MACTEC

26 April 2023

Mr. Joshuah Klier
Project Manager
New York State Department of Environmental Conservation
Division of Environmental Remediation, Region 8
6274 East Avon-Lima Road
Avon, New York 14414-9519

Re: Fall 2022 Monitoring Report
Arch Chemicals (Site #828018a) 100 McKee Rd., Rochester, NY

Dear Mr. Klier:

On behalf of Arch Chemicals, Inc., MACTEC Engineering and Geology, P.C. (MACTEC) submits the attached Fall 2022 Monitoring Report for the Arch Chemicals Site in Rochester, New York. The report describes the results of the semi-annual groundwater and surface water monitoring completed in November 2022 as part of Arxada's on-going monitoring program at the site. An electronic data deliverable (EDD) of the analytical results will be provided to the New York State Department of Environmental Conservation in a separate online submittal.

If you have any questions regarding this report, please call me at (207) 712-8020-4080 or by email at nelson.breton@wsp.com.

Sincerely,
MACTEC Engineering and Geology, P.C

Nelson Breton
Project Manager

encl.

cc : Christopher Budd, NYSDOH – Albany
Jean Robert Jean, USEPA Region II
Warner Golden, Arch
Matt Dillon, Arch
Nelson Breton, MACTEC
Charles Staples, MACTEC

Arch Chemicals, Inc.

Rochester, New York (Site #828018a)

Groundwater Monitoring Report 69
Fall 2022

April 2023

SURFACE WATER AND GROUNDWATER MONITORING PROGRAM
FALL 2022 MONITORING REPORT

ARCH CHEMICALS
ROCHESTER PLANT SITE
ROCHESTER, NEW YORK

Prepared by

MACTEC Engineering & Geology, Inc.
Portland, Maine

for

ARCH CHEMICALS, INC.

April 2023

3616226197

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Geologist

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EXECUTIVE SUMMARY

This monitoring report presents the results of an ongoing groundwater and surface water monitoring program being conducted by Arch Chemicals at its Rochester, New York, manufacturing facility. Arch Chemicals, Inc., (formerly the Lonza Specialty Ingredients division of Lonza) is an affiliate of Arxada, a global chemicals supplier for microbial control solutions and specialty products solutions that is headquartered in Basel, Switzerland.

During this monitoring event conducted in November 2022, samples from a total of 27 groundwater monitoring or pumping wells and four locations associated with the Dolomite Products Quarry seep and outfall at the Erie Canal were collected by Matrix Environmental Technologies Inc., of Orchard Park, New York, and analyzed by Paradigm Environmental Services, Inc., of Rochester, New York.

As in prior reports, monitoring results were compared with previous average concentrations at each sampling location. Fourteen of the 27 groundwater or pumping wells sampled for chloropyridines had contaminant concentrations that were above their respective 5-year prior averages. Eleven of the 27 wells sampled for volatile organic compounds had concentrations above their 5-year prior averages.

Sampling locations associated with the quarry included the main quarry seep (QS-4), the quarry ditch where the quarry dewatering discharge enters the ditch (QD-1), an outfall downstream of the quarry ditch where water discharges into the Erie Barge Canal (QO-2), and the surface water in the canal approximately 100-feet downstream of the QO-2 outfall (QO-2S1). The total concentration of chloropyridines in quarry seep QS-4 was 19 micrograms per liter (µg/L), less than the prior 5-year average of 71 µg/L. Chloropyridines were not detected in the sample at location QD-1 where the quarry dewatering discharge enters the ditch, the ditch outfall sample at location QO-2, or in canal water at sample location QO-2S1.

On-site monitoring wells were checked for the presence of floating (or light) non-aqueous phase liquids (LNAPL) for the Fall 2022 sampling event. LNAPL was not observed in any of these wells.

During the period June 2022 through November 2022, the on-site groundwater extraction system pumped approximately 4.8 million gallons of groundwater to the on-site treatment system, containing an estimated 1,500 pounds of chloropyridines and 6.5 pounds of target volatile organic compounds.

The next regular monitoring event will occur in May 2023 and will include groundwater, surface water, and seep sampling.

1.0 INTRODUCTION

In accordance with the Order on Consent executed between Arch Chemicals, Inc., and the New York State Department of Environmental Conservation (NYSDEC), effective August 21, 2003, Arch is conducting a Remedial Action program at its facility on McKee Road in Rochester, New York. As part of this program, Arch conducts twice-yearly monitoring events consisting of sampling and chemical analysis of groundwater and surface water in the vicinity of the Rochester facility.

The Fall 2022 sampling event included the collection and analysis of groundwater, surface water, and seep samples from a total of 31 off-site and on-site locations. Samples were collected from 14 November through 18 November 2022 for analysis of selected chloropyridines and volatile organic compounds (VOCs).

This report presents the results of the Fall 2022 monitoring event.

2.0 SAMPLE COLLECTION AND ANALYSIS

2.1 Groundwater

Groundwater samples were collected from off-site wells and on-site wells for analysis of selected chloropyridines (2-chloropyridine, 2,6-dichloropyridine, 3-chloropyridine, 4-chloropyridine, pyridine, and p-fluoroaniline) and target compound list (TCL) VOCs. Samples were collected by personnel from Matrix Environmental Technologies Inc., (Matrix) and transported to the analytical laboratories of Paradigm Environmental Services, Inc. (Paradigm) in Rochester, New York for analysis. Table 1 lists the wells that were sampled and the requested analyses, and the sampling locations are shown on Figures 1 and 2.

The Matrix Field Report, which includes groundwater sampling data sheets, is provided in Appendix A.

Groundwater was collected from most of the wells following the low flow/low stress purging technique using bladder or peristaltic pumps. Samples from active pumping wells were collected from the discharge lines.

Groundwater piezometric elevations were measured on 10 November 2022. Piezometric contours were constructed for each water-bearing zone (overburden, bedrock, and deep bedrock) and are presented on Figures 3, 4, and 5, respectively.

On-site monitoring wells were checked for the presence of LNAPL for the Fall 2022 event. LNAPL was not observed in any of the wells

2.2 Surface Water

Surface water and quarry seep samples were collected as part of the ongoing monitoring program for the Arch Rochester site. The location of the quarry and its outfall in relation to the site is shown on Figure 6. Samples of the main quarry seep (QS-4), the quarry ditch where the quarry dewatering discharge enters the ditch (QD-1), the quarry ditch outfall as it enters the Erie Barge Canal (QO-2), and the surface water in the canal approximately 100-feet downstream of the quarry ditch (QO-2S1) were collected by Matrix on November 18, 2022. All quarry-related samples were analyzed for selected chloropyridines and pyridine. The quarry locations sampled during the Fall 2022 event are shown on Figure 7.

2.3 Analytical Procedures

Samples were analyzed for selected chloropyridines and pyridine (collectively referred to as chloropyridines) by USEPA SW-846 Methods 8270D and TCL VOCs by USEPA SW-846 Method 8260C. The reporting limits for the chloropyridines and VOCs are approximately 10 micrograms per liter (µg/L) and 2 to 20 µg/L, respectively, for undiluted samples.

2.4 Quality Control

Laboratory analytical results were reviewed and qualified following USEPA "National Functional Guidelines for Organic Superfund Methods Data Review", November 2020, using professional judgment and guidance from USEPA Region II SOPs No. HW-24 Revision 4, October 2014, and No. HW-22 Revision 5, December 2010. Analytical results were evaluated for the following parameters:

* Collection and Preservation
Holding Times
Surrogate Recoveries
* Blank Contamination
* Duplicates
Laboratory Control Samples (LCS)
Matrix Spike/Matrix Spike Duplicates (MS/MSD)
Miscellaneous

* - all criteria were met for this parameter

With the qualifications discussed below, results are determined to be usable as reported by the laboratory.

Holding Times. Sample MW127 was initially extracted within the seven day holding time for chloropyridines but at a reduced volume consistent with sample data history. There were no detections; therefore, in order to achieve the lowest reporting limits the sample was re-extracted and analyzed. Re-extraction was completed 14 days after expiration of the holding time and results were interpreted to be usable based on professional judgment and site history. Positive and non-detected chloropyridine results in sample MW127 were qualified estimated (J/UJ).

Surrogate Recoveries. Percent recoveries of one or more VOC surrogates in a subset of samples were less than the laboratory statistically derived control limits, indicating potential low biases. Positive and non-detected VOC results in the following affected

samples were qualified estimated with potential low bias (J-/UJ): BR6A, PZ105, BR106, and BR8.

Duplicates. No field duplicates were collected for the November 2022 sampling event. Precision was evaluated using MS/MSDs.

LCS. Due to unavailability of a secondary source standard containing a subset of target compounds, the VOC laboratory control samples associated with all field samples were not spiked with cyclohexane, acetic acid, and methylcyclohexane. Positive and non-detected results for cyclohexane, acetic acid, and methylcyclohexane in the affected samples were qualified estimated (J/UJ) based on professional judgment.

Percent recoveries of acetone (59-69) in laboratory control samples associated with a subset of VOC samples were less than nominal control limits of 70 - 130, indicating potential low biases for acetone in associated samples. Nominal control limits were used in place of statistically derived laboratory control limits based on professional judgment. Reporting limits for acetone in the affected samples were qualified estimated (UJ).

Percent recoveries of dichlorodifluoromethane (62-69) in laboratory control samples associated with a subset of VOC samples were less than nominal control limits of 70 - 130, indicating potential low biases for dichlorodifluoromethane in associated samples. Nominal control limits were used in place of statistically derived laboratory control limits based on professional judgment. Reporting limits for dichlorodifluoromethane in the affected samples were qualified estimated (UJ).

Percent recovery of p-fluoroaniline (43) in the LCS associated with a subset of SVOC samples was less than nominal control limits of 50 - 140, indicating potential low bias for p-fluoroaniline in associated samples. Nominal control limits were used in place of statistically derived laboratory control limits based on professional judgment. Reporting limits for p-fluoroaniline in the affected samples were qualified estimated (UJ).

Percent recoveries of pyridine (40-49) in laboratory control samples associated with a subset of SVOC samples were less than nominal control limits of 50 - 140, indicating potential low bias for pyridine in associated samples. Nominal control limits were used in place of statistically derived laboratory control limits based on professional judgment. Positive and non-detected results for pyridine in the affected samples were qualified estimated (J-/UJ).

Percent recovery of 2,6-dichloropyridine (152) in the LCS associated with a subset of SVOC samples was greater than nominal control limits of 50 - 140, indicating potential high biases for 2,6-dichloropyridine in associated samples. Nominal control limits were used in place of statistically derived laboratory control limits based on professional judgment. Positive results for 2,6-dichloropyridine in the affected samples were qualified estimated (J+).

MS/MSD. MS/MSD analyses were specified on the chain of custody forms for samples PW14 and BR9 for both chloropyridines and VOCs.

In the MS and MSD associated with VOC sample PW14, percent recoveries of 2-butanone (51/48), 2-hexanone (55/53), and acetone (22/21) were less than the nominal control limits of 70 - 130, indicating a potential low bias. Reporting limits for the affected VOC analytes in sample PW14 were qualified estimated (UJ).

In the MS and MSD associated with chloropyridines sample PW14, percent recoveries of 2,6-dichloropyridine (168-154) were greater than the nominal control limits of 50 - 140, indicating potential high bias. In the MSD, percent recovery of p-fluoroaniline (48) was less than the nominal control limits of 50 - 140, indicating potential low bias. Positive and non-detected results for the affected chloropyridines analytes in sample PW14 were qualified estimated (J+/UJ).
In the MS and MSD associated with VOC sample BR9, percent recoveries of 2-butanone (59/60), 2-hexanone (60/63), acetone (34/36), bromomethane (56/64), dichlorodifluoromethane (65/65), and vinyl chloride (51/50) were less than the nominal control limits of 70 - 130, indicating potential low biases. In the MSD, percent recovery of cis-1,2-dichloroethene (68) was less than the nominal control limits of 70 - 130, indicating potential low bias. Positive and non-detected results for affected VOC analytes in sample BR9 are qualified estimated with potential low bias (J-/UJ).

Miscellaneous. Samples from a subset of wells were analyzed at dilutions due to high concentrations of volatile organic and/or semi-volatile organic target analytes. As a result, non-detections are reported at elevated reporting limits and as a result may mask the presence of analytes at lower concentrations in affected samples.

3.0 ANALYTICAL RESULTS

3.1 Groundwater

The validated results from the Fall 2022 groundwater monitoring event are provided in Tables 2 and 3. Table 4 provides a comparison of the Fall 2022 analytical results for selected chloropyridines and VOCs to mean concentrations of the prior five years (Fall 2017 through Spring 2022). Concentration trends for both selected chloropyridines and VOCs are also presented as time-series plots for representative wells in Appendix B. A summary of the analytical findings is presented below by parameter class.

3.1.1 Chloropyridines

On-Site. Chloropyridines were detected above sample quantitation limits in all 20 of the on-site wells sampled in the Fall 2022 event. Concentrations of chloropyridines (sum of all chloropyridine and pyridine isomer concentrations) ranged from 15 µg/L in well B-15 to 580,000 µg/L in well BR-8. Ten of the on-site wells exhibited total chloropyridine concentrations that were above their respective means from monitoring events over the previous five years (see Table 4).

Off-Site. Chloropyridines were detected above sample quantitation limits in all seven of the off-site wells that were sampled in the Fall 2022 event. Concentrations of total chloropyridines ranged from 27 µg/L in PZ-101 to 370,000 µg/L in well PZ-103. Samples from four of the off-site wells were reported with total chloropyridine concentrations above their respective five-year prior means (see Table 4).

Concentration Contours. Chloropyridines distribution in groundwater is shown as a set of concentration contours on Figure 8. The contours were developed using data from both overburden and bedrock monitoring wells. The chloropyridines plume distribution is generally similar to the prior monitoring events in Fall 2021 and Spring 2022 showing elevated chloropyridines levels within the western portion of the plume.

3.1.2 Selected VOCs

On-Site. Selected VOCs were detected in 18 of the 20 on-site wells sampled for VOCs in the Fall 2022 event. Total concentrations of selected VOCs (sum of carbon tetrachloride, chlorobenzene, chloroform, methylene chloride, tetrachloroethene, and trichloroethene) ranged from not detected in wells B-15 and BR-126, to 31,000 µg/L in PZ-107. Eight of the on-site wells contained total concentrations of selected VOCs above their respective five-year prior means (see Table 4).

In addition to the selected VOCs, other notable constituents detected in multiple on-site wells include:

1,2-dichlorobenzene (12 of 20)
1,3-dichlorobenzene (8 of 20)
1,4-dichlorobenzene (10 of 20)
benzene (15 of 20)
carbon disulfide (10 of 20)
cis-1,2-dichloroethene (8 of 20)
toluene (10 of 20), and
vinyl chloride (9 of 20).

Off-Site. Selected VOCs were detected in five of the seven off-site wells sampled for VOCs during the Fall 2022 event. Total concentrations of selected VOCs ranged from not detected in wells BR-105D and PZ-101, to 550 µg/L in well PZ-103. Three wells (BR-105, PZ-102, and PZ-103) contained total concentrations of selected VOCs greater than their respective 5-year prior means for VOCs (see Table 4).

In addition to the selected VOCs, other notable constituents detected in off-site wells include:

1,2-dichlorobenzene (in 5 out of 7 wells)
1,3-dichlorobenzene (3 of 7)
1,4-dichlorobenzene (4 of 7)
benzene (6 of 7)
carbon disulfide (6 of 7)
cis-1,2-dichloroethene (2 of 7), and
toluene (4 of 7).

Concentration Contours. The distribution of selected VOCs in groundwater is shown as a set of concentration contours on Figure 9. These contours were developed using both overburden and bedrock groundwater data and are dashed where approximated using historical data. VOC distribution in groundwater is generally consistent with previous monitoring events, with higher VOC concentrations representing the southeastern area of the core of the plume at monitoring well PZ-107 and higher concentrations in extraction well PW16 located along the western boundary of the Site. Lower VOC concentrations are observed off-site to the west at wells BR-106 and MW-106, which is consistent with observations over the past several years. Other notable VOCs observed in on-site and off-site wells primarily consist of benzene, toluene, and dichlorobenzenes.

3.2 Surface Water and Groundwater Seep

Results from the Fall 2022 canal and quarry monitoring event are presented in Table 5 and are discussed below.

3.2.1 Quarry

One quarry seep sample (QS-4) was collected during the Fall 2022 monitoring event. The sample contained total chloropyridines at a concentration of 19 µg/L, which is less than its prior five-year mean concentration of 71 µg/L.

3.2.2 Quarry Discharge Ditch

Two locations within the quarry discharge ditch were sampled and analyzed for chloropyridines: QD-1, at the point where the quarry's discharge enters the ditch; and QO-2, the location where the ditch discharges to the canal. Chloropyridine compounds were not detected in either sample.

3.2.3 Barge Canal

One sample was collected from the Erie Barge Canal location (QO-2S1, approximately 100 feet downstream of QO-2). Chloropyridines were not detected in this sample.

4.0 EXTRACTION SYSTEM PERFORMANCE

Table 6 presents a summary of the system flow measurements for the on-site extraction wells from June 2022 through November 2022. The total volume pumped during the six-month period was approximately 4.8 million gallons. Overall, with the exceptions of when the system was off-line for maintenance and the horizontal well (HW-1) pumping test, all extraction wells except PW-17 pumped reliably throughout the period. During the month of November the total combined flow rate was only six gallons per minute due to maintenance and the HW-1 pumping test for which all wells were off-line at the beginning of the month and again at the end of the month. Throughout the remaining months (June through October) the total combined flow rates averaged between 14 and 30 gallons per minute (gpm) on a monthly basis.

Extraction well PW-17 was permanently shut down in October 2022 due to historically poor yield. The NYSDEC approved Arch's proposal to eliminate this well as an extraction well in a letter dated 14 October 2022. The pumping equipment was decommissioned and the well will be utilized for sampling and water level measurements.

The total well extraction volume (4.8 million gallons) for the 6-month period was greater than in Spring 2022 (4.1 million gallons) but less than in Spring 2021 (5.3 million gallons) and less than in Fall 2021 (5.8 million gallons) and represents a decrease in total flows since Spring 2018 and Spring 2019, when total flow volume from the same wells was 7.7 and 7.1 million gallons, respectively. Pumping data for Fall 2022 indicate flows in extraction wells BR-7A and PW16 both increased significantly since Spring 2022 and are more in line with flows observed for these wells in Spring 2021 and Fall 2021. Together extraction wells BR-7A and PW16 historically account for 60-70% of total flow across the

seven extraction wells. Lower overall flow for these wells during the Spring 2022 was due in part to pumps being off-line for collection pit maintenance in December 2021 and well cleaning in April 2022.

Table 7 provides a calculation of mass removal rates since the previous groundwater monitoring event (i.e., from June 2022 through November 2022). Arch estimates that approximately 6.5 pounds of target VOCs and 1,500 pounds of chloropyridine compounds were removed by the groundwater extraction system and treated by the plant's activated carbon adsorption units over that time period. The estimated mass removal rate for the 6-month period covered by the Fall 2022 monitoring report represents an increase over that observed for the Spring 2022 period (740 pounds of chloropyridine compounds) and more closely approximates the mass removal rates for the previous two monitoring events (2,000 pounds in Spring 2021 and 1,400 pounds in Fall 2021).

5.0 OPTIMIZATION OF MONITORING AND EXTRACTION WELL NETWORK

Routine pump cleaning and maintenance were performed for all extraction wells in July and October 2022.

Extraction well PW-17 was permanently shut down after approval to eliminate it as an extraction well was granted by the NYSDEC in a letter dated 14 October 2022. The pumping equipment was decommissioned and the well remains intact for sampling and water level measurements.

A 4-day constant rate pumping test for horizontal well HW-1 was completed in early November 2022. Data collected from this pumping test is being used to support a pilot test for longer term extraction and treatment using granular activated carbon. The pilot test is planned for a 2-month duration and is scheduled for Spring 2023. The test is intended to support the design and installation of a permanent operating system for this well. The findings from the pilot test will be submitted to the NYSDEC in a separate report. Arch will work with the NYSDEC and seek approval for future modifications to the extraction well network.

6.0 NEXT MONITORING EVENT

The next regular monitoring event will occur in May 2023 and will include groundwater, surface water, and seep sampling.

Table 8 shows the 2023 monitoring program for the Arch Rochester site.

Figures

Legend

Property Owned by Arch Chemicals

Monitoring Well

NOTES

1. Source - Topographic Quadrangle 7.5-Minute Series

N

0 250 500 Feet

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I-390

ERIE BARGE CANAL

HOWMET

ARCH

BUFFALO RD. BUSINESS CENTER

MW-103/BR-103

MW-108/BR-108

PZ-102

BR-111/BR-111D

BR-106/MW-106

PZ-103

MW-16

AID TO HOSPITALS

BR-126

BR-112A/BR-112D

MW-105/BR-105

MW-104/BR-104

BUFFALO ROAD

MW-114/BR-114

12-6

CUMBERLAND FARMS PETROLEUM TERMINAL

OW-105

NESS-W

NESS-E

8-8

7-6

BR-113/BR-113D

LEXINGTON

11-8

GENERAL RAIL SIGNAL CO.

9-6

RW-1

10-6

13-4

OW-102A

OW-103

Morey

BR-122D

PFAUDLER

HOWARD ROAD

DOLOMITE PRODUCTS QUARRY

BR-117/BR-117D

BR-121D (Abandoned)

BR-118/BR-118D

BR-123D

BR-116/BR-116D

BR-120D (Abandoned)

BR-119D (Abandoned)

LETTINGTON DRIVE

BR-124D

Figure 1
Fall 2022
Off-Site Groundwater Monitoring Well Locations

Arch Chemicals, Inc.
Rochester, NY

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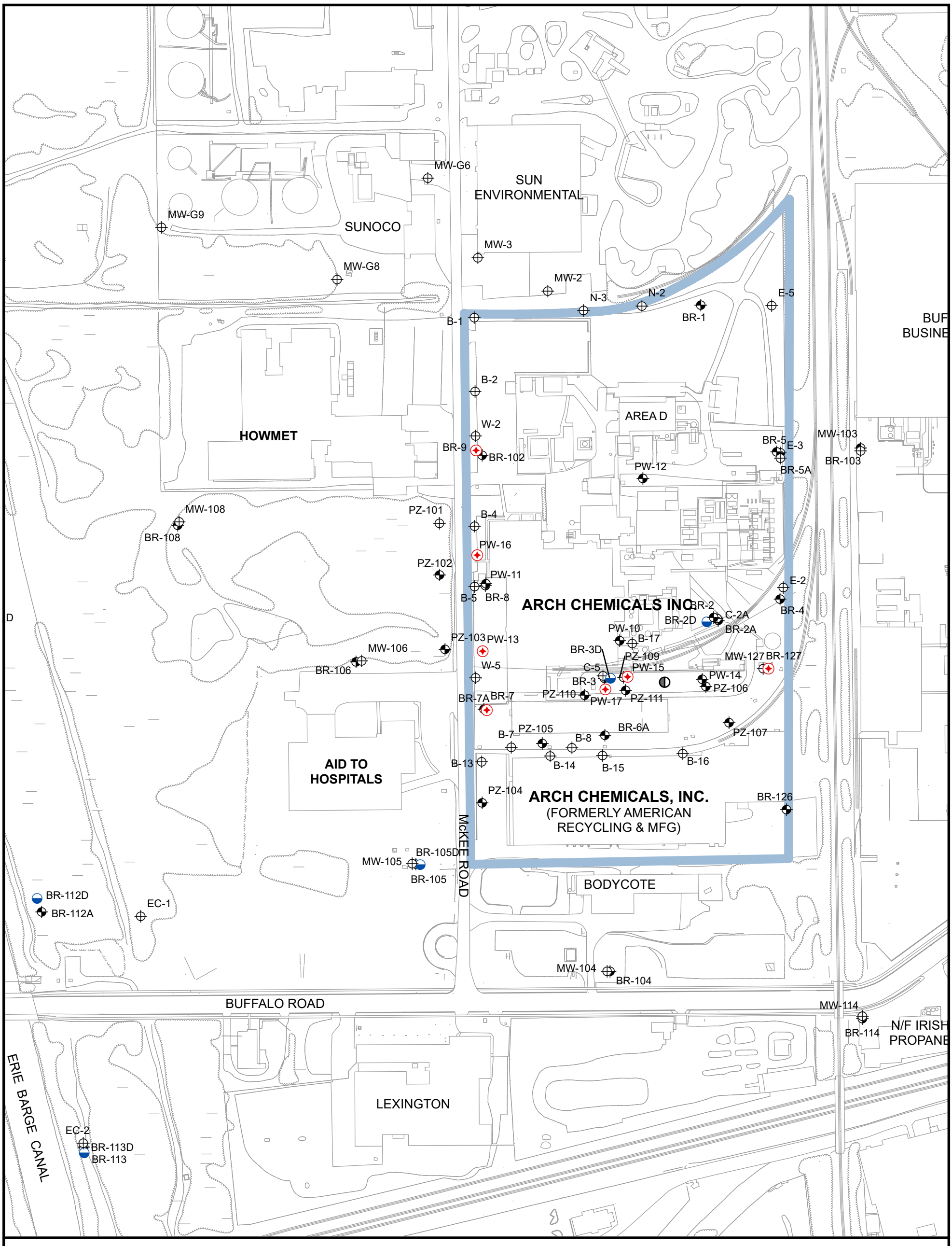

Figure 2
Fall 2022
Onsite Monitoring Well Locations

Arch Chemicals
Rochester, NY

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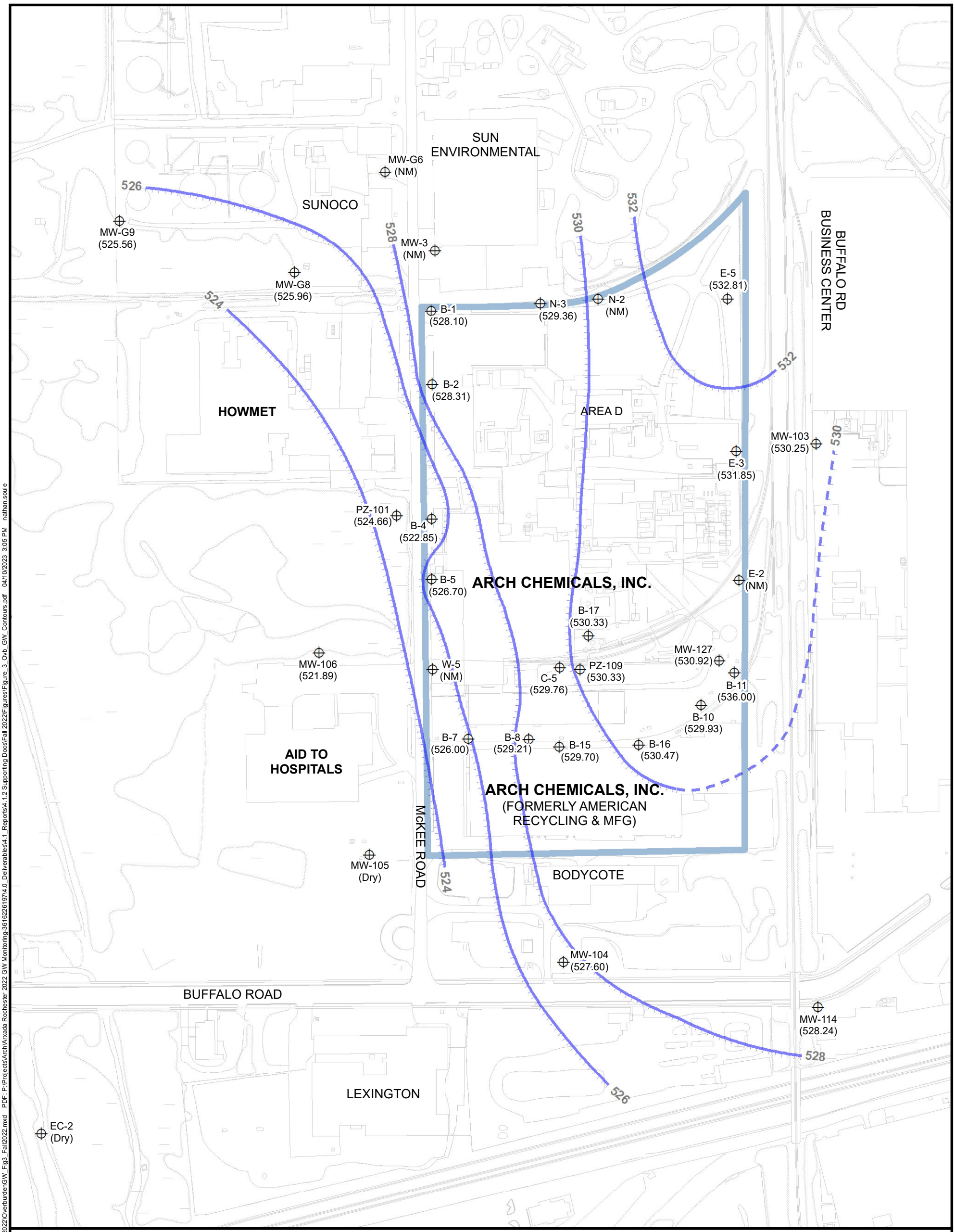

NOTES:
1. Water Levels Measured on November 10, 2022
2. Dashed Contours Reflect Uncertainty
3. NM = Not Measured

Legend

MW-104 (527.60) — Piezometric Elevation (Feet MSL) at Well or Piezometer

Property Owned by Arch Chemicals, Inc.

Interpreted Groundwater Flow Direction

528 — Overburden Piezometric Elevation Contour (Feet MSL)

0 100 200 Feet

N

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Figure 3
Fall 2022
Overburden Groundwater Interpreted Piezometric Contours

Arch Chemicals, Inc.
Rochester, NY

SUNOCO
SUN ENVIRONMENTAL
BUFFALO RD BUSINESS CENTER
BR-1 (529.54)
526
528
530
522
515
HOWMET
BR-9 (497.65)
BR-102 (DRY)
BR-108 (511.61)
PW-16 (NM)
PZ-102 (521.18)
BR-8 (526.83)
AREA D
PW-12 (530.58)
BR-5A (530.75)
BR-5 (530.46)
BR-103 (530.80)
N/F GENERAL CIRCUITS
ARCH CHEMICALS INC.
BR-4 (527.12)
BR-111 (511.04)
PZ-103 (525.39)
PW-13 (NM)
BR-106 (512.09)
BR-3 (NM)
PW-14 (527.13)
PZ-110 (NA)
PW-15 (NM)
PZ-106 (527.72)
BR-127 (530.48)
BR-7 (520.70)
BR-7A (512.27)
PW-17 (NM)
BR-6A (528.23)
PZ-107 (530.39)
AID TO HOSPITALS
PZ-105 (526.06)
ARCH CHEMICALS, INC.
(FORMERLY AMERICAN RECYCLING & MFG)
BR-126 (527.53)
PZ-104 (NM)
McKEE ROAD
BR-105 (513.23)
BODYCOTE
BR-112A (NM)
BR-104 (525.73)
CANAL (507.32)
BUFFALO ROAD
BR-114 (525.35)
N/F IRISH PROPANE
ERIE BARGE CANAL
LEXINGTON
BR-113 (511.12)

Legend

BR-114 (525.35) Piezometric Elevation (Feet MSL) at Well or Piezometer

Interpreted Groundwater Flow Direction

516 Bedrock Piezometric Elevation Contour (Feet MSL)

0 150 300 Feet

N

NOTES:

1. Water Levels Measured on November 10, 2022
2. Dashed Contours Reflect Uncertainty

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Figure 4
Fall 2022
Bedrock Groundwater
Interpreted Piezometric Contours

Arch Chemicals, Inc.
Rochester, NY

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Legend

- Bedrock Well ('D' Designates Deep Well)
- 500 — Deep Bedrock Elevation Contour (MSL)
- Interpreted Groundwater Flow Direction
- Property Owned by Arch Chemicals, Inc.
- BR-116D (510.02) Piezometric Elevation (Feet MSL) at Deep Bedrock Well

NOTES:

1. Water Levels Measured on November 10, 2022
2. Dashed Contours Reflect Uncertainty
3. Wells BR-105D, BR2D and BR-3D not used in contouring

0 250 500 Feet

N

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ERIE BARGE CANAL
I-390
HOWMET
ARCH
BUFFALO RD. BUSINESS CENTER
BR-2D (537.26)
BR-3D (537.02)
AID TO HOSPITALS
BR-105D (511.11)
BR-112D (511.01)
BUFFALO ROAD
CUMBERLAND FARMS PETROLEUM TERMINAL
NESS-W (NM)
NESS-E (NM)
LEXINGTON
BR-113D (511.02)
GENERAL RAIL SIGNAL CO.
DOLOMITE PRODUCTS QUARRY
BR-122D (506.62)
PFAUDLER
BR-117D (498.91)
BR-118D (500.33)
BR-123D (507.62)
BR-116D (505.27)
BR-124D (503.95)
LETTINGTON DRIVE
510
508
506
504
502
500

Figure 5
Fall 2022
Deep Bedrock Groundwater
Interpreted Piezometric Contours

Arch Chemicals, Inc.
Rochester, NY

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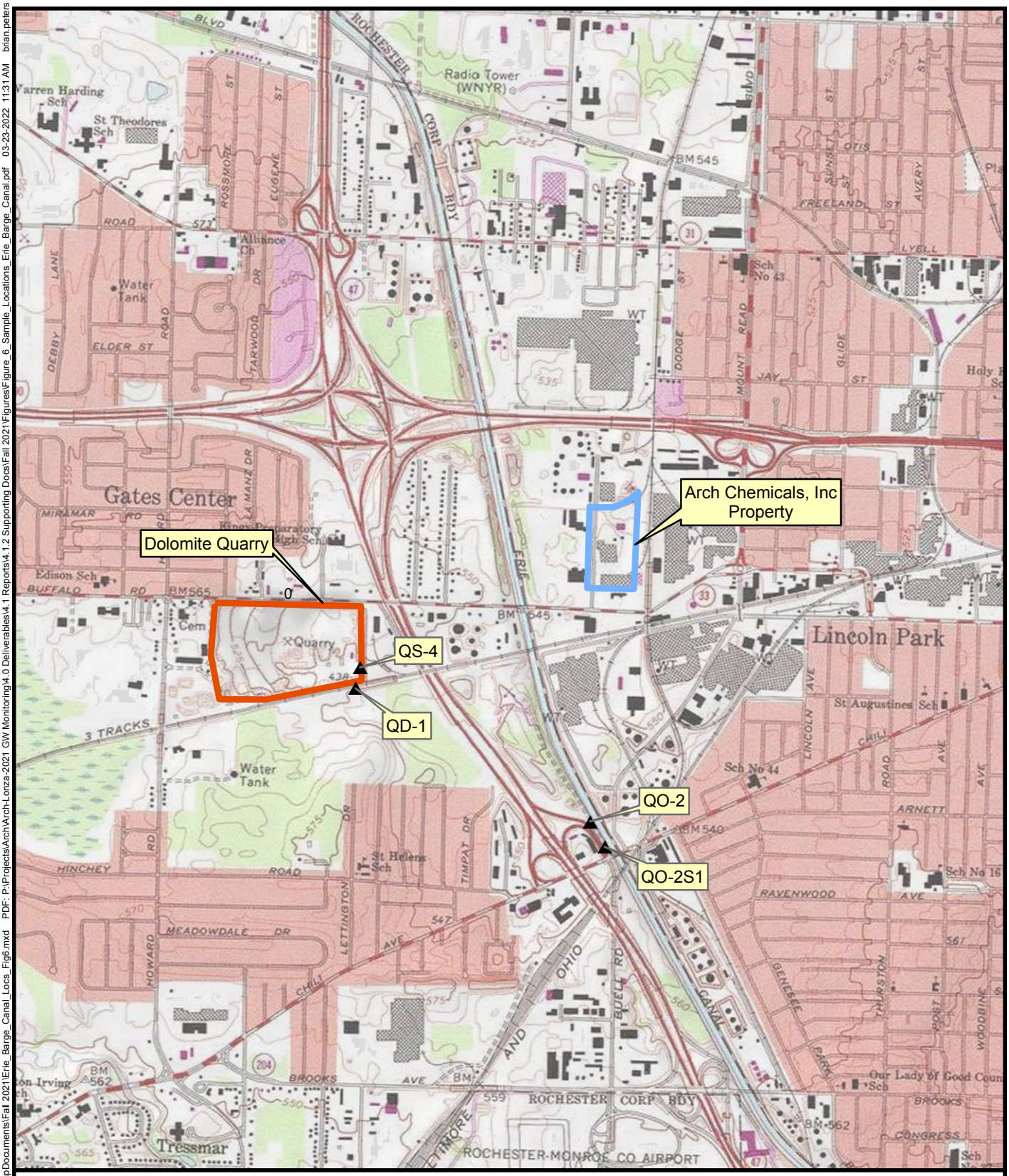


Topographic map: Copyright:© 2013 National Geographic Society, i-cubed

0 1,000 2,000 Feet

N

Legend

- Arch Chemicals, Inc. Property
- Dolomite Quarry Boundary
- ▲ Surface Water Sample Location

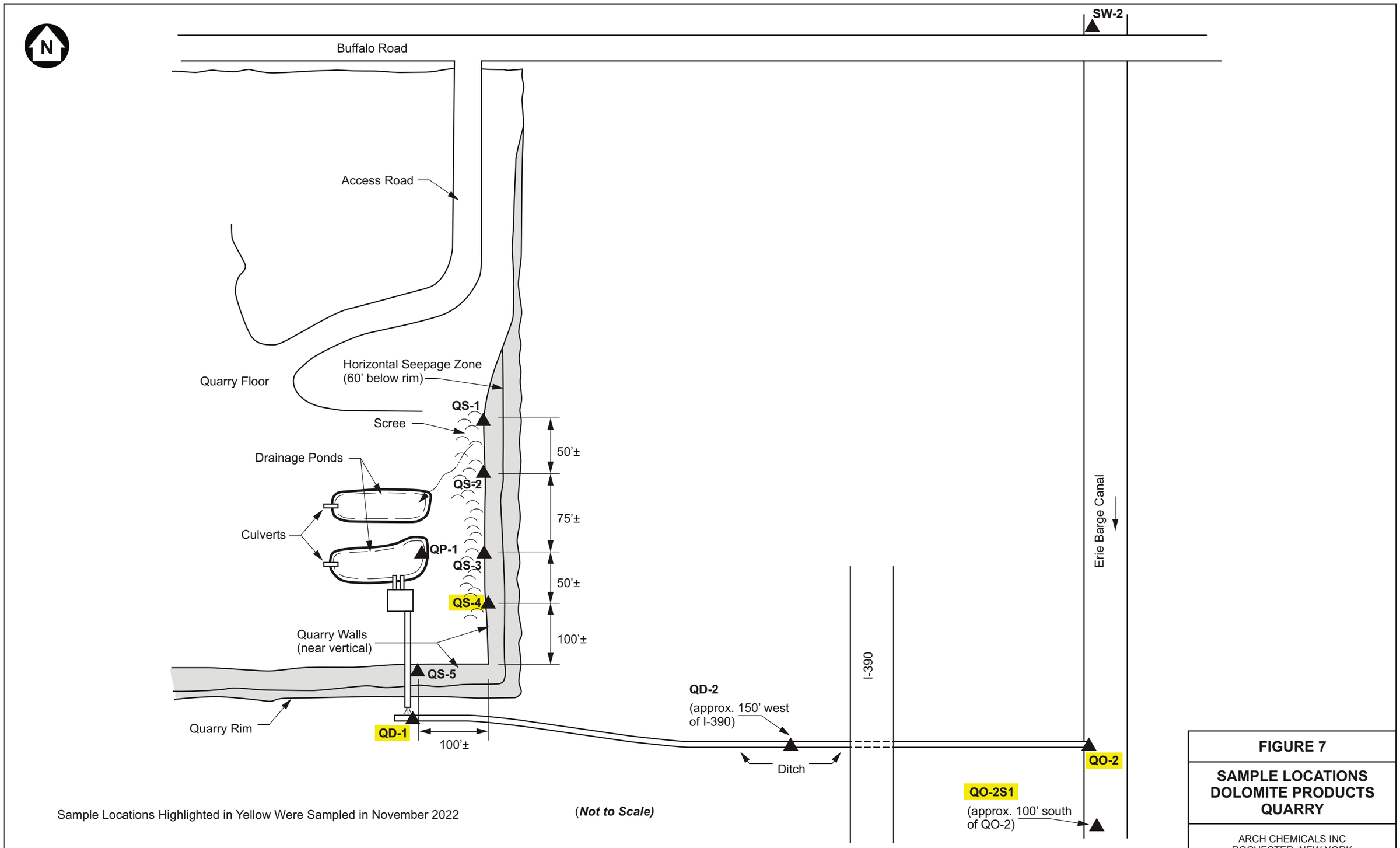
Figure 6
Sample Locations
Erie Barge Canal

Arch Chemicals, Inc.
Rochester, NY

MACTEC

Prepared/Date: BRP 03-23-22	Checked/Date: JAR 03-28-23

Document: P:\Projects\Arch\Rochester\GIS\MapDocuments\Fall 2021\Erie_Barge_Canal_Locs_Fig6.mxd PDF: P:\Projects\Arch\Arch-Lonza-2021 GW Monitoring\4.0 Deliverables\4.1 Reports\4.1.2 Supporting Docs\Fall 2021\Figures\Figure_6_Sample_Locations_Erie_Barge_Canal.pdf 03-23-2022 11:31 AM brian.peters



Sample Locations Highlighted in Yellow Were Sampled in November 2022

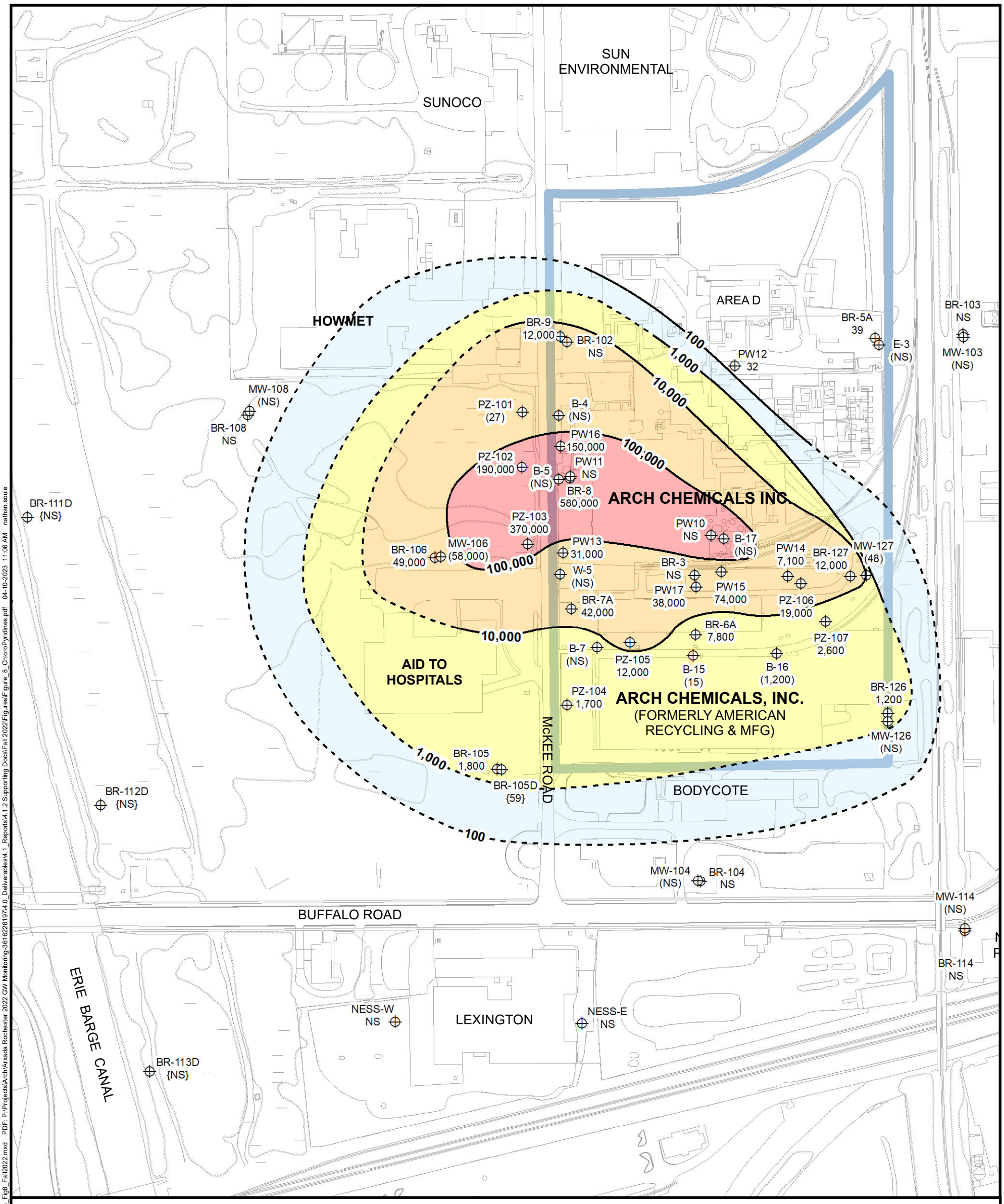
(***Not to Scale***)

FIGURE 7

SAMPLE LOCATIONS
DOLOMITE PRODUCTS
QUARRY

ARCH CHEMICALS INC
ROCHESTER, NEW YORK

W2004030a.cdr



Legend

MW-106 (58,000) — Monitoring Location with Concentration

Property Owned by Arch Chemicals, Inc.

