SURFACE WATER AND GROUNDWATER MONITORING PROGRAM
FALL 2015 MONITORING REPORT

ARCH CHEMICALS
ROCHESTER PLANT SITE
ROCHESTER, NEW YORK

ARCH CHEMICALS, INC.
(A WHOLLY-OWNED SUBSIDIARY OF LONZA)

JANUARY 2016

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FALL 2015 MONITORING REPORT

ARCH CHEMICALS
ROCHESTER PLANT SITE
ROCHESTER, NEW YORK

Prepared by

AMEC Foster Wheeler Environment & Infrastructure, Inc.
Portland, Maine

for

ARCH CHEMICALS, INC.
(A Wholly-Owned Subsidiary of Lonza)

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EXECUTIVE SUMMARY

This monitoring report presents the results of an on-going groundwater and surface water monitoring program being conducted by Arch Chemicals at its Rochester, New York, manufacturing facility. Arch Chemicals is a wholly-owned subsidiary of Lonza, a leading supplier to the global life sciences, healthcare and pharmaceutical industries headquartered in Basel, Switzerland.

During this monitoring event conducted in Fall 2015, samples from a total of 30 groundwater monitoring or pumping wells and four locations associated with the Dolomite Products Quarry seep and outfall 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. Thirteen of the 30 wells sampled for chloropyridines had contaminant concentrations that were above their respective 5-year prior averages. Five of the 30 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), the quarry ditch 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). The total concentration of chloropyridines in quarry seep QS-4 was 60 micrograms per liter (µg/L), which was below its prior 5-year average. Chloropyridines were not detected in the ditch sample from location QD-1, the ditch outfall sample at location QO-2, or in the canal water at sample location QO2-S1.

On-site monitoring wells were checked for the presence of dense non-aqueous phase liquids (DNAPL) and floating (or light) NAPL (LNAPL), using an interface probe. No DNAPL or LNAPL was observed in any of these wells.

During the period June 2015 through November 2015, the on-site groundwater extraction system pumped approximately 8.8 million gallons of groundwater to the on-site treatment system, containing an estimated 3,000 pounds of chloropyridines and 81 pounds of target volatile organic compounds.

The next regular monitoring event will occur in May 2016 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 2015 sampling event included the collection and analysis of a total of 34 groundwater, surface water, and seep samples from off-site and on-site locations. Samples were collected from November 3 through November 9, 2015, for analysis of selected chloropyridines and volatile organic compounds (VOCs).

This report presents the results of the Fall 2015 monitoring event.

2.0 SAMPLE COLLECTION AND ANALYSIS

2.1 GROUNDWATER

Groundwater samples were collected from off-site wells, on-site wells and piezometers 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. The off-site and on-site locations of these sampling points are shown in Figures 1 and 2, respectively.

Groundwater sampling data sheets are provided in Appendix A.

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

Groundwater piezometric elevations were measured on November 2, 2015. Piezometric contour maps were constructed for each water-bearing zone (overburden, bedrock, and deep bedrock) and are presented in Figures 3, 4, and 5.

On-site monitoring wells were checked for the presence of non-aqueous phase liquid (NAPL), using an interface probe. No dense NAPL (DNAPL) or floating (light) NAPL (LNAPL) was observed in any of these wells.

2.2 SURFACE WATER

Surface water and quarry seep samples were collected as part of the on-going 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 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 6, 2015. All quarry-related samples were analyzed for the Arch suite of selected chloropyridines. The quarry locations sampled during the Fall 2015 event are shown on Figure 7.

2.3 ANALYTICAL PROCEDURES

The analytical procedures, data review findings, and validated data for this groundwater monitoring event are discussed in the following paragraphs.

Samples were analyzed for the Arch suite of selected chloropyridines and TCL volatile organic compounds (VOCs) by USEPA SW-846 Methods 8270D and 8260C, respectively. 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

All laboratory analytical results were reviewed and qualified following U.S. Environmental Protection Agency Contract Laboratory Program (USEPA CLP), "National Functional Guidelines for Superfund Organic Methods Data Review", June 2008, using professional judgment and guidance from USEPA Region II SOPs No. HW-24 Revision 4, October 2014, and No. HW-35 Revision 2, March 2013. Analytical results were evaluated for the following parameters:

* Collection and Preservation
* Holding Times
Surrogate Recoveries
* Blank Contamination
Duplicates
Laboratory Control Samples
Matrix Spike/Matrix Spike Duplicates
Miscellaneous

* - *all criteria were met for this parameter*

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

Surrogate Recoveries. Percent recoveries of the VOC surrogates 2-pentafluorobenzene, 1,2-dichloroethane-d4, and/or toluene-d8 in a subset of samples were below the laboratory statistically derived control limits, indicating potential low biases. Positive and non-detected results in affected samples were qualified estimated (J/UJ): PZ105, BR127, BR127 Duplicate, PZ106, B5, PW13, and B11.

Duplicates. Inconsistent results were reported for 3-chloropyridine in sample BR127 and associated field duplicate BR127 Duplicate. 3-Chloropyridine was not detected in sample BR127, but was reported at a concentration (106 ug/L) above the reporting limit in BR127 Duplicate. The positive and non-detected results for 3-chloropyridine in BR127 and BR127 Duplicate were qualified estimated (J/UJ).

Laboratory Control Samples (LCS).Percent recoveries of pyridine (36 to 45) in all laboratory control samples associated with the sampling event were below nominal control limits of 50-140, indicating potential low biases for pyridine in all samples. Nominal control limits were used in the absence of statistically derived laboratory control limits. Pyridine was not detected in any samples except PW15, and reporting limits were qualified estimated (UJ) and the positive detection in PW15 was qualified estimated (J).

Matrix Spike/Matrix Spike Duplicates (MS/MSD). In the MS/MSD associated with VOC sample BR9, percent recoveries for bromomethane (16, 19) and vinyl chloride (66, 67) were below laboratory control limits, indicating potential low biases. In addition, relative percent differences (RPDs) between recoveries for bromomethane, chloroethane, and cis-1,3-dichloropropene were above the laboratory control limits. Positive and non-detected results for bromomethane, chloroethane, cis-1,3-dichloropropene, and vinyl chloride in sample BR9 and associated field duplicate BR9 Duplicate were qualified estimated (J/UJ).

In the MS/MSD associated with VOC sample BR127, percent recoveries for benzene (86) and toluene (84) were below the laboratory control limits, indicating potential low biases. Positive detections of benzene and toluene reported in sample BR127 and associated field duplicate BR127 Duplicate were qualified estimated (J).

Percent recovery for VOC target analyte bromoform (116) was above the laboratory control limits in the MS associated with sample PW15. In addition, the MSD percent recovery for chloroform (79) was below the control limits and the associated RPD (21) for chloroform was above the control limit. Positive detections of bromoform and chloroform were reported in sample PW15 and were qualified estimated (J). A potential high bias was indicated for bromoform in sample PW15, and the detection of chloroform in PW15 may represent a potential low bias.

In the MS/MSD associated with chloropyridines sample BR9, MS and/or MSD percent recoveries were below nominal control limits of 50-140 for all target analytes, and RPDs between recoveries of 2,6-dichloropyridine and 2-chloropyridine were above the nominal control limit of 20. Positive and non-detected results for pyridine and all chloropyridines in BR9 and associated field duplicate BR9 Duplicate were qualified estimated (J/UJ).

In the MS/MSD associated with chloropyridines sample BR127, MSD percent recoveries were below nominal control limits of 50-140 for 2-chloropyridine (16) and pyridine (39), and RPDs between recoveries of all analytes were above the nominal control limit of 20. Positive and non-detected results for pyridine and all chloropyridines in BR127 and associated field duplicate BR127 Duplicate were qualified estimated (J/UJ).

Significant dilutions (400X-800X) were required for analyses of chloropyridines sample PW15 and the associated MS/MSD. Based on professional judgment, results for the MS/MSD of sample PW15 were not evaluated.

Miscellaneous. Samples from a subset of wells were analyzed at dilutions due to high concentrations of volatile organic and/or semivolatile organic target analytes. Non-detects are reported at elevated reporting limits.

3.0 ANALYTICAL RESULTS

3.1 GROUNDWATER

The validated results from the Fall 2015 groundwater monitoring event are provided in Tables 2 and 3. Table 4 provides a comparison of the Fall 2015 analytical results for selected chloropyridines and VOCs in representative wells to mean concentrations of the prior five years (Fall 2010 through Spring 2015). Long term 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 23 on-site wells sampled in the Fall 2015 event. Concentrations of chloropyridines (sum of all chloropyridine and pyridine isomer concentrations) ranged from 28 micrograms per liter (µg/L) in well BR-5A to 360,000 µg/L in monitoring well B-5. Nine 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 each of the seven off-site wells that were sampled. Concentrations of total chloropyridines ranged from 140 µg/L in well PZ-101 to 100,000 µg/L in well PZ-103. Four of the off-site wells contained total chloropyridine concentrations above their respective 5-year prior means (see Table 4).

Concentration Contours. Chloropyridine 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 chloropyridine plume extent is generally similar to the prior monitoring event in June 2015. Concentrations have continued to decline in several wells that had exhibited substantial increases in 2014, including BR-105, BR-106, BR-9, MW-106, PW-10, PW-17, PZ-102, and PZ-103. Increasing trends have continued in pumping wells PW-13 and PW-16, as well as in nearby monitoring wells B-5 and BR-8, indicating that the relatively high pumping rates at extraction wells PW-13 and PW-16 are drawing contaminants toward these wells.

3.1.2 Selected VOCs.

On-Site. Selected VOCs were detected in 19 of the 23 on-site wells sampled for VOCs in the Fall 2015 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, BR-5A, BR-126, and MW-127) to 29,000 µg/L (in well PW-17). Two of the on-site wells contained concentrations of total VOCs above their 5-year prior means (see Table 4).

In addition to the selected VOCs, other notable constituents detected in multiple on-site wells include benzene (in 14 out of 23 wells), 1,2-dichlorobenzene (11 of 23), 1,4-dichlorobenzene (11 of 23), 1,3-dichlorobenzene (9 of 23), toluene (8 of 23), vinyl chloride (6 of 23), carbon disulfide (5 of 23), cis-1,2-dichloroethene (5 of 23), acetone (3 of 23), bromoform (2 of 23), 1,1,2-trichloro-1,2,2-trifluoroethane (2 of 23), ethyl benzene (2 of 23), 1,2,3-trichlorobenzene (2 of 23), 1,2,4-trichlorobenzene (2 of 23), and 1,1-dichloroethane (2 of 23).

Off-Site. Selected VOCs were detected in five of the seven off-site wells sampled for VOCs during the Fall 2015 event. Total concentrations of selected VOCs ranged from not detected (in wells BR-105D and PZ-101) to 830 µg/L (in well PZ-103). Three of these wells were above their 5-year prior means for VOCs (see Table 4).

In addition to the selected VOCs, other notable constituents detected in multiple off-site wells include benzene (in 6 out of 7 wells), 1,2-dichlorobenzene (5 of 7), 1,4-dichlorobenzene (4 of 7), 1,3-dichlorobenzene (2 of 7), acetone (2 of 7), carbon disulfide (2 of 7), and cis-1,2-dichloroethene (2 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. The VOC plume extent is generally consistent with previous monitoring events.

3.2 SURFACE WATER

Results from the Fall 2015 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 in the Fall 2015 monitoring event. The sample contained 60 µg/L total chloropyridines, which is below its prior 5-year mean.

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 dewatering discharge enters the ditch; and QO-2, at the location where the ditch discharges to the canal. Chloropyridine compounds were not detected in either ditch 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 is a summary of the system flow measurements for the on-site extraction wells from June 2015 through November 2015. The total volume pumped during the six-month period was approximately 8.8 million gallons.

Table 7 provides a calculation of mass removal rates since the previous groundwater monitoring event (i.e., from June 2015 through November 2015). Arch estimates that approximately 81 pounds of target VOCs and 3,000 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.

5.0 NEXT MONITORING EVENT

The next regular monitoring event will occur in May 2016 and will include groundwater, surface water, and seep sampling.

Table 8 shows the 2016 monitoring program for the Arch Rochester site.

Figures

Legend

Property Owned by Lonza

Monitoring Well

NOTES

1. Source - Topographic Quadrangle 7.5-Minute Series

N

0 250 500 1,000 Feet

Prepared by JEB | Checked by NMB

BARGE CANAL

I-390

FIRTH RIXSON

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

BR-113/BR-113D

8-8

7-6

LEXINGTON

GENERAL RAIL SIGNAL CO.

11-8

9-6

RW-1

10-6

13-4

DOLOMITE PRODUCTS QUARRY

Morey

OW-102A

OW-103

BR-122D

PFAUDLER

ERIE BARGE CANAL

BR-117/BR-117D

BR-121D (Abandoned)

BR-118/BR-118D

BR-123D

BR-116/BR-116D

I-390

BR-120D (Abandoned)

BR-119D (Abandoned)

LETTINGTON DRIVE

BR-124D

Figure 1
Off-Site Groundwater Monitoring Well Locations

Arch Chemicals
Rochester, NY

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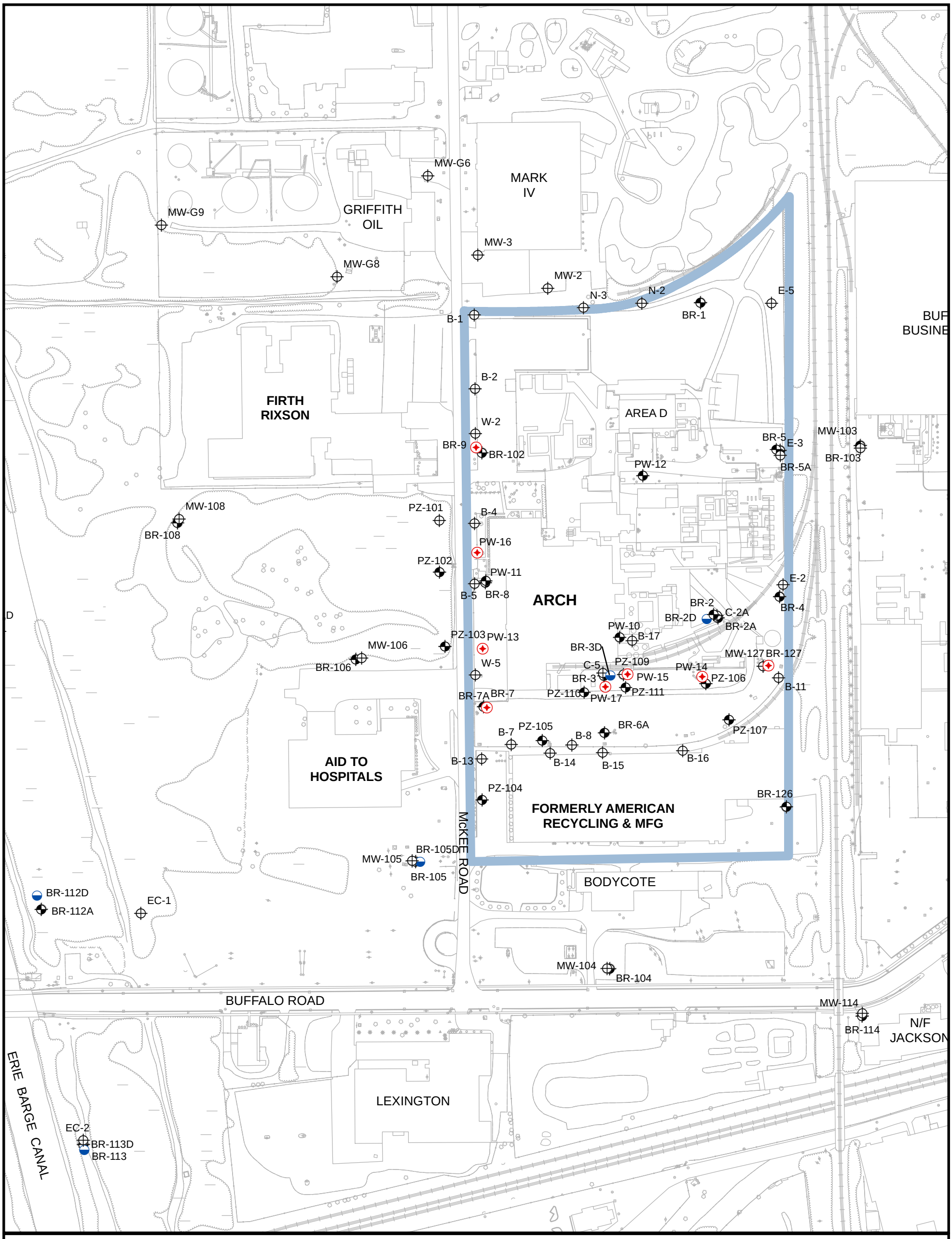

NOTES:

1. Off-Site Well Locations also Included on Figure 1

Legend

- Active Pumping Well
- Overburden Monitoring Well
- Bedrock Monitoring Well
- Deep Bedrock Monitoring Well
- Property Owned by Lonza

N

0 100 200 400 Feet

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Figure 2
Onsite Monitoring Well Locations

Arch Chemicals
Rochester, NY

amec foster wheeler

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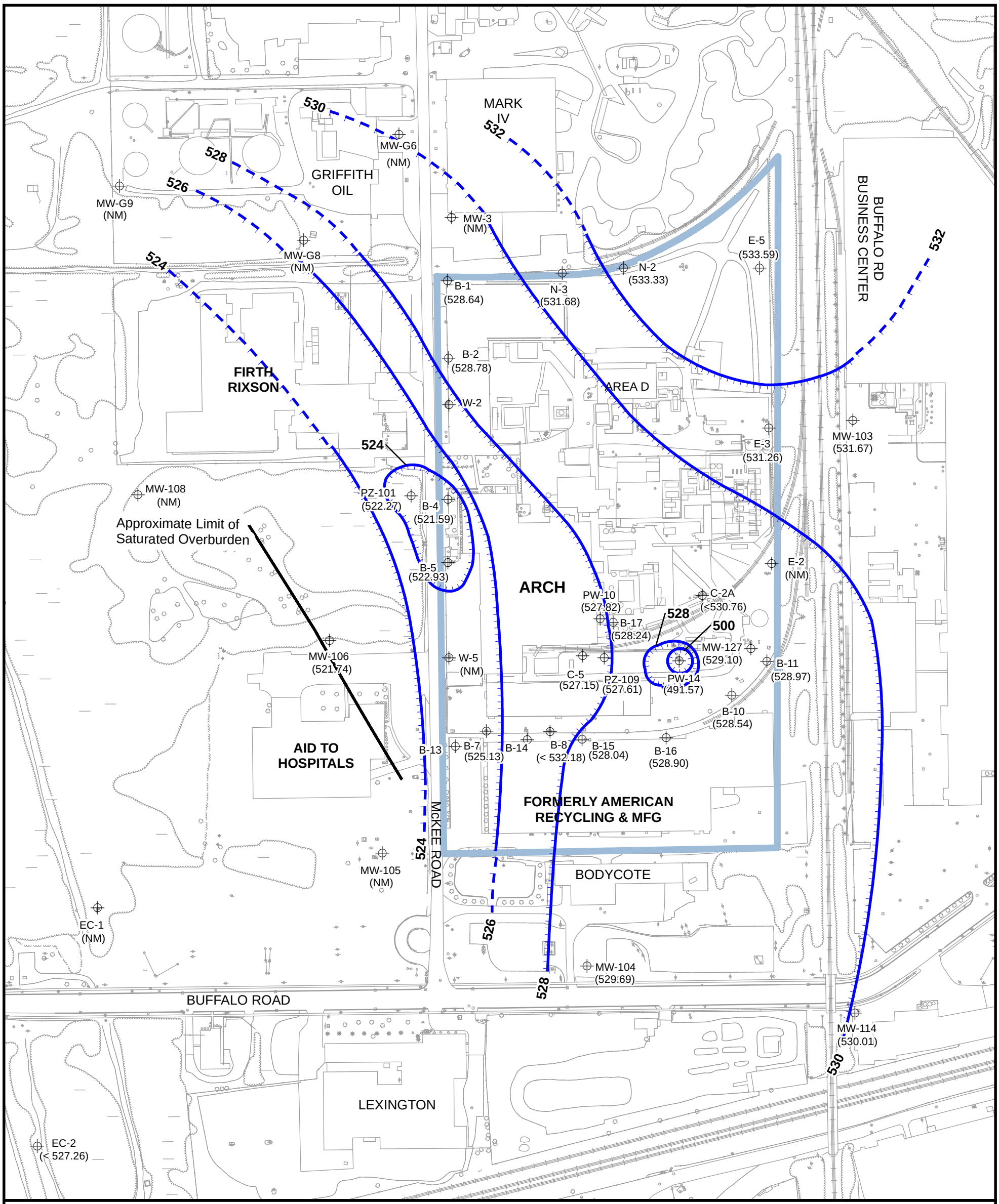

Legend

MW-114 (529.53) — Piezometric Elevation at Well or Piezometer

Interpreted Groundwater Flow Direction

528 — Overburden Piezometric Elevation Contour (MSL)

Outline of Arch Property Boundary

N

0 100 200 400 Feet

Figure 3
Fall 2015
Overburden Groundwater
Interpreted Piezometric Contours

Arch Chemicals
Rochester, NY

NOTES:

1. Water Levels Measured on November 2, 2015
2. Dashed Contours Reflect Uncertainty

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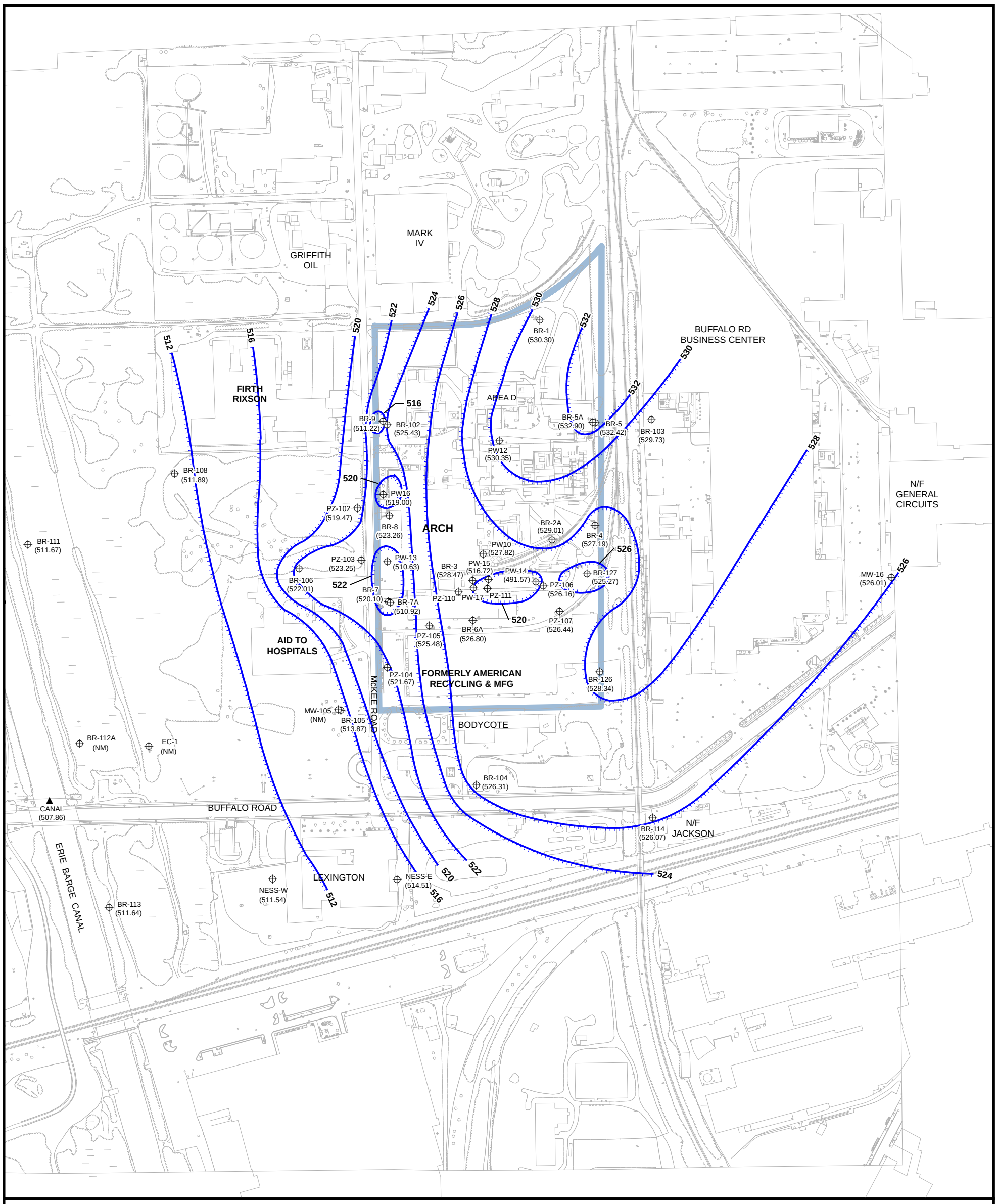

Legend

- BR-114 (526.07) — Piezometric Elevation at Well or Piezometer (Feet MSL)
- Piezometric Elevation at Surface Water Measuring Point
- Property Owned by Lonza
- Interpreted Groundwater Flow Direction
- 526 — Bedrock Piezometric Elevation Contour (MSL)

N

NOTES:

1. Water Levels Measured on November 2, 2015

0 150 300 600 Feet

Figure 4
Fall 2015
Bedrock Groundwater
Interpreted Piezometric Contours

Arch Chemicals
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 Lonza
- BR-116D (509.82) — Piezometric Elevation at Deep Bedrock Well

NOTES

1. Water Levels Measured on November 2, 2015
2. Dashed Contours Reflect Uncertainty

N

0 250 500 1,000 Feet

Prepared/Date: JEB 11/09/15 | Checked/Date: NMB 11/09/15

ERIE BARGE CANAL
I-390
FIRTH RIXSON
BUFFALO RD. BUSINESS CENTER
ARCH
BR-9
BR-103
BR-108
BR-111D (511.23)
BR-111
AID TO HOSPITALS
BR-106
BR-3D (484.82)
510
BR-112D (511.55)
BR-112
BR-105
BR-105D (510.49)
BUFFALO ROAD
BR-104
BR-114
508
CUMBERLAND FARMS PETROLEUM TERMINAL
BR-113
BR-113D (511.59)
LEXINGTON
GENERAL RAIL SIGNAL CO.
506
504
502
500
498
DOLOMITE PRODUCTS QUARRY
BR-122D (507.28)
PFAUDLER
BR-117D (498.69)
BR-117
BR-118
BR-118D (500.26)
BR-123D (508.27)
BR-116D (509.82)
BR-116
BR-124D (505.30)
LETTINGTON DRIVE

Figure 5
Fall 2015
Deep Bedrock Groundwater
Interpreted Piezometric Contours

Arch Chemicals
Rochester, NY

amec foster wheeler

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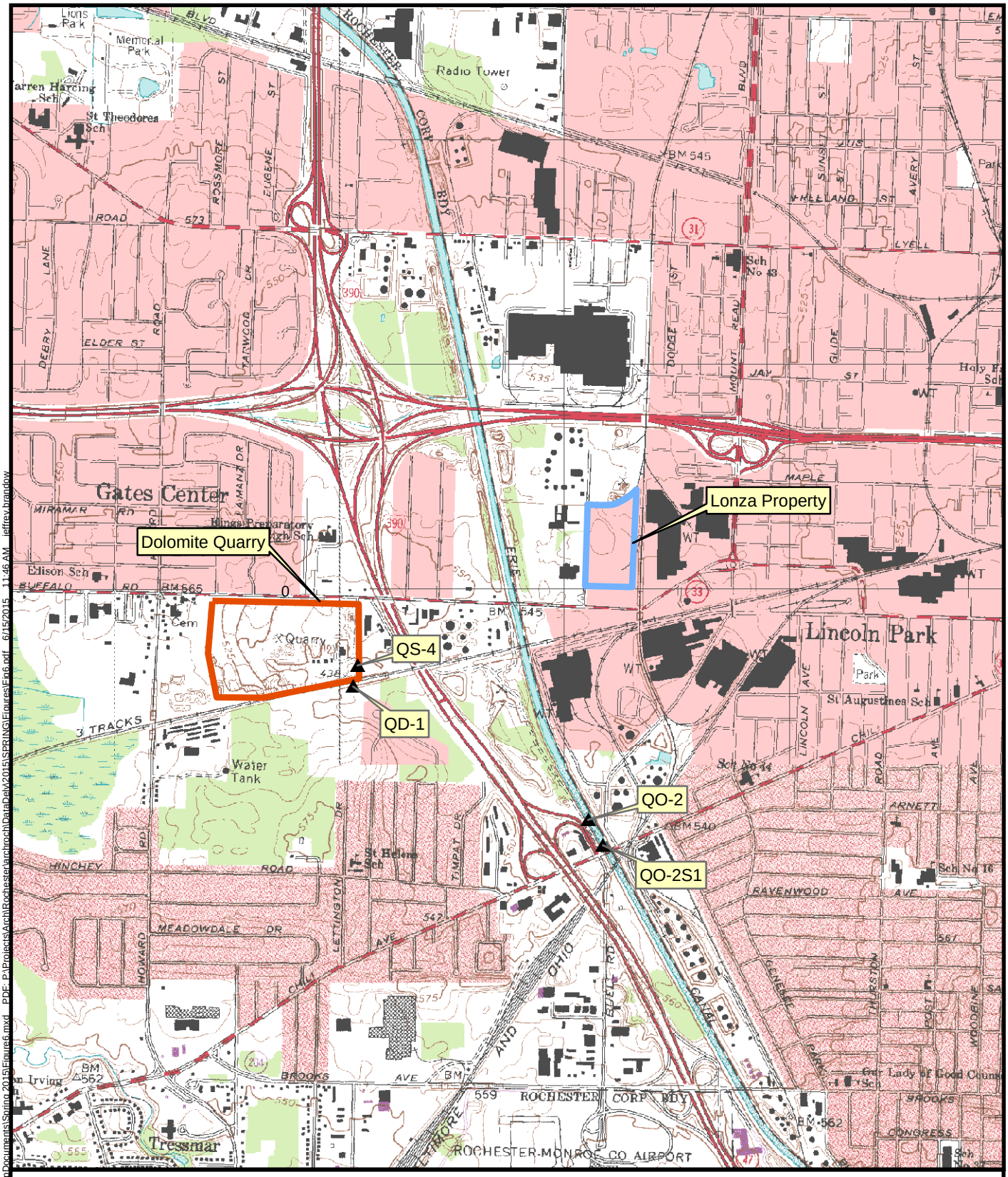

Source:
1:24,000 scale digital topographic map
obtained from New York State GIS
Clearinghouse at: www.nysgis.state.ny.us

