SURFACE WATER AND GROUNDWATER MONITORING PROGRAM
SPRING 2015 MONITORING REPORT

ARCH CHEMICALS
ROCHESTER PLANT SITE
ROCHESTER, NEW YORK

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

AUGUST 2015

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SPRING 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)

August 2015

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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 Spring 2015, samples from a total of 44 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. Sixteen of the 44 wells sampled for chloropyridines had contaminant concentrations that were above their respective 5-year prior averages. Twelve of the 37 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 70 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 December 2014 through May 2015, the on-site groundwater extraction system pumped approximately 7.9 million gallons of groundwater to the on-site treatment system, containing an estimated 2,800 pounds of chloropyridines and 71 pounds of target volatile organic compounds. This represents a significant increase over the prior 6-month period, both in volume of water pumped and in contaminant mass removed. The increase is due to improvements in pumping well operations implemented by Arch, and an increase in contaminant concentrations observed in pumping wells PW-15 and PW-16.

The next regular monitoring event will occur in November 2015 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 Spring 2015 sampling event included the collection and analysis of a total of 48 groundwater, surface water, and seep samples from off-site and on-site locations. Samples were collected May 29 through June 18, 2015, for analysis of selected chloropyridines and volatile organic compounds (VOCs).

This report presents the results of the Spring 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. It should be noted that wells previously identified as off-site wells on property immediately to the south of the plant are now listed as on-site wells. Lonza acquired the former American Recycling & Manufacturing property in 2014.

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 May 28, 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 June 5, 2015. All quarry-related samples were analyzed for the Arch suite of selected chloropyridines. The quarry locations sampled during the Spring 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, B17, PZ106, BR6A, B5, PW13, BR105, MW106, BR106, BR103, PZ103, and BR7A.

Percent recovery of VOC surrogate 4-bromofluorobenzene in sample PW12 was above the laboratory statistically derived control limits, indicating a potential high bias. Positive detections of VOCs in sample PW12 were qualified estimated (J) and may represent potential high biases.

Percent recovery of VOC surrogate 1,2-dichloroethane-d4 in samples PW14 and B16 were above the laboratory statistically derived control limits, indicating a potential high bias. Positive detections of VOCs in samples PW14 and B16 were qualified estimated (J) and may represent potential high biases.

Laboratory Control Samples (LCS). Percent recovery of the VOC bromomethane was below the laboratory statistically derived control limits in the laboratory control sample associated with sample BR3. Bromomethane was not detected in the sample and the reporting limit was qualified estimated (UJ) in sample BR3.

Percent recoveries of pyridine (32 to 49) 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. In addition, percent recoveries of p-fluoroaniline (44) and 4-chloropyridine (42 to 46) in a subset of laboratory control samples were below nominal control limits of 50-140. Nominal control limits were used in the absence of statistically derived laboratory control limits. Positive and non-detected results for pyridine in all samples, and for p-fluoroaniline and 4-chloropyridine in a subset of samples, were qualified estimated (J/UJ).

Matrix Spike/Matrix Spike Duplicates (MS/MSD). Percent recoveries for VOC target analytes 1,1,2-trichloroethane (78), 1,2-dichloropropane (83), and chloroform (51, 67) were below the laboratory control limits in the MS/MSD associated with sample BR127. In addition, the RPD between recoveries for chloroform (28) was above the laboratory control limit of 12. Results for all affected analytes except chloroform were non-detect in sample BR127, and reporting limits were qualified estimated (UJ). The positive detection of chloroform in sample BR127 was qualified estimated (J) and may represent a potential low bias.

Percent recoveries for VOC target analytes carbon tetrachloride (69, 69) and chloroform (74, 73) were below the laboratory control limits in the MS/MSD associated with sample PW15. The positive detections of carbon tetrachloride and chloroform in sample PW15 were qualified estimated (J) and may represent potential low biases.

Percent recoveries for a subset of VOC target analytes were below the laboratory control limits in the MS/MSD associated with sample BR7A. The positive detections of 1,2-dichlorobenzene, chlorobenzene, chloroform, and vinyl chloride in sample BR7A were qualified estimated (J) and may represent potential low biases.

In the MS/MSD associated with chloropyridines sample BR127, the RPD between recoveries for 2-chloropyridine (57) was above the nominal control limit of 20. The positive result for 2-chloropyridine in sample BR127 was qualified estimated (J).