100 — Chloropyridine Concentration Contour

{1000} Deep Bedrock Well
(1000) Overburden Well
1000 Bedrock Well
NS Not Sampled
ND Not Detected

0 100 200 Feet

N

MACTEC

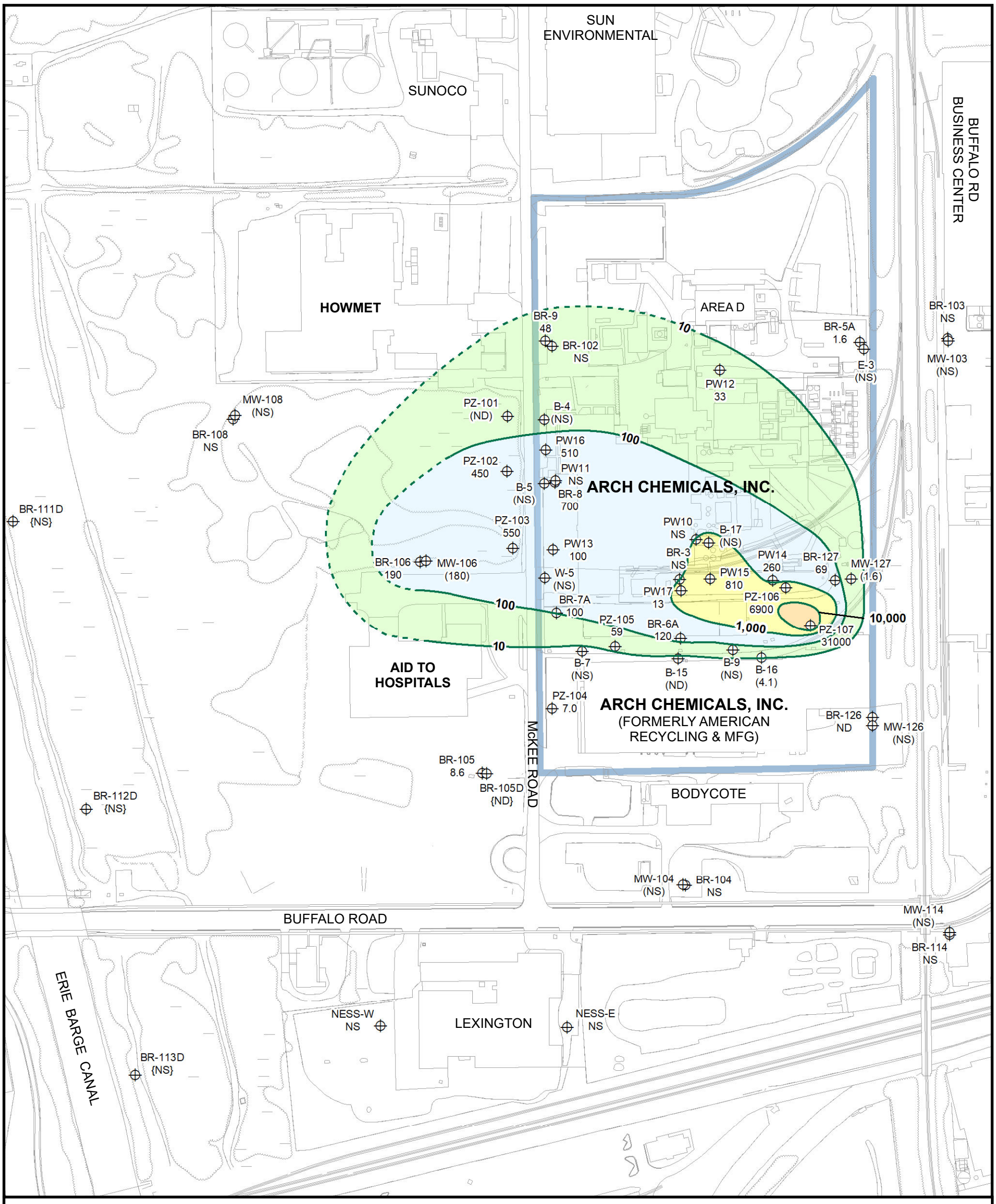
NOTES:

1. Samples Collected November 2022
2. Selected chloropyridines consist of 2,6-dichloropyridine, 2-chloropyridine, 3-chloropyridine, 4-chloropyridine, and P-fluoroaniline.
3. Concentration contours represented for Bedrock Wells and selected Overburden and Deep Bedrock Wells.
4. Dashed concentration contours represent inferences from historical analytical results.
5. Concentrations are in µg/L.

Prepared/Date: NES 04-10-23	Checked/Date: NMB 04-10-23

Figure 8
Fall 2022
Selected Chloropyridine Concentration Contours

Arch Chemicals, Inc.
Rochester, NY



Legend

BR-127 89 — Monitoring Location with Concentration

100 — VOC Concentration Contour

Property Owned by Arch Chemicals, Inc.

{1000} Deep Bedrock Well
(1000) Overburden Well
1000 Bedrock Well
NS Not Sampled
ND Not Detected

0 100 200 Feet

N

MACTEC

NOTES:

1. Samples Collected November 2022
2. Select VOCs consist of Carbon tetrachloride, Methylene chloride Chloroform, TCE, PCE, and Chlorobenzene.
3. Concentration contours represented for Bedrock Wells and selected Overburden and Deep Bedrock Wells.
4. Dashed concentration contours represent inferences from historical analytical results.
5. Concentrations are in µg/L

Prepared/Date: NES 04-10-23	Checked/Date: JMB 04-10-23

Figure 9
Fall 2022
Selected Volatile Organic Compound Concentration Contours

Arch Chemicals, Inc.
Rochester, NY

Tables

TABLE 1
FALL 2022 GROUNDWATER SAMPLING AND ANALYTICAL PROGRAM

ARCH ROCHESTER
ROCHESTER, NEW YORK

			ANALYSIS	PYRIDINES	VOCs
SITE / AREA	**WELL / POINT**	**DATE**	**QC TYPE**		
AID TO HOSPITALS	BR-106	11/15/2022	FS	X	X
	MW-106	11/15/2022	FS	X	X
	PZ-101	11/17/2022	FS	X	X
	PZ-102	11/17/2022	FS	X	X
	PZ-103	11/17/2022	FS	X	X
ARCH CHEMICALS, INC.	B-15	11/15/2022	FS	X	X
	B-16	11/15/2022	FS	X	X
	BR-126	11/15/2022	FS	X	X
	BR-127	11/14/2022	FS	X	X
	BR-5A	11/16/2022	FS	X	X
	BR-6A	11/14/2022	FS	X	X
	BR-7A	11/18/2022	FS	X	X
	BR-8	11/17/2022	FS	X	X
	BR-9	11/17/2022	FS	X	X
	MW-127	11/14/2022	FS	X	X
	PW12	11/16/2022	FS	X	X
	PW13	11/16/2022	FS	X	X
	PW14	11/15/2022	FS	X	X
	PW15	11/16/2022	FS	X	X
	PW16	11/17/2022	FS	X	X
	PW17	11/16/2022	FS	X	X
	PZ-104	11/15/2022	FS	X	X
	PZ-105	11/14/2022	FS	X	X
	PZ-106	11/15/2022	FS	X	X
	PZ-107	11/16/2022	FS	X	X
ERIE BARGE CANAL	QD-1	11/18/2022	FS	X	
(Samples in canal or property along canal)	QO-2	11/18/2022	FS	X	
Canal	QO-2S1	11/18/2022	FS	X	
Dolomite	QS-4	11/18/2022	FS	X	
(Samples at or near Dolomite Quarry)					
RG & E RIGHT OF WAY	BR-105	11/14/2022	FS	X	X
	BR-105D	11/14/2022	FS	X	X

Notes:

FS = Field sample

Prepared by: WCG 03/29/23
Checked by: JAR 04/06/23

TABLE 2
FALL 2022 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH ROCHESTER
ROCHESTER, NEW YORK

LOCATION:	B-15		B-16		BR-105		BR-105D		BR-106		BR-126		BR-127		BR-5A		BR-6A		BR-7A	
SAMPLE DATE:	11/15/2022		11/15/2022		11/14/2022		11/14/2022		11/15/2022		11/15/2022		11/14/2022		11/16/2022		11/14/2022		11/18/2022	
QC TYPE:	FS		FS		FS		FS		FS		FS		FS		FS		FS		FS	
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270D (µg/L)																				
2,6-Dichloropyridine	9.13	J	325		167	J	11.2		10,000	U	228		966	U	26.1		1,480		4,850	U
2-Chloropyridine	6.28	J	848		1,680		41.4		48,800		953		11,700		12.9		5,650		42,300	
3-Chloropyridine	9.66	U	100	U	196	U	6.8	J	10,000	U	80	U	966	U	9.62	U	400	U	4,850	U
4-Chloropyridine	9.66	U	100	U	196	U	9.72	U	10,000	U	80	U	966	U	9.62	U	400	U	4,850	U
p-Fluoroaniline	9.66	U	100	U	196	UJ	9.72	UJ	10,000	U	80	U	966	UJ	9.62	U	400	UJ	4,850	U
Pyridine	9.66	UJ	100	UJ	196	U	9.72	U	10,000	UJ	80	UJ	966	U	9.62	UJ	653		4,850	UJ

Notes:

U = Compound not detected; value represents sample quantitation limit.

J = Estimated value

J- = Estimated with a potential low bias

J+ = Estimated with a potential high bias

µg/L = micrograms per Liter

FS = Field sample

Prepared by: WCG 3/29/23
Checked by: JAR 3/30/23

TABLE 2
FALL 2022 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH ROCHESTER
ROCHESTER, NEW YORK

LOCATION:	BR-8		BR-9		MW-106		MW-127		PW12		PW13		PW14		PW15		PW16		PW17	
SAMPLE DATE:	11/17/2022		11/17/2022		11/15/2022		11/14/2022		11/16/2022		11/16/2022		11/15/2022		11/16/2022		11/17/2022		11/16/2022	
QC TYPE:	FS		FS		FS		FS		FS		FS		FS		FS		FS		FS	
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270D (µg/L)																				
2,6-Dichloropyridine	45,500	U	2,020	U	10,000	U	47.6	J	9.62	U	4,550	U	536	J+	10,000	U	20,000	U	4,190	
2-Chloropyridine	529,000		12,400		58,100		10	UJ	25.1		30,900		6,590		73,600		146,000		27,300	
3-Chloropyridine	45,500	U	2,020	U	10,000	U	10	UJ	9.62	U	4,550	U	800	U	10,000	U	20,000	U	2,300	
4-Chloropyridine	45,500	U	2,020	U	10,000	U	10	UJ	9.62	U	4,550	U	800	U	10,000	U	20,000	U	4,550	U
p-Fluoroaniline	45,500	U	2,020	U	10,000	U	10	UJ	6.68		4,550	U	800	UJ	10,000	U	20,000	U	4,550	U
Pyridine	49,500	J-	2,020	UJ	10,000	UJ	10	UJ	9.62	UJ	4,550	UJ	800	UJ	10,000	UJ	20,000	UJ	4,660	J-

Notes:

U = Compound not detected; value represents sample quantitation limit.

J = Estimated value

J- = Estimated with a potential low bias

J+ = Estimated with a potential high bias

µg/L = micrograms per Liter

FS = Field sample

Prepared by: WCG 3/29/23
Checked by: JAR 3/30/23

TABLE 2
FALL 2022 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH ROCHESTER
ROCHESTER, NEW YORK

LOCATION:	PZ-101		PZ-102		PZ-103		PZ-104		PZ-105		PZ-106		PZ-107	
SAMPLE DATE:	11/17/2022		11/17/2022		11/17/2022		11/15/2022		11/14/2022		11/15/2022		11/16/2022	
QC TYPE:	FS		FS		FS		FS		FS		FS		FS	
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270D (µg/L)														
2,6-Dichloropyridine	12.8	J+	20,000	U	13,500	J+	193	J	1,540		1,120		302	
2-Chloropyridine	14.5		188,000		352,000		1,460		10,700		17,400		2,270	
3-Chloropyridine	9.5	U	20,000	U	20,000	U	200	U	800	U	1,000	U	172	U
4-Chloropyridine	9.5	U	20,000	U	20,000	U	200	U	800	U	1,000	U	172	U
p-Fluoroaniline	9.5	U	20,000	U	20,000	U	200	U	800	UJ	1,000	U	172	U
Pyridine	9.5	UJ	20,000	UJ	20,000	UJ	200	UJ	800	U	648	J-	172	UJ

Notes:

U = Compound not detected; value represents sample quantitation limit.

J = Estimated value

J- = Estimated with a potential low bias

J+ = Estimated with a potential high bias

µg/L = micrograms per Liter

FS = Field sample

Prepared by: WCG 3/29/23
Checked by: JAR 3/30/23

TABLE 3
FALL 2022 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH ROCHESTER
ROCHESTER, NEW YORK

LOCATION:	B-15	B-16	BR-105	BR-105D	BR-106	BR-126	BR-127	BR-5A	BR-6A	BR-7A	BR-8
SAMPLE DATE:	11/15/2022	11/15/2022	11/14/2022	11/14/2022	11/15/2022	11/15/2022	11/14/2022	11/16/2022	11/14/2022	11/18/2022	11/17/2022
QC TYPE:	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS
VOCs By SW-846 Method 8260C (µg/L)											
1,1,1-Trichloroethane	2 U	2 U	2 U	2 U	2 UJ	2 U	2 U	2 U	4 UJ	2 U	20 UJ
1,1,2,2-Tetrachloroethane	2 U	2 U	2 U	2 U	2 UJ	2 U	2 U	2 U	4 UJ	2 U	20 UJ
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon 113)	2 U	2 U	2 U	2 U	2 UJ	2 U	2 U	2 U	4 UJ	2.24	20 UJ
1,1,2-Trichloroethane	2 U	2 U	2 U	2 U	2 UJ	2 U	2 U	2 U	4 UJ	2 U	20 UJ
1,1-Dichloroethane	2 U	2 U	2 U	2 U	2.62 J-	2 U	2 U	2 U	4 UJ	1.78 J	20 UJ
1,1-Dichloroethene	2 U	2 U	2 U	2 U	2 UJ	2 U	2 U	2 U	4 UJ	2 U	20 UJ
1,2,3-Trichlorobenzene	5 U	5 U	5 U	5 U	5 UJ	5 U	5 U	5 U	10 UJ	5 U	50 UJ
1,2,4-Trichlorobenzene	5 U	5 U	5 U	5 U	5 UJ	5 U	5 U	5 U	6.36 J-	5 U	50 UJ
1,2-Dibromo-3-chloropropane	10 U	10 U	10 U	10 U	10 UJ	10 U	10 U	10 U	20 UJ	10 U	100 UJ
1,2-Dibromoethane	2 U	2 U	2 U	2 U	2 UJ	2 U	2 U	2 U	4 UJ	2 U	20 UJ
1,2-Dichlorobenzene	2 U	1.71 J	3.82	2 U	63.2 J-	2 U	4.06	2 U	4.77 J-	58.4	336 J-
1,2-Dichloroethane	2 U	2 U	2 U	2 U	2 UJ	2 U	2 U	2 U	4 UJ	2 U	20 UJ
1,2-Dichloropropane	2 U	2 U	2 U	2 U	2 UJ	2 U	2 U	2 U	4 UJ	2 U	20 UJ
1,3-Dichlorobenzene	2 U	2 U	2 U	2 U	4.19 J-	2 U	1.91 J	2 U	4 UJ	19.7	102 J-
1,4-Dichlorobenzene	2 U	2.12	2 U	2 U	5.39 J-	2 U	3.07	2 U	4 UJ	12.7	59.9 J-
1,4-Dioxane	10 U	10 U	10 U	10 U	10 UJ	10 U	10 U	10 U	20 UJ	10 U	100 UJ
2-Butanone	10 U	10 U	10 U	10 U	10 UJ	10 U	10 U	10 U	20 UJ	10 U	100 UJ
2-Hexanone	5 U	5 U	5 U	5 U	5 UJ	5 U	5 U	5 U	10 UJ	5 U	50 UJ
4-Methyl-2-pentanone	5 U	5 U	5 U	5 U	5 UJ	5 U	5 U	5 U	10 UJ	5 U	50 UJ
Acetic acid, methyl ester	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	2 UJ	4 UJ	2 UJ	20 UJ
Acetone	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 U	20 UJ	10 U	100 UJ
Benzene	1 U	1.23	1.09	3.59	16.4 J-	2.02	1.08	0.577 J	7.82 J-	3.76	24.8 J-
Bromochloromethane	5 U	5 U	5 U	5 U	5 UJ	5 U	5 U	5 U	10 UJ	5 U	50 UJ
Bromodichloromethane	2 U	2 U	2 U	2 U	2 UJ	2 U	2 U	2 U	4 UJ	2 U	20 UJ
Bromoform	5 U	5 U	5 U	5 U	5 UJ	5 U	5 U	5 U	10 UJ	5 U	50 UJ
Bromomethane	2 U	2 U	2 U	2 U	2 UJ	2 U	2 U	2 U	4 UJ	2 U	20 UJ
Carbon disulfide	2 U	2 U	1.45 J	7.5	5.59 J-	2 U	1.61 J	2 U	4 UJ	9.24	43 J-
Carbon tetrachloride	2 U	2 U	2 U	2 U	2 UJ	2 U	3.29	2 U	4 UJ	2 U	20 UJ
Chlorobenzene	2 U	4.08	8.64	2 U	190 J-	2 U	4.18	2 U	54.6 J-	100	700 J-
Chloroethane	2 U	2 U	2 U	2 U	2 UJ	2 U	2 U	2 U	4 UJ	2 U	20 UJ
Chloroform	2 U	2 U	2 U	2 U	2 UJ	2 U	46.8	1.55 J	6.53 J-	2 U	20 UJ

Prepared by: WCG 3/29/23
Checked by: JAR 3/30/23

TABLE 3
FALL 2022 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH ROCHESTER
ROCHESTER, NEW YORK

LOCATION:	B-15	B-16	BR-105	BR-105D	BR-106	BR-126	BR-127	BR-5A	BR-6A	BR-7A	BR-8
SAMPLE DATE:	11/15/2022	11/15/2022	11/14/2022	11/14/2022	11/15/2022	11/15/2022	11/14/2022	11/16/2022	11/14/2022	11/18/2022	11/17/2022
QC TYPE:	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS
VOCs By SW-846 Method 8260C (µg/L)											
Chloromethane	2 U	2 U	2 U	2 U	2 UJ	2 U	2 U	2 U	2.26 J-	2 U	20 UJ
cis-1,2-Dichloroethene	2 U	2 U	3.22	5.04	2 UJ	2 U	1.1 J	2 U	7.63 J-	20.8	20 UJ
cis-1,3-Dichloropropene	2 U	2 U	2 U	2 U	2 UJ	2 U	2 U	2 U	4 UJ	2 U	20 UJ
Cyclohexane	10 UJ	10 UJ	10 UJ	6.43 J	10 UJ	10 UJ	10 UJ	10 UJ	20 UJ	10 UJ	100 UJ
Dibromochloromethane	2 U	2 U	2 U	2 U	2 UJ	2 U	2 U	2 U	4 UJ	2 U	20 UJ
Dichlorodifluoromethane	2 U	2 U	2 U	2 U	2 UJ	2 U	2 U	2 U	4 UJ	2 UJ	20 UJ
Ethylbenzene	2 U	2 U	2 U	2 U	2 UJ	2 U	2 U	2 U	4 UJ	2 U	20 UJ
Isopropylbenzene	2 U	2 U	2 U	2 U	2 UJ	2 U	2 U	2 U	4 UJ	2 U	20 UJ
Methyl cyclohexane	2 UJ	2 UJ	2 UJ	4.74 J	2 UJ	2 UJ	2 UJ	2 UJ	4 UJ	2 UJ	20 UJ
Methyl Tertbutyl Ether	2 U	2 U	2 U	2 U	1.23 J-	2 U	2 U	2 U	4 UJ	2 U	20 UJ
Methylene chloride	5 U	5 U	5 U	5 U	5 UJ	5 U	9.14	5 U	45.2 J-	5 U	50 UJ
Styrene	5 U	5 U	5 U	5 U	5 UJ	5 U	5 U	5 U	10 UJ	5 U	50 UJ
Tetrachloroethene	2 U	2 U	2 U	2 U	2 UJ	2 U	2.31	2 U	4 UJ	2 U	20 UJ
Toluene	2 U	2 U	2 U	2 U	2.77 J-	2 U	1.05 J	2 U	157 J-	6.38	144 J-
trans-1,2-Dichloroethene	2 U	2 U	2 U	2 U	2 UJ	2 U	2 U	2 U	6.94 J-	2 U	20 UJ
trans-1,3-Dichloropropene	2 U	2 U	2 U	2 U	2 UJ	2 U	2 U	2 U	4 UJ	2 U	20 UJ
Trichloroethene	2 U	2 U	2 U	2 U	2 UJ	2 U	2.93	2 U	18 J-	2 U	20 UJ
Trichlorofluoromethane	2 U	2 U	2 U	2 U	2 UJ	2 U	2 U	2 U	4 UJ	2 U	20 UJ
Vinyl chloride	2 U	2 U	2 U	2 U	2 UJ	2 U	1.53 J	2 U	321 J-	19.8	20 UJ
Xylene, o	2 U	2 U	2 U	2 U	2 UJ	2 U	2 U	2 U	4 UJ	2 U	20 UJ
Xylenes (m&p)	2 U	2 U	2 U	2 U	2 UJ	2 U	2 U	2 U	4.06 J-	2 U	20 UJ

Notes:

U = Compound not detected; value represents sample quantitation limit.

J = Estimated value

J- = Estimated with a potential low bias

µg/L = micrograms per Liter

FS = Field sample

Prepared by: WCG 3/29/23
Checked by: JAR 3/30/23

TABLE 3
FALL 2022 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH ROCHESTER
ROCHESTER, NEW YORK

LOCATION:	BR-9	MW-106	MW-127	PW12	PW13	PW14	PW15	PW16	PW17	PZ-101	PZ-102
SAMPLE DATE:	11/17/2022	11/15/2022	11/14/2022	11/16/2022	11/16/2022	11/15/2022	11/16/2022	11/17/2022	11/16/2022	11/17/2022	11/17/2022
QC TYPE:	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS
VOCs By SW-846 Method 8260C (µg/L)											
1,1,1-Trichloroethane	2 U	5 U	2 U	2 U	2 U	20 U	10 U	10 U	2 U	2 U	10 U
1,1,2,2-Tetrachloroethane	2 U	5 U	2 U	2 U	2 U	20 U	10 U	10 U	2 U	2 U	10 U
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon 113)	16.8	5 U	2 U	2 U	1.64 J	20 U	10 U	10 U	2 U	2 U	10 U
1,1,2-Trichloroethane	2 U	5 U	2 U	2 U	2 U	20 U	10 U	10 U	2 U	2 U	10 U
1,1-Dichloroethane	5.94	5 U	2 U	2 U	2.71	20 U	10 U	10 U	2 U	2 U	10 U
1,1-Dichloroethene	2 U	5 U	2 U	2 U	2 U	20 U	10 U	10 U	2 U	2 U	10 U
1,2,3-Trichlorobenzene	5 U	12.5 U	5 U	8.37	5 U	50 U	14.4 J	25 U	5 U	5 U	25 U
1,2,4-Trichlorobenzene	5 U	12.5 U	5 U	39.3	5 U	50 U	63.7	25 U	5 U	5 U	25 U
1,2-Dibromo-3-chloropropane	10 U	25 U	10 U	10 U	10 U	100 U	50 U	50 U	10 U	10 U	50 U
1,2-Dibromoethane	2 U	5 U	2 U	2 U	2 U	20 U	10 U	10 U	2 U	2 U	10 U
1,2-Dichlorobenzene	38	32.1	2 U	3.67	68.6	20 U	10.8	220	1.39 J	2 U	193
1,2-Dichloroethane	2 U	5 U	2 U	2 U	2 U	20 U	10 U	10 U	2 U	2 U	10 U
1,2-Dichloropropane	2 U	5 U	2 U	2 U	2 U	20 U	10 U	10 U	2 U	2 U	10 U
1,3-Dichlorobenzene	9.06	5 U	2 U	18.8	17.2	20 U	15.2	66.9	2 U	2 U	34
1,4-Dichlorobenzene	4.67	5 U	2 U	8.74	10.7	20 U	38.5	11.5	2 U	2 U	15
1,4-Dioxane	10 U	25 U	10 U	10 U	10 U	100 U	50 U	50 U	10 U	10 U	50 U
2-Butanone	10 UJ	25 U	10 U	10 U	10 U	100 UJ	50 U	50 U	10 U	7.07 J	50 U
2-Hexanone	5 UJ	12.5 U	5 U	5 U	5 U	50 UJ	25 U	25 U	5 U	5 U	25 U
4-Methyl-2-pentanone	5 U	12.5 U	5 U	5 U	5 U	50 U	25 U	25 U	5 U	5 U	25 U
Acetic acid, methyl ester	2 UJ	5 UJ	2 UJ	2 UJ	2 UJ	20 UJ	10 UJ	10 UJ	2 UJ	2 UJ	10 UJ
Acetone	10 UJ	25 UJ	10 UJ	10 U	10 U	100 UJ	50 U	50 U	10 U	34.2	50 U
Benzene	4.61	8.92	1 U	0.726 J	5.63	10 U	18.4	13.3	1.12	1 U	19.7
Bromochloromethane	5 U	12.5 U	5 U	5 U	5 U	50 U	25 U	25 U	5 U	5 U	25 U
Bromodichloromethane	2 U	5 U	2 U	2 U	2 U	20 U	10 U	10 U	2 U	2 U	10 U
Bromoform	5 U	12.5 U	5 U	5 U	5 U	50 U	25 U	25 U	5 U	5 U	25 U
Bromomethane	2 UJ	5 U	2 U	2 U	2 U	20 U	10 U	10 U	2 U	2 U	10 U
Carbon disulfide	1.14 J	3.28 J	2 U	2 U	4.71	20 U	88.7	5.12 J	2 U	2 U	25.2
Carbon tetrachloride	2 U	5 U	2 U	2 U	2 U	20 U	42.9	10 U	2 U	2 U	10 U
Chlorobenzene	48.3	184	2 U	30.6	101	20 U	31.2	512	2.4	2 U	429
Chloroethane	2 U	5 U	2 U	2 U	2 U	20 U	10 U	10 U	2 U	2 U	10 U
Chloroform	2 U	5 U	1.58 J	1.01 J	1.34 J	225	568	10 U	1.58 J	2 U	22.8

Prepared by: WCG 3/29/23
Checked by: JAR 3/30/23

TABLE 3
FALL 2022 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH ROCHESTER
ROCHESTER, NEW YORK

LOCATION:	BR-9	MW-106	MW-127	PW12	PW13	PW14	PW15	PW16	PW17	PZ-101	PZ-102
SAMPLE DATE:	11/17/2022	11/15/2022	11/14/2022	11/16/2022	11/16/2022	11/15/2022	11/16/2022	11/17/2022	11/16/2022	11/17/2022	11/17/2022
QC TYPE:	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS	FS
VOCs By SW-846 Method 8260C (µg/L)											
Chloromethane	2 U	5 U	2 U	2 U	2 U	20 U	10 U	10 U	2 U	2 U	10 U
cis-1,2-Dichloroethene	91.9 J-	5 U	2 U	2 U	26.3	20 U	5.1 J	10 U	2 U	2 U	10 U
cis-1,3-Dichloropropene	2 U	5 U	2 U	2 U	2 U	20 U	10 U	10 U	2 U	2 U	10 U
Cyclohexane	10 UJ	25 UJ	10 UJ	10 UJ	10 UJ	100 UJ	50 UJ	50 UJ	10 UJ	10 UJ	50 UJ
Dibromochloromethane	2 U	5 U	2 U	2 U	2 U	20 U	10 U	10 U	2 U	2 U	10 U
Dichlorodifluoromethane	2 UJ	5 U	2 U	2 U	2 U	20 U	10 U	10 UJ	2 U	2 UJ	10 UJ
Ethylbenzene	2 U	5 U	2 U	2.07	2 U	20 U	10 U	10 U	2 U	2 U	10 U
Isopropylbenzene	2 U	5 U	2 U	2 U	2 U	20 U	10 U	10 U	2 U	2 U	10 U
Methyl cyclohexane	1.22 J	5 UJ	2 UJ	2 UJ	2 UJ	20 UJ	10 UJ	10 UJ	2 UJ	2 UJ	10 UJ
Methyl Tertbutyl Ether	2 U	5 U	2 U	2 U	2 U	20 U	10 U	10 U	2 U	2 U	10 U
Methylene chloride	5 U	12.5 U	5 U	5 U	5 U	50 U	18.1 J	25 U	6.29	5 U	25 U
Styrene	5 U	12.5 U	5 U	5 U	5 U	50 U	25 U	25 U	5 U	5 U	25 U
Tetrachloroethene	2 U	5 U	2 U	1.67 J	2 U	21.4	82.3	10 U	2.99	2 U	10 U
Toluene	1.93 J	2.51 J	2 U	10.6	3.71	20 U	22.5	19	2 U	2 U	32.4
trans-1,2-Dichloroethene	2 U	5 U	2 U	2 U	2 U	20 U	10 U	10 U	2 U	2 U	10 U
trans-1,3-Dichloropropene	2 U	5 U	2 U	2 U	2 U	20 U	10 U	10 U	2 U	2 U	10 U
Trichloroethene	2 U	5 U	2 U	2 U	2 U	14.1 J	63.5	10 U	2 U	2 U	10 U
Trichlorofluoromethane	2 U	5 U	2 U	2 U	2 U	20 U	10 U	10 U	2 U	2 U	10 U
Vinyl chloride	79.8 J-	5 U	2 U	2 U	23.4	20 U	8.79 J	10 U	1.03 J	2 U	10 U
Xylene, o	2 U	5 U	2 U	3.76	2 U	20 U	10 U	10 U	2 U	2 U	10 U
Xylenes (m&p)	2 U	5 U	2 U	3.79	2 U	20 U	10 U	10 U	2 U	2 U	10 U

Notes:

U = Compound not detected; value represents sample quantitation limit.

J = Estimated value

J- = Estimated with a potential low bias

µg/L = micrograms per Liter

FS = Field sample

Prepared by: WCG 3/29/23
Checked by: JAR 3/30/23

TABLE 3
FALL 2022 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH ROCHESTER
ROCHESTER, NEW YORK

LOCATION:	PZ-103	PZ-104	PZ-105	PZ-106	PZ-107
SAMPLE DATE:	11/17/2022	11/15/2022	11/14/2022	11/15/2022	11/16/2022
QC TYPE:	FS	FS	FS	FS	FS
VOCs By SW-846 Method 8260C (µg/L)					
1,1,1-Trichloroethane	10 U	2 U	2 UJ	200 U	400 U
1,1,2,2-Tetrachloroethane	10 U	2 U	2 UJ	200 U	400 U
1,1,2-Trichloro-1,2,2-Trifluoroethane (Freon 113)	10 U	2 U	2 UJ	200 U	400 U
1,1,2-Trichloroethane	10 U	2 U	2 UJ	200 U	400 U
1,1-Dichloroethane	10 U	2 U	2 UJ	200 U	400 U
1,1-Dichloroethene	10 U	2 U	2 UJ	200 U	400 U
1,2,3-Trichlorobenzene	25 U	5 U	5 UJ	500 U	1,000 U
1,2,4-Trichlorobenzene	25 U	5 U	5 UJ	500 U	1,000 U
1,2-Dibromo-3-chloropropane	50 U	10 U	10 UJ	1,000 U	2,000 U
1,2-Dibromoethane	10 U	2 U	2 UJ	200 U	400 U
1,2-Dichlorobenzene	441	2 U	4.18 J-	200 U	400 U
1,2-Dichloroethane	10 U	2 U	2 UJ	200 U	400 U
1,2-Dichloropropane	10 U	2 U	2 UJ	200 U	400 U
1,3-Dichlorobenzene	112	2 U	2 UJ	200 U	400 U
1,4-Dichlorobenzene	73.4	2 U	1.28 J-	200 U	400 U
1,4-Dioxane	50 U	10 U	10 UJ	1,000 U	2,000 U
2-Butanone	50 U	10 U	10 UJ	1,000 U	2,000 U
2-Hexanone	25 U	5 U	5 UJ	500 U	1,000 U
4-Methyl-2-pentanone	25 U	5 U	5 UJ	500 U	1,000 U
Acetic acid, methyl ester	10 UJ	2 UJ	2 UJ	200 UJ	400 UJ
Acetone	50 U	10 UJ	10 UJ	1,000 UJ	2,000 U
Benzene	15.3	0.901 J	6.08 J-	100 U	200 U
Bromochloromethane	25 U	5 U	5 UJ	500 U	1,000 U
Bromodichloromethane	10 U	2 U	2 UJ	200 U	400 U
Bromoform	25 U	5 U	5 UJ	500 U	1,000 U
Bromomethane	10 U	2 U	2 UJ	200 U	400 U
Carbon disulfide	29.7	2 U	1.64 J-	263	1,400
Carbon tetrachloride	10 U	2 U	2 UJ	200 U	400 U
Chlorobenzene	547	3.78	59.1 J-	200 U	400 U
Chloroethane	10 U	2 U	2 UJ	200 U	400 U
Chloroform	10 U	2.18	2 UJ	6,280	25,600

Prepared by: WCG 3/29/23
Checked by: JAR 3/30/23

TABLE 3
FALL 2022 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH ROCHESTER
ROCHESTER, NEW YORK

LOCATION:	PZ-103	PZ-104	PZ-105	PZ-106	PZ-107
SAMPLE DATE:	11/17/2022	11/15/2022	11/14/2022	11/15/2022	11/16/2022
QC TYPE:	FS	FS	FS	FS	FS
VOCs By SW-846 Method 8260C (µg/L)					
Chloromethane	10 U	2 U	2 UJ	200 U	400 U
cis-1,2-Dichloroethene	10 U	2 U	2 UJ	181 J	959
cis-1,3-Dichloropropene	10 U	2 U	2 UJ	200 U	400 U
Cyclohexane	50 UJ	10 UJ	10 UJ	1,000 UJ	2,000 UJ
Dibromochloromethane	10 U	2 U	2 UJ	200 U	400 U
Dichlorodifluoromethane	10 UJ	2 U	2 UJ	200 U	400 U
Ethylbenzene	10 U	2 U	2 UJ	200 U	400 U
Isopropylbenzene	10 U	2 U	2 UJ	200 U	400 U
Methyl cyclohexane	10 UJ	2 UJ	2 UJ	200 UJ	400 UJ
Methyl Tertbutyl Ether	10 U	2 U	2 UJ	200 U	400 U
Methylene chloride	25 U	5 U	5 UJ	500 U	3,890
Styrene	25 U	5 U	5 UJ	500 U	1,000 U
Tetrachloroethene	10 U	2 U	2 UJ	214	1,200
Toluene	38.2	2 U	2 UJ	200 U	332 J
trans-1,2-Dichloroethene	10 U	2 U	2 UJ	200 U	400 U
trans-1,3-Dichloropropene	10 U	2 U	2 UJ	200 U	400 U
Trichloroethene	10 U	1.05 J	2 UJ	394	318 J
Trichlorofluoromethane	10 U	2 U	2 UJ	200 U	400 U
Vinyl chloride	10 U	2 U	2 UJ	572	635
Xylene, o	10 U	2 U	2 UJ	200 U	400 U
Xylenes (m&p)	10 U	2 U	2 UJ	200 U	400 U

Notes:

U = Compound not detected; value represents sample quantitation limit.

J = Estimated value

J- = Estimated with a potential low bias

µg/L = micrograms per Liter

FS = Field sample

Prepared by: WCG 3/29/23
Checked by: JAR 3/30/23

TABLE 4
COMPARISON OF FALL 2022
CHLOROPYRIDINES AND VOLATILE ORGANICS CONCENTRATIONS
IN GROUNDWATER TO PREVIOUS RESULTS (ug/L)

ARCH ROCHESTER
ROCHESTER, NEW YORK

WELL	SELECTED CHLOROPYRIDINES				SELECTED VOCs			
	# EVENTS IN PRIOR 5 YRS	HISTORIC MAXIMUM	5-YEAR MEAN	NOV 2022 RESULT	# EVENTS IN PRIOR 5 YRS	HISTORIC MAXIMUM	5-YEAR MEAN	NOV 2022 RESULT
ON-SITE WELLS/LOCATIONS								
B-15	10	13,000	15	15	10	1,600	ND	ND
B-16	10	33,000	2,400	1,200	10	4,500	6.5	4.1
B-17	5	28,000,000	590,000		5	350,000	5,300	
B-7	5	9,100	180		5	270	2.3	
BR-126	10	12,000	900	**1,200**	10	240	ND	ND
BR-127	10	44,000	14,000	12,000	10	1,300	230	69
BR-3	4	6,500,000	230		4	930,000	280	
BR-5A	10	1,700	36	**39**	10	9,400	0.26	**1.6**
BR-6A	10	140,000	10,000	7,800	10	69,000	170	120
BR-7A	10	510,000	16,000	**42,000**	10	5,600	49	**100**
BR-8	10	730,000	560,000	**580,000**	10	7,800	860	700
BR-9	10	34,000	6,700	**12,000**	10	210	23	**48**
E-3	5	600	10		5	15,000	ND	
MW-127	10	15,000	970	48	10	7,500	0.64	**1.6**
PW12	10	15,000	34	32	10	120,000	34	33
PW13	10	94,000	19,000	**31,000**	10	1,800	79	**100**
PW14	10	99,000	26,000	7,100	10	160,000	970	260
PW15	10	620,000	300,000	74,000	10	57,000	12,000	810
PW16	10	180,000	91,000	**150,000**	10	1,200	230	**510**
PW17	10	75,000	11,000	**38,000**	10	66,000	5,900	13
PZ-104	10	9,100	910	**1,700**	10	52	2.6	**7.0**
PZ-105	10	190,000	7,000	**12,000**	10	9,900	46	**59**
PZ-106	10	290,000	31,000	19,000	10	1,400,000	15,000	6,900
PZ-107	10	31,000	13,000	2,600	10	160,000	36,000	31,000
OFF-SITE WELLS/LOCATIONS								
BR-105	10	24,000	470	**1,800**	10	350	5.4	**8.6**
BR-105D	10	17,000	140	59	10	230	0.47	ND
BR-106	10	170,000	53,000	49,000	10	12,000	320	190
BR-112D	5	310	8.6			4.3		
BR-113D	5	490	5			2.8		
BR-114	5	520	ND		5	12	ND	
BR-117D	5	80	1.9			1.9		
BR-118D	5	330	5.9			6.6		
BR-122D	5	650	8.6			ND		

Prepared/Date: NMB 03/30/2023
Checked/Date: JAR 03/30/2023

TABLE 4
COMPARISON OF FALL 2022
CHLOROPYRIDINES AND VOLATILE ORGANICS CONCENTRATIONS
IN GROUNDWATER TO PREVIOUS RESULTS (ug/L)

ARCH ROCHESTER
ROCHESTER, NEW YORK

WELL	SELECTED CHLOROPYRIDINES				SELECTED VOCs			
	# EVENTS IN PRIOR 5 YRS	HISTORIC MAXIMUM	5-YEAR MEAN	NOV 2022 RESULT	# EVENTS IN PRIOR 5 YRS	HISTORIC MAXIMUM	5-YEAR MEAN	NOV 2022 RESULT
BR-123D	5	860	50			7		
MW-106	10	130,000	32,000	**58,000**	10	4,000	230	180
MW-114	5	18	3.4		5	27	11	
PZ-101	10	27,000	28	27	10	620	0.51	ND
PZ-102	10	240,000	74,000	**190,000**	10	11,000	170	**450**
PZ-103	10	910,000	240,000	**370,000**	10	46,000	360	**550**
QD-1	9		ND	ND				
QO-2	10	380	ND	ND		ND		
QO-2S1	10	27	ND	ND		ND		
QS-4	10	13,000	71	19		ND		

Note:
1) Number of samples and mean reflect 5-year sampling period from November 2017 through May 2022. Historic maximum based on all available results from March 1990 through May 2022.
2) Chloropyridines represented by: 2-Chloropyridine, 2,6-Dichloropyridine, 3-Chloropyridine, 4-Chloropyridine, p-Fluoroaniline, and Pyridine.
3) Selected VOCs represented by Carbon Tetrachloride, Chlorobenzene, Chloroform, Methylene Chloride, Tetrachloroethene, and Trichloroethene.
4) **Bold and shade** - Nov 2022 exceeds 5-year mean.
5) ND = Not detected
BLANK = Not sampled

TABLE 5
FALL 2022 QUARRY SEEP AND OUTFALL WATER SAMPLE RESULTS
CHLOROPYRIDINES

ARCH ROCHESTER
ROCHESTER, NEW YORK

LOCATION:	QD-1		QO-2		QO-2S1		QS-4	
SAMPLE DATE:	11/18/2022		11/18/2022		11/18/2022		11/18/2022	
QC TYPE:	FS		FS		FS		FS	
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270D (µg/L)								
2,6-Dichloropyridine	9.52	U	9.5	U	9.62	U	6.91	J
2-Chloropyridine	9.52	U	9.5	U	9.62	U	11.9	
3-Chloropyridine	9.52	U	9.5	U	9.62	U	9.58	U
4-Chloropyridine	9.52	U	9.5	U	9.62	U	9.58	U
p-Fluoroaniline	9.52	U	9.5	U	9.62	U	9.58	U
Pyridine	9.52	UJ	9.5	UJ	9.62	UJ	9.58	UJ

Notes:

U = Compound not detected; value represents sample quantitation limit.