Legend

- Lonza Property
- Dolomite Quarry Boundary
- ▲ Surface Water Sample Location

N

0 1,000 2,000 Feet

Prepared by JEB | Checked by NMB

Figure 6
Sample Locations
Erie Barge Canal

Arch Chemicals
Rochester, New York

amec foster wheeler

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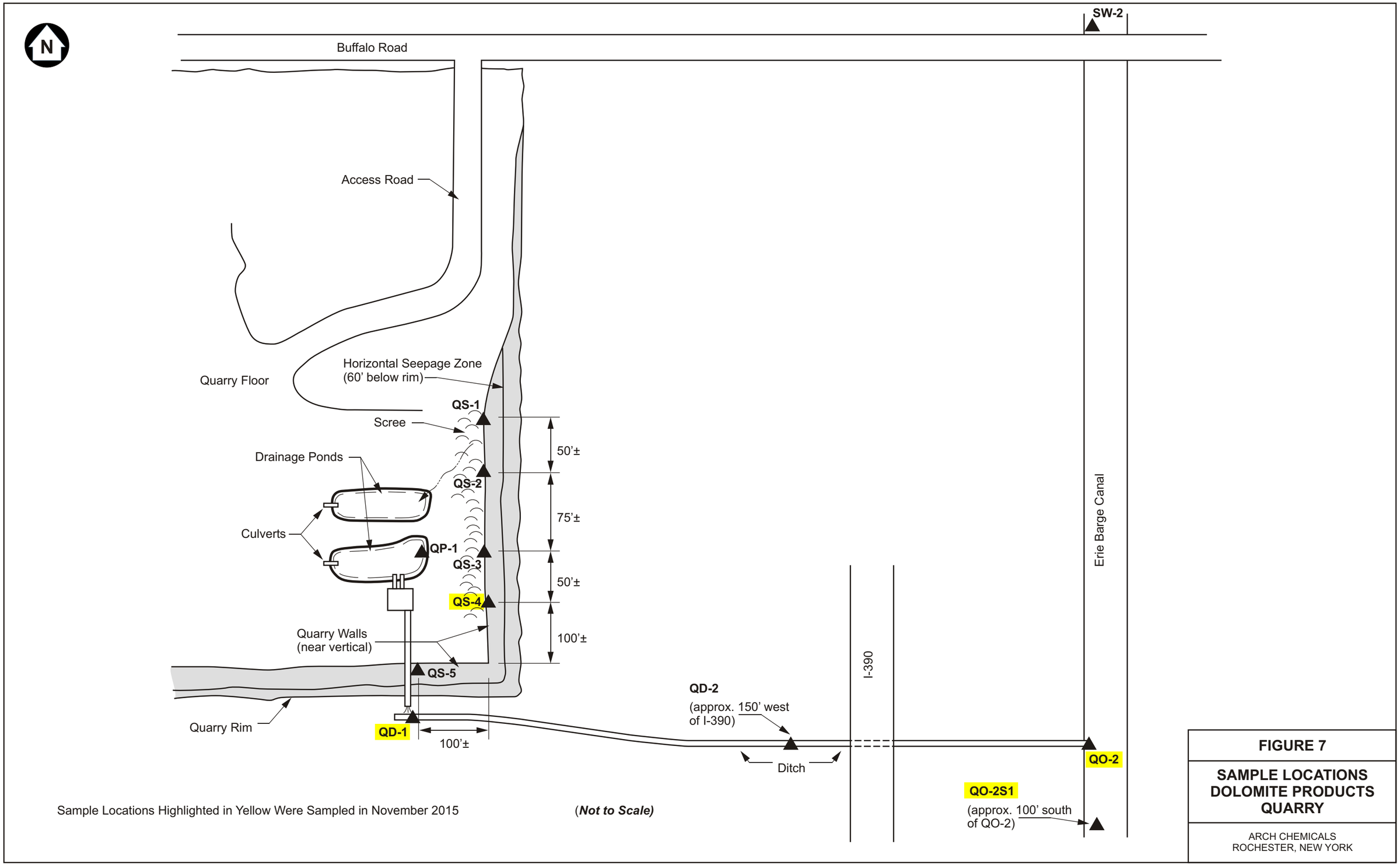


Sample Locations Highlighted in Yellow Were Sampled in November 2015

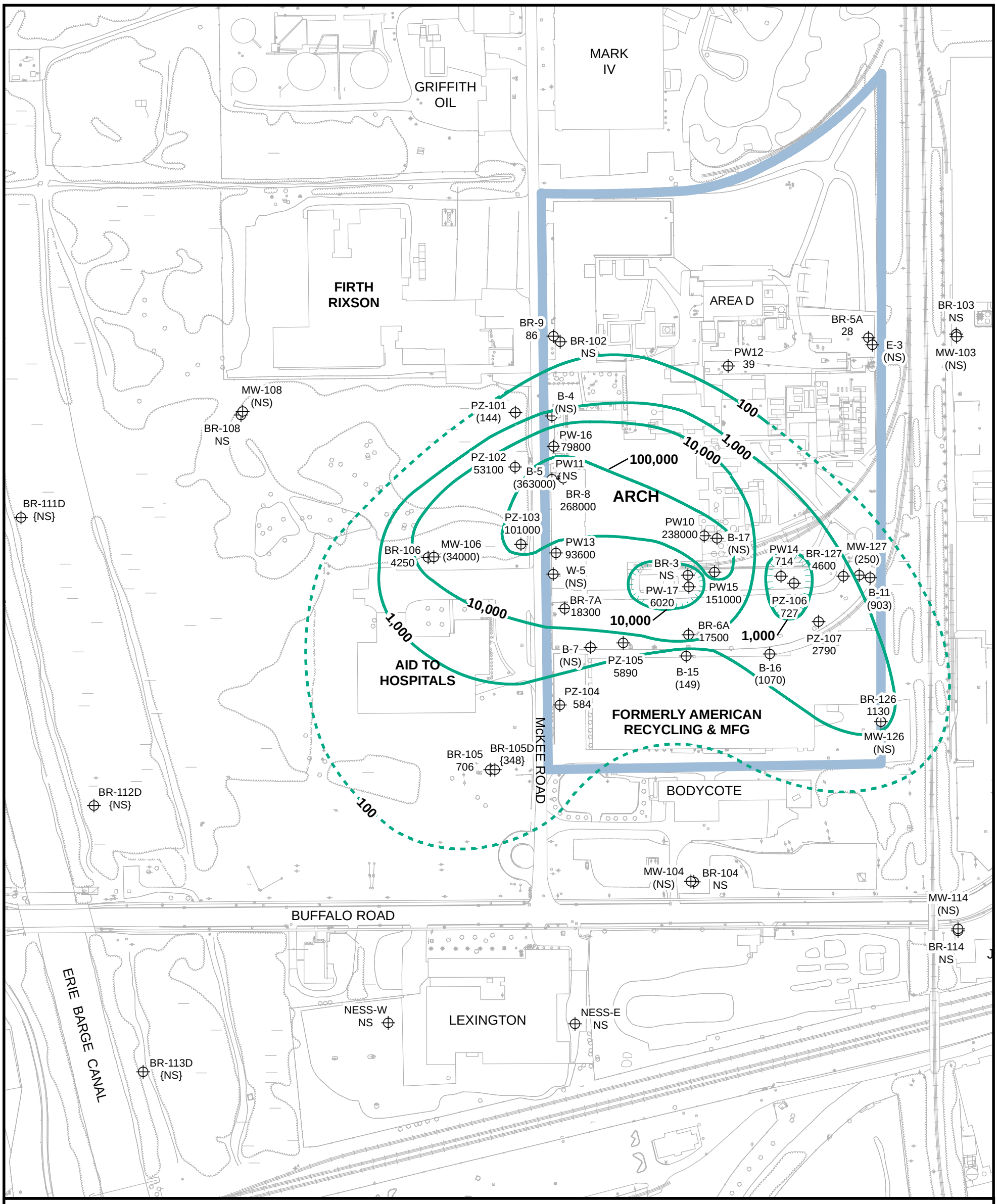
(***Not to Scale***)

FIGURE 7

SAMPLE LOCATIONS
DOLOMITE PRODUCTS QUARRY

ARCH CHEMICALS
ROCHESTER, NEW YORK

W2004030a.cdr



Legend

- Property Owned by Lonza
- 100 — Chloropyridine Concentration Contour
- BR-105 (706) — Monitoring Location with Concentration

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

0 100 200 Feet

N

Prepared/Date: JEB 12/03/15 | Checked/Date: NMB 12/03/15

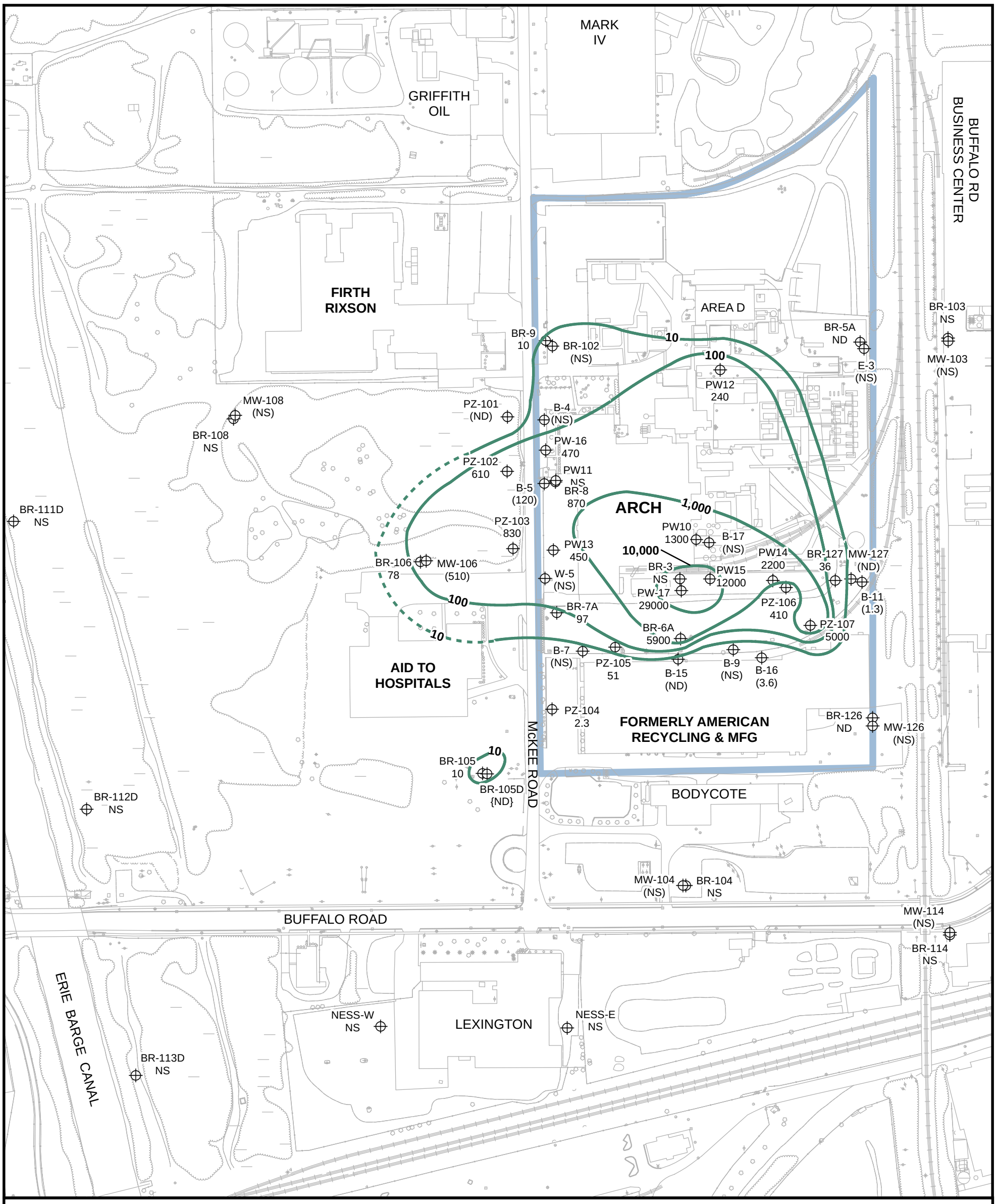
NOTES:

1. Samples Collected November 2015
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

Figure 8
Fall 2015
Selected Chloropyridine Concentration Contours

Arch Chemicals
Rochester, NY

amec foster wheeler



Legend

- Property Owned by Lonza
- **100** VOC Concentration Contour
- B-16 (2.2) Monitoring Location with Concentration
- {1000} Deep Bedrock Well
- (1000) Overburden Well
- 1000 Bedrock Well
- NS Not Sampled
- ND Not Detected

0 100 200 Feet

N

Prepared/Date: JEB 12/03/15 | Checked/Date: NMB 12/03/15

NOTES:

1. Samples Collected in November 2015
2. Selected VOCs consist of Carbon tetrachloride, Methylene chloride Chloroform, Chlorobenzene, TCE, and PCE.
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

Figure 9
Fall 2015
Selected Volatile Organic Compound Concentration Contours

Arch Chemicals
Rochester, NY

amec foster wheeler

Document: P:\Projects\Arch\Rochester\GIS\MapDocuments\Fall 2015\Fig9_VOC_Contours.mxd PDF: P:\Projects\Arch\Rochester\archroch\DataDelv\2015\FALL\Figures\Fig9_VOCcontours.pdf 12/3/2015 12:22 PM jeffrey.brandow

Tables

TABLE 1
FALL 2015 GROUNDWATER SAMPLING AND ANALYTICAL PROGRAM

ARCH CHEMICALS, INC
ROCHESTER, NEW YORK

			ANALYSIS	PYRIDINES	VOCs
SITE / AREA	**WELL / POINT**	**DATE**	**QC TYPE**		
AID TO HOSPITALS	BR-106	11/3/2015	Sample	X	X
	MW-106	11/3/2015	Sample	X	X
	PZ-101	11/3/2015	Sample	X	X
	PZ-102	11/3/2015	Sample	X	X
	PZ-103	11/3/2015	Sample	X	X
ARCH ROCHESTER	B-11	11/9/2015	Sample	X	X
	B-15	11/4/2015	Sample	X	X
	B-16	11/4/2015	Sample	X	X
	B-5	11/5/2015	Sample	X	X
	BR-126	11/4/2015	Sample	X	X
	BR-127	11/5/2015	Duplicate	X	X
	BR-127	11/5/2015	Sample	X	X
	BR-5A	11/4/2015	Sample	X	X
	BR-6A	11/5/2015	Sample	X	X
	BR-7A	11/6/2015	Sample	X	X
	BR-8	11/5/2015	Sample	X	X
	BR-9	11/3/2015	Sample	X	X
	BR-9	11/3/2015	Duplicate	X	X
	MW-127	11/5/2015	Sample	X	X
	PW10	11/4/2015	Sample	X	X
	PW12	11/4/2015	Sample	X	X
	PW13	11/6/2015	Sample	X	X
	PW14	11/9/2015	Sample	X	X
	PW15	11/9/2015	Sample	X	X
	PW16	11/5/2015	Sample	X	X
	PW17	11/9/2015	Sample	X	X
	PZ-104	11/4/2015	Sample	X	X
	PZ-105	11/5/2015	Sample	X	X
	PZ-106	11/9/2015	Sample	X	X
	PZ-107	11/5/2015	Sample	X	X
DOLOMITE PRODUCTS, INC.	QD-1	11/6/2015	Sample	X	
	QS-4	11/6/2015	Sample	X	
ERIE BARGE CANAL	QO-2	11/6/2015	Sample	X	
(Samples in canal or property along canal)	QO-2S1	11/6/2015	Sample	X	
RG & E RIGHT OF WAY	BR-105	11/3/2015	Sample	X	X
	BR-105D	11/3/2015	Sample	X	X

TABLE 2
FALL 2015 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	B-11	B-15	B-16	B-5	BR-105	BR-105D	BR-106	BR-126	BR-127	BR-127
SAMPLE DATE:	11/9/2015	11/4/2015	11/4/2015	11/5/2015	11/3/2015	11/3/2015	11/3/2015	11/4/2015	11/5/2015	11/5/2015
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Duplicate
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270D (µg/L)										
2,6-Dichloropyridine	246	127	315	38500	146 J	27.5	2000 U	245	556 J	443 J
2-Chloropyridine	657	21.7	755	324000	560	320	4250	883	4040 J	3190 J
3-Chloropyridine	80 U	10 U	50 U	25000 U	200 U	25 U	2000 U	80 U	400 UJ	106 J
4-Chloropyridine	80 U	10 U	50 U	25000 U	200 U	25 U	2000 U	80 U	400 UJ	200 UJ
p-Fluoroaniline	80 U	10 U	50 U	25000 U	200 U	25 U	2000 U	80 U	400 UJ	200 UJ
Pyridine	80 UJ	10 UJ	50 UJ	25000 UJ	200 UJ	25 UJ	2000 UJ	80 UJ	400 UJ	200 UJ

Notes:
U = Compound not detected; value represents sample quantitation limit.
J = Estimated value
µg/L = micrograms per Liter

TABLE 2
FALL 2015 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	BR-5A	BR-6A	BR-7A	BR-8	BR-9	BR-9	MW-106	MW-127	PW10	PW12
SAMPLE DATE:	11/4/2015	11/5/2015	11/6/2015	11/5/2015	11/3/2015	11/3/2015	11/3/2015	11/5/2015	11/4/2015	11/4/2015
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Duplicate	Sample	Sample	Sample	Sample
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270D (µg/L)										
2,6-Dichloropyridine	21.7	2780	1120	15500 J	18.3 J	18 J	10000 U	147 J	20000 U	17.7
2-Chloropyridine	5.96 J	14700	17200	252000	67.4 J	64 J	34000	203	218000	21.5
3-Chloropyridine	10 U	1000 U	1000 U	20000 U	25 UJ	25 UJ	10000 U	200 U	20300	10 U
4-Chloropyridine	10 U	1000 U	1000 U	20000 U	25 UJ	25 UJ	10000 U	200 U	20000 U	10 U
p-Fluoroaniline	10 U	1000 U	1000 U	20000 U	25 UJ	25 UJ	10000 U	200 U	20000 U	10 U
Pyridine	10 UJ	1000 UJ	1000 UJ	20000 UJ	25 UJ	25 UJ	10000 UJ	200 UJ	20000 UJ	10 UJ

Notes:
U = Compound not detected; value represents sample quantitation limit.
J = Estimated value
µg/L = micrograms per Liter

TABLE 2
FALL 2015 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	PW13	PW14	PW15	PW16	PW17	PZ-101	PZ-102	PZ-103	PZ-104	PZ-105
SAMPLE DATE:	11/6/2015	11/9/2015	11/9/2015	11/5/2015	11/9/2015	11/3/2015	11/3/2015	11/3/2015	11/4/2015	11/5/2015
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270D (µg/L)										
2,6-Dichloropyridine	4720 J	134	5680 J	10000 U	869 J	24.9	7230 J	20700	143	952 J
2-Chloropyridine	88900	560	137000	79800	5150	119	45900	80600	441	4940
3-Chloropyridine	8000 U	20.3 J	8000 U	10000 U	1000 U	10 U	10000 U	20000 U	40 U	1000 U
4-Chloropyridine	8000 U	40 U	8000 U	10000 U	1000 U	10 U	10000 U	20000 U	40 U	1000 U
p-Fluoroaniline	8000 U	40 U	8000 U	10000 U	1000 U	10 U	10000 U	20000 U	40 U	1000 U
Pyridine	8000 UJ	40 UJ	7980 J	10000 UJ	1000 UJ	10 UJ	10000 UJ	20000 UJ	40 UJ	1000 UJ

Notes:
U = Compound not detected; value represents sample quantitation limit.
J = Estimated value
µg/L = micrograms per Liter

TABLE 2
FALL 2015 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	PZ-106	PZ-107
SAMPLE DATE:	11/9/2015	11/5/2015
QC TYPE:	Sample	Sample
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270D (µg/L)		
2,6-Dichloropyridine	400 U	343
2-Chloropyridine	727	2450
3-Chloropyridine	400 U	200 U
4-Chloropyridine	400 U	200 U
p-Fluoroaniline	400 U	200 U
Pyridine	400 UJ	200 UJ

Notes:
U = Compound not detected; value represents sample quantitation limit.
J = Estimated value
µg/L = micrograms per Liter

TABLE 3
FALL 2015 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	B-11	B-15	B-16	B-5	BR-105	BR-105D	BR-106	BR-126	BR-127	BR-127
SAMPLE DATE:	11/9/2015	11/4/2015	11/4/2015	11/5/2015	11/3/2015	11/3/2015	11/3/2015	11/4/2015	11/5/2015	11/5/2015
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Duplicate
VOCs BY SW-846 Method 8260C (µg/L)										
1,1,1-Trichloroethane	2 UJ	2 U	2 U	4 UJ	2 U	2 U	2 UJ	2 U	2 UJ	2 UJ
1,1,2,2-Tetrachloroethane	2 UJ	2 U	2 U	4 UJ	2 U	2 U	2 UJ	2 U	2 UJ	2 UJ
1,1,2-Trichloro-1,2,2-Trifluoroethane	2 UJ	2 U	2 U	4 UJ	2 U	2 U	2 UJ	2 U	2 UJ	2 UJ
1,1,2-Trichloroethane	2 UJ	2 U	2 U	4 UJ	2 U	2 U	2 UJ	2 U	2 UJ	2 UJ
1,1-Dichloroethane	2 UJ	2 U	2 U	4 UJ	2 U	1.01 J	2 UJ	2 U	2 UJ	2 UJ
1,1-Dichloroethene	2 UJ	2 U	2 U	4 UJ	2 U	2 U	2 UJ	2 U	2 UJ	2 UJ
1,2,3-Trichlorobenzene	5 UJ	5 U	5 U	10 UJ	5 U	5 U	5 UJ	5 U	5 UJ	5 UJ
1,2,4-Trichlorobenzene	5 UJ	5 U	5 U	10 UJ	5 U	5 U	5 UJ	5 U	5 UJ	5 UJ
1,2-Dibromo-3-chloropropane	10 UJ	10 U	10 U	20 UJ	10 U	10 U	10 UJ	10 U	10 UJ	10 UJ
1,2-Dibromoethane	2 UJ	2 U	2 U	4 UJ	2 U	2 U	2 UJ	2 U	2 UJ	2 UJ
1,2-Dichlorobenzene	2 UJ	2 U	1.46 J	61.6 J	3.84	2 U	18.8 J	2 U	5.32 J	5.4 J
1,2-Dichloroethane	2 UJ	2 U	2 U	4 UJ	2 U	2 U	2 UJ	2 U	2 UJ	2 UJ
1,2-Dichloropropane	2 UJ	2 U	2 U	4 UJ	2 U	2 U	2 UJ	2 U	2 UJ	2 UJ
1,3-Dichlorobenzene	2 UJ	2 U	1.03 J	47.2 J	2 U	2 U	2 UJ	2 U	3.29 J	3.27 J
1,4-Dichlorobenzene	2 UJ	2 U	2.25	48.1 J	2 U	2 U	1.76 J	2 U	5.48 J	5.6 J
1,4-Dioxane	20 UJ	20 U	20 U	40 UJ	20 U	20 U	20 UJ	20 U	20 UJ	20 UJ
2-Butanone	10 UJ	10 U	10 U	25.2 J	10 U	10 U	10 UJ	10 U	10 UJ	10 UJ
2-Hexanone	5 UJ	5 U	5 U	10 UJ	5 U	5 U	5 UJ	5 U	5 UJ	5 UJ
4-Methyl-2-pentanone	5 UJ	5 U	5 U	10 UJ	5 U	5 U	5 UJ	5 U	5 UJ	5 UJ
Acetic acid, methyl ester	2 UJ	2 U	2 U	4 UJ	2 U	2 U	2 UJ	2 U	2 UJ	2 UJ
Acetone	10 UJ	10 U	10 U	396 J	10 U	10 U	17.3 J	10 U	10 UJ	10 UJ
Benzene	1 UJ	1 U	0.888 J	4.68 J	0.939 J	3.93	4.41 J	1.61	1.26 J	1.28 J
Bromochloromethane	5 UJ	5 U	5 U	10 UJ	5 U	5 U	5 UJ	5 U	5 UJ	5 UJ
Bromodichloromethane	2 UJ	2 U	2 U	4 UJ	2 U	2 U	2 UJ	2 U	2 UJ	2 UJ
Bromoform	5 UJ	5 U	5 U	10 UJ	5 U	5 U	5 UJ	5 U	5 UJ	5 UJ
Bromomethane	2 UJ	2 U	2 U	4 UJ	2 U	2 U	2 UJ	2 U	2 UJ	2 UJ
Carbon disulfide	2 UJ	2 U	2 U	4 UJ	2 U	1.76 J	2 UJ	2 U	3.49 J	3.64 J
Carbon tetrachloride	2 UJ	2 U	2 U	4 UJ	2 U	2 U	2 UJ	2 U	4.26 J	4.38 J
Chlorobenzene	2 UJ	2 U	3.63	121 J	10.3	2 U	78.2 J	2 U	4.03 J	3.98 J
Chloroethane	2 UJ	2 U	2 U	4 UJ	2 U	2 U	2 UJ	2 U	2 UJ	2 UJ
Chloroform	1.27 J	2 U	2 U	4 UJ	2 U	2 U	2 UJ	2 U	22.1 J	23 J
Chloromethane	2 UJ	2 U	2 U	4 UJ	2 U	2 U	2 UJ	2 U	2 UJ	2 UJ
Cis-1,2-Dichloroethene	2 UJ	2 U	2 U	4 UJ	4.99	4.92	2 UJ	2 U	3.46 J	3.57 J

TABLE 3
FALL 2015 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	B-11	B-15	B-16	B-5	BR-105	BR-105D	BR-106	BR-126	BR-127	BR-127
SAMPLE DATE:	11/9/2015	11/4/2015	11/4/2015	11/5/2015	11/3/2015	11/3/2015	11/3/2015	11/4/2015	11/5/2015	11/5/2015
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Duplicate
VOCs BY SW-846 Method 8260C (µg/L)										
Cis-1,3-Dichloropropene	2 UJ	2 U	2 U	4 UJ	2 U	2 U	2 UJ	2 U	2 UJ	2 UJ
Cyclohexane	10 UJ	10 U	10 U	20 UJ	10 U	9.44 J	10 UJ	10 U	10 UJ	10 UJ
Dibromochloromethane	2 UJ	2 U	2 U	4 UJ	2 U	2 U	2 UJ	2 U	2 UJ	2 UJ
Dichlorodifluoromethane	2 UJ	2 U	2 U	4 UJ	2 U	2 U	2 UJ	2 U	2 UJ	2 UJ
Ethylbenzene	2 UJ	2 U	2 U	4 UJ	2 U	2 U	2 UJ	2 U	2 UJ	2 UJ
Isopropylbenzene	2 UJ	2 U	2 U	4 UJ	2 U	2 U	2 UJ	2 U	2 UJ	2 UJ
Methyl cyclohexane	2 UJ	2 U	2 U	4 UJ	2 U	6.7	2 UJ	2 U	2 UJ	2 UJ
Methyl Tertbutyl Ether	2 UJ	2 U	2 U	4 UJ	2 U	2 U	2 UJ	2 U	2 UJ	2 UJ
Methylene chloride	5 UJ	5 U	5 U	10 UJ	5 U	5 U	5 UJ	5 U	5 UJ	5 UJ
Styrene	5 UJ	5 U	5 U	10 UJ	5 U	5 U	5 UJ	5 U	5 UJ	5 UJ
Tetrachloroethene	2 UJ	2 U	2 U	4 UJ	2 U	2 U	2 UJ	2 U	1.56 J	1.67 J
Toluene	2 UJ	2 U	2 U	60.8 J	2 U	2 U	2 UJ	2 U	1.4 J	1.34 J
trans-1,2-Dichloroethene	2 UJ	2 U	2 U	4 UJ	2 U	2 U	2 UJ	2 U	1.12 J	1.15 J
trans-1,3-Dichloropropene	2 UJ	2 U	2 U	4 UJ	2 U	2 U	2 UJ	2 U	2 UJ	2 UJ
Trichloroethene	2 UJ	2 U	2 U	4 UJ	2 U	2 U	2 UJ	2 U	4.06 J	4.01 J
Trichlorofluoromethane	2 UJ	2 U	2 U	4 UJ	2 U	2 U	2 UJ	2 U	2 UJ	2 UJ
Vinyl chloride	2 UJ	2 U	2 U	4 UJ	5.75	2 U	2 UJ	2 U	3.87 J	3.93 J
Xylene, o	2 UJ	2 U	2 U	4 UJ	2 U	2 U	2 UJ	2 U	2 UJ	2 UJ
Xylenes (m&p)	2 UJ	2 U	2 U	4 UJ	2 U	2 U	2 UJ	2 U	2 UJ	2 UJ

Notes:

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

J = Estimated value

µg/L = micrograms per Liter

TABLE 3
FALL 2015 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	BR-5A	BR-6A	BR-7A	BR-8	BR-9	BR-9	MW-106	MW-127	PW10	PW12
SAMPLE DATE:	11/4/2015	11/5/2015	11/6/2015	11/5/2015	11/3/2015	11/3/2015	11/3/2015	11/5/2015	11/4/2015	11/4/2015
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Duplicate	Sample	Sample	Sample	Sample
VOCs BY SW-846 Method 8260C (µg/L)										
1,1,1-Trichloroethane	2 U	100 U	2 U	50 U	1.27 J	1.27 J	10 UJ	2 U	10 U	20 U
1,1,2,2-Tetrachloroethane	2 U	100 U	2 U	50 U	2 U	2 U	10 UJ	2 U	10 U	20 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	2 U	100 U	4.4	50 U	39.4	40.8	10 UJ	2 U	10 U	20 U
1,1,2-Trichloroethane	2 U	100 U	2 U	50 U	2 U	2 U	10 UJ	2 U	10 U	20 U
1,1-Dichloroethane	2 U	100 U	2.4	50 U	7.72	7.63	10 UJ	2 U	10 U	20 U
1,1-Dichloroethene	2 U	100 U	2 U	50 U	1.66 J	1.54 J	10 UJ	2 U	10 U	20 U
1,2,3-Trichlorobenzene	5 U	250 U	5 U	125 U	5 U	5 U	25 UJ	5 U	49.6	38.6 J
1,2,4-Trichlorobenzene	5 U	250 U	5 U	125 U	5 U	5 U	25 UJ	5 U	173	520
1,2-Dibromo-3-chloropropane	10 U	500 U	10 U	250 U	10 U	10 U	50 UJ	10 U	50 U	100 U
1,2-Dibromoethane	2 U	100 U	2 U	50 U	2 U	2 U	10 UJ	2 U	10 U	20 U
1,2-Dichlorobenzene	2 U	100 U	36.2	347	5.4	5.32	146 J	2 U	7.43 J	38.2
1,2-Dichloroethane	2 U	100 U	2 U	50 U	2 U	2 U	10 UJ	2 U	10 U	20 U
1,2-Dichloropropane	2 U	100 U	2 U	50 U	2 U	2 U	10 UJ	2 U	10 U	20 U
1,3-Dichlorobenzene	2 U	100 U	10.6	228	2 U	2 U	10 UJ	2 U	23.7	79.3
1,4-Dichlorobenzene	2 U	100 U	10.1	274	2 U	2 U	9.84 J	2 U	25.2	60.6
1,4-Dioxane	20 U	1,000 U	20 U	500 U	20 U	20 U	100 UJ	20 U	100 U	200 U
2-Butanone	10 U	500 U	10 U	250 U	10 U	10 U	50 UJ	10 U	50 U	100 U
2-Hexanone	5 U	250 U	5 U	125 U	5 U	5 U	25 UJ	5 U	25 U	50 U
4-Methyl-2-pentanone	5 U	250 U	5 U	125 U	5 U	5 U	25 UJ	5 U	25 U	50 U
Acetic acid, methyl ester	2 U	100 U	2 U	50 U	2 U	2 U	10 UJ	2 U	10 U	20 U
Acetone	10 U	500 U	10 U	250 U	5.61 J	6.59 J	50 UJ	10 U	73.7	100 U
Benzene	1 U	50 U	8.65	17.9 J	49	50	24.8 J	1 U	19.8	10 U
Bromochloromethane	5 U	250 U	5 U	125 U	5 U	5 U	25 UJ	5 U	25 U	50 U
Bromodichloromethane	2 U	100 U	2 U	50 U	2 U	2 U	10 UJ	2 U	10 U	20 U
Bromoform	5 U	250 U	5 U	125 U	5 U	5 U	25 UJ	5 U	629	50 U
Bromomethane	2 U	100 U	2 U	50 U	2 UJ	2 UJ	10 UJ	2 U	10 U	20 U
Carbon disulfide	1.18 J	100 U	2 U	50 U	2 U	2 U	10 UJ	2 U	41.3	20 U
Carbon tetrachloride	2 U	100 U	3.35	50 U	2 U	2 U	10 UJ	2 U	60.4	20 U
Chlorobenzene	2 U	100 U	85.9	873	8.83	8.62	505 J	2 U	54.1	211
Chloroethane	2 U	100 U	2 U	50 U	2 UJ	2 UJ	10 UJ	2 U	10 U	20 U
Chloroform	2 U	61.2 J	3.96	50 U	2 U	2 U	10 UJ	2 U	868	20 U
Chloromethane	2 U	100 U	2 U	50 U	2 U	2 U	10 UJ	2 U	10 U	20 U
Cis-1,2-Dichloroethene	2 U	87.9 J	5.2	50 U	155	155	10 UJ	2 U	10 U	20 U

