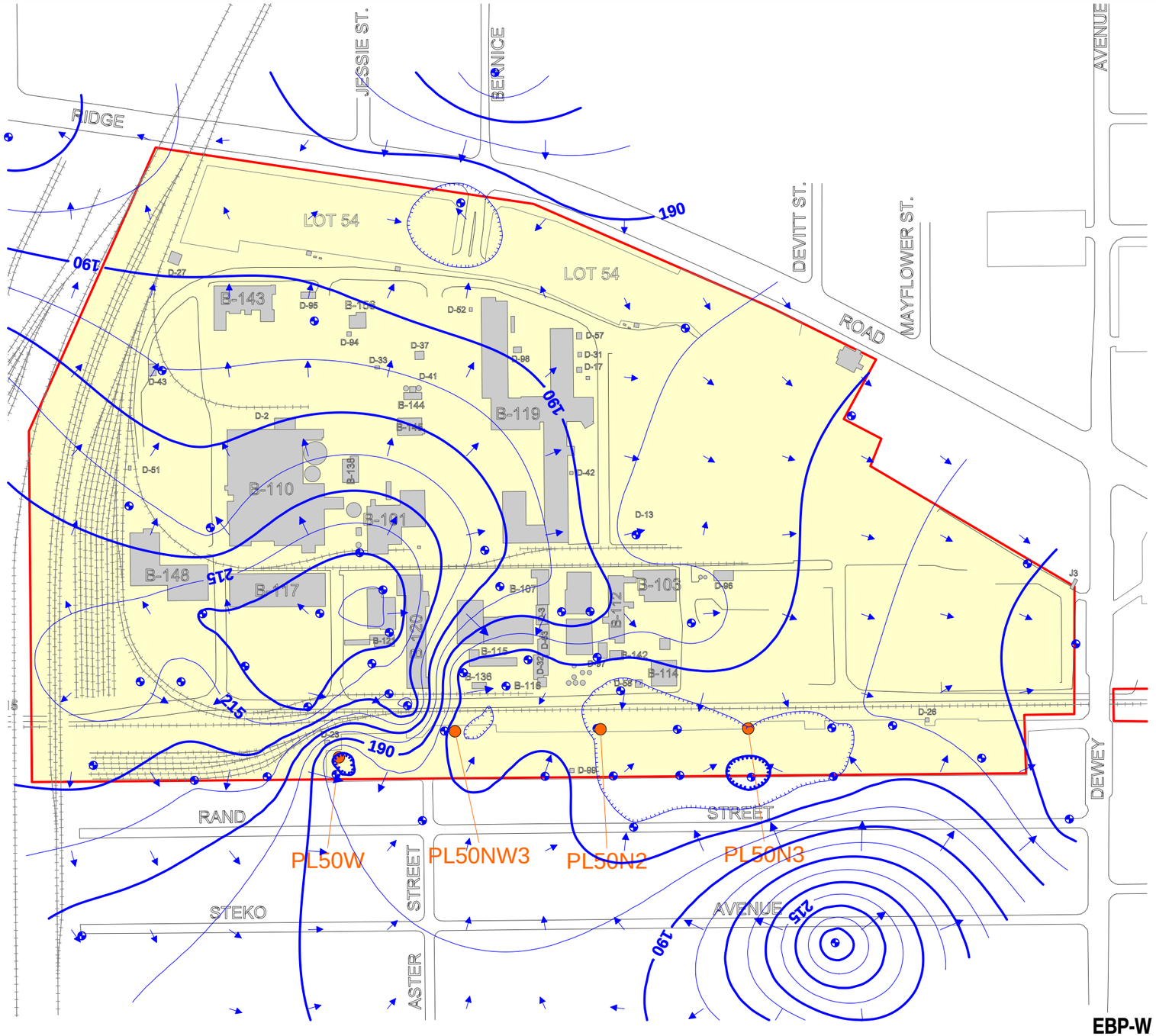
2. Well Locations, elevation data, trench locations, and basemap features were provided by Eastman Kodak Company. Contours were created by E & E using water level measurements obtained in 2021.

3. All elevations are based on the Kodak Park Datum, which can be referenced to United States Coast Guard and National Geodetic Survey Datum (1911) by adding 201.75 feet to the elevation shown.

Figure 9
EBP-W 2021 Top of Rock Groundwater Potentiometric Surface
Eastman Business Park
Rochester, New York

feet
0 300 600
N

ecology and environment
engineering and geology, p.c.
Environmental Specialists



KEY:

- Monitoring Well
- Pumping Well
- 20 foot Contour Interval
- Investigation Area
- 4 foot Contour Interval
- Investigation Area with Soil Covers
- Depression
- Existing Building
- Groundwater Flow Direction

Notes:

1. Pumping well setpoint elevations are used for all electric submersible pumping wells and other pneumatic pumping wells with the exceptions of PB135ER, PL54E, and PL54W. PB135ER, PL54E and PL54W utilize a conductivity sensor to maintain groundwater elevation. The elevation the conductivity sensors are set are used as the groundwater elevation level at PB135ER, PL54E and PL54W.

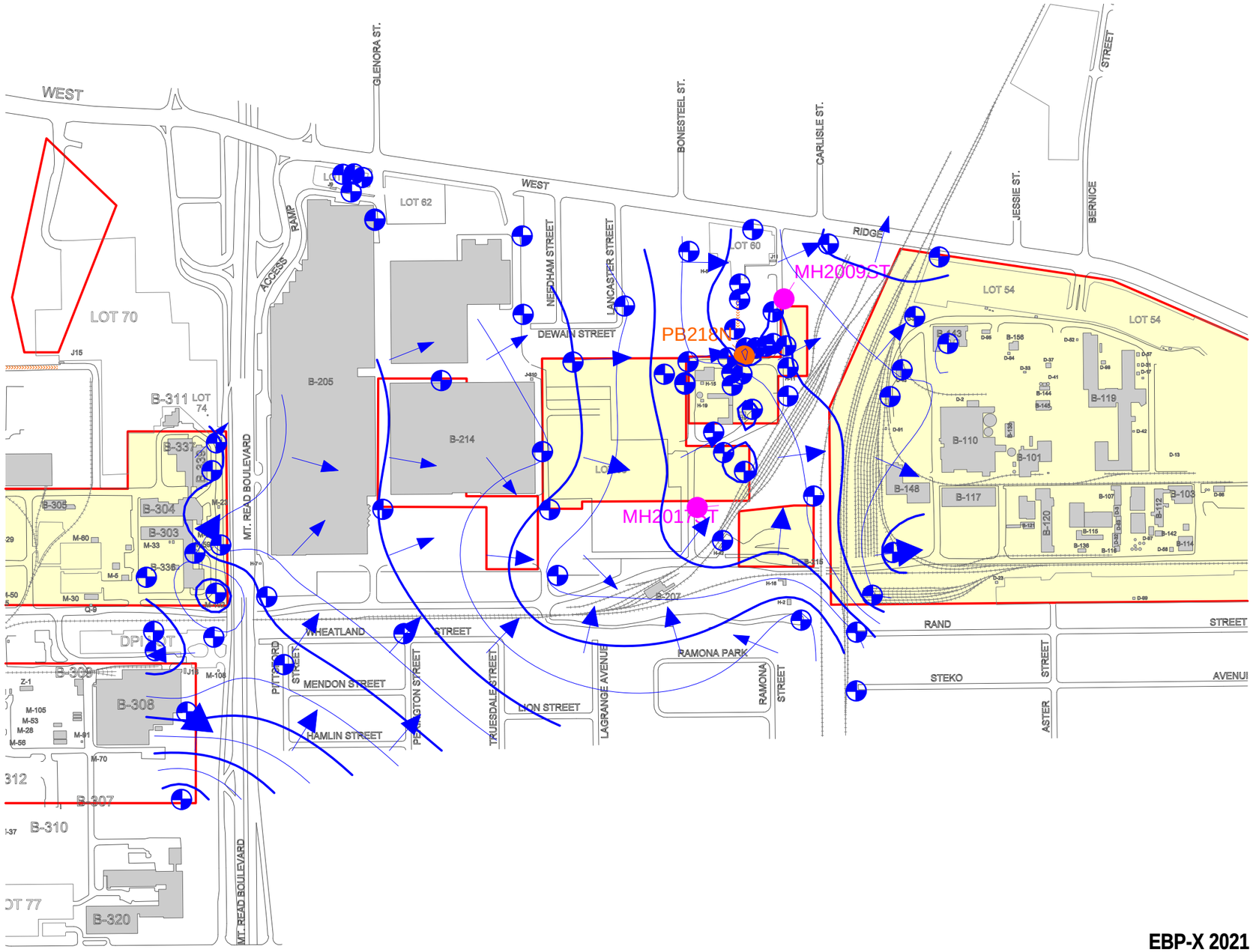
2. Well Locations, elevation data, trench locations, and basemap features were provided by Eastman Kodak Company. Contours were created by E & E using water level measurements obtained in 2021.

3. All elevations are based on the Kodak Park Datum, which can be referenced to United States Coast Guard and National Geodetic Survey Datum (1911) by adding 201.75 feet to the elevation shown.

Figure 10
EBP-W 2021 Grimsby-Queenston Groundwater Potentiometric Surface
Eastman Business Park
Rochester, New York

feet
0 300 600
N

ecology and environment
engineering and geology, p.c.
Environmental Specialists



KEY:

- Stormwater Manhole
- Monitoring Well
- 4 foot Contour Interval
- 2 foot Contour Interval
- Depression
- Collection Trench
- Pumping Well
- Investigation Area
- Investigation Area with Soil Covers
- Existing Building
- Groundwater Flow Direction

Notes:
1. Pumping well setpoint elevation is used for pumping well PB218N.

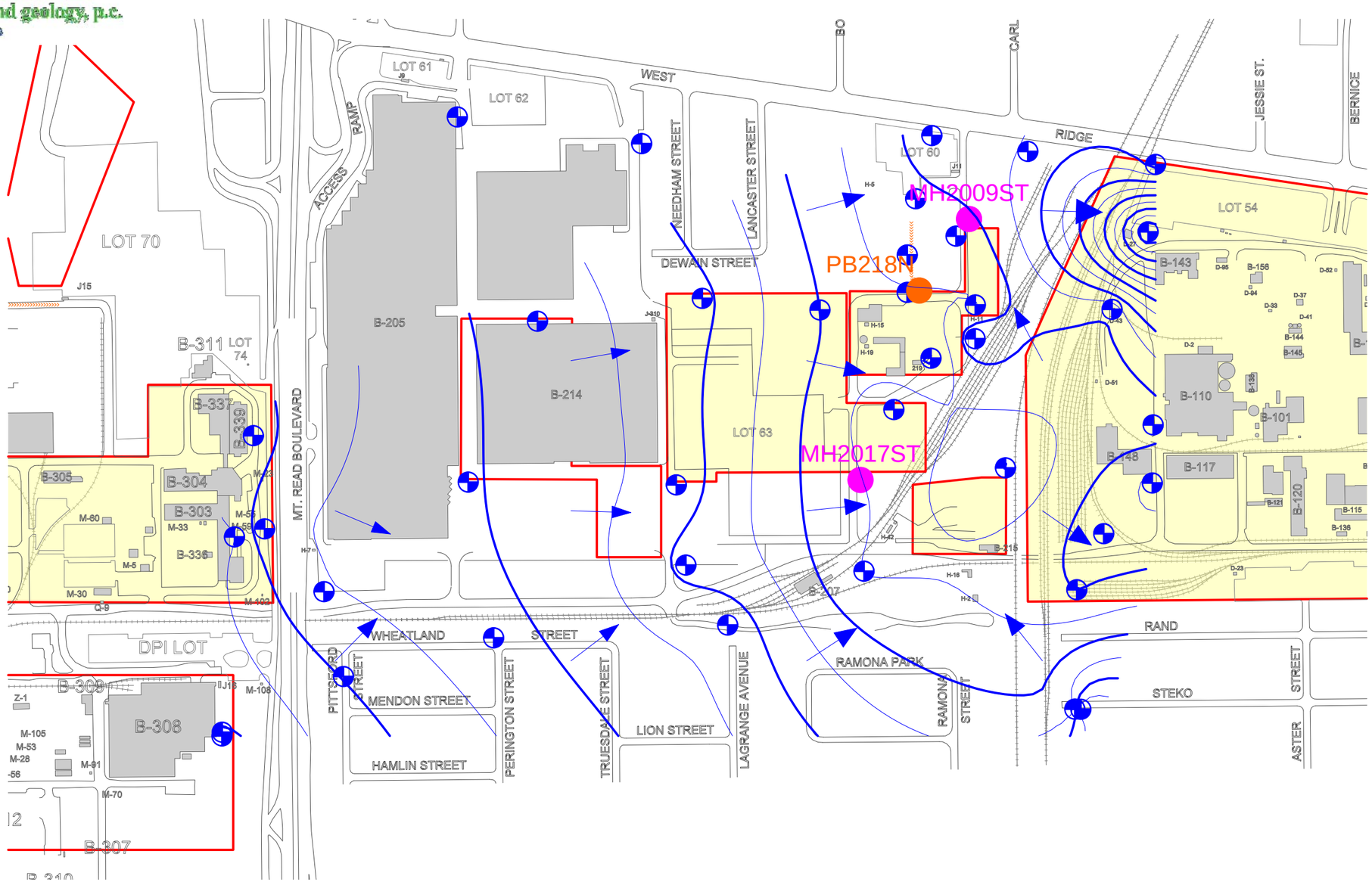
2. Well Locations, elevation data, trench locations, and basemap features were provided by Eastman Kodak Company. Contours were created by E & E using water level measurements obtained in 2021.

3. All elevations are based on the Kodak Park Datum, which can be referenced to United States Coast Guard and National Geodetic Survey Datum (1911) by adding 201.75 feet to the elevation shown.

Figure 11
EBP-X 2021 Overburden Groundwater Potentiometric Surface
Eastman Business Park
Rochester, New York

feet
0 500 1000
N

ecology and environment
engineering and geology, p.c.
Environmental Specialists



KEY:

- Monitoring Well
- Manhole
- 4 foot Contour Interval
- Investigation Area
- 2 foot Contour Interval
- Investigation Area with Soil Covers
- Depression
- Existing Building
- Collection Trench
- Groundwater Flow Direction

Notes:
1. Well Locations, elevation data, trench locations, and basemap features were provided by Eastman Kodak Company. Contours were created by E & E using water level measurements obtained in 2021.

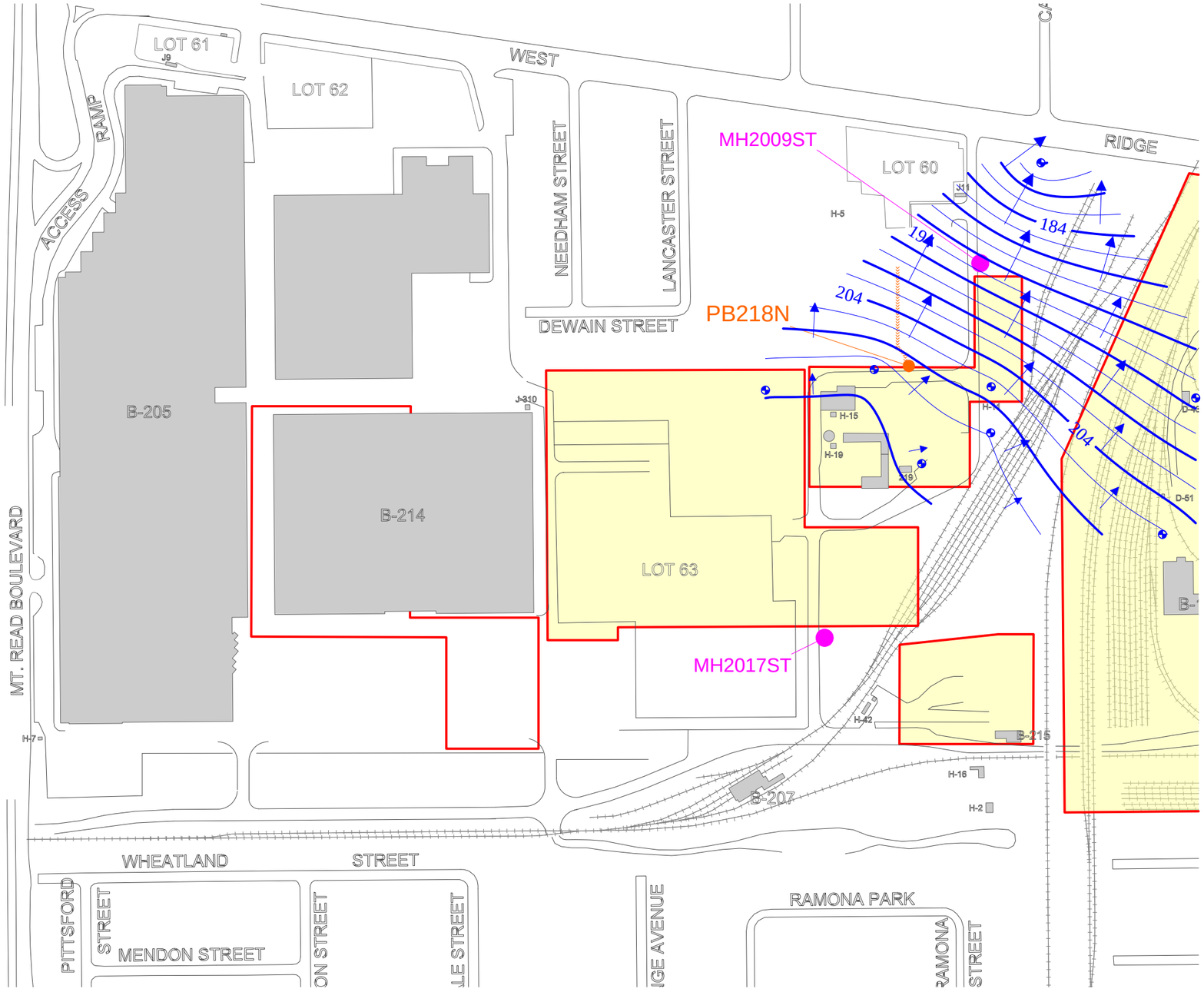
2. All elevations are based on the Kodak Park Datum, which can be referenced to United States Coast Guard and National Geodetic Survey Datum (1911) by adding 201.75 feet to the elevation shown.

Figure 12
EBP-X 2021 Top of Rock Groundwater Potentiometric Surface
Eastman Business Park
Rochester, New York

0 500 1000

N

ecology and environment
engineering and geology, p.c.
Environmental Specialists



KEY:

- Monitoring Well
- Manhole
- 4 foot Contour Interval
- Investigation Area
- 2 foot Contour Interval
- Investigation Area with Soil Covers
- Depression
- Existing Building
- Collection Trench
- Groundwater Flow Direction

Notes:
1. Well Locations, elevation data, trench locations, and basemap features were provided by Eastman Kodak Company. Contours were created by E & E using water level measurements obtained in 2021.

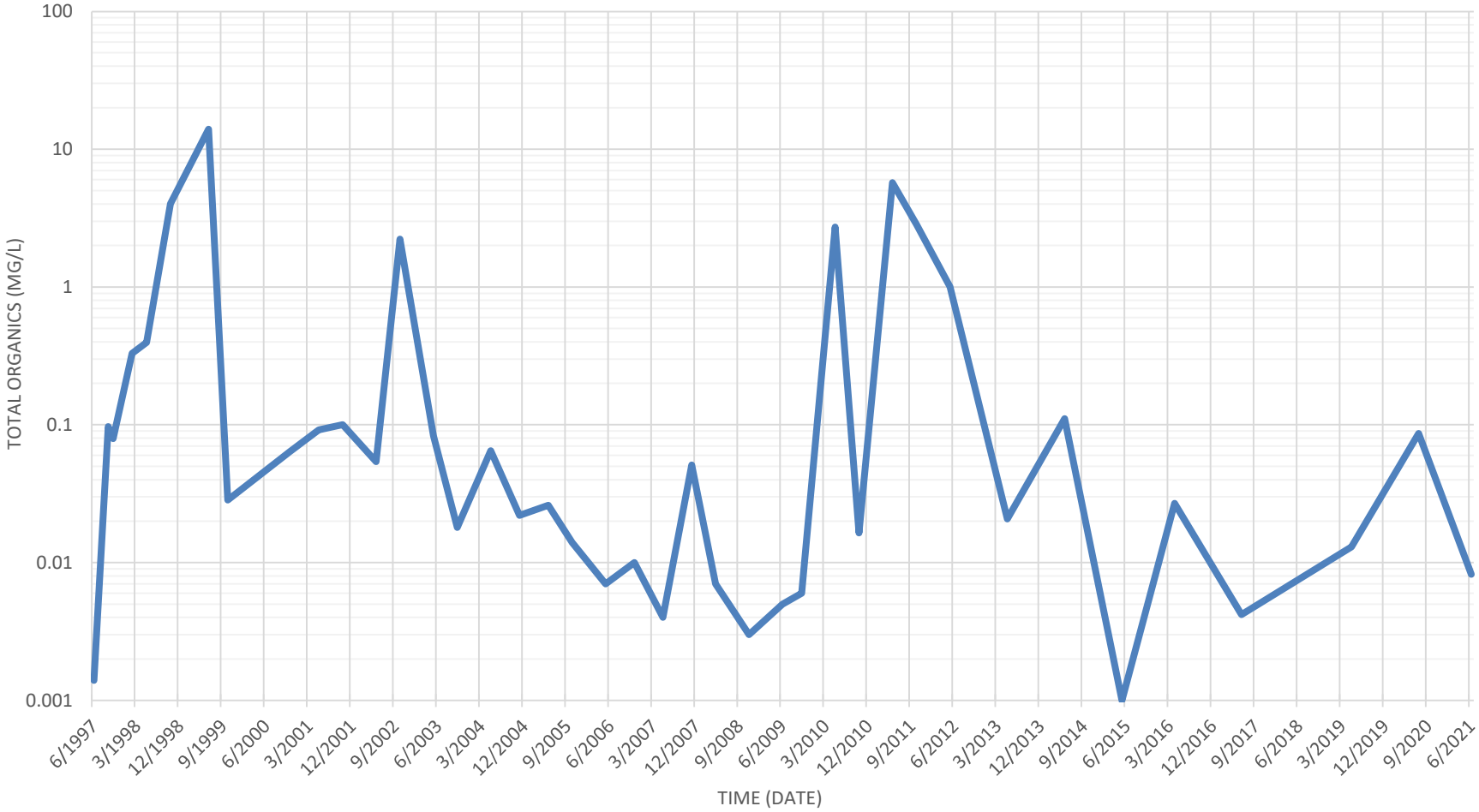
2. All elevations are based on the Kodak Park Datum, which can be referenced to United States Coast Guard and National Geodetic Survey Datum (1911) by adding 201.75 feet to the elevation shown.