J = Estimated value

µg/L = micrograms per Liter

Prepared by: WCG 3/29/23
Checked by: JAR 3/30/23

TABLE 6
EXTRACTION WELL WEEKLY FLOW MEASUREMENTS
JUNE 2022 THROUGH NOVEMBER 2022

ARCH ROCHESTER
ROCHESTER, NEW YORK

Week Ending	BR-7A [Gal./Wk.]	BR-9 [Gal./Wk.]	PW-13 [Gal./Wk.]	PW-15 [Gal./Wk.]	PW-16 [Gal./Wk.]	PW-17 [Gal./Wk.]	BR-127 [Gal./Wk.]	Total [Gal.]
06/05/22	75,780	31,045	6,693	1,314	6,000	1,652	14,608	137,092
06/12/22	74,772	30,359	6,600	1,158	6	1,483	28,235	142,613
06/19/22	74,620	30,466	4,505	1,076	0	1,617	26,766	139,050
06/26/22	73,565	28,660	3,914	970	0	1,536	25,142	133,787
07/03/22	71,439	30,241	4,881	852	354	1,626	23,101	132,494
07/10/22	67,778	27,697	5,141	927	52,403	1,269	20,246	175,461
07/17/22	101,307	45,396	4,073	2,191	69,534	1,060	18,395	241,956
07/24/22	141,430	0	6,252	2,469	74,016	1,260	19,254	244,681
07/31/22	110,812	311	8,371	1,884	44,995	1,033	16,471	183,877
08/07/22	117,207	27	11,477	2,873	18,624	1,248	19,626	171,082
08/14/22	138,751	0	14,390	3,519	26,497	1,415	21,206	205,778
08/21/22	128,969	60,684	12,352	3,658	52,430	1,203	19,679	278,975
08/28/22	129,231	82,278	10,604	3,304	68,596	1,098	18,095	313,206
09/04/22	132,818	16,434	12,021	2,085	72,916	1,134	24,476	261,884
09/11/22	105,358	47,220	9,095	5,038	59,115	962	20,415	247,203
09/18/22	131,757	54,522	11,549	6,674	66,471	1,209	22,791	294,973
09/25/22	218,451	162	20,441	12,547	103,593	2,108	38,788	396,090
10/02/22	60,555	2	4,866	5,270	33,998	580	10,012	115,283
10/09/22	139,525	130	10,838	11,797	78,253		21,092	261,635
10/16/22	129,763	160	10,974	10,857	73,363		19,090	244,207
10/23/22	105,893	70	24,986	13,119	51,978		18,037	214,083
10/30/22	10,520	0	4,377	2,043	9,475		2,616	29,031
11/06/22	0	0	0	0	0		0	0
11/13/22	2	21,810	22,209	11,431	22,287		10,146	87,885
11/20/22	35,500	34,530	25,362	24,306	12,515		24,348	156,561
11/27/22	0	0	0	0	0		0	0
Total 6 Mo. 26 Weeks	2,375,803	542,204	255,971	131,362	997,419	23,493	482,635	**4,808,887**

Prepared/Date: JAR 3/29/23
Checked/Date:NMB 4/07/23

TABLE 7

MASS REMOVAL ESTIMATE
PERIOD: JUNE 2022 THROUGH NOVEMBER 2022

ARCH ROCHESTER
ROCHESTER, NEW YORK

Well	Total Vol. Pumped (gallons)[2]	Avg[1.] VOC Conc. (ppm)	Avg[1.] PYR Conc. (ppm)	VOCs Removed (pounds)	PYR. Removed (pounds)
BR-7A	2,375,803	0.079	28	1.6	550
BR-9	542,204	0.036	8	0.16	40
PW-13	255,971	0.12	32	0.25	68
PW-15	131,362	1.3	110	1.4	120
PW-16	997,419	0.27	77	2.2	640
PW-17	23,493	2.6	25	0.5	4.8
BR-127	482,635	0.095	8.4	0.38	34
Totals:	4,808,887			6.5	1,500

Notes: 1) VOC and chloropyridine concentrations used in this table are an average of concentrations measured from the Spring 2022 and Fall 2022 sampling events for each well;
Total select VOCs include chlorobenzene, PCE, TCE, methylene chloride, carbon tetrachloride, and chloroform
2) Flows measured for period of 26 weeks (182 days).
3) Estimates for VOCs and PYR removed listed at 2 significant figures.

Prepared/Date: JAR 03/30/23
Checked/Date: NMB 04/07/23

TABLE 8
2023 SAMPLING SCHEDULE
ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

ARCH CHEMICALS, INC.						**2023**					
MONITORING PROGRAM						**SPRING**		**FALL**		**TOTAL**	
	Well	***zone***	***area***	***Frequency/Parameters***	***Purpose***	***Pyridines***	***VOCs***	***Pyridines***	***VOCs***	***Pyridines***	***VOCs***
OFF-SITE	BR-105	BR	RG&E ROW	semi-annual monitoring, VOCs & PYR	perimeter sentinel/trend monitoring	1	1	1	1	2	2
MONITORING	BR-105D	BR deep	RG&E ROW	semi-annual monitoring, VOCs & PYR	perimeter sentinel/trend monitoring	1	1	1	1	2	2
	MW-106	OB	AID-HOSP	semi-annual monitoring, VOCs & PYR	perimeter sentinel/trend monitoring	1	1	1	1	2	2
	BR-106	BR	AID-HOSP	semi-annual monitoring, VOCs & PYR	perimeter sentinel/trend monitoring	1	1	1	1	2	2
	BR-112D	BR deep	NYSDOT	annual monitoring, PYR	trend monitoring	1				1	0
	BR-113D	BR deep	NYSDOT	annual monitoring, PYR	trend monitoring	1				1	0
	MW-114	OB	Irish Propane	annual monitoring, VOCs & PYR	trend monitoring	1	1			1	1
	BR-114	BR	Irish Propane	annual monitoring, VOCs & PYR	trend monitoring	1	1			1	1
	BR-117D	BR deep	QUARRY	annual monitoring, PYR	trend monitoring	1				1	0
	BR-118D	BR deep	QUARRY	annual monitoring, PYR	trend monitoring	1				1	0
	BR-122D	BR deep	QUARRY	annual monitoring, PYR	trend monitoring	1				1	0
	BR-123D	BR deep	QUARRY	annual monitoring, PYR	trend monitoring	1				1	0
	PZ-101	BR	AID-HOSP	semi-annual monitoring, VOCs & PYR	perimeter sentinel/trend monitoring	1	1	1	1	2	2
	PZ-102	BR	AID-HOSP	semi-annual monitoring, VOCs & PYR	perimeter sentinel/trend monitoring	1	1	1	1	2	2
	PZ-103	BR	AID-HOSP	semi-annual monitoring, VOCs & PYR	perimeter sentinel/trend monitoring	1	1	1	1	2	2
ON-SITE	PZ-104	BR	ON-SITE	semi-annual monitoring, VOCs & PYR	perimeter sentinel/trend monitoring	1	1	1	1	2	2
MONITORING	PZ-105	BR	ON-SITE	semi-annual monitoring, VOCs & PYR	trend monitoring	1	1	1	1	2	2
	PZ-106	BR	ON-SITE	semi-annual monitoring, VOCs & PYR	trend monitoring	1	1	1	1	2	2
	PZ-107	BR	ON-SITE	semi-annual monitoring, VOCs & PYR	perimeter sentinel/trend monitoring	1	1	1	1	2	2
	BR-126	BR	ON-SITE	semi-annual monitoring, VOCs & PYR	trend monitoring	1	1	1	1	2	2
	BR-127	pumping well	ON-SITE	semi-annual monitoring, VOCs & PYR	mass removal/trend monitoring	1	1	1	1	2	2
	BR-3	BR	ON-SITE	annual monitoring, VOCs & PYR	trend monitoring	1	1			1	1
	BR-8	BR	ON-SITE	semi-annual monitoring, VOCs & PYR	trend monitoring	1	1	1	1	2	2
	BR-9	pumping well	ON-SITE	semi-annual monitoring, VOCs & PYR	mass removal/trend monitoring	1	1	1	1	2	2
	BR-5A	BR	ON-SITE	semi-annual monitoring, VOCs & PYR	trend monitoring	1	1	1	1	2	2
	BR-6A	BR	ON-SITE	semi-annual monitoring, VOCs & PYR	trend monitoring	1	1	1	1	2	2
	BR-7A	pumping well	ON-SITE	semi-annual monitoring, VOCs & PYR	mass removal/trend monitoring	1	1	1	1	2	2
	B-16	OB	ON-SITE	semi-annual monitoring, VOCs & PYR	continue until replaced by trench	1	1	1	1	2	2
	B-17	OB	ON-SITE	annual monitoring, VOCs & PYR	trend monitoring	1	1			1	1
	B-7	OB	ON-SITE	annual monitoring, VOCs & PYR	trend monitoring	1	1			1	1
	B-15	OB	ON-SITE	semi-annual monitoring, VOCs & PYR	perimeter sentinel/trend monitoring	1	1	1	1	2	2
	E-3	OB	ON-SITE	annual monitoring, VOCs & PYR	trend monitoring	1	1			1	1
	MW-127	OB	ON-SITE	semi-annual monitoring, VOCs & PYR	perimeter sentinel/trend monitoring	1	1	1	1	2	2
	PW10	OB/BR	ON-SITE	semi-annual monitoring, VOCs & PYR	abandoned spring 2021- no longer in use						
	PW12	BR	ON-SITE	semi-annual monitoring, VOCs & PYR	trend monitoring	1	1	1	1	2	2
	PW13	pumping well	ON-SITE	semi-annual monitoring, VOCs & PYR	mass removal/trend monitoring	1	1	1	1	2	2
	PW14	OB/BR	ON-SITE	semi-annual monitoring, VOCs & PYR	trend monitoring	1	1	1	1	2	2
	PW15	pumping well	ON-SITE	semi-annual monitoring, VOCs & PYR	mass removal/trend monitoring	1	1	1	1	2	2
	PW16	pumping well	ON-SITE	semi-annual monitoring, VOCs & PYR	mass removal/trend monitoring	1	1	1	1	2	2
	PW17	pumping well	ON-SITE	semi-annual monitoring, VOCs & PYR	mass removal/trend monitoring	1	1	1	1	2	2
QUARRY/CANAL	QS-4	quarry seep	QUARRY	semi-annual monitoring, PYR	trend monitoring	1		1		2	0
MONITORING	QD-1	quarry ditch	DITCH	semi-annual monitoring, PYR	trend monitoring	1		1		2	0
	QO-2	quarry outfall	DITCH	semi-annual monitoring, PYR	trend monitoring	1		1		2	0
	QO-2S1	canal at outfall	CANAL	semi-annual monitoring, PYR	surface water monitoring	1		1		2	0
TOTAL SAMPLES						43	33	31	27	74	60

Notes:
RG&E ROW = Rochester Gas and Electric Right of Way
N/F = now or formerly
AID-HOSP = Aid to Hospitals
NYSDOT = New York State Department of Transportation
On-site Well PW17 was taken out of service as a pumping well October 2022

Appendix A

Matrix Environmental Field Report

FIELD REPORT

REMEDIAL INVESTIGATION SAMPLING
ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

Fall 2022 Event

Matrix Environmental Project #04-029

PREPARED FOR:

ARCH CHEMICALS, INC.
100 McKee Road
Rochester, NY 14611

PREPARED BY:

MATRIX
ENVIRONMENTAL TECHNOLOGIES INC.

3730 California Road
Orchard Park, New York 14127

Written by: Nickolas Ander

Reviewed by: Steven L. Marchetti

Date: January 18, 2023

TABLE OF CONTENTS

1.0 INTRODUCTION

This report describes the sampling of the following locations:

- 27 groundwater monitoring/pumping well samples
- 1 quarry sample at seep
- 1 quarry sample at ditch
- 1 quarry sample at outfall
- 1 canal sample at outfall

These activities were in support of the Phase II Remedial Investigation being conducted at Arch Chemicals, Inc. (Arch) facility located in Rochester, New York. Static water levels in the groundwater wells were recorded on November 10th, 2022 by Matrix Environmental Technologies Inc. (METI) field personnel. The samples were collected from November 14th through November 18th, 2022.

2.0 METHODOLOGIES

2.1 Liquid Level Measurements

Static water levels were measured from all on-site and off-site monitoring wells. Light non-aqueous phase liquid (LNAPL) was measured (if present) in all on-site monitoring wells. Bottom well measurements were not collected during this event; therefore, dense non-aqueous phase liquid (DNAPL) was not verified. The measurements were recorded from the top of the well casing/riser using a Solinst oil/water interface probe. Measurements were recorded to the nearest hundredth of a foot (0.01 feet). The length of the measuring device which contacted liquids was cleaned with a deionized water rinse and paper towel wipe at each location. The data is presented in Sampling Summary Table and Field Observation Forms.

2.2 Well Purging

Monitoring wells were evacuated prior to sampling employing one of the following methods:

1. Purging three times the standing water volume using precleaned or dedicated 1.25" x 5' stainless steel bailers, 2" x 5' polyvinyl chloride bailers, peristaltic pump or QED low-flow bladder pumps.

2. Evacuated with the low flow/low stress purging technique using either QED low-flow bladder pumps or a variable rate peristaltic pump.

Wells that were purged of three standing volumes were mainly wells located on or very near the Erie Canal and historically purged with this method prior to sampling. The remaining wells were evacuated with a low flow/low stress purging technique. This technique involves the use of a variable flow rate bladder or peristaltic pump. The pumps

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were employed to purge the monitoring wells at a flow rate such that drawdown of the water column from static conditions is minimal. Field measurements of pH, specific conductance, temperature, ORP, dissolved oxygen and turbidity are monitored every 3-5 minutes until stabilization of parameters is observed before sampling. All purged water was collected for disposal at the on-site wastewater treatment facility. Data pertaining to well purging are presented in the Sampling Summary Table and Field Observation Forms.

3.0 SAMPLING

3.1 Monitoring Wells

All groundwater wells were sampled using precleaned or dedicated 1.25" x 5' stainless steel bailers, peristaltic pumps or bladder (Sample Pro) pumps when low flow purging techniques were used. Each bailer was constructed with Teflon, bottom-filling check valve and was assembled without glues or welds. New ¼" poly rope was attached to each bailer. The bailer was slowly lowered into the water column to minimize agitation. Low density polyethylene (LDPE) tubing was used with both the bladder (QED) and the peristaltic pumps. The bladder pumps were decontaminated between sample locations in accordance with the work plan. Personnel exercised care in all aspects of the sampling to ensure the collection of a representative sample. An additional sample container was collected from each well in order to facilitate the measurement of field parameters. Data pertaining to sampling are presented on the Sampling Summary Table and the Field Observation Forms.

3.2 Erie Canal Sampling

When possible, samples were collected directly from the Erie Canal into appropriate sample containers (QO-2S1). Otherwise, samples were collected with the use of a dedicated, laboratory cleaned stainless steel bailer. The bailers were immersed just below the surface, retrieved and the sample poured directly into the appropriate container. An additional container was collected to facilitate the measurement of field parameters. Additional data pertaining to these samples is presented in the Sampling Summary Table and Field Observation Forms.

3.3 Quarry Seep Sampling

Groundwater samples were collected from a seep at the quarry (QS-4) located on Buffalo Road. The samples were collected with the use of a laboratory cleaned stainless steel bucket and transferred directly into the appropriate containers. An additional container was collected to facilitate the measurement of field parameters. Data pertaining to this sampling is present in the Sampling Summary Table and Field Observation Forms.

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3.4 Quarry Outfall Sampling

Groundwater samples were collected from the quarry outfall (QO-2), located along NY Interstate 390, near the walking/bicycle path alongside the Erie Canal. The samples were collected with the use of a laboratory cleaned stainless steel bucket and transferred directly into the appropriate containers. An additional container was collected to facilitate the measurement of field parameters. Data pertaining to this sampling is present in the Sampling Summary Table and Field Observation Forms.

3.5 Quarry Ditch Sampling

Groundwater samples were collected from the quarry ditch (QD-1) located at the top of the quarry along the railroad tracks. The samples were collected with the use of a laboratory cleaned stainless steel bucket and transferred directly into the appropriate containers. An additional container was collected to facilitate the measurement of field parameters. Data pertaining to this sampling is present in the Sampling Summary Table and Field Observation Forms.

4.0 SAMPLE CONTAINERS

Monitoring wells and surface water samples requiring analysis for volatile organic compounds were collected in 40 ml glass vials with Teflon septa. Samples for semi-volatile and pyridine analysis were collected in one-liter amber glass bottles with Teflon-lined caps. All bottles were purchased new and cleaned (Protocol A, 300 series) from Paradigm Environmental Services. Each container was labeled with the following information:

- Sample Identification (Well/Point I.D.)
- Date
- Project Number
- Sampler's Initials

5.0 FIELD MEASUREMENTS

On-site field measurements included pH, specific conductance and temperature. Measurements were made in accordance with protocols outlined in Methods for Chemical Analysis of Water and Wastes (EPA – 600/4-79-9020). These data were presented on the Sampling Summary Table and Field Observation Forms.

6.0 QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

6.1 Trip Blanks

Trip blanks were collected with each sample shipment requiring volatile organic compound analysis. Each trip blank consisted of one 40 ml glass vial with Teflon septa which were filled with deionized water provided by Paradigm Environmental Services.

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These blanks were transported to the site, stored with field collected samples and submitted to the Paradigm Environmental Services for analysis.

6.2 Matrix Spike/Matrix Spike Duplicate (MS/MSD)

MS/MSD samples were collected at a frequency of one per 20 groundwater samples. The MS is a sample to which known quantities of target analytes are added by the laboratory prior to sample analysis. Acceptable ranges for percent recovery of the added analytes are defined by the laboratory. The MS data is primarily used to evaluate potential matrix effects, which can impart a positive or negative bias. The MSD is used to assess the precision of the analytical method.

7.0 CHAIN OF CUSTODY

Chain of custody was initiated at the time of sample collection and maintained through delivery to Paradigm Environmental Services in Rochester, New York. Copies of these documents are included in the analytical report package.

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TABLES

Table 1
Sampling Summary Table
Arch Chemicals, Inc. Rochester, NY

Sample Location		Zone	Sample Date	Sample Time	Water Level (ft)	Bottom of Well (ft)	pH (STD Units)	Spec. Cond. (mS/cm)	Temp ©	Turb (NTU)	ORP (mv)	DO (ppm)
B-15	On-Site	OB	11/15/2022	10:05	5.59	NM	7.14	0.754	12.9	6.52	23.5	2.23
B-16	Off-Site	OB	11/15/2022	10:40	5.74	NM	7.26	1.620	11.4	31.0	-30	0.25
BR-105	Off-Site	BR	11/14/2022	2:30	23.67	NM	7.03	3.347	11.1	0.76	-239	0.40
BR-105D	Off-Site	BR deep	11/14/2022	1:15	25.38	NM	6.94	23.670	10.0	269	-321	0.00
BR-106	Off-Site	BR	11/15/2022	12:35	23.65	NM	7.00	6.013	10.4	64.0	-286	-0.09
BR-126	Off-Site	BR	11/15/2022	9:30	10.37	NM	7.15	1.112	13.1	724	-147	-0.02
BR-127	On-Site	BR	11/14/2022	12:10	5.57	NM	7.74	3.433	13.0	10.1	-120	6.23
BR-5A	On-Site	pumping well	11/16/2022	11:45	5.60	NM	7.25	3.411	12.1	9.11	-103	0.08
BR-6A	On-Site	BR	11/14/2022	10:55	12.67	NM	8.01	4.206	10.4	10.7	-230	0.13
BR-7A	On-Site	pumping well	11/18/2022	8:50	26.85	NM	7.34	5.380	13.1	85.00	-237	3.30
BR-8	On-Site	BR	11/17/2022	1:25	12.89	NM	9.30	13.315	7.3	4.02	-121	-0.09
BR-9	On-Site	pumping well	11/17/2022	2:00	44.52	NM	7.48	5.322	11.8	32.38	-131	3.43
MW-106	Off-Site	OB	11/15/2022	12:00	13.55	NM	6.72	4.023	9.5	22.3	-232	0.09
MW-127	On-Site	OB	11/14/2022	11:40	5.95	NM	7.66	1.546	10.5	5.28	-79.4	1.82
PW-12	On-Site	BR	11/16/2022	1:55	6.91	NM	9.10	0.336	12.7	21.2	-174	0.59
PW-13	On-Site	pumping well	11/16/2022	1:00	24.52	NM	7.41	6.167	15.1	9.90	-251	2.47
PW-14	On-Site	pumping well	11/15/2022	2:30	9.90	NM	9.90	3.511	12.6	4.61	-275	-0.07
PW-15	On-Site	pumping well	11/16/2022	10:50	25.57	NM	9.48	4.539	12.5	371	-122	8.42
PW-16	On-Site	pumping well	11/17/2022	12:15	20.70	NM	7.62	5.001	14.4	11.43	-114	3.48
PW-17	On-Site	pumping well	11/16/2022	10:15	19.48	NM	7.81	7.731	14.0	194	-131	3.68
PZ-101	Off-Site	BR	11/17/2022	8:20	18.29	NM	6.74	6.965	4.6	2.20	116	3.35
PZ-102	Off-Site	BR	11/17/2022	10:10	19.71	NM	8.00	7.374	6.9	82.0	-346	-0.15
PZ-103	Off-Site	BR	11/17/2022	11:20	14.87	NM	7.93	8.228	8.6	11.90	-352	-0.10
PZ-104	Off-Site	BR	11/15/2022	8:35	15.24	NM	7.07	2.921	12.7	0.53	-147	0.11
PZ-105	On-Site	BR	11/14/2022	9:55	10.87	NM	7.38	4.941	7.1	342	-283	0.11
PZ-106	On-Site	BR	11/15/2022	1:30	9.52	NM	9.45	5.386	12.3	7.64	-225	-0.05
PZ-107	On-Site	BR	11/16/2022	8:45	8.00	NM	7.46	1.545	10.9	2.09	-106	0.19
QD-1	Quarry/Canal	quarry ditch	11/18/2022	10:35	NA	NA	8.02	1.569	5.9	2.88	-24.9	10.24
QO-2	Quarry/Canal	quarry outfall	11/18/2022	11:20	NA	NA	8.26	1.476	6.0	10.1	-11.2	12.14
QO-2S1	Quarry/Canal	canal at outfall	11/18/2022	12:15	NA	NA	8.71	0.635	6.0	3.60	-33.5	12.11
QS-4	Quarry/Canal	quarry seep	11/18/2022	9:45	NA	NA	8.46	2.022	5.3	40.7	-63.9	12.52

** Water level at time of sampling
NM = Not Measured
NA = Not Accessible

Table 2
Groundwater Elevation Report
Arch Chemicals, Inc., Rochester, NY

Sample Location		Zone	Date	Depth to water	Casing Elevation	GW Elevation	Time	Comments
B-1	On-Site	OB	11/10/2022	9.65	537.75	528.10	-	
B-10	On-Site	OB	11/10/2022	8.87	538.80	529.93	-	
B-15	On-Site	OB	11/10/2022	5.59	535.29	529.70	-	
B-16	Off-Site	OB	11/10/2022	5.74	536.21	530.47	-	
B-17	On-Site	OB	11/10/2022	8.41	538.74	530.33	-	
B-2	On-Site	OB	11/10/2022	10.71	539.02	528.31	-	
B-4	On-Site	OB	11/10/2022	20.02	542.87	522.85	-	
B-5	On-Site	OB	11/10/2022	13.51	540.21	526.70	-	
B-7	On-Site	OB	11/10/2022	15.11	541.11	526.00	-	
B-8	On-Site	OB	11/10/2022	9.67	538.88	529.21	-	
BR-1	On-Site	BR	11/10/2022	7.74	537.28	529.54	-	
BR-102	On-Site	BR	11/10/2022	DRY	539.43	DRY	-	Dry at 12.47
BR-103	Off-Site	BR	11/10/2022	2.39	533.19	530.80	-	
BR-104	Off-Site	BR	11/10/2022	11.83	537.56	525.73	-	
BR-105	Off-Site	BR	11/10/2022	23.67	536.90	513.23	-	
BR-105D	Off-Site	BR deep	11/10/2022	25.38	536.49	511.11	-	
BR-106	Off-Site	BR	11/10/2022	23.65	535.74	512.09	-	
BR-108	Off-Site	BR	11/10/2022	28.97	540.58	511.61	-	
BR-111	Off-Site	BR	11/10/2022	29.38	540.42	511.04	-	
BR-111D	Off-Site	BR	11/10/2022	29.40	540.34	510.94	-	
BR-112D	Off-Site	BR deep	11/10/2022	36.90	547.91	511.01	-	
BR-113	Off-Site	BR	11/10/2022	31.90	543.02	511.12	-	
BR-113D	Off-Site	BR deep	11/10/2022	31.91	542.93	511.02	-	
BR-114	Off-Site	BR	11/10/2022	14.42	539.77	525.35	-	
BR-116	Off-Site	BR	11/10/2022	29.55	545.38	515.83	-	
BR-116D	Off-Site	BR deep	11/10/2022	39.95	545.22	505.27	-	
BR-117	Off-Site	BR	11/10/2022	37.60	547.61	510.01	-	Brush clearing needed before next event
BR-117D	Off-Site	BR deep	11/10/2022	48.25	547.16	498.91	-	Brush clearing needed before next event
BR-118	Off-Site	BR	11/10/2022	24.70	547.79	523.09	-	Brush clearing needed before next event
BR-118D	Off-Site	BR deep	11/10/2022	47.60	547.93	500.33	-	Brush clearing needed before next event
BR-122D	Off-Site	BR deep	11/10/2022	45.72	552.34	506.62	-	
BR-123D	Off-Site	BR deep	11/10/2022	46.00	553.62	507.62	-	
BR-124D	Off-Site	BR deep	11/10/2022	33.50	537.45	503.95	-	
BR-126	Off-Site	BR	11/10/2022	10.37	537.90	527.53	-	
BR-127	On-Site	BR	11/10/2022	5.57	536.05	530.48	-	Pumping well not running at time of gauging
BR-3	On-Site	BR	11/10/2022	~	538.20	NM	-	Inacessable/Blocked
BR-3D	On-Site	BR deep	11/10/2022	0.65	537.67	537.02	-	
BR-4	On-Site	BR	11/10/2022	11.91	539.03	527.12	-	
BR-5	On-Site	BR	11/10/2022	5.84	536.30	530.46	-	
BR-5A	On-Site	pumping well	11/10/2022	5.60	536.35	530.75	-	
BR-6A	On-Site	BR	11/10/2022	12.67	540.90	528.23	-	
BR-7	On-Site	BR	11/10/2022	18.40	539.10	520.70	-	
BR-7A	On-Site	pumping well	11/10/2022	26.85	539.12	512.27	-	
BR-8	On-Site	BR	11/10/2022	12.89	539.72	526.83	-	
BR-9	On-Site	pumping well	11/10/2022	44.52	542.17	497.65	-	Pumping well not running at time of gauging
C-5	On-Site	OB	11/10/2022	9.87	539.63	529.76	-	
CANAL	Off-Site	SW	11/10/2022	37.47	544.79	507.32	-	
E-2	On-Site	OB	11/10/2022	~	538.32	NM	-	Well Missing, rail project
E-3	On-Site	OB	11/10/2022	4.74	536.59	531.85	-	
E-5	On-Site	OB	11/10/2022	6.50	539.31	532.81	-	
EC-2	Off-Site	BR	11/10/2022	~	542.00	Dry	-	Dry at 12.70

Table 2
Groundwater Elevation Report
Arch Chemicals, Inc., Rochester, NY

Sample Location		Zone	Date	Depth to water	Casing Elevation	GW Elevation	Time	Comments
MW-103	Off-Site	OB	11/10/2022	3.00	533.25	530.25	-	
MW-104	Off-Site	OB	11/10/2022	9.94	537.54	527.60	-	
MW-105	Off-Site	OB	11/10/2022	~	536.91	Dry	-	Dry at 18.88
MW-106	Off-Site	OB	11/10/2022	13.55	535.44	521.89	-	
MW-114	Off-Site	OB	11/10/2022	11.45	539.69	528.24	-	
MW-127	On-Site	OB	11/10/2022	5.95	536.87	530.92	-	
MW-16	Off-Site	BR	11/10/2022	~	536.79	NM	-	No Lid, Dry at 11.98
MW-3	Off-Site	OB	11/10/2022	NM	535.89	NM	-	Inacessable, beneath car, top missing
MW-G6	Off-Site	OB	11/10/2022	~	534.65	NM	-	Missing/destroyed
MW-G8	Off-Site	OB	11/10/2022	8.29	534.25	525.96	-	
MW-G9	Off-Site	OB	11/10/2022	11.04	536.60	525.56	-	
N-2	On-Site	OB	11/10/2022	NG	537.33	NM	-	Damaged
N-3	On-Site	OB	11/10/2022	8.02	537.38	529.36	-	
NESS-E	Off-Site	BR deep	11/10/2022	NM	540.31	NM	-	Inacessable, gate closed
NESS-W	Off-Site	BR deep	11/10/2022	NM	543.04	NM	-	Inacessable, gate closed
PW-12	On-Site	BR	11/10/2022	6.91	537.49	530.58	-	
PW-13	On-Site	pumping well	11/10/2022	24.52	536.13	NM	-	
PW-14	On-Site	pumping well	11/10/2022	9.90	537.03	527.13	-	
PW-15	On-Site	pumping well	11/10/2022	25.57	538.32	NM	-	
PW-16	On-Site	pumping well	11/10/2022	20.70	539.32	NM	-	
PW-17	On-Site	pumping well	11/10/2022	19.48	NA	NM	-	
PZ-101	Off-Site	BR	11/10/2022	18.29	542.95	524.66	-	
PZ-102	Off-Site	BR	11/10/2022	19.71	540.89	521.18	-	
PZ-103	Off-Site	BR	11/10/2022	14.81	540.20	525.39	-	
PZ-104	Off-Site	BR	11/10/2022	15.24	536.85	NM	-	
PZ-105	On-Site	BR	11/10/2022	10.87	536.93	526.06	-	
PZ-106	On-Site	BR	11/10/2022	9.52	537.24	527.72	-	
PZ-107	On-Site	BR	11/10/2022	8.00	538.39	530.39	-	
PZ-109	On-Site	BR	11/10/2022	8.26	538.59	530.33	-	
PZ-110	On-Site	BR	11/10/2022	13.99	NA	NA	-	
PZ-111	On-Site	BR	11/10/2022	~	NA	NM	-	Missing/destroyed
W-5	On-Site	OB	11/10/2022	~	538.53	NM	-	Missing/destroyed

NM = Not Measured
NA = Not Applicable

APPENDIX A
FIELD OBSERVATION FORMS

Fall 2022

Table 2
Groundwater Elevation Report
Lonza, Rochester, NY

Sample Location		Zone	Date	Depth to water	Casing Elevation	GW Elevation	Time	Comments
B-1	On-Site	OB	11/10/22	9.65			11:02	
B-10	On-Site	OB		8.87			9:18	
B-11	On-Site	OB		—				Missing
B-15	On-Site	OB		5.59			1046	
B-16	Off-Site	OB		5.74			1:45	
B-17	On-Site	OB		8.41			9:41	
B-2	On-Site	OB		10.71			11:05	
B-4	On-Site	OB		20.04			1105	
B-5	On-Site	OB		13.51			1013	
B-7	On-Site	OB		15.11			1022	
B-8	On-Site	OB			< 9.67		8:44	
BR-1	On-Site	BR		7.74			1030	
BR-102	On-Site	BR		-			1:46	Dry @ 12.47
BR-103	Off-Site	BR		2.39			302	
BR-104	Off-Site	BR		11.83			316	
BR-105	Off-Site	BR		13.67			1139	
BR-105D	Off-Site	BR deep		25.38			1200	
BR-106	Off-Site	BR		23.65			11:55	
BR-108	Off-Site	BR		28.97			520	
BR-111	Off-Site	BR		29.36			338	
BR-111D	Off-Site	BR		29.40			340	
BR-112D	Off-Site	BR deep		36.90			344	
BR-113	Off-Site	BR		31.90			1:00	
BR-113D	Off-Site	BR deep		3[illegible]3.91			201	
BR-114	Off-Site	BR		14.47			3:20	
BR-116	Off-Site	BR		29.55			220	
BR-116D	Off-Site	BR deep		39.95			220	
BR-117	Off-Site	BR		37.60			133	
BR-117D	Off-Site	BR deep		48.25			130	NEED BRUSH (rear) Brent
BR-118	Off-Site	BR		24.70				
BR-118D	Off-Site	BR deep		47.60				
BR-122D	Off-Site	BR deep		45.72			245	
BR-123D	Off-Site	BR deep		46.00			249	
BR-124D	Off-Site	BR deep		33.5				
BR-126	Off-Site	BR		10.37			1033	well ~~under~~ debris
BR-127	On-Site	BR		5.57			9:26	Not pumping at moment
BR-2	On-Site	BR		—				Removed
BR-2A	On-Site	BR		—				Removed
BR-2D	On-Site	BR deep		—				Removed
BR-3	On-Site	BR			I			debris in well inaccessible / blocked
BR-3D	On-Site	BR deep			< 0.65		8:50	Same as Surface Water
BR-4	On-Site	BR			< 11.91		9:34	
BR-5	On-Site	BR		5.84				
BR-5A	On-Site	pumping well		5.60				
BR-6A	On-Site	BR			< 12.67		9:42	
BR-7	On-Site	BR		18.40			1024	
BR-7A	On-Site	pumping well		26.85			1025	
BR-8	On-Site	BR		12.89			10:12	
BR-9	On-Site	pumping well		44.52			1050	
C-2A	On-Site	OB		—				Removed
C-5	On-Site	OB			< 9.87		8:48	
CANAL	Off-Site	SW		37.47			230	
E-2	On-Site	OB		—				Missing
E-3	On-Site	OB		4.74			9:35	
E-5	On-Site	OB		6.50			9:57	Debri in well
EC-2	Off-Site	BR		—				Dry @ 12.70
MW-103	Off-Site	OB		3.00			300	
MW-104	Off-Site	OB		9.94			315	
MW-105	Off-Site	OB		—			—	Dry @ 13.88
MW-106	Off-Site	OB		13.55			11:57	
MW-114	Off-Site	OB		11.45			3:25	
MW-127	On-Site	OB		5.95			9:20	
MW-16	Off-Site	BR		—			2:32	~~Dry~~ Not Dry @ 11.98
MW-3	Off-Site	OB		NL				

Table 2
Groundwater Elevation Report
Lonza, Rochester, NY

Sample Location		Zone	Date	Depth to water	Casing Elevation	GW Elevation	Time	Comments
MW-G6	Off-Site	OB	11/10/21	—				Missing - destroyed
MW-G8	Off-Site	OB		8.29			1120	
MW-G9	Off-Site	OB		11.04			11:17	
N-2	On-Site	OB		—				Broken
N-3	On-Site	OB		8.62			1059	
NESS-E	Off-Site	BR deep		NG				Inaccesible - gate closed
NESS-W	Off-Site	BR deep		NG				Inaccesible - gate closed
PW-10	On-Site	pumping well		—				OC commissioned
PW-12	On-Site	BR		6.91			1002	
PW-13	On-Site	pumping well		24.52			1078	
PW-14	On-Site	pumping well		9.98			9:20	
PW-15	On-Site	pumping well		25.57			8:54	
PW-16	On-Site	pumping well		20.70			1610	
PW-17	On-Site	pumping well		19.48			8:45	
PZ-101	Off-Site	BR		18.24			11:40	
PZ-102	Off-Site	BR		19.71			11:41	
PZ-103	Off-Site	BR		14.87			11:42	
PZ-104	Off-Site	BR		15.24			1034	Broken lid
PZ-105	On-Site	BR		10.87			8:40	
PZ-106	On-Site	BR		9.52			9:08	
PZ-107	On-Site	BR		8.00			9:07	
PZ-109	On-Site	BR		8.26			8:53	
PZ-110	On-Site	BR		13.99			8:44	
PZ-111	On-Site	BR		—				Destroyed
W-5	On-Site	OB		—				missing/destroyed

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: PZ-105

Field Personnel: Nick Ander Sample Matrix: Groundwater

MONITORING WELL INSPECTION

Date/Time: 11/14/22 9:20 Condition of seal: (X) Good ( ) Cracked ____ %

( ) None ( ) Buried

Prot. Casing/Riser Height: ____ Condition of Prot. Casing/Riser: ( ) unlocked ( ) Good

( ) loose ( ) flush mount

( ) Damaged ____

if prot casing; depth to riser below: ____

Gas Meter Calibration/Reading: % Gas ____ % LEL: ____

Vol. Organic Matter (Calibration/Reading): ____ Volatiles (ppm): ____

PURGE INFORMATION

Date/Time Initiated: 11/14/22 9:30 Date/Time Completed: 11/14/22 9:55

Surf. Meas. Point: ( ) Pro Casing (X) Riser Riser Diameter (inches) 2 in

Initial Water Level (ft): 4.92 Elevation G/W MSL: ____

Well Total Depth (ft): ____ Method of Well Purge sep pump

One (1) Riser Vol (gal): ____ Dedicated: (Y) / N

Total Volume Purged (gal): 42 oz Purged to Dryness: Y / (N)

Purge Observations: Start 9:30 Finish 9:55

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos~~ ms/cm)	Turb. (NTU)	ORP -192	DO ms/L	Other
9:30	4.92		0	8.8	7.27	4.509	303.7		1.24	
9:35	6.78		10 oz	7.7	7.37	4.394	191	-238	.69	
9:40	7.32		18 oz	6.8	7.38	4.387	221	-251	.49	
9:45	7.85		26 oz	6.1	7.38	4.520	208	-265	.27	
9:50	8.40		34 oz	6.7	7.38	4.893	290	-275	.21	
9:55	9.06		42 oz	7.1	7.38	4.941	342	-283	.11	

Sample = 9:55

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: PZ 105

FIELD OBSERVATIONS

SAMPLING INFORMATION

Date/Time 11/14/22 9:55 Water Level at Sampling (ft)

Method of Sampling Geopump Dedicated: (Y) / N

Multi-phased/layered: Y / (N) if yes: ( ) Light ( ) Heavy

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (~~umhos~~ mS/cm)	Turb. (NTU)	ORP	DO	Other
9:55	7.1	7.38	41,941	342	-283	.11	

INSTRUMENT CALIFBRATION/CHECK DATA

Meter ID#	Cal Std 7.0 SU	Cal Std 4.0 SU	Cal Std. 10.0 SU	Check Std 7.0 SU (+/- 10%)	Cal.Std. 1413 umhos/cm	Check Std 1413 umhos/cm (+/- 10%)	Cal Std. 10 NTU	Check Std 10 NTU (+/- 10%)
Solution ID#								

GENERAL INFORMATION

Weather conditions at time of sampling: overcast & 32°F

Sample characteristics: dark cloudy water, slight musky odor

Comments and Observations:

I certify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific protocols:

Date: 11/14/22 by: [signature] Company: Matrix Environmental Technologies

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: BR-6A

Field Personnel: Nick Ander Sample Matrix: Groundwater

MONITORING WELL INSPECTION

Date/Time: 11/14/22 10:20

Condition of seal: ( ) Good ( ) Cracked ____ %
(X) None ( ) Buried

Prot. Casing/Riser Height: ____

Condition of Prot. Casing/Riser: (X) unlocked ( ) Good
( ) loose ( ) flush mount
( ) Damaged ____

if prot casing; depth to riser below: ____

Gas Meter Calibration/Reading: % Gas ____ % LEL: ____

Vol. Organic Matter (Calibration/Reading): ____ Volatiles (ppm): ____

PURGE INFORMATION

Date/Time Initiated: 11/14/22 10:20 Date/Time Completed: 11/14/22

Surf. Meas. Point: ( ) Pro Casing (X) Riser Riser Diameter (inches) 4 in

Initial Water Level (ft): 12.55 Elevation G/W MSL: ____

Well Total Depth (ft): ____ Method of Well Purge geo pump

One (1) Riser Vol (gal): ____ Dedicated: (Y) / N

Total Volume Purged (gal): 82oz Purged to Dryness: Y (N)

Purge Observations: Start 10:30 Finish 10:55

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos~~/cm) mS	Turb. (NTU)	ORP	DO mg/L	Other
10:30	12.55		0	10.4	7.11	4.146	27.92	-146	1.27	
10:35	13.06		18oz	10.3	7.63	4.175	21.42	-181	0.58	
10:40	13.21		30oz	9.8	7.92	4.172	16.48	-198	.35	
10:45	13.52		46oz	10.2	7.96	4.197	13.99	-209	.30	
10:50	13.73		60oz	10.4	7.98	4.202	13.22	-219	.21	
10:55	13.96		82oz	10.4	8.01	4.206	10.70	-230	.13	

Sample = 10:55

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: 13R-6A

FIELD OBSERVATIONS

SAMPLING INFORMATION

Date/Time 11/14/22 10:55 Water Level at Sampling (ft) 13.96

Method of Sampling geopump Dedicated: (Y) / N

Multi-phased/layered: Y / (N) if yes: ( ) Light ( ) Heavy

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (~~umhos~~ mS/cm)	Turb. (NTU)	ORP	DO	Other
10:55	10.4	8.01	4.206	10.70	-230	.13	

INSTRUMENT CALIFBRATION/CHECK DATA

Meter ID#	Cal Std 7.0 SU	Cal Std 4.0 SU	Cal Std. 10.0 SU	Check Std 7.0 SU (+/- 10%)	Cal.Std. 1413 umhos/cm	Check Std 1413 umhos/cm (+/- 10%)	Cal Std. 10 NTU	Check Std 10 NTU (+/- 10%)
Solution ID#								

GENERAL INFORMATION

Weather conditions at time of sampling: overcast, 32°F

Sample characteristics: clear, light brown color

Comments and Observations:

I certify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific protocols:

Date: 11/14/22 by: [signature] Company: Matrix Environmental Technologies

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: MW 127

Field Personnel: Nick Ander Sample Matrix: Groundwater

MONITORING WELL INSPECTION

Date/Time: 11/14/22 11:40 Condition of seal: (X) Good ( ) Cracked ____ %

( ) None ( ) Buried

Prot. Casing/Riser Height: ____ Condition of Prot. Casing/Riser: ( ) unlocked (X) Good

( ) loose ( ) flush mount

( ) Damaged ____

if prot casing; depth to riser below: ____

Gas Meter Calibration/Reading: % Gas ____ % LEL: ____

Vol. Organic Matter (Calibration/Reading): ____ Volatiles (ppm): ____

PURGE INFORMATION

Date/Time Initiated: 11/14/22 11:40 Date/Time Completed: 11/14/22

Surf. Meas. Point: ( ) Pro Casing (X) Riser Riser Diameter (inches) 2 in

Initial Water Level (ft): 7.01 Elevation G/W MSL: ____

Well Total Depth (ft): ____ Method of Well Purge geo pump

One (1) Riser Vol (gal): ____ Dedicated: (Y) N

Total Volume Purged (gal): 56 oz Purged to Dryness: Y / (N)

Purge Observations: Start 11:45 Finish 12:00

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos~~ mS/cm)	Turb. (NTU)	ORP	DO mg/L	Other
11:40	7.01		0	10.9	7.79	1.867	17.45	-94.9	4.26	
11:45	7.64		15 oz	10.3	7.65	1.676	14.54	-95.2	2.29	
11:50	7.71		24 oz	10.2	7.66	1.579	13.88	-87.6	2.17	
11:55	7.75		40 oz	10.4	7.66	1.553	5.70	-83.8	1.96	
12:00	7.80		56 oz	10.5	7.66	1.546	5.78	-79.4	1.82	Sample

Sample at 12:00

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: MW127

FIELD OBSERVATIONS

SAMPLING INFORMATION

Date/Time 11/14/22 Water Level at Sampling (ft) 7.80

Method of Sampling peristaltic pump Dedicated: (Y) N

Multi-phased/layered: Y / (N) if yes: ( ) Light ( ) Heavy

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other
12:00	10.5	7.66	1.546	5.28	-79.4	1.82	

INSTRUMENT CALIFBRATION/CHECK DATA

Meter ID#	Cal Std 7.0 SU	Cal Std 4.0 SU	Cal Std. 10.0 SU	Check Std 7.0 SU (+/- 10%)	Cal.Std. 1413 umhos/cm	Check Std 1413 umhos/cm (+/- 10%)	Cal Std. 10 NTU	Check Std 10 NTU (+/- 10%)
Solution ID#								

GENERAL INFORMATION

Weather conditions at time of sampling: overcast, 33°F

Sample characteristics: clear, no odors

Comments and Observations:

I certify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific protocols:

Date: 11/14/22 by: [signature] Company: Matrix Environmental Technologies

FIELD OBSERVATIONS

Facility: Arch Chemical Sample Point ID: BR-127

SAMPLING INFORMATION

Date/Time 11/14/22 12:10 Water Level at Sampling (ft) NG

Method of Sampling grab Dedicated: (Y) N

Multi-phased/layered: Y / (N) if yes: ( ) Light ( ) Heavy

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (mS/cm)	Turb. (NTU)	ORP	DO mg/L	Other
12:10	13.0	7.74	3.433	10.06	-120	6.23	

INSTRUMENT CALIFBRATION/CHECK DATA

Meter ID#	Cal Std 7.0 SU	Cal Std 4.0 SU	Cal Std. 10.0 SU	Check Std 7.0 SU (+/- 10%)	Cal.Std. 1413 umhos/cm	Check Std 1413 umhos/cm (+/- 10%)	Cal Std. 10 NTU	Check Std 10 NTU (+/- 10%)
Solution ID#								

GENERAL INFORMATION

Weather conditions at time of sampling: overcast, 33°F

Sample characteristics: clear

Comments and Observations:

I certify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific protocols:

Date: 11/14/22 by: [signature] Company: Matrix Env

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: BR-105D

Field Personnel: Nick Ander Sample Matrix: Groundwater

MONITORING WELL INSPECTION

Date/Time: 11/14/22 1:15 Condition of seal: (X) Good ( ) Cracked ____ %

( ) None ( ) Buried

Prot. Casing/Riser Height: ____ Condition of Prot. Casing/Riser: ( ) unlocked ( ) Good ( ) loose (X) flush mount ( ) Damaged ____

if prot casing; depth to riser below: ____

Gas Meter Calibration/Reading: % Gas ____ % LEL: ____

Vol. Organic Matter (Calibration/Reading): ____ Volatiles (ppm): ____

PURGE INFORMATION

Date/Time Initiated: 11/14/22 1:30 Date/Time Completed: 11/14/22

Surf. Meas. Point: ( ) Pro Casing (X) Riser Riser Diameter (inches) 2 in

Initial Water Level (ft): 25.52 Elevation G/W MSL: ____

Well Total Depth (ft): ____ Method of Well Purge geo pump

One (1) Riser Vol (gal): ____ Dedicated: (Y) N

Total Volume Purged (gal): 52 oz Purged to Dryness: Y / (N)

Purge Observations: Start 1:20 Finish 1:55

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos~~/cm) mS	Turb. (NTU)	ORP	DO mg/L	Other
1:30	25.52		0	10.5	6.96	21.079	410.4	-290	.35	
1:35	26.07		15 oz	9.7	6.97	21.515	1150	-313	.09	
1:40	26.14		28 oz	9.6	6.96	21.940	924	-318	.04	
1:45	26.17		36 oz	9.8	6.94	22.700	417.7	-320	.02	
1:50	26.19		42 oz	9.9	6.93	23.318	453	-322	.01	
1:55	26.22		52 oz	10.0	6.94	23.670	269	-321	.00	

1:55 – sample

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: BR-105D

FIELD OBSERVATIONS

SAMPLING INFORMATION

Date/Time 11/14/22 Water Level at Sampling (ft) 26.22

Method of Sampling Geopump Dedicated: (Y) / N

Multi-phased/layered: Y / (N) if yes: ( ) Light ( ) Heavy

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other
1:55	10.0	6.94	23.670	269	-321	.00	

INSTRUMENT CALIFBRATION/CHECK DATA

Meter ID#	Cal Std 7.0 SU	Cal Std 4.0 SU	Cal Std. 10.0 SU	Check Std 7.0 SU (+/- 10%)	Cal.Std. 1413 umhos/cm	Check Std 1413 umhos/cm (+/- 10%)	Cal Std. 10 NTU	Check Std 10 NTU (+/- 10%)
Solution ID#								

GENERAL INFORMATION

Weather conditions at time of sampling: overcast 35° F

Sample characteristics: dark brown, clear, musky odor

Comments and Observations:

I certify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific protocols:

Date: 11/14/22 by: [signature] Company: Matrix Environmental Technologies

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc.