TABLE 3
FALL 2015 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	BR-5A	BR-6A	BR-7A	BR-8	BR-9	BR-9	MW-106	MW-127	PW10	PW12
SAMPLE DATE:	11/4/2015	11/5/2015	11/6/2015	11/5/2015	11/3/2015	11/3/2015	11/3/2015	11/5/2015	11/4/2015	11/4/2015
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Duplicate	Sample	Sample	Sample	Sample
VOCs BY SW-846 Method 8260C (µg/L)										
Cis-1,3-Dichloropropene	2 U	100 U	2 U	50 U	2 UJ	2 UJ	10 UJ	2 U	10 U	20 U
Cyclohexane	10 U	500 U	10 U	250 U	18.4	18.9	50 UJ	10 U	50 U	100 U
Dibromochloromethane	2 U	100 U	2 U	50 U	2 U	2 U	10 UJ	2 U	26.7	20 U
Dichlorodifluoromethane	2 U	100 U	2 U	50 U	2 U	2 U	10 UJ	2 U	10 U	20 U
Ethylbenzene	2 U	100 U	2 U	50 U	1.09 J	1.04 J	10 UJ	2 U	10 U	23.3
Isopropylbenzene	2 U	100 U	2 U	50 U	1.5 J	1.4 J	10 UJ	2 U	10 U	20 U
Methyl cyclohexane	2 U	100 U	2 U	50 U	7.42	7.65	10 UJ	2 U	10 U	20 U
Methyl Tertbutyl Ether	2 U	100 U	2.34	50 U	2 U	2 U	10 UJ	2 U	10 U	20 U
Methylene chloride	5 U	5,640	3.8 J	125 U	5 U	5 U	25 UJ	5 U	19.7 J	50 U
Styrene	5 U	250 U	5 U	125 U	5 U	5 U	25 UJ	5 U	25 U	50 U
Tetrachloroethene	2 U	100 U	2 U	50 U	2 U	2 U	10 UJ	2 U	255	31.7
Toluene	2 U	235	1.05 J	50 U	2 U	2 U	10 UJ	2 U	83.4	84.7
trans-1,2-Dichloroethene	2 U	100 U	2 U	50 U	2 U	2 U	10 UJ	2 U	10 U	20 U
trans-1,3-Dichloropropene	2 U	100 U	2 U	50 U	2 U	2 U	10 UJ	2 U	10 U	20 U
Trichloroethene	2 U	158	2 U	50 U	1.43 J	1.5 J	10 UJ	2 U	10.5	20 U
Trichlorofluoromethane	2 U	100 U	2 U	50 U	2 U	2 U	10 UJ	2 U	10 U	20 U
Vinyl chloride	2 U	265	9.2	50 U	78.1 J	78.2 J	10 UJ	2 U	10 U	20 U
Xylene, o	2 U	100 U	2 U	50 U	2 U	2 U	10 UJ	2 U	10 U	68.7
Xylenes (m&p)	2 U	100 U	2 U	50 U	2 U	2 U	10 UJ	2 U	10 U	124

Notes:

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

J = Estimated value

µg/L = micrograms per Liter

TABLE 3
FALL 2015 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	PW13	PW14	PW15	PW16	PW17	PZ-101	PZ-102	PZ-103	PZ-104	PZ-105
SAMPLE DATE:	11/6/2015	11/9/2015	11/9/2015	11/5/2015	11/9/2015	11/3/2015	11/3/2015	11/3/2015	11/4/2015	11/5/2015
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
VOCs BY SW-846 Method 8260C (µg/L)										
1,1,1-Trichloroethane	5 UJ	200 U	100 U	10 U	1,000 U	2 U	40 U	10 UJ	2 U	2 UJ
1,1,2,2-Tetrachloroethane	5 UJ	200 U	100 U	10 U	1,000 U	2 U	40 U	10 UJ	2 U	2 UJ
1,1,2-Trichloro-1,2,2-Trifluoroethane	5 UJ	200 U	100 U	10 U	1,000 U	2 U	40 U	10 UJ	2 U	2 UJ
1,1,2-Trichloroethane	5 UJ	200 U	100 U	10 U	1,000 U	2 U	40 U	10 UJ	2 U	2 UJ
1,1-Dichloroethane	5 UJ	200 U	100 U	10 U	1,000 U	2 U	40 U	10 UJ	2 U	2 UJ
1,1-Dichloroethene	5 UJ	200 U	100 U	10 U	1,000 U	2 U	40 U	10 UJ	2 U	2 UJ
1,2,3-Trichlorobenzene	12.5 UJ	500 U	250 U	25 U	2,500 U	5 U	100 U	25 UJ	5 U	5 UJ
1,2,4-Trichlorobenzene	12.5 UJ	500 U	250 U	25 U	2,500 U	5 U	100 U	25 UJ	5 U	5 UJ
1,2-Dibromo-3-chloropropane	25 UJ	1,000 U	500 U	50 U	5,000 U	10 U	200 U	50 UJ	10 U	10 UJ
1,2-Dibromoethane	5 UJ	200 U	100 U	10 U	1,000 U	2 U	40 U	10 UJ	2 U	2 UJ
1,2-Dichlorobenzene	184 J	200 U	100 U	313	1,000 U	2 U	204	449 J	2 U	2.94 J
1,2-Dichloroethane	5 UJ	200 U	100 U	10 U	1,000 U	2 U	40 U	10 UJ	2 U	2 UJ
1,2-Dichloropropane	5 UJ	200 U	100 U	10 U	1,000 U	2 U	40 U	10 UJ	2 U	2 UJ
1,3-Dichlorobenzene	50.2 J	200 U	100 U	77.7	1,000 U	2 U	35.2 J	165 J	2 U	2 UJ
1,4-Dichlorobenzene	55.9 J	200 U	54 J	100	1,000 U	2 U	37.8 J	104 J	2 U	1.06 J
1,4-Dioxane	50 UJ	2,000 U	1,000 U	100 U	10,000 U	20 U	400 U	100 UJ	20 U	20 UJ
2-Butanone	25 UJ	1,000 U	500 U	50 U	5,000 U	10 U	200 U	50 UJ	10 U	10 UJ
2-Hexanone	12.5 UJ	500 U	250 U	25 U	2,500 U	5 U	100 U	25 UJ	5 U	5 UJ
4-Methyl-2-pentanone	12.5 UJ	500 U	250 U	25 U	2,500 U	5 U	100 U	25 UJ	5 U	5 UJ
Acetic acid, methyl ester	5 UJ	200 U	100 U	10 U	1,000 U	2 U	40 U	10 UJ	2 U	2 UJ
Acetone	25 UJ	1,000 U	500 U	50 U	5,000 U	18.7	200 U	50 UJ	10 U	10 UJ
Benzene	20.1 J	100 U	37.9 J	8.36	500 U	1 U	27.3	14 J	0.942 J	7.75 J
Bromochloromethane	12.5 UJ	500 U	250 U	25 U	2,500 U	5 U	100 U	25 UJ	5 U	5 UJ
Bromodichloromethane	5 UJ	200 U	100 U	10 U	1,000 U	2 U	40 U	10 UJ	2 U	2 UJ
Bromoform	12.5 UJ	500 U	208 J	25 U	2,500 U	5 U	100 U	25 UJ	5 U	5 UJ
Bromomethane	5 UJ	200 U	100 U	10 U	1,000 U	2 U	40 U	10 UJ	2 U	2 UJ
Carbon disulfide	5 UJ	200 U	1,360	10 U	1,000 U	2 U	40 U	7.43 J	2 U	2 UJ
Carbon tetrachloride	5 UJ	200 U	3,520	10 U	8,070	2 U	40 U	10 UJ	2 U	2 UJ
Chlorobenzene	453 J	200 U	77.4 J	474	1,000 U	2 U	605	831 J	2.34	51.4 J
Chloroethane	5 UJ	200 U	100 U	10 U	1,000 U	2 U	40 U	10 UJ	2 U	2 UJ
Chloroform	5 UJ	2,160	7,250 J	10 U	17,300	2 U	40 U	10 UJ	2 U	2 UJ
Chloromethane	5 UJ	200 U	100 U	10 U	1,000 U	2 U	40 U	10 UJ	2 U	2 UJ
Cis-1,2-Dichloroethene	3.49 J	200 U	100 U	10 U	1,000 U	2 U	40 U	10 UJ	2 U	2 UJ

TABLE 3
FALL 2015 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	PW13	PW14	PW15	PW16	PW17	PZ-101	PZ-102	PZ-103	PZ-104	PZ-105
SAMPLE DATE:	11/6/2015	11/9/2015	11/9/2015	11/5/2015	11/9/2015	11/3/2015	11/3/2015	11/3/2015	11/4/2015	11/5/2015
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
VOCs BY SW-846 Method 8260C (µg/L)										
Cis-1,3-Dichloropropene	5 UJ	200 U	100 U	10 U	1,000 U	2 U	40 U	10 UJ	2 U	2 UJ
Cyclohexane	25 UJ	1,000 U	500 U	50 U	5,000 U	10 U	200 U	50 UJ	10 U	10 UJ
Dibromochloromethane	5 UJ	200 U	100 U	10 U	1,000 U	2 U	40 U	10 UJ	2 U	2 UJ
Dichlorodifluoromethane	5 UJ	200 U	100 U	10 U	1,000 U	2 U	40 U	10 UJ	2 U	2 UJ
Ethylbenzene	5 UJ	200 U	100 U	10 U	1,000 U	2 U	40 U	10 UJ	2 U	2 UJ
Isopropylbenzene	5 UJ	200 U	100 U	10 U	1,000 U	2 U	40 U	10 UJ	2 U	2 UJ
Methyl cyclohexane	5 UJ	200 U	100 U	10 U	1,000 U	2 U	40 U	10 UJ	2 U	2 UJ
Methyl Tertbutyl Ether	5 UJ	200 U	100 U	10 U	1,000 U	2 U	40 U	10 UJ	2 U	2 UJ
Methylene chloride	12.5 UJ	500 U	510	25 U	2,950	5 U	100 U	25 UJ	5 U	5 UJ
Styrene	12.5 UJ	500 U	250 U	25 U	2,500 U	5 U	100 U	25 UJ	5 U	5 UJ
Tetrachloroethene	5 UJ	200 U	376	10 U	586 J	2 U	40 U	10 UJ	2 U	2 UJ
Toluene	4.49 J	200 U	87.9 J	10 U	1,000 U	2 U	40 U	10 UJ	2 U	2 UJ
trans-1,2-Dichloroethene	5 UJ	200 U	100 U	10 U	1,000 U	2 U	40 U	10 UJ	2 U	2 UJ
trans-1,3-Dichloropropene	5 UJ	200 U	100 U	10 U	1,000 U	2 U	40 U	10 UJ	2 U	2 UJ
Trichloroethene	5 UJ	200 U	100 U	10 U	1,000 U	2 U	40 U	10 UJ	2 U	2 UJ
Trichlorofluoromethane	5 UJ	200 U	100 U	10 U	1,000 U	2 U	40 U	10 UJ	2 U	2 UJ
Vinyl chloride	6.93 J	200 U	100 U	10 U	1,000 U	2 U	40 U	10 UJ	2 U	2 UJ
Xylene, o	5 UJ	200 U	100 U	10 U	1,000 U	2 U	40 U	10 UJ	2 U	2 UJ
Xylenes (m&p)	5 UJ	200 U	100 U	10 U	1,000 U	2 U	40 U	10 UJ	2 U	2 UJ

Notes:

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

J = Estimated value

µg/L = micrograms per Liter

TABLE 3
FALL 2015 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	PZ-106	PZ-107
SAMPLE DATE:	11/9/2015	11/5/2015
QC TYPE:	Sample	Sample
VOCs BY SW-846 Method 8260C (µg/L)		
1,1,1-Trichloroethane	10 UJ	50 U
1,1,2,2-Tetrachloroethane	10 UJ	50 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	10 UJ	50 U
1,1,2-Trichloroethane	10 UJ	50 U
1,1-Dichloroethane	10 UJ	50 U
1,1-Dichloroethene	10 UJ	50 U
1,2,3-Trichlorobenzene	25 UJ	125 U
1,2,4-Trichlorobenzene	25 UJ	125 U
1,2-Dibromo-3-chloropropane	50 UJ	250 U
1,2-Dibromoethane	10 UJ	50 U
1,2-Dichlorobenzene	10 UJ	50 U
1,2-Dichloroethane	10 UJ	50 U
1,2-Dichloropropane	10 UJ	50 U
1,3-Dichlorobenzene	10 UJ	50 U
1,4-Dichlorobenzene	10 UJ	50 U
1,4-Dioxane	100 UJ	500 U
2-Butanone	50 UJ	250 U
2-Hexanone	25 UJ	125 U
4-Methyl-2-pentanone	25 UJ	125 U
Acetic acid, methyl ester	10 UJ	50 U
Acetone	50 UJ	250 U
Benzene	6.47 J	25 U
Bromochloromethane	25 UJ	125 U
Bromodichloromethane	10 UJ	50 U
Bromoform	25 UJ	125 U
Bromomethane	10 UJ	50 U
Carbon disulfide	9.69 J	50 U
Carbon tetrachloride	10 UJ	132
Chlorobenzene	10 UJ	50 U
Chloroethane	10 UJ	50 U
Chloroform	367 J	3,330
Chloromethane	10 UJ	50 U
Cis-1,2-Dichloroethene	10 UJ	50 U

TABLE 3
FALL 2015 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	PZ-106	PZ-107
SAMPLE DATE:	11/9/2015	11/5/2015
QC TYPE:	Sample	Sample
VOCs BY SW-846 Method 8260C (µg/L)		
Cis-1,3-Dichloropropene	10 UJ	50 U
Cyclohexane	50 UJ	250 U
Dibromochloromethane	10 UJ	50 U
Dichlorodifluoromethane	10 UJ	50 U
Ethylbenzene	10 UJ	50 U
Isopropylbenzene	10 UJ	50 U
Methyl cyclohexane	10 UJ	50 U
Methyl Tertbutyl Ether	10 UJ	50 U
Methylene chloride	18.3 J	1,370
Styrene	25 UJ	125 U
Tetrachloroethene	26.5 J	141
Toluene	10 UJ	50 U
trans-1,2-Dichloroethene	10 UJ	50 U
trans-1,3-Dichloropropene	10 UJ	50 U
Trichloroethene	10 UJ	50 U
Trichlorofluoromethane	10 UJ	50 U
Vinyl chloride	5.3 J	50 U
Xylene, o	10 UJ	50 U
Xylenes (m&p)	10 UJ	50 U

Notes:
U = Compound not detected; value represents sample quantitation limit.
J = Estimated value
µg/L = micrograms per Liter

TABLE 4
COMPARISON OF FALL 2015
CHLOROPYRIDINES AND VOLATILE ORGANICS CONCENTRATIONS
IN GROUNDWATER TO PREVIOUS RESULTS (ug/L)

ARCH ROCHESTER
SEMI-ANNUAL GROUNDWATER MONITORING REPORT

WELL	SELECTED CHLOROPYRIDINES				SELECTED VOCs			
	# EVENTS IN PRIOR 5 YRS	HISTORIC MAXIMUM	5-YEAR MEAN	NOV 2015 RESULT	# EVENTS IN PRIOR 5 YRS	HISTORIC MAXIMUM	5-YEAR MEAN	NOV 2015 RESULT
ON-SITE WELLS/LOCATIONS								
B-11	7	4,800	1,200	900	7	570	95	1.3
B-15	5	13,000	120	**150**	5	1,600	0.17	ND
B-16	10	33,000	810	**1,100**	10	4,500	7.4	3.6
B-17	8	28,000,000	320,000		8	350,000	5,700	
B-4	3	740	21		3	42	7	
B-5	5	340,000	100,000	**360,000**	5	670	240	120
B-7	5	9,100	280		5	270	22	
BR-126	9	12,000	2,700	1,100	9	240	2.2	ND
BR-127	11	44,000	11,000	4,600	11	1,300	86	36
BR-3	5	6,500,000	36,000		5	930,000	50,000	
BR-5A	10	1,700	110	28	10	9,400	14	ND
BR-6A	11	140,000	18,000	17,000	11	69,000	3,500	**5,900**
BR-7A	10	510,000	8,600	**18,000**	10	5,600	310	97
BR-8	7	250,000	170,000	**270,000**	7	7,800	990	870
BR-9	10	1,300	230	86	10	210	15	10
E-3	5	600	67		5	15,000	4.6	
MW-127	11	15,000	1,700	350	11	7,500	58	ND
PW10	11	500,000	160,000	**240,000**	11	120,000	1,300	1,300
PW12	10	15,000	490	39	10	120,000	7,200	240
PW13	10	19,000	5,300	**94,000**	10	1,800	360	450
PW14	11	44,000	3,500	710	11	160,000	13,000	2,200
PW15	10	730,000	88,000	**150,000**	10	8,300	3,500	**12,000**
PW16	10	74,000	27,000	**80,000**	10	1,200	690	470
PW17	6	63,000	23,000	6,000	6	66,000	40,000	29,000
PZ-104	10	9,100	830	580	10	52	5.0	2.3
PZ-105	10	190,000	5,900	5,900	10	9,900	58	51
PZ-106	11	290,000	18,000	730	11	1,400,000	230,000	410
PZ-107	11	31,000	5,000	2,800	11	130,000	19,000	5,000
W-5	2	450,000	ND		2	2,500	8.7	
OFF-SITE WELLS/LOCATIONS								
BR-103	5	400	2.1		5	46	ND	
BR-104	4	3,100	2.3			11		
BR-105	10	24,000	960	710	10	350	8.1	**10**
BR-105D	10	17,000	360	350	10	230	3.5	ND
BR-106	11	34,000	11,000	4,300	11	12,000	160	78
BR-108	5	1,700	10			2		
BR-112D	5	310	24			4.3		
BR-113D	5	490	15			2.8		
BR-114	5	520	13		5	12	0.2	
BR-116	4	12	ND			86		
BR-116D	4	710	18			130		
BR-117D	5	80	2.1			1.9		
BR-118D	5	330	27			6.6		
BR-122D	5	650	46			ND		

TABLE 4
COMPARISON OF FALL 2015
CHLOROPYRIDINES AND VOLATILE ORGANICS CONCENTRATIONS
IN GROUNDWATER TO PREVIOUS RESULTS (ug/L)

ARCH ROCHESTER
SEMI-ANNUAL GROUNDWATER MONITORING REPORT

WELL	SELECTED CHLOROPYRIDINES				SELECTED VOCs			
	# EVENTS IN PRIOR 5 YRS	HISTORIC MAXIMUM	5-YEAR MEAN	NOV 2015 RESULT	# EVENTS IN PRIOR 5 YRS	HISTORIC MAXIMUM	5-YEAR MEAN	NOV 2015 RESULT
BR-123D	5	860	41			7		
MW-103	5	97	0.22		5	750	ND	
MW-104	4	180	2.4			5.8		
MW-106	11	130,000	25,000	**34,000**	11	4,000	310	**510**
MW-114	5	18	1		5	27	20	
MW-16	5	360	11			10		
NESS-E	4	5,000	64			710		
NESS-W	4	6,300	ND			94		
PZ-101	10	27,000	52	**140**	10	620	2.4	ND
PZ-102	11	210,000	48,000	**53,000**	11	11,000	520	**610**
PZ-103	10	230,000	56,000	**100,000**	10	46,000	1,100	830
QD-1	10	11	2.1	ND		ND		
QO-2	10	380	6.6	ND		ND		
QO-2S1	10	27	1.7	ND		ND		
QS-4	10	13,000	110	60		ND		

Note:
1) Number of samples and mean reflect 5-year sampling period from December 2010 through May 2015. Historic maximum based on all available results from March 1990 through May 2015.
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** - November 2015 exceeds 5-year mean.
5) ND = Not detected
BLANK = Not sampled

TABLE 5
FALL 2015 QUARRY SEEP AND OUTFALL WATER SAMPLE RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

Loc Name	QD-1	QO-2	QO-2S1	QS-4
Field Sample Date	11/6/2015	11/6/2015	11/6/2015	11/6/2015
Group or QC Code	Sample	Sample	Sample	Sample
Param Name				
2,6-Dichloropyridine	10 U	10 U	10 U	25
2-Chloropyridine	10 U	10 U	10 U	35
3-Chloropyridine	10 U	10 U	10 U	20 U
4-Chloropyridine	10 U	10 U	10 U	20 U
p-Fluoroaniline	10 U	10 U	10 U	20 U
Pyridine	10 UJ	10 UJ	10 UJ	20 UJ

Notes:
U = Compound not detected; value represents sample quantitation limit.
J = Estimated value
µg/L = micrograms per Liter

TABLE 6
EXTRACTION WELL WEEKLY FLOW MEASUREMENTS - JUNE 2015 THROUGH NOVEMBER 2015

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

Week Ending	BR-7A [Gal./Wk.]	BR-9 [Gal./Wk.]	PW-13 [Gal./Wk.]	PW-14 [Gal./Wk.]	PW-15 [Gal./Wk.]	PW-16 [Gal./Wk.]	PW-17 [Gal./Wk.]	BR-127 [Gal./Wk.]	Total [Gal.]
Jun '15									
06/07/15	175,296	30,993	42,190	509	18,483	39,888	2,295	65,995	375,649
06/14/15	170,017	30,970	42,532	551	10,137	39,442	2,325	99,410	395,384
06/21/15	98,667	34,172	43,562	625	23,014	39,160	2,462	91,499	333,161
06/28/15	31,664	19,088	42,560	669	22,054	37,432	2,394	59,460	215,321
								Total [Gal.]	1,319,515
Jul '15									
07/05/15	71,601	73,486	42,992	646	24,144	40,780	2,314	71,268	327,231
07/12/15	61,355	63,011	43,136	613	22,756	40,167	2,306	60,769	294,113
07/19/15	73,786	26,843	44,926	652	23,474	32,185	2,350	31,322	235,538
07/26/15	149,760	25,940	40,012	589	25,186	105,059	2,129	57,914	406,589
								Total [Gal.]	1,263,471
Aug '15									
08/02/15	122,440	40,442	26,084	612	24,604	100,307	2,163	53,160	369,812
08/09/15	93,828	47,977	20,813	616	15,815	68,261	2,196	60,756	310,262
08/16/15	122,597	46,326	28,755	600	12,217	65,516	1,697	71,059	348,767
08/23/15	80,380	48,231	45,551	621	7,963	66,653	0	69,274	318,673
08/30/15	137,615	24,473	23,242	625	25,187	56,978	1,127	49,123	318,370
								Total [Gal.]	1,665,884
Sep '15									
09/06/15	174,009	42,517	6,485	631	24,239	97,363	2,201	4,010	351,455
09/13/15	169,415	43,589	6,464	628	24,846	89,702	2,260	2,457	339,361
09/20/15	174,828	43,588	6,428	642	25,651	87,366	2,247	13,683	354,433
09/27/15	177,750	42,672	6,432	648	26,985	83,838	2,282	0	340,607
								Total [Gal.]	1,385,856
Oct '15									
10/04/15	178,302	41,501	6,210	1,621	27,268	83,050	2,282	23,103	363,337
10/11/15	184,788	42,687	6,022	665	29,870	87,984	2,413	3,522	357,952
10/18/15	179,868	41,276	5,800	659	29,359	82,837	2,329	0	342,129
10/25/15	176,921	42,863	6,046	636	28,436	46,125	2,319	68,496	371,843
								Total [Gal.]	1,435,260
Nov '15									
11/01/15	141,226	45,244	6,335	661	29,623	12,665	2,402	16,195	254,350
11/08/15	147,367	47,176	5,716	681	27,802	12,114	2,380	141,673	384,910
11/15/15	74,409	46,845	4,169	700	24,059	12,558	2,319	131,108	296,167
11/22/15	94,253	47,046	37,551	656	24,080	52,211	2,221	70,121	328,139
11/29/15	103,249	39,435	84,470	599	22,771	106,293	1,985	92,028	450,830
								Total [Gal.]	1,714,396
Total 6 Mo. Removal (Gal.)	3,365,391	1,078,391	674,483	17,355	600,024	1,585,934	55,398	1,407,405	8,784,382

TABLE 7

MASS REMOVAL SUMMARY
PERIOD: JUNE 2015 THROUGH NOVEMBER 2015

ARCH ROCHESTER
FALL 2015 GROUNDWATER MONITORING REPORT

Well	Total Vol. Pumped (gallons)	Avg. VOC Conc. (ppm)	Avg. PYR. Conc. (ppm)	VOCs Removed (pounds)	PYR. Removed (pounds)
BR-7A	3,365,000	0.13	17	3.7	484
BR-9	1,078,000	0.014	0.12	0.12	1.1
PW-13	675,000	0.29	56	1.64	317
PW-14	17,000	3.2	1.3	0.45	0.18
PW-15	600,000	9.7	217	49	1085
PW-16	1,586,000	0.67	77	8.8	1013
PW-17	55,000	36	6	17	3
BR-127	1,408,000	0.13	6.0	1.5	70
Totals:	8,784,000			81	2,973

Notes: VOC and pyridine concentrations used in this table are an average of the analytical results from the Spring 2015 and Fall 2015 sampling events for each well;
Total select VOCs include chlorobenzene, PCE, TCE, methylene chloride, carbon tetrachloride, and chloroform

TABLE 8
2016 SAMPLING SCHEDULE
ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

ARCH ROCHESTER						**2016**					
MONITORING PROGRAM						**SPRING**		**FALL**		**TOTAL**	
	Well	***zone***	***area***	***Frequency/Parameters***	***Purpose***	***Pyridines***	***VOCs***	***Pyridines***	***VOCs***	***Pyridines***	***VOCs***
OFF-SITE	BR-105	BR	AID-HOSP	semi-annual monitoring, VOCs & PYR	perimeter sentinel/trend monitoring	1	1	1	1	2	2
MONITORING	BR-105D	BR deep	AID-HOSP	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	JACKSON	annual monitoring, VOCs & PYR	trend monitoring	1	1			1	1
	BR-114	BR	JACKSON	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	McKee Rd	semi-annual monitoring, VOCs & PYR	perimeter sentinel/trend monitoring	1	1	1	1	2	2
	PZ-102	BR	McKee Rd	semi-annual monitoring, VOCs & PYR	perimeter sentinel/trend monitoring	1	1	1	1	2	2
	PZ-103	BR	McKee Rd	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	pumping well	ON-SITE	semi-annual monitoring, VOCs & PYR	mass removal/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-11	OB	ON-SITE	semi-annual monitoring, VOCs & PYR	continue until replaced by trench	1	1	1	1	2	2
	B-5	OB	ON-SITE	semi-annual monitoring, VOCs & PYR	perimeter sentinel/trend monitoring	1	1	1	1	2	2
	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	trend monitoring	1	1	1	1	2	2
	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	pumping well	ON-SITE	semi-annual monitoring, VOCs & PYR	mass removal/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						46	36	34	30	80	66

Appendix A

Groundwater Field Sampling Data Sheets

FIELD REPORT

REMEDIAL INVESTIGATION SAMPLING
LONZA CHEMICAL
ROCHESTER, NEW YORK

Fall 2015 Event

Matrix Environmental Project #04-029

PREPARED FOR:

Lonza
100 McKee Road
Rochester, NY 14611

PREPARED BY:

MATRIX
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Date: January 15, 2016

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1.0 INTRODUCTION

This report describes the sampling of the following points:

- 30 groundwater samples
- Two quarry outfall samples
- One quarry seep sample
- One canal at outfall sample

These activities were in support of the Phase II Remediation Investigation being conducted at the Lonza Chemical facility in Rochester, New York. Static water levels in the groundwater wells were recorded on November 2, 2015 by Matrix Environmental Technologies Inc. (METI) field personnel. The samples were collected from November 3 through November 9, 2015.

2.0 METHODOLOGIES

2.1 Water Level Measurements

Static water levels in all groundwater wells were measured from the top of the well casing/riser with an electronic water level indicator. Well bottoms were sounded with the weighted steel measuring tape. Measurements were recorded to the nearest hundredth of a foot (0.01 feet). The length of the measuring device which contacted the water was cleaned between the wells with a deionized water rinse and paper towel wipe. These data are presented on Sampling Summary Table and Field Observation forms attached.

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 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 realized. Once stabilized has occurred, sampling can be conducted. All purges water was collected into 55-gallon drums for disposal at the on-site wastewater treatment facility. Data pertaining to each evacuation are presented on the Sampling Summary Table and Field Observations forms attached.

2.3 Property Utilities

Surface water samples were collected from one location on the Erie Barge Canal, two outfall samples and one seep location. Sample locations were noted on the Field Forms.

3.0 SAMPLING

3.1 Monitoring Wells

All groundwater wells were sampled using precleaned or dedicated 1.25" x 1.25" x 5' stainless steel bailers, peristaltic pumps or bladder (SamplePro) 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, minimizing agitation and devolatilization. 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 analytical parameters. Data pertaining to sampling are presented on the Sampling Summary Table and the Field Observations Forms.

3.2 Canal Sampling

When possible, samples were collected directly from the canal into appropriate sample containers. Otherwise, samples were collected with the use of a unique, laboratory cleaned stainless steel bailer. The bailers were immersed just below the surface and removed. Sample was 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 Seep Sampling

Groundwater samples were collected from seeps at the quarry (QS4) located on Buffalo Road. The samples were collected with the use of a laboratory cleaned stainless steel bucket and was then poured 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 into 40 ml glass vials with Teflon septa. Samples for semi-volatile and pyridine analysis were collected into one liter amber glass bottles with teflo-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 were made of each sample's 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 two40 ml glass vials with Teflon septa which were filled with deionized water provided by Paradigm Environmental Services. These blanks were transported to the site, stored with field collected samples and submitted to the Paradigm Environmental Services for analysis.

6.2 Equipment Rinse Blank

Equipment rinse blanks were collected.

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 including in the analytical report package.