Figure 13
EBP-X 2021 Grimsby-Queenston Groundwater Potentiometric Surface
Eastman Business Park
Rochester, New York

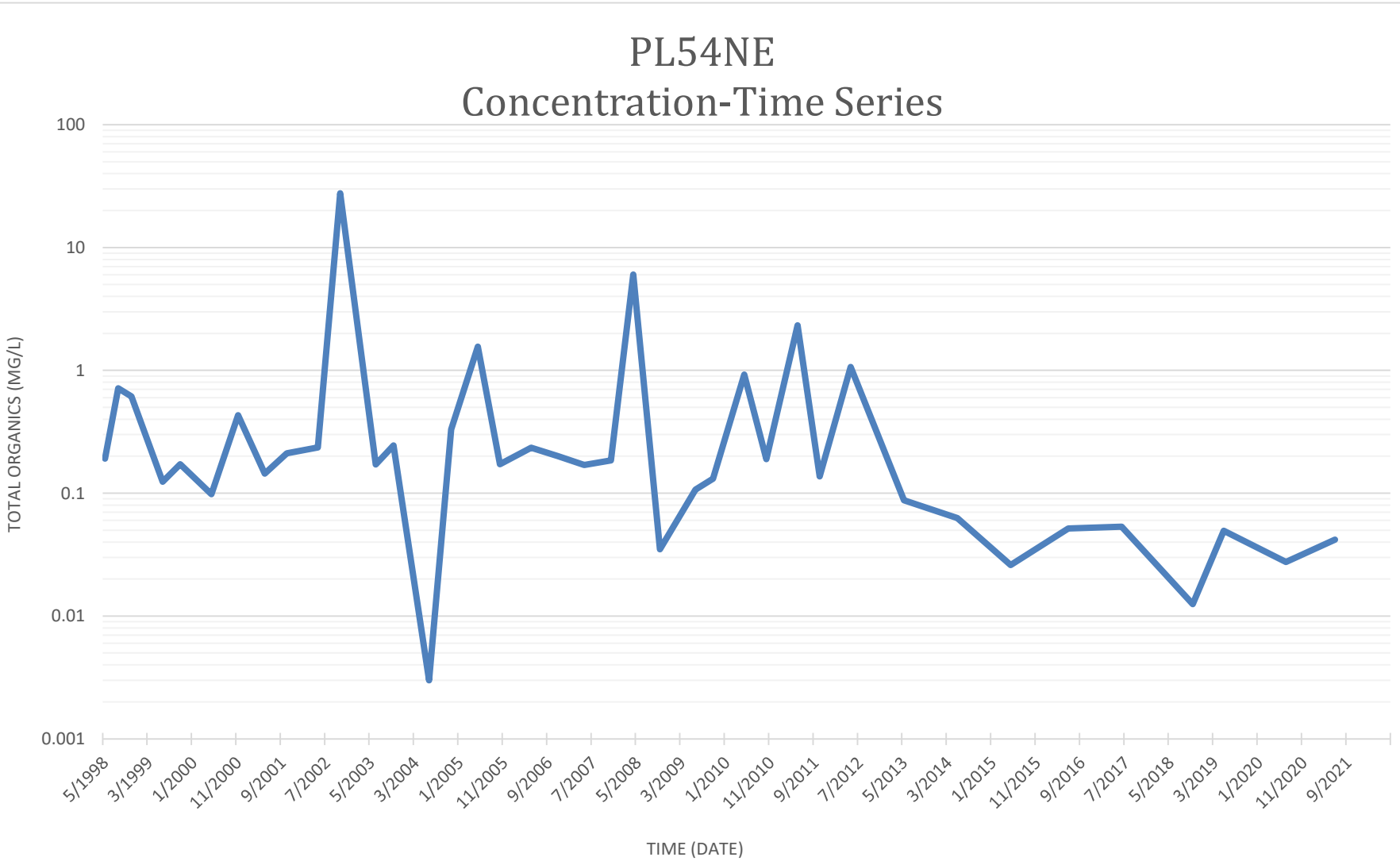
N

A Concentration-Time Series Plots

PL54E
Concentration-Time Series

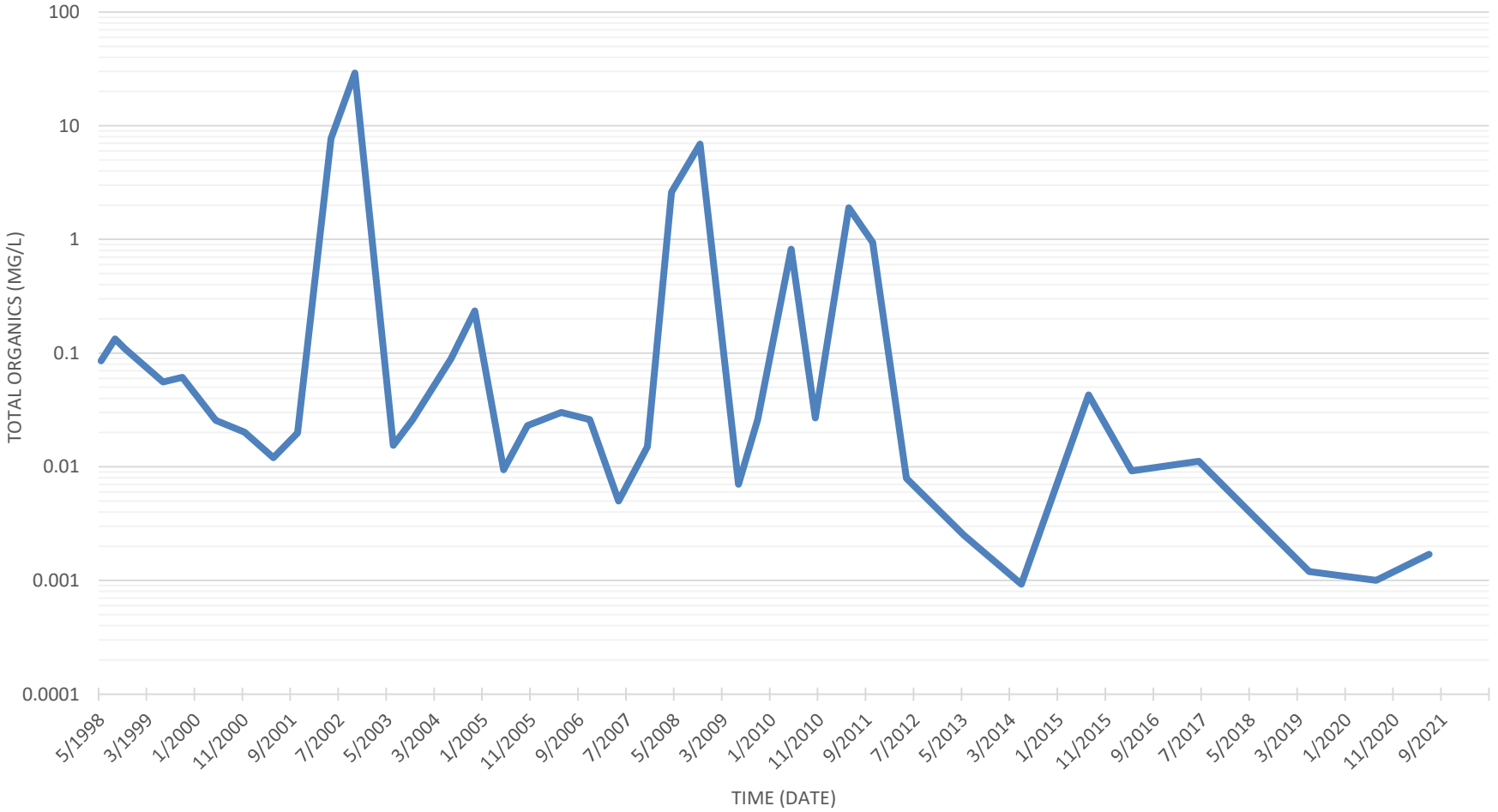


Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.



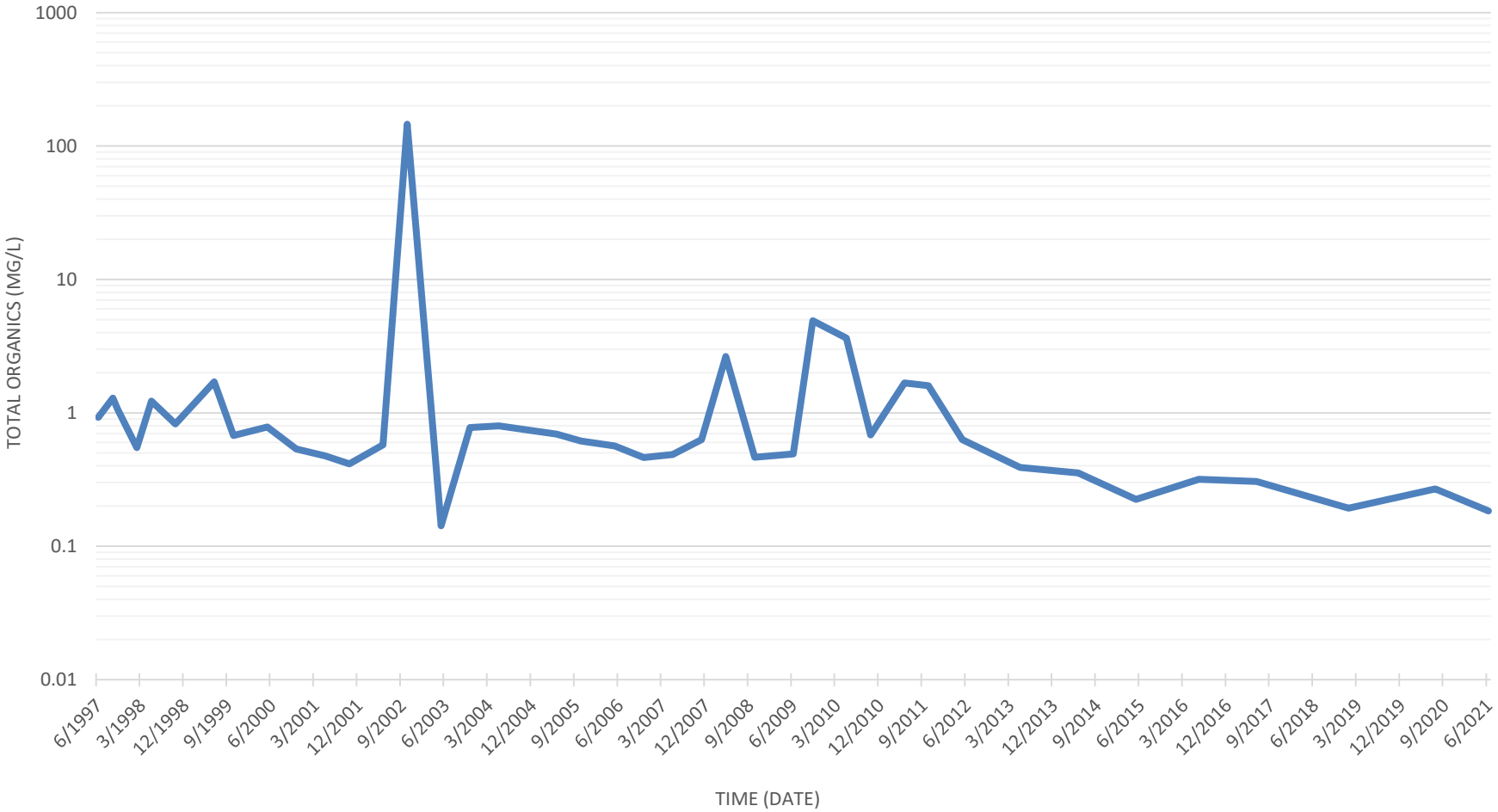
Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.

PL54NE2
Concentration-Time Series



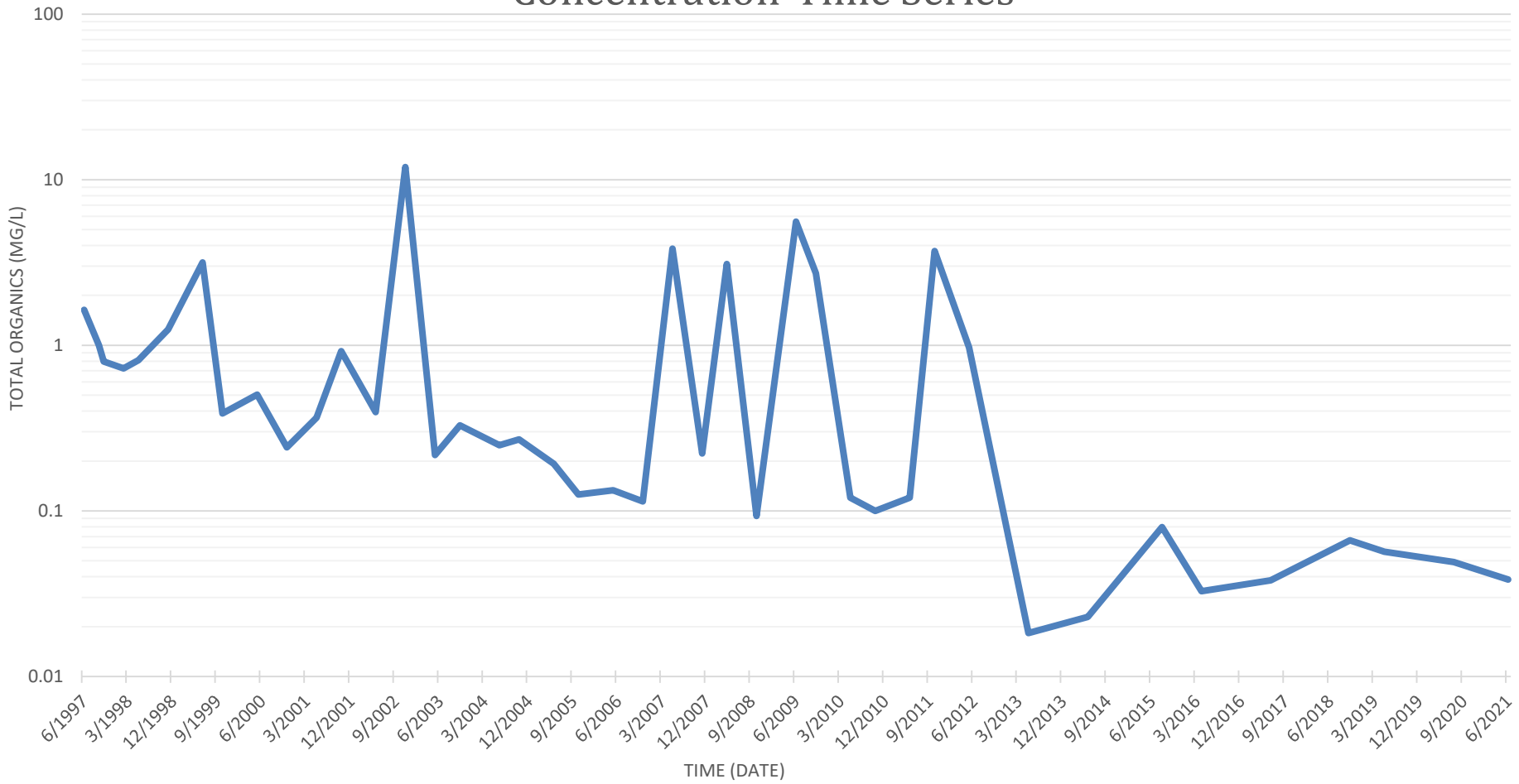
Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.

PL54W
Concentration-Time Series



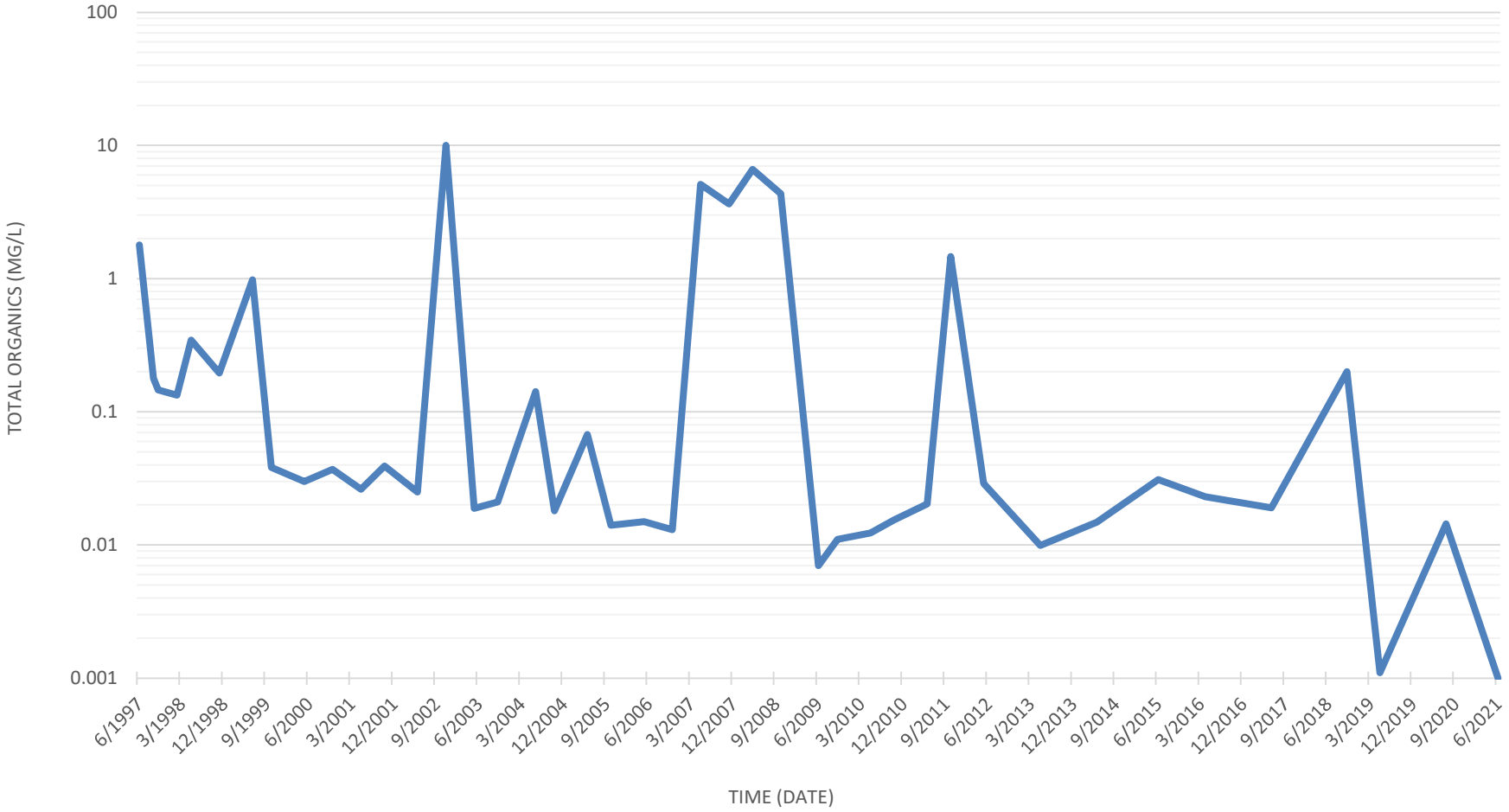
Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for this well in accordance with the KPGSAP protocol.

PB119ER
Concentration-Time Series



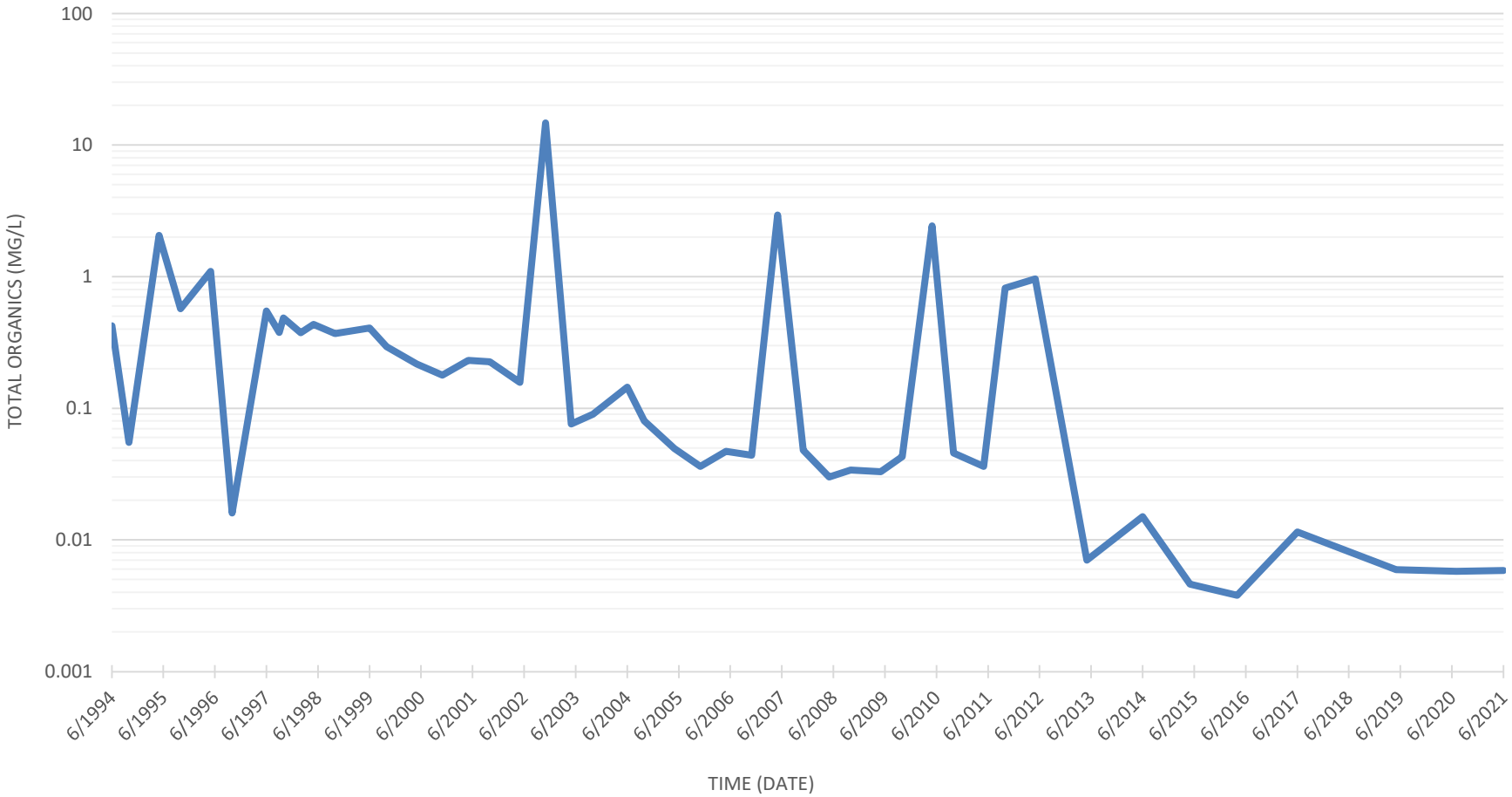
Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.

PB119NER
Concentration-Time Series



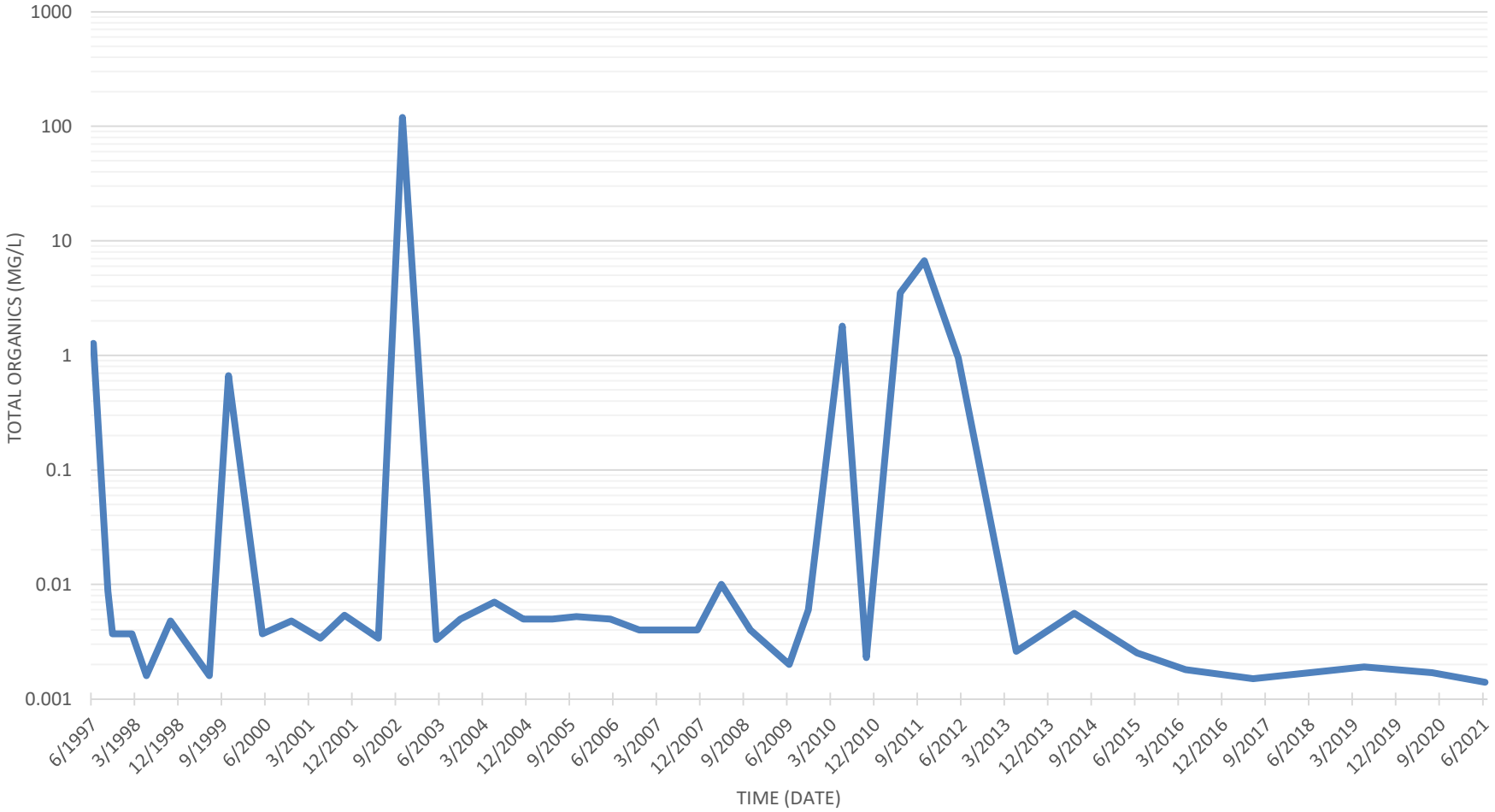
Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.

PB135ER
Concentration-Time Series



Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for this in well in accordance with the KPGSAP protocol.