In the MS/MSD associated with chloropyridines sample BR7A, percent recoveries were below nominal control limits of 50-140 for 2-chloropyridine (-14, 1), 4-chloropyridine (46, 47), and pyridine (49) indicating potential low biases. In addition, the RPD between recoveries for 2-chloropyridine (226) was above the nominal control limit. Pyridine and 4-chloropyridine

were not detected in sample BR7A, and reporting limits were qualified estimated (UJ). The positive detection of 2-chloropyridine in sample BR7A was qualified estimated (J) and may represent a potential low bias.

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 Spring 2015 groundwater monitoring event are provided in Tables 2 and 3. Table 4 provides a comparison of the Spring 2015 analytical results for selected chloropyridines and VOCs in representative wells to mean concentrations of the prior five years (Spring 2010 through Fall 2014). 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 26 on-site wells sampled in the Spring 2015 event. Concentrations of chloropyridines (sum of all chloropyridine and pyridine isomer concentrations) ranged from 19 micrograms per liter (µg/L) in well E-3 to 380,000 µg/L in monitoring well B-17. Ten of the on-site wells exhibited total chloropyridine concentrations that were above their respective means from monitoring events over the previous five years (see Table 4).

Off-Site. Chloropyridines were detected above sample quantitation limits in twelve of the 18 off-site wells that were sampled. Concentrations of total selected chloropyridines ranged from non-detect (in wells BR-103, BR-108, BR-113D, BR-117D, MW-103, and MW-114) to 180,000 µg/L in well PZ-103 on the west side of McKee Road. Six 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 November 2014. Concentrations have declined in several wells that had exhibited substantial increases in 2014, including BR-105, BR-106, MW-106, PW-10, PZ-102, and PZ-103. Increases in wells B-5, BR-8, PW-13, PW-15, and PW-16 are likely the result of increased pumping rates in extraction wells PW-15 and PW-16 drawing contaminants toward those wells.

3.1.2 Selected VOCs.

On-Site. Selected VOCs were detected in 21 of the 26 on-site wells sampled for VOCs in the Spring 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, E-3, and MW-127) to 59,000 µg/L

(in well PZ-107). Nine 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 18 out of 26 wells), 1,4-dichlorobenzene (13 of 26), 1,2-dichlorobenzene (12 of 26), toluene (11 of 26), 1,3-dichlorobenzene (10 of 26), carbon disulfide (7 of 26), vinyl chloride (7 of 26), cis-1,2-dichloroethene (5 of 26), acetone (3 of 26), bromoform (3 of 26), methyl tertbutyl ether (3 of 26), ethyl benzene (2 of 26), and trans-1,2-dichloroethene (2 of 26).

Off-Site. Selected VOCs were detected in seven of the 11 off-site wells sampled for VOCs during the Spring 2015 event. Total concentrations of selected VOCs ranged from not detected (in wells BR-103, MW-103, BR-114, and PZ-101) to 990 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 8 out of 11 wells), 1,2-dichlorobenzene (5 of 11), 1,4-dichlorobenzene (4 of 11), 1,3-dichlorobenzene (3 of 11), carbon disulfide (2 of 11), and cis-1,2-dichloroethene (2 of 11).

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. An increase in VOC concentrations was observed in monitoring well PZ-107 during this event. This behavior has been seen previously (in 2010 and 2013), and in each case coincided with increases in pumping rates at nearby extraction well BR-127.

3.2 SURFACE WATER

Results from the Spring 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 Spring 2015 monitoring event. The sample contained 70 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 AND MAINTENANCE

Table 6 is a summary of the system flow measurements for the on-site extraction wells from December 2014 through May 2015. The total volume pumped during the six-month period was approximately 7.9 million gallons.

During the reporting period, the total volume of groundwater recovered by the extraction system increased by approximately 2 million gallons over the previous 6-month period. This is due to improvements in pumping well operations implemented by Arch, particularly at wells PW-16, BR-7A, and BR-127.

Table 7 provides a calculation of mass removal rates since the previous groundwater monitoring event (i.e., from December 2014 through May 2015). Arch estimates that approximately 71 pounds of target VOCs and 2,800 pounds of chloropyridine compounds were removed by the groundwater extraction system and treated by the plant's activated carbon adsorption units over that time period. The increase in mass removal is a function of both increased pumping rates as described above and increases in contaminant concentrations observed in pumping wells PW-15 and PW-16.