TABLES

Table 1
Sampling Summary Table
Lonza, 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-11	On-Site	OB	11/9/2015	11:19	DRY	NM	Not Enough Water to Run Parameters					
B-15	On-Site	OB	11/4/2015	12:55	10.78	NM	7.15	0.61	18.32	71.6	-23	0.00
B-16	Off-Site	OB	11/4/2015	13:40	8.50	NM	7.11	2.73	16.77	45.6	-114	0.00
B-5	On-Site	OB	11/5/2015	13:30	DRY	NM	Not Enough Water to Run Parameters					
BR-105	Off-Site	BR	11/3/2015	11:22	23.13	NM	7.08	3.60	15.84	39.6	-202	0.00
BR-105D	Off-Site	BR deep	11/3/2015	12::00	26.03	NM	7.21	22.70	14.09	95.0	-313	0.00
BR-106	Off-Site	BR	11/3/2015	13:55	23.55	NM	6.89	5.16	21.25	83.5	-344	0.00
BR-126	Off-Site	BR	11/4/2015	14:20	9.75	NM	7.16	1.54	18.41	39.80	-126	0.00
BR-127	On-Site	BR	11/5/2015	10:35	11.56	NM	7.56	3.39	15.11	28.6	-122	0.00
BR-5A	On-Site	pumping well	11/4/2015	11:08	3.54	NM	8.10	1.47	17.05	70.1	-11	10.77
BR-6A	On-Site	BR	11/5/2015	11:06	15.45	NM	7.86	7.28	16.93	32.9	-266	0.00
BR-7A	On-Site	pumping well	11/6/2015	8:35	25.00	NM	7.66	3.92	16.21	35.3	-110	4.99
BR-8	On-Site	BR	11/5/2015	13:43	16.44	NM	8.51	5.66	20.34	45.7	-241	0.00
BR-9	On-Site	pumping well	11/3/2015	14:25	31.00	NM	7.44	2.71	17.45	599	-213	2.20
MW-106	Off-Site	OB	11/3/2015	12:42	14.03	NM	6.86	3.78	18.64	50.1	-147	0.00
MW-127	On-Site	OB	11/5/2015	9:30	9.16	NM	7.74	2.52	15.44	27.7	76	0.00
PW-10	On-Site	pumping well	11/4/2015	10:20	11.26	NM	10.35	67.90	16.46	66.3	-180	0.00
PW-12	On-Site	BR	11/4/2015	9:35	7.48	NM	8.51	0.27	16.18	32.6	-105	0.00
PW-13	On-Site	pumping well	11/6/2015	8:15	25.25	NM	7.45	9.27	19.72	40.5	-118	0.00
PW-14	On-Site	pumping well	11/9/2015	9:25	45.70	NM	7.35	3.01	15.45	232	-282	0.00
PW-15	On-Site	pumping well	11/9/2015	10:55	22.27	NM	9.78	9.43	13.41	56.9	-182	6.22
PW-16	On-Site	pumping well	11/5/2015	13:08	19.13	NM	7.90	9.96	18.21	114	-138	12.40
PW-17	On-Site	pumping well	11/9/2015	10:40	34.00	NM	7.93	3.49	11.85	36.1	-205	3.80
PZ-101	Off-Site	BR	11/3/2015	8:33	21.30	NM	6.97	4.32	12.14	31.2	7	0.00
PZ-102	Off-Site	BR	11/3/2015	9:45	19.54	NM	7.32	6.45	13.33	34.5	-254	0.00
PZ-103	Off-Site	BR	11/3/2015	10:30	17.35	NM	7.56	5.80	16.61	26.8	-318	0.00
PZ-104	Off-Site	BR	11/4/2015	8:40	15.28	NM	7.14	3.80	14.22	29.8	-152	0.00
PZ-105	On-Site	BR	11/5/2015	11:55	13.94	NM	7.99	1.82	18.22	127	-320	0.00
PZ-106	On-Site	BR	11/9/2015	9:02	12.93	NM	7.50	1.81	8.15	33.9	-311	0.00
PZ-107	On-Site	BR	11/5/2015	10:08	13.31	NM	7.11	1.39	15.10	27.8	-119	0.00
QD-1	Quarry/Canal	quarry ditch	11/6/2015	9:10	NM	NA	8.10	1.40	14.96	33.5	4	7.30
QO-2	Quarry/Canal	quarry outfall	11/6/2015	9:53	NM	NA	8.46	1.39	14.78	30.4	40	5.15
QO-2S1	Quarry/Canal	canal at outfall	11/6/2015	10:18	NM	NA	8.36	0.42	13.23	31.1	58	4.81
QS-4	Quarry/Canal	quarry seep	11/6/2015	9:35	NM	NA	8.57	1.98	13.88	29.2	-3	7.40

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	11/2/2015	9.11	537.75	528.64	8:52	
B-10	On-Site	OB	11/2/2015	10.26	538.80	528.54	11:00	
B-11	On-Site	OB	11/2/2015	7.03	536.00	528.97	10:59	
B-15	On-Site	OB	11/2/2015	7.25	535.29	528.04	12:30	
B-16	Off-Site	OB	11/2/2015	7.31	536.21	528.90	12:32	
B-17	On-Site	OB	11/2/2015	10.50	538.74	528.24	10:48	
B-2	On-Site	OB	11/2/2015	10.24	539.02	528.78	8:55	
B-4	On-Site	OB	11/2/2015	21.28	542.87	521.59	10:22	
B-5	On-Site	OB	11/2/2015	17.28	540.21	522.93	10:26	
B-7	On-Site	OB	11/2/2015	15.98	541.11	525.13	9:15	
B-8	On-Site	OB	11/2/2015	Dry	538.88	Dry	11:12	DTB 6.70
BR-1	On-Site	BR	11/2/2015	6.98	537.28	530.30	10:40	
BR-102	On-Site	BR	11/2/2015	14.00	539.43	525.43	8:58	
BR-103	Off-Site	BR	11/2/2015	3.46	533.19	529.73	13:28	
BR-104	Off-Site	BR	11/2/2015	11.25	537.56	526.31	13:01	
BR-105	Off-Site	BR	11/2/2015	23.03	536.90	513.87	12:22	
BR-105D	Off-Site	BR deep	11/2/2015	26.00	536.49	510.49	12:20	
BR-106	Off-Site	BR	11/2/2015	13.73	535.74	522.01	12:42	
BR-108	Off-Site	BR	11/2/2015	28.69	540.58	511.89	13:51	
BR-111	Off-Site	BR	11/2/2015	28.75	540.42	511.67	13:40	
BR-111D	Off-Site	BR	11/2/2015	29.11	540.34	511.23	13:38	
BR-112D	Off-Site	BR deep	11/2/2015	36.36	547.91	511.55	13:35	
BR-113	Off-Site	BR	11/2/2015	31.38	543.02	511.64	15:00	
BR-113D	Off-Site	BR deep	11/2/2015	31.34	542.93	511.59	14:57	
BR-114	Off-Site	BR	11/2/2015	13.70	539.77	526.07	13:05	
BR-116	Off-Site	BR	11/2/2015	29.30	545.38	516.08	13:16	
BR-116D	Off-Site	BR deep	11/2/2015	35.40	545.22	509.82	13:17	
BR-117	Off-Site	BR	11/2/2015	35.30	547.61	512.31	14:32	
BR-117D	Off-Site	BR deep	11/2/2015	48.47	547.16	498.69	14:29	
BR-118	Off-Site	BR	11/2/2015	35.00	547.79	512.79	14:35	
BR-118D	Off-Site	BR deep	11/2/2015	47.67	547.93	500.26	14:37	
BR-122D	Off-Site	BR deep	11/2/2015	45.06	552.34	507.28	14:02	
BR-123D	Off-Site	BR deep	11/2/2015	45.35	553.62	508.27	14:05	
BR-124D	Off-Site	BR deep	11/2/2015	32.15	537.45	505.30	14:08	
BR-126	Off-Site	BR	11/2/2015	9.56	537.90	528.34	12:35	
BR-127	On-Site	BR	11/2/2015	10.78	536.05	525.27	10:58	
BR-2	On-Site	BR	11/2/2015	11.39	538.97	527.58	10:41	
BR-2A	On-Site	BR	11/2/2015	11.35	540.36	529.01	10:42	
BR-2D	On-Site	BR deep	11/2/2015	11.52	537.26	525.74	10:40	
BR-3	On-Site	BR	11/2/2015	9.73	538.20	528.47	11:18	
BR-3D	On-Site	BR deep	11/2/2015	52.85	537.67	484.82	11:20	
BR-4	On-Site	BR	11/2/2015	11.84	539.03	527.19	10:53	
BR-5	On-Site	BR	11/2/2015	3.88	536.30	532.42	10:34	
BR-5A	On-Site	pumping well	11/2/2015	3.45	536.35	532.90	10:33	
BR-6A	On-Site	BR	11/2/2015	14.10	540.90	526.80	11:09	
BR-7	On-Site	BR	11/2/2015	19.00	539.10	520.10	9:11	
BR-7A	On-Site	pumping well	11/2/2015	28.20	539.12	510.92	9:10	
BR-8	On-Site	BR	11/2/2015	16.46	539.72	523.26	10:24	
BR-9	On-Site	pumping well	11/2/2015	30.95	542.17	511.22	10:08	
C-2A	On-Site	OB	11/2/2015	Dry	539.66	Dry		
C-5	On-Site	OB	11/2/2015	12.48	539.63	527.15	11:19	
CANAL	Off-Site	SW	11/2/2015	36.93	544.79	507.86	14:12	
E-2	On-Site	OB	11/2/2015	NM	538.32	NM		Could Not Locate Well
E-3	On-Site	OB	11/2/2015	5.33	536.59	531.26	10:35	
E-5	On-Site	OB	11/2/2015	5.72	539.31	533.59	10:38	
EC-2	Off-Site	BR	11/2/2015	Dry	542.00	Dry	14:58	DTB 14.74
MW-103	Off-Site	OB	11/2/2015	1.58	533.25	531.67	13:27	
MW-104	Off-Site	OB	11/2/2015	7.85	537.54	529.69	13:00	
MW-105	Off-Site	OB	11/2/2015	NM	536.91	NM		Could Not Locate Well
MW-106	Off-Site	OB	11/2/2015	13.70	535.44	521.74	12:41	
MW-114	Off-Site	OB	11/2/2015	9.68	539.69	530.01	13:04	
MW-127	On-Site	OB	11/2/2015	7.77	536.87	529.10	10:57	
MW-16	Off-Site	BR	11/2/2015	10.78	536.79	526.01	13:07	

Table 2
Groundwater Elevation Report
Lonza, Rochester, NY

Sample Location		Zone	Date	Depth to water	Casing Elevation	GW Elevation	Time	Comments
MW-3	Off-Site	OB	11/2/2015	NM	535.89	NM		Inaccessible
MW-G6	Off-Site	OB	11/2/2015	NM	534.65	NM		Could Not Locate Well
MW-G8	Off-Site	OB	11/2/2015	NM	534.25	NM		Inaccessible
MW-G9	Off-Site	OB	11/2/2015	NM	536.60	NM		Inaccessible
N-2	On-Site	OB	11/2/2015	4.00	537.33	533.33	15:26	
N-3	On-Site	OB	11/2/2015	5.70	537.38	531.68	15:35	
NESS-E	Off-Site	BR deep	11/2/2015	25.80	540.31	514.51	12:54	
NESS-W	Off-Site	BR deep	11/2/2015	31.50	543.04	511.54	12:50	
PW-10	On-Site	pumping well	11/2/2015	10.94	538.76	527.82	10:50	
PW-12	On-Site	BR	11/2/2015	7.14	537.49	530.35	10:31	
PW-13	On-Site	pumping well	11/2/2015	25.50	536.13	510.63	9:08	
PW-14	On-Site	pumping well	11/2/2015	45.46	537.03	491.57	11:04	
PW-15	On-Site	pumping well	11/2/2015	21.60	538.32	516.72	11:22	
PW-16	On-Site	pumping well	11/2/2015	20.32	539.32	519.00	10:20	
PW-17	On-Site	pumping well	11/2/2015	30.50	NA	NA	11:24	
PZ-101	Off-Site	BR	11/2/2015	20.68	542.95	522.27	9:01	DTB 21.80
PZ-102	Off-Site	BR	11/2/2015	21.42	540.89	519.47	9:04	
PZ-103	Off-Site	BR	11/2/2015	16.95	540.20	523.25	9:06	
PZ-104	Off-Site	BR	11/2/2015	15.18	536.85	521.67	11:26	
PZ-105	On-Site	BR	11/2/2015	11.45	536.93	525.48	11:15	
PZ-106	On-Site	BR	11/2/2015	11.08	537.24	526.16	11:03	
PZ-107	On-Site	BR	11/2/2015	11.95	538.39	526.44	11:01	
PZ-109	On-Site	BR	11/2/2015	10.98	538.59	527.61	11:28	
PZ-110	On-Site	BR	11/2/2015	13.41	NA	NA	11:26	
PZ-111	On-Site	BR	11/2/2015	10.18	NA	NA	11:27	
W-5	On-Site	OB	11/2/2015	NM	538.53	NM		Inaccessible

APPENDIX A
FIELD OBSERVATION FORMS

11-2-15

04-029

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	11-2-15	9.11	537.75		8:52	
B-10	On-Site	OB		16.26	538.80		11:00	
B-11	On-Site	OB		7.03	536.00		10:59	
B-15	On-Site	OB		7.25	535.29		11:30	
B-16	Off-Site	OB		7.37	536.21		11:32	
B-17	On-Site	OB		10.50	538.74		10:48	
B-2	On-Site	OB		10.34	539.02		8:55	
B-4	On-Site	OB		2.26	542.87		10:22	
B-5	On-Site	OB		17.38	540.21		10:26	
B-7	On-Site	OB		15.98	541.11		9:15	
B-8	On-Site	OB		DRY	538.88		11:12	DTB 6.70
BR-1	On-Site	BR		6.98	537.28		10:40	
BR-102	On-Site	BR		14.00	539.43		8:54	
BR-103	Off-Site	BR		3.46	533.19		12:58	
BR-104	Off-Site	BR		11.25	537.56		1:01	
BR-105	Off-Site	BR		23.03	536.90		12:57	
BR-105D	Off-Site	BR deep		26.00	536.49		12:50	
BR-106	Off-Site	BR		13.73	535.74		12:47	
BR-108	Off-Site	BR		28.68	540.58		1:51	
BR-111	Off-Site	BR	28.75	31.84	540.42		1:33	1:40
BR-111D	Off-Site	BR		29.11	540.34		1:38	
BR-112D	Off-Site	BR deep	36.30	36.56	547.91		1:35	
BR-113	Off-Site	BR		31.38	543.02		3:00	
BR-113D	Off-Site	BR deep		31.34	542.93		2:57	
BR-114	Off-Site	BR		13.70	539.77		1:05	
BR-116	Off-Site	BR		29.30	545.38		1:16	
BR-116D	Off-Site	BR deep		35.40	545.22		1:17	
BR-117	Off-Site	BR		35.30	547.61		2:32	
BR-117D	Off-Site	BR deep		48.47	547.16		2:29	
BR-118	Off-Site	BR		35.00	547.79		2:35	
BR-118D	Off-Site	BR deep		47.67	547.93		2:37	
BR-122D	Off-Site	BR deep		45.06	552.34		2:02	
BR-123D	Off-Site	BR deep		45.35	553.62		2:05	
BR-124D	Off-Site	BR deep		32.15	537.45		2:08	
BR-126	Off-Site	BR		9.56	537.90		2:15	
BR-127	On-Site	BR		10.78	536.05		10:58	
BR-2	On-Site	BR		11.39	538.97	10:41		
BR-2A	On-Site	BR		11.35	540.36	10:42		
BR-2D	On-Site	BR deep		11.52	537.26	10:40		
BR-3	On-Site	BR		9.73	538.20		10:18	
BR-3D	On-Site	BR deep		52.86	537.67		11:20	
BR-4	On-Site	BR		11.84	539.03		10:53	
BR-5	On-Site	BR		3.88	536.30		10:34	
BR-5A	On-Site	pumping well		3.45	536.35		10:33	
BR-6A	On-Site	BR		14.10	540.90		11:09	
BR-7	On-Site	BR		14.04	539.10		9:11	
BR-7A	On-Site	pumping well		29.24	539.12		9:10	
BR-8	On-Site	BR		16.46	539.72		10:34	
BR-9	On-Site	pumping well		30.95	542.17		10:08	
C-2A	On-Site	OB		DRY	539.66			
C-5	On-Site	OB		12.98	539.63		10:19	
CANAL	Off-Site	SW		36.93	544.79		5:13	
E-2	On-Site	OB		11.84	538.32		10:35	missing/dispose
E-3	On-Site	OB		5.33	536.59		10:35	
E-5	On-Site	OB		5.72	539.31		10:38	
EC-2	Off-Site	BR		DRY	542.00		2:58	DTB: 14.74
MW-103	Off-Site	OB		1.58	533.25		1:27	
MW-104	Off-Site	OB		7.85	537.54		1:00	
MW-105	Off-Site	OB		NS-1	536.91		NS-1	Could Not Locate Well
MW-106	Off-Site	OB		13.76	535.44		10:41	
MW-114	Off-Site	OB		9.68	539.69		1:04	
MW-127	On-Site	OB		7.17	536.87		10:57	
MW-16	Off-Site	BR		10.78	536.79		1:07	Inaccessible
MW-3	Off-Site	OB		NS-1	535.89			Inaccessible

29.30

MATRIX
Environmental Technologies Inc.

11-2-15

04-029

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	11-2-15	NS-1	534.65			Dared over locked
MW-G8	Off-Site	OB		"	534.25			
MW-G9	Off-Site	OB		"	536.60			locked
N-2	On-Site	OB		4.00	537.33		3:26	
N-3	On-Site	OB		5.78	537.38		3:35	
NESS-E	Off-Site	BR deep		23.80	540.31		12:54	
NESS-W	Off-Site	BR deep		31.50	543.04		12:36	
PW-10	On-Site	pumping well		10.94	538.76		10:50	
PW-12	On-Site	BR		7.14	537.49		10:31	
PW-13	On-Site	pumping well		25.50	536.13		9:08	
PW-14	On-Site	pumping well		45.46	537.03		11:04	
PW-15	On-Site	pumping well		21.60	538.32		11:22	
PW-16	On-Site	pumping well		20.32	539.32		10:20	
PW-17	On-Site	pumping well		30.50	NA		11:24	
PZ-101	Off-Site	BR		20.68	542.95		9:01	DTB 21.80
PZ-102	Off-Site	BR		21.42	540.89		9:04	
PZ-103	Off-Site	BR		16.95	540.20		9:06	
PZ-104	Off-Site	BR		15.18	536.85		11:26	
PZ-105	On-Site	BR		11.45	536.93		11:15	
PZ-106	On-Site	BR		11.08	537.24		11:03	
PZ-107	On-Site	BR		11.95	538.39		11:01	
PZ-109	On-Site	BR		10.99	538.59		11:28	
PZ-110	On-Site	BR		13.41	NA		11:26	
PZ-111	On-Site	BR		10.18	NA		11:27	
W-5	On-Site	OB		NS-1	538.53			Debris in vault Inaccessible

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: PZ 101

Field Personnel: JK+PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 11-3-15 8:00 AM

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: 11-3 8:15

Date/Time Completed: 9:06

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

Riser Diameter (inches) 2"

Initial Water Level (ft): 20.58

Elevation G/W MSL: ____

Well Total Depth (ft): ____

Method of Well Purge Peristaltic

One (1) Riser Vol (gal): ____

Dedicated: (Y) N

Total Volume Purged (gal): 350mL

Purged to Dryness: (Y) / N

Purge Observations: Clear water

Start ____ Finish ____

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (~~gpm/hr~~)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~)	Turb. (NTU)	ORP	DO	Other
8:23	~~21.55~~ 21.16	125mL/m		11.78	6.99	4.25 mS/cm	29.6	57	22	
8:28	21.18	<125		11.95	6.96	4.30	30.2	11	0.53	
8:33	21.30			12.14	6.97	4.32	31.2	7	0.00	
↳ No water coming in, will sample, wait for recharge.										

55°F, Sunny

FIELD OBSERVATIONS

Facility: Lonza | Sample Point ID: PZ104

Field Personnel: DK+PB | Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 11-4-15 8:05 | 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: 11-4-15 8:14 | Date/Time Completed: 8:52

Surf. Meas. Point: ( ) Pro Casing (✓) Riser | Riser Diameter (inches) 2" PVC

Initial Water Level (ft): 15.20 | Elevation G/W MSL: ____

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

One (1) Riser Vol (gal): ____ | Dedicated: (✓) N

Total Volume Purged (gal): 2.25L | Purged to Dryness: Y / (✓) N

Purge Observations: Clear | Start ____ Finish ____

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (~~gpm/hr~~)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos~~/cm)	Turb. (NTU)	ORP	DO	Other
8:20	15.27	250mL/min		12.43	7.18	3.78 mS/cm	34	-130	2.73	
8:25	15.28	250		13.17	7.15	3.79	33	-139	0.00	
8:30	15.28	250		13.09	7.14	3.76	32.1	-142	0.00	
8:35	15.28			13.96	7.14	3.79	30.2	-150	0.00	
8:40	15.28			14.22	7.14	3.80	29.8	-152	0.00	
→	SAMPLE									

48°F Sunny

FIELD OBSERVATIONS

Facility: Lot 29 Sample Point ID: PW 12

Field Personnel: DK + PB Sample Matrix:

MONITORING WELL INSPECTION

Date/Time: 11-4-15 9:05 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: 11-4-15 9:09 Date/Time Completed: 9:44

Surf. Meas. Point: ( ) Pro Casing (✓) Riser Riser Diameter (inches) 6" Steel

Initial Water Level (ft): 7.29 Elevation G/W MSL: ____

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

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

Total Volume Purged (gal): 3L Purged to Dryness: Y / (N)

Purge Observations: Clear Start ____ Finish ____

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (~~gpm/hr~~)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~)	Turb. (NTU)	ORP	DO	Other
9:15	7.43	250 mL/min		15.45	8.30	0.341 mS/cm	46.3	-84	1.56	
9:20	7.43	125		15.55	8.45	0.299	40.5	-81	0.00	
9:25	7.47	250		15.98	8.47	0.273	37.3	-69	0.00	
9:30	7.48	250		16.05	8.54	0.271	35.1	-81	0.00	
9:35	7.48	125		16.18	8.51	0.270	32.6	-105	0.00	
→	SAMPLE									

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: PW 10

Field Personnel: DK+PB Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 11-4-15 9:49 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: 9-4-15 9:54 Date/Time Completed: 10:37

Surf. Meas. Point: ( ) Pro Casing (✓) Riser Riser Diameter (inches) 6" Steel

Initial Water Level (ft): 10.90 Elevation G/W MSL: ____

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

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

Total Volume Purged (gal): 2.15L Purged to Dryness: Y / (✓)

Purge Observations: Brown Colored Strong Pyridine odor 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
10:00	11.08	250mL/min		17.05	8.18	10.7mS/cm	71.4	-119	4.37	
10:05	11.20	125		16.42	10.14	45	69.3	-169	0.00	
10:10	11.22			16.43	10.18	49.1	68.7	-171	0.00	
10:15	11.24			16.44	10.27	57.7	67.1	-176	0.00	
10:20	11.26			16.46	10.35	67.9	66.3	-180	0.00	
↳	SAMPLE									

58°F, Sunny

FIELD OBSERVATIONS

Facility: Lonza | Sample Point ID: BR5A

Field Personnel: BK+PB | Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 11-4-15 10:42 | Condition of seal: (✓) Good ( ) Cracked ____ %

( ) None ( ) Buried

Hot Box

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: 11-4-15 10:44 | Date/Time Completed: 11:25

Surf. Meas. Point: ( ) Pro Casing (✓) Riser | Riser Diameter (inches) 6" Steel

Initial Water Level (ft): 3.54 | Elevation G/W MSL: ____

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

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

Total Volume Purged (gal): 2.2L | Purged to Dryness: Y / (N)

Purge Observations: Clear, slight brown tint | Start ____ Finish ____

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (~~gpm/hr.~~)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~)	Turb. (NTU)	ORP	DO	Other
10:48	3.54	250mL/min		16.53	8.46	2.07mS/cm	81.5	-115	14.23	
10:53	3.54	125		16.51	8.20	1.68	77.8	-77	9.56	
10:58	3.54			16.64	8.14	1.56	73	-44	11.31	
11:03	3.54			16.90	8.11	1.53	70.6	-14	11.22	
11:08	3.54			17.05	8.10	1.47	70.1	-11	10.74	
→	SAMPLE									

60°F, Sunny

FIELD OBSERVATIONS

Facility: Lonza | Sample Point ID: B15

Field Personnel: DK + PB | Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 11-4-15 12:20 | 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: 11-4-15 12:25 | Date/Time Completed: 13:10

Surf. Meas. Point: ( ) Pro Casing (✓) Riser | Riser Diameter (inches) 2" PVC

Initial Water Level (ft): 7.26 | Elevation G/W MSL: ____

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

One (1) Riser Vol (gal): ____ | Dedicated: (Y) / N new Masterflex tubing

Total Volume Purged (gal): 3L | Purged to Dryness: Y / (N)

Purge Observations: Brown, cloudy | Start ____ Finish ____

PURGE DATA (if applicable)

Time	Water Level	Purge Rate ~~(gpm/mtz)~~	Cumulative Volume	Temp (C)	pH (SU)	Conductivity ~~(umhos/cm)~~	Turb. (NTU)	ORP	DO	Other
12:35	8.18	250 mL/min		18.98	7.58	0.738 mS/cm	244	418	3.26	
12:40	9.41	250		18.47	7.08	0.618	190	-41	0.00	
12:45	9.94	250		18.39	7.16	0.610	113	-25	0.00	
12:50	10.32	125		18.49	7.16	0.610	83.5	-22	0.00	
12:55	10.78	125		18.32	7.15	0.610	71.6	-23	0.00	
→	SAMPLE									

64° F Sunny

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: B16

Field Personnel: DK + PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 11-4-15 1:12

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: 11-4-15 1:16

Date/Time Completed: 1:50

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

Riser Diameter (inches) 2" PVC

Initial Water Level (ft): 7.50

Elevation G/W MSL: ____

Well Total Depth (ft): ____

Method of Well Purge Peristaltic

One (1) Riser Vol (gal): ____

Dedicated: (Y) / N New Masterflex

Total Volume Purged (gal): 2.35 L

Purged to Dryness: Y / (N)

Purge Observations: Clear

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
1:20	8.49	250mL/min		18.99	7.26	2.42 ms/cm	130	-60	2.50	
1:25	8.63	250		17.18	7.03	2.50	87.5	-86	0.00	
1:30	8.55	125		17.00	7.07	2.61	74.8	-105	0.00	
1:35	8.50			16.75	7.12	2.67	55.2	-112	0.00	
1:40	8.50			16.77	7.11	2.73	45.6	-114	0.00	
	★ SAMPLE									

67°F, Sunny

FIELD OBSERVATIONS

Facility: Lonza | Sample Point ID: BR126

Field Personnel: DK + PB | Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 11-4-15 1155 | 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: 11-4-15 1157 | Date/Time Completed: ____

Surf. Meas. Point: ( ) Pro Casing (✓) Riser | Riser Diameter (inches) 4" S steel

Initial Water Level (ft): 9.51 | Elevation G/W MSL: ____

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

One (1) Riser Vol (gal): ____ | Dedicated: (✓) Y / N Nebb Masterflex

Total Volume Purged (gal): > 1/3 L | Purged to Dryness: Y / (✓) N

Purge Observations: Clear | 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
2:00	9.71	250 mL/min		18.00	7.27	1.56 mS/cm	115	-99	4.29	
2:05	9.75	250		17.68	7.13	1.56	98.9	-110	0.00	
2:10	9.75	125		18.07	7.12	1.56	75.8	-118	0.00	
2:15	9.75	125		18.21	7.09	1.55	44.5	-119	0.00	
2:20	9.75	125		18.41	7.16	1.54	39.8	-126	0.00	
→ SAMPLE										

68°F, Sunny

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: PZ102

Field Personnel: DK+PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 11-3-15 9:14

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: 11-3 9:18

Date/Time Completed: 10:00

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

Riser Diameter (inches) 2" PVC

Initial Water Level (ft): 19.04

Elevation G/W MSL: ____

Well Total Depth (ft): ____

Method of Well Purge Peristaltic

One (1) Riser Vol (gal): ____

Dedicated: (Y) / N

Total Volume Purged (gal): 2.1L

Purged to Dryness: Y (N)

Purge Observations: Cloudy, clear@finish Start ____ Finish ____

PURGE DATA (if applicable)

Time	Water Level	Pur Rate (gpm)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~)	Turb. (NTU)	ORP	DO	Other
9:25										
~~11-3-15~~	19.75	~~0.250~~ mL/min		12.80	7.34	6.25 mS/cm	185	-163	7.29	
9:30	19.56	125		12.79	7.31	6.35	112	-207	0.00	
9:35	19.54	125		12.90	7.31	6.39	46.2	-219	0.00	
9:40	19.54	125		13.19	7.32	6.43	35.6	-241	0.00	
9:45	19.54	125		13.33	7.32	6.45	34.5	-254	0.00	
↳	SAMPLE									

60°F, Sunny

FIELD OBSERVATIONS

Facility: Lorza

Sample Point ID: PZ103

Field Personnel: DK+PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 11-3-15 10:03

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: 11-3-15 10:06

Date/Time Completed: 10:50

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

Riser Diameter (inches) 2 11 pvc

Initial Water Level (ft): 16.83

Elevation G/W MSL: ____

Well Total Depth (ft): ____

Method of Well Purge Peristaltic

One (1) Riser Vol (gal): ____

Dedicated: ☒ N

Total Volume Purged (gal): 2 L

Purged to Dryness: Y / ☒

Purge Observations: mostly clear

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
10:10	17.14	250mL/min		15.74	7.63	5.81mS/cm	32.2	-254	0.22	
10:15	17.18	125		16.06	7.57	5.76	28.3	-284	0.00	
10:20	17.31	125		16.33	7.56	5.77	27.3	-298	0.00	
10:25	17.34	<125		16.51	7.56	5.85	26.8	-307	0.00	
10:30	17.35			16.61	7.56	5.80	26.8	-318	0.00	
→	SAMPLE									

60°F, Sunny

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: BR105

Field Personnel: DK + PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 11-3-15 10:55

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: 11-3-15 10:57

Date/Time Completed: 11:45

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

Riser Diameter (inches) 6" Steel

Initial Water Level (ft): 23.11

Elevation G/W MSL: ____

Well Total Depth (ft): ____

Method of Well Purge Peristaltic

One (1) Riser Vol (gal): ____

Dedicated: (Y) / N

Total Volume Purged (gal): 1.5 L

Purged to Dryness: Y / (N)

Purge Observations: light Brown, tint

Start ____ Finish ____

PURGE DATA (if applicable)

mS/cm

Time	Water Level	Purge Rate (~~gpm/hr~~)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~)	Turb. (NTU)	ORP	DO	Other
11:02	23.13	125 mL/min		16.31	7.40	4.44	185	-234	8.55	
11:07	23.13	<125		15.63	7.13	3.82	131	-214	0.00	
11:12	23.13			15.78	7.10	3.68	80.7	-206	0.00	
11:17	23.13			15.79	7.09	3.62	61.2	-203	0.00	
11:22				15.84	7.08	3.60	39.6	-202	0.00	
↳	SAMPLE									

62°F, Sunny

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: BR105 D

SAMPLING INFORMATION

Date/Time 11-3-15 11:55 Water Level at Sampling (ft) 26.03

Method of Sampling Bailer 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	14.09	7.21	22.7 mS/cm	95	-313	0.00	

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: 64°F, Sunny

Sample characteristics: Cloudy, particles, sulfur odor

Comments and Observations:

2" PVC

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

Date: 11-3-15 by: DK+PB Company: Matrix

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: MW106

Field Personnel: DK+PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 11-3-15 12:30

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: 11-3-15 12:42

Date/Time Completed: 1:22

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

Riser Diameter (inches) 2" PVC

Initial Water Level (ft): 13.63

Elevation G/W MSL: ____

Well Total Depth (ft): ____

Method of Well Purge Peristaltic

One (1) Riser Vol (gal): ____

Dedicated: (Y) / N – New tube

Total Volume Purged (gal): 1.75 L

Purged to Dryness: Y / (N)

Purge Observations: Clear, slight brown tint

Start ____ Finish ____

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (~~gpm~~/mL/min)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos~~/mS/cm)	Turb. (NTU)	ORP	DO	Other
12:48	14.03	250		18.84	6.92	3.35	55.9	-95	5.91	
12:53	14.03	125		17.78	6.87	3.45	56.3	-114	0.00	
12:58	14.03	<125		18.07	6.81	3.48	54	-128	0.00	
1:03	14.03			18.64	6.86	3.78	50.1	-147	0.00	
↳	SAMPLE									

65°F, Sunny

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: BR106

Field Personnel: OK + PS

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 11-3-15 1:24

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: 11-3-15 ~~1:24~~ 1:26 Date/Time Completed: 2:03

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

Initial Water Level (ft): 23.55 Elevation G/W MSL: ____

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

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

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

Purge Observations: Very Cloudy, black particles 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
1:35	23.55	125 mL/min	n/a	23.51	6.93	3.76 mS/cm	68	-61	3.89	
1:40	23.55	<125		22.94	6.85	4.74	98	-307	0.00	
1:45	23.55			21.93	6.86	5.01	105	-327	0.00	
1:50	23.55			21.57	6.87	5.10	101	-338	0.00	
1:55	23.55			21.25	6.89	5.16	83.5	-344	0.00	
↳	SAMPLE									

67°F, Sunny

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: BR9

SAMPLING INFORMATION

Date/Time 11-3-15 Water Level at Sampling (ft) 31.00

Method of Sampling Pumping well, sampled from discharge line 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
2:25	17.45	7.44	2.71 mS/cm	599	-23	2.20	

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: 70°F, Sunny

Sample characteristics: Cloudy, particles, light ~~gray~~ Orange

Comments and Observations: Color

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

Date: 11-3-15 by: DK+PB Company: Matrix

FIELD OBSERVATIONS

Facility: Lonza | Sample Point ID: PZ104

Field Personnel: DK+PB | Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 11-4-15 8:05 | 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: 11-4-15 8:14 | Date/Time Completed: 8:52

Surf. Meas. Point: ( ) Pro Casing (✓) Riser | Riser Diameter (inches) 2" PVC

Initial Water Level (ft): 15.20 | Elevation G/W MSL: ____

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

One (1) Riser Vol (gal): ____ | Dedicated: (✓) N

Total Volume Purged (gal): 2.25L | Purged to Dryness: Y / (✓) N

Purge Observations: Clear | Start ____ Finish ____

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (~~gpm/hr~~)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos~~/cm)	Turb. (NTU)	ORP	DO	Other
8:20	15.27	250mL/min		12.43	7.18	3.78 mS/cm	34	-130	2.73	
8:25	15.28	250		13.17	7.15	3.79	33	-139	0.00	
8:30	15.28	250		13.09	7.14	3.76	32.1	-142	0.00	
8:35	15.28			13.96	7.14	3.79	30.2	-150	0.00	
8:40	15.28			14.22	7.14	3.80	29.8	-152	0.00	
→	SAMPLE									

48°F Sunny

FIELD OBSERVATIONS

Facility: Lot 29 Sample Point ID: PW 12

Field Personnel: DK + PB Sample Matrix:

MONITORING WELL INSPECTION

Date/Time: 11-4-15 9:05 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: 11-4-15 9:09 Date/Time Completed: 9:44

Surf. Meas. Point: ( ) Pro Casing (✓) Riser Riser Diameter (inches) 6" Steel

Initial Water Level (ft): 7.29 Elevation G/W MSL: ____

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

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

Total Volume Purged (gal): 3L Purged to Dryness: Y / (N)