PB143NW
Concentration-Time Series

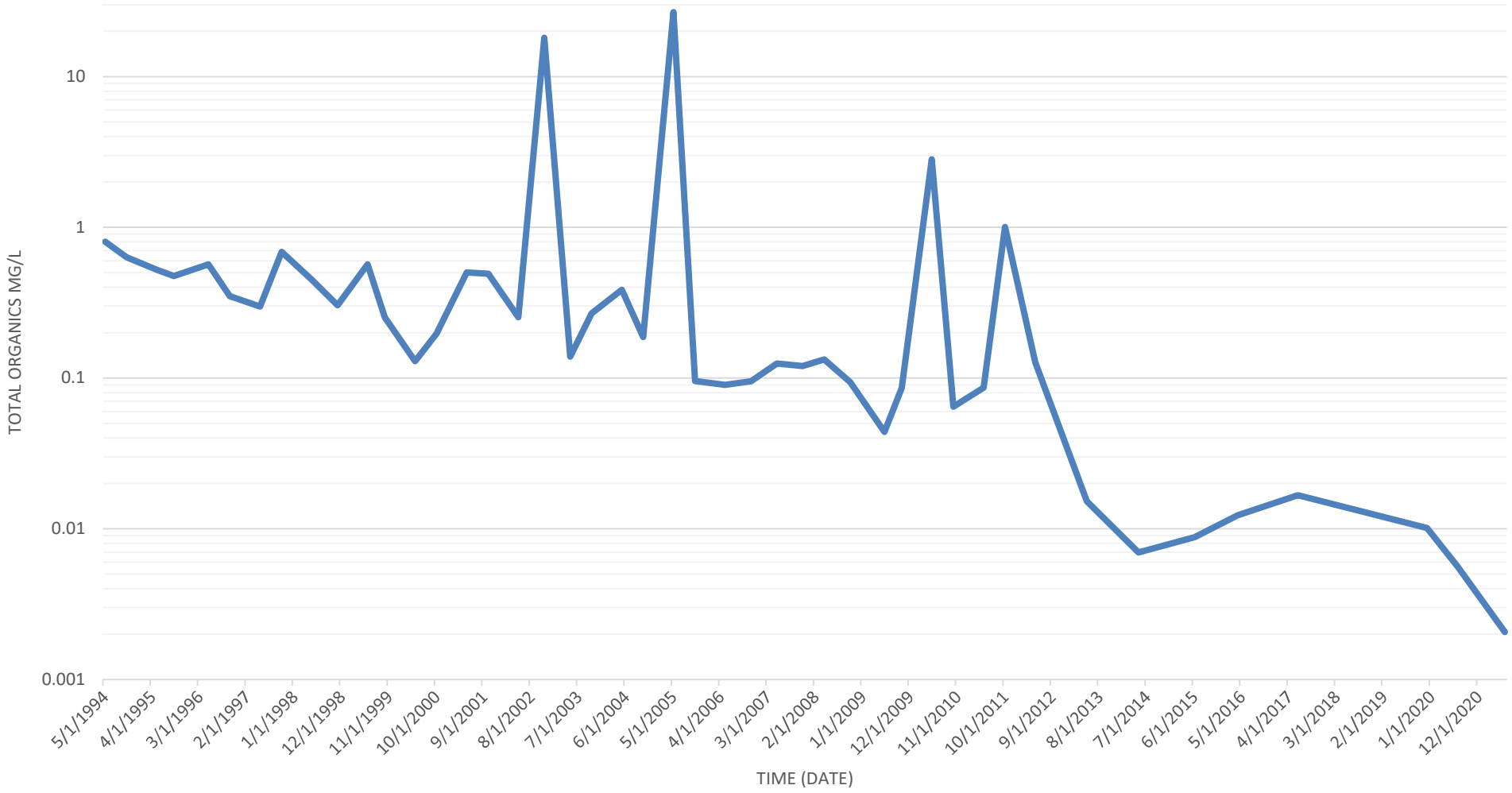


Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.

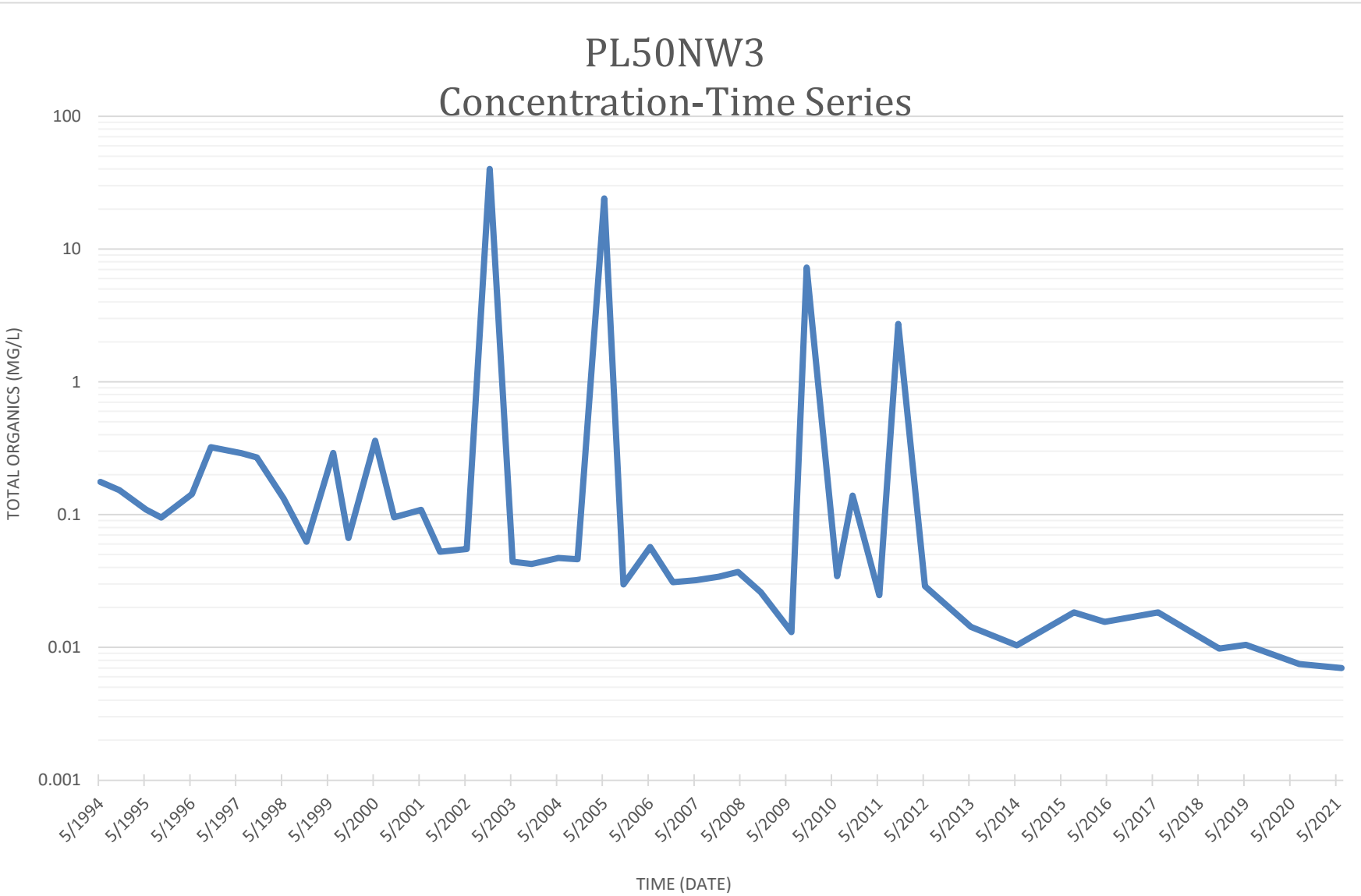
PL50N2
Concentration-Time Series

Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.

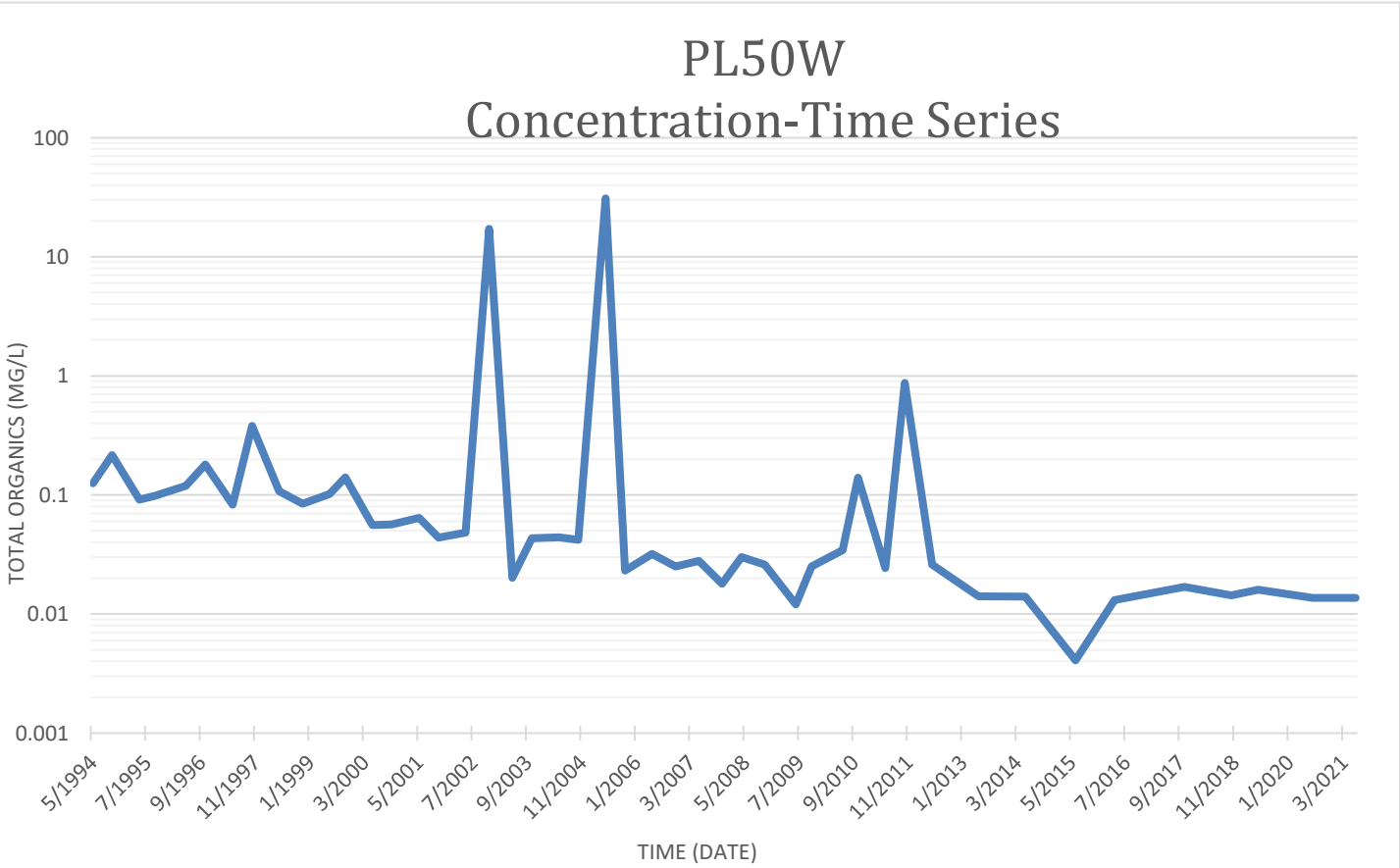
PL50N3
Concentration-Time Series



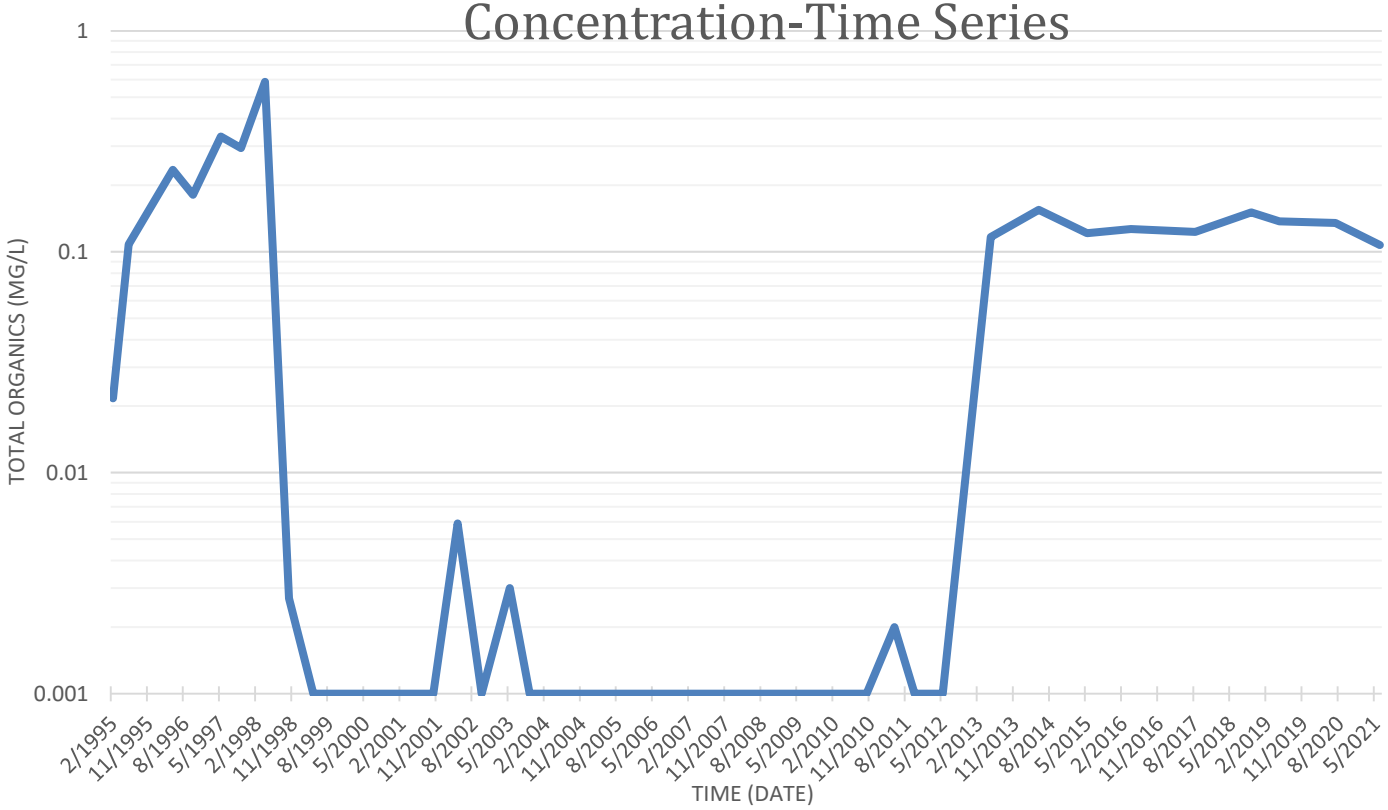
Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.



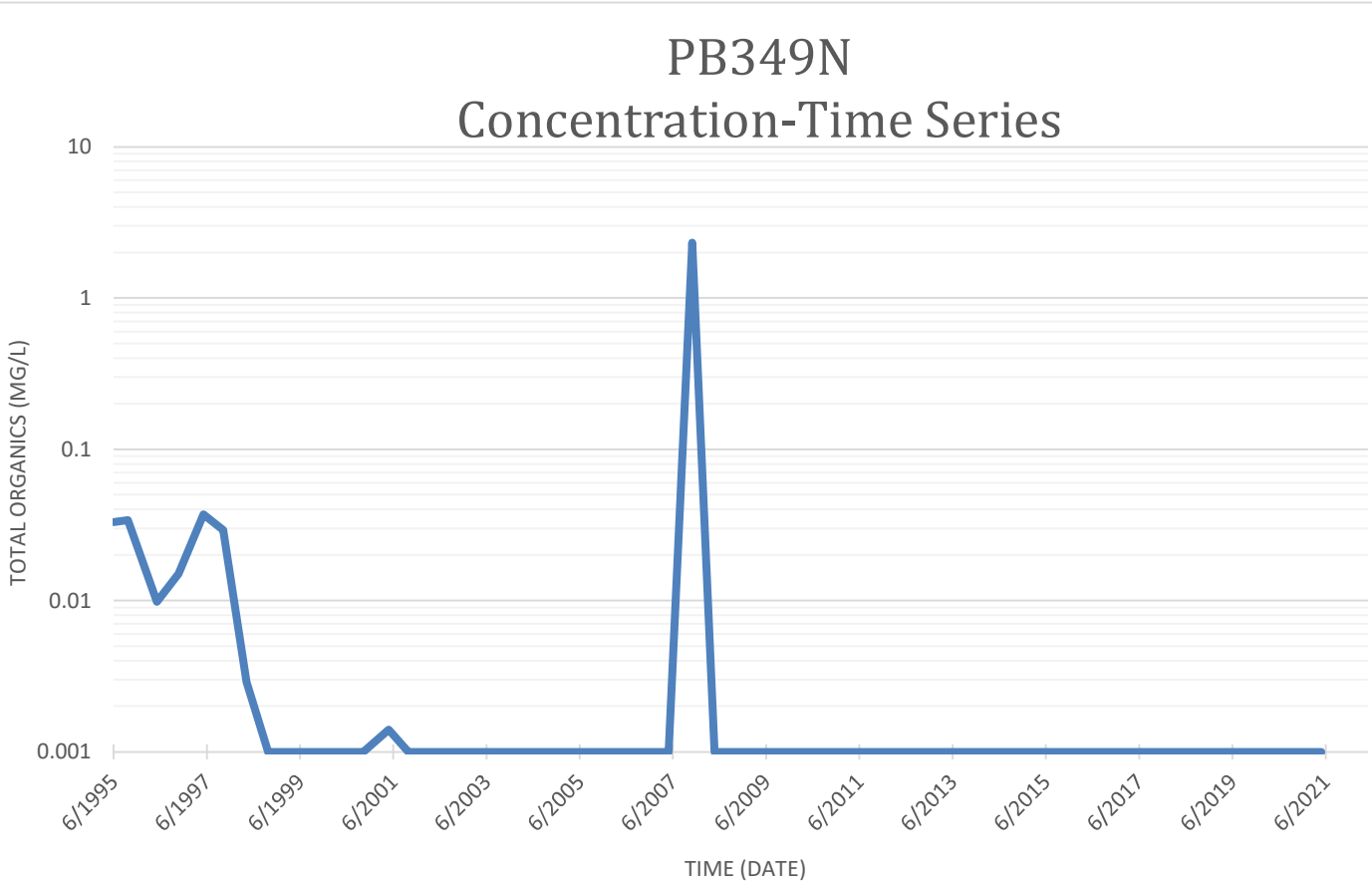
Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.



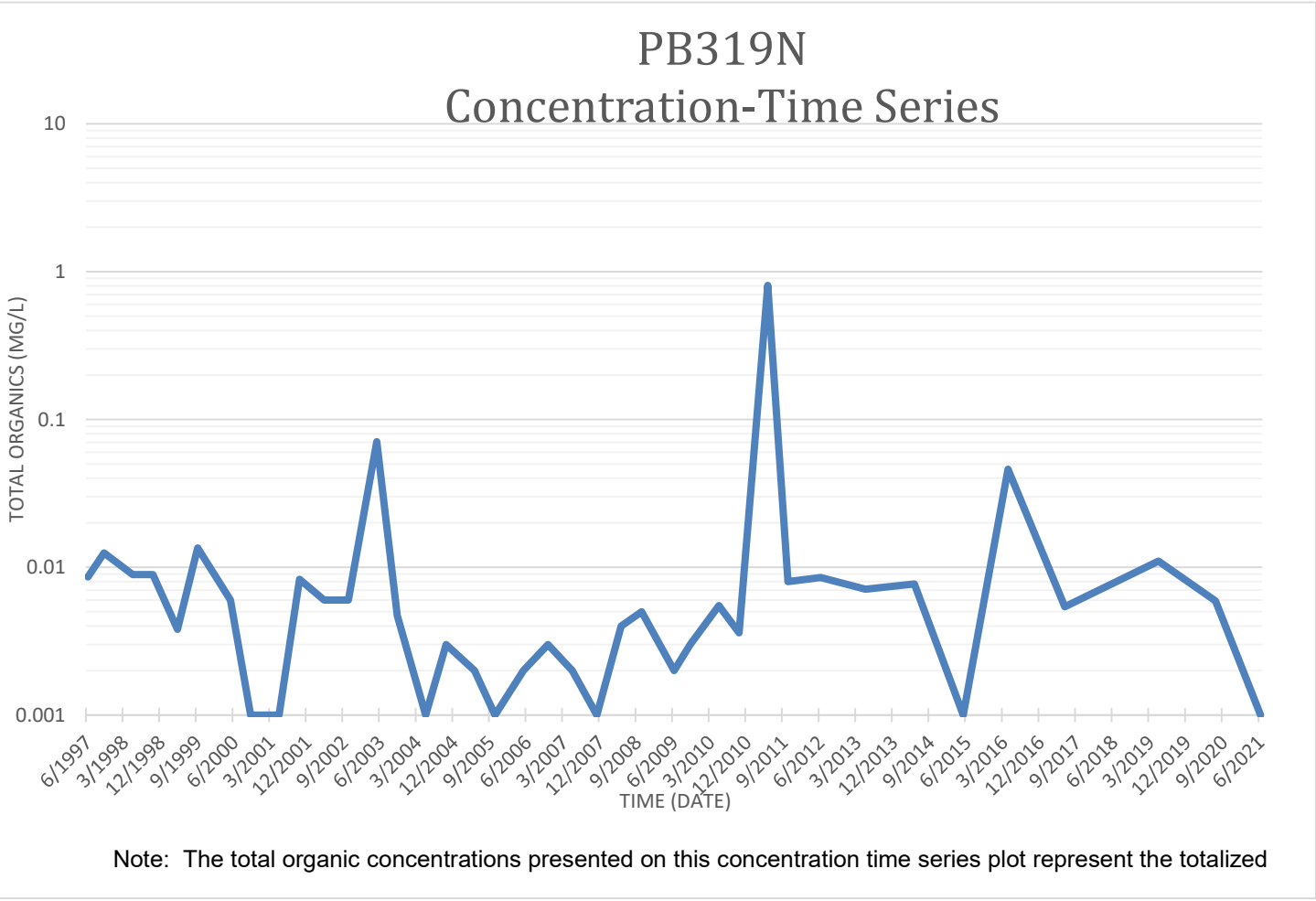
Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.



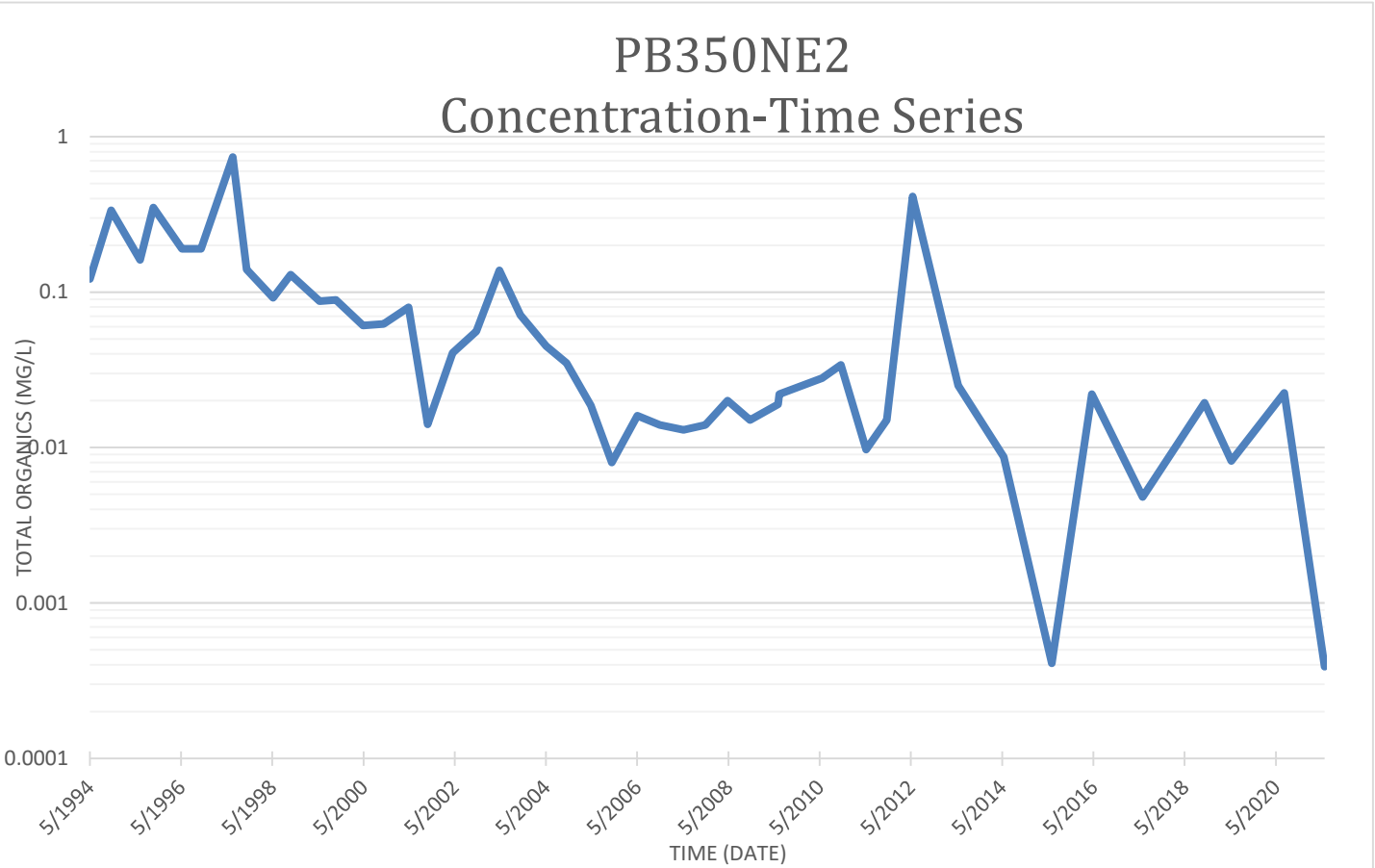
Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents



Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents

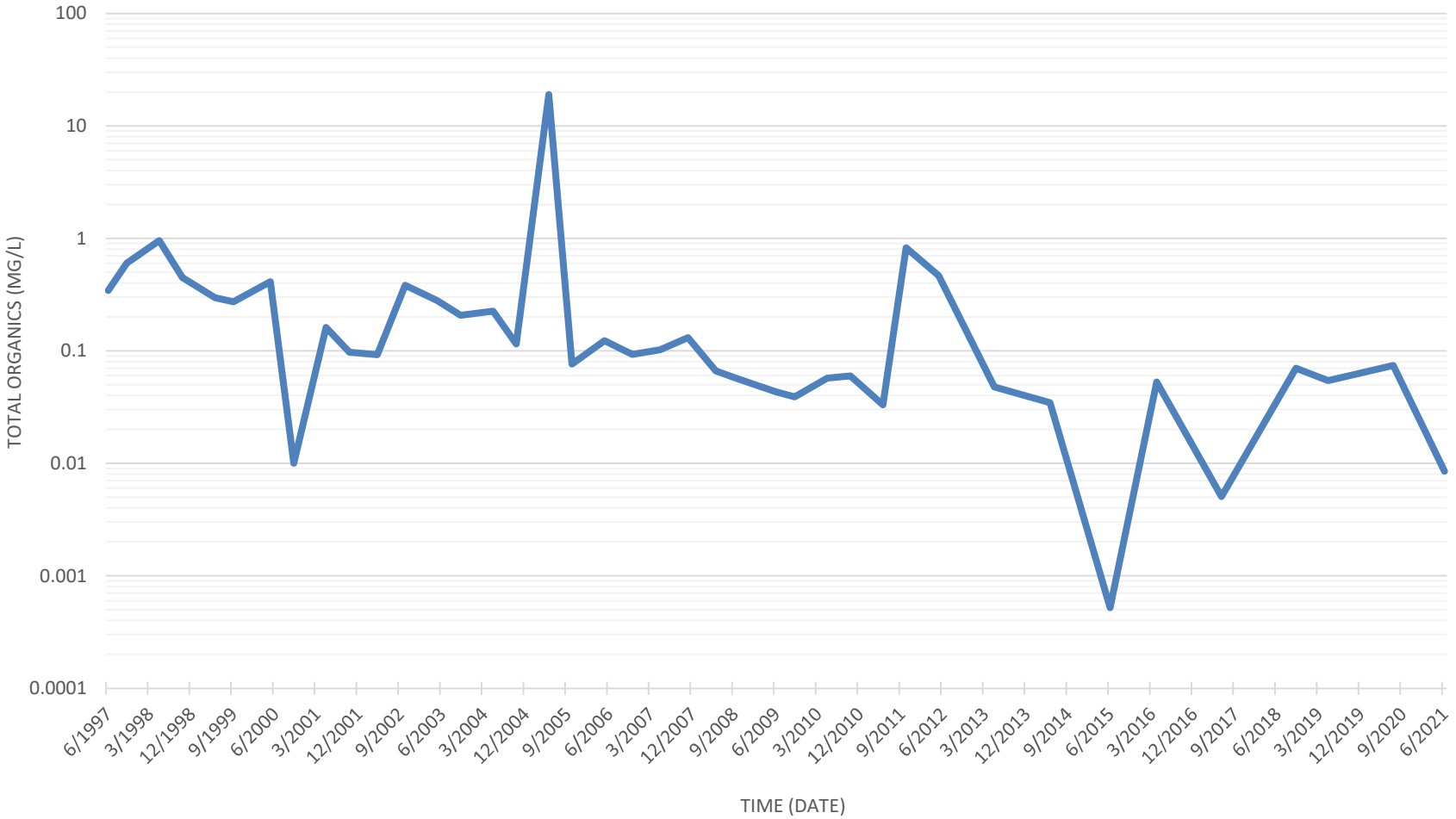


Note: The total organic concentrations presented on this concentration time series plot represent the totalized

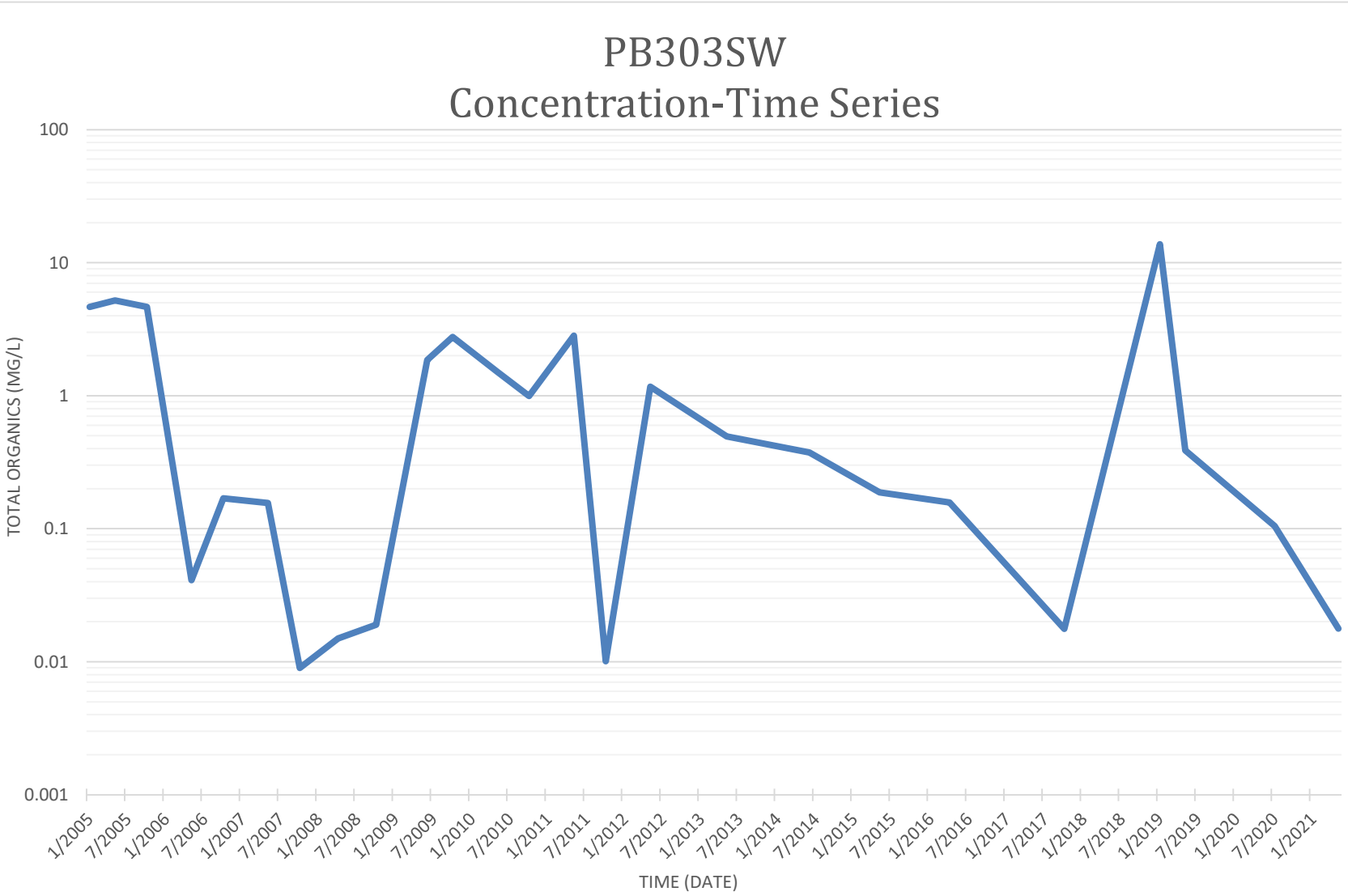


Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.

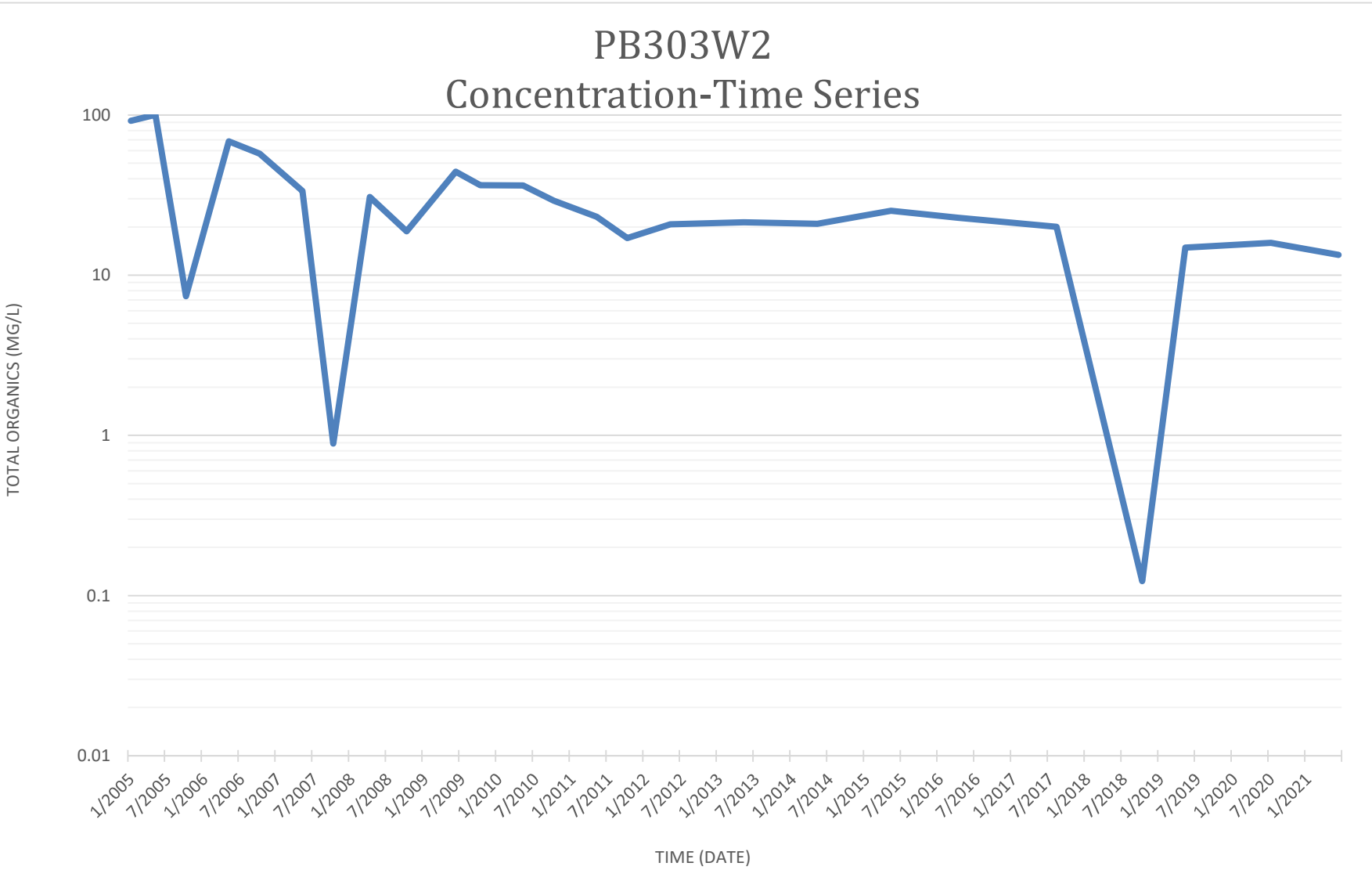
PB350NW
Concentration-Time Series



Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.



Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.



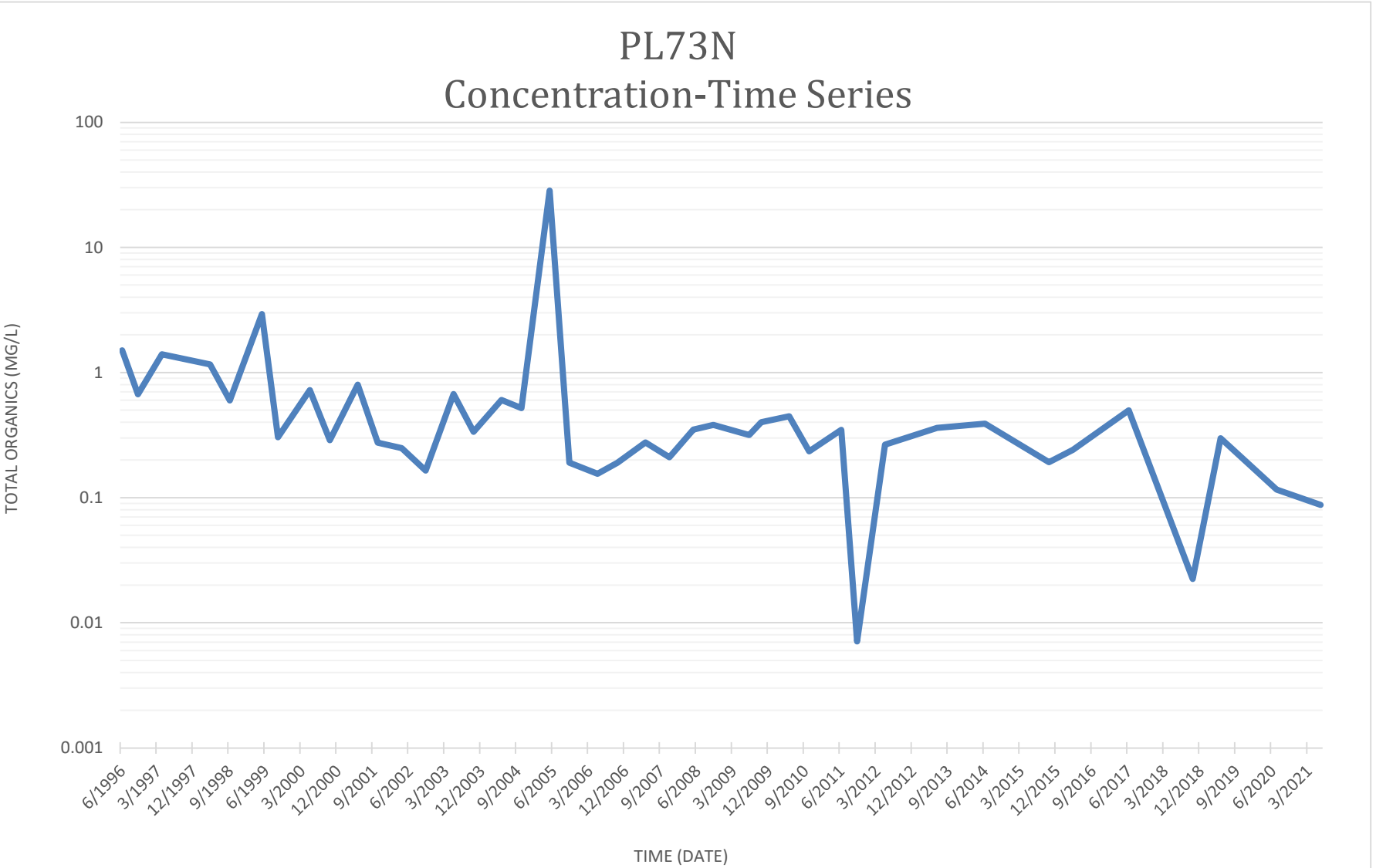
Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.

PB323SE2
Concentration-Time Series

Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.

PB218N
Concentration-Time Series

Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.

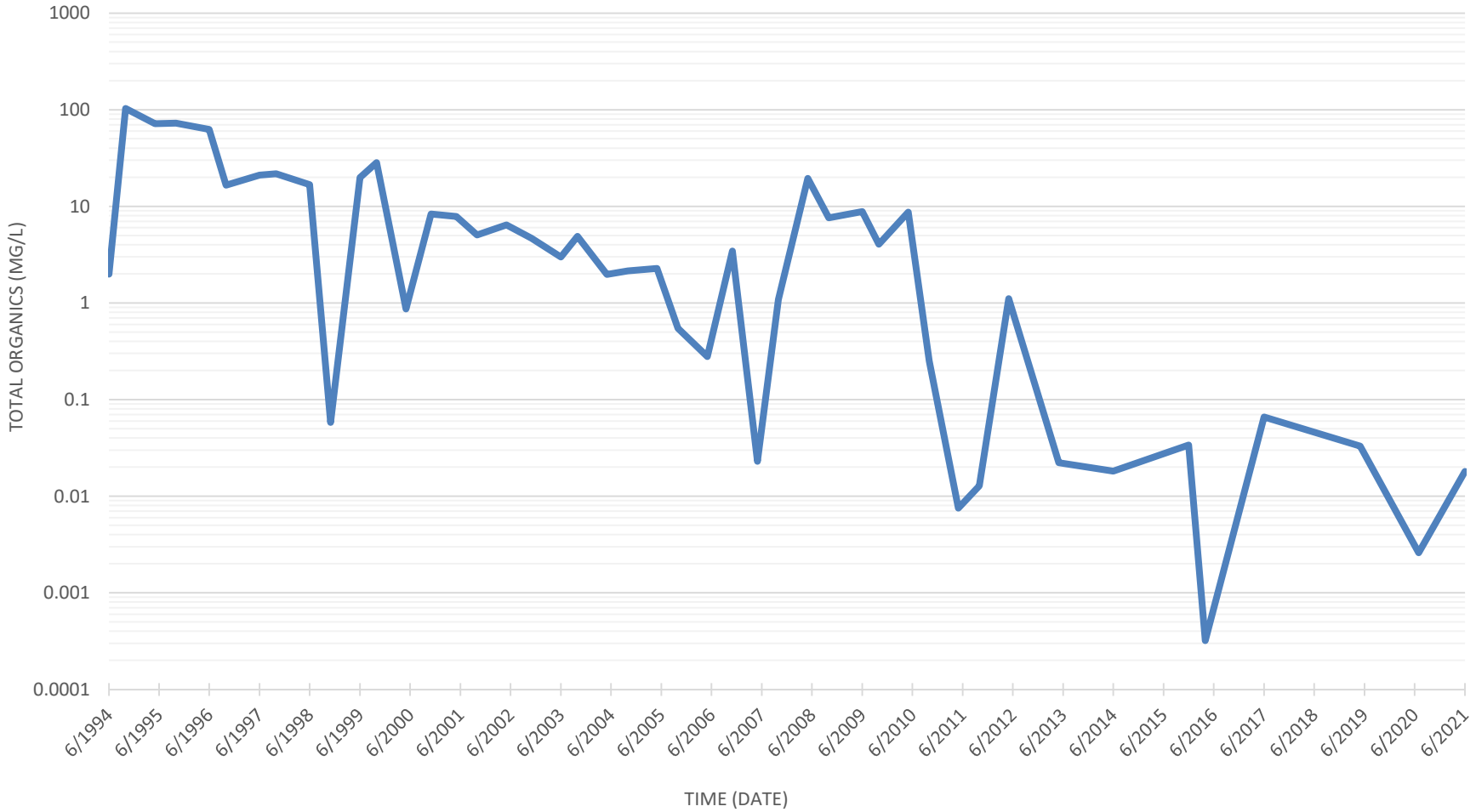


Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.

PWRNW3
Concentration-Time Series

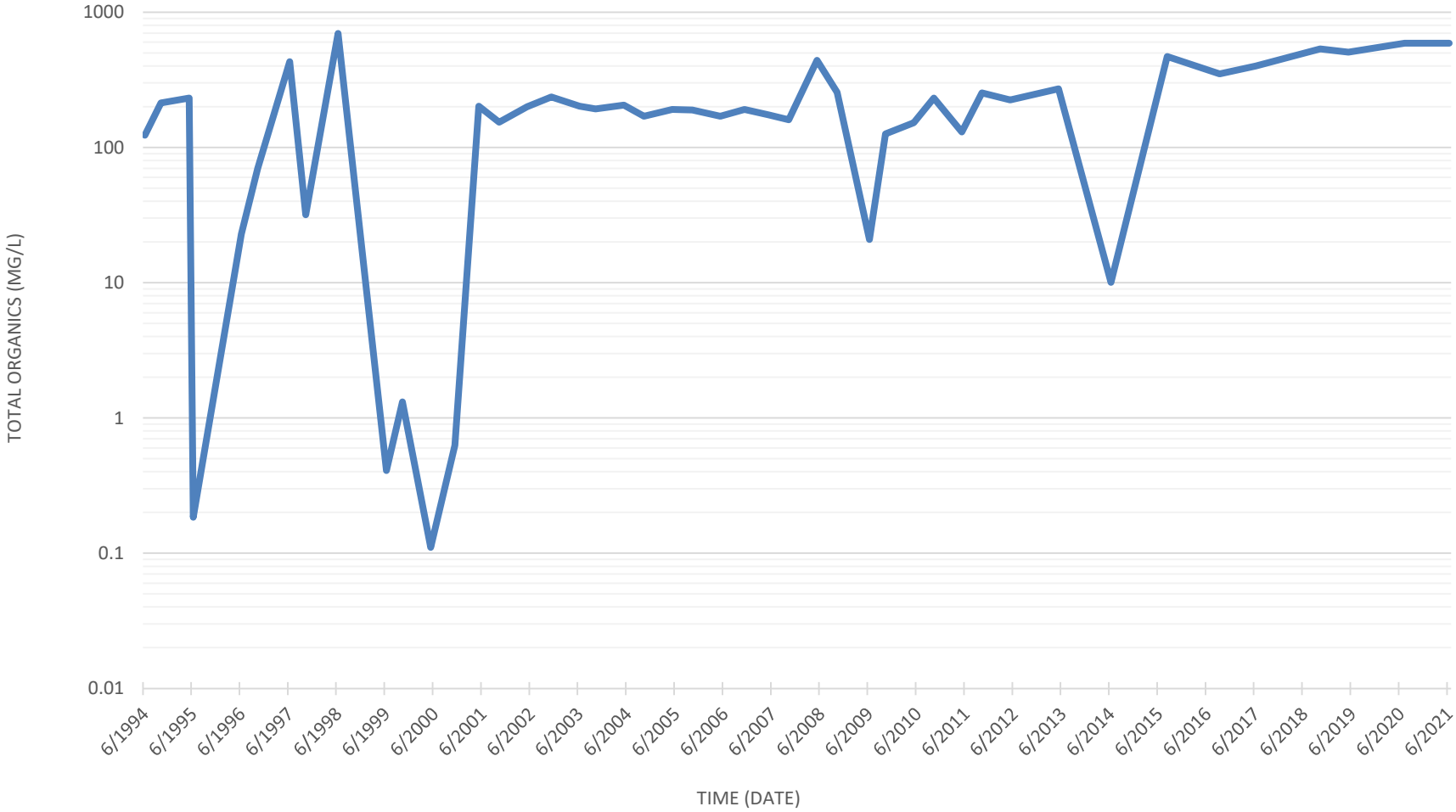
Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.

PB53N2
Concentration-Time Series

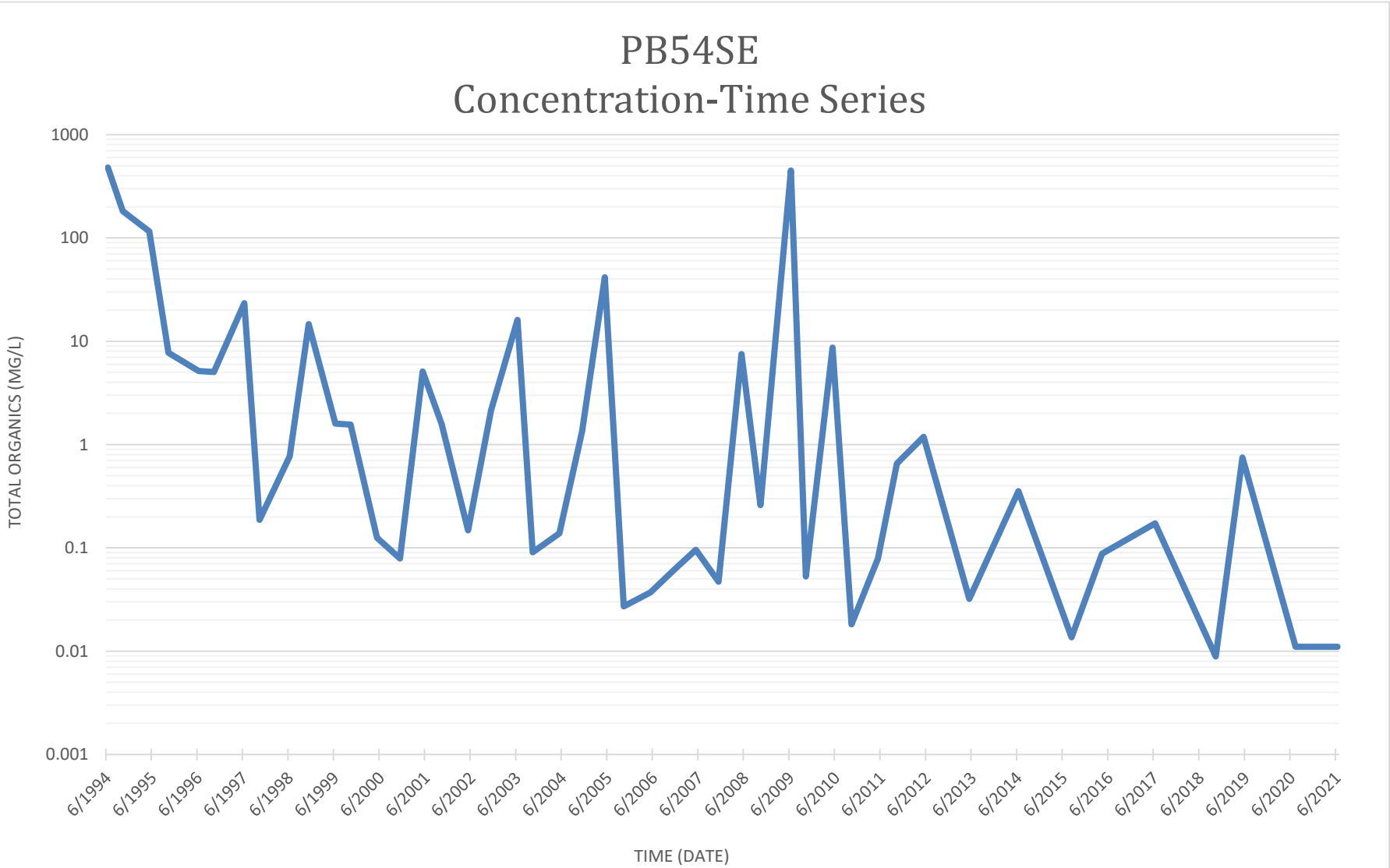


Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.