Sample Point ID: BR-105

Field Personnel: Nick Ander

Sample Matrix: Groundwater

MONITORING WELL INSPECTION

Date/Time: 11/14/22 2:10

Condition of seal: (X) Good ( ) Cracked ____ %
( ) None ( ) Buried

Prot. Casing/Riser Height: ____

Condition of Prot. Casing/Riser: ( ) unlocked ( ) Good
( ) loose (X) flush mount
( ) Damaged ____

if prot casing; depth to riser below: ____

Gas Meter Calibration/Reading: % Gas ____ % LEL: ____

Vol. Organic Matter (Calibration/Reading): ____ Volatiles (ppm): ____

PURGE INFORMATION

Date/Time Initiated: 11/14/22 2:10

Date/Time Completed: 11/14/22

Surf. Meas. Point: ( ) Pro Casing (X) Riser

Riser Diameter (inches) 6 in

Initial Water Level (ft): 22.94

Elevation G/W MSL: ____

Well Total Depth (ft): ____

Method of Well Purge SQ pump

One (1) Riser Vol (gal): ____

Dedicated: (Y) / N

Total Volume Purged (gal): 48oz

Purged to Dryness: Y / (N)

Purge Observations: ____

Start 2:10 Finish 2:30

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos~~ ms/cm)	Turb. (NTU)	ORP	DO	Other
2:10	22.94		0	10.4	7.21	3.815	15.24	-206	6.57	
2:15	22.94		10oz	10.9	7.07	3.867	3.95	-224	2.77	
2:20	22.94		20oz	11.2	7.03	3.638	1.70	-236	0.74	
2:25	22.94		34oz	11.1	7.03	3.461	.77	-239	.49	
2:30	22.94		48oz	11.1	7.03	3.347	.76	-239	.40	
Sample										

Sample = 2:30

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: BR-105

FIELD OBSERVATIONS

SAMPLING INFORMATION

Date/Time 11/14/22 Water Level at Sampling (ft) 22.941

Method of Sampling geopump Dedicated: (Y) / N

Multi-phased/layered: Y / (N) if yes: ( ) Light ( ) Heavy

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (~~umhos~~ mS/cm)	Turb. (NTU)	ORP	DO	Other
2:30	11.1	7.03	3.347	.76	-239	.40	

INSTRUMENT CALIFBRATION/CHECK DATA

Meter ID#	Cal Std 7.0 SU	Cal Std 4.0 SU	Cal Std. 10.0 SU	Check Std 7.0 SU (+/- 10%)	Cal.Std. 1413 umhos/cm	Check Std 1413 umhos/cm (+/- 10%)	Cal Std. 10 NTU	Check Std 10 NTU (+/- 10%)
Solution ID#								

GENERAL INFORMATION

Weather conditions at time of sampling: Overcast, 35°F

Sample characteristics: clear

Comments and Observations:

I certify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific protocols:

Date: 11/14/22 by: [signature] Company: Matrix Environmental Technologies

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: PZ 104

FIELD OBSERVATIONS

SAMPLING INFORMATION

Date/Time 11/15/22 Water Level at Sampling (ft) 15.12

Method of Sampling seapump Dedicated: (Y) / N

Multi-phased/layered: Y / (N) if yes: ( ) Light ( ) Heavy

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (~~umhos~~ mS/cm)	Turb. (NTU)	ORP	DO	Other
8:35	12.7	7.07	2.921	.53	-147	.11	

INSTRUMENT CALIFBRATION/CHECK DATA

Meter ID#	Cal Std 7.0 SU	Cal Std 4.0 SU	Cal Std. 10.0 SU	Check Std 7.0 SU (+/- 10%)	Cal.Std. 1413 umhos/cm	Check Std 1413 umhos/cm (+/- 10%)	Cal Std. 10 NTU	Check Std 10 NTU (+/- 10%)
Solution ID#								

GENERAL INFORMATION

Weather conditions at time of sampling: Overcast 30°F

Sample characteristics: clear, musky odor

Comments and Observations:

I certify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific protocols:

Date: 11/15/22 by: [signature] Company: Matrix Environmental Technologies

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: PZ-104

Field Personnel: Nick A, Pat B Sample Matrix: Groundwater

MONITORING WELL INSPECTION

Date/Time: 11/15/22 Condition of seal: (X) Good ( ) Cracked ____ %

( ) None ( ) Buried

Prot. Casing/Riser Height: ____ Condition of Prot. Casing/Riser: ( ) unlocked ( ) Good

( ) loose ( ) flush mount

(X) Damaged lid broken

if prot casing; depth to riser below: ____

Gas Meter Calibration/Reading: % Gas ____ % LEL: ____

Vol. Organic Matter (Calibration/Reading): ____ Volatiles (ppm): ____

PURGE INFORMATION

Date/Time Initiated: 11/15/22 8:00 Date/Time Completed: 11/15/22

Surf. Meas. Point: ( ) Pro Casing (X) Riser Riser Diameter (inches) 2 in

Initial Water Level (ft): 14.96 Elevation G/W MSL: ____

Well Total Depth (ft): ____ Method of Well Purge geo pump

One (1) Riser Vol (gal): ____ Dedicated: (Y) / N

Total Volume Purged (gal): 80oz Purged to Dryness: Y / (N)

Purge Observations: Start 8:10 Finish 8:35

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos~~ mS/cm)	Turb. (NTU)	ORP	DO mg/L	Other
8:10	14.96		0	10.3	7.03	2.520	5.22	-75	2.80	
8:15	15.10		18oz	12.3	7.06	2.855	3.31	-104	.54	
8:20	15.10		34oz	12.3	7.07	2.883	2.61	-113	.33	
8:25	15.11		46oz	12.6	7.07	2.891	1.99	-119	.23	
8:30	15.12		62oz	12.5	7.07	2.900	1.03	-126	.17	
8:35	15.12		80oz	12.7	7.07	2.921	.53	-147	.11	

Sample at 8:35

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: BR 126

FIELD OBSERVATIONS

SAMPLING INFORMATION

Date/Time 11/15/22 Water Level at Sampling (ft) 10.07

Method of Sampling peristaltic pump Dedicated: (Y) N

Multi-phased/layered: Y (N) if yes: ( ) Light ( ) Heavy

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (~~umhos~~/cm) mS	Turb. (NTU)	ORP	DO mg/L	Other
9:30	13.1	7.15	1.112	724	-147	-.02	

INSTRUMENT CALIFBRATION/CHECK DATA

Meter ID#	Cal Std 7.0 SU	Cal Std 4.0 SU	Cal Std. 10.0 SU	Check Std 7.0 SU (+/- 10%)	Cal.Std. 1413 umhos/cm	Check Std 1413 umhos/cm (+/- 10%)	Cal Std. 10 NTU	Check Std 10 NTU (+/- 10%)
Solution ID#								

GENERAL INFORMATION

Weather conditions at time of sampling: overcast, 30°F

Sample characteristics: clear

Comments and Observations:

I certify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific protocols:

Date: 11/15/22 by: [signature] Company: Matrix Environmental Technologies

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: BR 126

Field Personnel: Nick A, Pat B Sample Matrix: Groundwater

MONITORING WELL INSPECTION

Date/Time: 11/15/22

Condition of seal: (X) Good ( ) Cracked ____ %
( ) None ( ) Buried

Prot. Casing/Riser Height: ____

Condition of Prot. Casing/Riser: ( ) unlocked (X) Good
( ) loose ( ) flush mount
( ) Damaged ____

if prot casing; depth to riser below: ____

Gas Meter Calibration/Reading: % Gas ____ % LEL: ____

Vol. Organic Matter (Calibration/Reading): ____ Volatiles (ppm): ____

PURGE INFORMATION

Date/Time Initiated: 11/15/22 9:05 Date/Time Completed: 11/15/22

Surf. Meas. Point: ( ) Pro Casing (X) Riser Riser Diameter (inches) 4 in

Initial Water Level (ft): 10.50 Elevation G/W MSL: ____

Well Total Depth (ft): ____ Method of Well Purge geo pump

One (1) Riser Vol (gal): ____ Dedicated: (Y) / N

Total Volume Purged (gal): 80 oz Purged to Dryness: Y / N

Purge Observations: Start 9:05 Finish 9:30

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos~~/cm)	Turb. (NTU)	ORP	DO	Other
9:05	10.05		0	11.1	7.31	1.146	41.63	-85	1.66	
9:10	10.06		20 oz	13.1	7.17	1.132	17.80	-117	.30	
9:15	10.07		32 oz	13.3	7.16	1.132	19.12	-128	.14	
9:20	10.07		48 oz	13.6	7.15	1.131	22.62	-135	.04	
9:25	10.08		64 oz	13.6	7.15	1.126	673	-139	.01	
9:30	10.07		80 oz	13.1	7.15	1.112	724	-147	.02	

Sample = 9:30

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: B-15

FIELD OBSERVATIONS

SAMPLING INFORMATION

Date/Time 11/15/22 Water Level at Sampling (ft) 5.46

Method of Sampling GeoPump Dedicated: (Y) N

Multi-phased/layered: Y / (N) if yes: ( ) Light ( ) Heavy

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other
10:05	12.9	7.14	.754	6.52	23.5	2.23	

INSTRUMENT CALIFBRATION/CHECK DATA

Meter ID#	Cal Std 7.0 SU	Cal Std 4.0 SU	Cal Std. 10.0 SU	Check Std 7.0 SU (+/- 10%)	Cal.Std. 1413 umhos/cm	Check Std 1413 umhos/cm (+/- 10%)	Cal Std. 10 NTU	Check Std 10 NTU (+/- 10%)
Solution ID#								

GENERAL INFORMATION

Weather conditions at time of sampling: overcast 30°F

Sample characteristics: clear, no odor

Comments and Observations:

I certify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific protocols:

Date: 11/15/22 by: [signature] Company: Matrix Environmental Technologies

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: B[redacted]-15

Field Personnel: Nick A, Pat B Sample Matrix: Groundwater

MONITORING WELL INSPECTION

Date/Time: 11/15/22 9:50

Condition of seal: (X) Good ( ) Cracked ____ %
( ) None ( ) Buried

Prot. Casing/Riser Height: ____

Condition of Prot. Casing/Riser: ( ) unlocked (X) Good
( ) loose (X) flush mount
( ) Damaged ____

if prot casing; depth to riser below: ____

Gas Meter Calibration/Reading: % Gas ____ % LEL: ____

Vol. Organic Matter (Calibration/Reading): ____ Volatiles (ppm): ____

PURGE INFORMATION

Date/Time Initiated: 11/15/22 9:50 Date/Time Completed: 11/15/22

Surf. Meas. Point: ( ) Pro Casing (X) Riser Riser Diameter (inches) 2 in

Initial Water Level (ft): 4.85 Elevation G/W MSL: ____

Well Total Depth (ft): ____ Method of Well Purge geopump

One (1) Riser Vol (gal): ____ Dedicated: (Y) / N

Total Volume Purged (gal): 52 oz Purged to Dryness: Y / N

Purge Observations: Start 9:50 Finish 10:05

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos~~/cm) mS	Turb. (NTU)	ORP	DO	Other
9:50	4.85		0	11.3	7.49	.753	4.41	18.1	4.44	
9:55	5.16		18oz	12.7	7.15	.751	6.80	22.3	2.04	
10:00	5.34		36oz	13.2	7.14	.753	6.41	21.7	2.04	
10:05	5.46		52oz	12.9	7.14	.754	6.52	23.5	2.23	
sample										

Sample = 10:05

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: B-16

FIELD OBSERVATIONS

SAMPLING INFORMATION

Date/Time 11/15/22 Water Level at Sampling (ft) 6.24

Method of Sampling sleeve pump Dedicated: (Y) / N

Multi-phased/layered: Y / (N) if yes: ( ) Light ( ) Heavy

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (~~umhos~~ mS/cm)	Turb. (NTU)	ORP	DO	Other
10:40	11.4	7.26	1.620	31	-30	.25	

INSTRUMENT CALIFBRATION/CHECK DATA

Meter ID#	Cal Std 7.0 SU	Cal Std 4.0 SU	Cal Std. 10.0 SU	Check Std 7.0 SU (+/- 10%)	Cal.Std. 1413 umhos/cm	Check Std 1413 umhos/cm (+/- 10%)	Cal Std. 10 NTU	Check Std 10 NTU (+/- 10%)
Solution ID#								

GENERAL INFORMATION

Weather conditions at time of sampling: overcast 34°F

Sample characteristics: Clear, no odor

Comments and Observations:

I certify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific protocols:

Date: 11/15/22 by: [signature] Company: Matrix Environmental Technologies

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: B-16

Field Personnel: Nick A, Pat B Sample Matrix: Groundwater

MONITORING WELL INSPECTION

Date/Time: 11/15/22

Condition of seal: (X) Good ( ) Cracked ____ %
( ) None ( ) Buried

Prot. Casing/Riser Height: ____

Condition of Prot. Casing/Riser: ( ) unlocked ( ) Good
( ) loose (X) flush mount
( ) Damaged ____

if prot casing; depth to riser below: ____

Gas Meter Calibration/Reading: % Gas ____ % LEL: ____

Vol. Organic Matter (Calibration/Reading): ____ Volatiles (ppm): ____

PURGE INFORMATION

Date/Time Initiated: 11/15/22 10:25 Date/Time Completed: 11/15/22 10:40

Surf. Meas. Point: ( ) Pro Casing (X) Riser Riser Diameter (inches) 2 in

Initial Water Level (ft): 5.54 Elevation G/W MSL: ____

Well Total Depth (ft): ____ Method of Well Purge geopump

One (1) Riser Vol (gal): ____ Dedicated: (Y) / N

Total Volume Purged (gal): 50 oz Purged to Dryness: Y / (N)

Purge Observations: Start 10:25 Finish 10:40

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos~~ mS/cm)	Turb. (NTU)	ORP	DO	Other
10:25	5.54		0	10.5	7.35	1.543	39	29.1	2.50	
10:30	6.12		20 oz	11.1	7.26	1.605	57	-10.2	.37	
10:35	6.18		36 oz	11.4	7.26	1.614	44	-25	.26	
10:40	6.24		50 oz	11.4	7.26	1.620	31	-30	.25	
Sample										

Sample 10:40

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: MW 106

FIELD OBSERVATIONS

SAMPLING INFORMATION

Date/Time 11/15/22 Water Level at Sampling (ft) 14.80

Method of Sampling geoPump Dedicated: (Y) N

Multi-phased/layered: Y /(N) if yes: ( ) Light ( ) Heavy

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (~~umhos~~ mS/cm)	Turb. (NTU)	ORP	DO	Other
12:00	9.5	6.72	41.023	22.3	-232	.09	

INSTRUMENT CALIFBRATION/CHECK DATA

Meter ID#	Cal Std 7.0 SU	Cal Std 4.0 SU	Cal Std. 10.0 SU	Check Std 7.0 SU (+/- 10%)	Cal.Std. 1413 umhos/cm	Check Std 1413 umhos/cm (+/- 10%)	Cal Std. 10 NTU	Check Std 10 NTU (+/- 10%)
Solution ID#								

GENERAL INFORMATION

Weather conditions at time of sampling: Overcast, 33°F

Sample characteristics: dark color, slight odor

Comments and Observations:

I certify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific protocols:

Date: 11/15/22 by: [signature] Company: Matrix Environmental Technologies

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: MW 106

Field Personnel: Nick A, Pat B Sample Matrix: Groundwater

MONITORING WELL INSPECTION

Date/Time: 11/15/22 11:30

Condition of seal: (X) Good ( ) Cracked ____ %
( ) None ( ) Buried

Prot. Casing/Riser Height: ____

Condition of Prot. Casing/Riser: ( ) unlocked ( ) Good
( ) loose (X) flush mount
( ) Damaged ____

if prot casing; depth to riser below: ____

Gas Meter Calibration/Reading: % Gas ____ % LEL: ____

Vol. Organic Matter (Calibration/Reading): ____ Volatiles (ppm): ____

PURGE INFORMATION

Date/Time Initiated: 11/15/22 11:35 Date/Time Completed: 11/15/22 12:00

Surf. Meas. Point: ( ) Pro Casing (X) Riser Riser Diameter (inches) 2 in

Initial Water Level (ft): 13.50 Elevation G/W MSL: ____

Well Total Depth (ft): ____ Method of Well Purge Geo pump

One (1) Riser Vol (gal): ____ Dedicated: (Y) / N

Total Volume Purged (gal): 110 oz Purged to Dryness: Y / N

Purge Observations: Start 11:35 Finish 12:00

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other
11:35	13.50		0	7.5	6.9	41.100	52	-159	2.66	
11:40	14.78		30 oz	9.3	6.8	41.071	17.8	-209	.33	
11:45	14.78		50 oz	9.2	6.79	41.031	12.83	-212	.24	
11:50	14.79		64 oz	9.0	6.76	41.027	10.78	-214	.18	
11:55	14.80		86 oz	9.2	6.73	4.006	8.86	-222	.10	
12:00	14.80		110 oz	9.5	6.72	41.023	22.3	-232	.09	

sample = 12:00

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: BR-106

FIELD OBSERVATIONS

SAMPLING INFORMATION

Date/Time 11/15/22 Water Level at Sampling (ft) 23.0

Method of Sampling geo pump Dedicated: (Y) / N

Multi-phased/layered: Y / (N) if yes: ( ) Light ( ) Heavy

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (~~umhos~~ mS/cm)	Turb. (NTU)	ORP	DO	Other
12:35	10.4	7.00	6.013	64	-286	-0.09	

INSTRUMENT CALIFBRATION/CHECK DATA

Meter ID#	Cal Std 7.0 SU	Cal Std 4.0 SU	Cal Std. 10.0 SU	Check Std 7.0 SU (+/- 10%)	Cal.Std. 1413 umhos/cm	Check Std 1413 umhos/cm (+/- 10%)	Cal Std. 10 NTU	Check Std 10 NTU (+/- 10%)
Solution ID#								

GENERAL INFORMATION

Weather conditions at time of sampling: overcast 30°F

Sample characteristics: dark color, slight musky odor

Comments and Observations:

I certify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific protocols:

Date: 11/15/22 by: [signature] Company: Matrix Environmental Technologies

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: BR 106

Field Personnel: N.ZKA, Pat B Sample Matrix: Groundwater

MONITORING WELL INSPECTION

Date/Time: 11/15/22

Condition of seal: (X) Good ( ) Cracked ____ %
( ) None ( ) Buried

Prot. Casing/Riser Height: ____

Condition of Prot. Casing/Riser: ( ) unlocked ( ) Good
( ) loose (X) flush mount
( ) Damaged ____

if prot casing; depth to riser below: ____

Gas Meter Calibration/Reading: % Gas ____ % LEL: ____

Vol. Organic Matter (Calibration/Reading): ____ Volatiles (ppm): ____

PURGE INFORMATION

Date/Time Initiated: 11/15/22 12:05 Date/Time Completed: 11/15/22 12:35

Surf. Meas. Point: ( ) Pro Casing (X) Riser Riser Diameter (inches) 6 6 in

Initial Water Level (ft): 23.00 Elevation G/W MSL: ____

Well Total Depth (ft): ____ Method of Well Purge gso pump

One (1) Riser Vol (gal): ____ Dedicated: (Y) / N

Total Volume Purged (gal): 96oz Purged to Dryness: Y / N

Purge Observations: Start 12:10 Finish 12:35

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos~~ mS/cm)	Turb. (NTU)	ORP	DO	Other
12:10	23.0		0	9.2	6.97	5.432	209	-243	1.55	
12:15	23.0		25oz	10.0	7.00	5.845	165	-273	.1	
12:20	23.0		42oz	10.2	7.00	5.919	144	-278	-0.01	
12:25	23.0		64oz	10.2	7.00	5.945	127	-281	-0.05	
12:30	23.0		80oz	10.2	7.00	5.987	77	-284	-0.08	
12:35	23.0		96oz	10.4	7.00	6.013	64	-286	-0.09	

Sample at 12:35

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: PZ-106

Field Personnel: Nick A, Pat B Sample Matrix: Groundwater

MONITORING WELL INSPECTION

Date/Time: 11/15/22 1:30 Condition of seal: (X) Good ( ) Cracked ____ %

( ) None ( ) Buried

Prot. Casing/Riser Height: ____ Condition of Prot. Casing/Riser: ( ) unlocked ( ) Good

( ) loose (X) flush mount

( ) Damaged ____

if prot casing; depth to riser below: ____

Gas Meter Calibration/Reading: % Gas ____ % LEL: ____

Vol. Organic Matter (Calibration/Reading): ____ Volatiles (ppm): ____

PURGE INFORMATION

Date/Time Initiated: 11/15/22 1:30 Date/Time Completed: 11/15/22 1:55

Surf. Meas. Point: ( ) Pro Casing (X) Riser Riser Diameter (inches) 2 in

Initial Water Level (ft): ~~8.50~~ 8.50 Elevation G/W MSL: ____

Well Total Depth (ft): ____ Method of Well Purge geopump

One (1) Riser Vol (gal): ____ Dedicated: (Y) / N

Total Volume Purged (gal): 110oz Purged to Dryness: Y / (N)

Purge Observations: Start 1:30 Finish 1:55

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos~~/cm) mS	Turb. (NTU)	ORP	DO	Other
	8.50									
1:30	~~8.50~~		0	10.6	8.38	5.186	8.91	-167	2.83	
1:35	10.74		20oz	12.8	9.42	5.306	2.99	-219	.49	
1:40	11.80		48oz	12.9	9.44	5.345	2.73	-226	.13	
1:45	12.54		70oz	12.8	9.44	5.362	6.60	-227	.02	
1:50	12.90		96oz	12.2	9.45	5.359	5.32	-224	-.02	
1:55	13.12		110oz	12.3	9.45	5.386	7.64	-225	-.05	

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: PZ 106

FIELD OBSERVATIONS

SAMPLING INFORMATION

Date/Time 11/15/22 Water Level at Sampling (ft) 13.12

Method of Sampling geo pump Dedicated: (Y) / N

Multi-phased/layered: Y / (N) if yes: ( ) Light ( ) Heavy

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity ~~(umhos~~/cm) mS	Turb. (NTU)	ORP	DO	Other
1:55	12.3	9.45	5.386	7.64	-225	-0.05	

INSTRUMENT CALIFBRATION/CHECK DATA

Meter ID#	Cal Std 7.0 SU	Cal Std 4.0 SU	Cal Std. 10.0 SU	Check Std 7.0 SU (+/- 10%)	Cal.Std. 1413 umhos/cm	Check Std 1413 umhos/cm (+/- 10%)	Cal Std. 10 NTU	Check Std 10 NTU (+/- 10%)
Solution ID#								

GENERAL INFORMATION

Weather conditions at time of sampling: Overcast 35°F

Sample characteristics: amber color, chemical odor

Comments and Observations:

I certify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific protocols:

Date: 11/15/22 by: [signature] Company: Matrix Environmental Technologies

FIELD OBSERVATIONS

MS, MSD = 2:35

Facility: Arch Chemicals, Inc. Sample Point ID: PW-14

Field Personnel: Nick A, Pat B Sample Matrix: Groundwater

MONITORING WELL INSPECTION

Date/Time: 11/15/22

Condition of seal: (X) Good ( ) Cracked ____ %

( ) None ( ) Buried

Prot. Casing/Riser Height: ____

Condition of Prot. Casing/Riser: ( ) unlocked (X) Good

( ) loose ( ) flush mount

( ) Damaged ____

if prot casing; depth to riser below: ____

Gas Meter Calibration/Reading: % Gas ____ % LEL: ____

Vol. Organic Matter (Calibration/Reading): ____ Volatiles (ppm): ____

PURGE INFORMATION

Date/Time Initiated: 11/15/22 2:05 Date/Time Completed: 11/15/22 2:30

Surf. Meas. Point: ( ) Pro Casing (X) Riser Riser Diameter (inches) 6 in

Initial Water Level (ft): 8.70 Elevation G/W MSL: ____

Well Total Depth (ft): ____ Method of Well Purge geo pump

One (1) Riser Vol (gal): ____ Dedicated: (Y) / N

Total Volume Purged (gal): 100 oz Purged to Dryness: Y / (N)

Purge Observations: Start 2:05 Finish 2:30

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos~~/cm) MS	Turb. (NTU)	ORP	DO	Other
2:05	8.70		0	12.0	9.55	4,338	11.73	-257	2.78	
2:10	8.85		15 oz	12.4	9.82	4.036	7.44	-276	.38	
2:15	8.97		32 oz	12.2	9.90	3.609	5.45	-270	.07	
2:20	9.12		60 oz	12.3	9.90	3.524	5.30	-273	-0.03	
2:25	9:26		82 oz	12.3	9.90	3,486	4.67	-274	-.06	
2:30	9.40		100 oz	12.6	9.90	3,511	4.61	-275	-0.07	

Sample @ 2:30

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: PW 14

FIELD OBSERVATIONS

SAMPLING INFORMATION

Date/Time 11/15/22 Water Level at Sampling (ft) 9.40

Method of Sampling geopump Dedicated: (Y) / N

Multi-phased/layered: Y / (N) if yes: ( ) Light ( ) Heavy

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (~~umhos/~~cm)	Turb. (NTU)	ORP	DO	Other
2:30	12.6	9.90	3.511 mS	4.61	-275	-0.07	

INSTRUMENT CALIFBRATION/CHECK DATA

Meter ID#	Cal Std 7.0 SU	Cal Std 4.0 SU	Cal Std. 10.0 SU	Check Std 7.0 SU (+/- 10%)	Cal.Std. 1413 umhos/cm	Check Std 1413 umhos/cm (+/- 10%)	Cal Std. 10 NTU	Check Std 10 NTU (+/- 10%)
Solution ID#								

GENERAL INFORMATION

Weather conditions at time of sampling: overcast 34°F

Sample characteristics: amber color, chemical odor

Comments and Observations:

I certify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific protocols:

Date: 11/15/22 by: [signature] Company: Matrix Environmental Technologies

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: PZ 107

Field Personnel: Nick A, Rich R Sample Matrix: Groundwater

MONITORING WELL INSPECTION

Date/Time: 11/16/22 8:45 Condition of seal: (X) Good ( ) Cracked ____ %

( ) None ( ) Buried

Prot. Casing/Riser Height: ____ Condition of Prot. Casing/Riser: ( ) unlocked (X) Good

( ) loose ( ) flush mount

( ) Damaged ____

if prot casing; depth to riser below: ____

Gas Meter Calibration/Reading: % Gas ____ % LEL: ____

Vol. Organic Matter (Calibration/Reading): ____ Volatiles (ppm): ____

PURGE INFORMATION

Date/Time Initiated: 11/16/22 9:00 Date/Time Completed: 11/16/22 9:25

Surf. Meas. Point: ( ) Pro Casing (X) Riser Riser Diameter (inches) 2in

Initial Water Level (ft): 9.20 Elevation G/W MSL: ____

Well Total Depth (ft): ____ Method of Well Purge Geo pump

One (1) Riser Vol (gal): ____ Dedicated: (Y) N

Total Volume Purged (gal): 92oz Purged to Dryness: Y / N

Purge Observations: Start 9:00 Finish 9:25

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos~~ ms/cm)	Turb. (NTU)	ORP	DO mg/L	Other
9:00	9.20		0	9.6	7.52	1.577	4.92	-48	5.21	
9:05	10.43		18oz	10.4	7.43	1.613	3.12	-103	.68	
9:10	10.78		32oz	10.9	7.48	1.612	4.47	-101	.39	
9:15	10.98		50oz	10.7	7.48	1.594	3.69	-98	.29	
9:20	11.12		80oz	10.9	~~7.48~~ 7.46	1.564	3.79	-102	.24	
9:25	11.22		92oz	10.9	7.46	1.5415	2.09	-106	.19	

Sample = 9:25

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: PZ 107

FIELD OBSERVATIONS

SAMPLING INFORMATION

Date/Time 11/16/22 Water Level at Sampling (ft) 11.22

Method of Sampling geo Pump Dedicated: (Y) / N

Multi-phased/layered: Y / (N) if yes: ( ) Light ( ) Heavy

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other
9:25	10.9	7.46	1.545	2.09	-106	.19	

INSTRUMENT CALIFBRATION/CHECK DATA

Meter ID#	Cal Std 7.0 SU	Cal Std 4.0 SU	Cal Std. 10.0 SU	Check Std 7.0 SU (+/- 10%)	Cal.Std. 1413 umhos/cm	Check Std 1413 umhos/cm (+/- 10%)	Cal Std. 10 NTU	Check Std 10 NTU (+/- 10%)
Solution ID#								

GENERAL INFORMATION

Weather conditions at time of sampling: Overcast 35°F

Sample characteristics: clear, no odor

Comments and Observations:

I certify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific protocols:

Date: 11/16/22 by: [signature] Company: Matrix Environmental Technologies

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: PW 17

FIELD OBSERVATIONS

SAMPLING INFORMATION

Date/Time 11/16/22 Water Level at Sampling (ft) 18.80

Method of Sampling grab Dedicated: (Y) N

Multi-phased/layered: Y (N) if yes: ( ) Light ( ) Heavy

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other
10:15	14.0	7.81	7.731	194	-131	3.68	

INSTRUMENT CALIFBRATION/CHECK DATA

Meter ID#	Cal Std 7.0 SU	Cal Std 4.0 SU	Cal Std. 10.0 SU	Check Std 7.0 SU (+/- 10%)	Cal.Std. 1413 umhos/cm	Check Std 1413 umhos/cm (+/- 10%)	Cal Std. 10 NTU	Check Std 10 NTU (+/- 10%)
Solution ID#								

GENERAL INFORMATION

Weather conditions at time of sampling: overcast 35°F

Sample characteristics: cloudy / stained, slight odor

Comments and Observations:

I certify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific protocols:

Date: 11/16/22 by: [signature] Company: Matrix Environmental Technologies

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: PW 17

Field Personnel: _____ Sample Matrix: Groundwater

MONITORING WELL INSPECTION

Date/Time: 11/16/22

Condition of seal: ( ) Good ( ) Cracked _____ %
(X) None ( ) Buried

Prot. Casing/Riser Height: _____

Condition of Prot. Casing/Riser: ( ) unlocked (X) Good
( ) loose ( ) flush mount
( ) Damaged _____

if prot casing; depth to riser below: _____

Gas Meter Calibration/Reading: % Gas _____ % LEL: _____

Vol. Organic Matter (Calibration/Reading): _____ Volatiles (ppm): _____

PURGE INFORMATION

Date/Time Initiated: 11/16/22 10:15 Date/Time Completed: _____

Surf. Meas. Point: ( ) Pro Casing (X) Riser Riser Diameter (inches) 6in

Initial Water Level (ft): 18.80 Elevation G/W MSL: _____

Well Total Depth (ft): _____ Method of Well Purge grab

One (1) Riser Vol (gal): _____ Dedicated: (Y) N

Total Volume Purged (gal): Grab Purged to Dryness: Y / N

Purge Observations: Start 10:15 Finish _____

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other
10:15	18.80									

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: PW15

FIELD OBSERVATIONS

SAMPLING INFORMATION

Date/Time 11/16/22 Water Level at Sampling (ft) 25.55

Method of Sampling grab Dedicated: (Y) N

Multi-phased/layered: Y / (N) if yes: ( ) Light ( ) Heavy

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other
10:50	12.5	9.48	4.539	371	-122	8.42	

INSTRUMENT CALIFBRATION/CHECK DATA

Meter ID#	Cal Std 7.0 SU	Cal Std 4.0 SU	Cal Std. 10.0 SU	Check Std 7.0 SU (+/- 10%)	Cal.Std. 1413 umhos/cm	Check Std 1413 umhos/cm (+/- 10%)	Cal Std. 10 NTU	Check Std 10 NTU (+/- 10%)
Solution ID#								

GENERAL INFORMATION

Weather conditions at time of sampling: overcast 35°F

Sample characteristics: chemical odor, dark brown color

Comments and Observations:

I certify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific protocols:

Date: 11/16/22 by: [signature] Company: Matrix Environmental Technologies

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: PW15

Field Personnel: Nick A, Rich R Sample Matrix: Groundwater

MONITORING WELL INSPECTION

Date/Time: 11/16/22

Condition of seal: ( ) Good ( ) Cracked ____ %
(X) None ( ) Buried

Prot. Casing/Riser Height: ____

Condition of Prot. Casing/Riser: ( ) unlocked (X) Good
( ) loose ( ) flush mount
( ) Damaged ____

if prot casing; depth to riser below: ____

Gas Meter Calibration/Reading: % Gas ____ % LEL: ____

Vol. Organic Matter (Calibration/Reading): ____ Volatiles (ppm): ____

PURGE INFORMATION

Date/Time Initiated: active pumping well Date/Time Completed: ____

Surf. Meas. Point: ( ) Pro Casing ( ) Riser Riser Diameter (inches) 6 in

Initial Water Level (ft): ____ Elevation G/W MSL: ____

Well Total Depth (ft): ____ Method of Well Purge none

One (1) Riser Vol (gal): ____ Dedicated: (Y) / N

Total Volume Purged (gal): ____ Purged to Dryness: Y / N

Purge Observations: Start 10:50 Finish ____

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc.

Sample Point ID: BR-5A

Field Personnel: Nick A, Rich R

Sample Matrix: Groundwater

MONITORING WELL INSPECTION

Date/Time: 11/16/22

Condition of seal: ( ) Good ( ) Cracked ____ %
(X) None ( ) Buried

Prot. Casing/Riser Height: ____

Condition of Prot. Casing/Riser: ( ) unlocked (X) Good
( ) loose ( ) flush mount
( ) Damaged ____

if prot casing; depth to riser below: ____

Gas Meter Calibration/Reading: % Gas ____ % LEL: ____

Vol. Organic Matter (Calibration/Reading): ____ Volatiles (ppm): ____

PURGE INFORMATION

Date/Time Initiated: 11/16/22 11:15

Date/Time Completed: 11/16/22

Surf. Meas. Point: ( ) Pro Casing (X) Riser

Riser Diameter (inches) 6in

Initial Water Level (ft): 4.55

Elevation G/W MSL: ____

Well Total Depth (ft): ____

Method of Well Purge Geo pump

One (1) Riser Vol (gal): ____

Dedicated: (Y) / N

Total Volume Purged (gal): 70oz

Purged to Dryness: Y / N

Purge Observations:

Start 11:20 Finish 11:45

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos~~ mS/cm)	Turb. (NTU)	ORP	DO	Other
11:20	4.55		0	10.4	7.4	2.737	18.4	-50	6.71	
11:25	4.65		10oz	10.5	7.22	3.349	12.06	-88	.96	
11:30	4.7		20oz	11.8	7.24	3.384	10.5	-93	.44	
11:35	4.75		35oz	12.0	7.24	3.395	10.8	-98	.20	
11:40	4.77		55oz	12.0	7.25	3.400	15.1	-100	.12	
11:45	4.82		70oz	12.1	7.25	3.411	9.11	-103	.08	

sample 11:45

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: BR-5A

FIELD OBSERVATIONS

SAMPLING INFORMATION

Date/Time 11/16/22 Water Level at Sampling (ft) 4.82

Method of Sampling geo pump Dedicated: (Y) / N

Multi-phased/layered: Y / (N) if yes: ( ) Light ( ) Heavy

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (~~umhos~~ mS/cm)	Turb. (NTU)	ORP	DO	Other
11:45	12.1	7.25	3.411	9.11	-103	.08	

INSTRUMENT CALIFBRATION/CHECK DATA

Meter ID#	Cal Std 7.0 SU	Cal Std 4.0 SU	Cal Std. 10.0 SU	Check Std 7.0 SU (+/- 10%)	Cal.Std. 1413 umhos/cm	Check Std 1413 umhos/cm (+/- 10%)	Cal Std. 10 NTU	Check Std 10 NTU (+/- 10%)
Solution ID#								

GENERAL INFORMATION

Weather conditions at time of sampling: overcast 35°F

Sample characteristics: clear, no odor

Comments and Observations:

I certify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific protocols:

Date: 11/16/22 by: [signature] Company: Matrix Environmental Technologies

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: PW13

FIELD OBSERVATIONS

SAMPLING INFORMATION

Date/Time 11/16/22 Water Level at Sampling (ft) 23.98

Method of Sampling Grab Dedicated: (Y) N

Multi-phased/layered: Y (N) if yes: ( ) Light ( ) Heavy

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO mg/L	Other
1:00	15.1	7.41	6.167	9.90	-751.1	2.47	

INSTRUMENT CALIFBRATION/CHECK DATA

Meter ID#	Cal Std 7.0 SU	Cal Std 4.0 SU	Cal Std. 10.0 SU	Check Std 7.0 SU (+/- 10%)	Cal.Std. 1413 umhos/cm	Check Std 1413 umhos/cm (+/- 10%)	Cal Std. 10 NTU	Check Std 10 NTU (+/- 10%)
Solution ID#								

GENERAL INFORMATION

Weather conditions at time of sampling: Partly Sunny 37°F

Sample characteristics: gray color, chemical odor

Comments and Observations:

I certify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific protocols:

Date: 11/16/22 by: [signature] Company: Matrix Environmental Technologies

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: PW13

Field Personnel: Nick A, Rich R Sample Matrix: Groundwater

MONITORING WELL INSPECTION

Date/Time: 11/16/22

Condition of seal: ( ) Good ( ) Cracked ____ %
(X) None ( ) Buried

Prot. Casing/Riser Height: ____

Condition of Prot. Casing/Riser: ( ) unlocked (X) Good
( ) loose ( ) flush mount
( ) Damaged ____

if prot casing; depth to riser below: ____

Gas Meter Calibration/Reading: % Gas ____ % LEL: ____

Vol. Organic Matter (Calibration/Reading): ____ Volatiles (ppm): ____

PURGE INFORMATION

Date/Time Initiated: 11/16/22 active pumping well Date/Time Completed: ____

Surf. Meas. Point: ( ) Pro Casing (X) Riser Riser Diameter (inches) 6 in

Initial Water Level (ft): ____ Elevation G/W MSL: ____

Well Total Depth (ft): ____ Method of Well Purge active pumping well

One (1) Riser Vol (gal): ____ Dedicated: Y / N

Total Volume Purged (gal): ____ Purged to Dryness: Y / N

Purge Observations: Start ____ Finish ____

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc.