Purge Observations: Clear Start ____ Finish ____

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (~~gpm/hr~~)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~)	Turb. (NTU)	ORP	DO	Other
9:15	7.43	250 mL/min		15.45	8.30	0.341 mS/cm	46.3	-84	1.56	
9:20	7.43	125		15.55	8.45	0.299	40.5	-81	0.00	
9:25	7.47	250		15.98	8.47	0.273	37.3	-69	0.00	
9:30	7.48	250		16.05	8.54	0.271	35.1	-81	0.00	
9:35	7.48	125		16.18	8.51	0.270	32.6	-105	0.00	
→	SAMPLE									

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: PW 10

Field Personnel: DK+PB Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 11-4-15 9:49 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: 9-4-15 9:54 Date/Time Completed: 10:37

Surf. Meas. Point: ( ) Pro Casing (✓) Riser Riser Diameter (inches) 6" Steel

Initial Water Level (ft): 10.90 Elevation G/W MSL: ____

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

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

Total Volume Purged (gal): 2.15L Purged to Dryness: Y / (✓)

Purge Observations: Brown Colored Strong Pyridine odor 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
10:00	11.08	250mL/min		17.05	8.18	10.7mS/cm	71.4	-119	4.37	
10:05	11.20	125		16.42	10.14	45	69.3	-169	0.00	
10:10	11.22			16.43	10.18	49.1	68.7	-171	0.00	
10:15	11.24			16.44	10.27	57.7	67.1	-176	0.00	
10:20	11.26			16.46	10.35	67.9	66.3	-180	0.00	
↳	SAMPLE									

58°F, Sunny

FIELD OBSERVATIONS

Facility: Lonza | Sample Point ID: BR5A

Field Personnel: BK+PB | Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 11-4-15 10:42 | Condition of seal: (✓) Good ( ) Cracked ____ %

( ) None ( ) Buried

Hot Box

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: 11-4-15 10:44 | Date/Time Completed: 11:25

Surf. Meas. Point: ( ) Pro Casing (✓) Riser | Riser Diameter (inches) 6" Steel

Initial Water Level (ft): 3.54 | Elevation G/W MSL: ____

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

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

Total Volume Purged (gal): 2.2L | Purged to Dryness: Y / (N)

Purge Observations: Clear, slight brown tint | Start ____ Finish ____

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (~~gpm/hr.~~)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~)	Turb. (NTU)	ORP	DO	Other
10:48	3.54	250mL/min		16.53	8.46	2.07mS/cm	81.5	-115	14.23	
10:53	3.54	125		16.51	8.20	1.68	77.8	-77	9.56	
10:58	3.54			16.64	8.14	1.56	73	-44	11.31	
11:03	3.54			16.90	8.11	1.53	70.6	-14	11.22	
11:08	3.54			17.05	8.10	1.47	70.1	-11	10.74	
→	SAMPLE									

60°F, Sunny

FIELD OBSERVATIONS

Facility: Lonza | Sample Point ID: B15

Field Personnel: DK + PB | Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 11-4-15 12:20 | 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: 11-4-15 12:25 | Date/Time Completed: 13:10

Surf. Meas. Point: ( ) Pro Casing (✓) Riser | Riser Diameter (inches) 2" PVC

Initial Water Level (ft): 7.26 | Elevation G/W MSL: ____

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

One (1) Riser Vol (gal): ____ | Dedicated: (Y) / N new Masterflex tubing

Total Volume Purged (gal): 3L | Purged to Dryness: Y / (N)

Purge Observations: Brown, cloudy | Start ____ Finish ____

PURGE DATA (if applicable)

Time	Water Level	Purge Rate ~~(gpm/mtz)~~	Cumulative Volume	Temp (C)	pH (SU)	Conductivity ~~(umhos/cm)~~	Turb. (NTU)	ORP	DO	Other
12:35	8.18	250 mL/min		18.98	7.58	0.738 mS/cm	244	418	3.26	
12:40	9.41	250		18.47	7.08	0.618	190	-41	0.00	
12:45	9.94	250		18.39	7.16	0.610	113	-25	0.00	
12:50	10.32	125		18.49	7.16	0.610	83.5	-22	0.00	
12:55	10.78	125		18.32	7.15	0.610	71.6	-23	0.00	
→	SAMPLE									

64° F Sunny

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: B16

Field Personnel: DK + PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 11-4-15 1:12

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: 11-4-15 1:16

Date/Time Completed: 1:50

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

Riser Diameter (inches) 2" PVC

Initial Water Level (ft): 7.50

Elevation G/W MSL: ____

Well Total Depth (ft): ____

Method of Well Purge Peristaltic

One (1) Riser Vol (gal): ____

Dedicated: (Y) / N New Masterflex

Total Volume Purged (gal): 2.35 L

Purged to Dryness: Y / (N)

Purge Observations: Clear

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
1:20	8.49	250mL/min		18.99	7.26	2.42 ms/cm	130	-60	2.50	
1:25	8.63	250		17.18	7.03	2.50	87.5	-86	0.00	
1:30	8.55	125		17.00	7.07	2.61	74.8	-105	0.00	
1:35	8.50			16.75	7.12	2.67	55.2	-112	0.00	
1:40	8.50			16.77	7.11	2.73	45.6	-114	0.00	
	★ SAMPLE									

67°F, Sunny

FIELD OBSERVATIONS

Facility: Lonza | Sample Point ID: BR126

Field Personnel: DK + PB | Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 11-4-15 1155 | 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: 11-4-15 1157 | Date/Time Completed: ____

Surf. Meas. Point: ( ) Pro Casing (✓) Riser | Riser Diameter (inches) 4" S steel

Initial Water Level (ft): 9.51 | Elevation G/W MSL: ____

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

One (1) Riser Vol (gal): ____ | Dedicated: (✓) Y / N Nebb Masterflex

Total Volume Purged (gal): > 1/3 L | Purged to Dryness: Y / (✓) N

Purge Observations: Clear | 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
2:00	9.71	250 mL/min		18.00	7.27	1.56 mS/cm	115	-99	4.29	
2:05	9.75	250		17.68	7.13	1.56	98.9	-110	0.00	
2:10	9.75	125		18.07	7.12	1.56	75.8	-118	0.00	
2:15	9.75	125		18.21	7.09	1.55	44.5	-119	0.00	
2:20	9.75	125		18.41	7.16	1.54	39.8	-126	0.00	
→ SAMPLE										

68°F, Sunny

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: MW127

Field Personnel: DK + PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 11-5-15 9AM

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: 11-5-15 9:11

Date/Time Completed: 9:40

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

Riser Diameter (inches) 2" PVC

Initial Water Level (ft): 8.65

Elevation G/W MSL: ____

Well Total Depth (ft): ____

Method of Well Purge Peristaltic

One (1) Riser Vol (gal): ____

Dedicated: (Y) / N New Masterflex

Total Volume Purged (gal): 2.25L

Purged to Dryness: Y / (N)

Purge Observations: 60°F, Cloudy, clear

Start ____ Finish ____

PURGE DATA (if applicable)

Time	Water Level	Purge Rate ~~(gpm/mtz)~~ mL/min	Cumulative Volume	Temp (C)	pH (SU)	Conductivity ~~(umhos/cm)~~ mS/cm	Turb. (NTU)	ORP	DO	Other
9:15	8.95	300 mL/min		15.50	7.92	2.60	30.6	44	8.29	
9:20	9.16	>50		15.46	7.74	2.60	30.6	69	0.56	
9:25	9.16	~~250~~ 250		15.45	7.74	2.58	28.9	75	0.79	
9:30	9.16	125		15.44	7.74	2.52	27.7	76	0.00	
	→ SAMPLE									

FIELD OBSERVATIONS

Facility: Lonza | Sample Point ID: PZ107

Field Personnel: DK + RB | Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 11-5-15 9:44 | 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: 11-5-15 9:45 | Date/Time Completed: 10:25

Surf. Meas. Point: ( ) Pro Casing (✓) Riser | Riser Diameter (inches) 2" PVC

Initial Water Level (ft): 12.75 | Elevation G/W MSL: ____

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

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

Total Volume Purged (gal): 2.1 L | Purged to Dryness: Y / (N)

Purge Observations: Clear | 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
9:48	13.16	>500 ml/min		15.31	7.37	0.936 mS/cm	33.1	-38	3.35	
9:53	13.20	125		15.20	7.23	0.798	34.2	-86	0.00	
9:58	13.23			15.20	7.22	0.769	32.5	-106	0.00	
10:03	13.25			15.18	7.20	0.772	29.5	-116	0.00	
10:08	13.31			15.10	7.11	1.39	27.8	-119	0.00	
↳ SAMPLE										

60°F Cloudy

FIELD OBSERVATIONS

Facility: Conza Sample Point ID: BR 127

SAMPLING INFORMATION

Date/Time 11-5-15 10:30 Water Level at Sampling (ft) 11.56

Method of Sampling Active pumping well Dedicated: (Y)/ N

Active

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	15.11	7.56	3.39 mS/cm	28.6	-122	1.10	

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: 60°F, Cloudy

Sample characteristics: Clear

Comments and Observations:

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

Date: 11-5-15 by: JK+PB Company: Matrix

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: BR6A

Field Personnel: DK + PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 11-5-15 10:38

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: 11-5-15 10:40

Date/Time Completed: 11-5-15 11:25

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

Riser Diameter (inches) 4" Steel

Initial Water Level (ft): 14.06

Elevation G/W MSL: ____

Well Total Depth (ft): ____

Method of Well Purge 11:25

One (1) Riser Vol (gal): ____

Dedicated: (✓) N New MasterFlex

Total Volume Purged (gal): 2.15

Purged to Dryness: Y / (✓) N

Purge Observations: ~~Clear~~, Yellow tint + turned Brown cloudy odor

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
10:46	14.35	250mL/min		16.41	7.48	7.08ms/cm	31.9	-168	3.41	
10:51	14.66	250		16.52	7.63	7.24	36.9	-210	0.00	
10:56	14.76	125		16.62	7.81	7.27	32.6	-249	0.00	
11:01	15.13	↓		16.77	7.84	7.29	42.6	-262	0.00	
11:06	15.45	↓		16.93	7.86	7.28	32.9	-266	0.00	
→ SAMPLE										

62°F Cloudy, light breeze

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: PZ105

Field Personnel: DK + DB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 11-5-15 11:28

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: 11-5-15 11:30

Date/Time Completed: 12:15

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

Riser Diameter (inches) 2" PVC

Initial Water Level (ft): 11.32

Elevation G/W MSL: ____

Well Total Depth (ft): ____

Method of Well Purge Peristaltic

One (1) Riser Vol (gal): ____

Dedicated: (Y) / N New Masterflex

Total Volume Purged (gal): 1.5L

Purged to Dryness: Y / (N)

Purge Observations: Black, cloudy

Start ____ Finish ____

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (~~gpm/mtz~~)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~)	Turb. (NTU)	ORP	DO	Other
11:35	12.03	250 mL/min		17.77	7.88	2.43 ms/cm	211	-216	1.70	
11:40	12.53	125		17.84	7.99	2.17	177	-282	0.00	
11:45	13.17	67.5		17.99	8.01	1.93	147	-305	0.00	
11:50	13.69			18.15	8.00	1.83	133	-315	0.00	
11:55	13.99			18.22	7.99	1.82	127	-320	0.00	
↳ SAMPLE										

62°F, Cloudy

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: PW16

SAMPLING INFORMATION

Date/Time 11-5-15 1:00pm Water Level at Sampling (ft) 19.13

Method of Sampling Active Pumping well 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
1:08	18.21	7.90	9.96 mS/cm	114	-138	12.40	

INSTRUMENT CALIBRATION/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: 65°F Sun + clouds

Sample characteristics: Black, cloudy

Comments and Observations:

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

Date: 11-5-15 by: DK+PB Company: Matrix

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: BR8 BR8

Field Personnel: DK+PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 11-5-15 1:15

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: 11-5-15 1:19

Date/Time Completed: 2:00

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

Riser Diameter (inches): 8" Steel

Initial Water Level (ft): 16.36

Elevation G/W MSL: ____

Well Total Depth (ft): ____

Method of Well Purge: Peristaltic

One (1) Riser Vol (gal): ____

Dedicated: (Y) / N

Total Volume Purged (gal): 2L

Purged to Dryness: Y / (N)

Purge Observations: Brown Tint

Start ____ Finish ____

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (~~gpm/hr~~)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~)	Turb. (NTU)	ORP	DO	Other
1:23	16.40	300mL/min		19.87	8.70	5.79 mS/cm	115	-103	5.14	
1:28	16.47	250		19.65	8.66	5.60	88.7	-154	0.00	
1:33	16.45	125		19.81	8.53	5.66	46.2	-214	0.00	
1:38	16.45	67.5		20.17	8.50	5.66	51.9	-228	0.00	
1:43	16.44	↓		20.34	8.51	5.66	45.7	-241	0.00	
↳	SAMPLE									

66°F Sun + Clouds

FIELD OBSERVATIONS

Facility: Lonza | Sample Point ID: B5

Field Personnel: OK+PB | Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 11-5-15 2:02 | Condition of seal: (X) Good ( ) Cracked ____ %

( ) None ( ) Buried

Prot. Casing/Riser Height: cap broke off riser | Condition of Prot. Casing/Riser: ( ) unlocked (X) Good

( ) loose ( ) flush mount

( ) Damaged PVC Riser is ok, cap broken off

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: 11-5-15 2:04 | Date/Time Completed: 2:44

Surf. Meas. Point: ( ) Pro Casing (X) Riser | Riser Diameter (inches) 1.5 X 11 PVC

Initial Water Level (ft): 16.98 | Elevation G/W MSL: ____

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

One (1) Riser Vol (gal): ____ | Dedicated: (Y) / N Norma Master Flex

Total Volume Purged (gal): 0.25L | Purged to Dryness: (Y) / N

Purge Observations: Brown, lots of sediment | 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
2:08	17.90	<125mL/min		20.08	7.65	5.79 mS/cm	800+	-209	0.00	
2:13	Dry			20.43	7.71	5.98	0.07	-214	0.00	
TRY AND SAMPLE, hardly any water coming in.										

68°F Scnt clouds

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: PW13

SAMPLING INFORMATION

Date/Time 11-6-15 8:10 Water Level at Sampling (ft) 2525

Method of Sampling Active pumping well 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
8:15	19.72	7.45	9.27 mS/cm	40.5	418	1.33	

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: 62°F Cloudy, Windy

Sample characteristics: Clear, odor, tiny particle

Comments and Observations:

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

Date: 11-6-15 by: DK + PB Company: Matrix

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: BR7A

SAMPLING INFORMATION

Date/Time 11-6-15 8:30 Water Level at Sampling (ft) Apx 25.00*

Method of Sampling Active pumping well 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
8:35	16.21	7.66	3.92 mS/cm	35.3	-110	4.99	

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: 62°F, Cloudy + Windy

Sample characteristics: Clear, Slight odor

Comments and Observations:

* probe gets covered w/slime from well and the lines going to the pump. Can't get probe clearly down the well.

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

Date: 11-6-15 by: DK + PB Company: Matrix

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: Quarry Ditch

SAMPLING INFORMATION

Date/Time 11-6-15 9:02 Water Level at Sampling (ft) ——— NA

Method of Sampling Dip bucket into water flowing in pipe 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
9:10	14.96	8.10	1.40 ms/cm	33.5	4	7.30	

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: Light rain, 63°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: 11-6-15 by: DK+PB Company: Matrix

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: OS-4

SAMPLING INFORMATION

Date/Time 11-6-15 9:28 Water Level at Sampling (ft)

Method of Sampling Bucket placed under water coming out of cavern wall 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
9:35	13.88	8.57	1.98 mS/cm	29.2	-3	7.40	

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: 63°F, Cloudy

Sample characteristics: clear

Comments and Observations:

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

Date: 11-6-15 by: DK + BB Company: Matrix

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: QO-2

Field Personnel: DK + PB

Sample Matrix:

MONITORING WELL INSPECTION

Date/Time: 11-6-15 9:53

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

( ) None ( ) Buried

Dipped water flow into canal w/a Bucket

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
9:58	—	—	—	14.78	8.46	1.39 mS/cm	30.4	40	5.15	

63°F, Cloudy

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: QO-251

SAMPLING INFORMATION

Date/Time 11-6-15 10:05 Water Level at Sampling (ft) ———

Method of Sampling Bailer dropped into Erie Canal 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
10:18	13.23	8.36	0.415 mS/cm	31.1	58	4.81	

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: 63°F, Cloudy + breezy

Sample characteristics: Clear

Comments and Observations:

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

Date: 11-6-15 by: DK + PB Company: Matrix

FIELD OBSERVATIONS

Facility: Conza | Sample Point ID: PZ106

Field Personnel: DK+PB | Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 11-9-15 8:10 | 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: 11-9-15 8:34 | Date/Time Completed: 9:20

Surf. Meas. Point: ( ) Pro Casing (✓) Riser | Riser Diameter (inches) 2" PVC

Initial Water Level (ft): 11.84 | Elevation G/W MSL: ____

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

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

Total Volume Purged (gal): 1.85L | Purged to Dryness: Y / (N)

Purge Observations: Clear w/ black particles, odor sulfur | 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
8:42	12.42	125mL/min		5.21	7.50	1.82mS/cm	114	-135	13.14	
8:47	12.60	67.5		5.89	7.47	1.80	62.9	-214	0.00	
8:52	12.68			6.56	7.47	1.82	56.3	-263	0.00	
8:57	12.83			7.16	7.52	1.80	47.2	-300	0.00	
9:02	12.93			8.15	7.50	1.81	33.9	-311	0.00	
↳	SAMPLE									

34°F, Sunny, light breeze

FIELD OBSERVATIONS

Facility: Conoco Sample Point ID: PW14

SAMPLING INFORMATION

Date/Time 11-9-15 9:21 Water Level at Sampling (ft) 45.70

Method of Sampling Active Pumping Well 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	15.45	7.35	3.01 mS/cm	232	-282	0.00	

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: 34°F, Sunny

Sample characteristics: Very cloudy, full of white + brown particles

Comments and Observations: odor

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

Date: 11-9-15 by: DK+PR Company: Matrix

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: PW17

SAMPLING INFORMATION

Date/Time 11-9-15 10:30 Water Level at Sampling (ft) 34.00

Method of Sampling Active pumping well 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
10:40	11.85	7.93	3.49mS/cm	36.1	205	3.80	

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: 38°F, Sunny

Sample characteristics: clear, odor

Comments and Observations:

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

Date: 11-9-15 by: DK + PB Company: Matrix

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: PW15

SAMPLING INFORMATION

Date/Time 11-9-15 10:48 Water Level at Sampling (ft) 22.27

Method of Sampling Active pumping well 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
10:55	13.41	9.78	9.43 mS/cm	56.9	-182	6.22	

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: 40°F, Sunt lightbreeze

Sample characteristics: Brown tint, pyradine odor

Comments and Observations:

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

Date: 11-9-15 by: DK+PB Company: Matrix

FIELD OBSERVATIONS

Facility: Conoco Sample Point ID: B11

Field Personnel: DK + PB Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 11-9-15 11:04 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: 11-9-15 11:09 Date/Time Completed: 11:38

Surf. Meas. Point: (✓) Pro Casing ( ) Riser Riser Diameter (inches) 1.5" PVC

Initial Water Level (ft): 8.95 Elevation G/W MSL: ____

Well Total Depth (ft): ~~12.96~~ Method of Well Purge ____

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

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

Purge Observations: turbid, brown, sediment Start ____ Finish ____

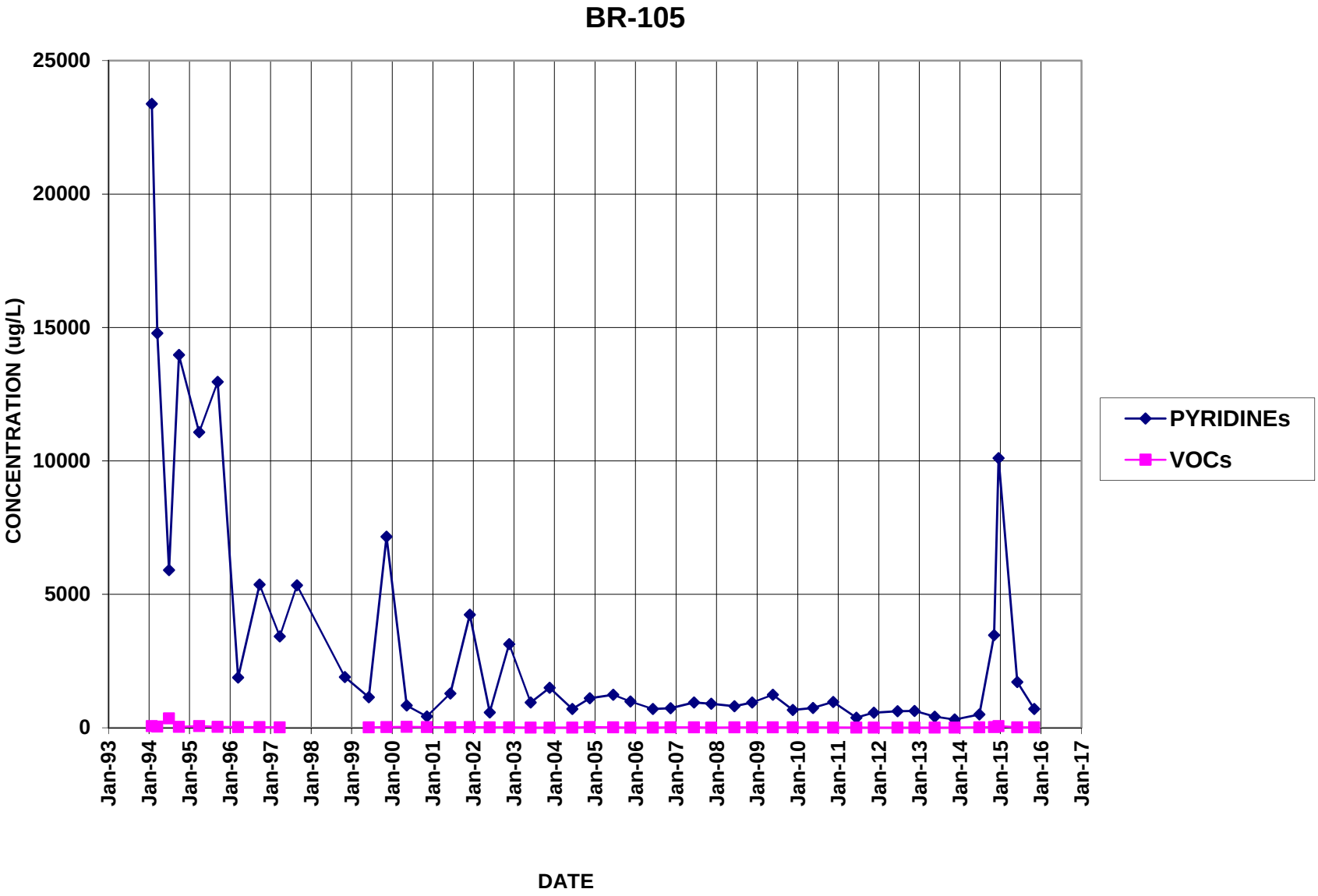
PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other
11:14	10.96	<67.5 mL/min		11.31	7.65	4.36 mS/cm	0.00	-81	0.00	
11:19	11.60			12.44	7.15	4.16	650	-55	0.00	
	↳ DRY, Attempt to sample									