PB54NW
Concentration-Time Series

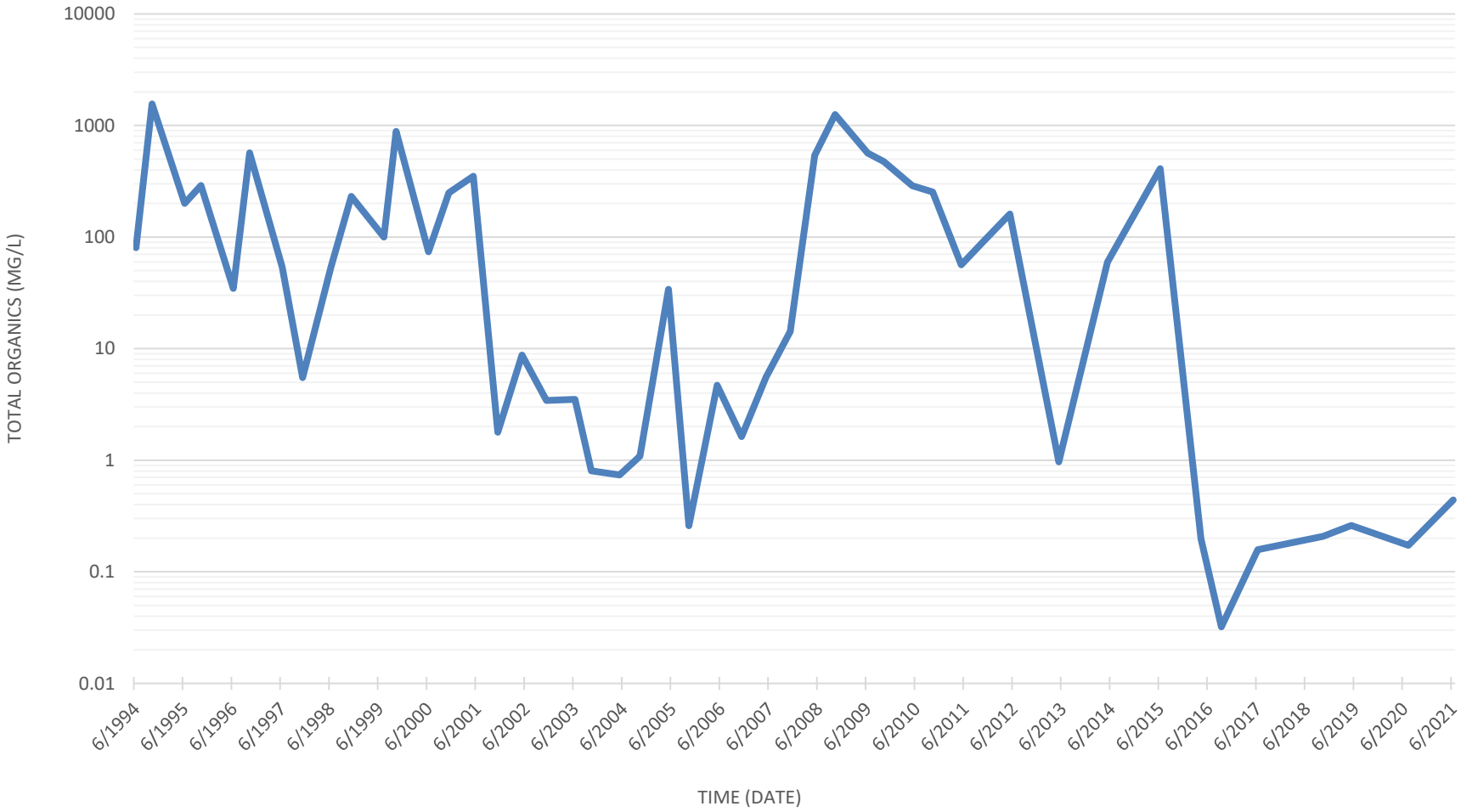


Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.



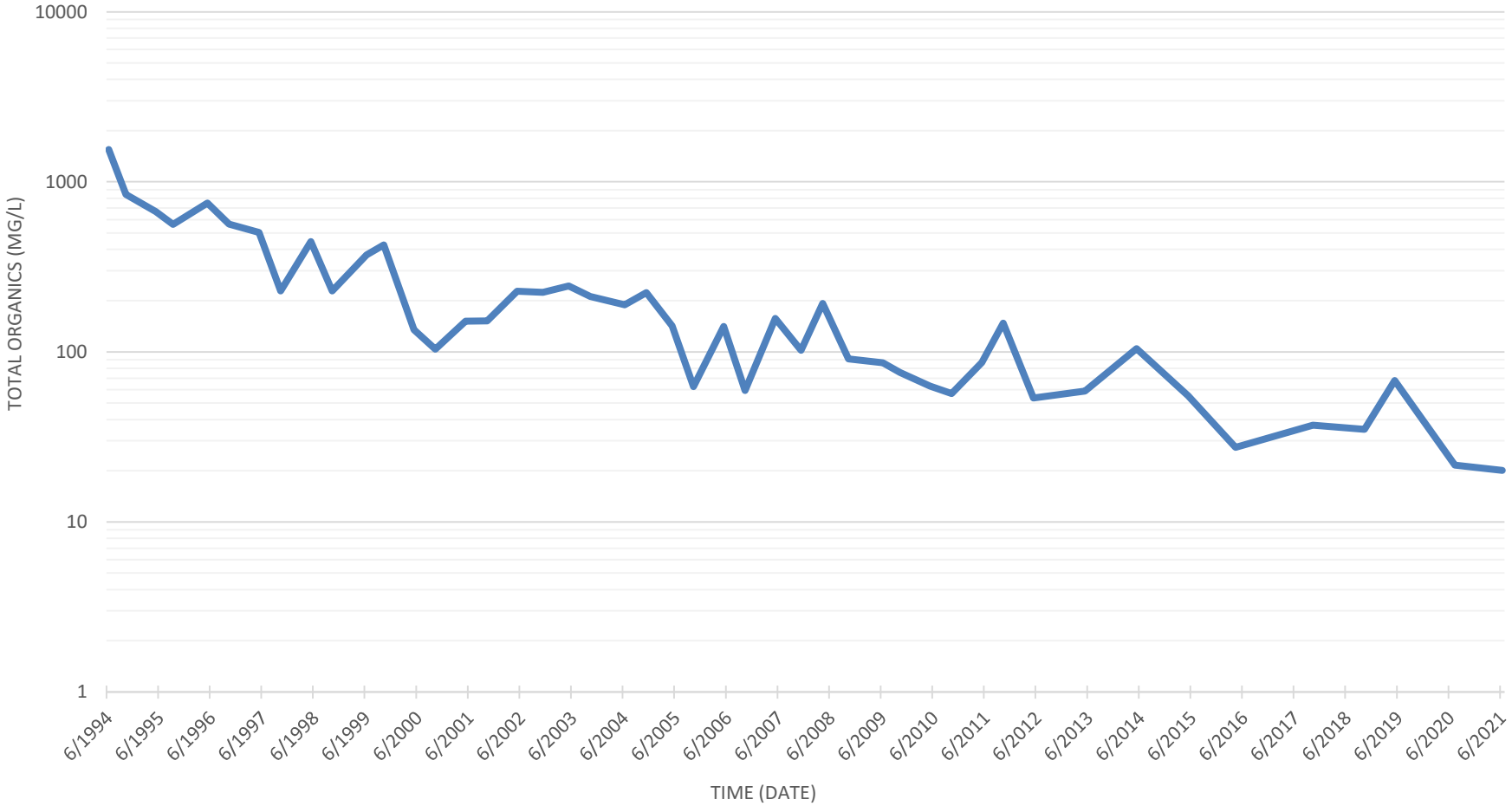
Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.

PB57W
Concentration-Time Series



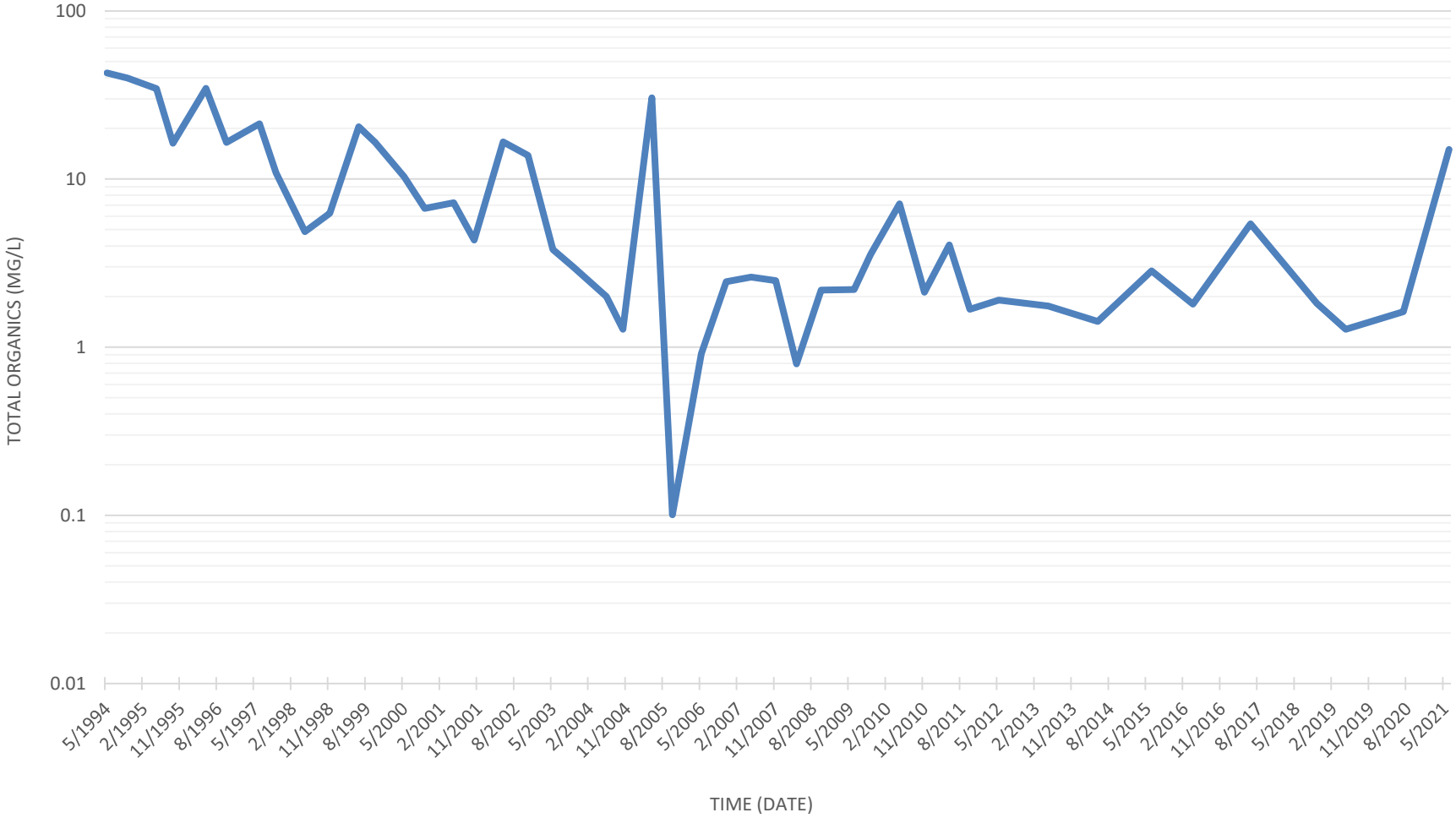
Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.

PB115N
Concentration-Time Series



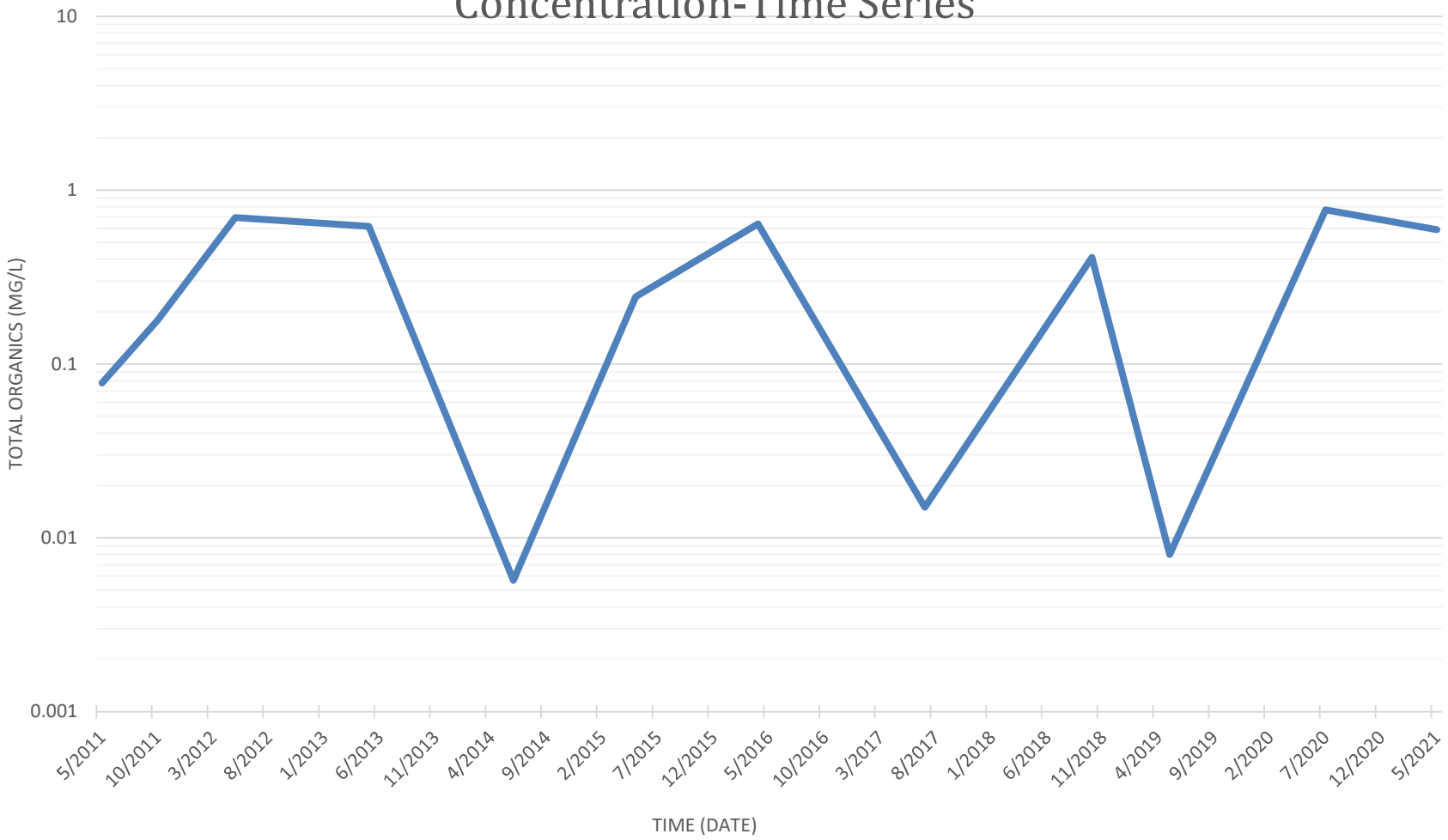
Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.

PB136S
Concentration-Time Series

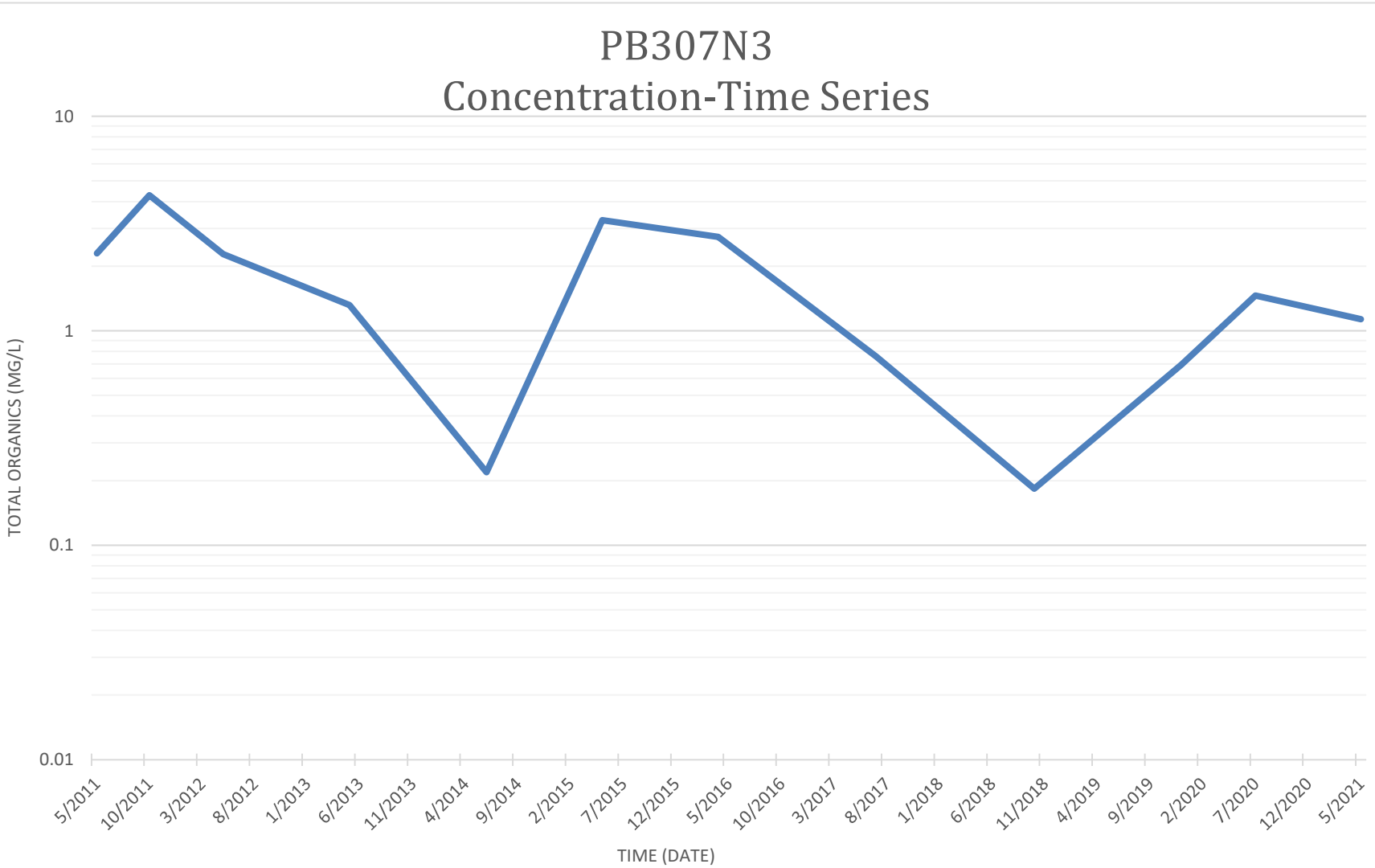


Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.

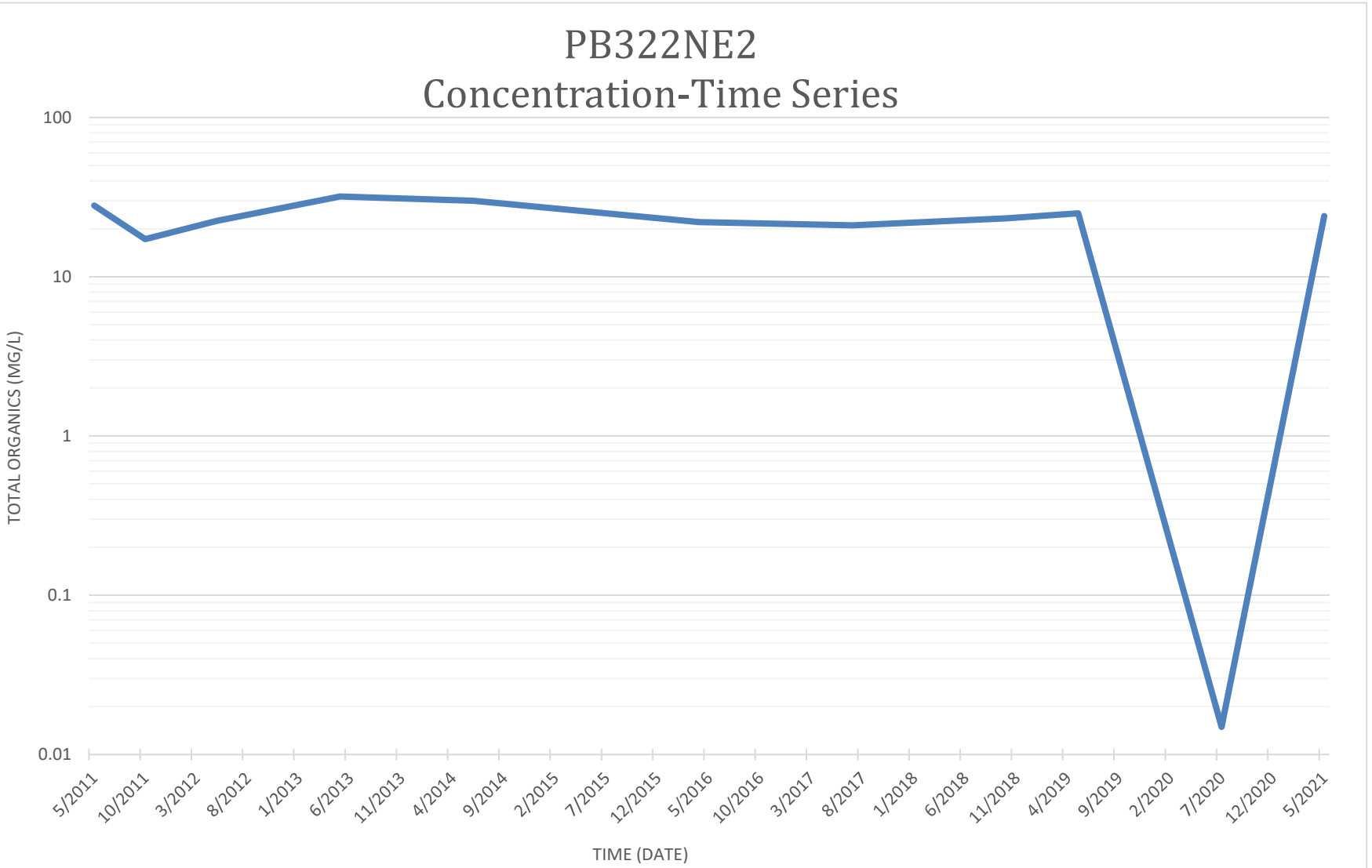
PB307E2
Concentration-Time Series



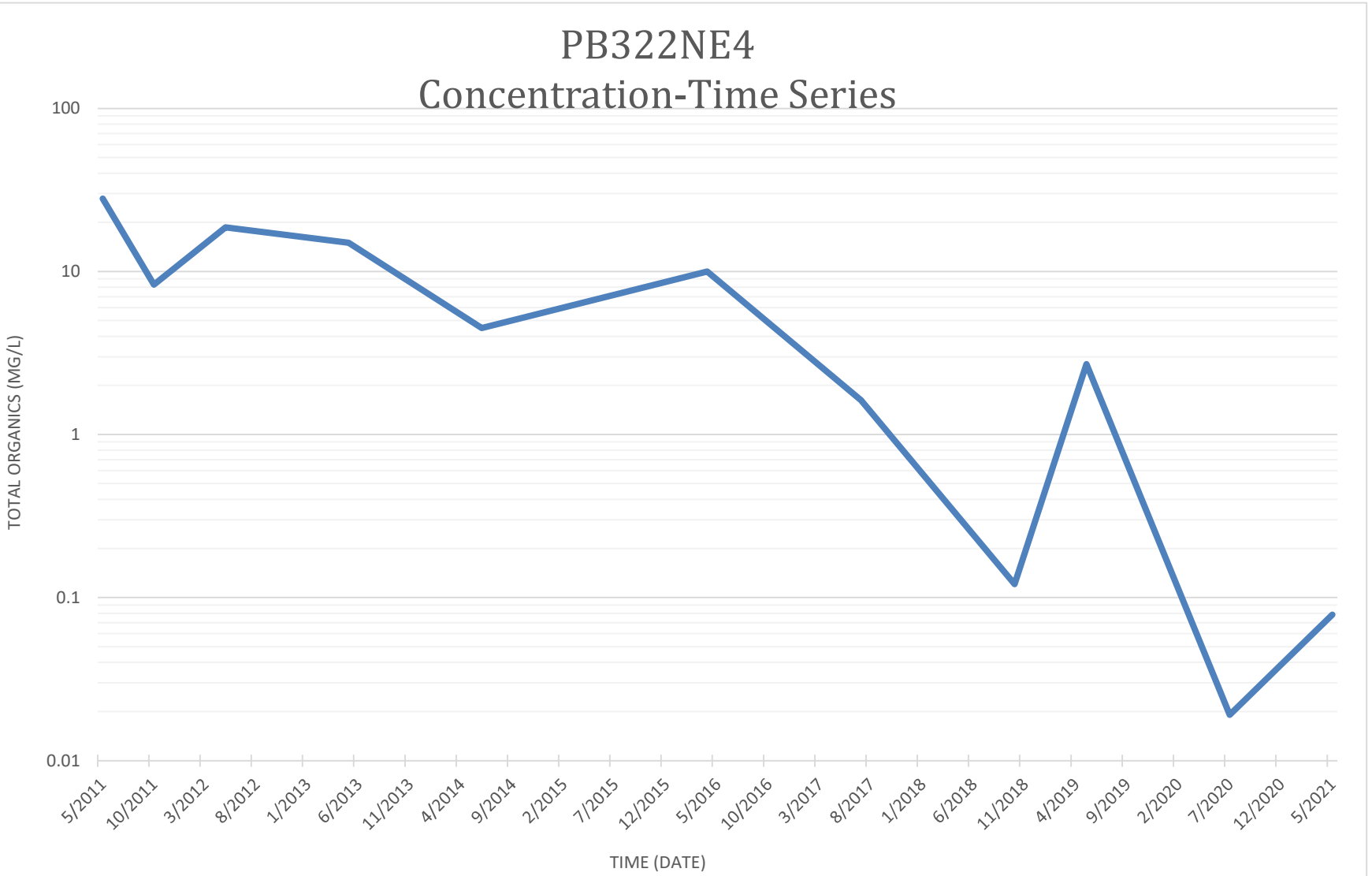
Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.



Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.

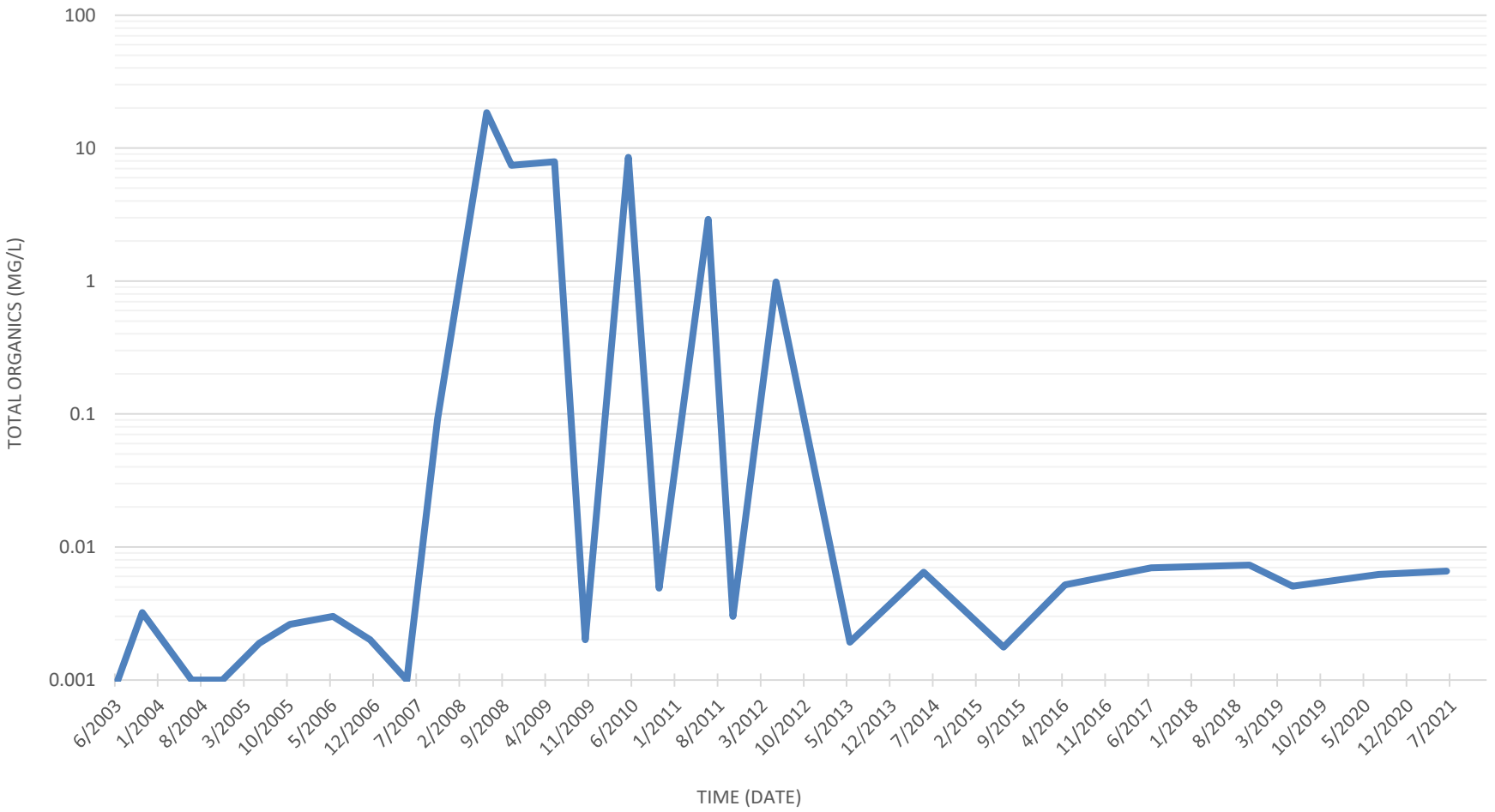


Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.



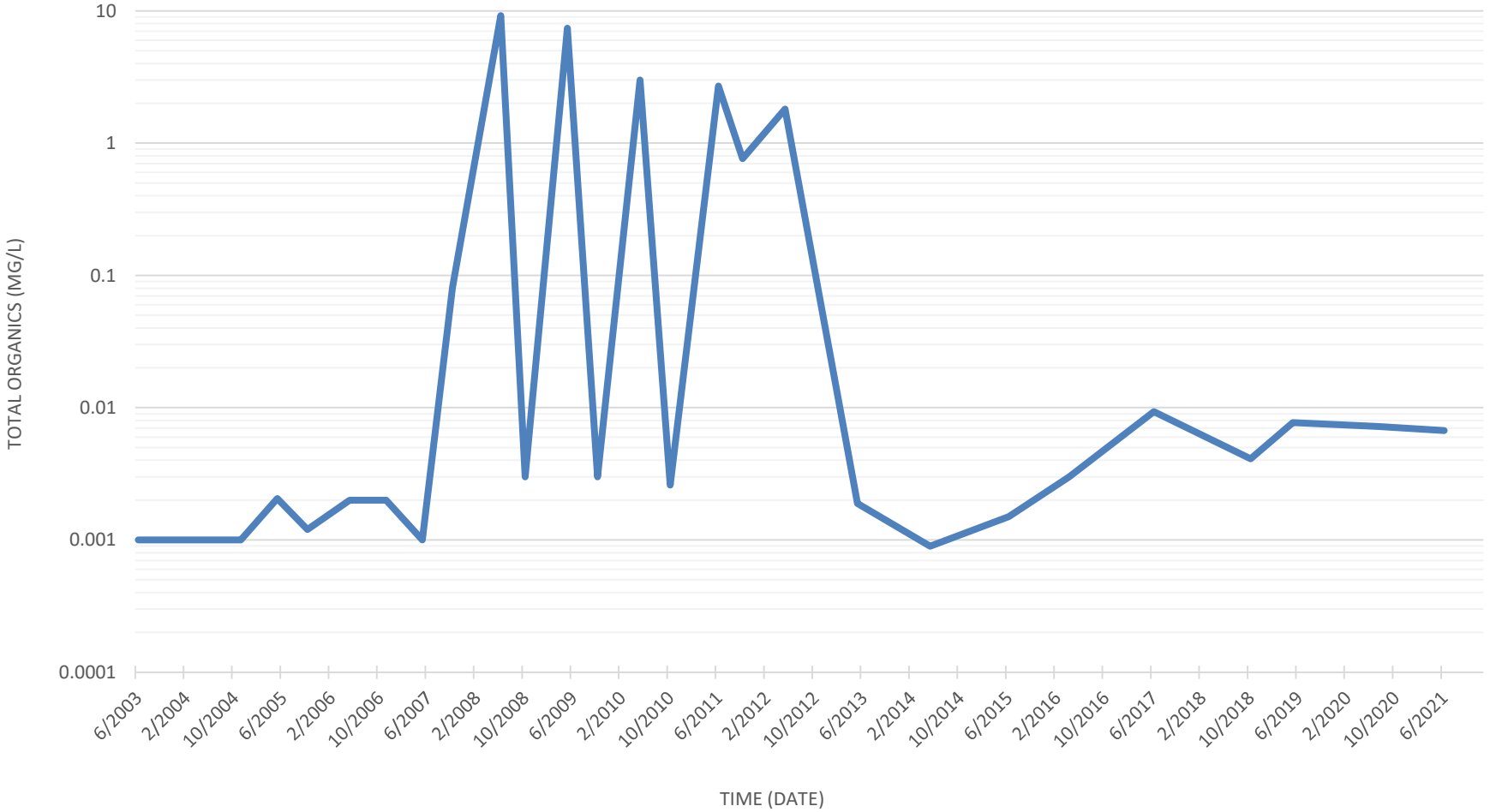
Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.

PL41N
Concentration-Time Series



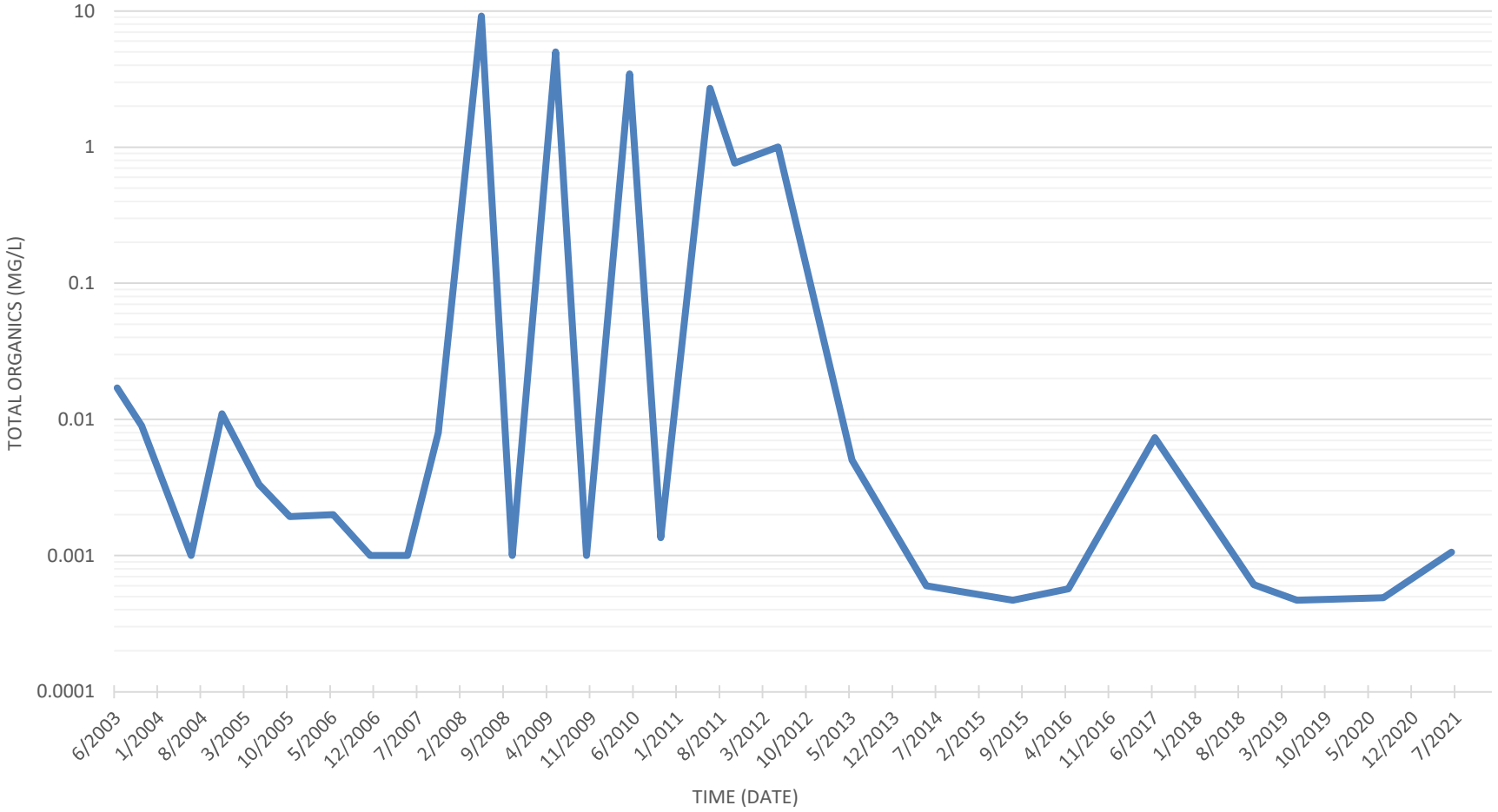
Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.

PL41S
Concentration-Time Series



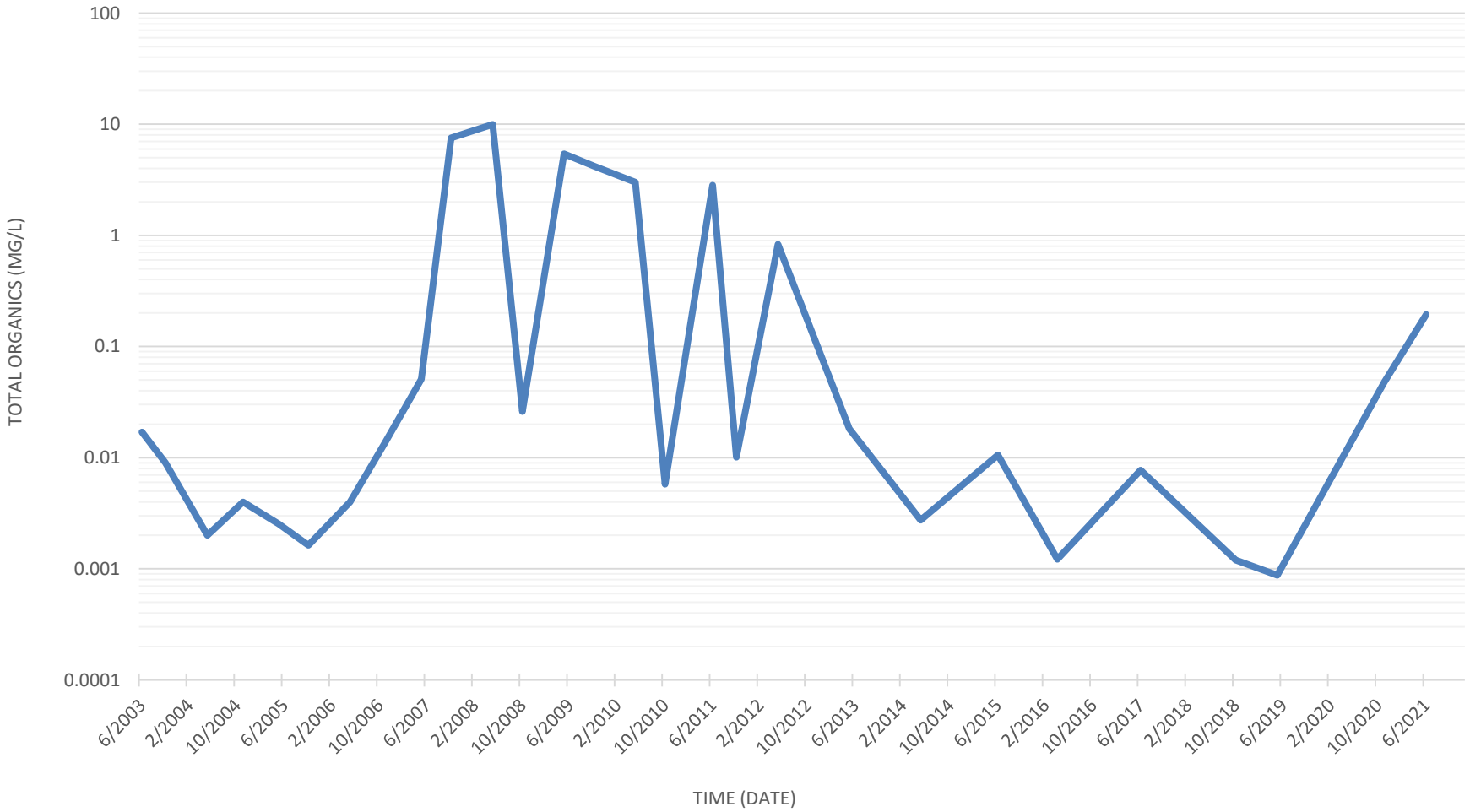
Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.

PL42E
Concentration-Time Series



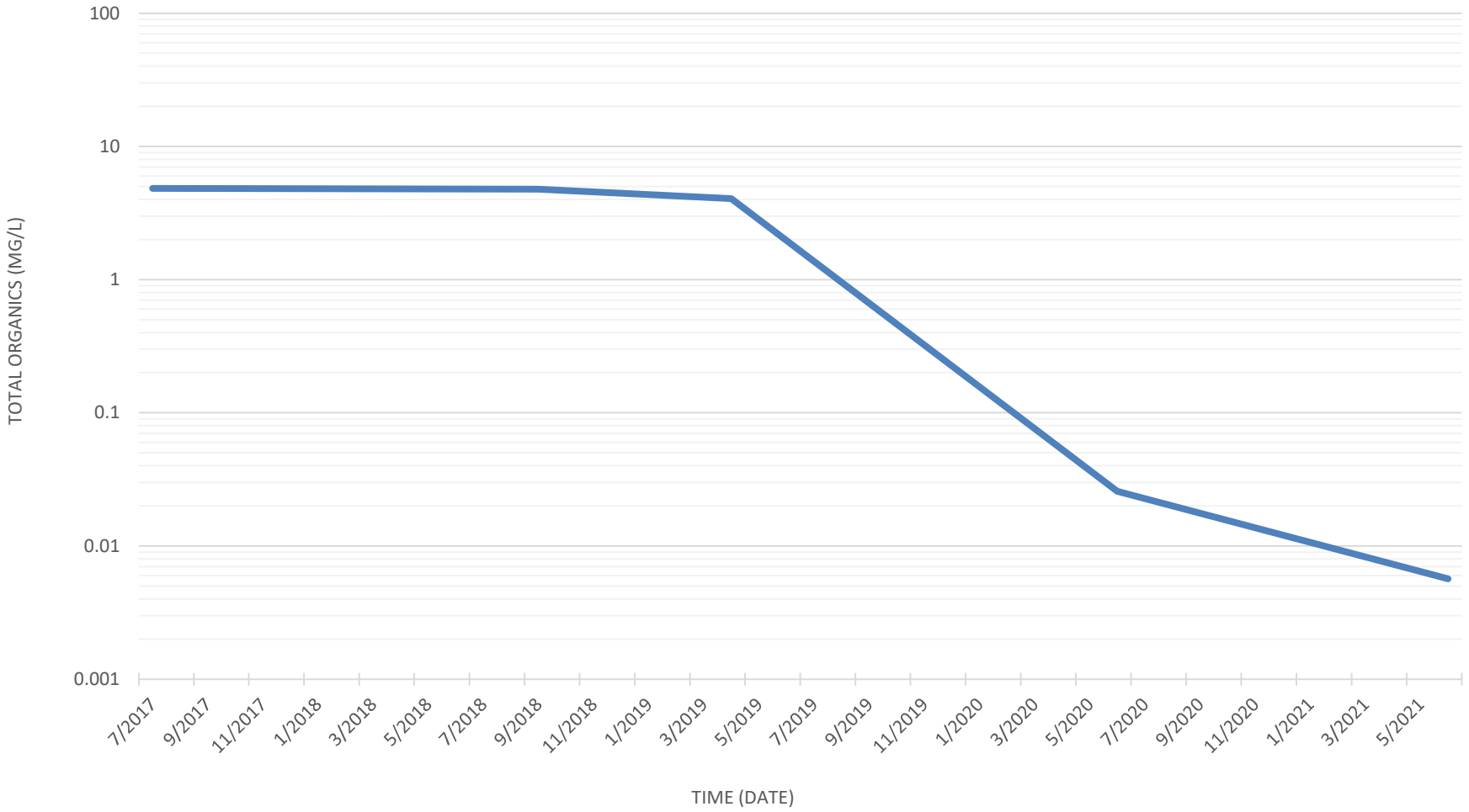
Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.

PL42W
Concentration-Time Series



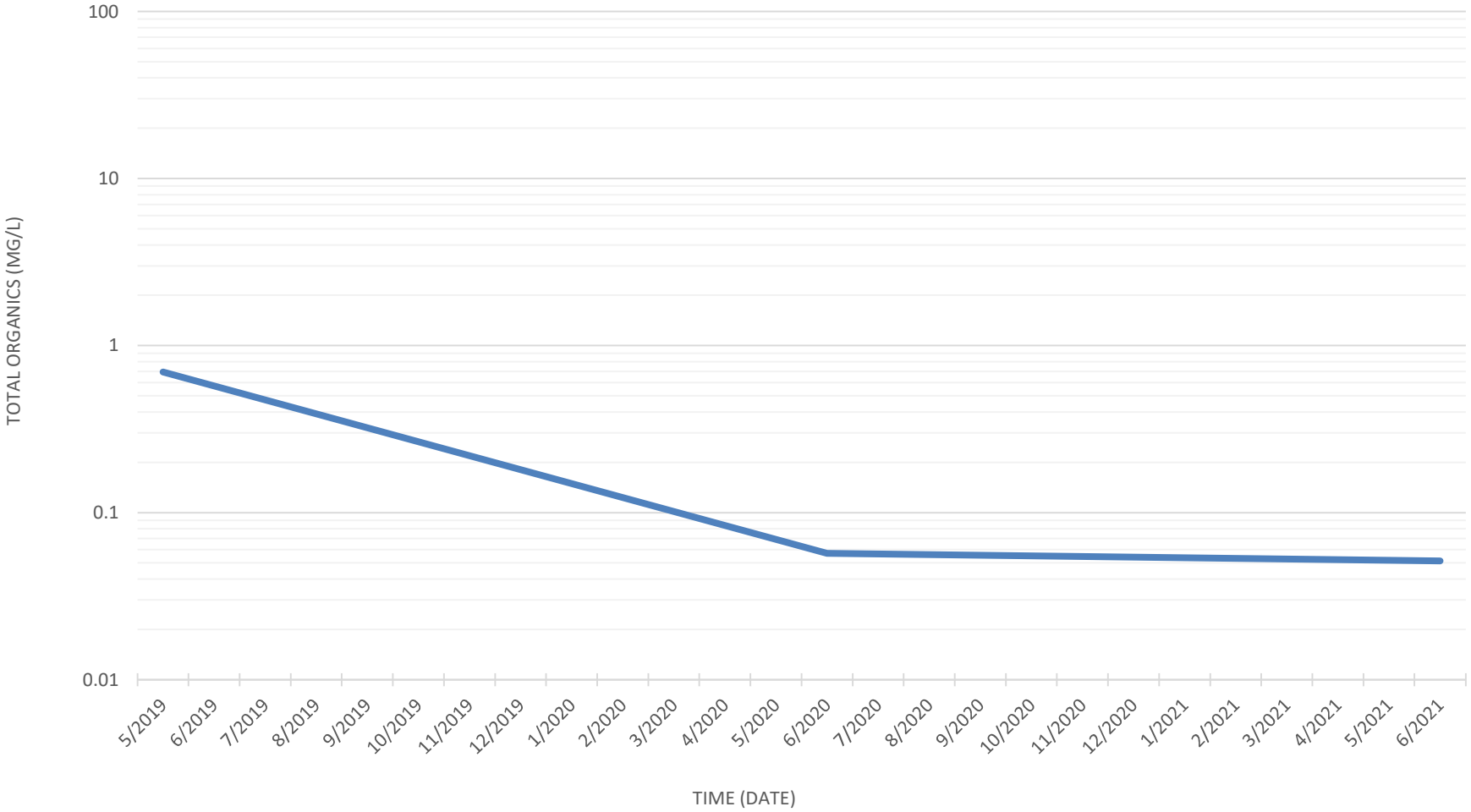
Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.