Sample Point ID: PW 12

Field Personnel: Nick A, Rich R

Sample Matrix: Groundwater

MONITORING WELL INSPECTION

Date/Time: 11/16/22

Condition of seal: ( ) Good ( ) Cracked ____ %
(X) None ( ) Buried

Prot. Casing/Riser Height: ____

Condition of Prot. Casing/Riser: ( ) unlocked ( ) Good
( ) loose (X) flush mount
( ) Damaged ____

if prot casing; depth to riser below: ____

Gas Meter Calibration/Reading: % Gas ____ % LEL: ____

Vol. Organic Matter (Calibration/Reading): ____ Volatiles (ppm): ____

PURGE INFORMATION

Date/Time Initiated: 11/16/22 1:30

Date/Time Completed: 11/16/22

Surf. Meas. Point: ( ) Pro Casing (X) Riser

Riser Diameter (inches) 6in

Initial Water Level (ft): 5.90

Elevation G/W MSL: ____

Well Total Depth (ft): ____

Method of Well Purge geopump

One (1) Riser Vol (gal): ____

Dedicated: (Y) / N

Total Volume Purged (gal): 90oz

Purged to Dryness: Y / (N)

Purge Observations:

Start 1:30 Finish 1:55

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity ~~(umhos/cm)~~ ms	Turb. (NTU)	ORP	DO	Other
1:30	5.90		0	12.6	9.10	0.357	15.7	-186	2.18	
1:35	5.95		15oz	13.1	9.09	.344	17.2	-187	1.40	
1:40	5.97		32oz	12.6	9.10	.338	20.8	-183	.92	
1:45	5.99		50oz	12.5	9.10	.337	22.8	-179	.74	
1:50	6.00		70oz	12.7	9.10	.337	21.5	-176	.66	
1:55	6.01		90oz	12.7	9.10	.336	21.2	-174	.55	

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: PW 12

FIELD OBSERVATIONS

SAMPLING INFORMATION

Date/Time 11/16/22 Water Level at Sampling (ft) 6.01

Method of Sampling Geopump Dedicated: (Y) / N

Multi-phased/layered: Y / (N) if yes: ( ) Light ( ) Heavy

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (~~umhos~~ mS/cm)	Turb. (NTU)	ORP	DO	Other
1:55	12.7	9.10	.336	21.2	-174	.59	

INSTRUMENT CALIFBRATION/CHECK DATA

Meter ID#	Cal Std 7.0 SU	Cal Std 4.0 SU	Cal Std. 10.0 SU	Check Std 7.0 SU (+/- 10%)	Cal.Std. 1413 umhos/cm	Check Std 1413 umhos/cm (+/- 10%)	Cal Std. 10 NTU	Check Std 10 NTU (+/- 10%)
Solution ID#								

GENERAL INFORMATION

Weather conditions at time of sampling: overcast 37°F

Sample characteristics: slightly brown color, slight odor

Comments and Observations:

I certify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific protocols:

Date: 11/16/22 by: [signature] Company: Matrix Environmental Technologies

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: PZ 101

Field Personnel: Nick A, Rich R Sample Matrix: Groundwater

MONITORING WELL INSPECTION

Date/Time: 11/17/22 8:20

Condition of seal: (X) Good ( ) Cracked ____ %
( ) None ( ) Buried

Prot. Casing/Riser Height: ____

Condition of Prot. Casing/Riser: ( ) unlocked (X) Good
( ) loose ( ) flush mount
( ) Damaged ____

if prot casing; depth to riser below: ____

Gas Meter Calibration/Reading: % Gas ____ % LEL: ____

Vol. Organic Matter (Calibration/Reading): ____ Volatiles (ppm): ____

PURGE INFORMATION

Date/Time Initiated: 11/17/22 Date/Time Completed: 11/17/22

Surf. Meas. Point: ( ) Pro Casing (X) Riser Riser Diameter (inches) 2 in

Initial Water Level (ft): 17.28 Elevation G/W MSL: ____

Well Total Depth (ft): ____ Method of Well Purge Geo pump

One (1) Riser Vol (gal): ____ Dedicated: (Y) / N

Total Volume Purged (gal): 58 oz Purged to Dryness: Y / N

Purge Observations: Start 8:30 Finish 8:55

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other
8:30	17.28		0	3.7	6.61	6.511	4.74	103	6.18	
8:35	17.8		10 oz	3.1	6.64	6.898	4.44	107	3.09	
8:40	18.05		20 oz	3.7	6.67	6.902	7.87	111	2.83	
8:45	18.25		32 oz	4.2	6.72	6.911	6.03	114	3.46	
8:50	18.38		46 oz	4.4	6.74	6.950	2.96	115	3.52	
8:55	18.51		58 oz	4.6	~~6.89~~ 6.74	6.965	2.2	116	3.35	

Sample at 8:55

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: PZ 101

FIELD OBSERVATIONS

SAMPLING INFORMATION

Date/Time 11/17/22 Water Level at Sampling (ft) 18.51

Method of Sampling geo pump Dedicated: (Y) N

Multi-phased/layered: Y / (N) if yes: ( ) Light ( ) Heavy

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other
01:55	4.6	6.74	6.965	2.2	116	3.35	

INSTRUMENT CALIFBRATION/CHECK DATA

Meter ID#	Cal Std 7.0 SU	Cal Std 4.0 SU	Cal Std. 10.0 SU	Check Std 7.0 SU (+/- 10%)	Cal.Std. 1413 umhos/cm	Check Std 1413 umhos/cm (+/- 10%)	Cal Std. 10 NTU	Check Std 10 NTU (+/- 10%)
Solution ID#								

GENERAL INFORMATION

Weather conditions at time of sampling: Overcast/showing 30°F

Sample characteristics: clear, slight stagnant odor

Comments and Observations:

I certify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific protocols:

Date: 11/17/22 by: [signature] Company: Matrix Environmental Technologies

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: PZ 102

Field Personnel: Nick A, Rich R Sample Matrix: Groundwater

MONITORING WELL INSPECTION

Date/Time: 11/17/22 Condition of seal: (X) Good ( ) Cracked ____ %

( ) None ( ) Buried

Prot. Casing/Riser Height: ____ Condition of Prot. Casing/Riser: ( ) unlocked (X) Good

( ) loose ( ) flush mount

( ) Damaged ____

if prot casing; depth to riser below: ____

Gas Meter Calibration/Reading: % Gas ____ % LEL: ____

Vol. Organic Matter (Calibration/Reading): ____ Volatiles (ppm): ____

PURGE INFORMATION

Date/Time Initiated: 11/17/22 9:30 Date/Time Completed: 11/17/22

Surf. Meas. Point: ( ) Pro Casing (X) Riser Riser Diameter (inches) 2 in

Initial Water Level (ft): 17.82 Elevation G/W MSL: ____

Well Total Depth (ft): ____ Method of Well Purge geo pump

One (1) Riser Vol (gal): ____ Dedicated: (Y) / N

Total Volume Purged (gal): 50 oz Purged to Dryness: Y / N

Purge Observations: Start 9:45 Finish 10:10

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos~~ ms/cm)	Turb. (NTU)	ORP	DO	Other
9:45	17.82		0	4.8	8.42	9.012	12.5	-298	1.95	
9:50	18.3		10 oz	4.6	8.41	9.181	10.7	-342	0.69	
9:55	19.4		20 oz	4.9	8.39	9.114	11.6	-372	.01	
10:00	20.0		30 oz	5.4	8.32	8.891	15.7	-371	-.09	
10:05	20.60		40 oz	6.7	8.14	8.164	27.5	-359	-0.1	
10:10	21.02		50 oz	6.9	8.00	7.374	82	-346	-0.15	

Sample at 10:10

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: PZ 102

FIELD OBSERVATIONS

SAMPLING INFORMATION

Date/Time 11/17/22 Water Level at Sampling (ft) 21.02

Method of Sampling geopump Dedicated: (Y) N

Multi-phased/layered: Y / (N) if yes: ( ) Light ( ) Heavy

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other
10:10	6.9	8.00	7.374	82	-346	-.15	

INSTRUMENT CALIFBRATION/CHECK DATA

Meter ID#	Cal Std 7.0 SU	Cal Std 4.0 SU	Cal Std. 10.0 SU	Check Std 7.0 SU (+/- 10%)	Cal.Std. 1413 umhos/cm	Check Std 1413 umhos/cm (+/- 10%)	Cal Std. 10 NTU	Check Std 10 NTU (+/- 10%)
Solution ID#								

GENERAL INFORMATION

Weather conditions at time of sampling: overcast 32°F

Sample characteristics: clear, chemical odor

Comments and Observations:

I certify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific protocols:

Date: 11/17/22 by: [signature] Company: Matrix Environmental Technologies

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc.

Sample Point ID: PZ 103

Field Personnel: Nick A, Rich R

Sample Matrix: Groundwater

MONITORING WELL INSPECTION

Date/Time: 11/17/22

Condition of seal: (X) Good ( ) Cracked ____ %
( ) None ( ) Buried

Prot. Casing/Riser Height: ____

Condition of Prot. Casing/Riser: ( ) unlocked (X) Good
( ) loose ( ) flush mount
( ) Damaged ____

if prot casing; depth to riser below: ____

Gas Meter Calibration/Reading: % Gas ____ % LEL: ____

Vol. Organic Matter (Calibration/Reading): ____ Volatiles (ppm): ____

PURGE INFORMATION

Date/Time Initiated: 11/17/22 10:40

Date/Time Completed: 11/17/22

Surf. Meas. Point: ( ) Pro Casing (X) Riser

Riser Diameter (inches) 2in

Initial Water Level (ft): 14.25

Elevation G/W MSL: ____

Well Total Depth (ft): ____

Method of Well Purge geo pump

One (1) Riser Vol (gal): ____

Dedicated: (Y) / N

Total Volume Purged (gal): 90 oz

Purged to Dryness: Y (N)

Purge Observations:

Start 10:55 Finish 11:20

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos~~ mS/cm)	Turb. (NTU)	ORP	DO	Other
10:55	14.25		◯	7.3	8.05	7.812	4.88	-312	2.83	
11:00	15.3		15 oz	8.5	7.69	7.635	8.21	-339	0.04	
→ 11:05	16.7		40 oz	7.9	7.80	7.938	20.4	-304	2.25	
11:10	17.05		60 oz	8.1	7.76	7.819	43.2	-331	1.22	
11:15	17.22		75 oz	9.2	7.79	7.941	13.7	-343	0.06	
11:20	17.55		90 oz	8.6	7.93	8.228	11.9	-352	-.10	

Sample at 11:20 had to move for a tractor trailer at 11:05

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: PZ 103

FIELD OBSERVATIONS

SAMPLING INFORMATION

Date/Time 11/17/22 Water Level at Sampling (ft) 17.55

Method of Sampling geopump Dedicated: (Y) / N

Multi-phased/layered: Y / (N) if yes: ( ) Light ( ) Heavy

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other
11:20	8.6	7.93	8,228	11.9	[illegible]	-.10	
					-352		

INSTRUMENT CALIFBRATION/CHECK DATA

Meter ID#	Cal Std 7.0 SU	Cal Std 4.0 SU	Cal Std. 10.0 SU	Check Std 7.0 SU (+/- 10%)	Cal.Std. 1413 umhos/cm	Check Std 1413 umhos/cm (+/- 10%)	Cal Std. 10 NTU	Check Std 10 NTU (+/- 10%)
Solution ID#								

GENERAL INFORMATION

Weather conditions at time of sampling: overcast 32°F

Sample characteristics: clear, sulfur odor

Comments and Observations:

I certify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific protocols:

Date: 11/17/22 by: [signature] Company: Matrix Environmental Technologies

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: [redacted] PW 16

Field Personnel: Nick A, Rich R Sample Matrix: Groundwater

MONITORING WELL INSPECTION

Date/Time: 11/17/22

Condition of seal: ( ) Good ( ) Cracked ____ %
(X) None ( ) Buried

Prot. Casing/Riser Height: ____

Condition of Prot. Casing/Riser: ( ) unlocked ( ) Good
( ) loose (X) flush mount
( ) Damaged ____

if prot casing; depth to riser below: ____

Gas Meter Calibration/Reading: % Gas ____ % LEL: ____

Vol. Organic Matter (Calibration/Reading): ____ Volatiles (ppm): ____

PURGE INFORMATION

Date/Time Initiated: active pumping well Date/Time Completed: ____

Surf. Meas. Point: ( ) Pro Casing ( ) Riser Riser Diameter (inches) 6 in

Initial Water Level (ft): 13.3 Elevation G/W MSL: ____

Well Total Depth (ft): ____ Method of Well Purge active pumping well

One (1) Riser Vol (gal): ____ Dedicated: (Y) N

Total Volume Purged (gal): ____ Purged to Dryness: Y / N

Purge Observations: Start ____ Finish ____

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: PW [redacted] 16

FIELD OBSERVATIONS

SAMPLING INFORMATION

Date/Time 11/17/22 12:15 Water Level at Sampling (ft) 13.30

Method of Sampling grab Dedicated: (Y) / N

Multi-phased/layered: Y / (N) if yes: ( ) Light ( ) Heavy

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (~~umhos~~ mS/cm)	Turb. (NTU)	ORP	DO	Other
12:15	14.4	7.62	5.001	11.43	-114	3.48	

INSTRUMENT CALIFBRATION/CHECK DATA

Meter ID#	Cal Std 7.0 SU	Cal Std 4.0 SU	Cal Std. 10.0 SU	Check Std 7.0 SU (+/- 10%)	Cal.Std. 1413 umhos/cm	Check Std 1413 umhos/cm (+/- 10%)	Cal Std. 10 NTU	Check Std 10 NTU (+/- 10%)
Solution ID#								

GENERAL INFORMATION

Weather conditions at time of sampling: Overcast / snowing 32°F

Sample characteristics: clear, chemical odor

Comments and Observations:

I certify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific protocols:

Date: 11/17/22 by: [signature] Company: Matrix Environmental Technologies

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: BR-8

Field Personnel: Nickt, Rich R Sample Matrix: Groundwater

MONITORING WELL INSPECTION

Date/Time: 11/17/22 Condition of seal: (X) Good ( ) Cracked ____ %

( ) None ( ) Buried

Prot. Casing/Riser Height: ____ Condition of Prot. Casing/Riser: ( ) unlocked (X) Good

( ) loose ( ) flush mount

( ) Damaged ____

if prot casing; depth to riser below: ____

Gas Meter Calibration/Reading: % Gas ____ % LEL: ____

Vol. Organic Matter (Calibration/Reading): ____ Volatiles (ppm): ____

PURGE INFORMATION

Date/Time Initiated: 11/17/22 12:50 Date/Time Completed: 11/17/22

Surf. Meas. Point: ( ) Pro Casing (X) Riser Riser Diameter (inches) 6 in

Initial Water Level (ft): 11.20 Elevation G/W MSL: ____

Well Total Depth (ft): ____ Method of Well Purge GRO pump

One (1) Riser Vol (gal): ____ Dedicated: (Y) / N

Total Volume Purged (gal): 96oz Purged to Dryness: Y / (N)

Purge Observations: Start 1:00 Finish 1:25

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos~~/cm) mS	Turb. (NTU)	ORP	DO	Other
1:00	11.20		0	6.2	9.45	12.889	6.63	-213	2.16	
1:05	11.53		8oz	4.6	9.46	12.800	7.05	-220	1.09	
1:10	11.61		20oz	7.3	9.21	13.286	4.26	-240	.14	
1:15	11.69		48oz	7.3	9.20	13.142	4.49	-251	.01	
1:20	11.77		70oz	7.2	9.20	13.240	4.14	-260	-.07	
1:25	11.80		96oz	7.3	9.20	13.315	4.02	-121	-.09	

Sample at 1:25

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: BR-3

FIELD OBSERVATIONS

SAMPLING INFORMATION

Date/Time 11/17/22 Water Level at Sampling (ft) 11.80

Method of Sampling Geopump Dedicated: (Y) N

Multi-phased/layered: Y / (N) if yes: ( ) Light ( ) Heavy

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~ mS)	Turb. (NTU)	ORP	DO	Other
1:25	7.3	9.30	13.315	4.02	-121	-.09	

INSTRUMENT CALIFBRATION/CHECK DATA

Meter ID#	Cal Std 7.0 SU	Cal Std 4.0 SU	Cal Std. 10.0 SU	Check Std 7.0 SU (+/- 10%)	Cal.Std. 1413 umhos/cm	Check Std 1413 umhos/cm (+/- 10%)	Cal Std. 10 NTU	Check Std 10 NTU (+/- 10%)
Solution ID#								

GENERAL INFORMATION

Weather conditions at time of sampling: Snowing 32°F

Sample characteristics: amber color, Chemical odor

Comments and Observations:

I certify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific protocols:

Date: 11/17/22 by: [signature] Company: Matrix Environmental Technologies

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: BR 9

Field Personnel: Nick A, Rich R Sample Matrix: Groundwater

MONITORING WELL INSPECTION

Date/Time: 11/17/22

Condition of seal: ( ) Good ( ) Cracked ____ %
(X) None ( ) Buried

Prot. Casing/Riser Height: ____

Condition of Prot. Casing/Riser: ( ) unlocked (X) Good
( ) loose ( ) flush mount
( ) Damaged ____

if prot casing; depth to riser below: ____

Gas Meter Calibration/Reading: % Gas ____ % LEL: ____

Vol. Organic Matter (Calibration/Reading): ____ Volatiles (ppm): ____

PURGE INFORMATION

Date/Time Initiated: active pumping well Date/Time Completed: ____

Surf. Meas. Point: ( ) Pro Casing (X) Riser Riser Diameter (inches) 6in

Initial Water Level (ft): ____ Elevation G/W MSL: ____

Well Total Depth (ft): ____ Method of Well Purge active pumping well

One (1) Riser Vol (gal): ____ Dedicated: (Y) / N

Total Volume Purged (gal): ____ Purged to Dryness: Y / (N)

Purge Observations: Start 1:55 Finish ____

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: BR9

FIELD OBSERVATIONS

MS, MSD

SAMPLING INFORMATION

Date/Time 11/17/22 Water Level at Sampling (ft) 29.73

Method of Sampling gpump Dedicated: (Y) N

Multi-phased/layered: Y (N) if yes: ( ) Light ( ) Heavy

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other
2:00	11.8	7.48	5.322	32.38	-131.2	3.43	

INSTRUMENT CALIFBRATION/CHECK DATA

Meter ID#	Cal Std 7.0 SU	Cal Std 4.0 SU	Cal Std. 10.0 SU	Check Std 7.0 SU (+/- 10%)	Cal.Std. 1413 umhos/cm	Check Std 1413 umhos/cm (+/- 10%)	Cal Std. 10 NTU	Check Std 10 NTU (+/- 10%)
Solution ID#								

GENERAL INFORMATION

Weather conditions at time of sampling: Overcast 32°F

Sample characteristics: clear, slight odor

Comments and Observations:

I certify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific protocols:

Date: 11/17/22 by: [signature] Company: Matrix Environmental Technologies

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: BR-7A

FIELD OBSERVATIONS

SAMPLING INFORMATION

Date/Time 11/18/22 Water Level at Sampling (ft) 26.80

Method of Sampling grab Dedicated: (Y) / N

Multi-phased/layered: Y / (N) if yes: ( ) Light ( ) Heavy

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other
8:50	13.1	7.34	5.380	35	-237	3.30	

INSTRUMENT CALIFBRATION/CHECK DATA

Meter ID#	Cal Std 7.0 SU	Cal Std 4.0 SU	Cal Std. 10.0 SU	Check Std 7.0 SU (+/- 10%)	Cal.Std. 1413 umhos/cm	Check Std 1413 umhos/cm (+/- 10%)	Cal Std. 10 NTU	Check Std 10 NTU (+/- 10%)
Solution ID#								

GENERAL INFORMATION

Weather conditions at time of sampling: snowing 30°F

Sample characteristics:

Comments and Observations:

I certify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific protocols:

Date: 11/18/22 by: [signature] Company: Matrix Environmental Technologies

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: BR-7A

Field Personnel: Nick A, Rich R Sample Matrix: Groundwater

MONITORING WELL INSPECTION

Date/Time: 11/18/22

Condition of seal: ( ) Good ( ) Cracked ____ %
(X) None ( ) Buried

Prot. Casing/Riser Height: ____

Condition of Prot. Casing/Riser: ( ) unlocked (X) Good
( ) loose ( ) flush mount
( ) Damaged ____

if prot casing; depth to riser below: ____

Gas Meter Calibration/Reading: % Gas ____ % LEL: ____

Vol. Organic Matter (Calibration/Reading): ____ Volatiles (ppm): ____

PURGE INFORMATION

Date/Time Initiated: 11/18/22 active pumping well Date/Time Completed: ____

Surf. Meas. Point: ( ) Pro Casing (X) Riser Riser Diameter (inches) 6in

Initial Water Level (ft): ____ Elevation G/W MSL: ____

Well Total Depth (ft): ____ Method of Well Purge ____

One (1) Riser Vol (gal): ____ Dedicated: Y / N

Total Volume Purged (gal): ____ Purged to Dryness: Y / N

Purge Observations: Start ____ Finish ____

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: QS-4

FIELD OBSERVATIONS

SAMPLING INFORMATION

Date/Time 11/18/22 Water Level at Sampling (ft) /

Method of Sampling grab Dedicated: (Y) / N

Multi-phased/layered: Y / (N) if yes: ( ) Light ( ) Heavy

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity ~~(umhos/cm)~~ mS	Turb. (NTU)	ORP	DO	Other
9:45	5.3	8.46	2.022	40.7	-63.9	12.52	

INSTRUMENT CALIFBRATION/CHECK DATA

Meter ID#	Cal Std 7.0 SU	Cal Std 4.0 SU	Cal Std. 10.0 SU	Check Std 7.0 SU (+/- 10%)	Cal.Std. 1413 umhos/cm	Check Std 1413 umhos/cm (+/- 10%)	Cal Std. 10 NTU	Check Std 10 NTU (+/- 10%)
Solution ID#								

GENERAL INFORMATION

Weather conditions at time of sampling: cloudy 29°F

Sample characteristics: clear

Comments and Observations:

I certify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific protocols:

Date: 11/18/22 by: [signature] Company: Matrix Environmental Technologies

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: _____

Field Personnel: _____ Sample Matrix: Groundwater

MONITORING WELL INSPECTION

Date/Time: _____ Condition of seal: ( ) Good ( ) Cracked _____ %

( ) None ( ) Buried

Prot. Casing/Riser Height: _____ Condition of Prot. Casing/Riser: ( ) unlocked ( ) Good

( ) loose ( ) flush mount

( ) Damaged _____

if prot casing; depth to riser below: _____

Gas Meter Calibration/Reading: % Gas _____ % LEL: _____

Vol. Organic Matter (Calibration/Reading): _____ Volatiles (ppm): _____

PURGE INFORMATION

Date/Time Initiated: _____ Date/Time Completed: _____

Surf. Meas. Point: ( ) Pro Casing ( ) Riser Riser Diameter (inches) _____

Initial Water Level (ft): _____ Elevation G/W MSL: _____

Well Total Depth (ft): _____ Method of Well Purge _____

One (1) Riser Vol (gal): _____ Dedicated: Y / N

Total Volume Purged (gal): _____ Purged to Dryness: Y / N

Purge Observations: Start _____ Finish _____

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: QD-1

FIELD OBSERVATIONS

SAMPLING INFORMATION

Date/Time 11/18/22 Water Level at Sampling (ft) /

Method of Sampling grab Dedicated: (Y) N

Multi-phased/layered: Y / (N) if yes: ( ) Light ( ) Heavy

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other
10:35	5.9	8.02	1.569	2.88	-24.9	10.24	

INSTRUMENT CALIFBRATION/CHECK DATA

Meter ID#	Cal Std 7.0 SU	Cal Std 4.0 SU	Cal Std. 10.0 SU	Check Std 7.0 SU (+/- 10%)	Cal.Std. 1413 umhos/cm	Check Std 1413 umhos/cm (+/- 10%)	Cal Std. 10 NTU	Check Std 10 NTU (+/- 10%)
Solution ID#								

GENERAL INFORMATION

Weather conditions at time of sampling: cloudy 29°F

Sample characteristics: clear, no odor

Comments and Observations:

I certify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific protocols:

Date: 11/18/22 by: [signature] Company: Matrix Environmental Technologies

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: _____

Field Personnel: _____ Sample Matrix: Groundwater

MONITORING WELL INSPECTION

Date/Time: _____ Condition of seal: ( ) Good ( ) Cracked _____ %

( ) None ( ) Buried

Prot. Casing/Riser Height: _____ Condition of Prot. Casing/Riser: ( ) unlocked ( ) Good

( ) loose ( ) flush mount

( ) Damaged _____

if prot casing; depth to riser below: _____

Gas Meter Calibration/Reading: % Gas _____ % LEL: _____

Vol. Organic Matter (Calibration/Reading): _____ Volatiles (ppm): _____

PURGE INFORMATION

Date/Time Initiated: _____ Date/Time Completed: _____

Surf. Meas. Point: ( ) Pro Casing ( ) Riser Riser Diameter (inches) _____

Initial Water Level (ft): _____ Elevation G/W MSL: _____

Well Total Depth (ft): _____ Method of Well Purge _____

One (1) Riser Vol (gal): _____ Dedicated: Y / N

Total Volume Purged (gal): _____ Purged to Dryness: Y / N

Purge Observations: Start _____ Finish _____

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: QO-2

FIELD OBSERVATIONS

SAMPLING INFORMATION

Date/Time 11/18/22 Water Level at Sampling (ft) /

Method of Sampling grab Dedicated: (Y) N

Multi-phased/layered: Y / (N) if yes: ( ) Light ( ) Heavy

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (~~umhos~~ mS/cm)	Turb. (NTU)	ORP	DO	Other
11:20	6.0	8.26	1.476	10.09	112	12.14	

INSTRUMENT CALIFBRATION/CHECK DATA

Meter ID#	Cal Std 7.0 SU	Cal Std 4.0 SU	Cal Std. 10.0 SU	Check Std 7.0 SU (+/- 10%)	Cal.Std. 1413 umhos/cm	Check Std 1413 umhos/cm (+/- 10%)	Cal Std. 10 NTU	Check Std 10 NTU (+/- 10%)
Solution ID#								

GENERAL INFORMATION

Weather conditions at time of sampling: cloudy 30°F

Sample characteristics: clear

Comments and Observations:

I certify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific protocols:

Date: 11/18/22 by: [signature] Company: Matrix Environmental Technologies

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: _____

Field Personnel: _____ Sample Matrix: Groundwater

MONITORING WELL INSPECTION

Date/Time: _____ Condition of seal: ( ) Good ( ) Cracked _____ %

( ) None ( ) Buried

Prot. Casing/Riser Height: _____ Condition of Prot. Casing/Riser: ( ) unlocked ( ) Good

( ) loose ( ) flush mount

( ) Damaged _____

if prot casing; depth to riser below: _____

Gas Meter Calibration/Reading: % Gas _____ % LEL: _____

Vol. Organic Matter (Calibration/Reading): _____ Volatiles (ppm): _____

PURGE INFORMATION

Date/Time Initiated: _____ Date/Time Completed: _____

Surf. Meas. Point: ( ) Pro Casing ( ) Riser Riser Diameter (inches) _____

Initial Water Level (ft): _____ Elevation G/W MSL: _____

Well Total Depth (ft): _____ Method of Well Purge _____

One (1) Riser Vol (gal): _____ Dedicated: Y / N

Total Volume Purged (gal): _____ Purged to Dryness: Y / N

Purge Observations: Start _____ Finish _____

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: QO-251

FIELD OBSERVATIONS

SAMPLING INFORMATION

Date/Time 11/18/22 Water Level at Sampling (ft) /

Method of Sampling grab Dedicated: (Y) / N

Multi-phased/layered: Y / (N) if yes: ( ) Light ( ) Heavy

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other
12:15	6.0	8.71	0.635	3.60	-33.5	12.11	

INSTRUMENT CALIFBRATION/CHECK DATA

Meter ID#	Cal Std 7.0 SU	Cal Std 4.0 SU	Cal Std. 10.0 SU	Check Std 7.0 SU (+/- 10%)	Cal.Std. 1413 umhos/cm	Check Std 1413 umhos/cm (+/- 10%)	Cal Std. 10 NTU	Check Std 10 NTU (+/- 10%)
Solution ID#								

GENERAL INFORMATION

Weather conditions at time of sampling: cloudy 30°F

Sample characteristics: clear

Comments and Observations:

I certify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific protocols:

Date: 11/18/22 by: [signature] Company: Matrix Environmental Technologies

FIELD OBSERVATIONS

Facility: Arch Chemicals, Inc. Sample Point ID: _____

Field Personnel: _____ Sample Matrix: Groundwater

MONITORING WELL INSPECTION

Date/Time: _____ Condition of seal: ( ) Good ( ) Cracked _____ %

( ) None ( ) Buried

Prot. Casing/Riser Height: _____ Condition of Prot. Casing/Riser: ( ) unlocked ( ) Good

( ) loose ( ) flush mount

( ) Damaged _____

if prot casing; depth to riser below: _____

Gas Meter Calibration/Reading: % Gas _____ % LEL: _____

Vol. Organic Matter (Calibration/Reading): _____ Volatiles (ppm): _____

PURGE INFORMATION

Date/Time Initiated: _____ Date/Time Completed: _____

Surf. Meas. Point: ( ) Pro Casing ( ) Riser Riser Diameter (inches) _____

Initial Water Level (ft): _____ Elevation G/W MSL: _____

Well Total Depth (ft): _____ Method of Well Purge _____

One (1) Riser Vol (gal): _____ Dedicated: Y / N

Total Volume Purged (gal): _____ Purged to Dryness: Y / N

Purge Observations: Start _____ Finish _____

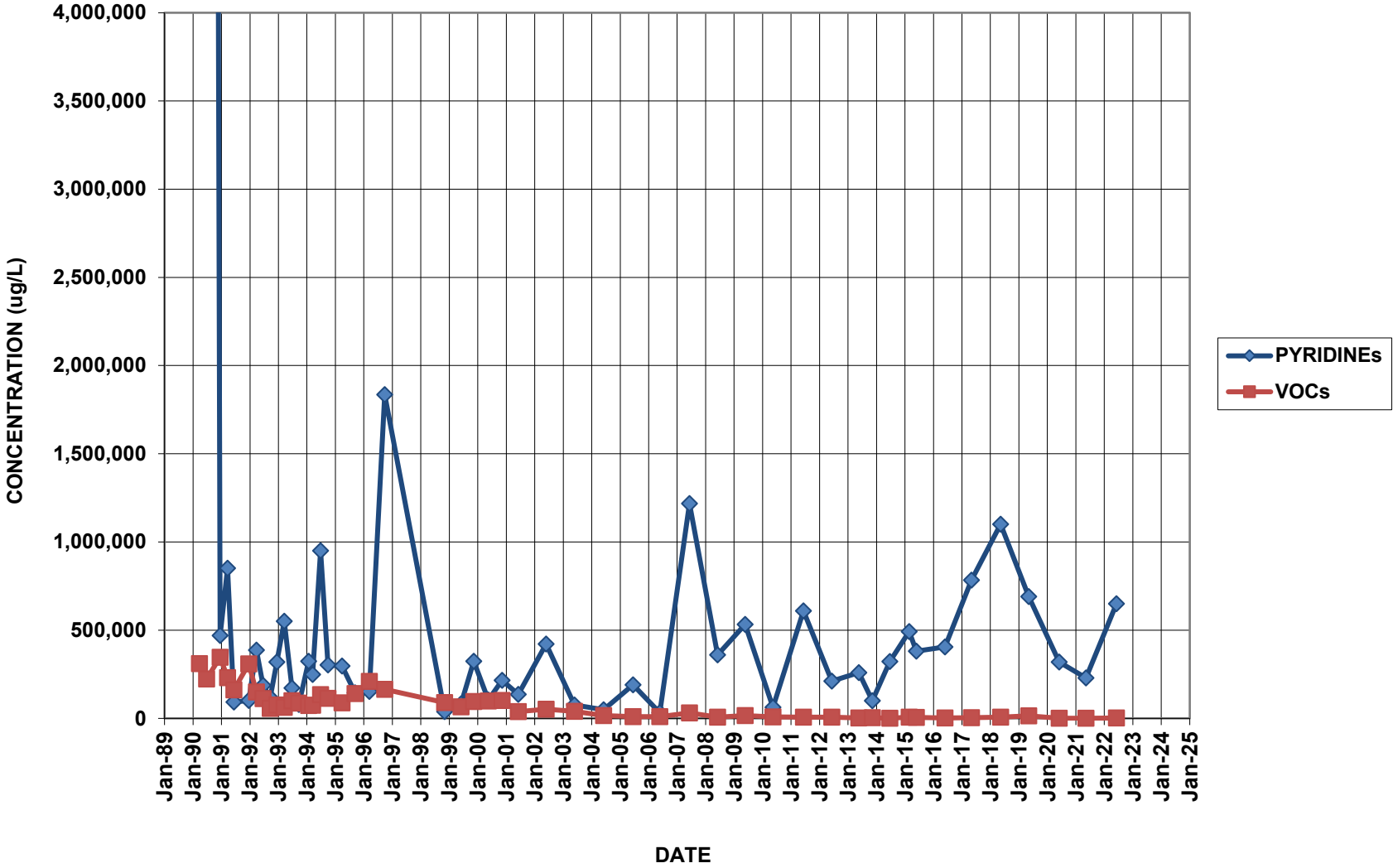
PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other

Appendix B

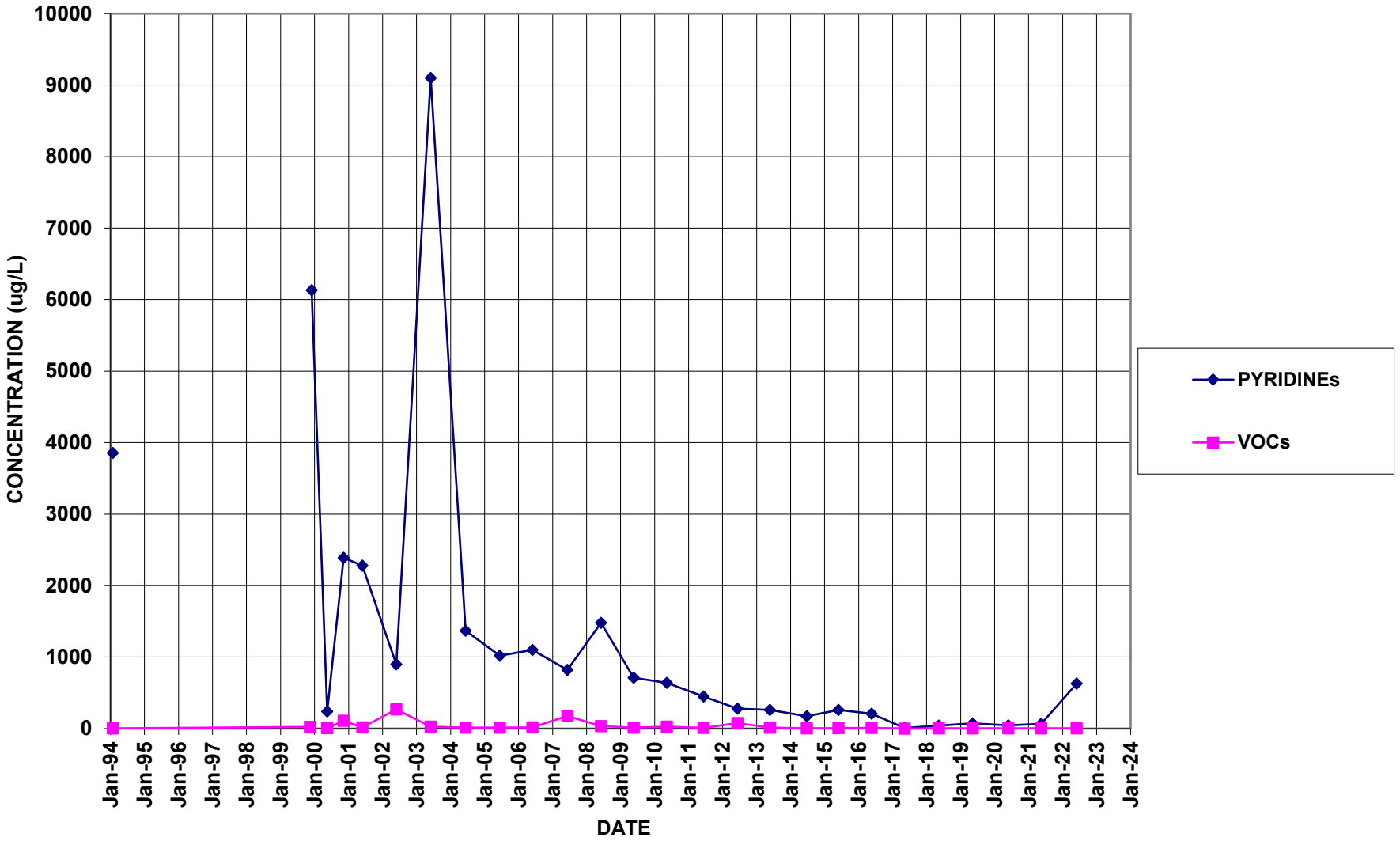
Well Trend Data

B-17



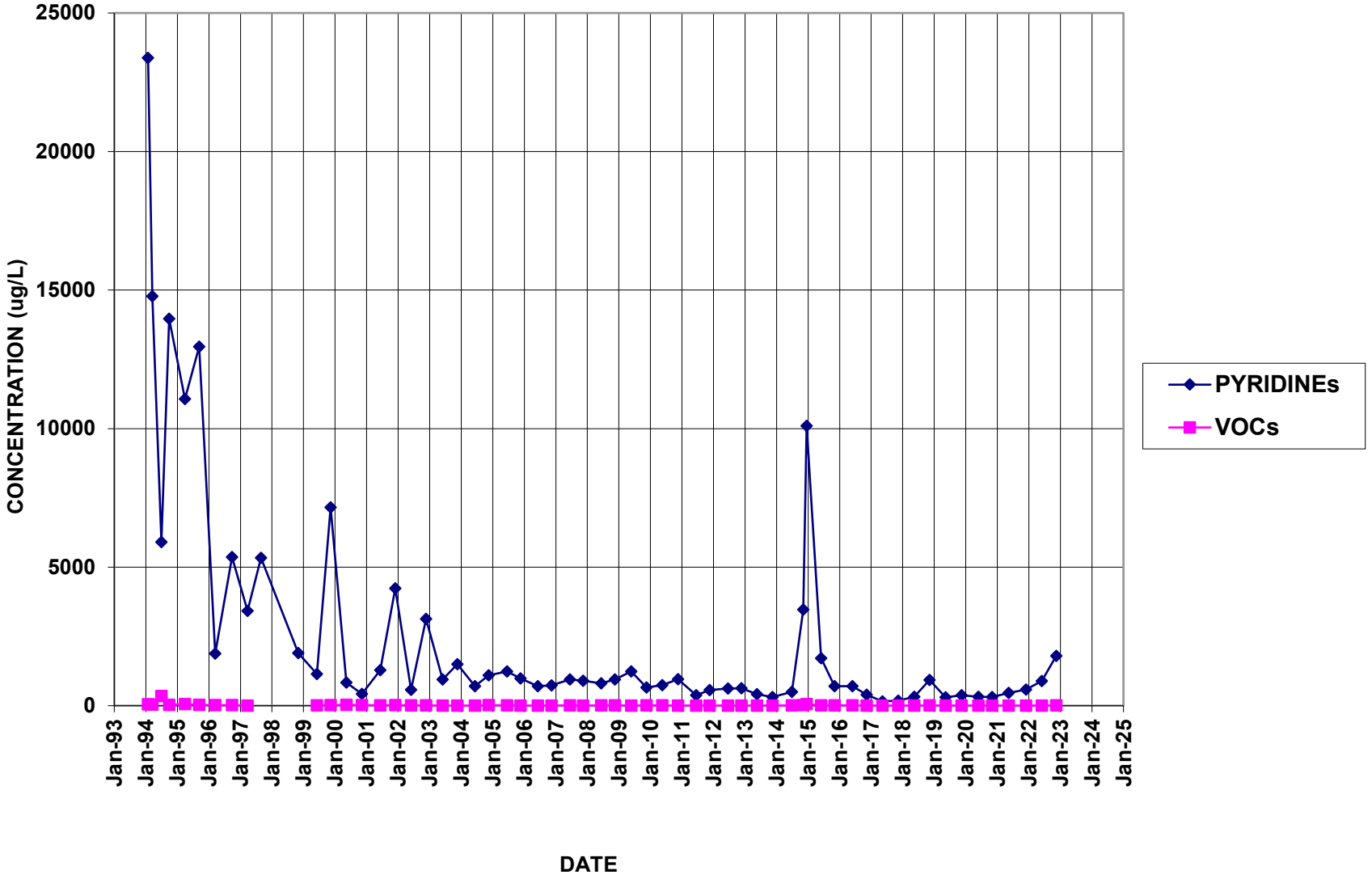
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

B-7



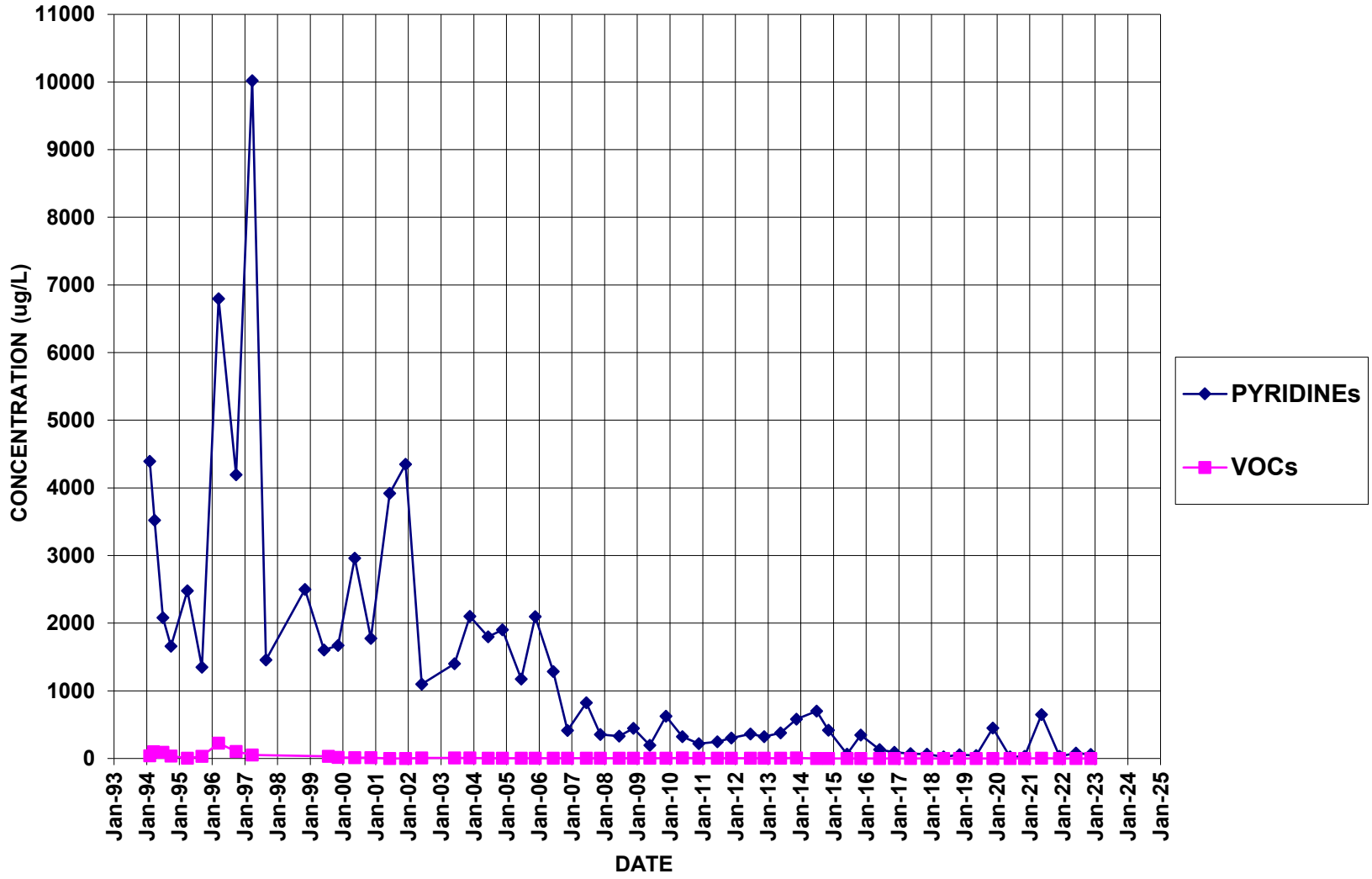
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

BR-105



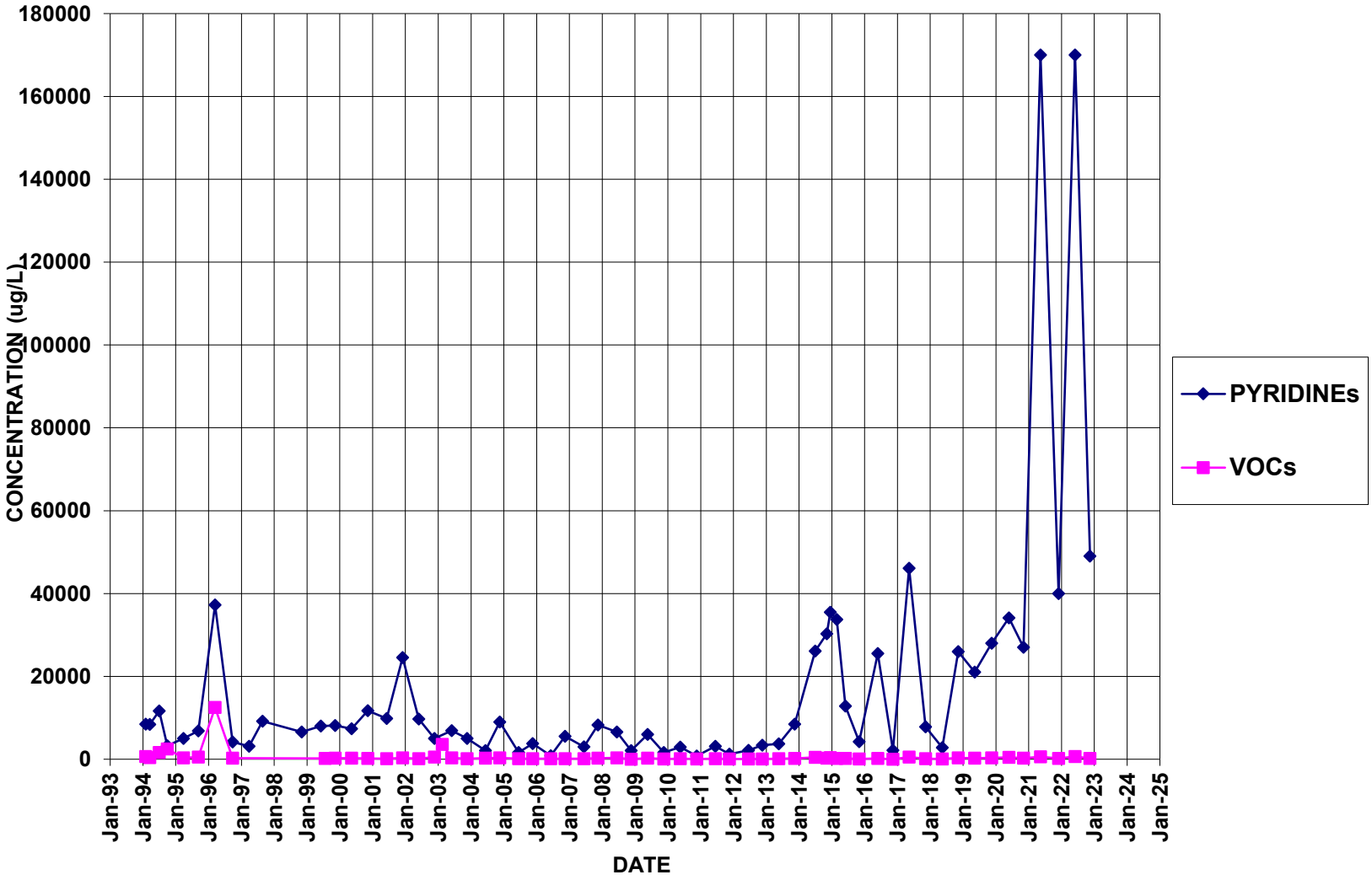
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