44° F, Sunny

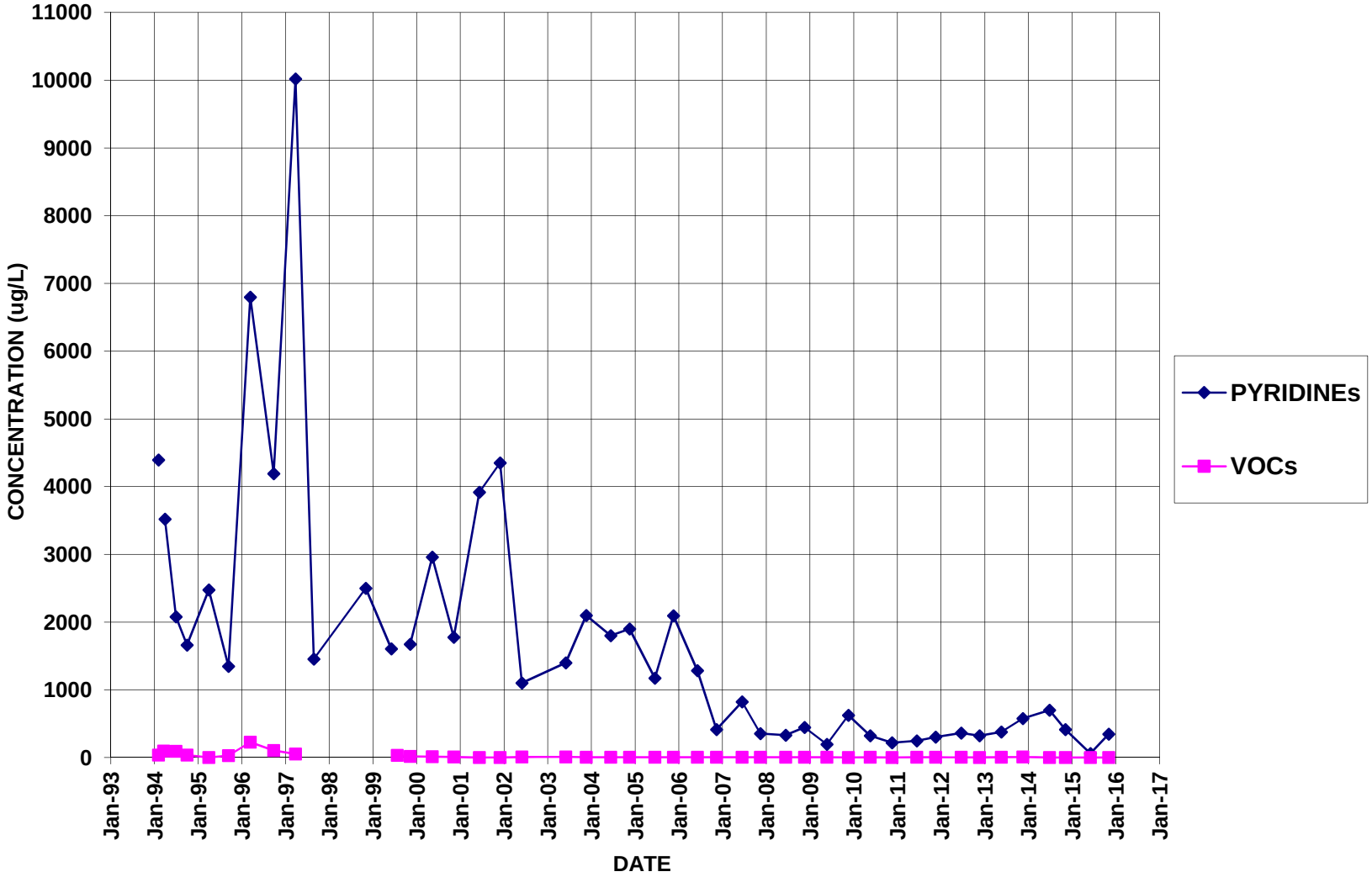
Appendix B

Well Trend Data



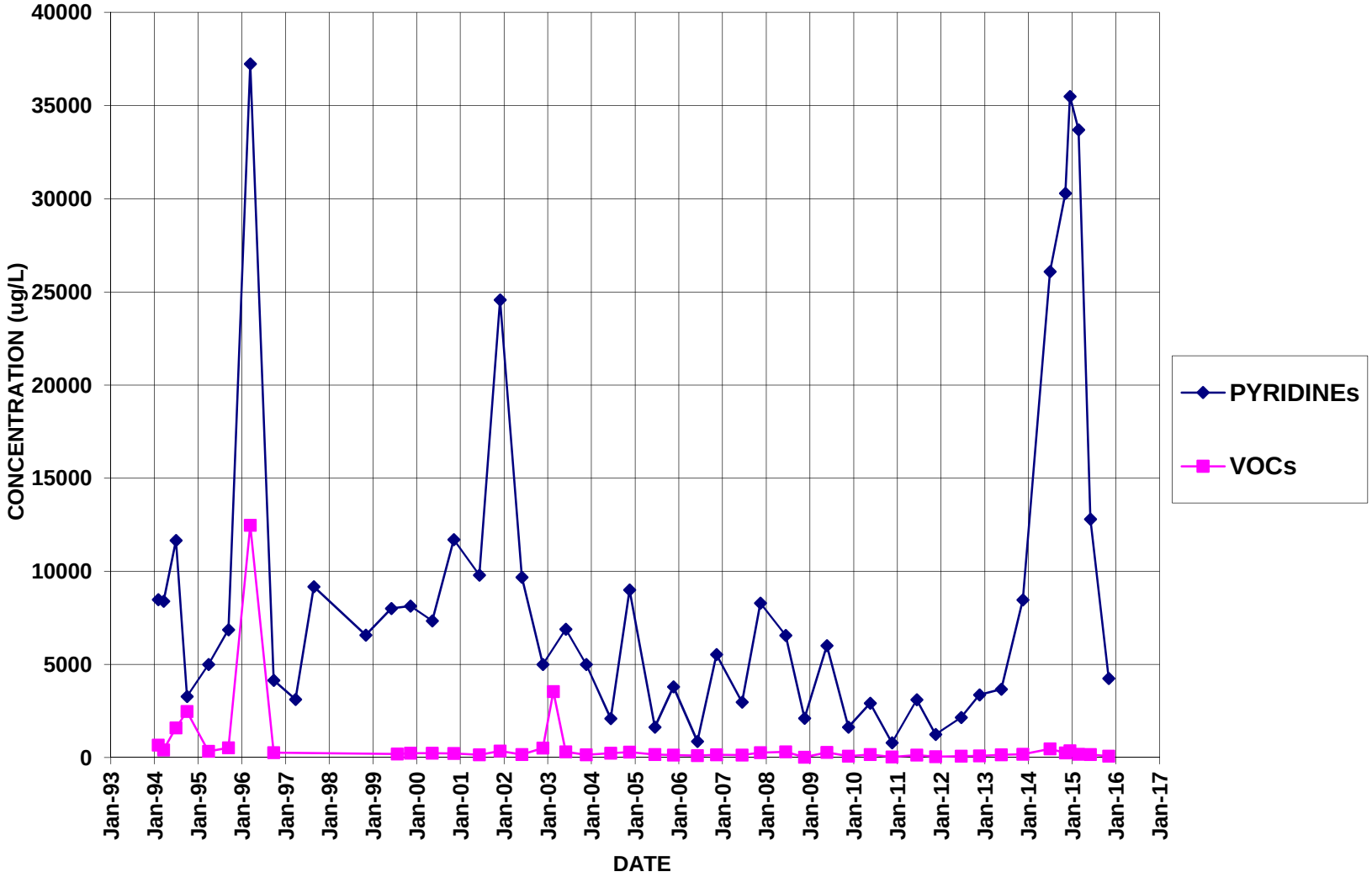
Prepared by: nmb
Reviewed by: jeb

BR-105D



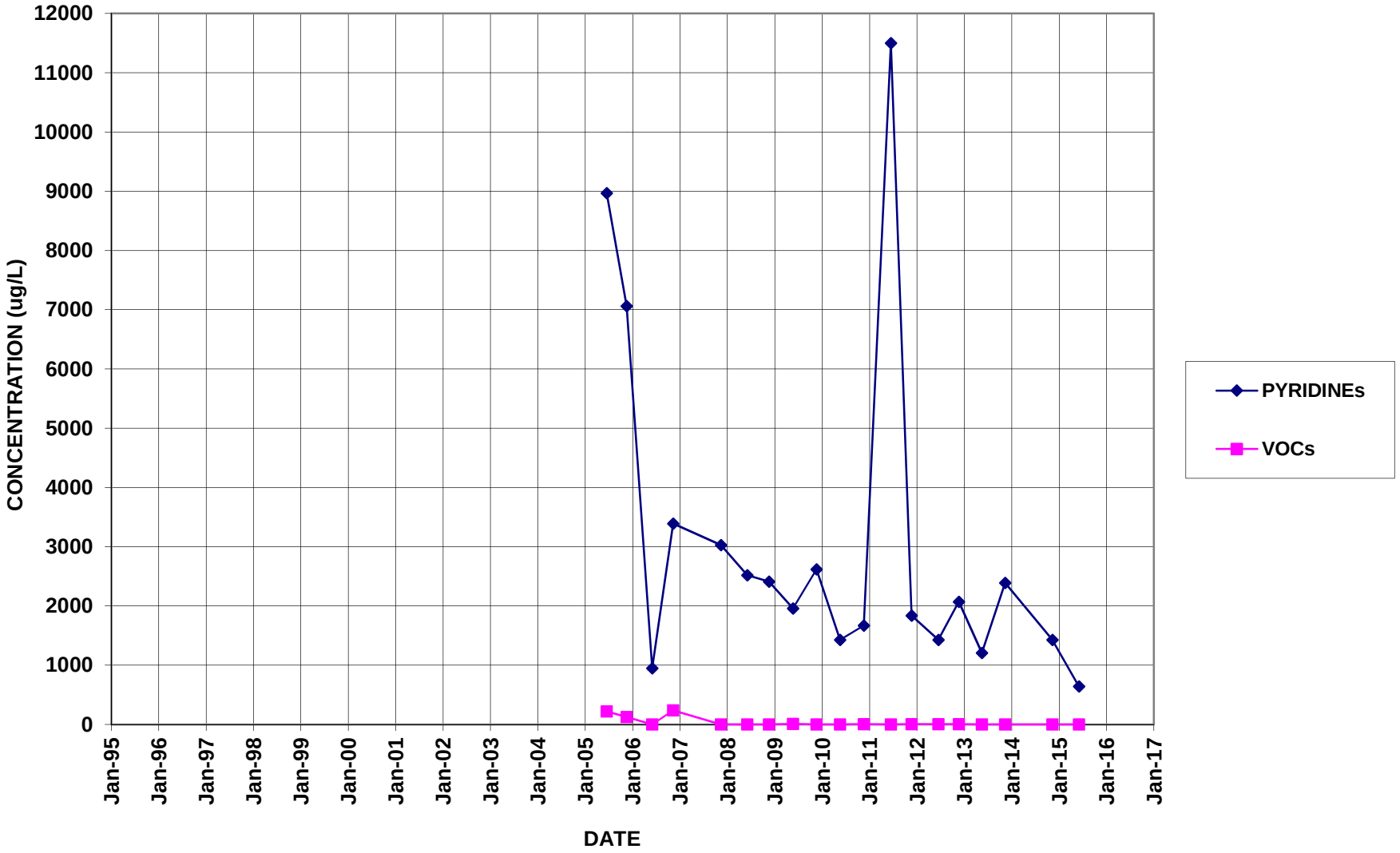
Prepared by: nmb
Reviewed by: jeb

BR-106



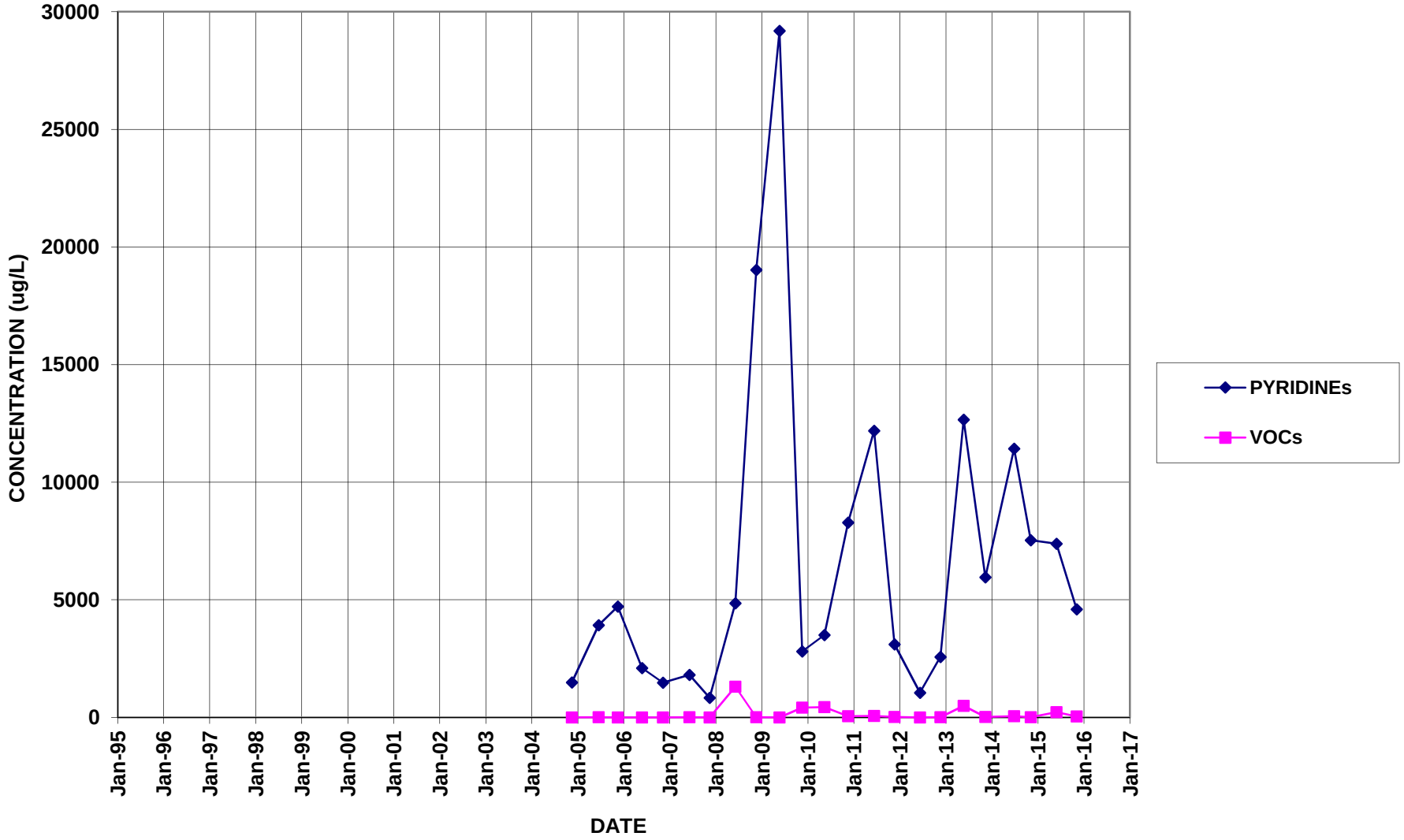
Prepared by: nmb
Reviewed by: jeb

BR-126



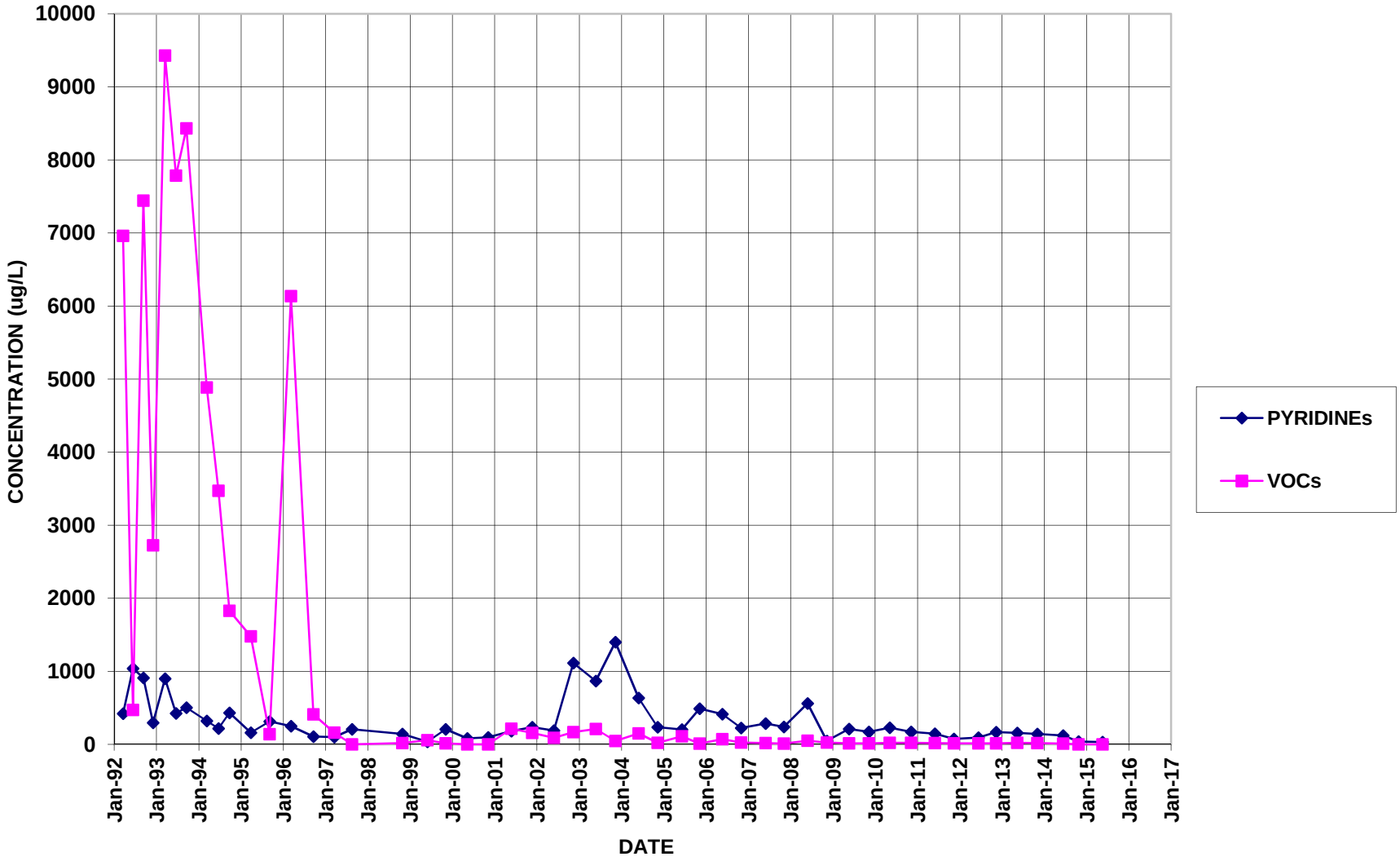
Prepared by: nmb
Reviewed by: jeb

BR-127



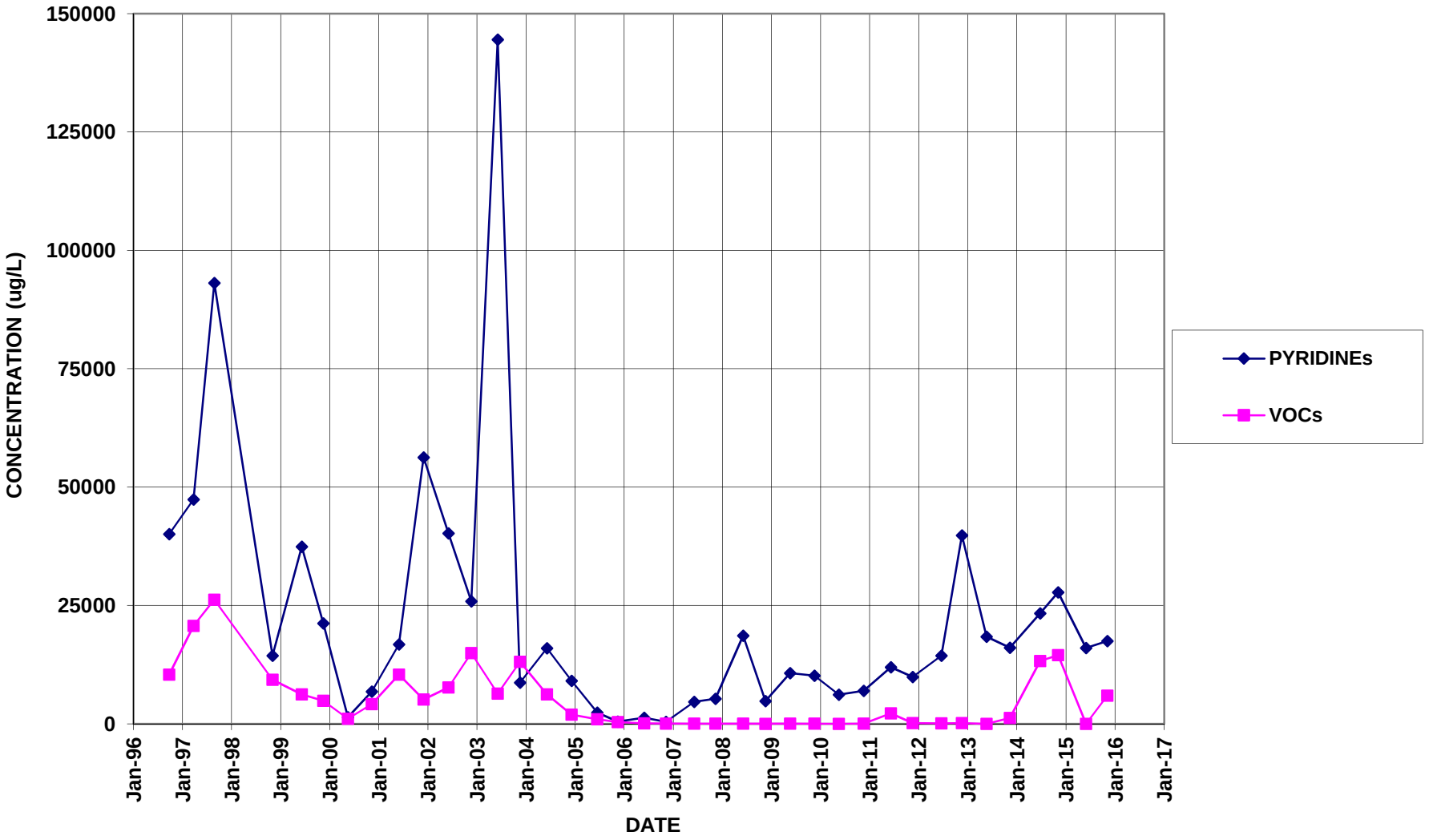
Prepared by: nmb
Reviewed by: jeb

BR-5A



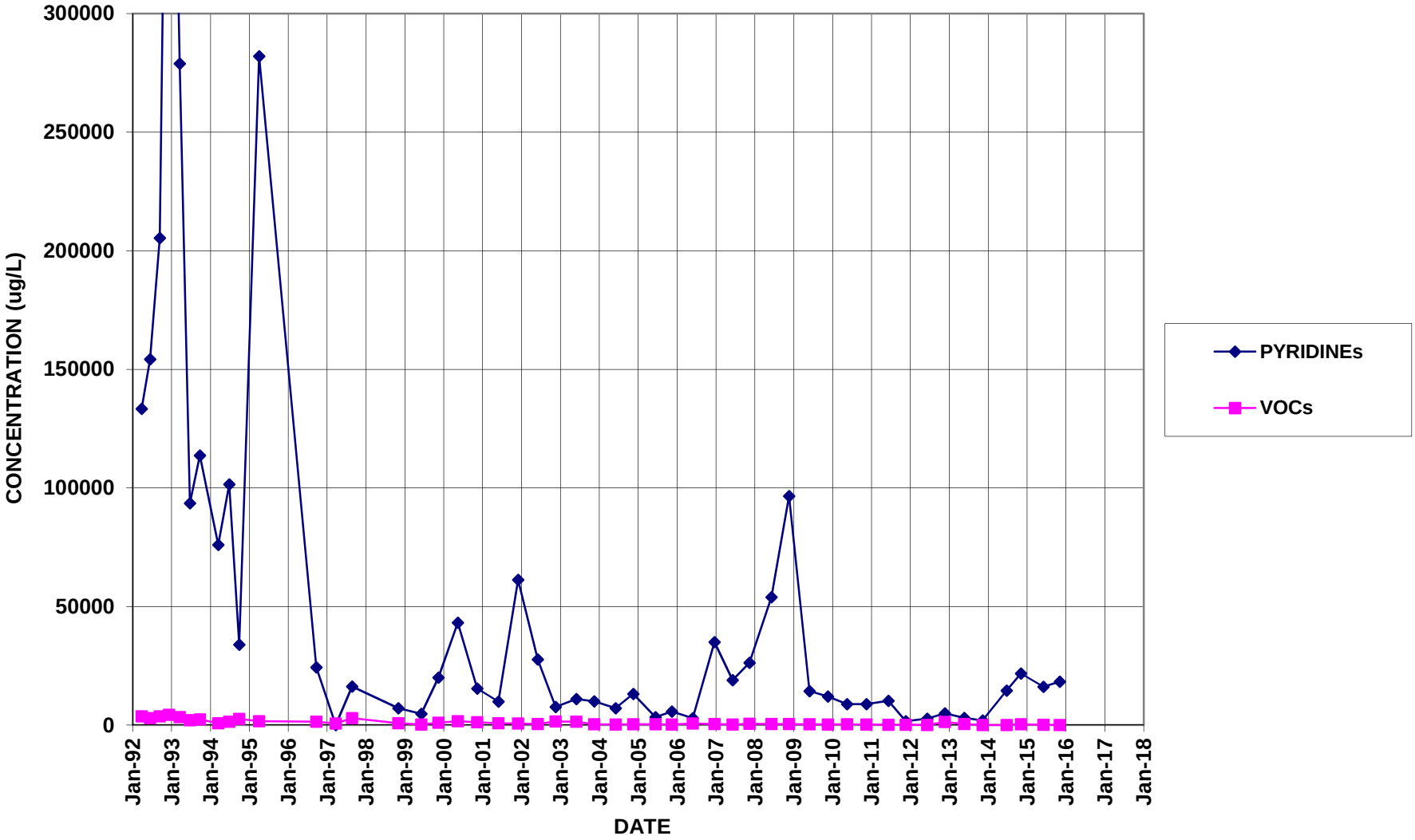
Prepared by: nmb
Reviewed by: jeb

BR-6A