PB326SW5
Concentration-Time Series



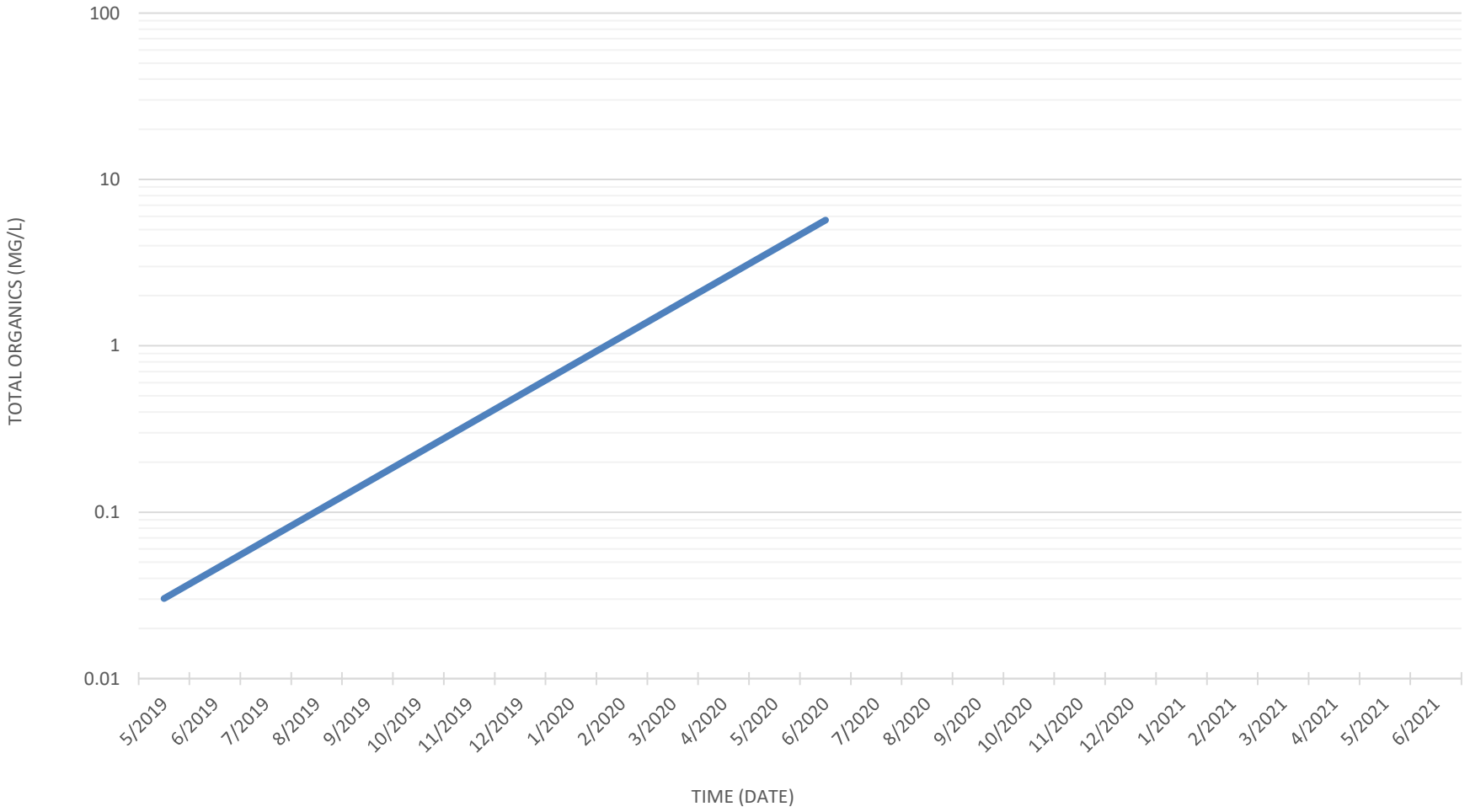
Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.

PB326SW8
Concentration-Time Series



Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.

PB326SW9
Concentration-Time Series



Note: The total organic concentrations presented on this concentration time series plot represent the totalized values for constituents tested for in this well in accordance with the KPGSAP protocol.

B

Soil Protective Cover Inspection Forms and Site Maps

ecology and environment engineering and geology, p.c.

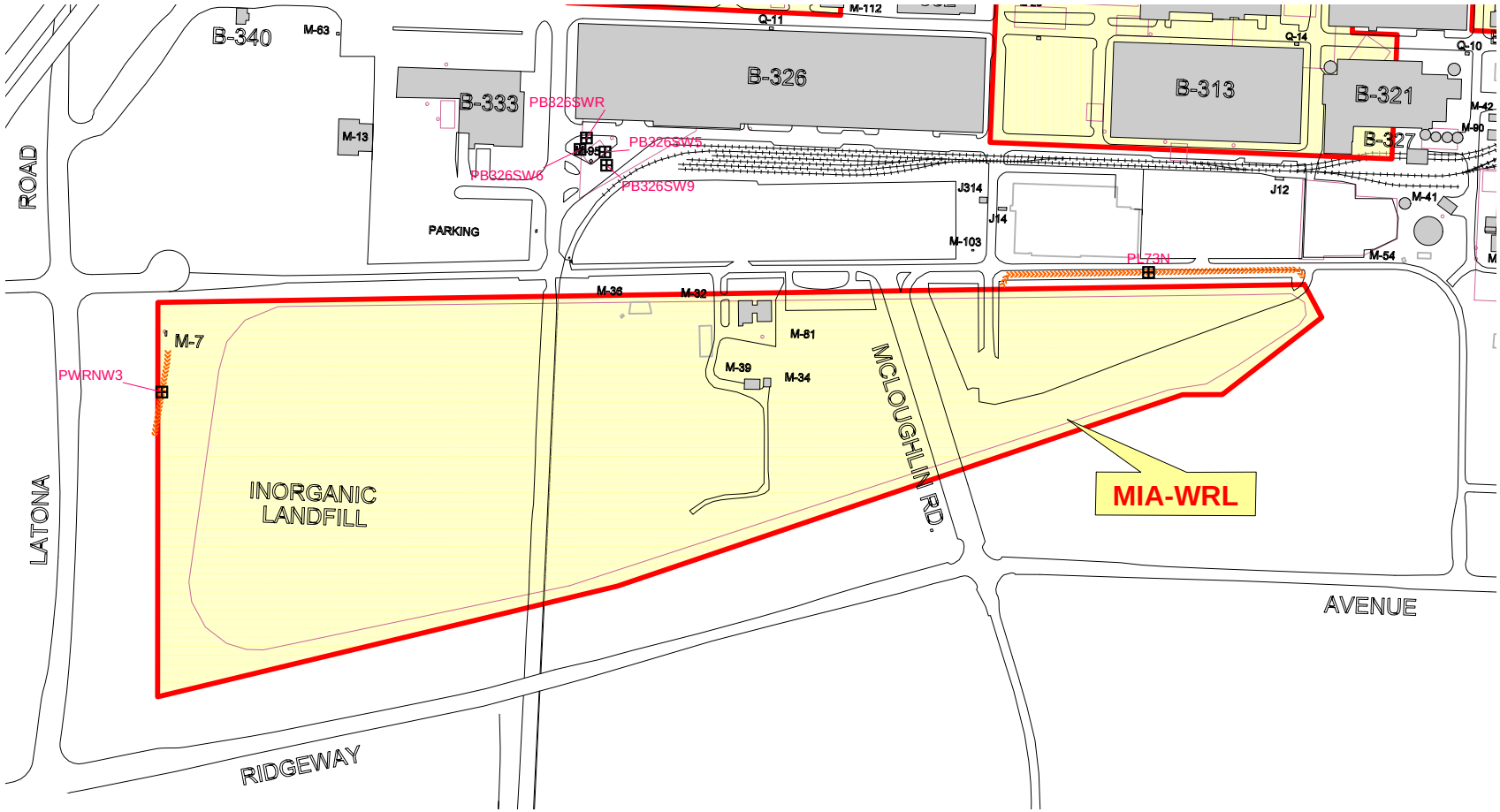
Soil Protective Cover Inspection Form
New York State Department of Environmental Conservation Sites

Site Name: Eastman Kodak Co. – Eastman Business Park		NYSDEC Site Number: 828177	NYSDEC PM: L. Gorton, P.E.
Date of Inspection: ~~11/19/2020~~ 7-14-21		Weather: High 80°F mostly cloudy	EEEGPC PM: R. Watt, P.G.
Name of Inspector(s): C. Porreca M. Hanford	Title:	Agency/Company: Ecology and Environment Engineering and Geology, P.C.	Address: 50 Lakefront Blvd., Suite 111 Buffalo, NY 14202

Scope: Inspect integrity of Pavement (asphalt/concrete), Low Maintenance Landscape Material (LMLM) or other protective cover materials in the following areas. An area is considered compromised if there are visual indications that soil below the cover is exposed. If the protective cover is deemed insufficient to protect workers from exposure to underlying soil, appropriate measures will be taken to repair the cover.

MAP No.	INVESTIGATION AREA	STATUS		NATURE OF DEFICIENCY, IF ANY (add attachments if needed)	ACTION REQUIRED?	
		OK	OTHER		YES	NO
1	MIA-WRL	✓				✓
2	MIA-329	✓				✓
3	MIA-351	✓		- Potholes + cracks present in roadway		✓
4	MIA-317	✓				✓
5	MIA-301	✓				✓
6	XIA-202/208	✓				✓
7	WIA-KPW	✓				✓
8	NE-KPE	✓				✓
9	EIA-KL	✓				✓
10	B-642 Area	✓				✓

R:\NYSDEC D007617\Kodak (WA#28) 3074-0028\Soil Covers\Maps



LEGEND

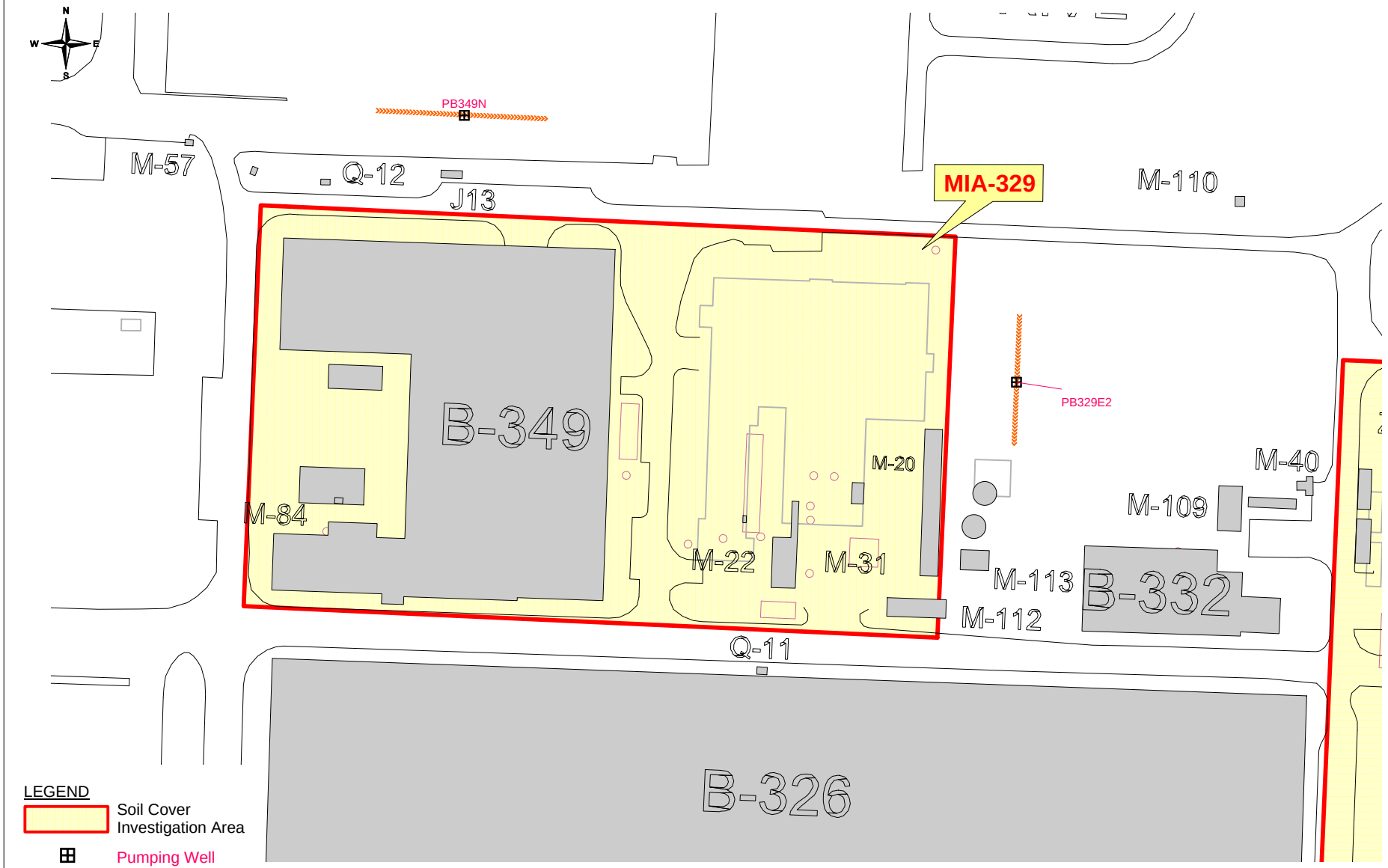
- Soil Cover Investigation Area
- Pumping Well
- Collection Trench

0 ft 75 ft 150 ft 225 ft 300 ft

ecology and environment engineering, p.c.
Global Environmental Specialists

Map 1
MIA-WRL Protective Cover Evaluation
Eastman Business Park
Rochester, New York

R:\NYSDEC D007617\Kodak (WA#28) 3074-0028\Soil Covers\Maps



LEGEND

Soil Cover Investigation Area

Pumping Well

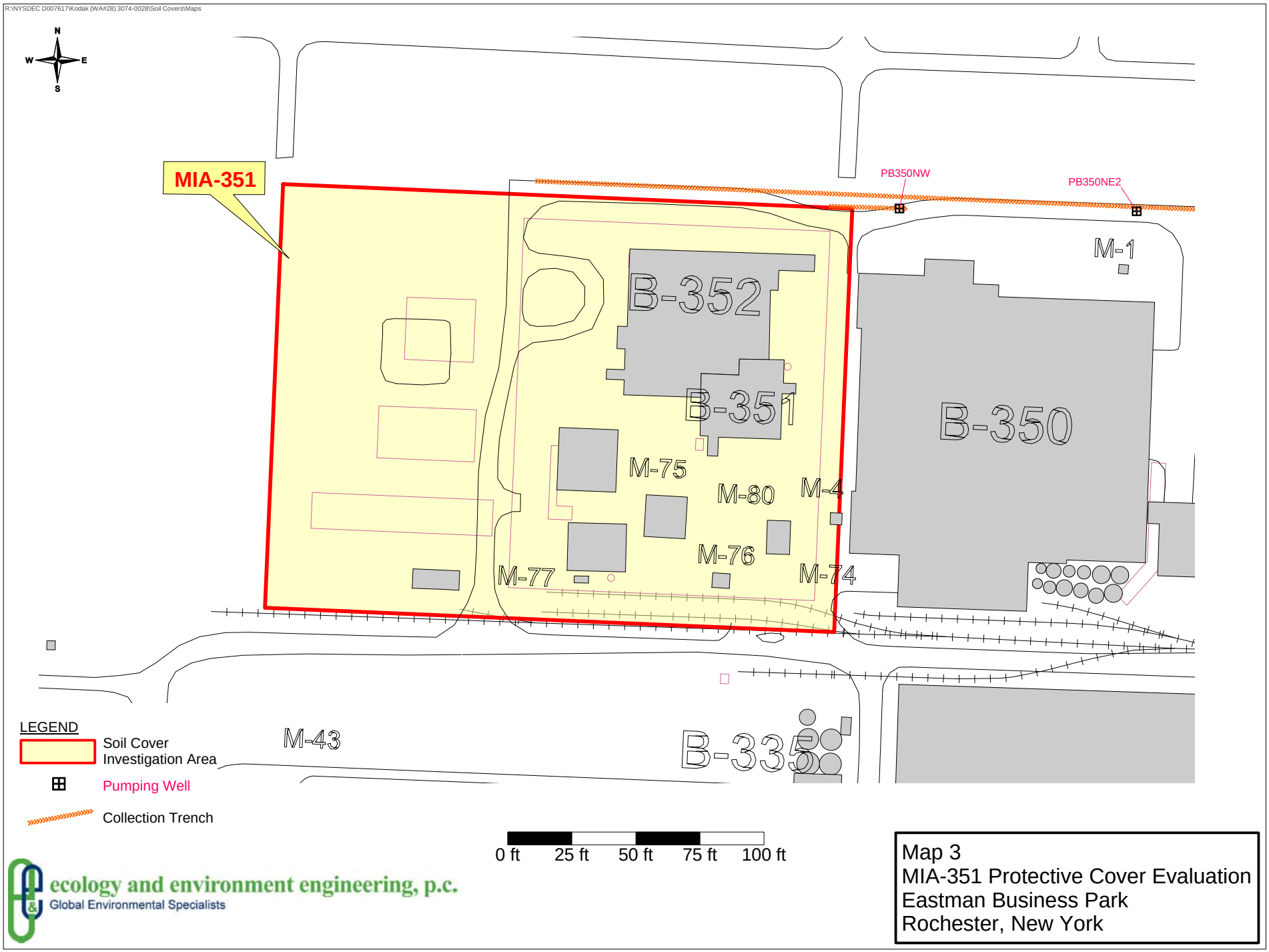
Collection Trench

0 ft 25 ft 50 ft 75 ft 100 ft

ecology and environment engineering, p.c.
Global Environmental Specialists

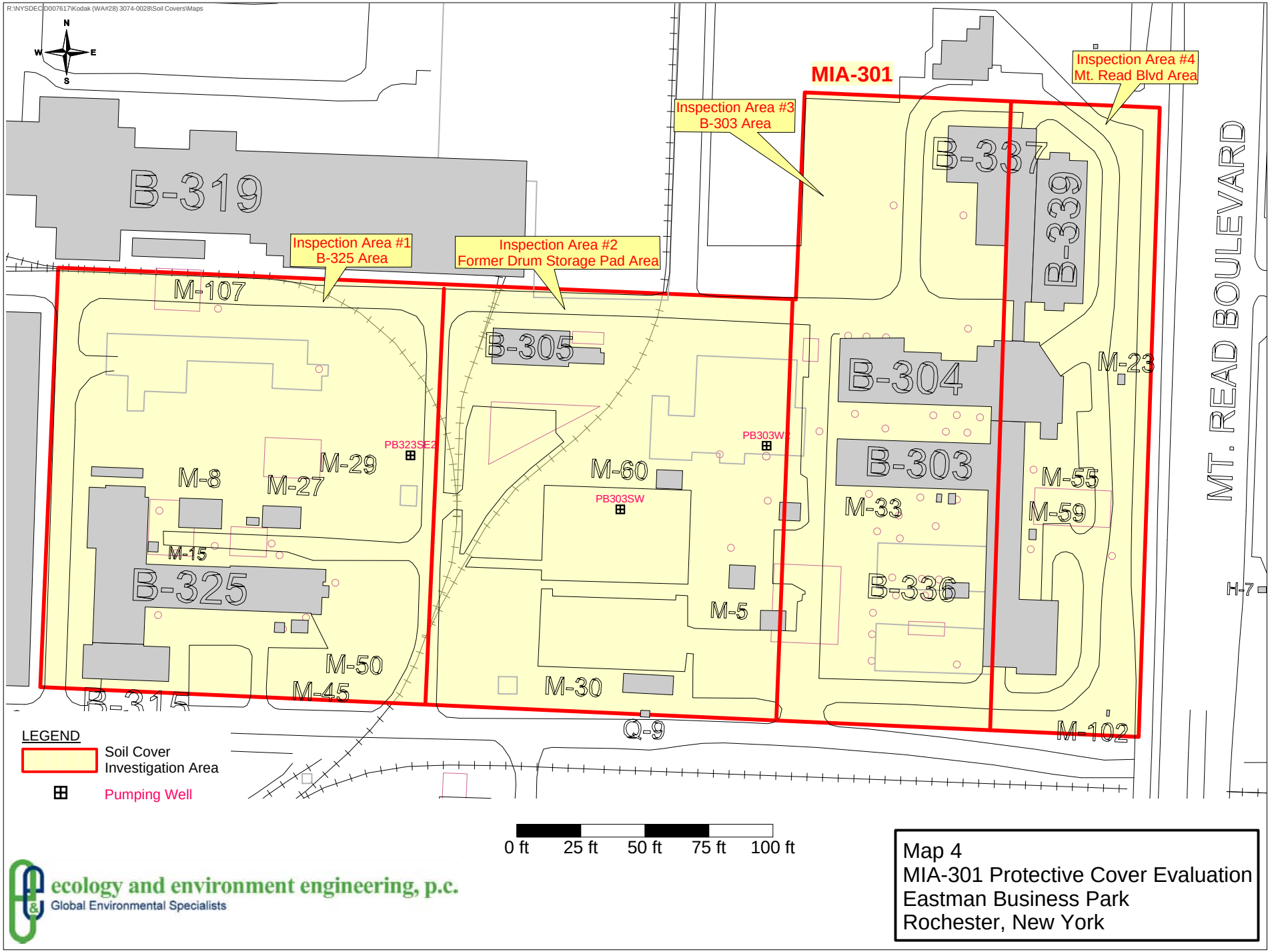
Map 2
MIA-329 Protective Cover Evaluation
Eastman Business Park
Rochester, New York

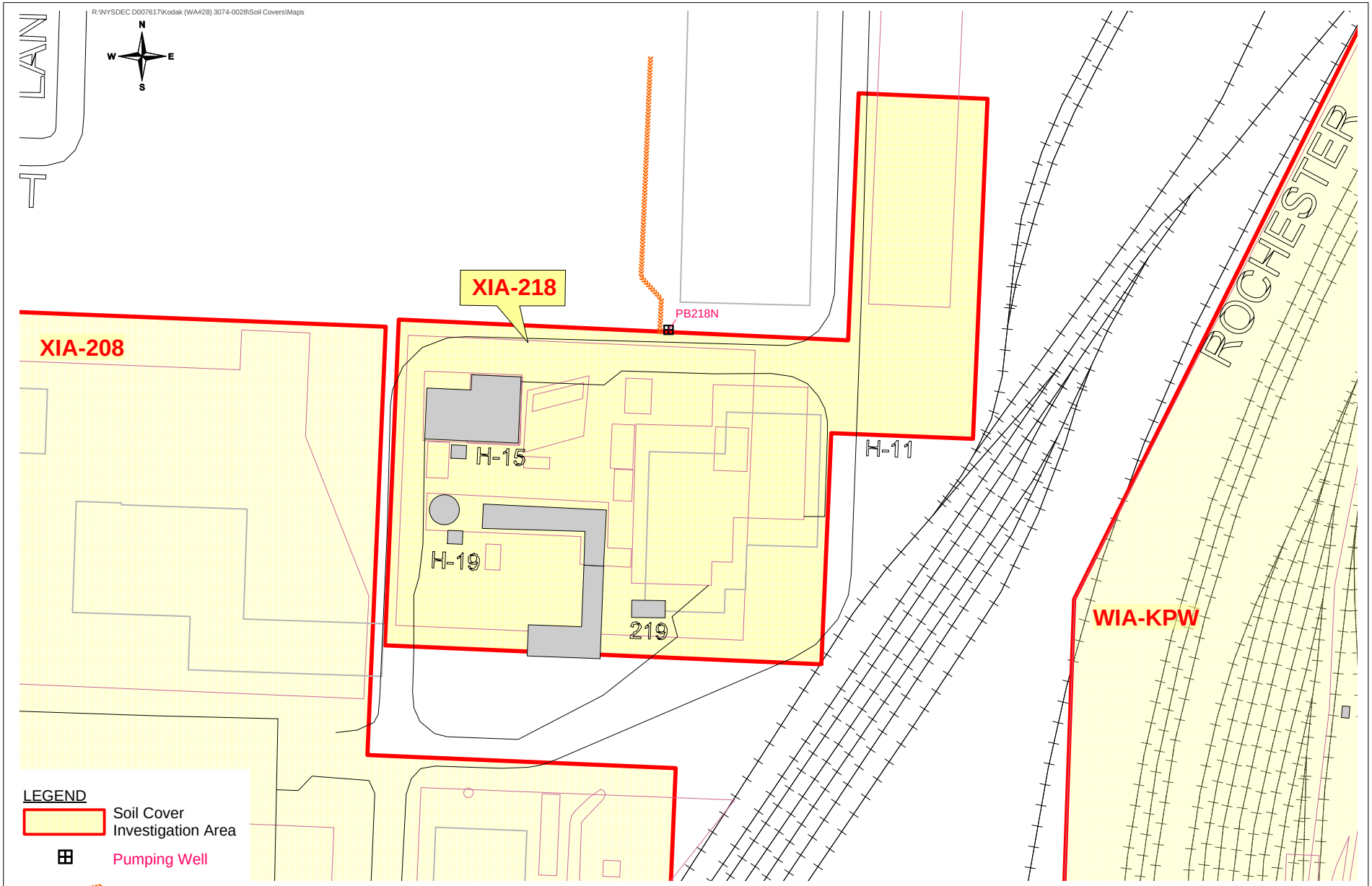
R:\NYSDEC D007617\Kodak (WA#28) 3074-0028\Soil Covers\Maps



ecology and environment engineering, p.c.
Global Environmental Specialists

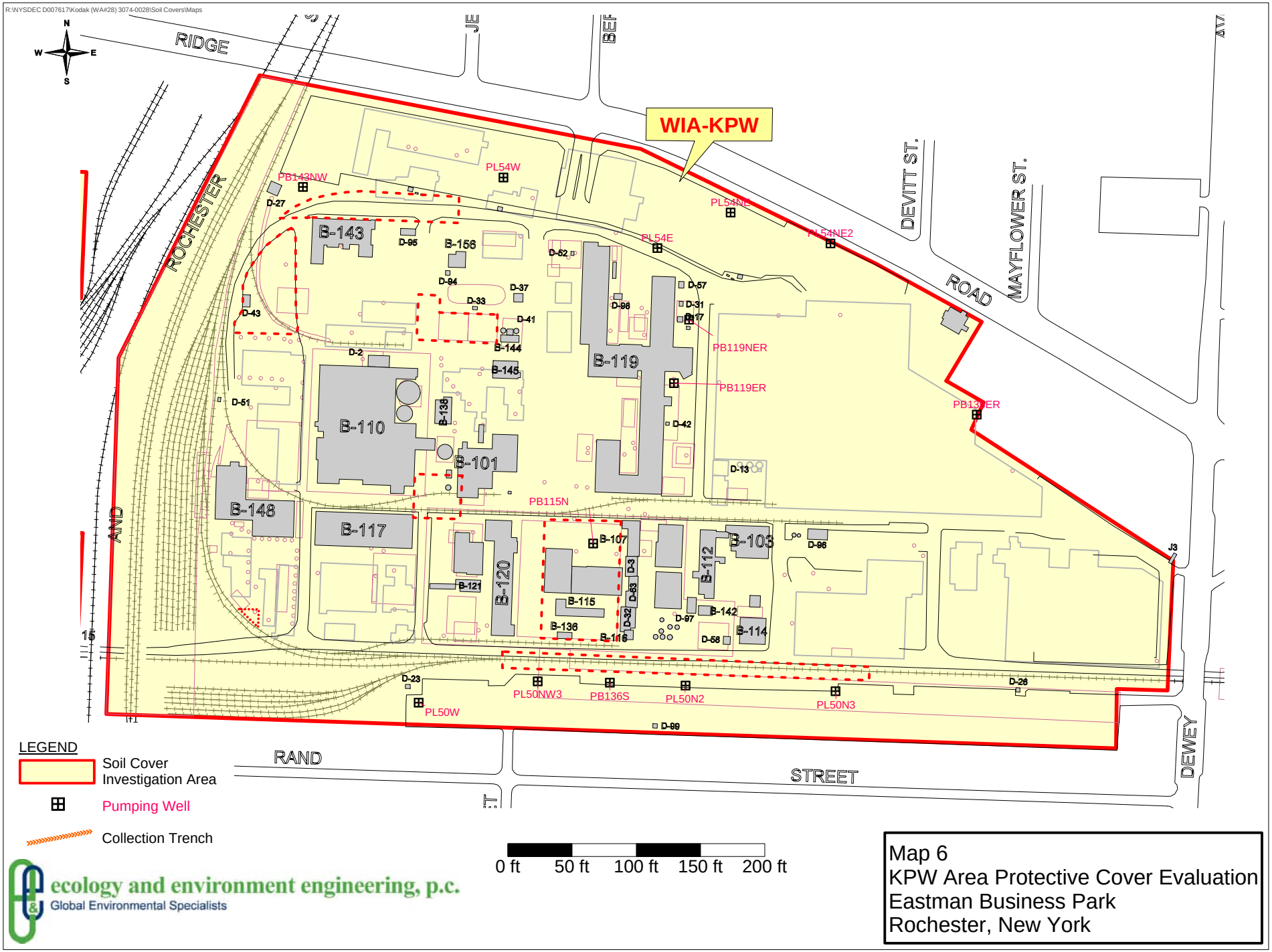
Map 3
MIA-351 Protective Cover Evaluation
Eastman Business Park
Rochester, New York