BR-105D



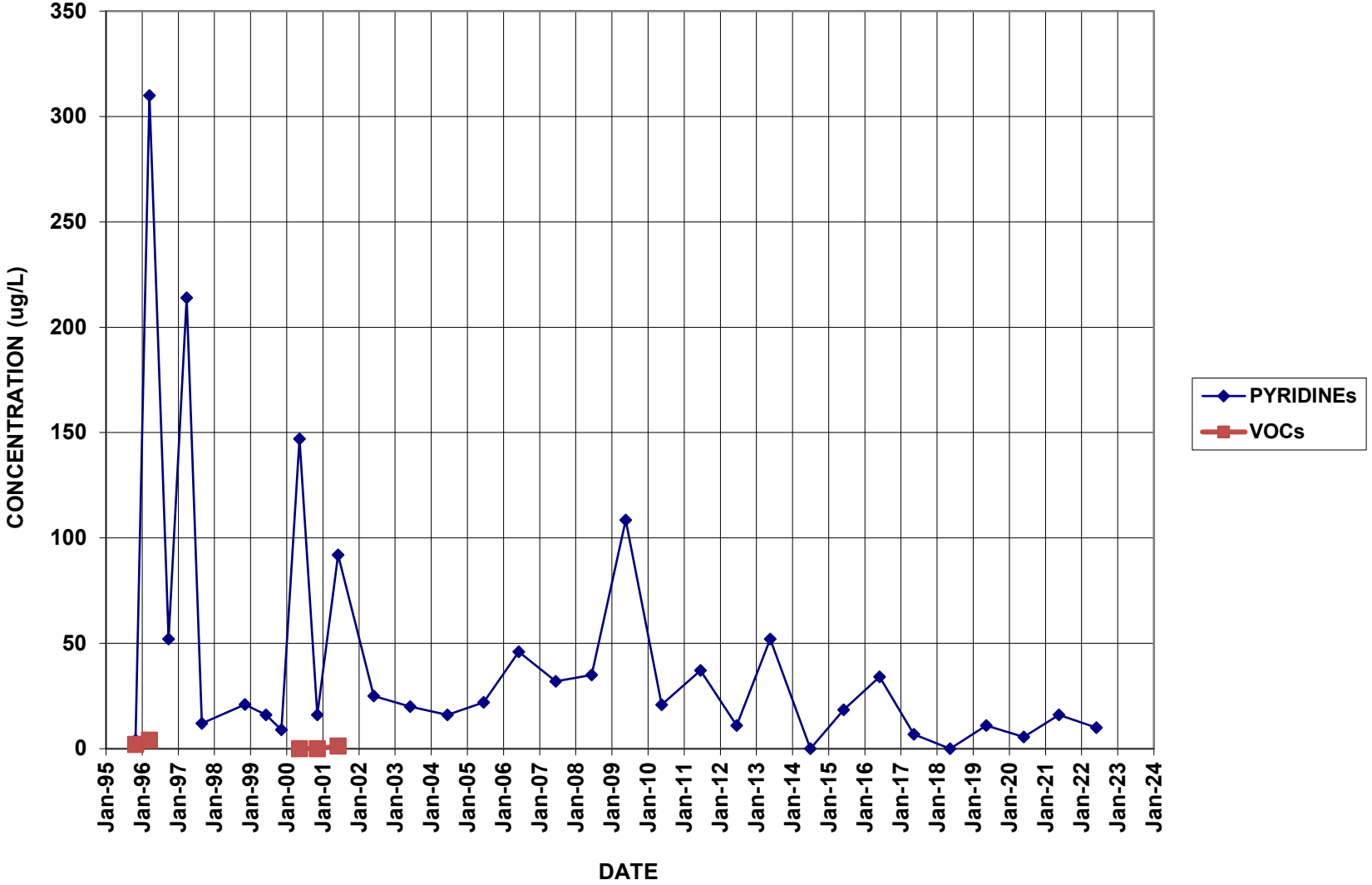
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

BR-106



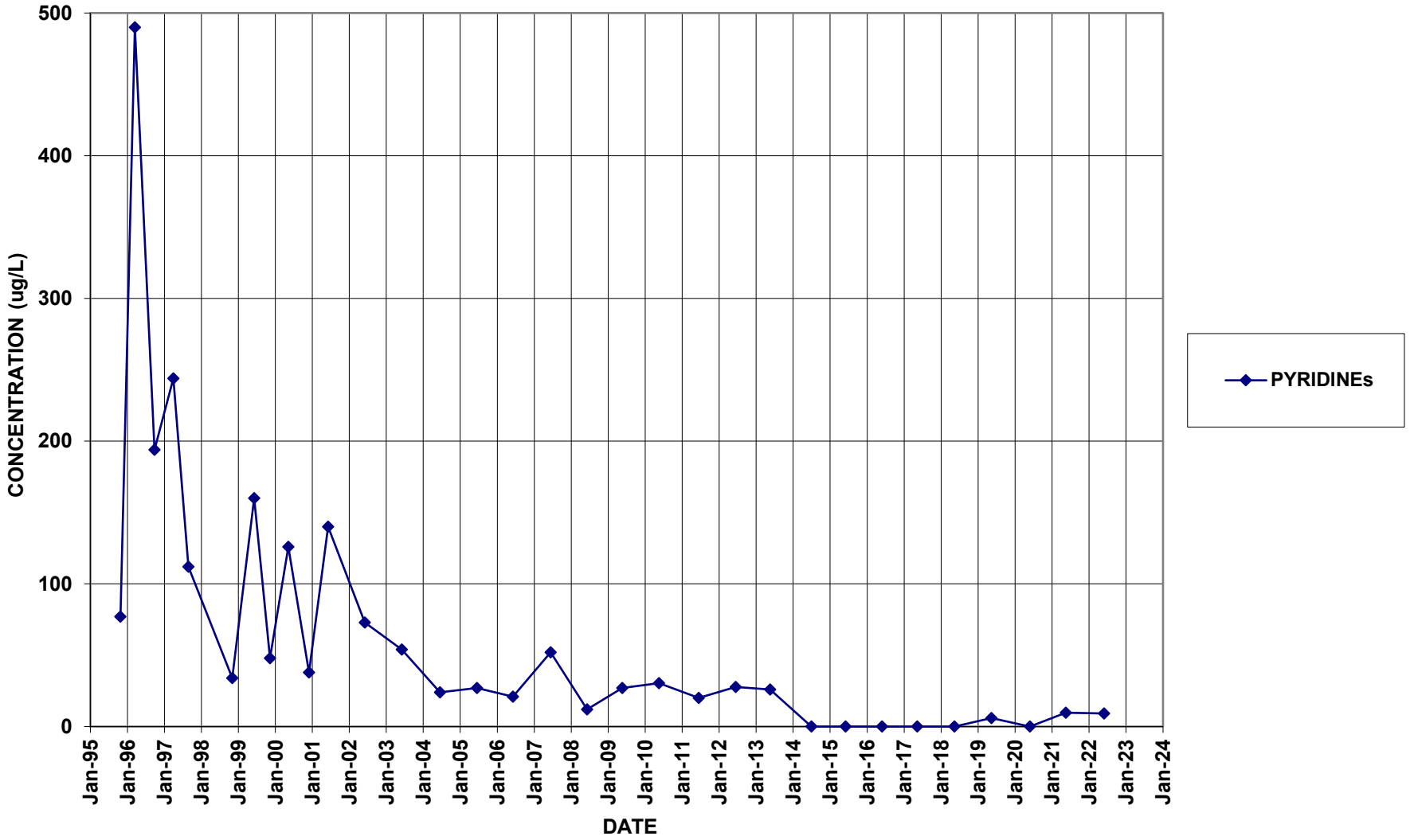
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

BR-112D



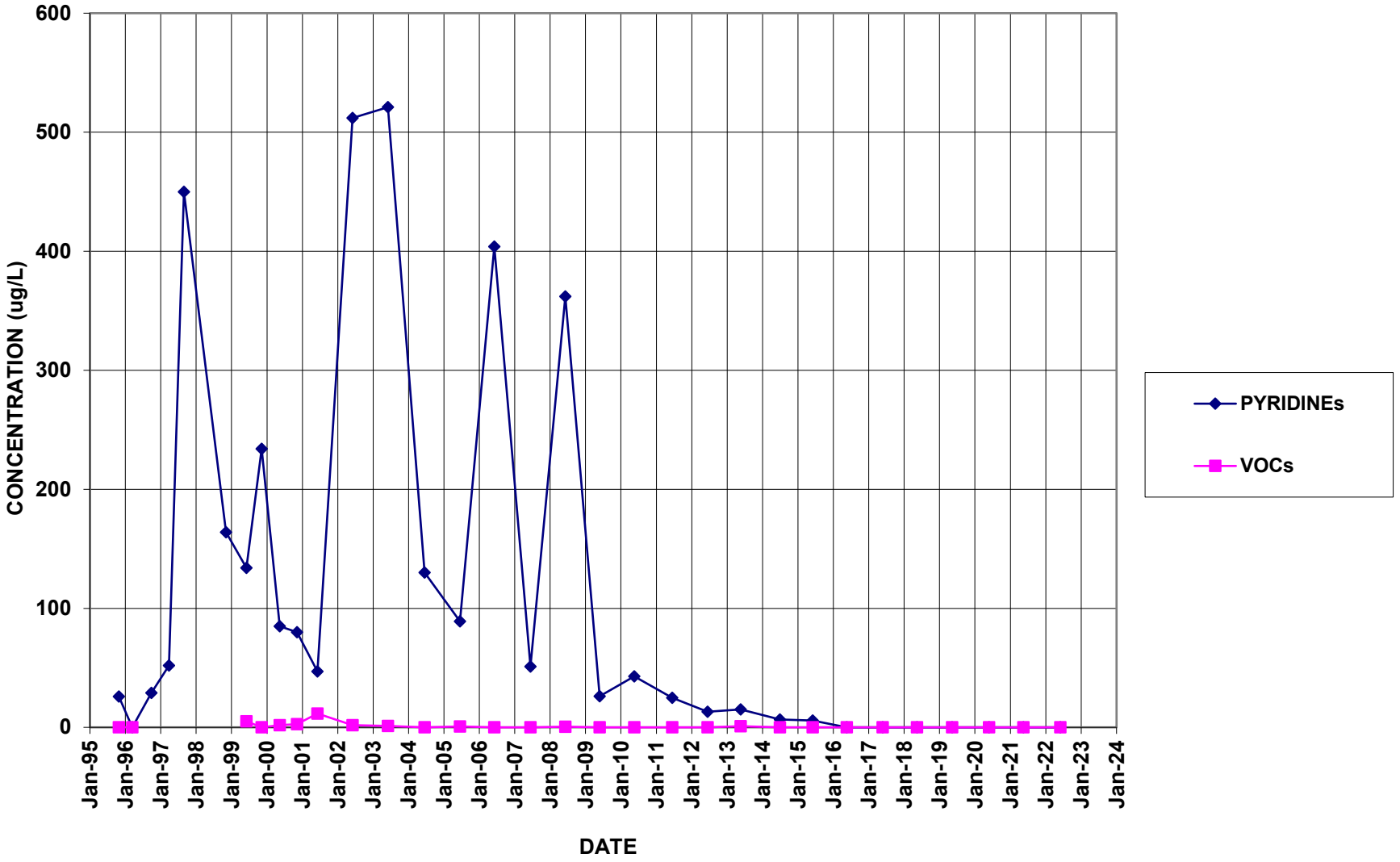
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

BR-113D



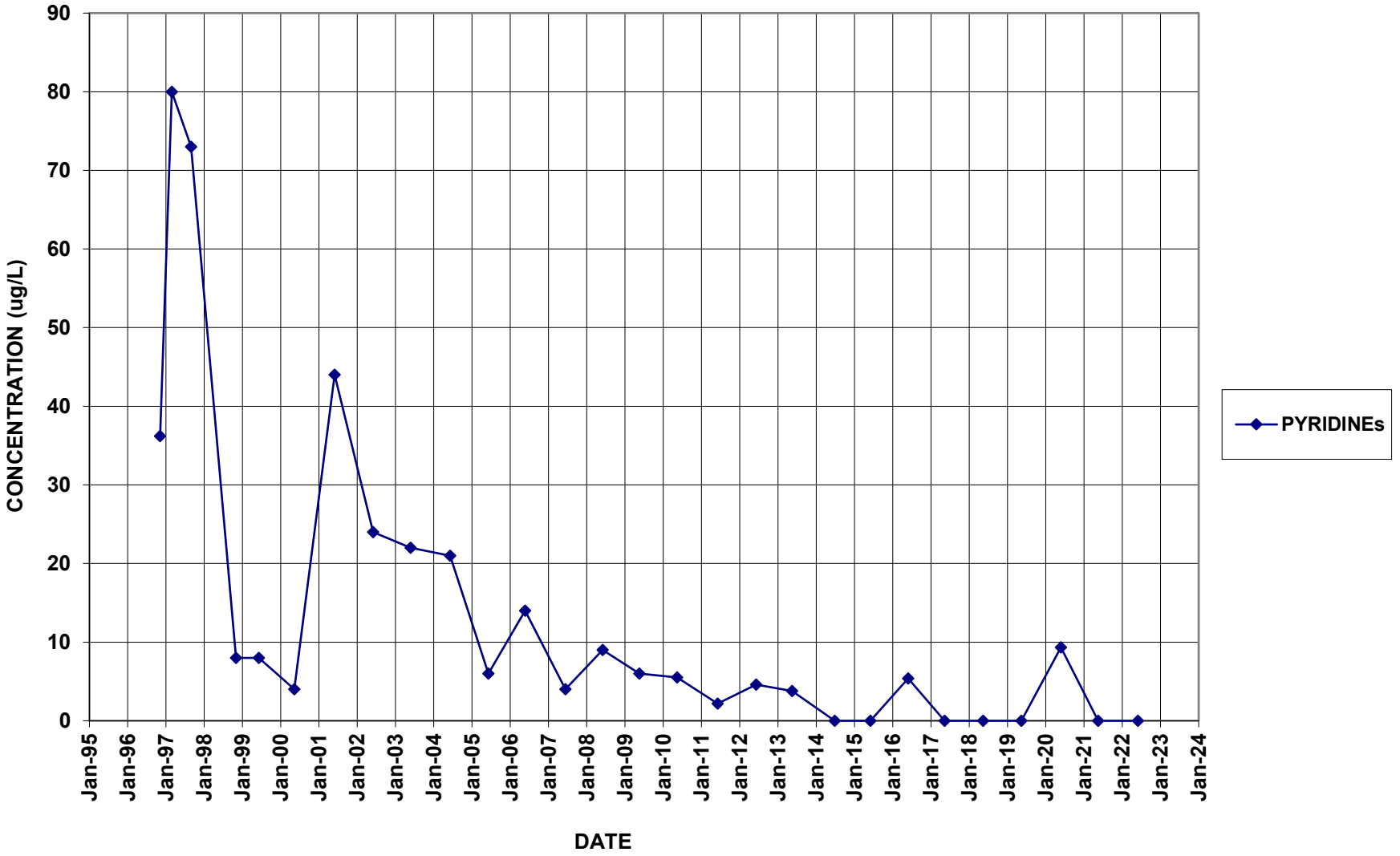
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

BR-114



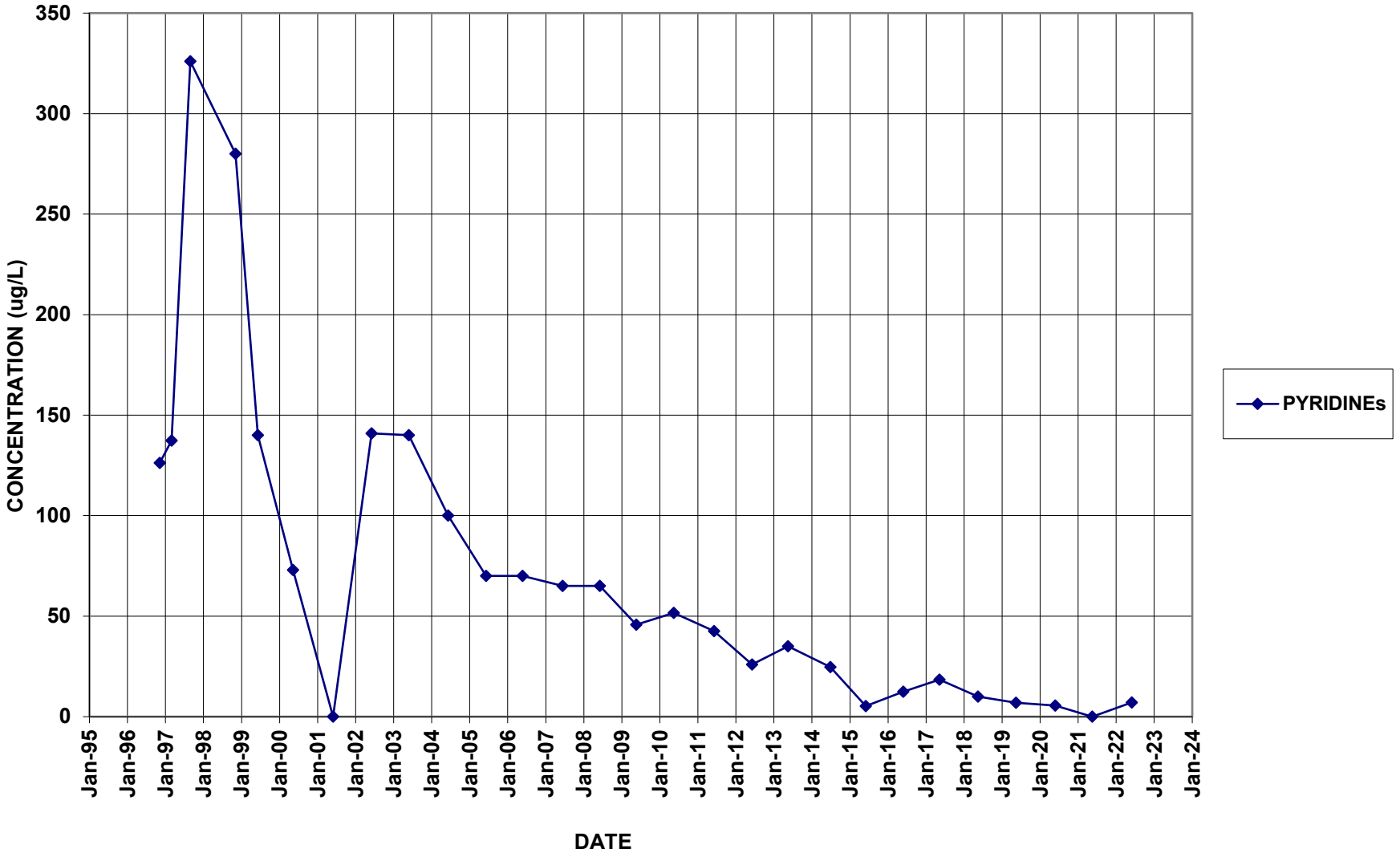
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

BR-117D



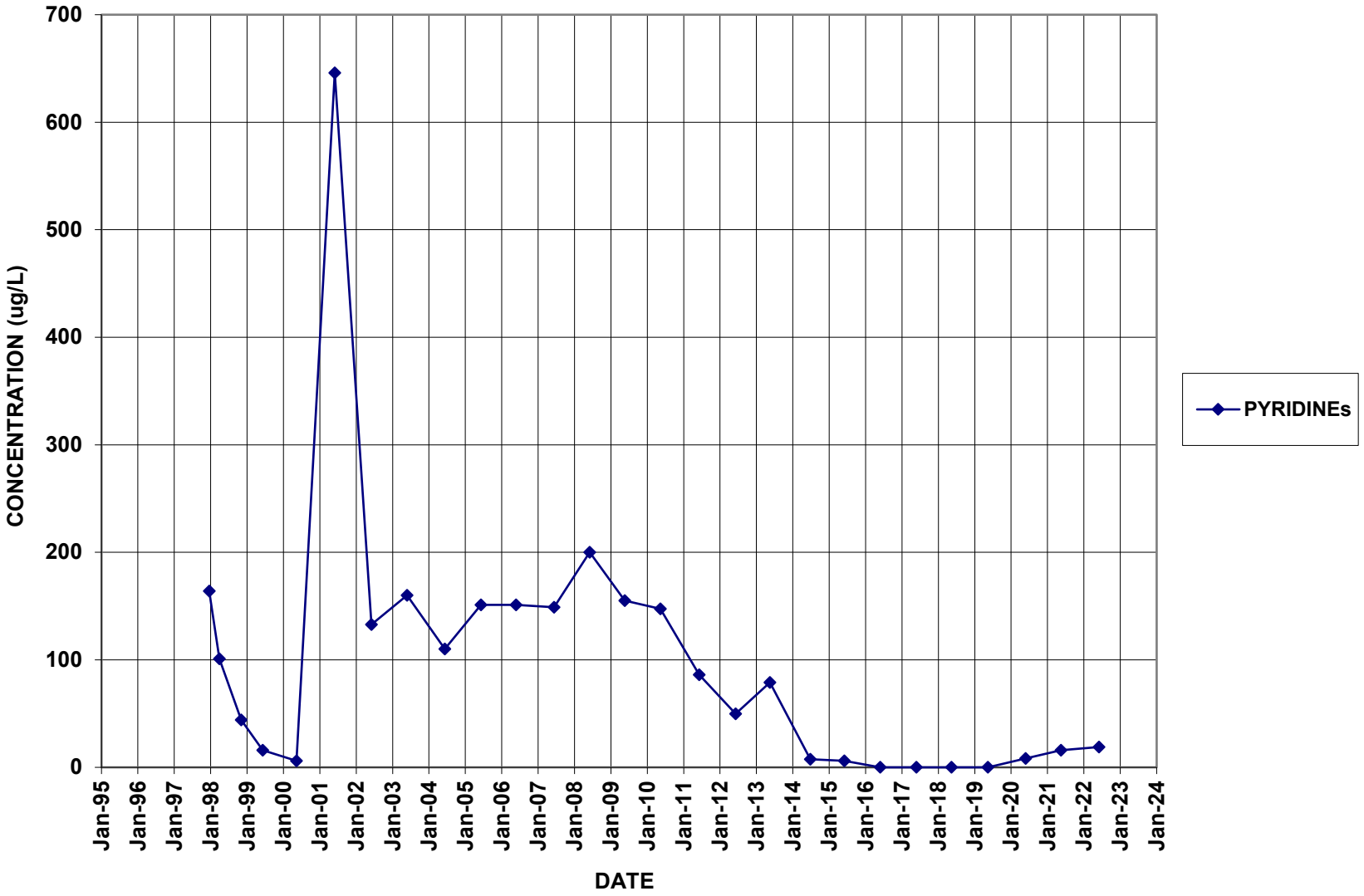
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

BR-118D



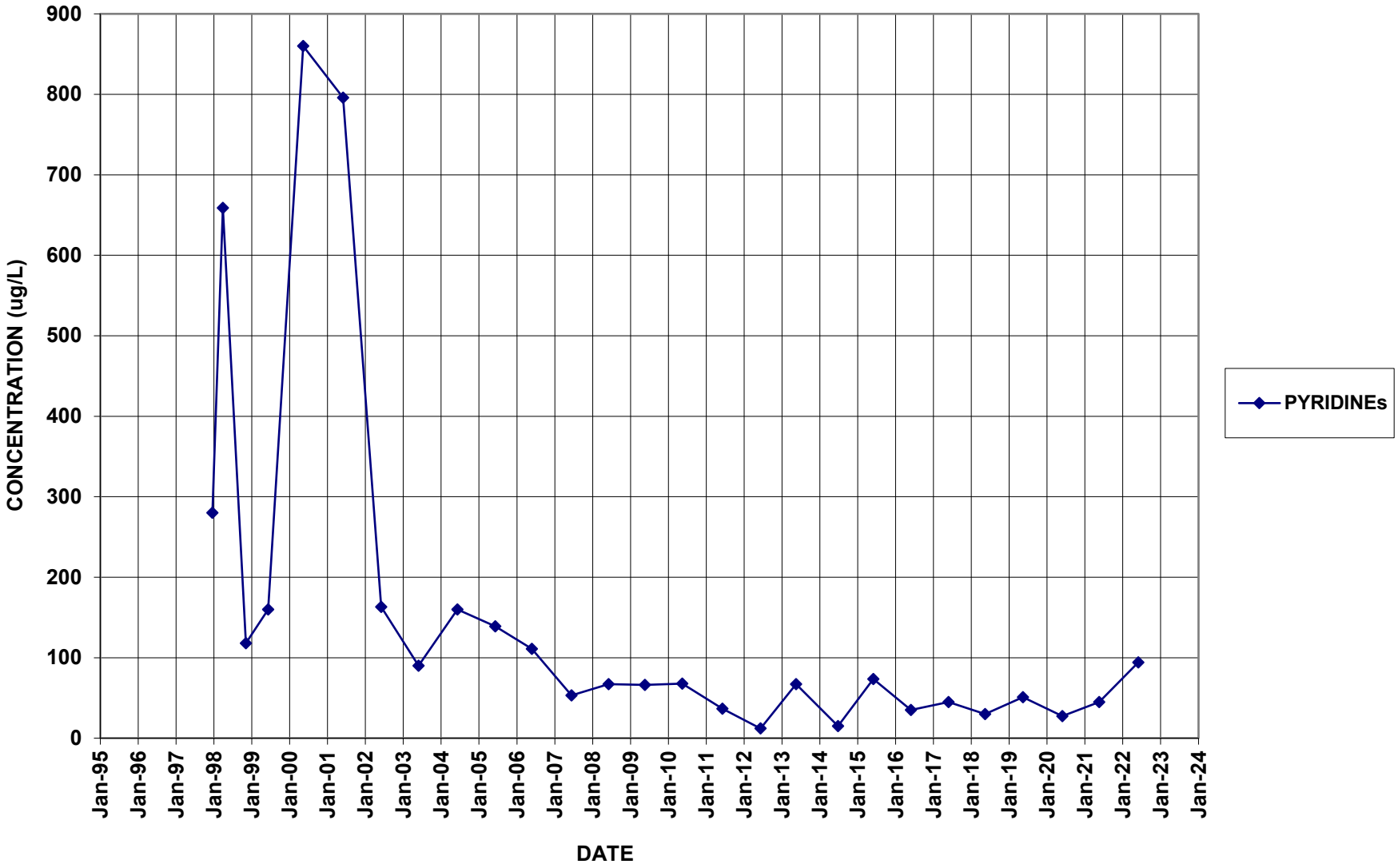
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

BR-122D



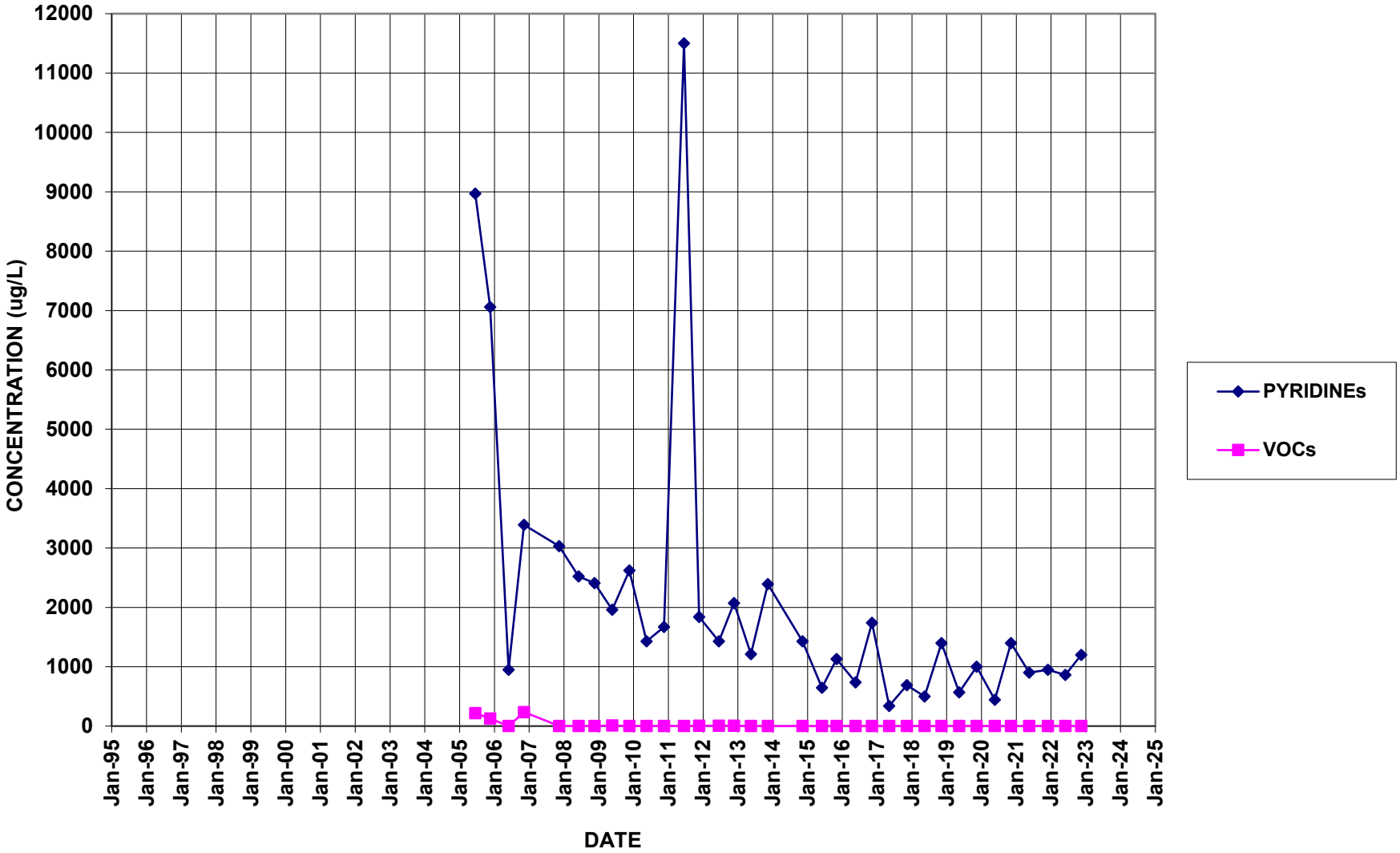
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

BR-123D



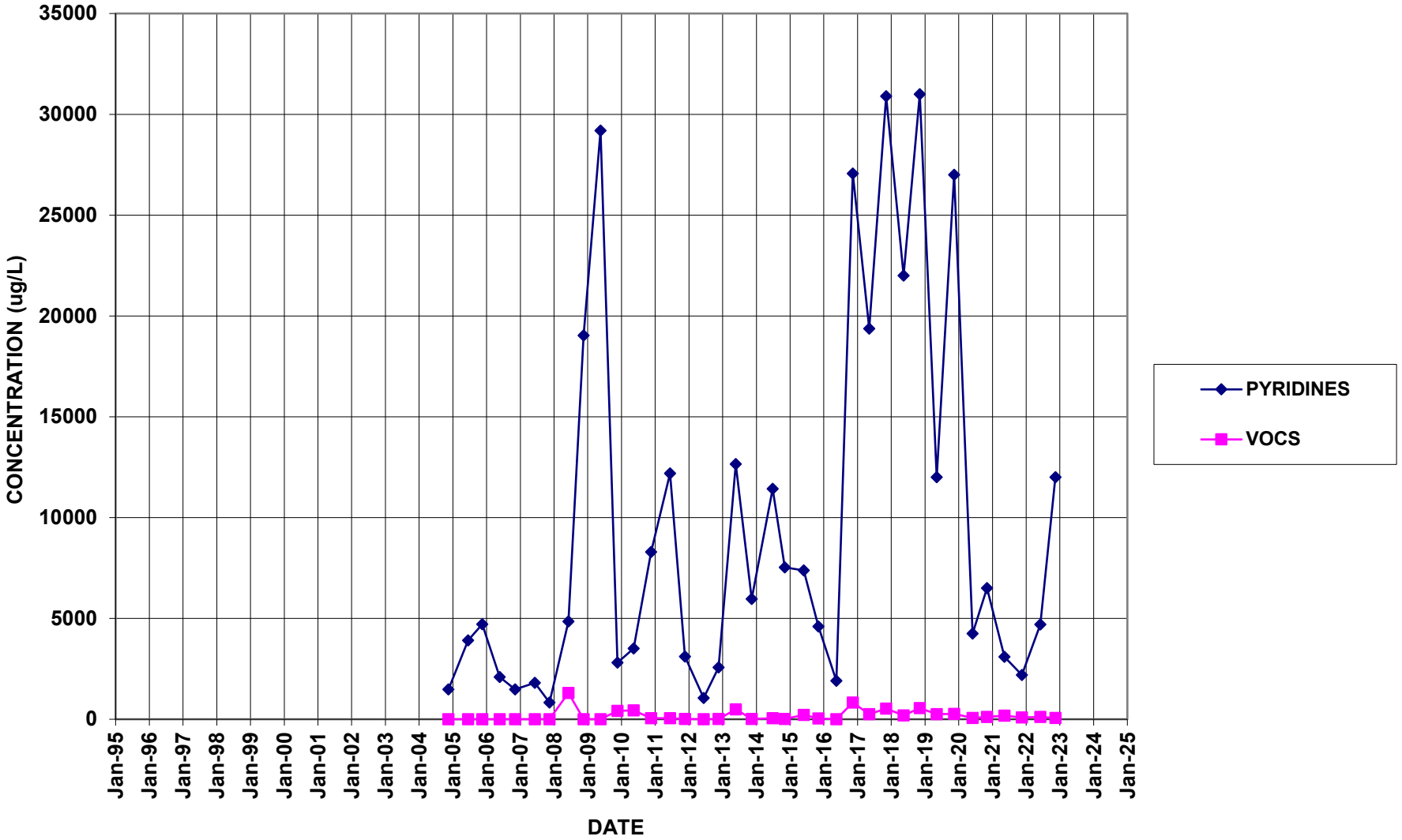
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

BR-126



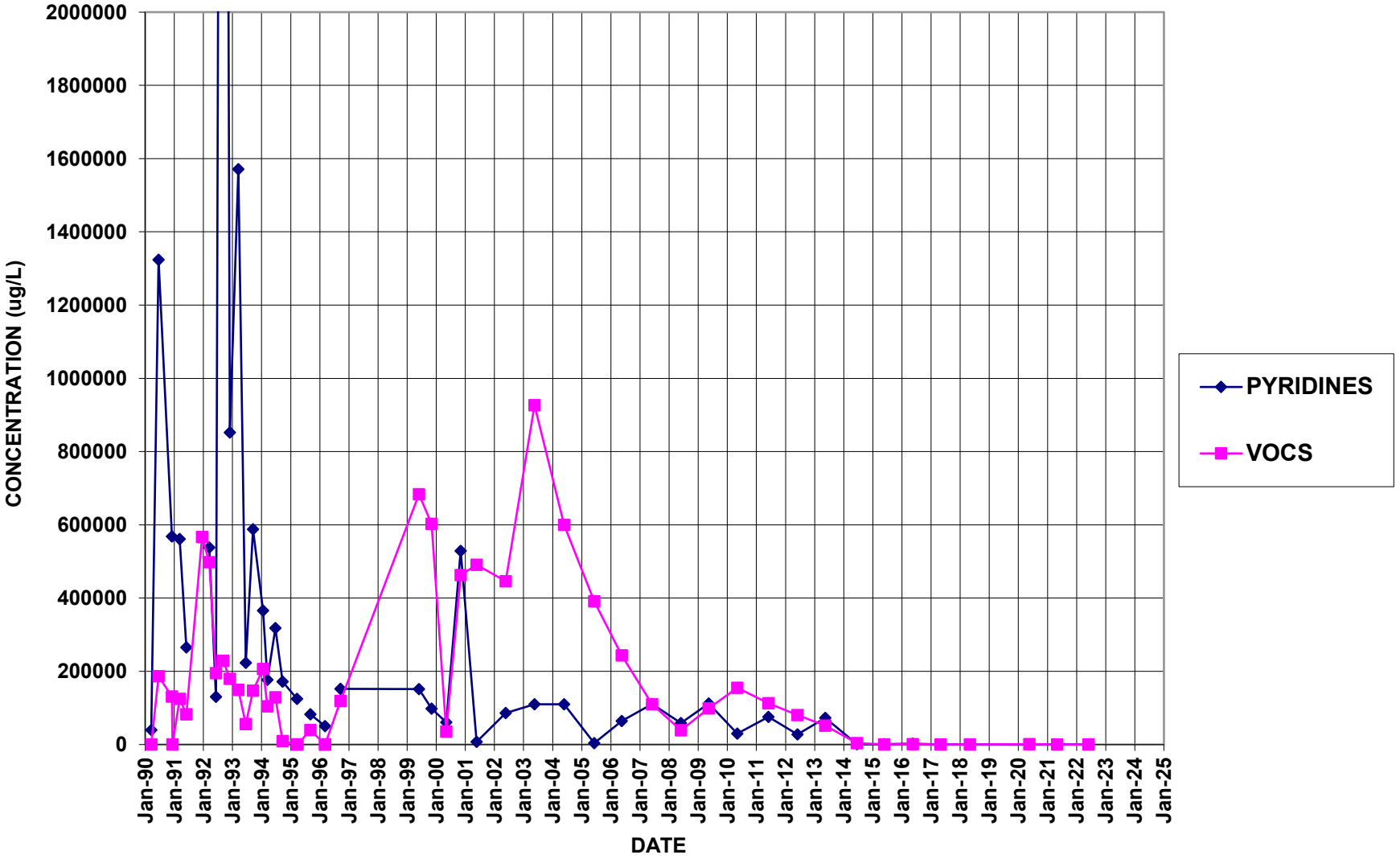
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

BR-127



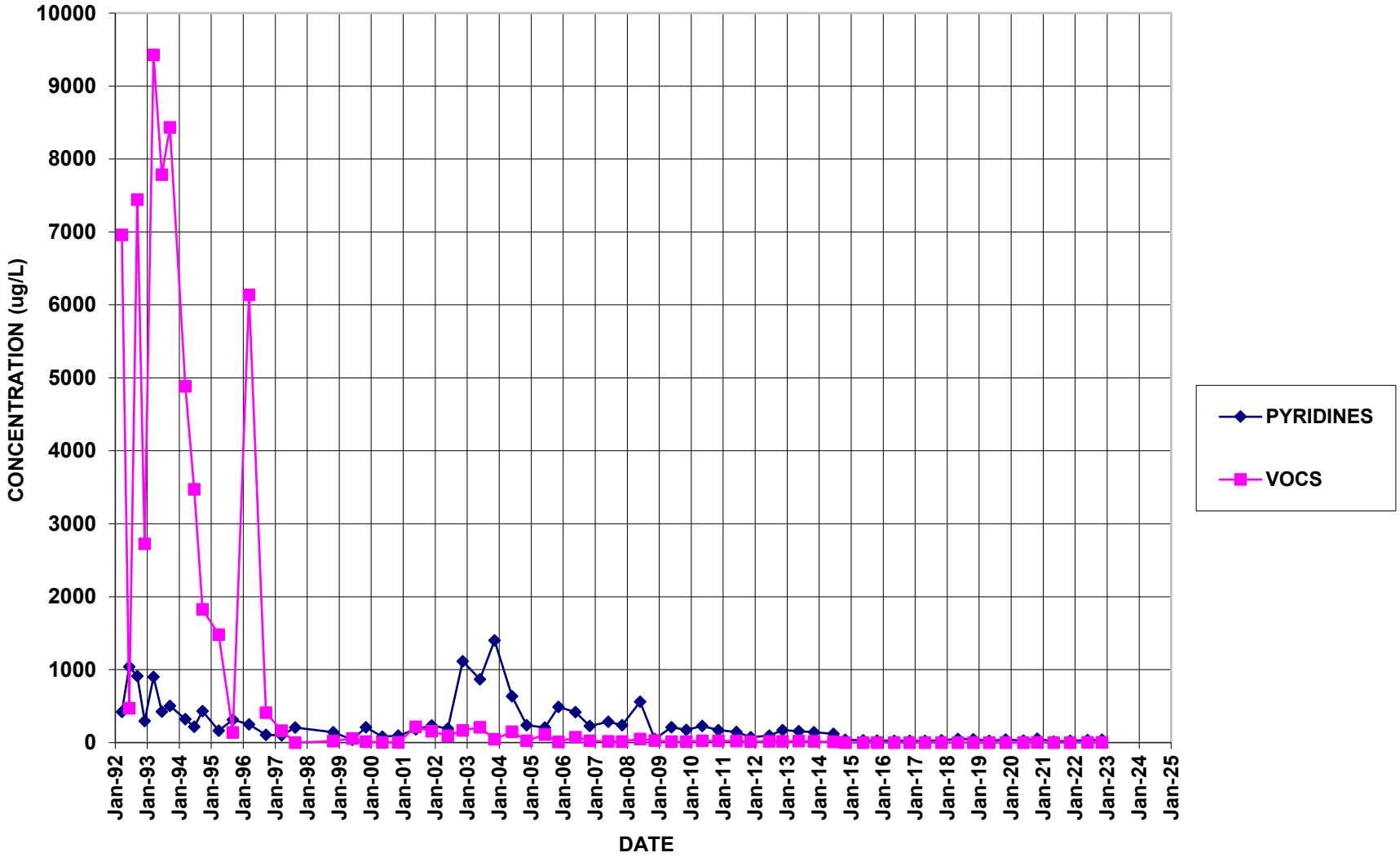
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