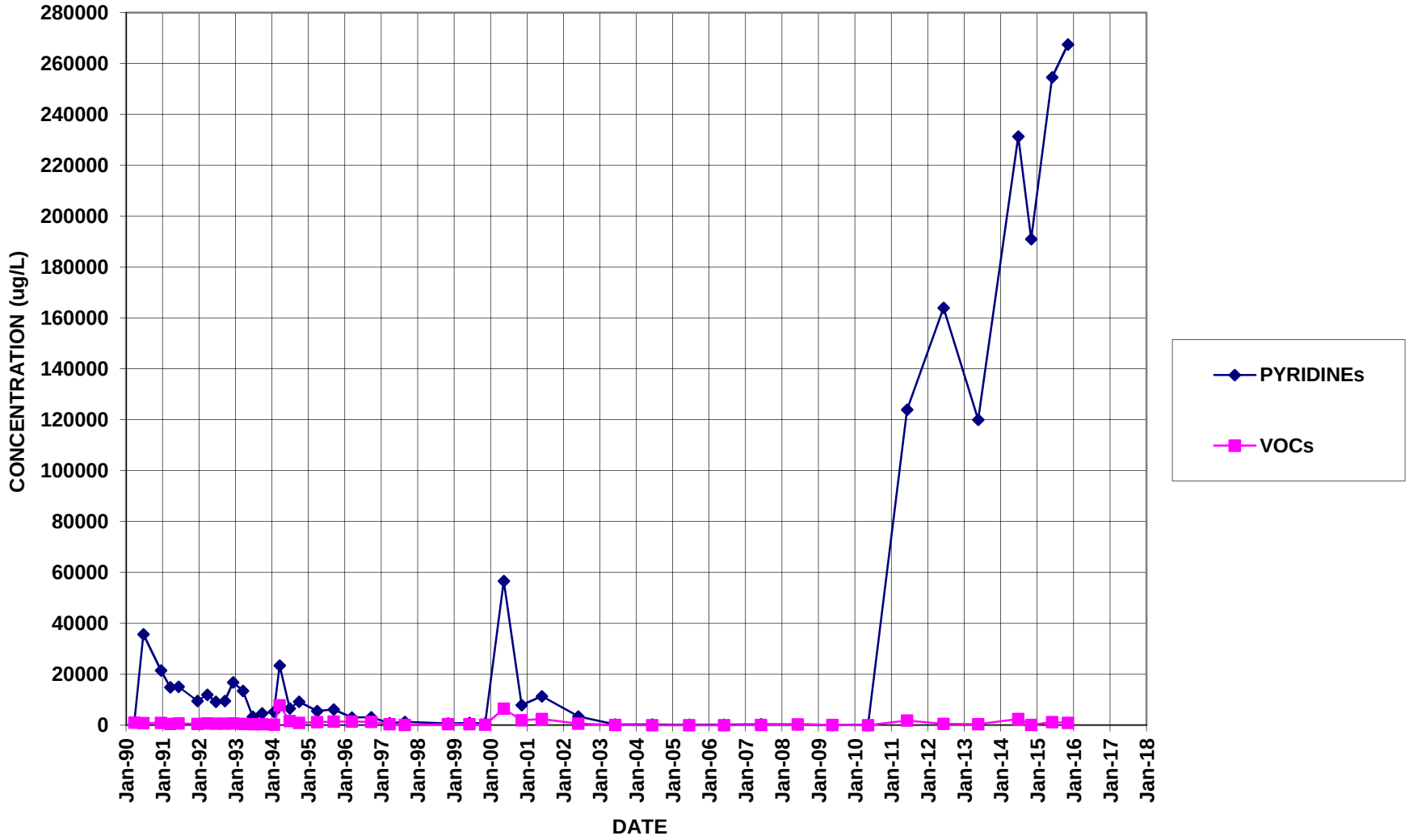
Prepared by: nmb
Reviewed by: jeb

BR-7A



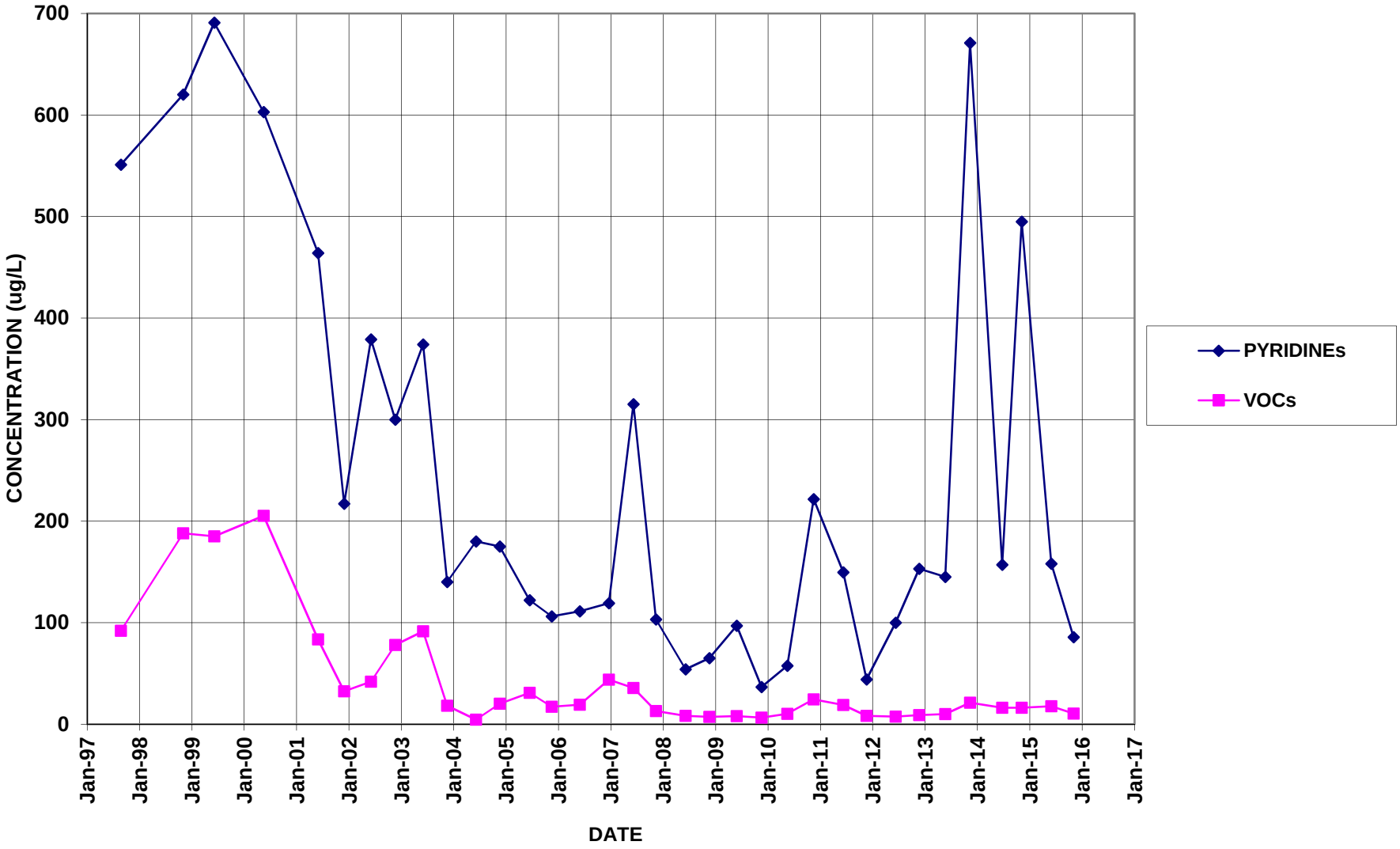
Prepared by: nmb
Reviewed by: jeb

BR-8



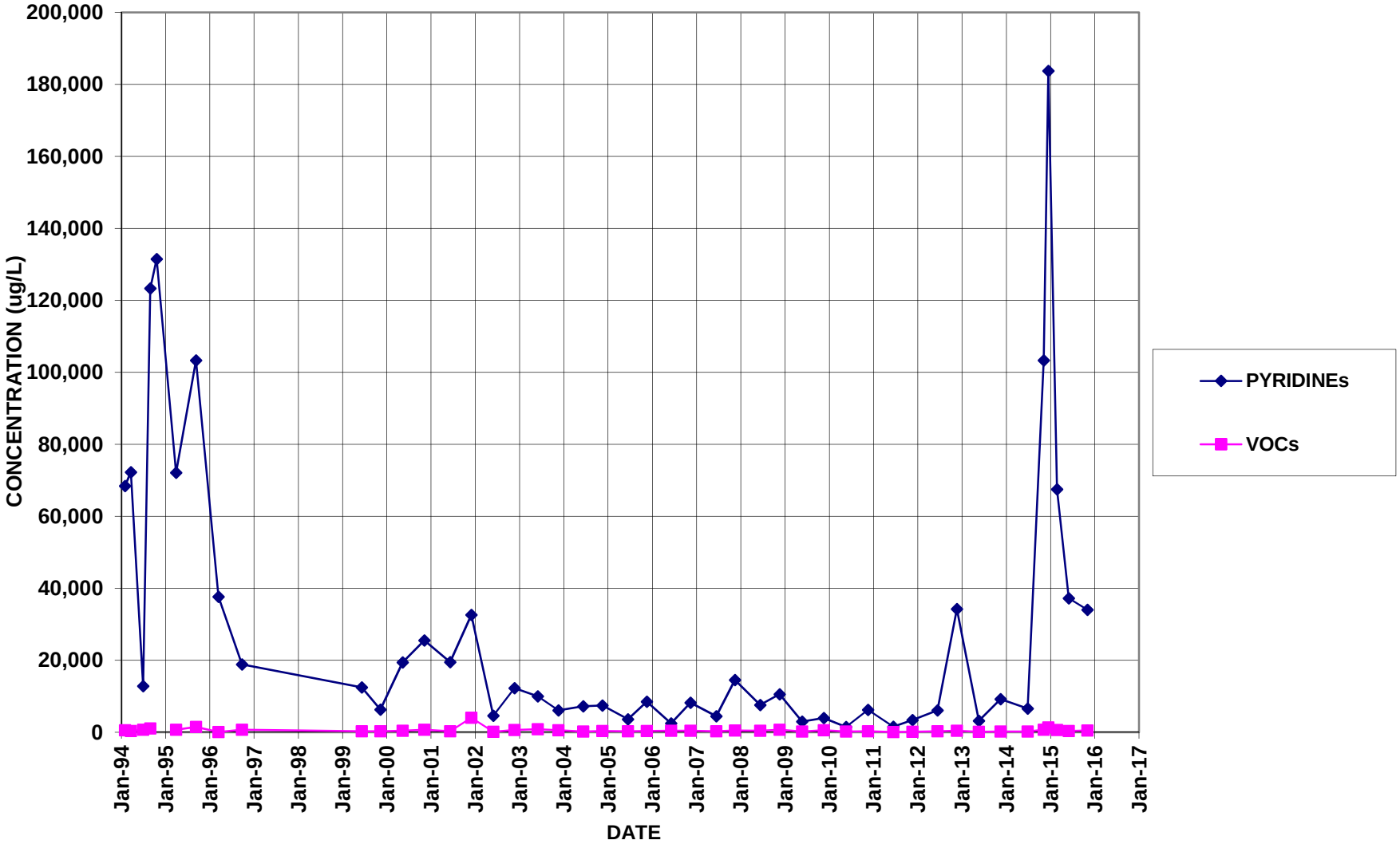
Prepared by: nmb
Reviewed by: jeb

BR-9



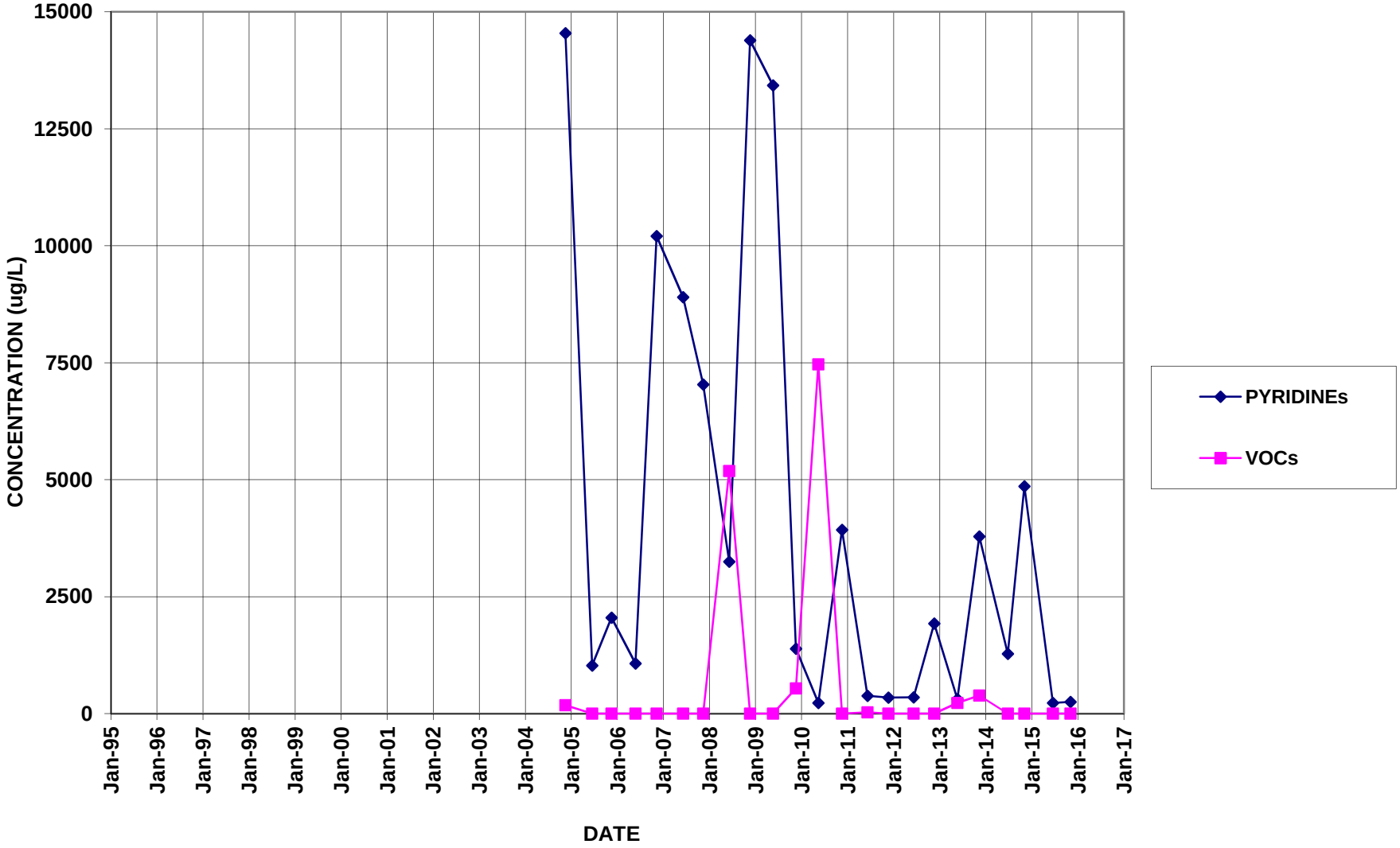
Prepared by: nmb
Reviewed by: jeb

MW-106



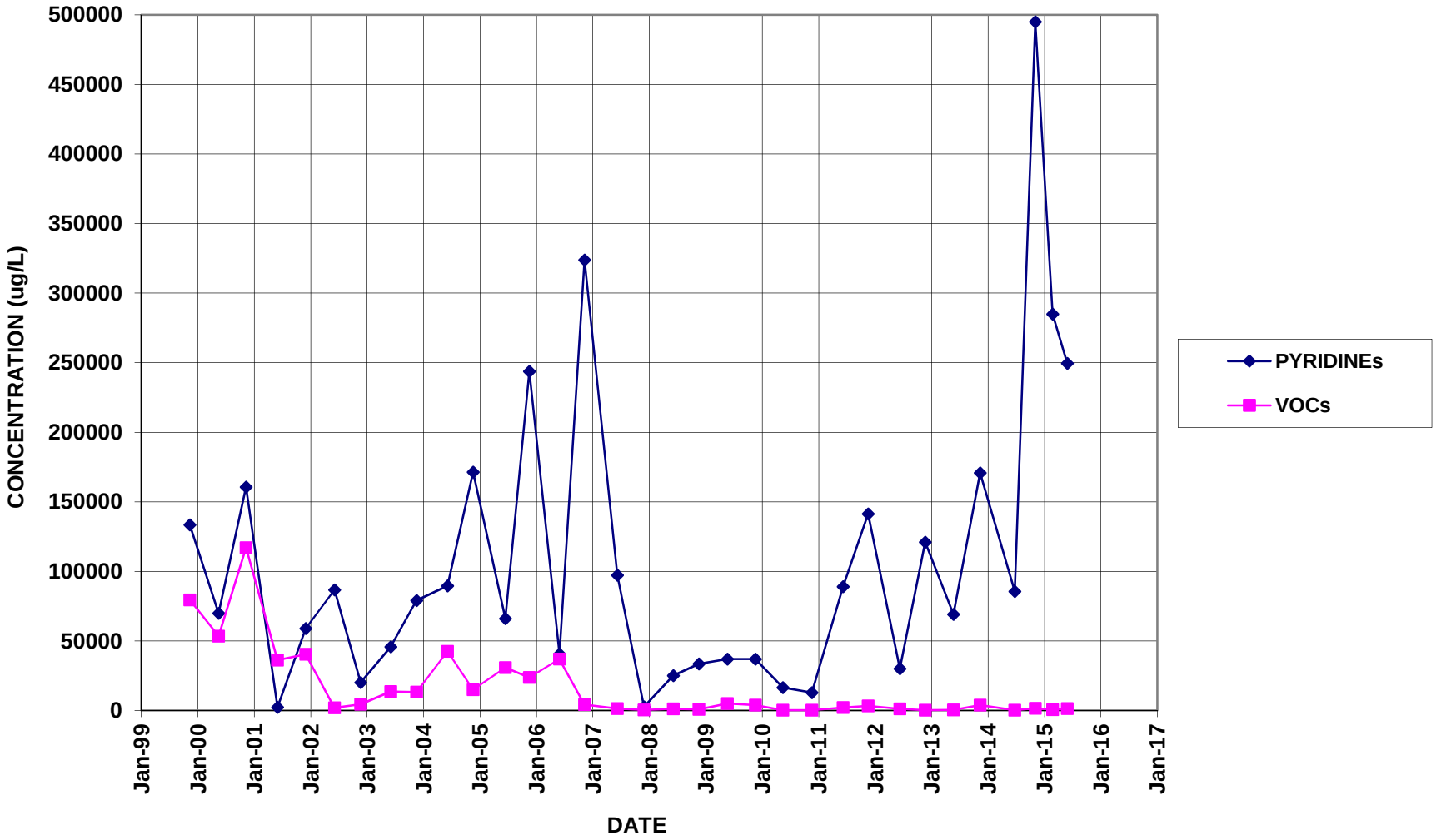
Prepared by: nmb
Reviewed by: jeb

MW-127



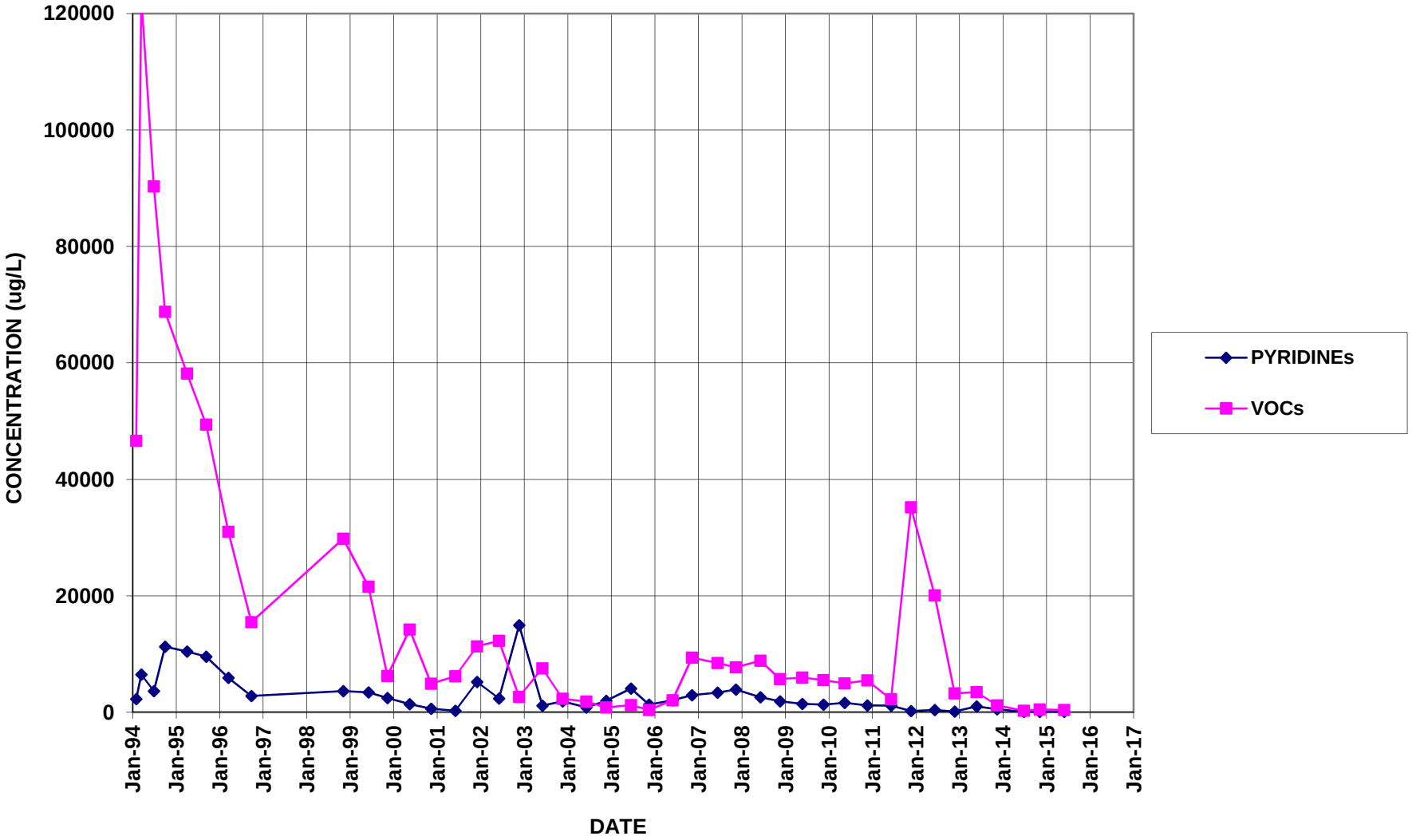
Prepared by: nmb
Reviewed by: jeb

PW10



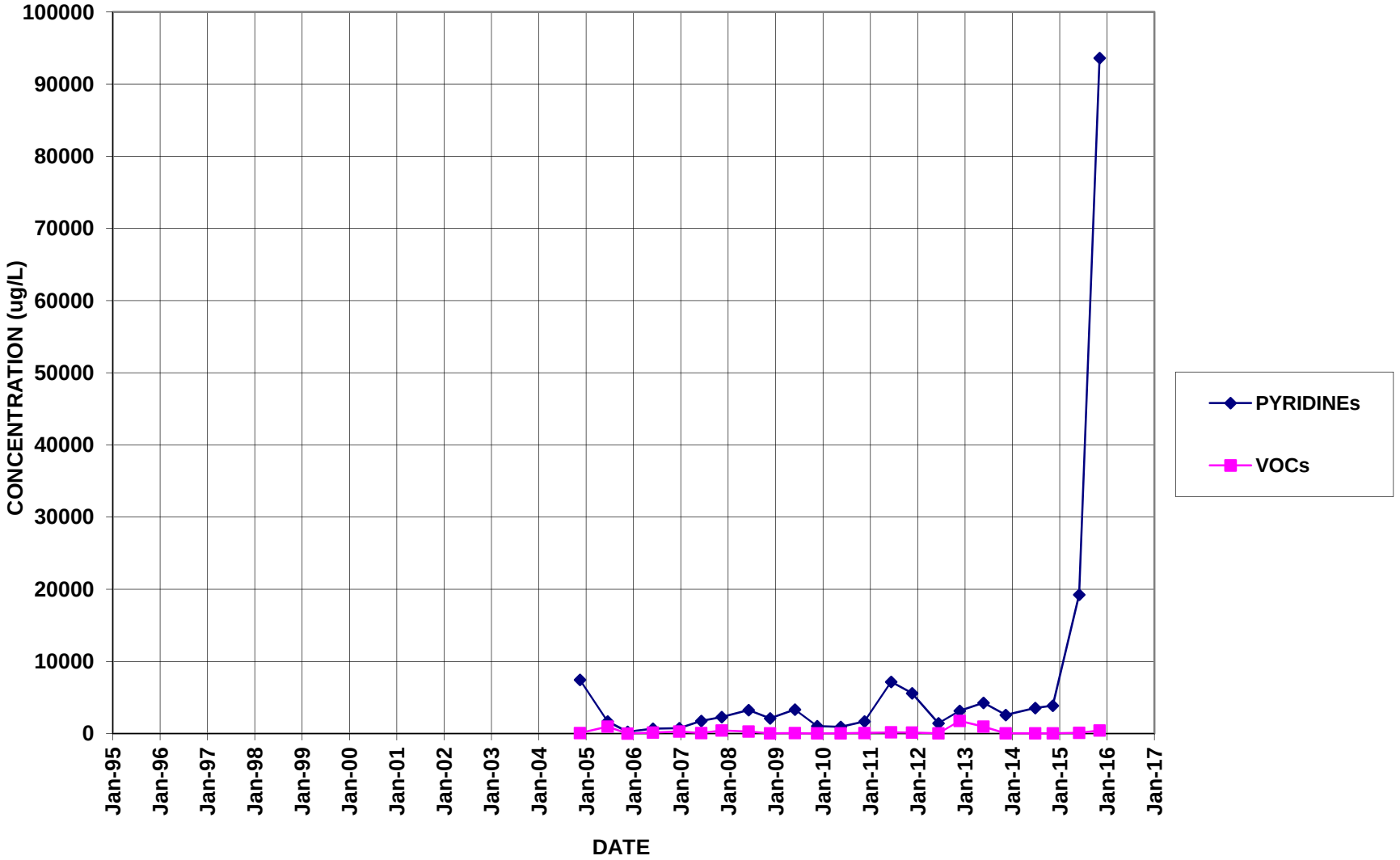
Prepared by: nmb
Reviewed by: jeb

PW12 (Formerly BR-101)