R:\NYSDEC\D007617\Kodak (WA#28) 3074-0028\Soil Covers\Maps
N
W
E
S
MIA-301
Inspection Area #1
B-325 Area
Inspection Area #2
Former Drum Storage Pad Area
Inspection Area #3
B-303 Area
Inspection Area #4
Mt. Read Blvd Area
B-319
B-337
B-335
B-305
B-304
B-303
B-325
B-336
M-107
M-23
M-8
M-27
M-29
M-60
M-55
M-33
M-59
M-15
M-5
M-50
M-45
M-30
Q-9
M-102
PB323SE2
PB303W2
PB303SW
MT. READ BOULEVARD
H-7
LEGEND
Soil Cover
Investigation Area
Pumping Well
0 ft
25 ft
50 ft
75 ft
100 ft
ecology and environment engineering, p.c.
Global Environmental Specialists
Map 4
MIA-301 Protective Cover Evaluation
Eastman Business Park
Rochester, New York

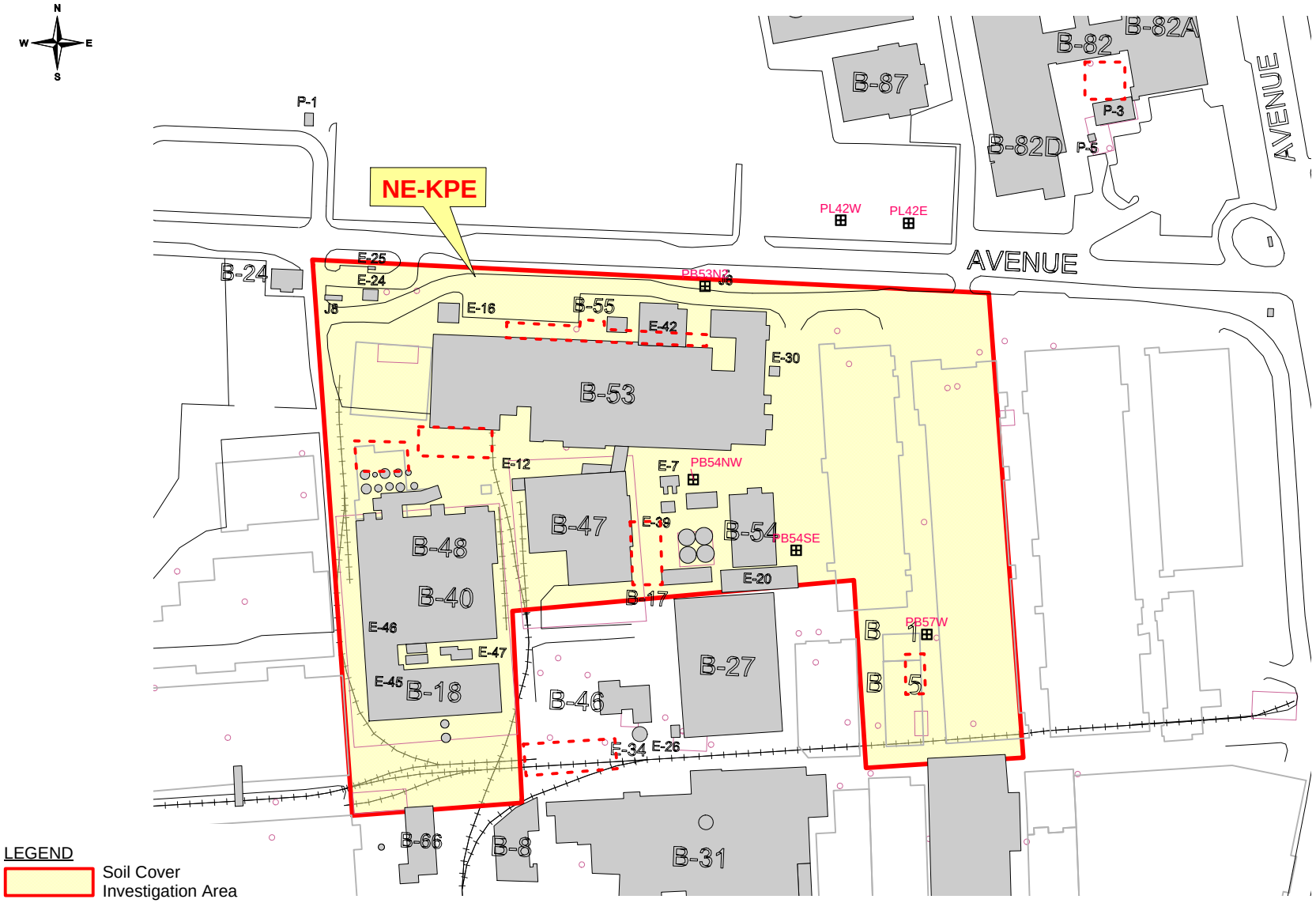


ecology and environment engineering, p.c.
Global Environmental Specialists

Map 5
XIA-218 Protective Cover Evaluation
Eastman Business Park
Rochester, New York


R:\NYSDEC D007617\Kodak (WA#28) 3074-0028\Soil Covers\Maps
N
W
E
S
RIDGE
WIA-KPW
ROCHESTER
DEVITT ST.
MAYFLOWER ST.
ROAD
AND
RAND
STREET
DEWEY
PB143NW
PL54W
PL54NE
PL54E
PL54NE2
PB119NER
PB119ER
PB115N
PL50W
PL50NW3
PB136S
PL50N2
PL50N3
B-143
B-156
B-119
B-110
B-101
B-148
B-117
B-120
B-107
B-103
B-112
B-121
B-115
B-136
B-116
B-142
B-114
B-144
B-145
B-135
D-27
D-95
D-94
D-37
D-33
D-43
D-41
D-2
D-51
D-52
D-98
D-57
D-31
D-17
D-42
D-13
D-96
D-3
D-83
D-32
D-97
D-58
D-23
D-26
D-99
J3
LEGEND
Soil Cover Investigation Area
Pumping Well
Collection Trench
0 ft
50 ft
100 ft
150 ft
200 ft
ecology and environment engineering, p.c.
Global Environmental Specialists
Map 6
KPW Area Protective Cover Evaluation
Eastman Business Park
Rochester, New York

R:\NYSDEC D007617\Kodak (WA#28) 3074-0028\Soil Covers\Maps



LEGEND

Soil Cover Investigation Area

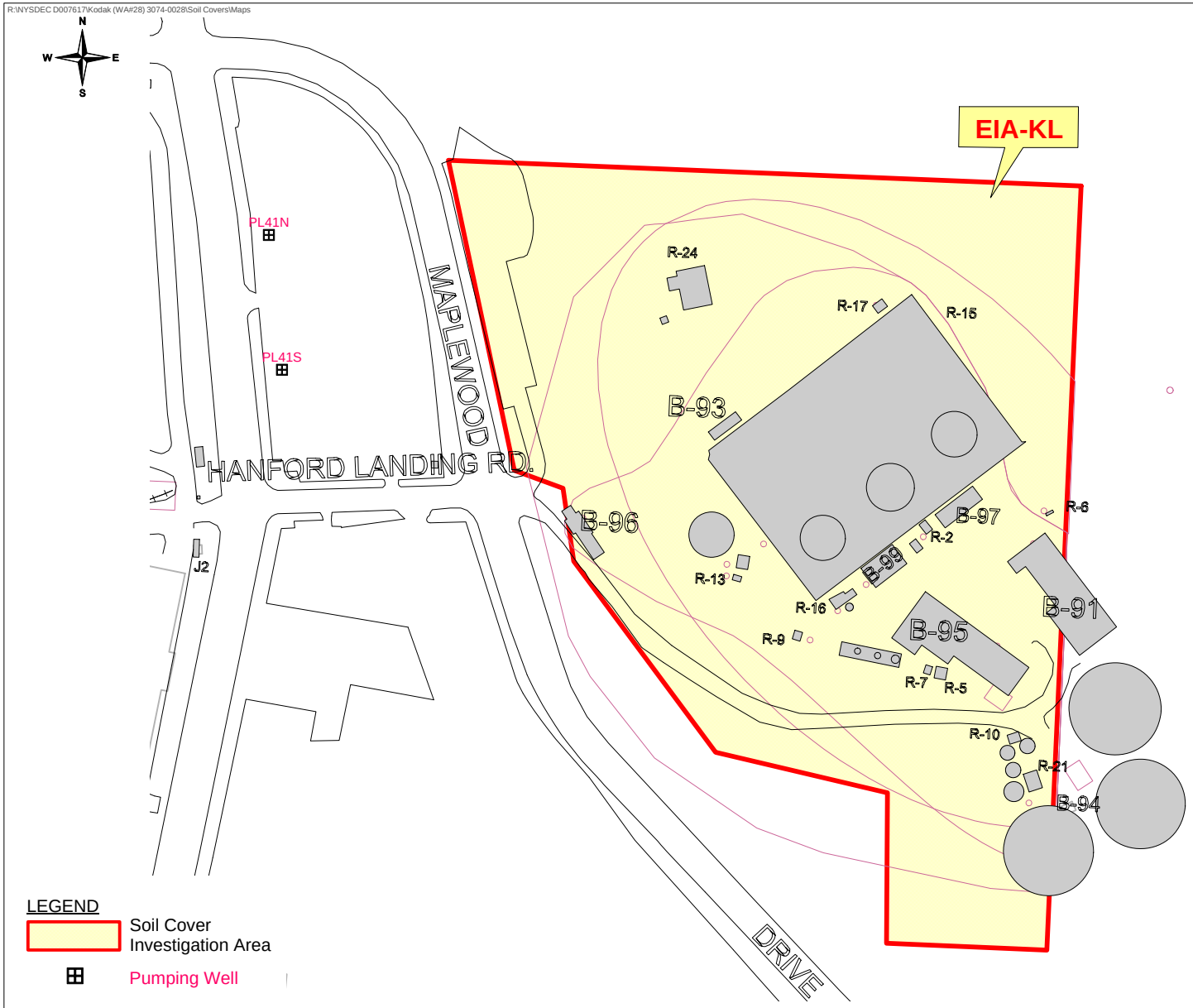
Pumping Well

0 ft 37.5 ft 75 ft 112.5 ft 150 ft

ecology and environment engineering, p.c.
Global Environmental Specialists

Map 7
NE-KPE Protective Cover Evaluation
Eastman Business Park
Rochester, New York

R:\NYSDEC D007617\Kodak (WA#28) 3074-0028\Soil Covers\Maps



LEGEND

Soil Cover Investigation Area

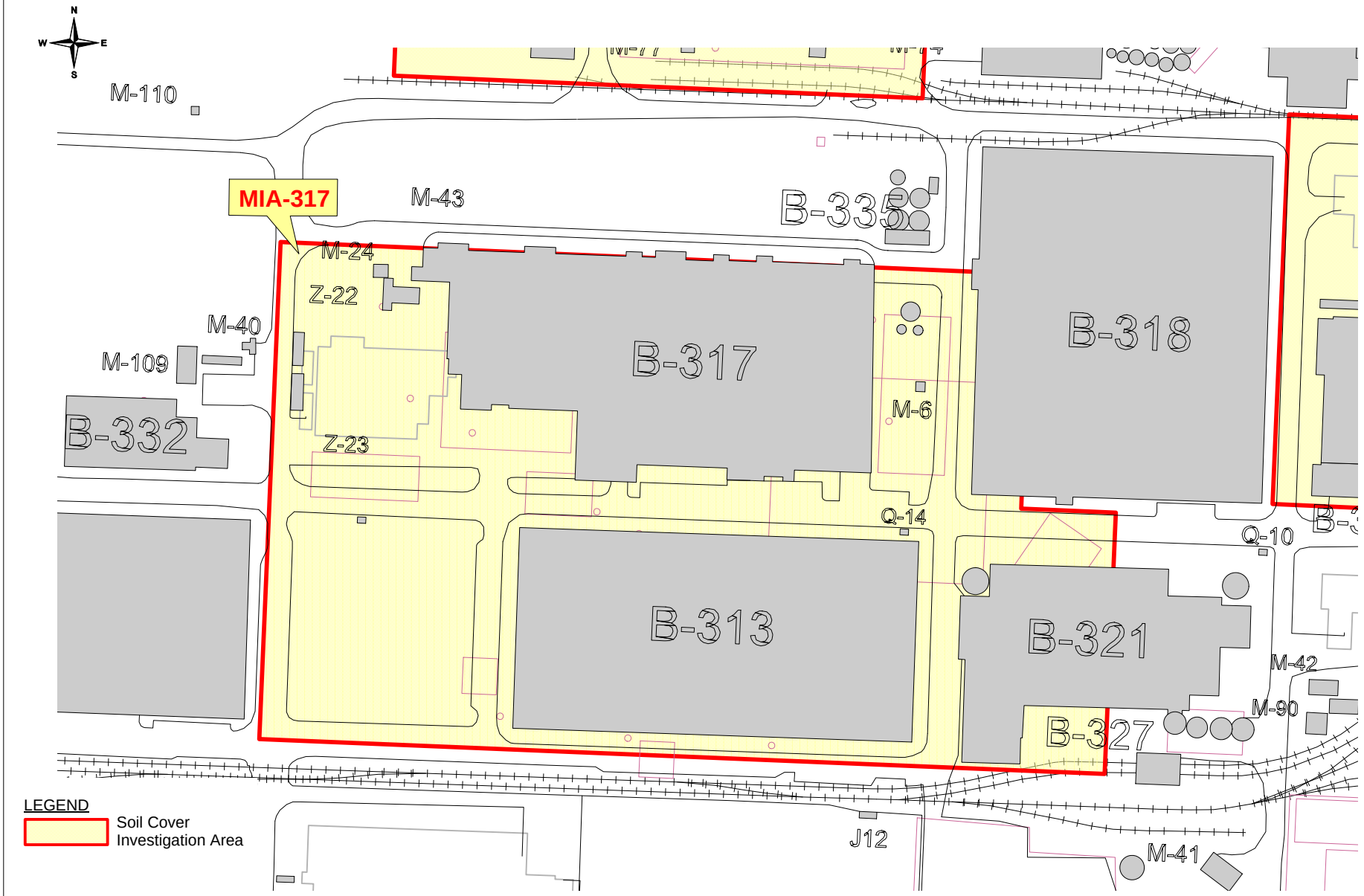
Pumping Well

0 ft 37.5 ft 75 ft 112.5 ft 150 ft

ecology and environment engineering, p.c.
Global Environmental Specialists

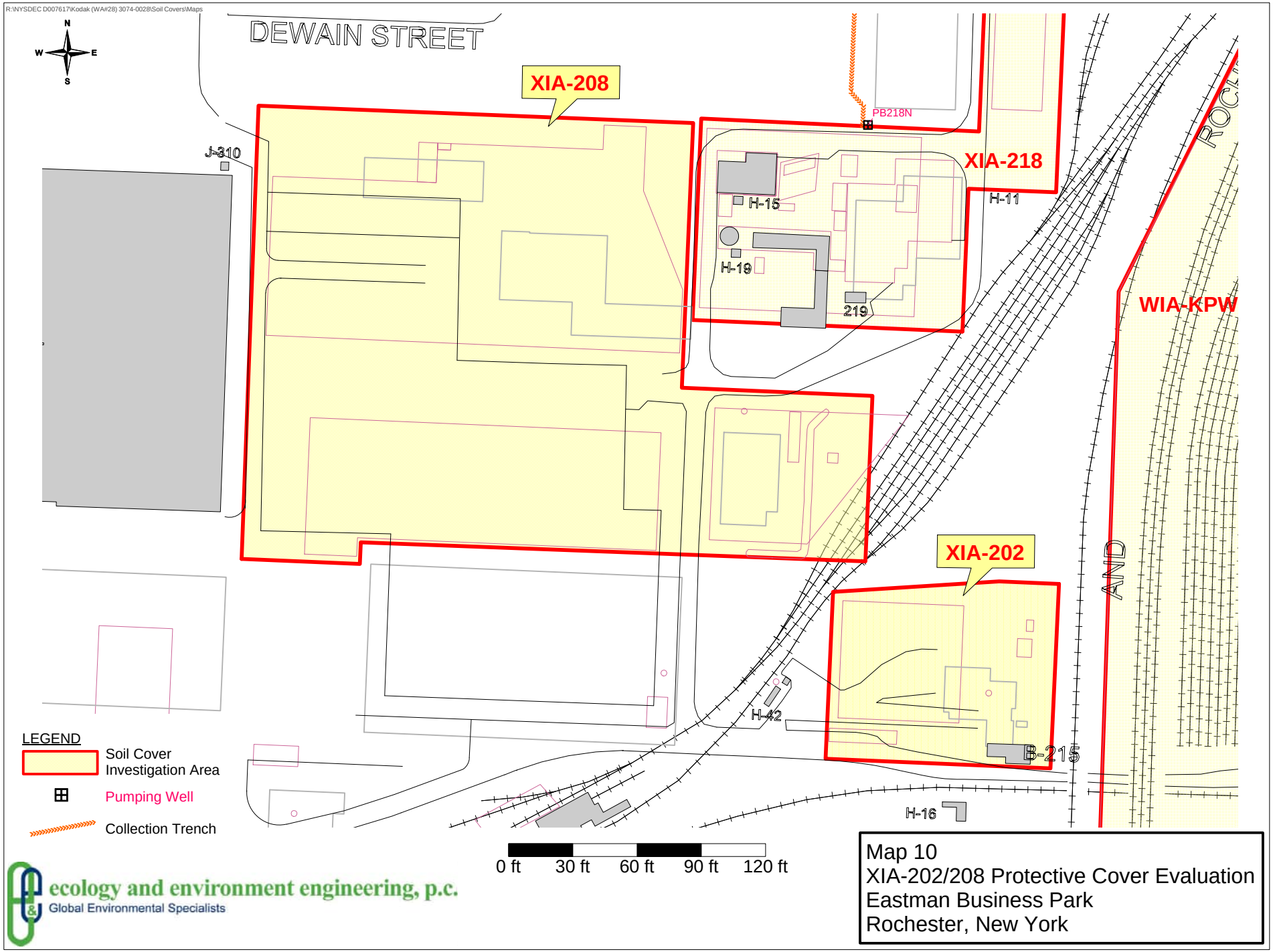
Map 8
EIA-KL Protective Cover Evaluation
Eastman Business Park
Rochester, New York

R:\NYSDEC D007617\Kodak (WA#28) 3074-0028\Soil Covers\Maps



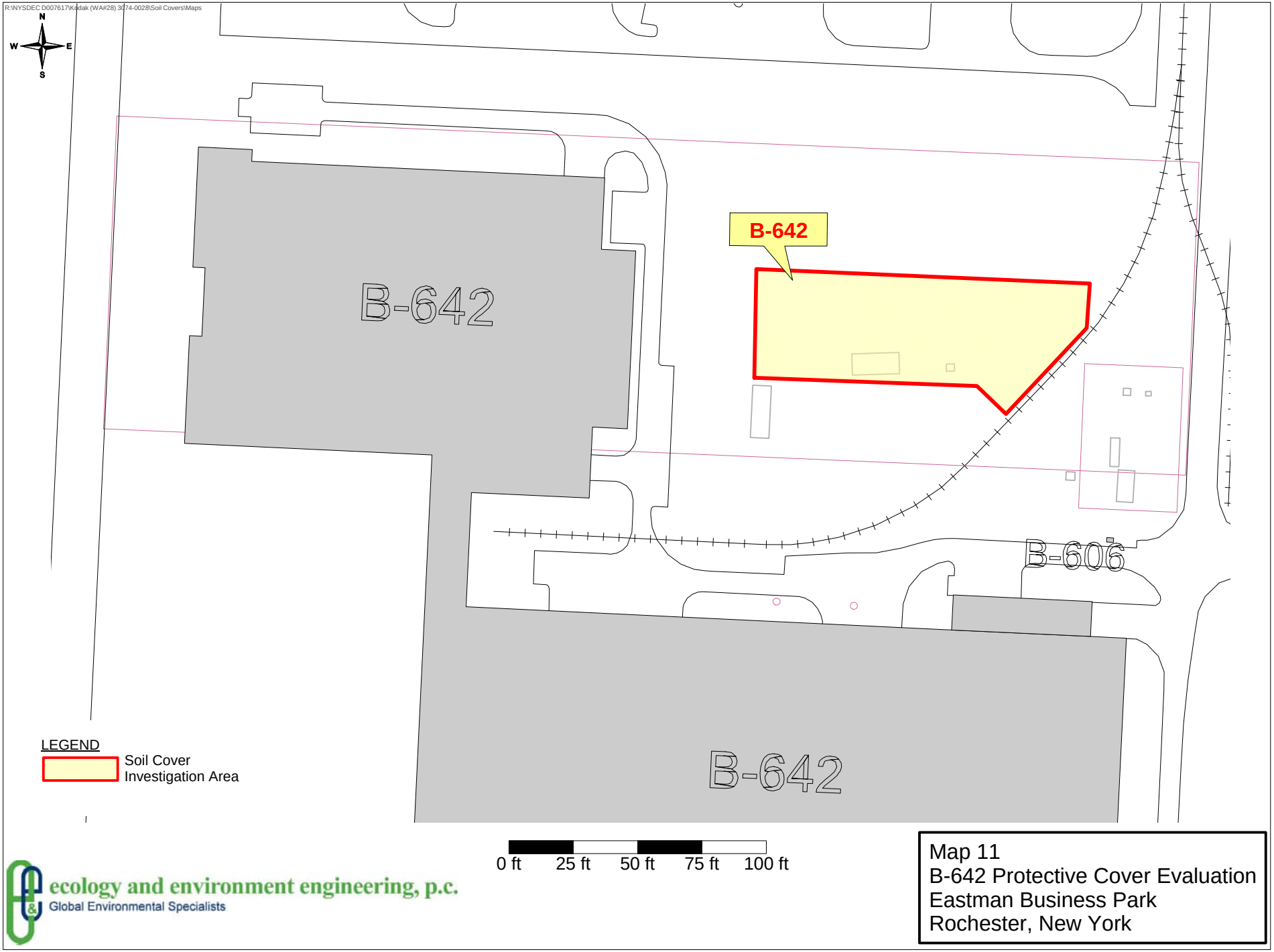
ecology and environment engineering, p.c.
Global Environmental Specialists

Map 9
MIA-317 Protective Cover Evaluation
Eastman Business Park
Rochester, New York



ecology and environment engineering, p.c.
Global Environmental Specialists

Map 10
XIA-202/208 Protective Cover Evaluation
Eastman Business Park
Rochester, New York



ecology and environment engineering, p.c.
Global Environmental Specialists

Map 11
B-642 Protective Cover Evaluation
Eastman Business Park
Rochester, New York