BR-3



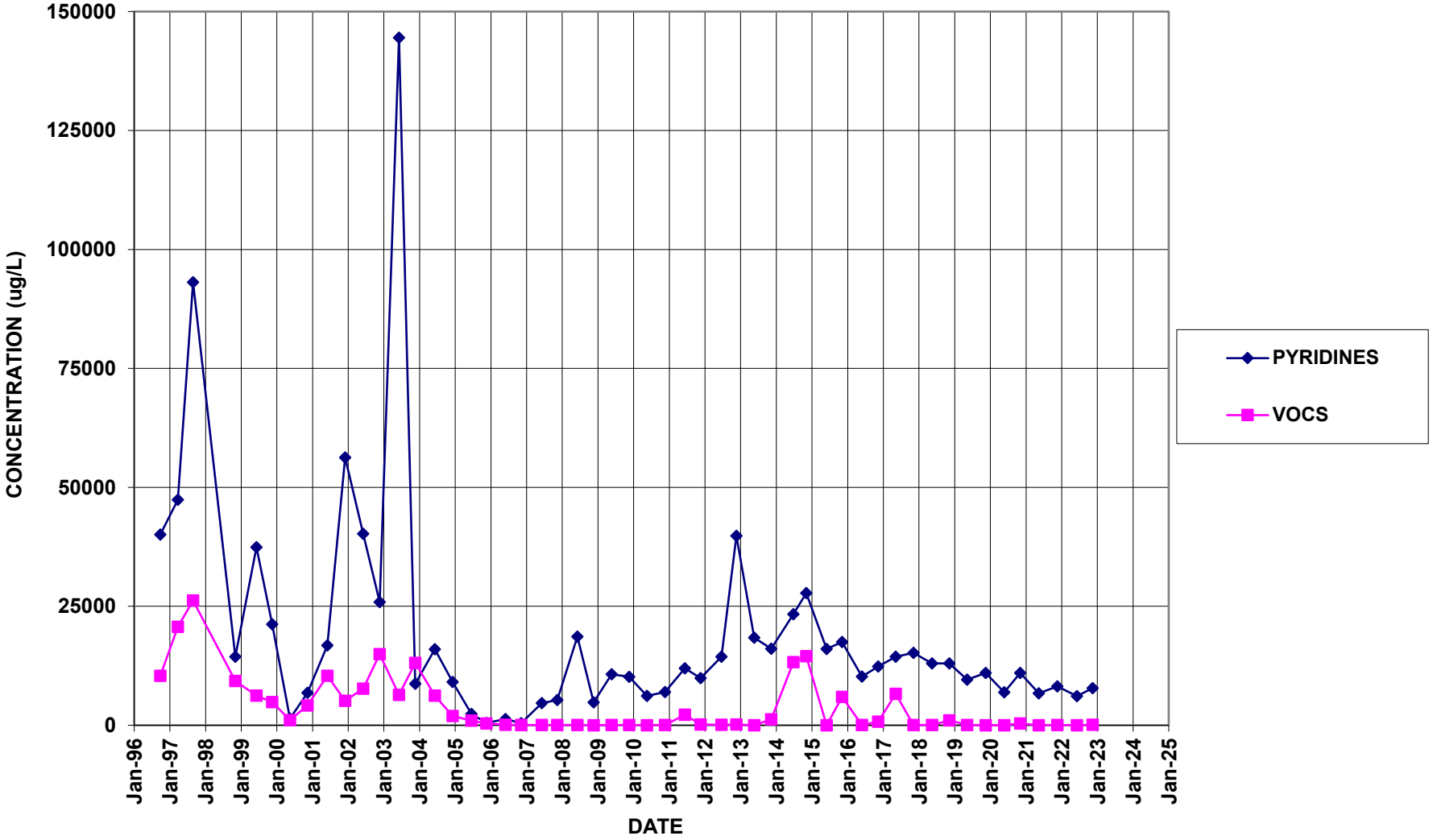
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

BR-5A



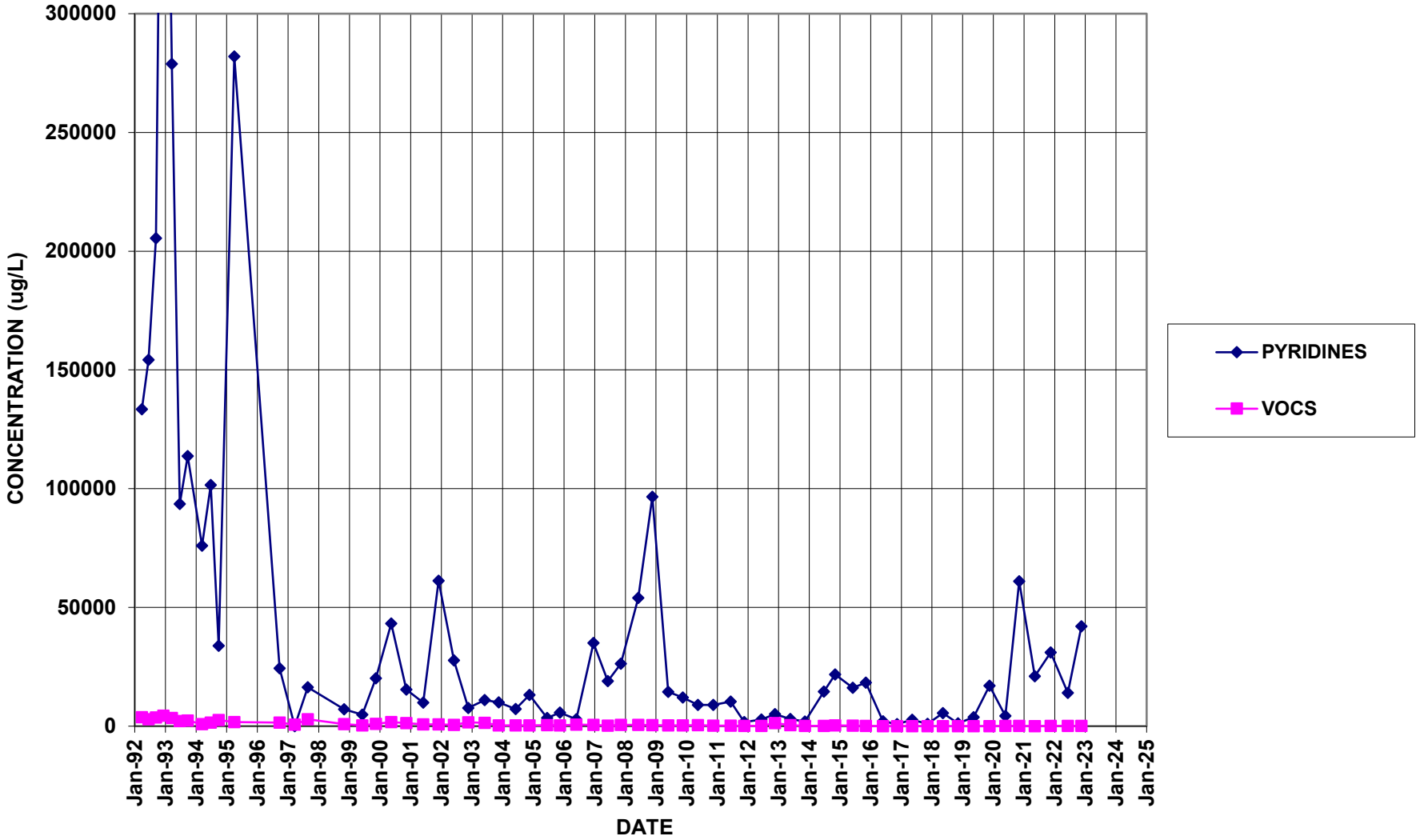
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

BR-6A



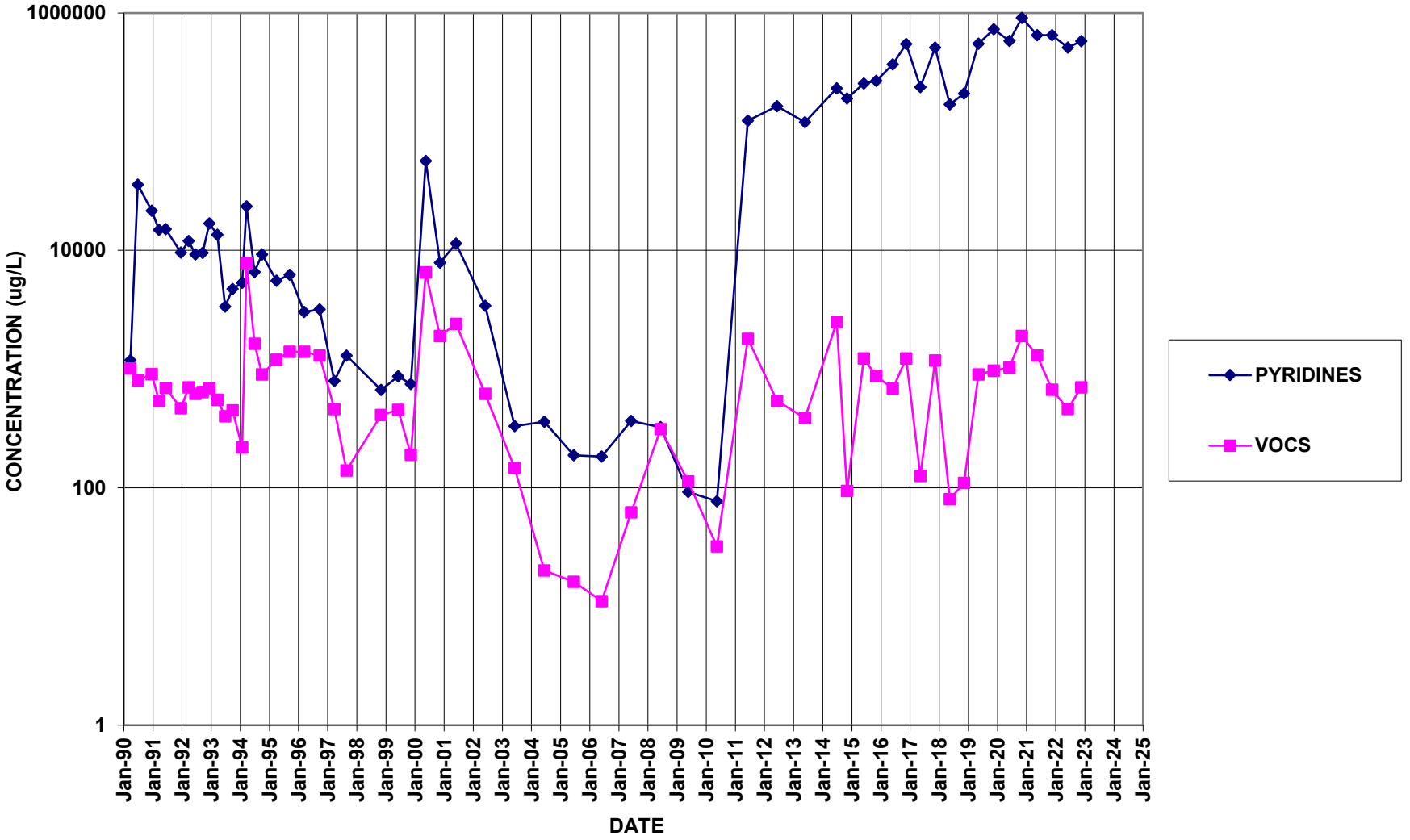
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

BR-7A



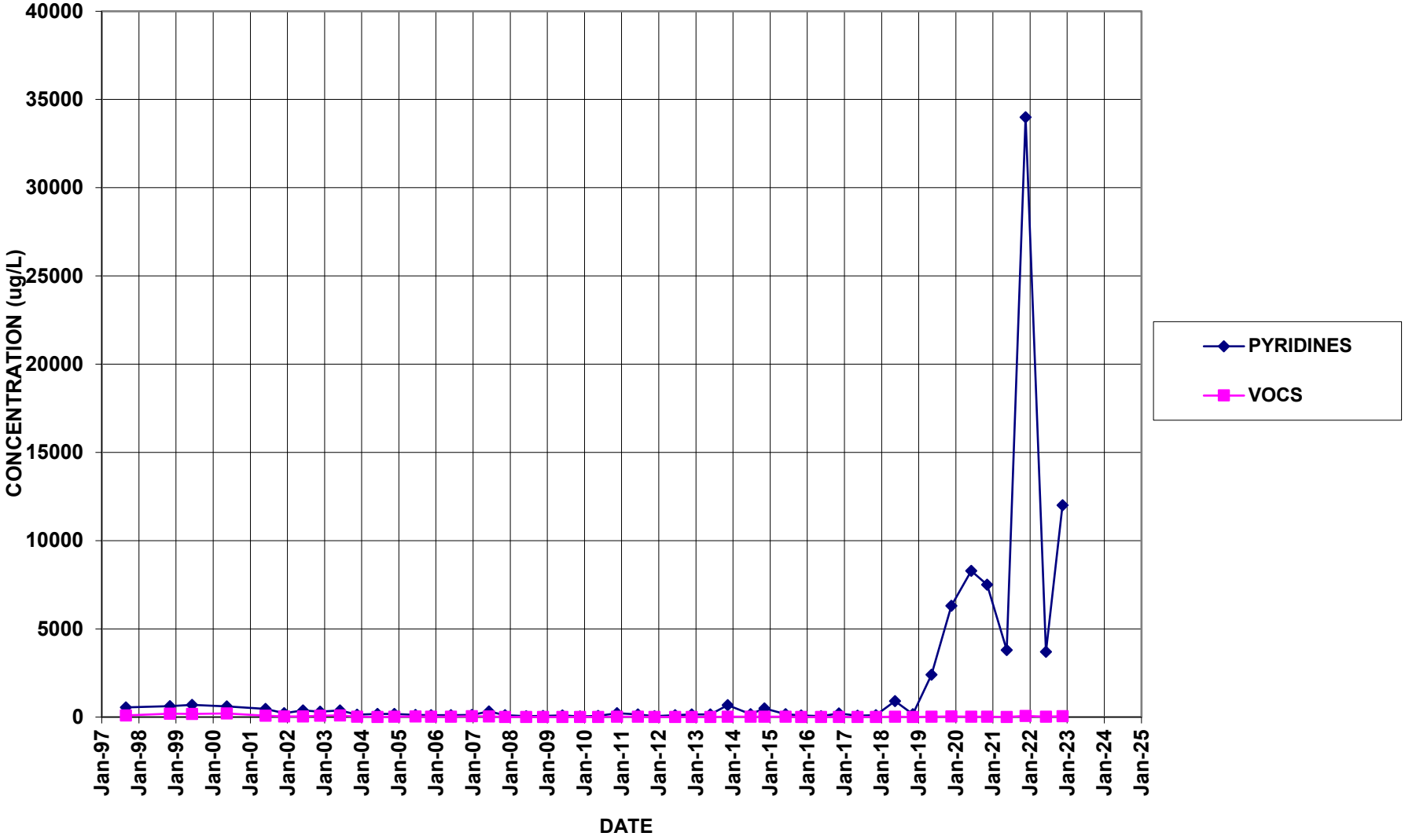
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

BR-8



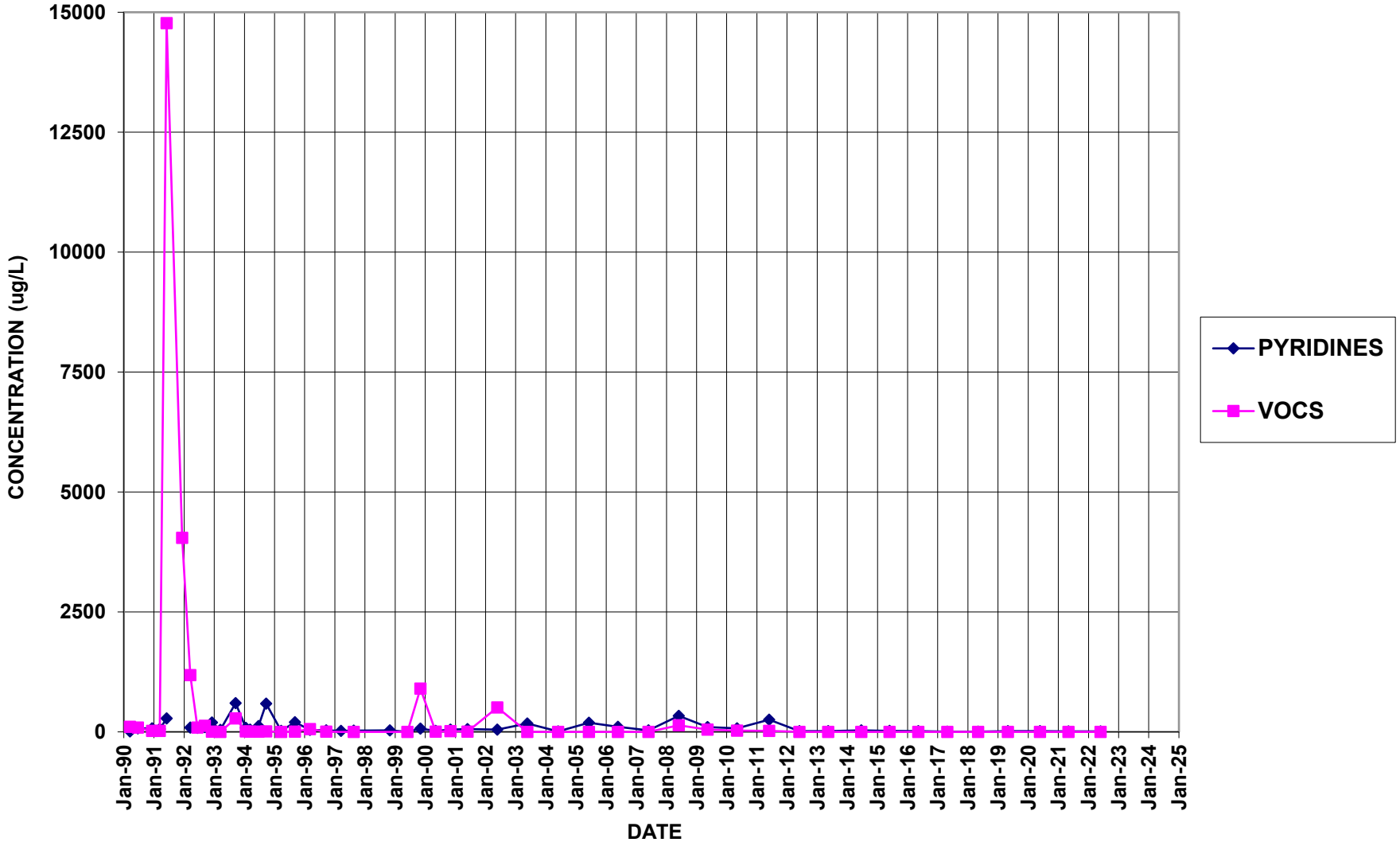
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

BR-9



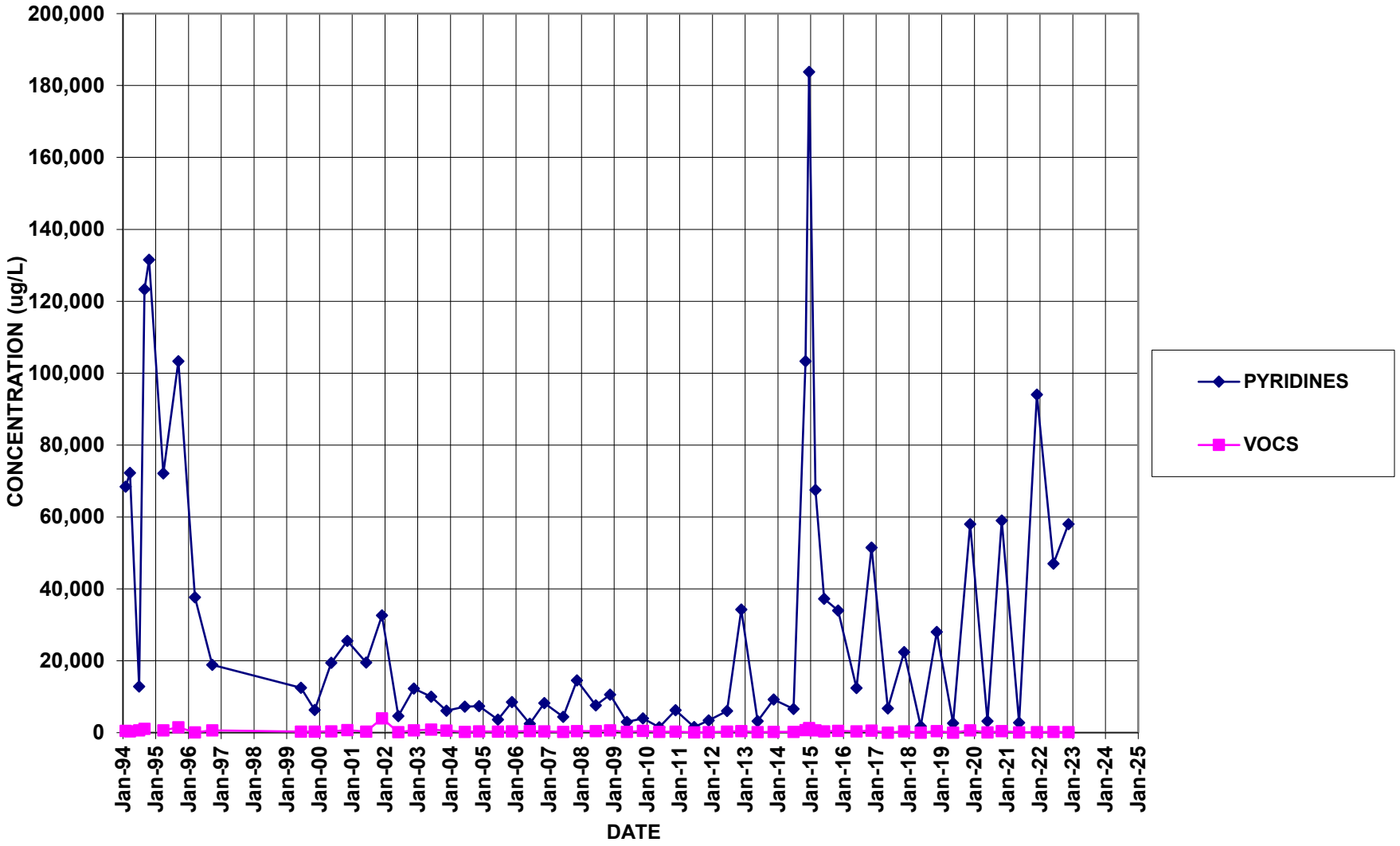
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

E-3



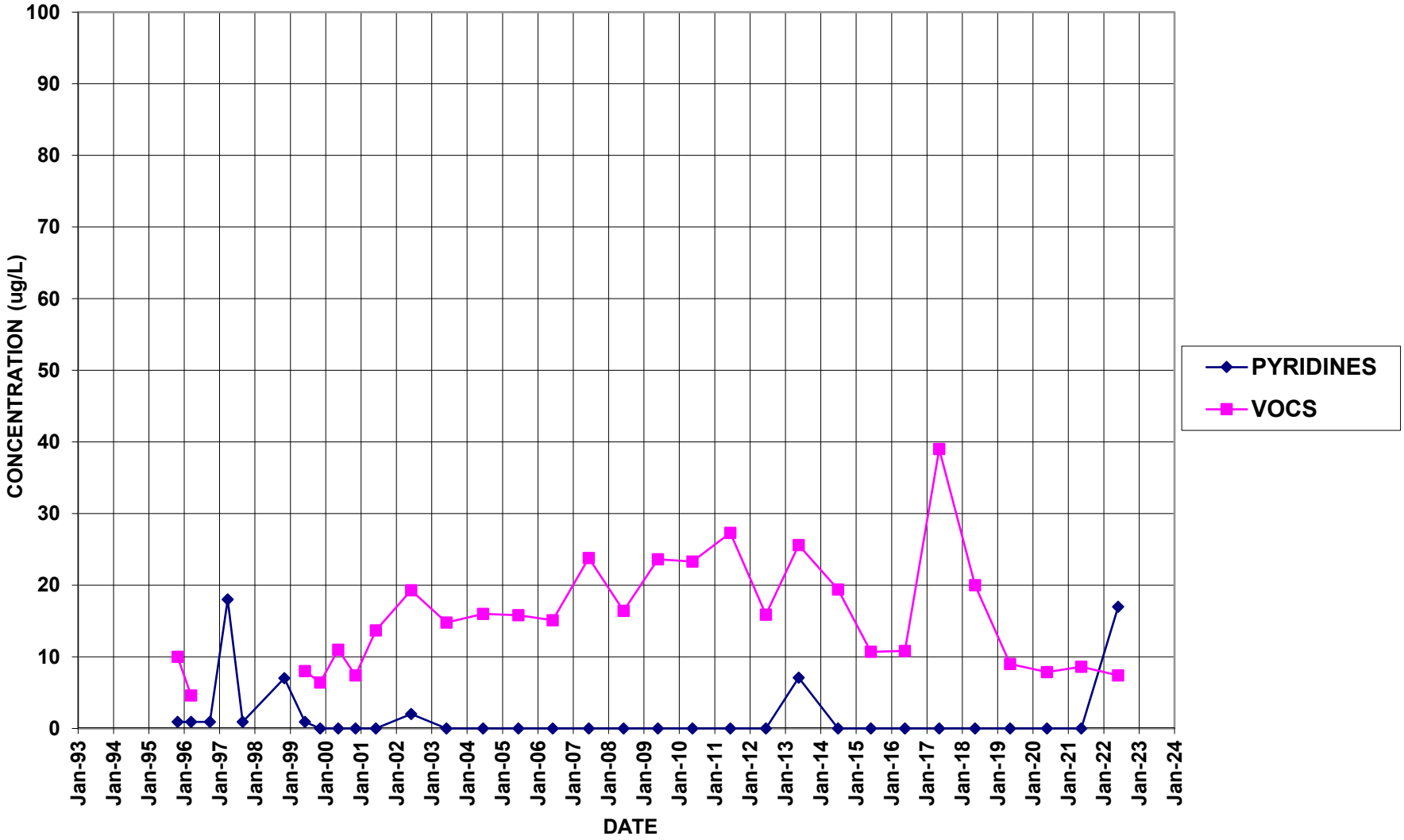
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

MW-106



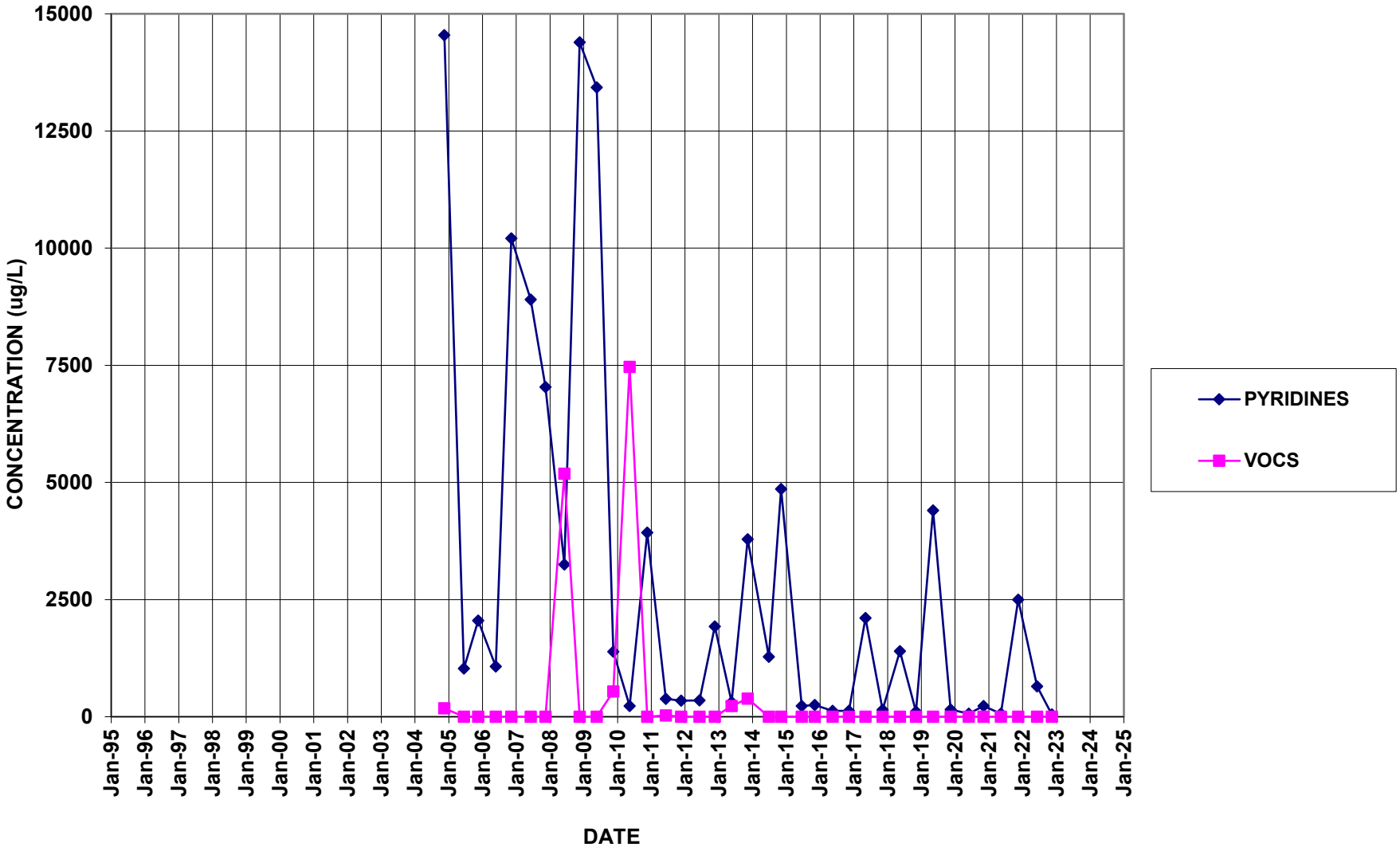
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

MW-114



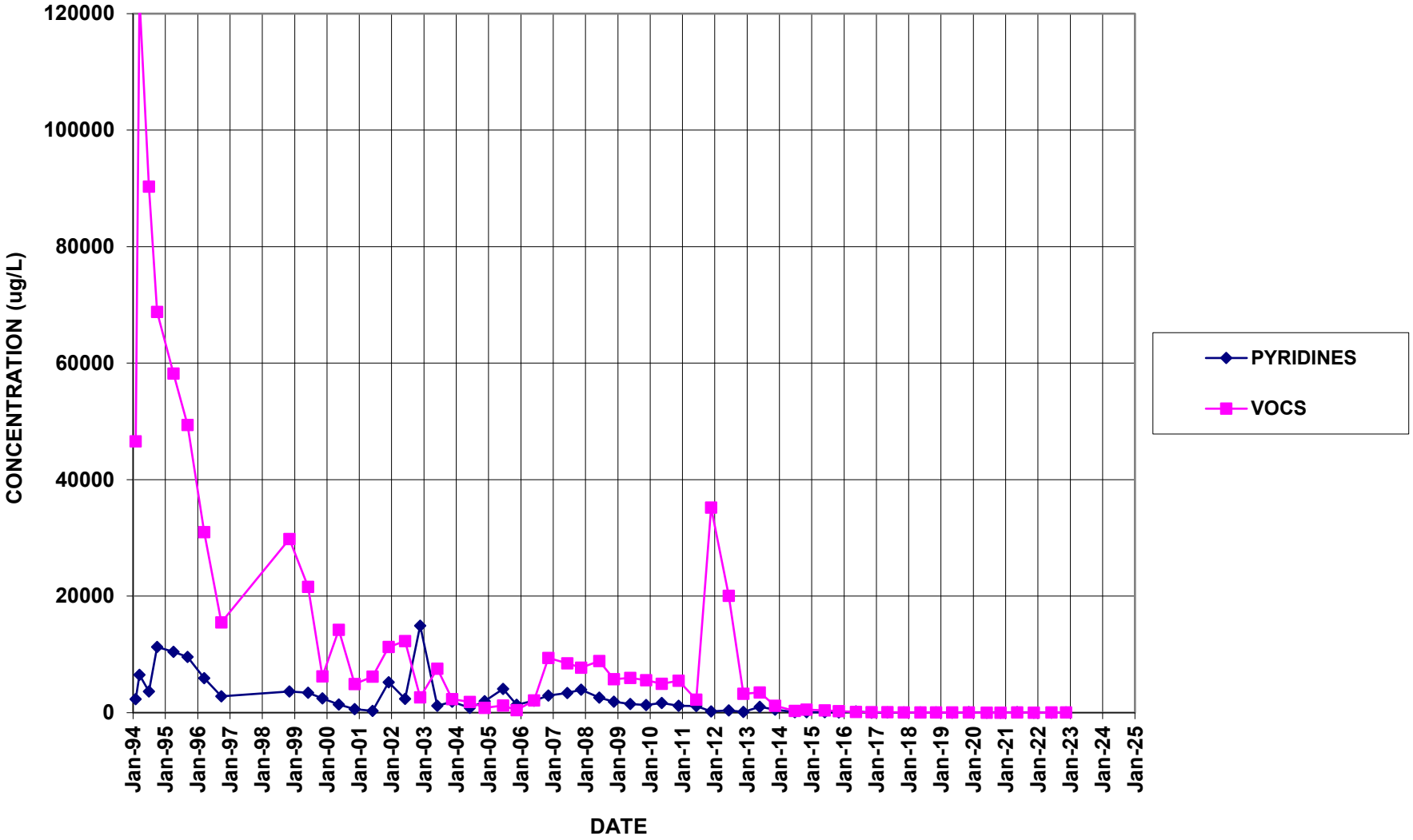
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

MW-127



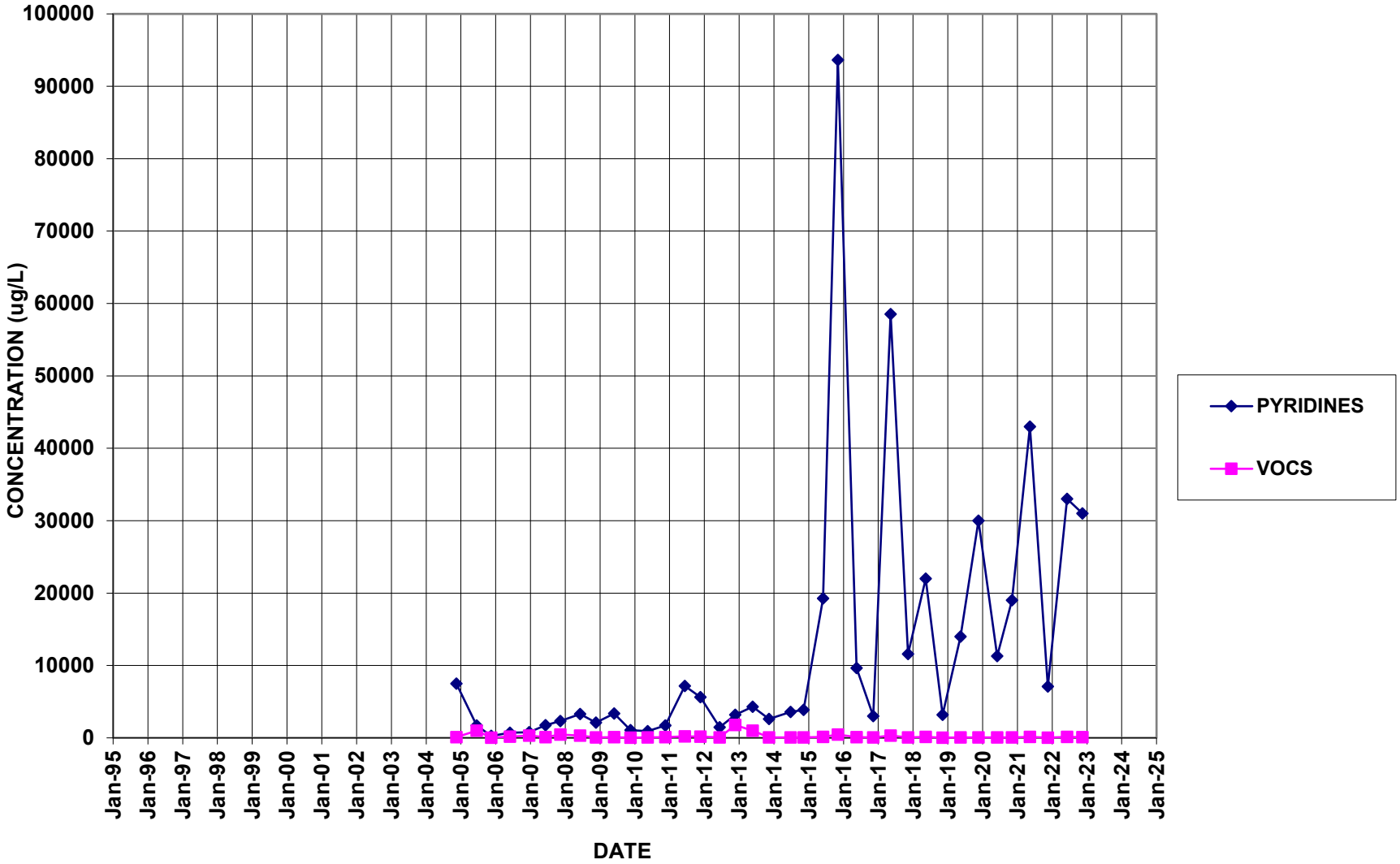
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

PW12 (Formerly BR-101)



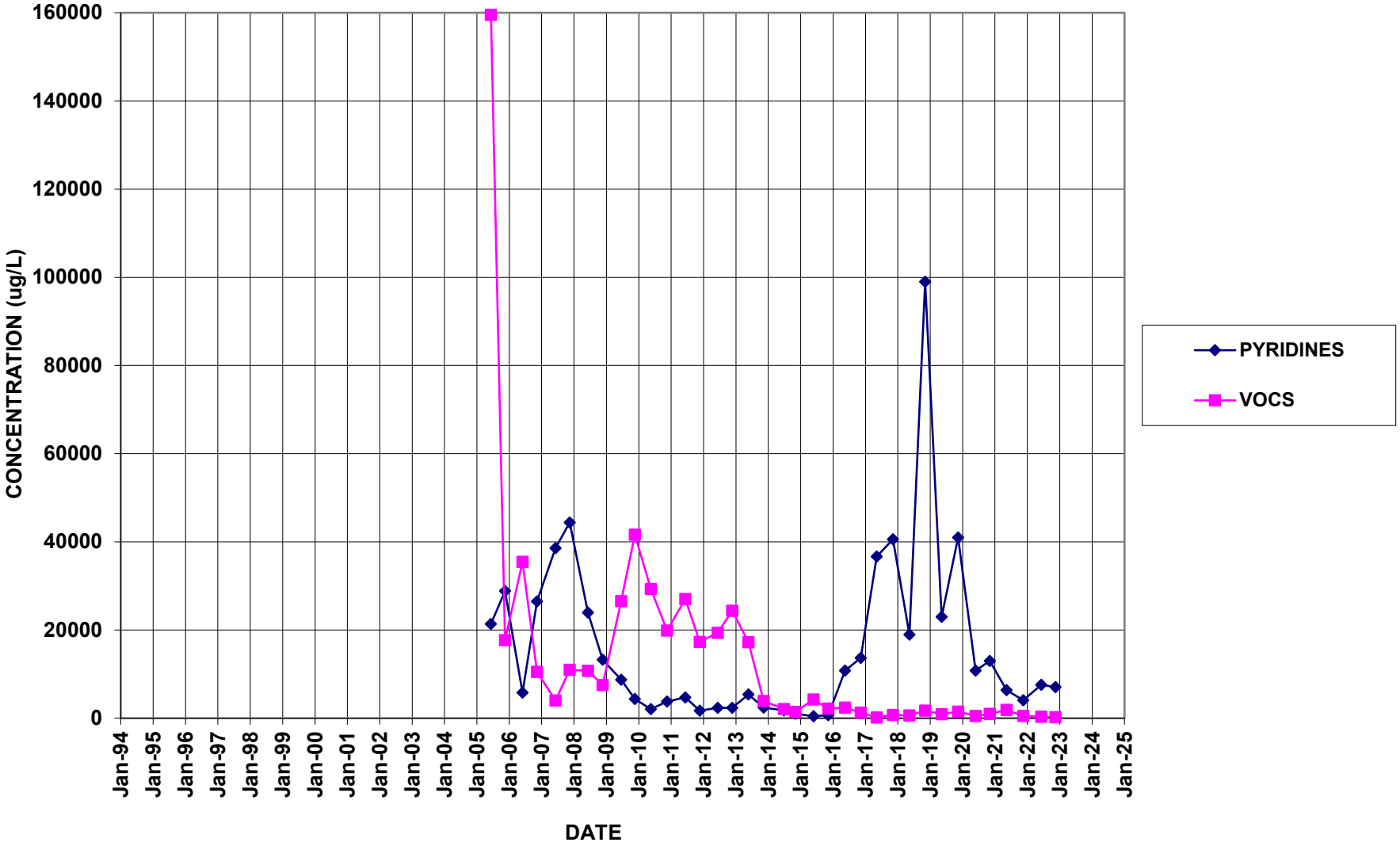
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

PW13



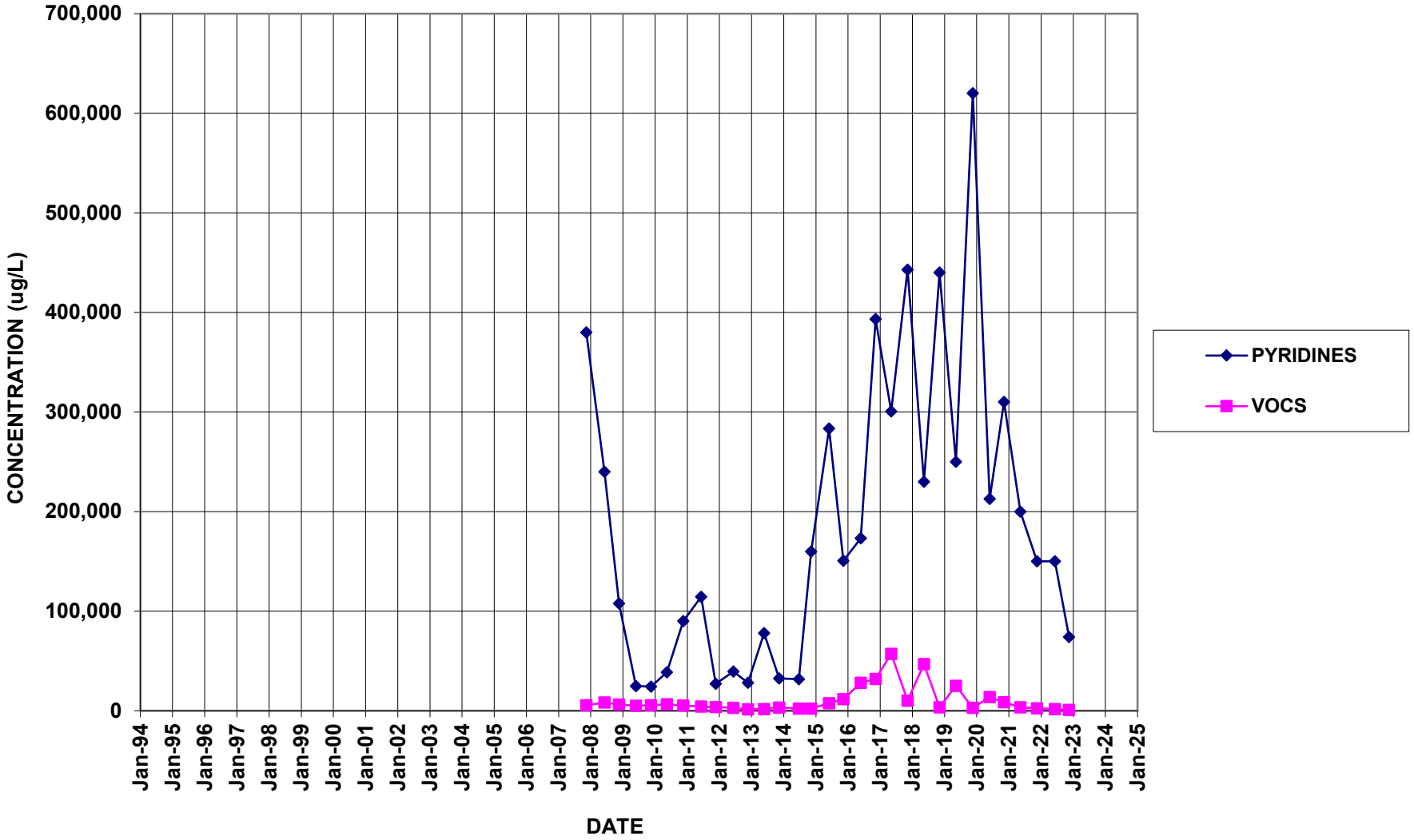
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