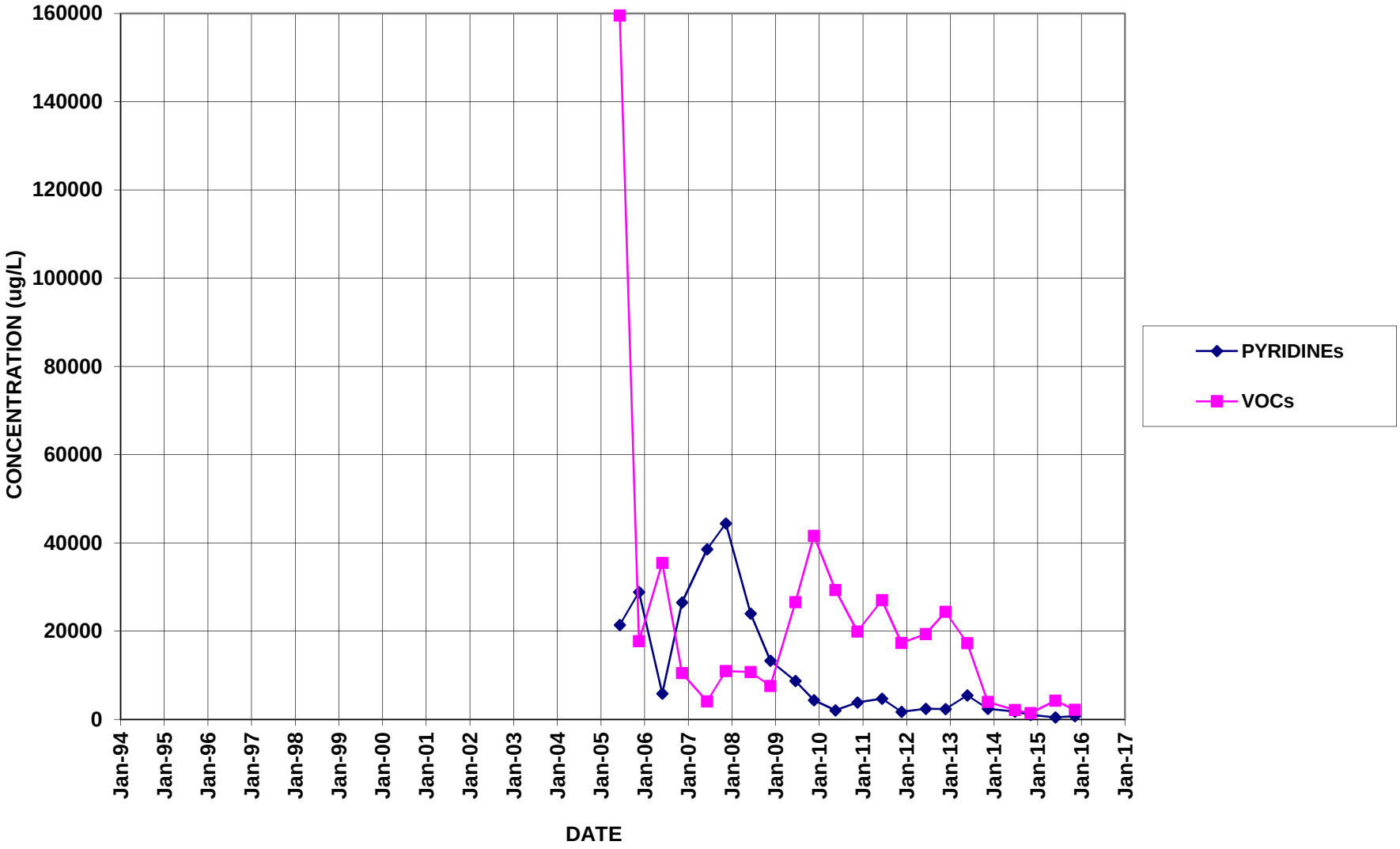
Prepared by: nmb
Reviewed by: jeb

PW13



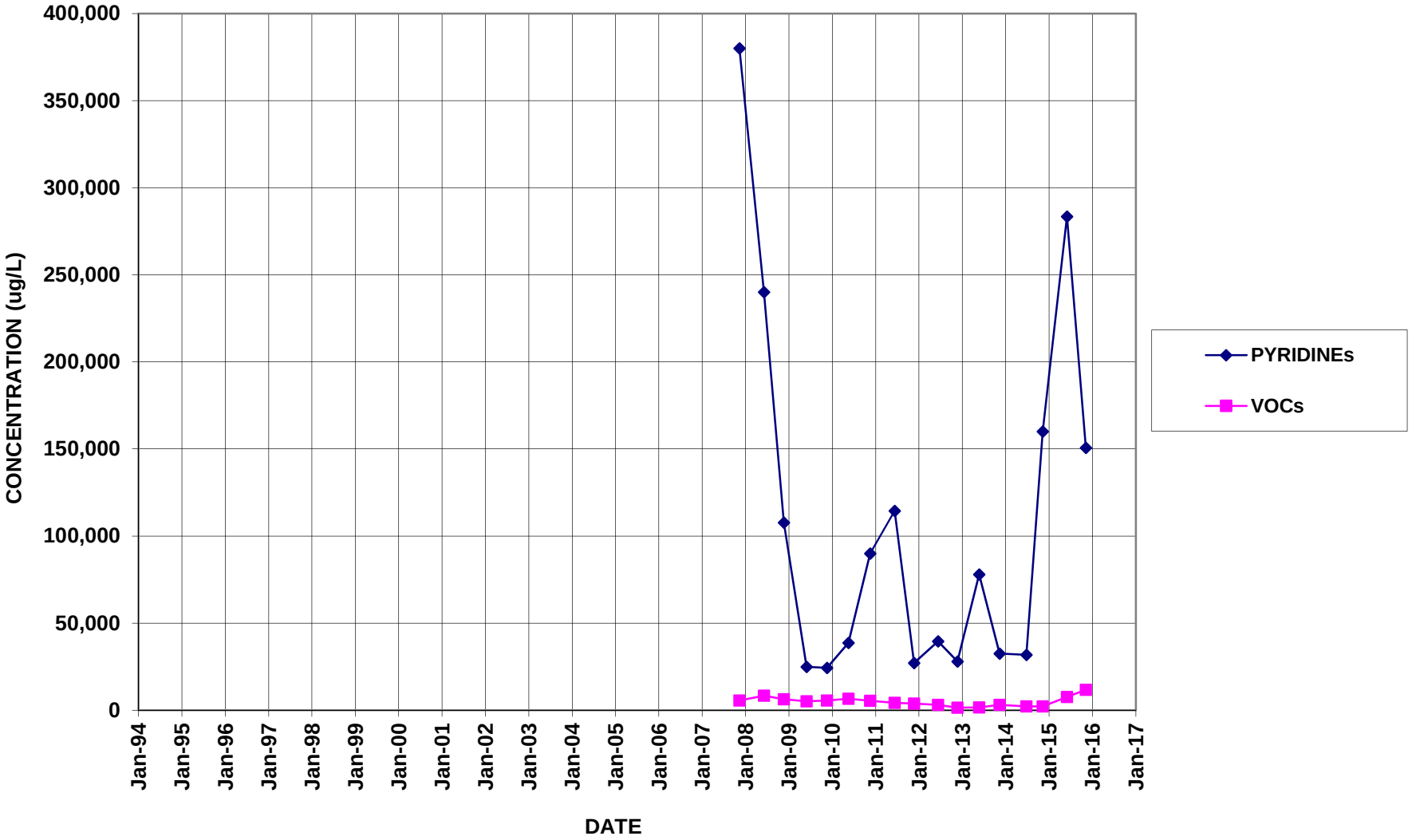
Prepared by: nmb
Reviewed by: jeb

PW14



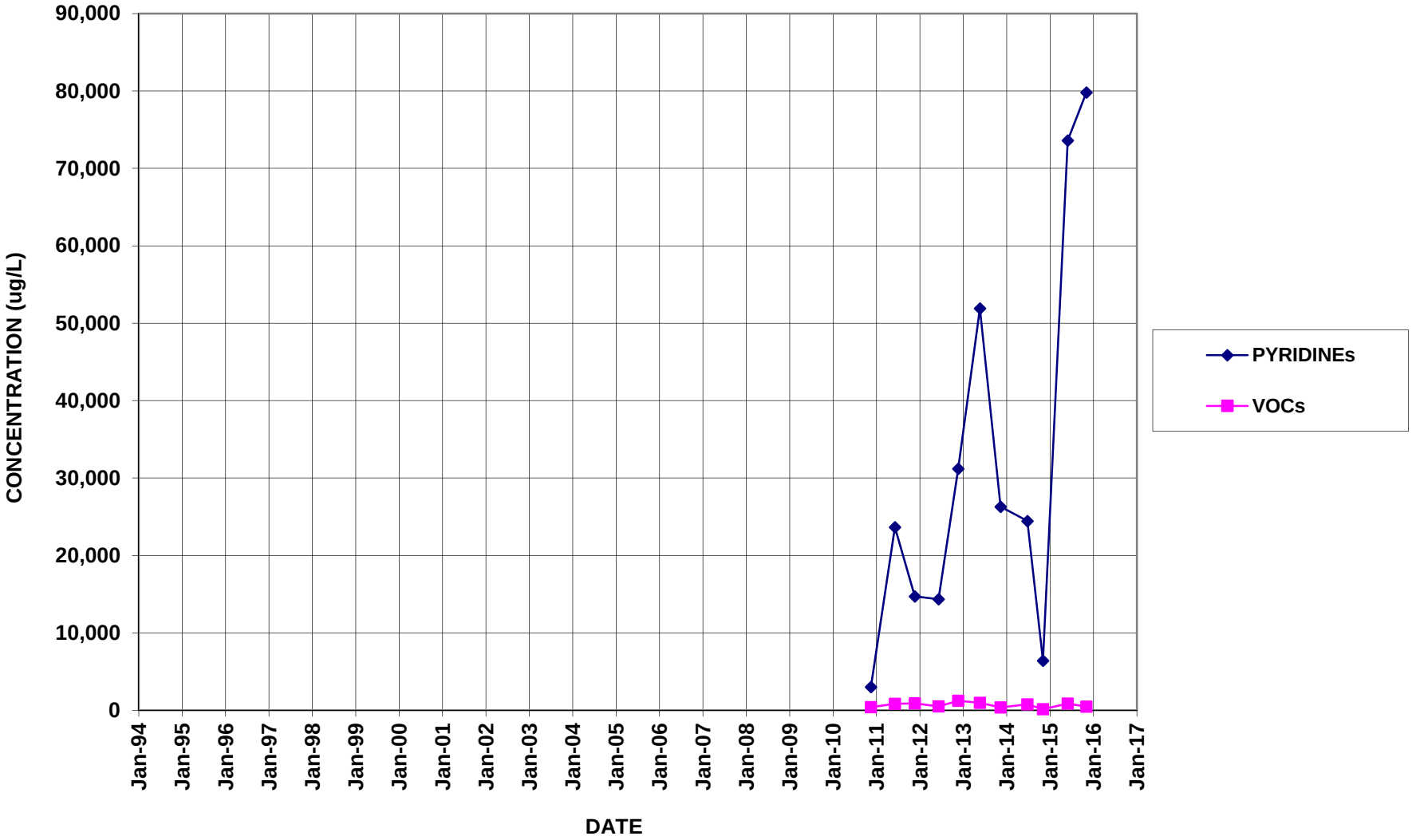
Prepared by: nmb
Reviewed by: jeb

PW15



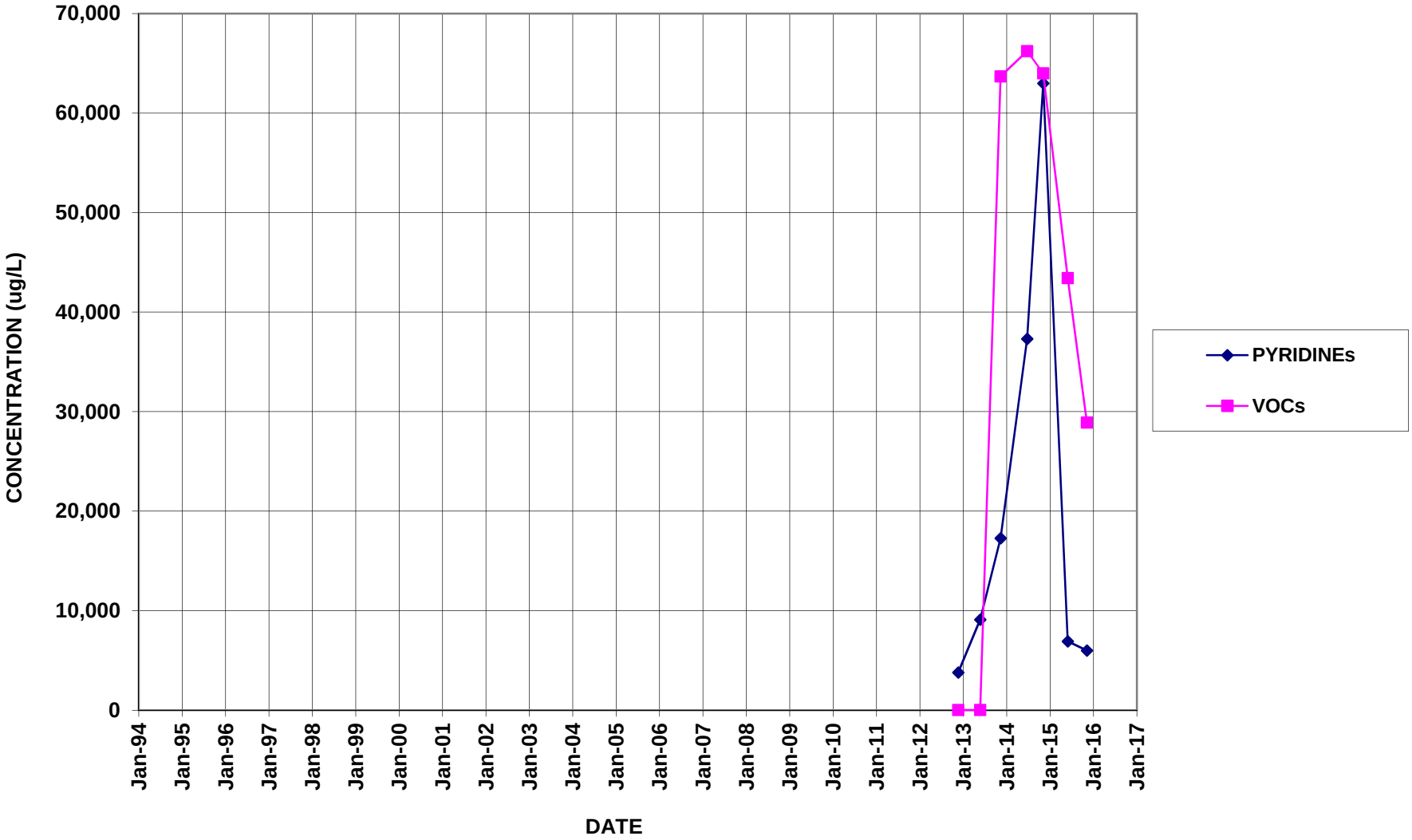
Prepared by: nmb
Reviewed by: jeb

PW16



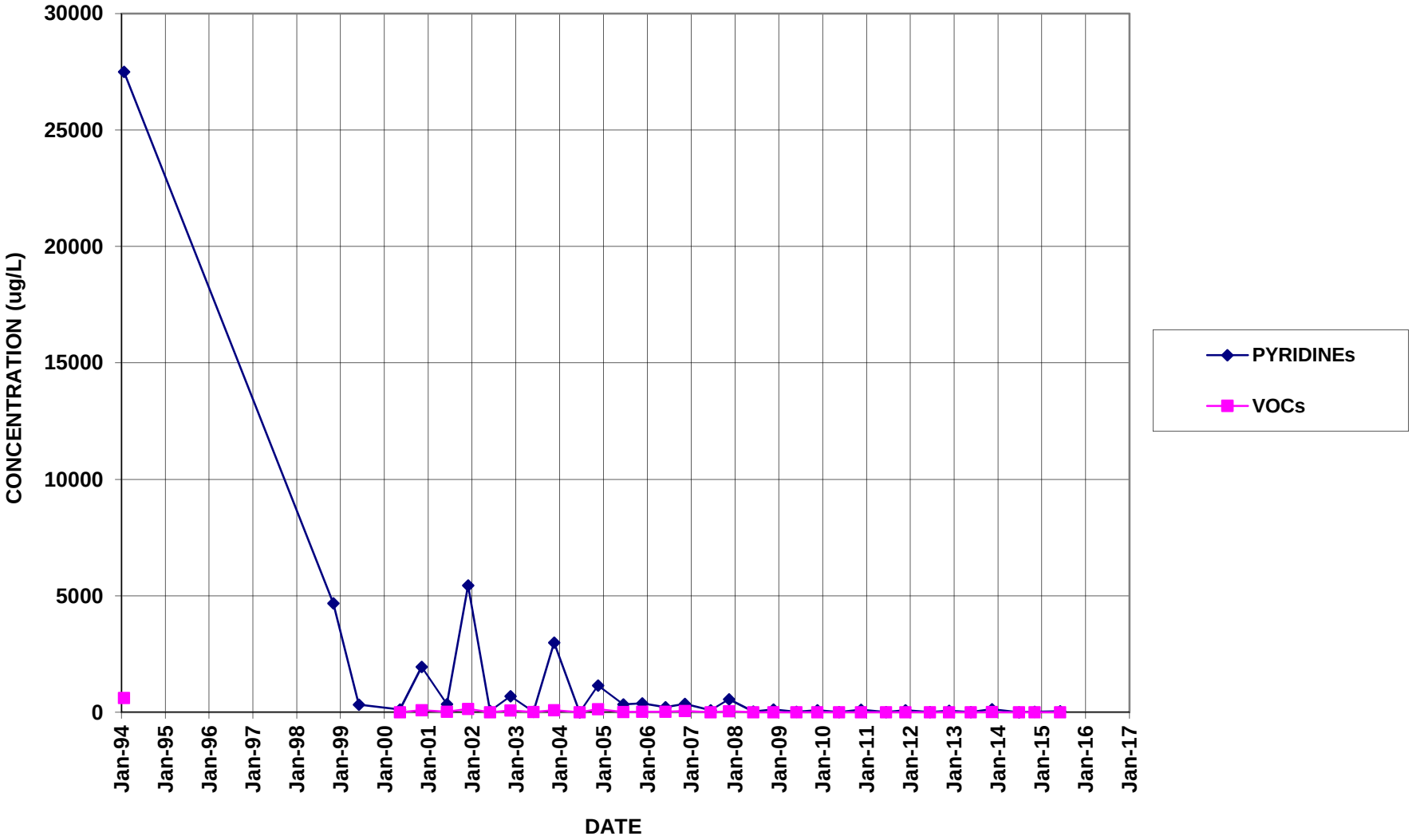
Prepared by: nmb
Reviewed by: jeb

PW17



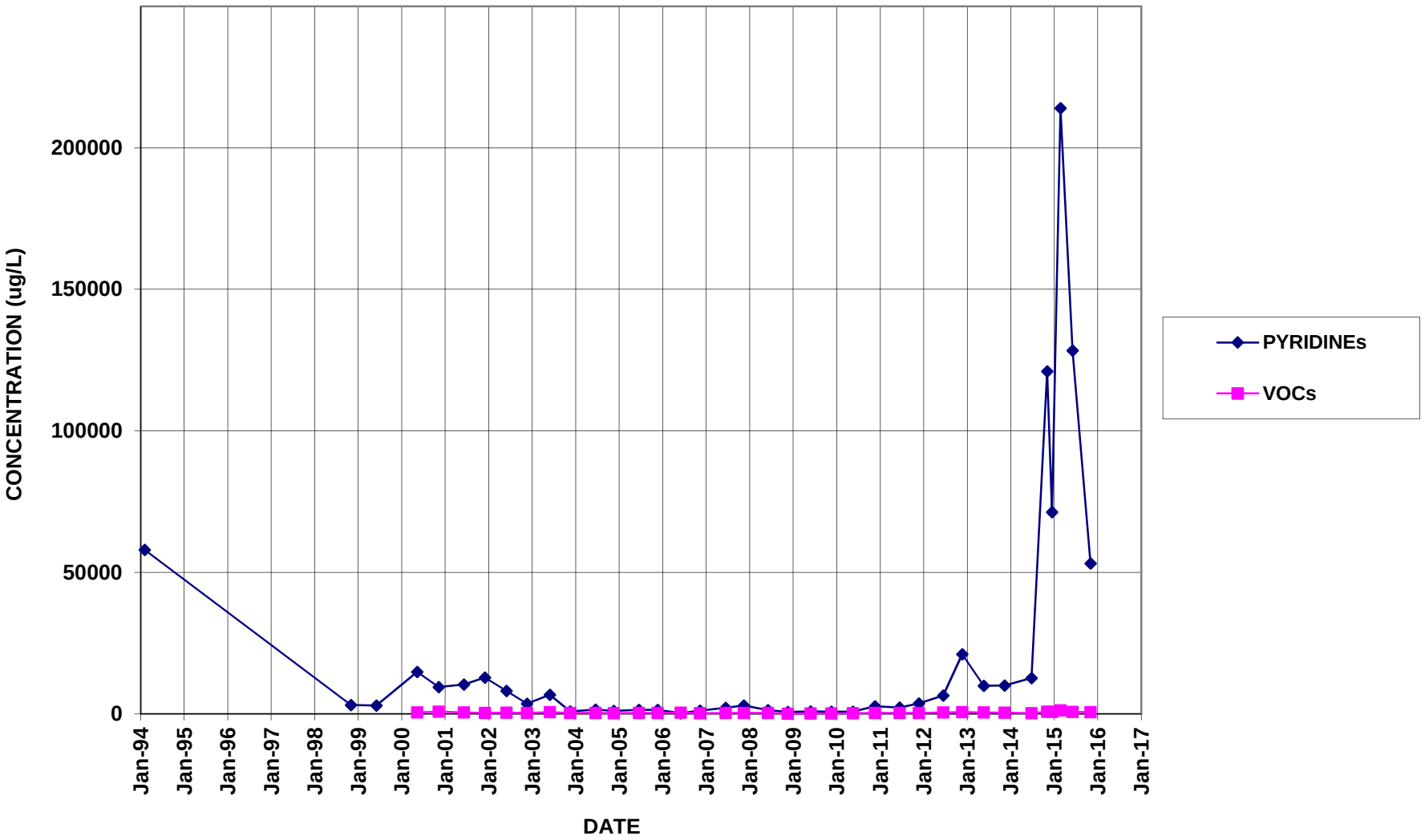
Prepared by: nmb
Reviewed by: jeb

PZ-101



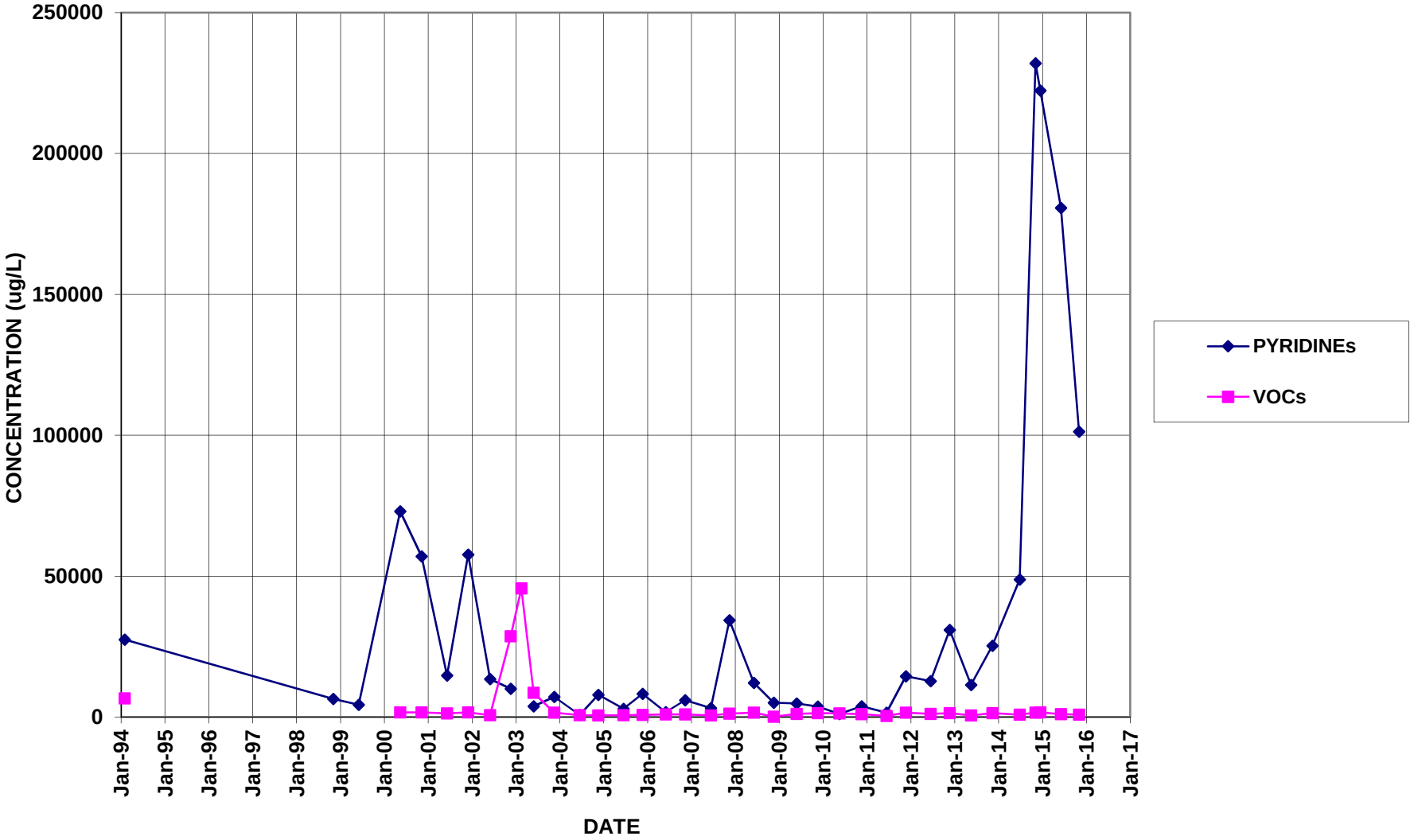
Prepared by: nmb
Reviewed by: jeb

PZ-102



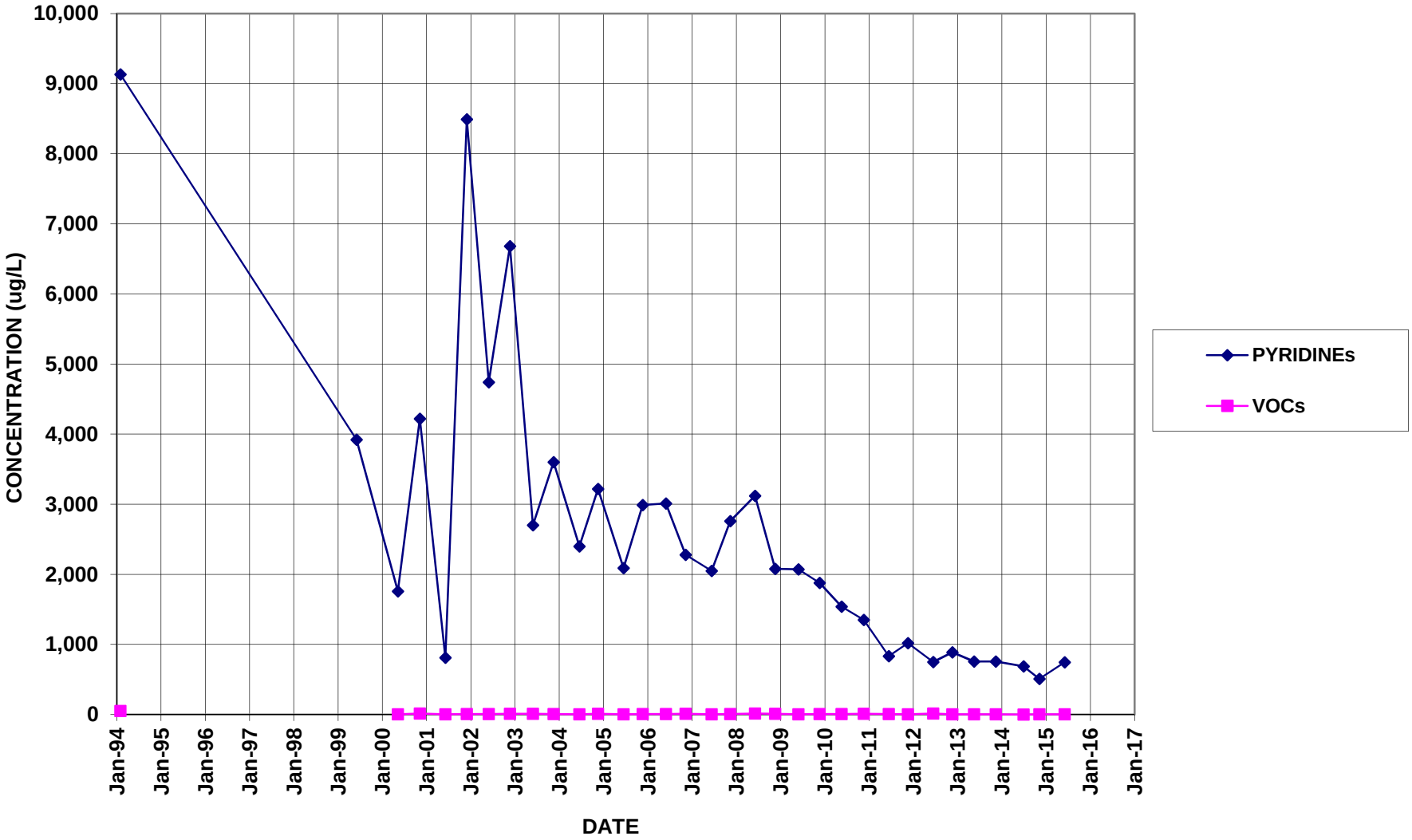
Prepared by: nmb
Reviewed by: jeb

PZ-103



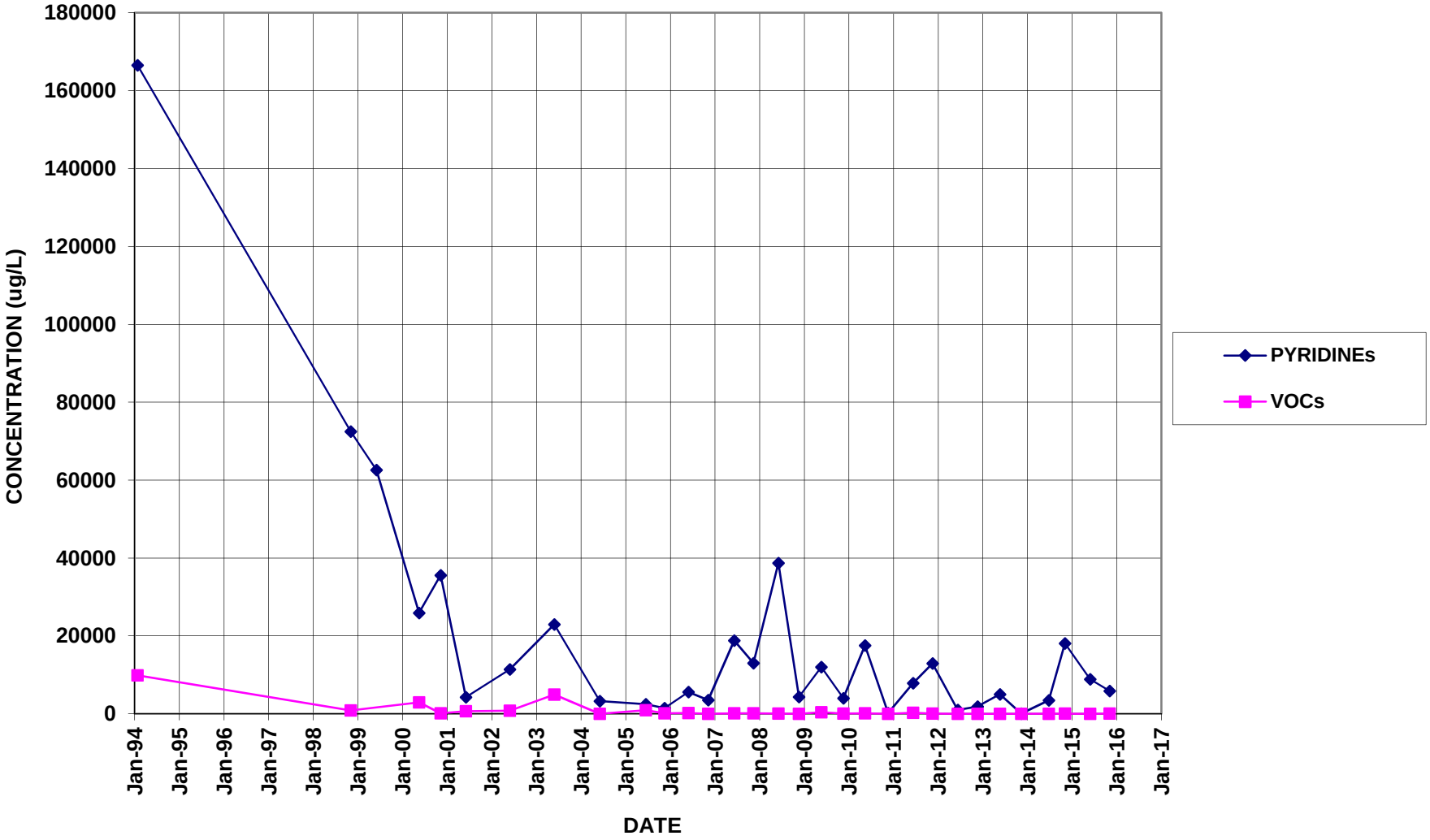
Prepared by: nmb
Reviewed by: jeb

PZ-104



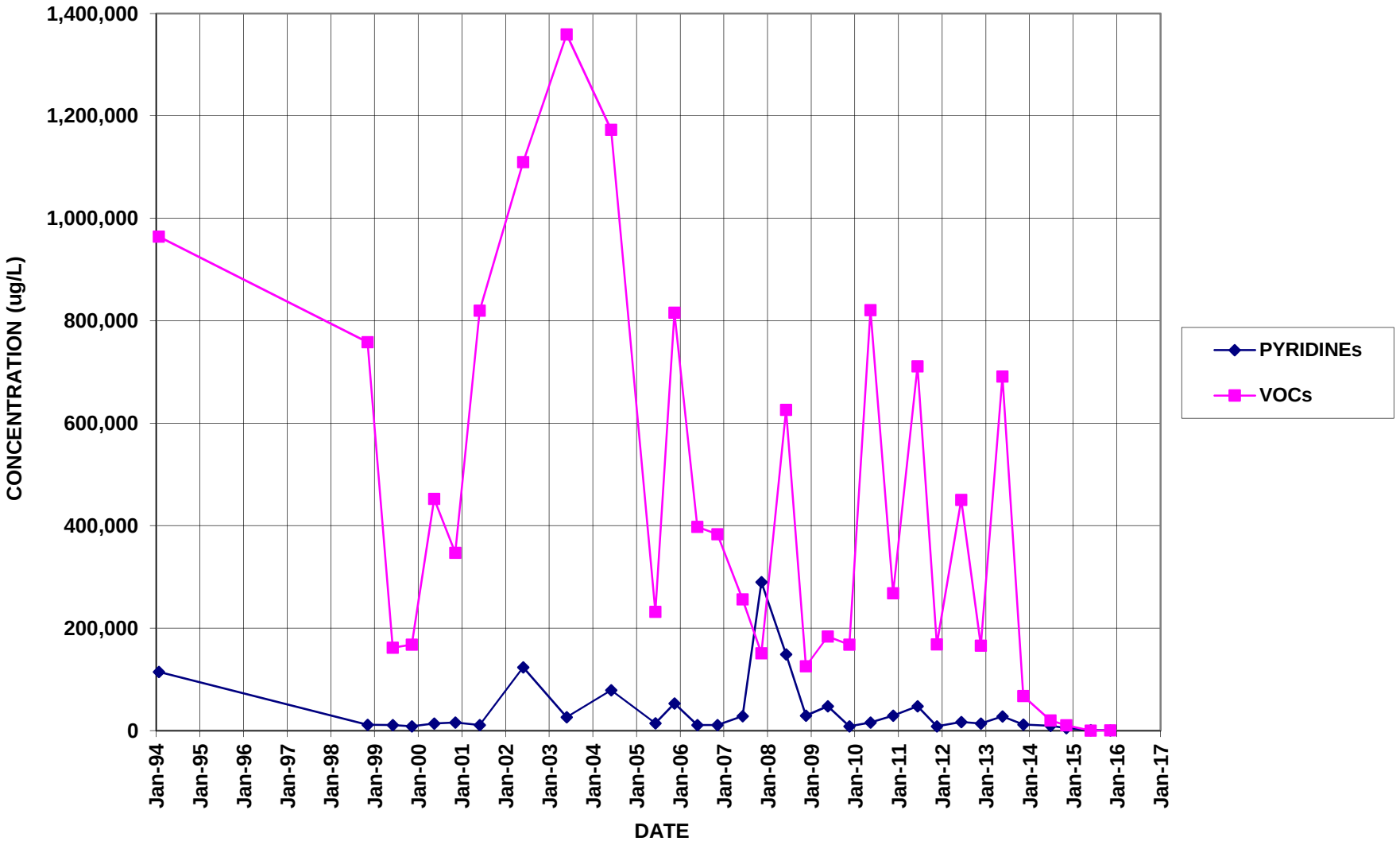
Prepared by: nmb
Reviewed by: jeb

PZ-105



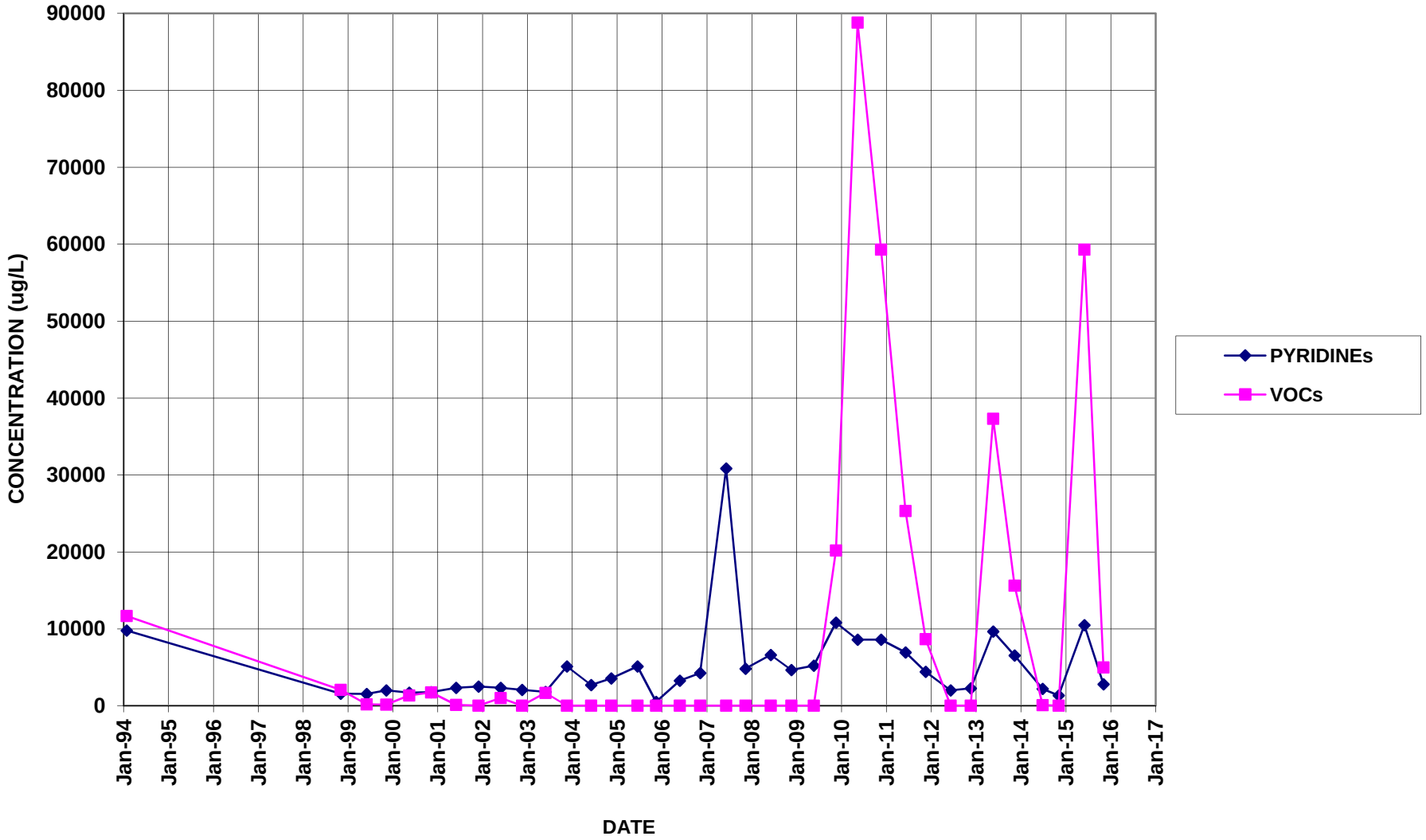
Prepared by: nmb
Reviewed by: jeb

PZ-106

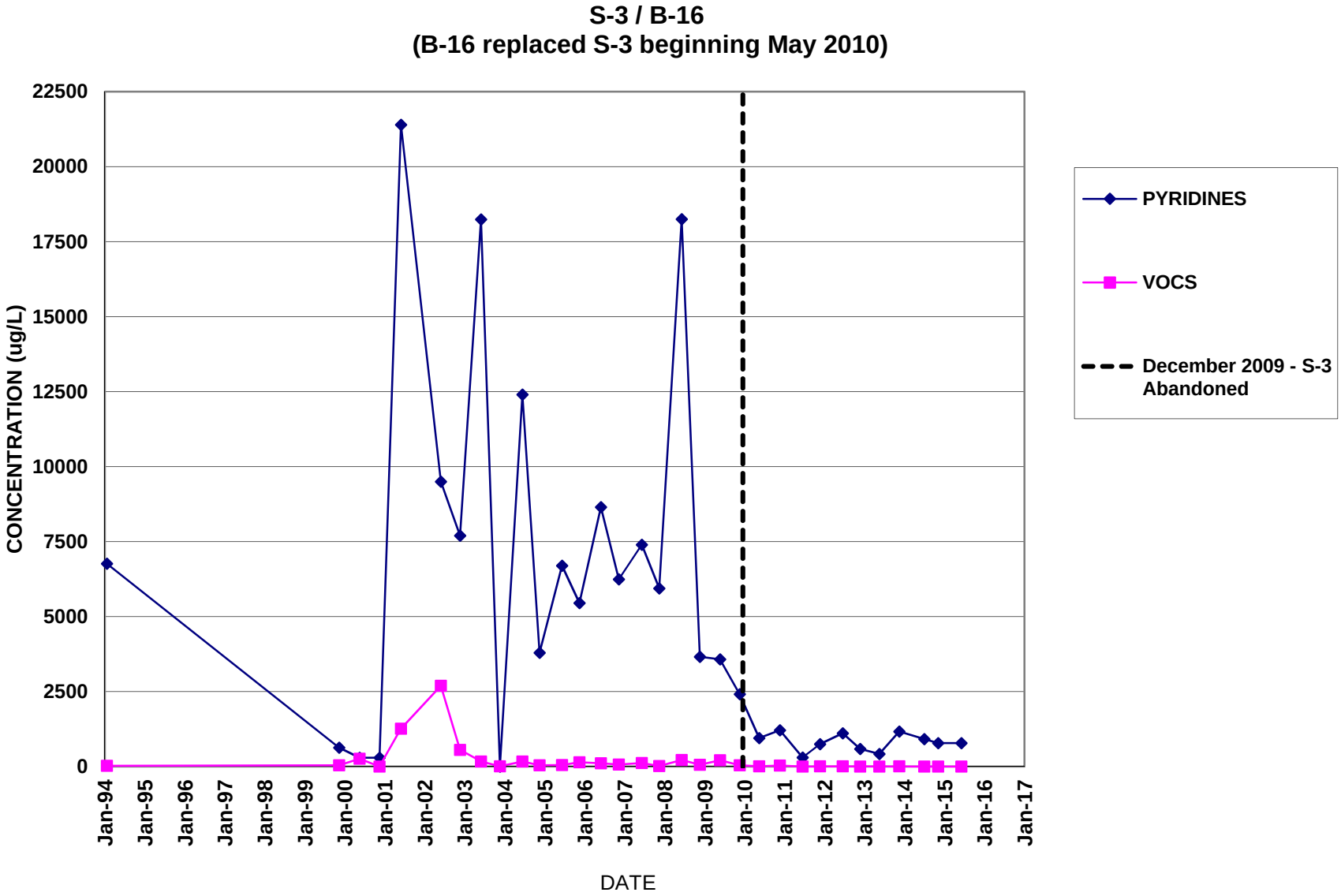


Prepared by: nmb
Reviewed by: jeb

PZ-107

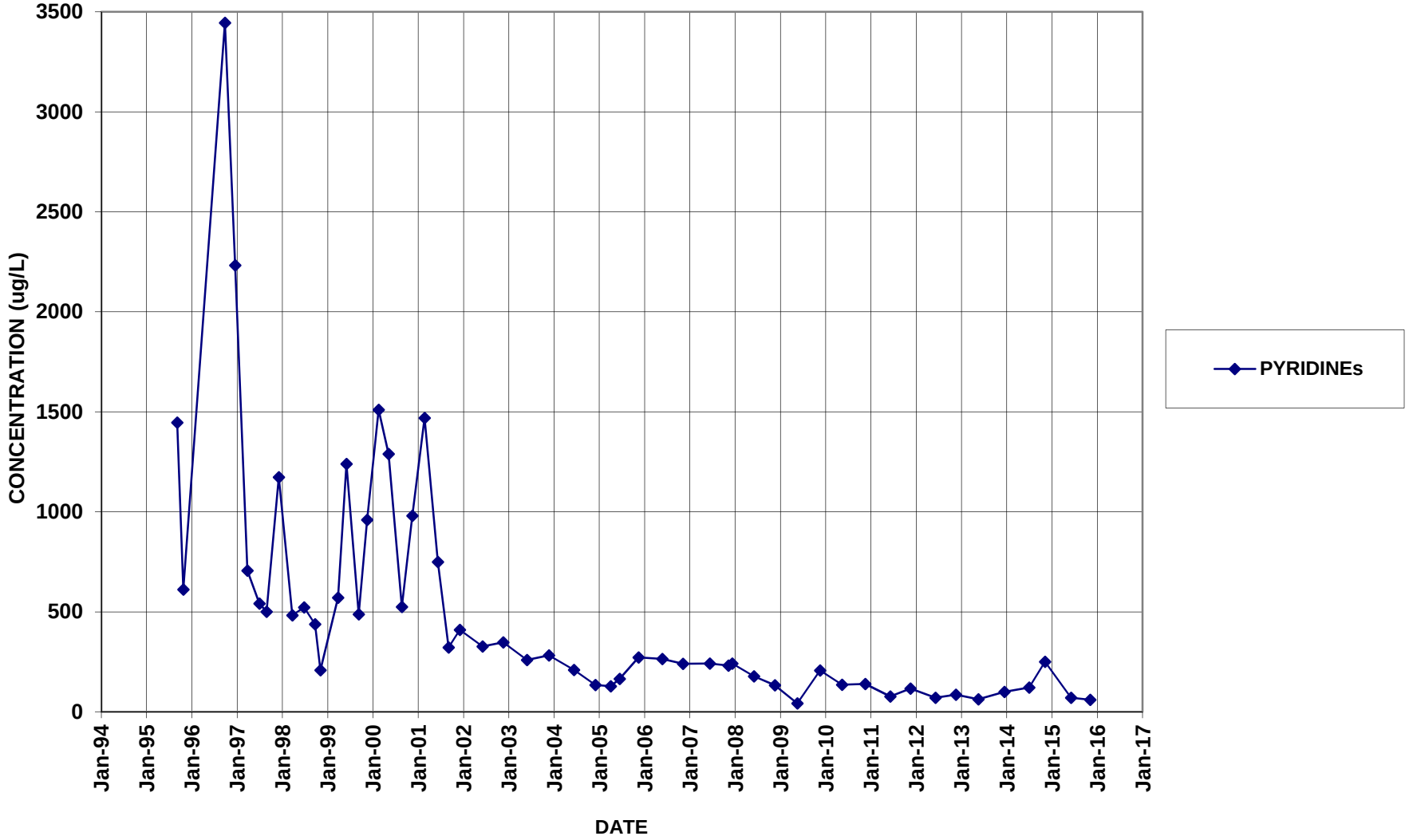


Prepared by: nmb
Reviewed by: jeb



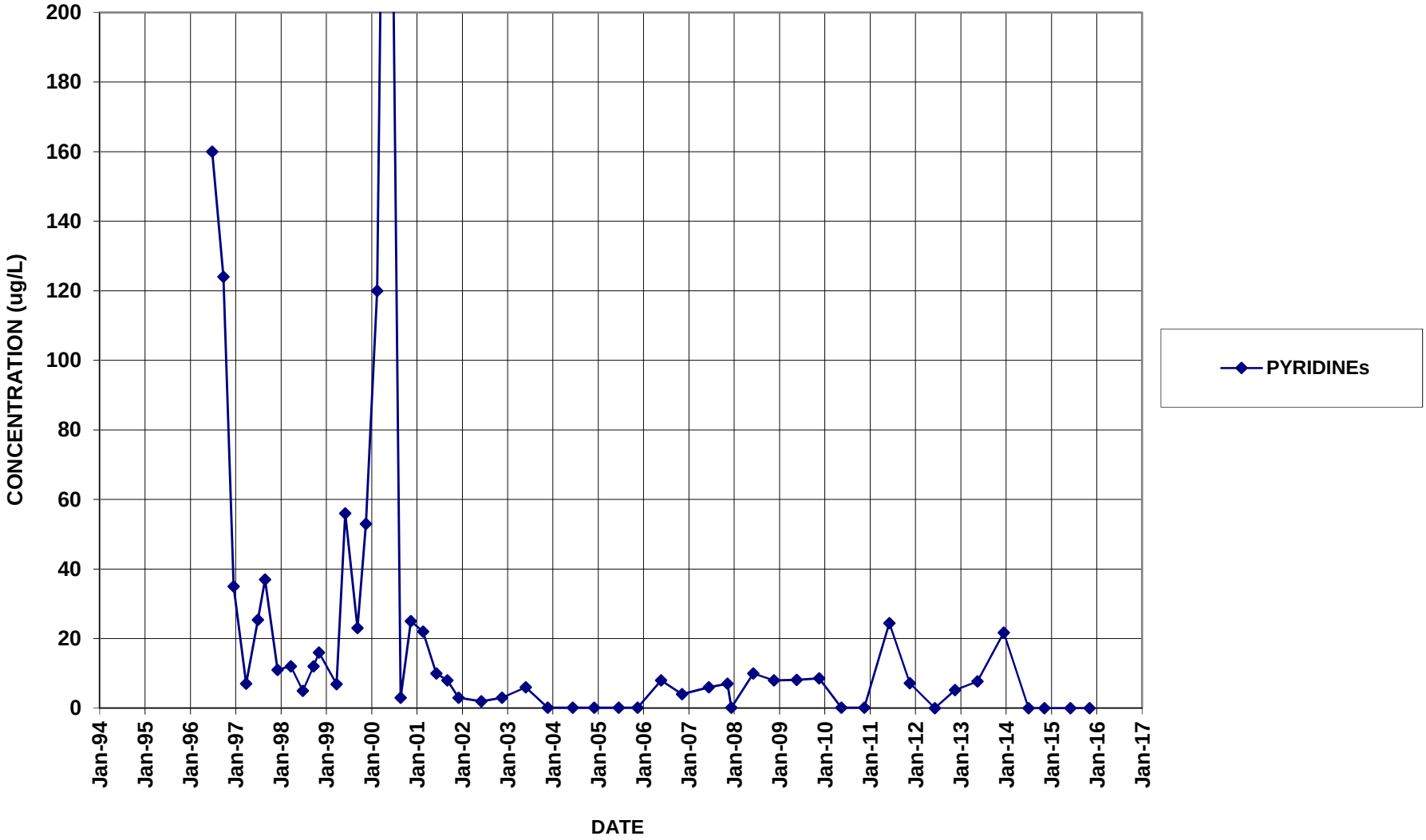
Prepared by: nmb
Reviewed by: jeb

QS-4 (QUARRY SEEP)



Prepared by: nmb
Reviewed by: jeb

QO-2 (QUARRY OUTFALL)



Prepared by: nmb
Reviewed by: jeb