PW14



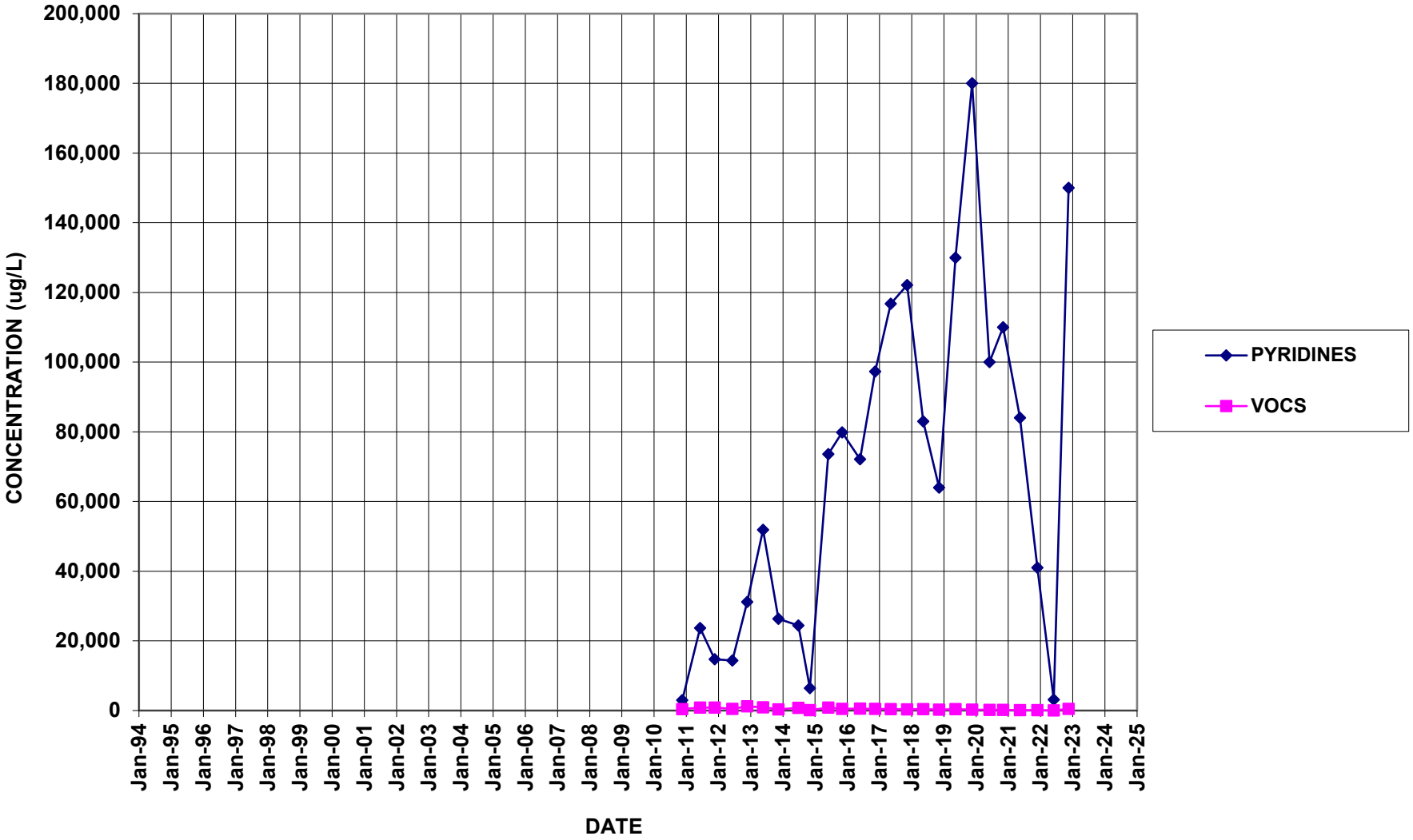
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

PW15



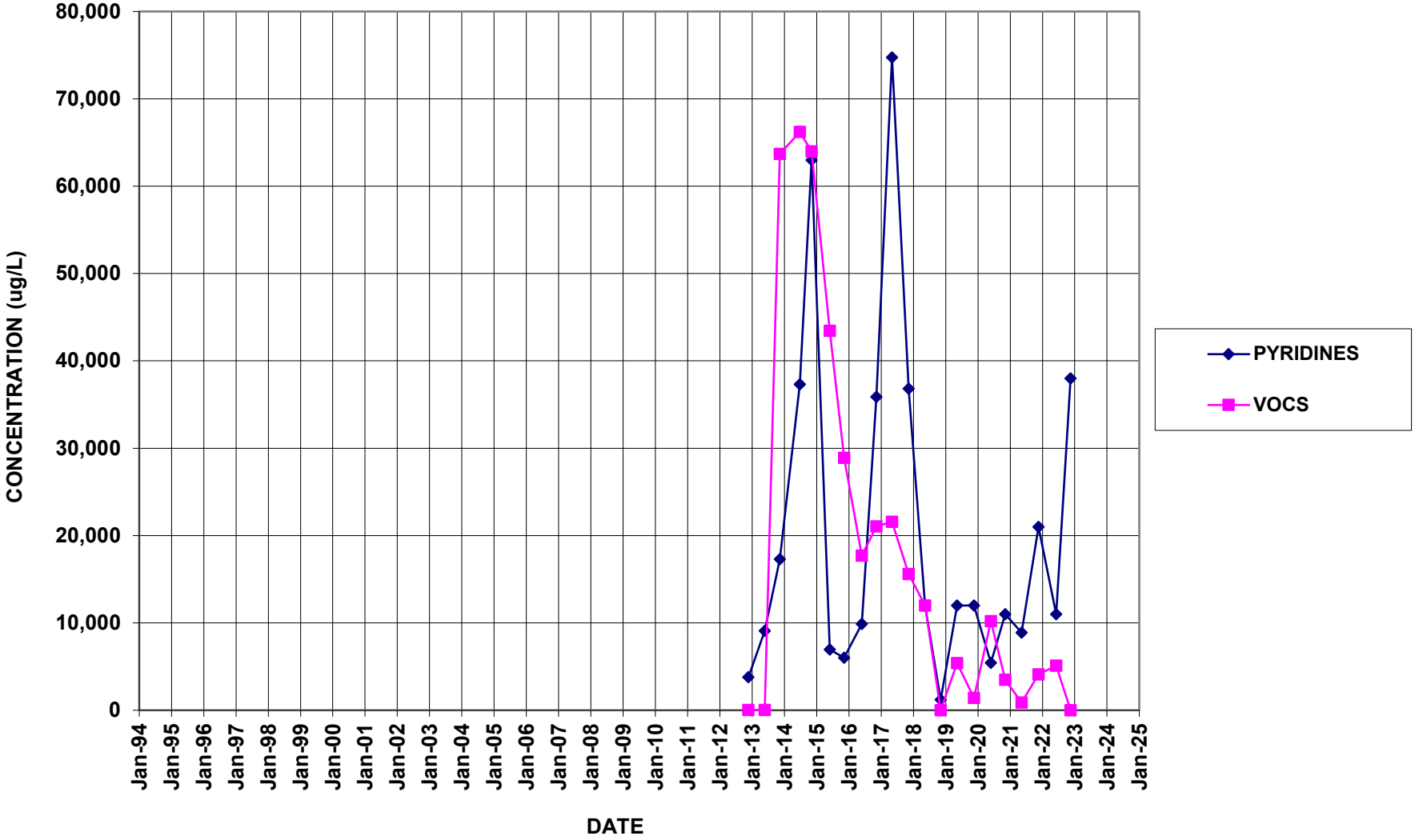
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

PW16



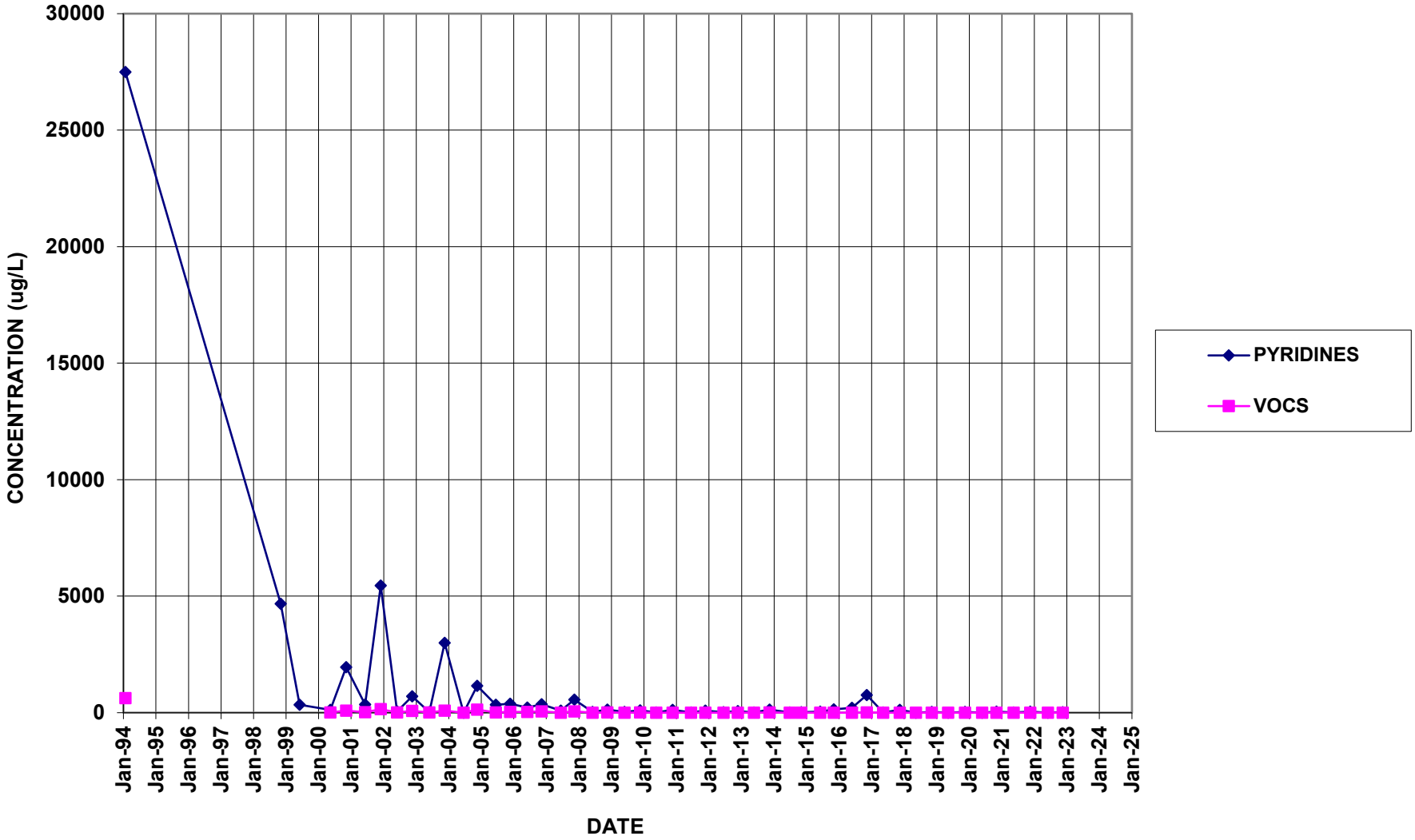
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

PW17



Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

PZ-101



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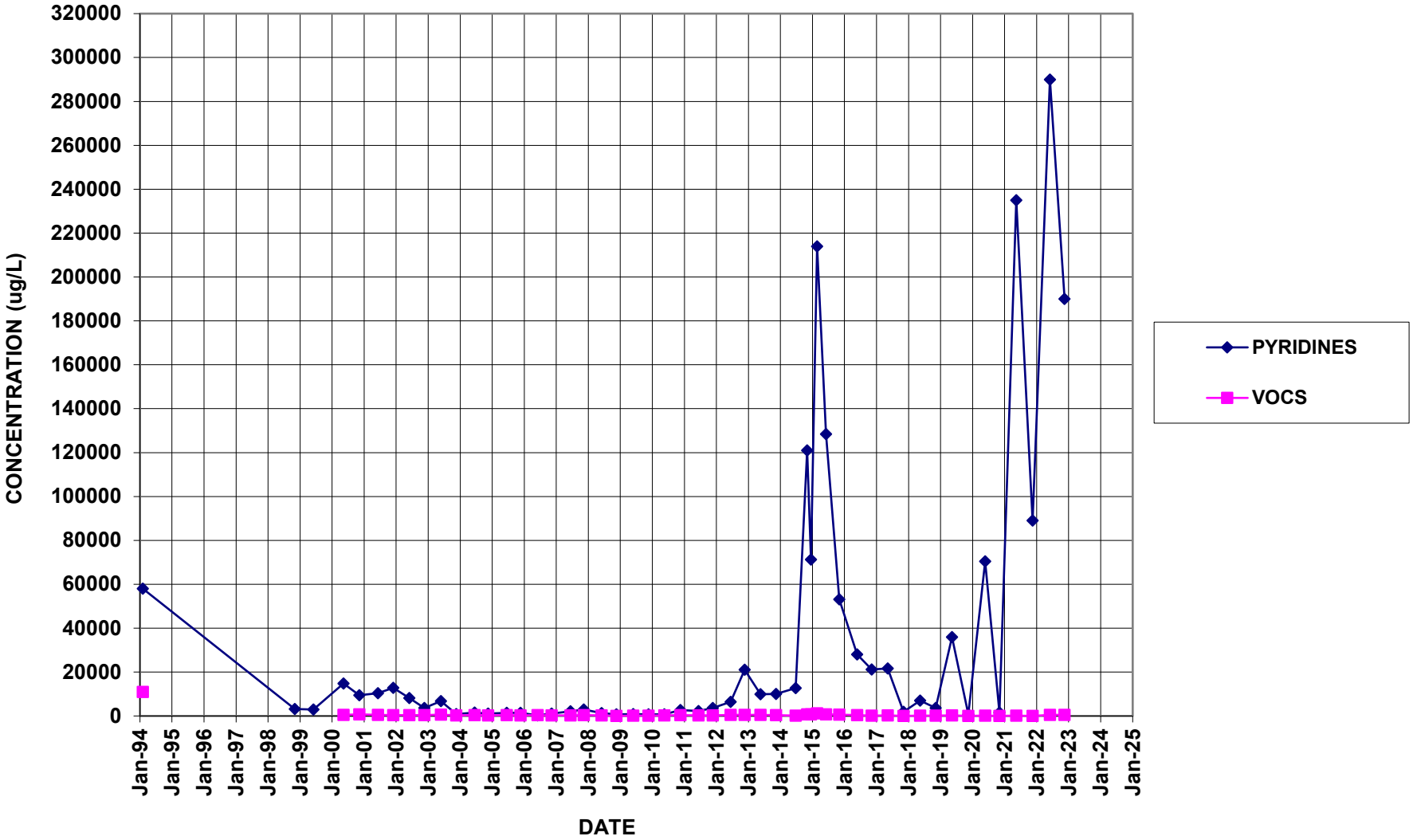
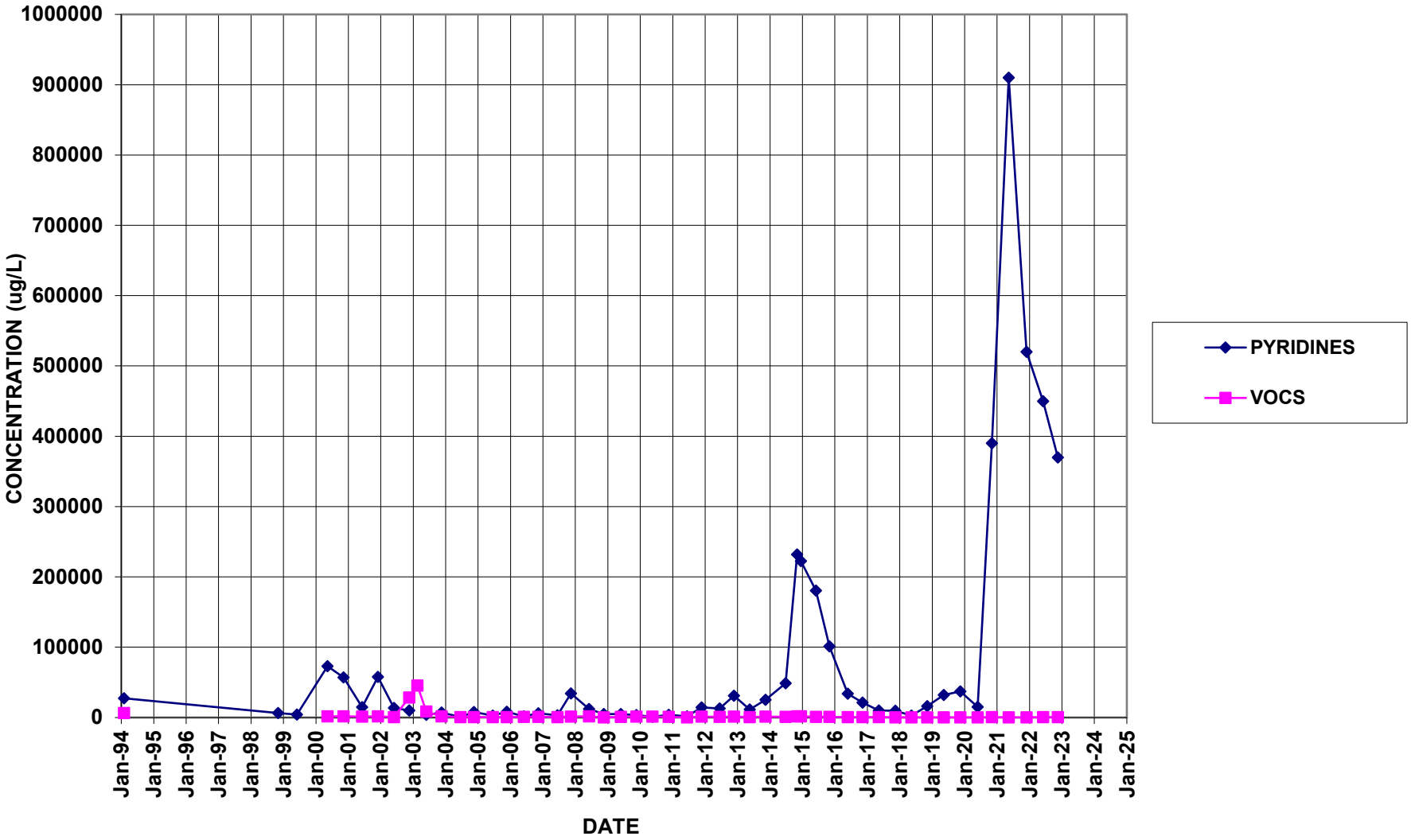
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

PZ-102



Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

PZ-103



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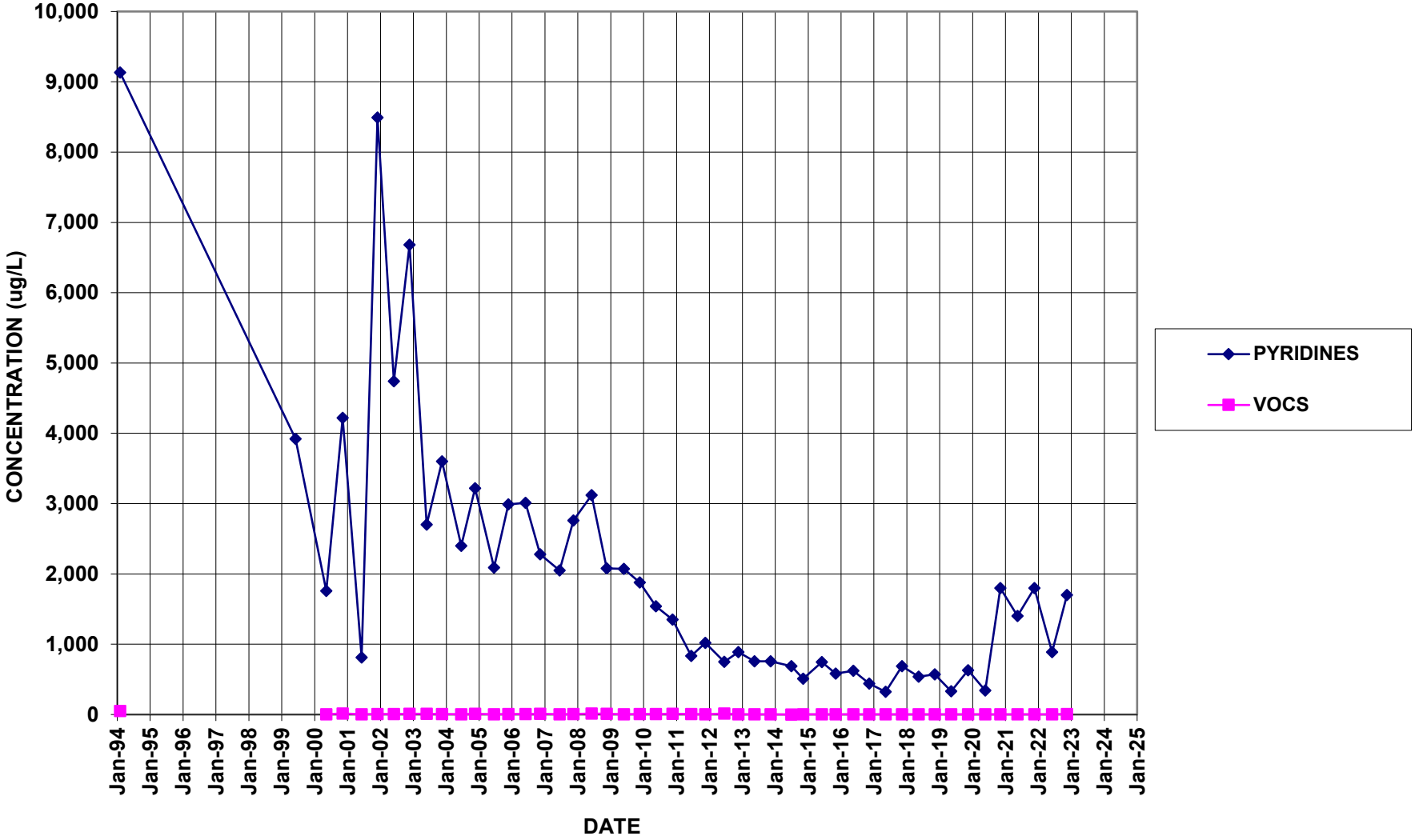
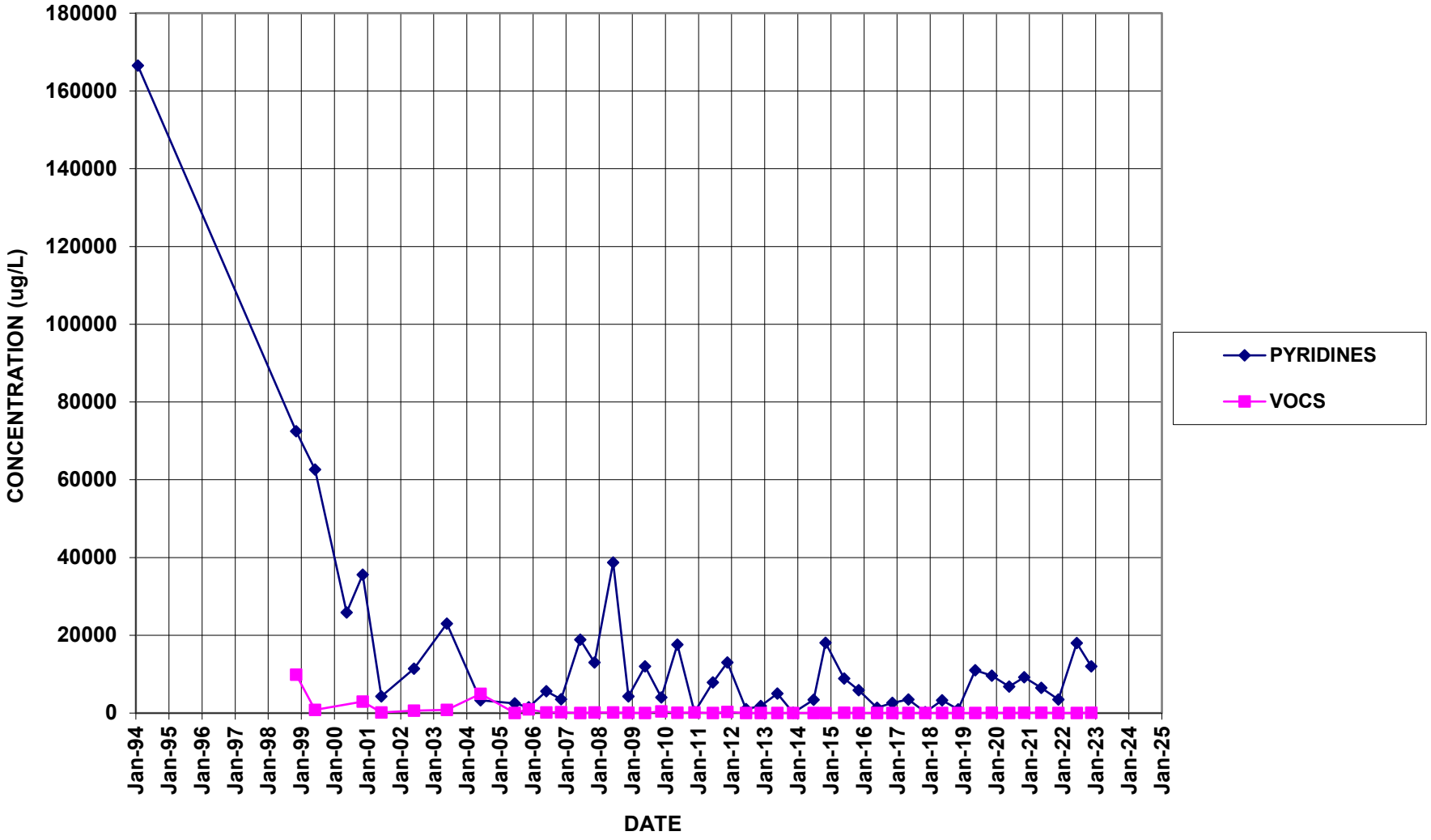
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

PZ-104



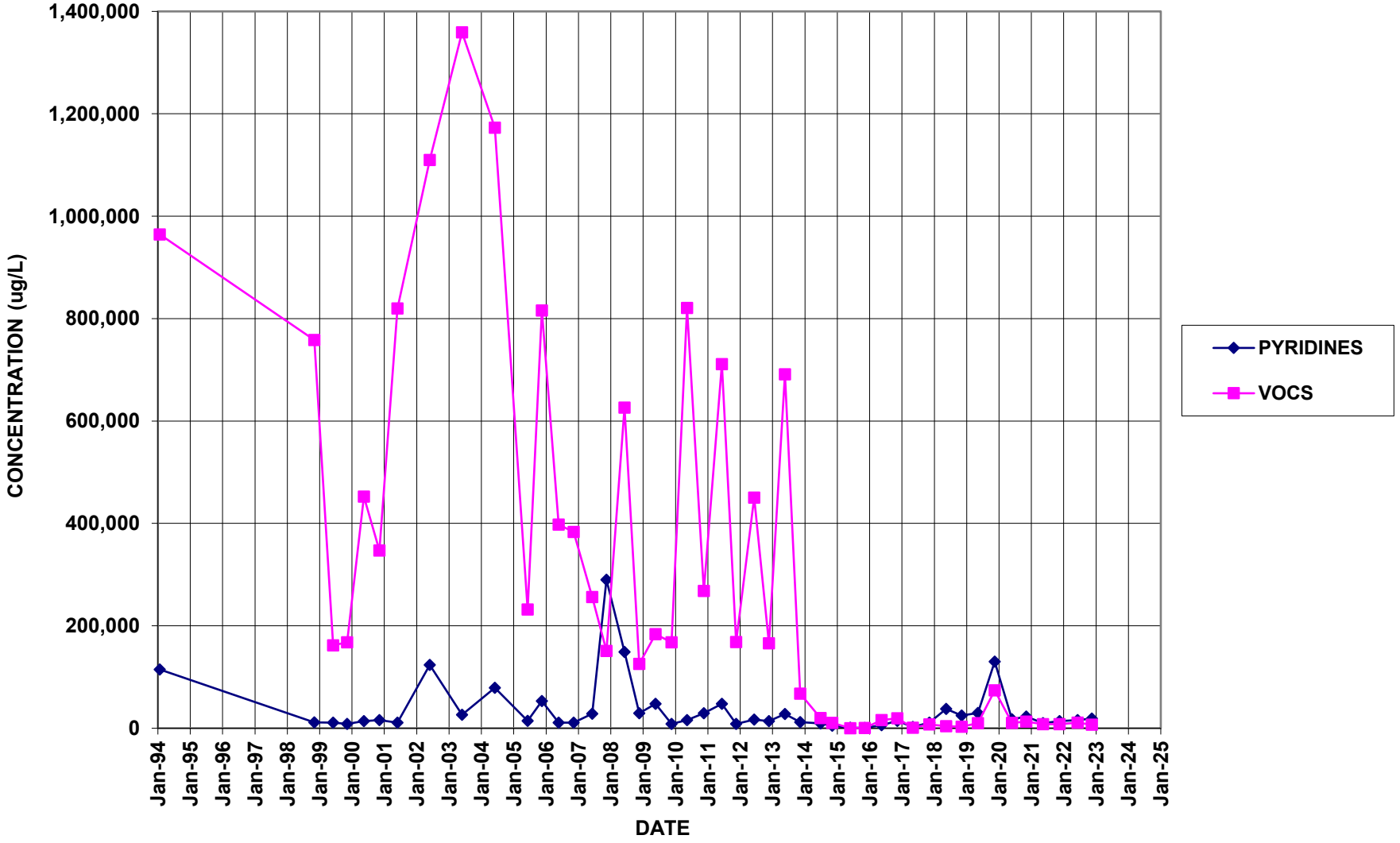
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

PZ-105



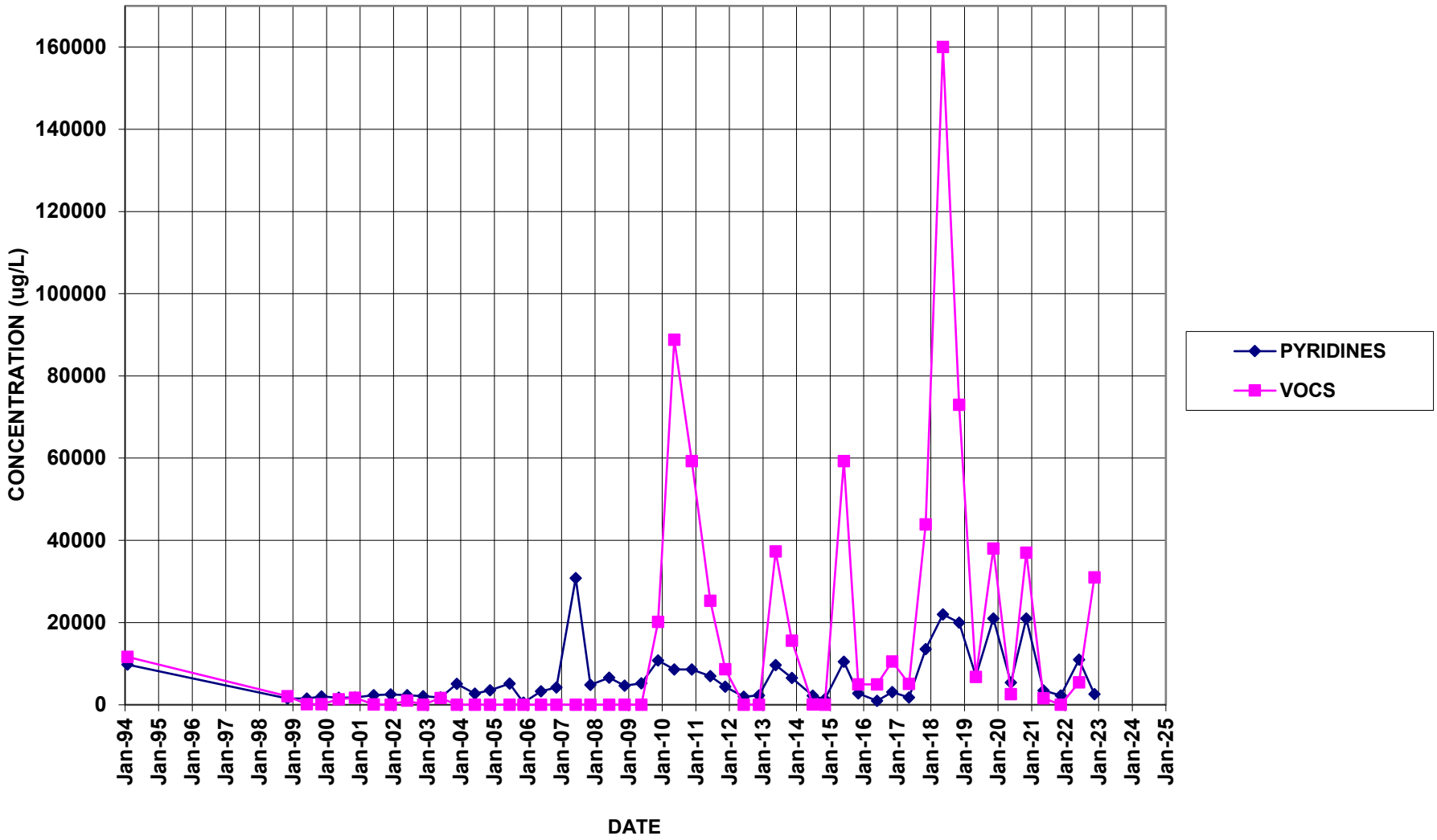
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

PZ-106



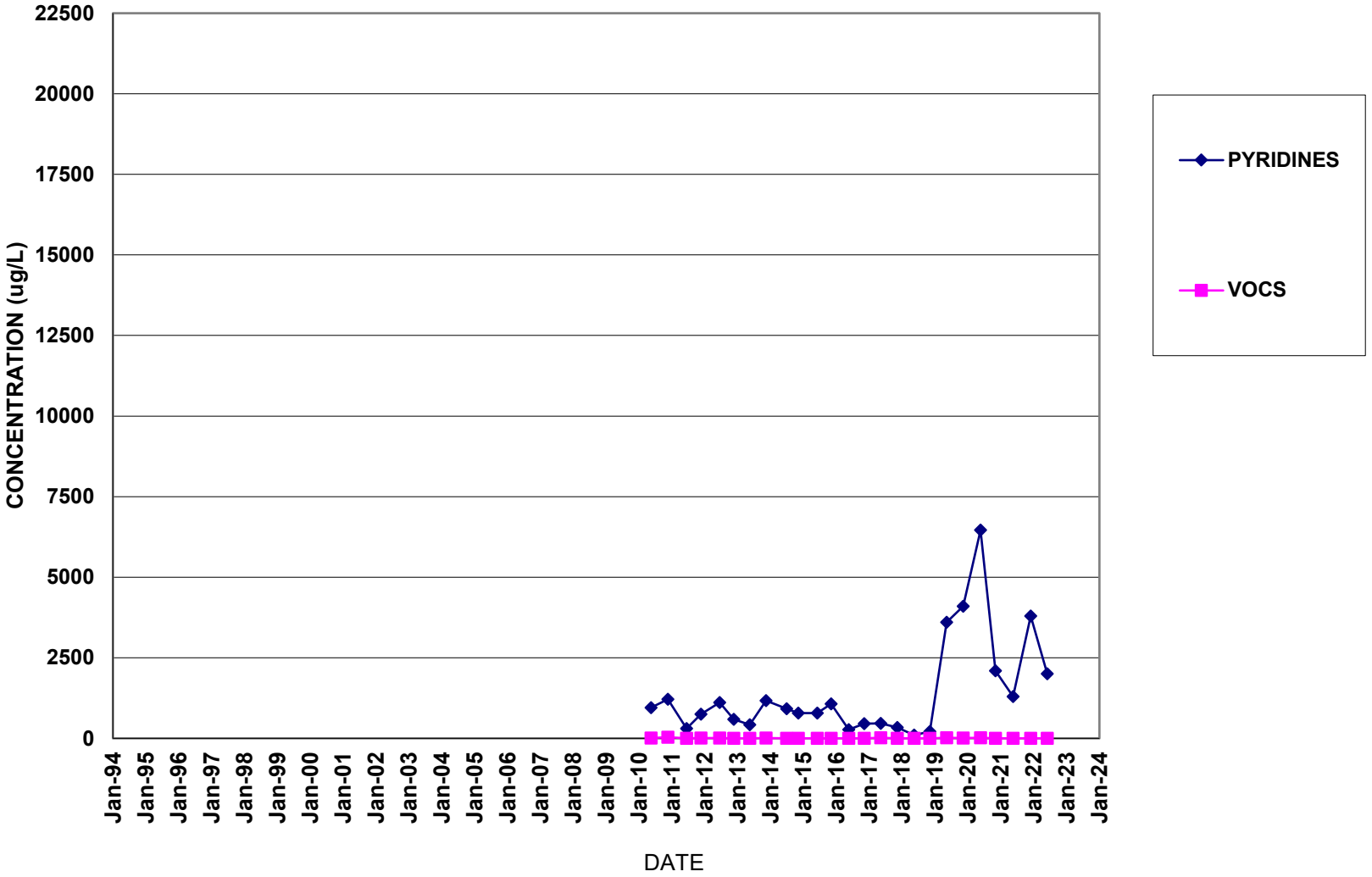
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

PZ-107



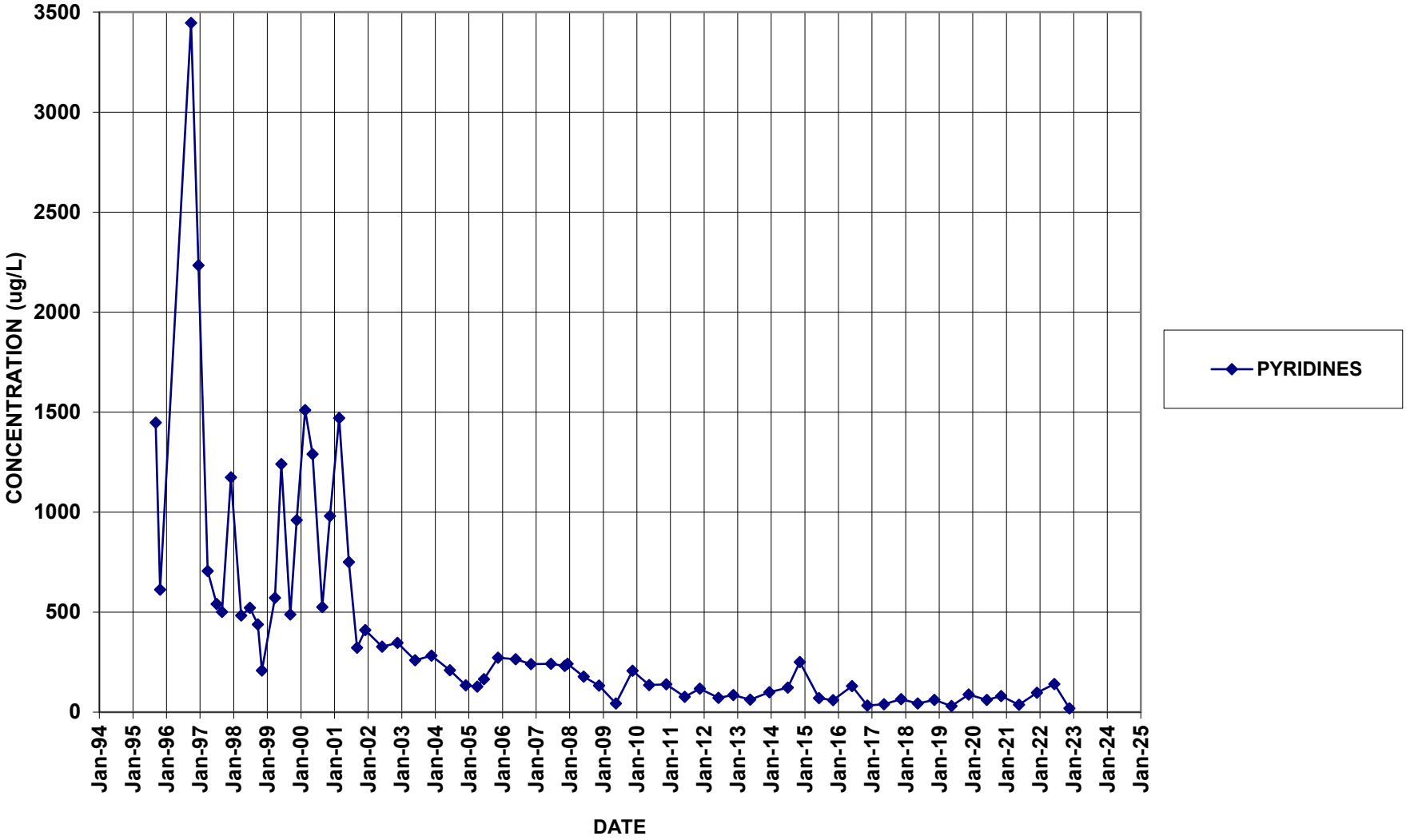
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

B-16
(B-16 replaced S-3 beginning May 2010)



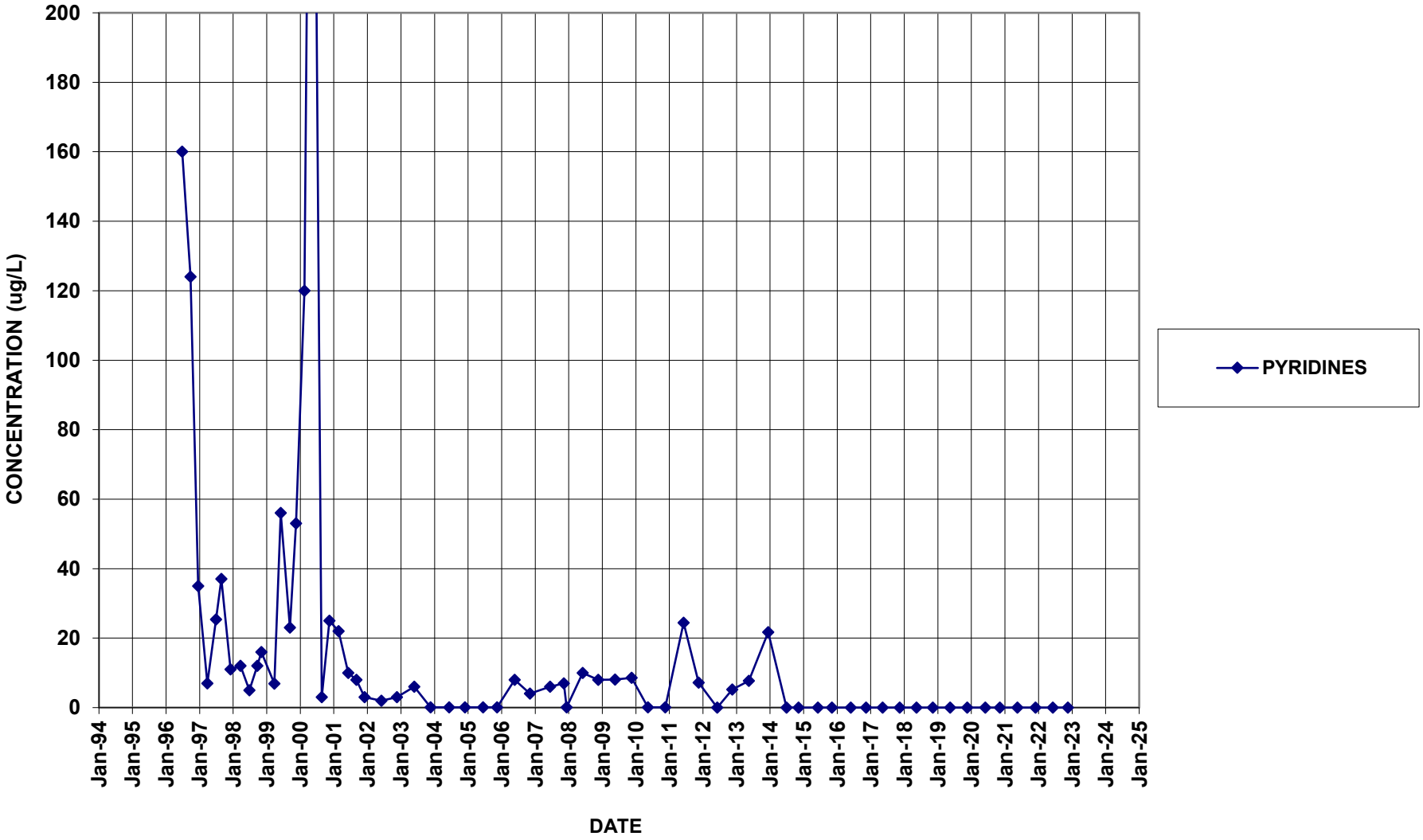
Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

QS-4 (QUARRY SEEP)



Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23

QO-2 (QUARRY OUTFALL)



Prepared by: JAR 04/07/23
Checked by: NMB 04/07/23