5.0 NEXT MONITORING EVENT

The next regular monitoring event will occur in November 2015 and will include groundwater, surface water, and seep sampling.

Table 8 shows the 2015 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

8-8

7-6

BR-113/BR-113D

LEXINGTON

11-8

GENERAL RAIL SIGNAL CO.

9-6

RW-1

10-6

DOLOMITE PRODUCTS QUARRY

13-4

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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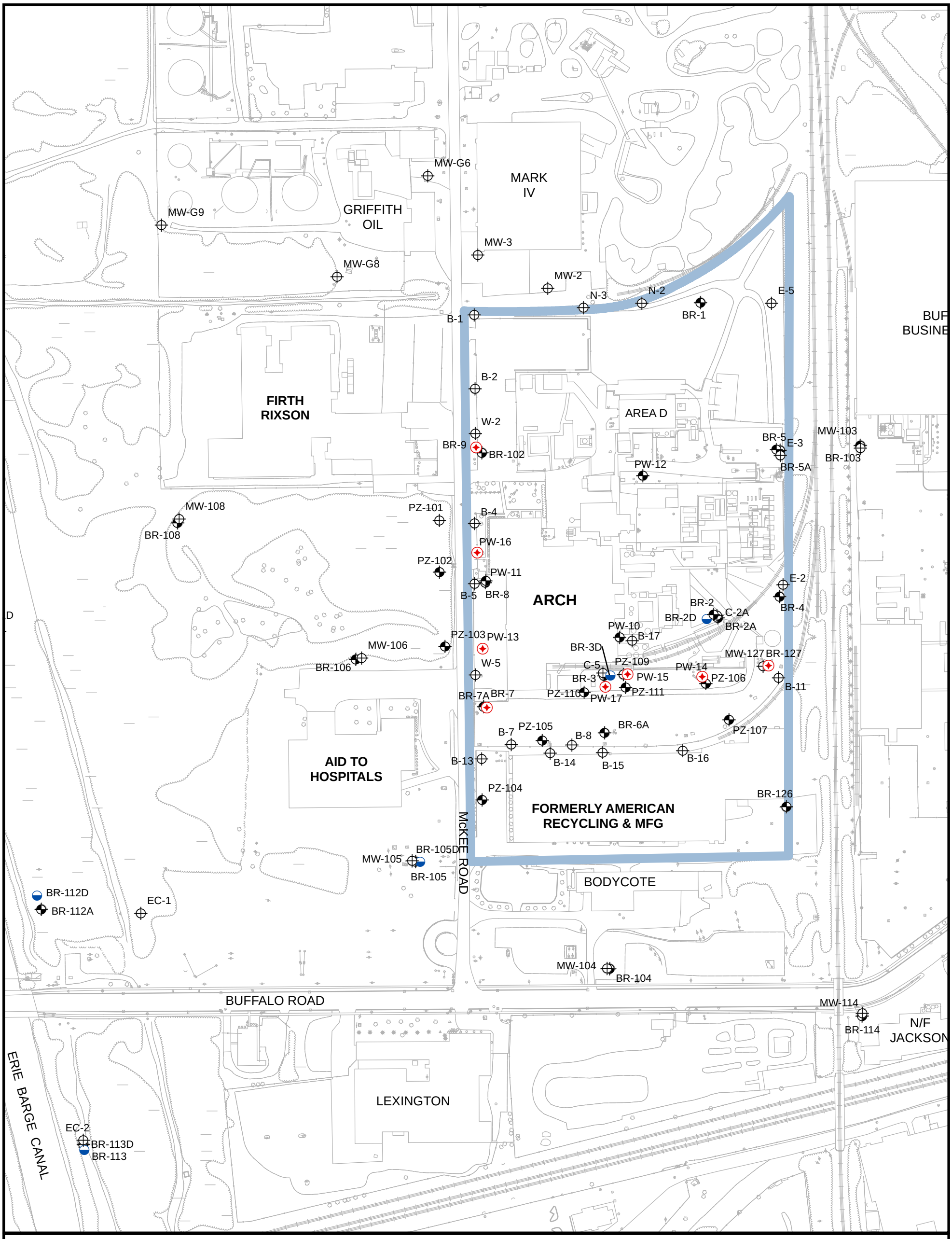

NOTES:

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

Prepared/Date: JEB 06/19/15 | Checked/Date: NMB 06/19/15

Figure 2
Onsite Monitoring Well Locations

Arch Chemicals Rochester, NY

amec foster wheeler

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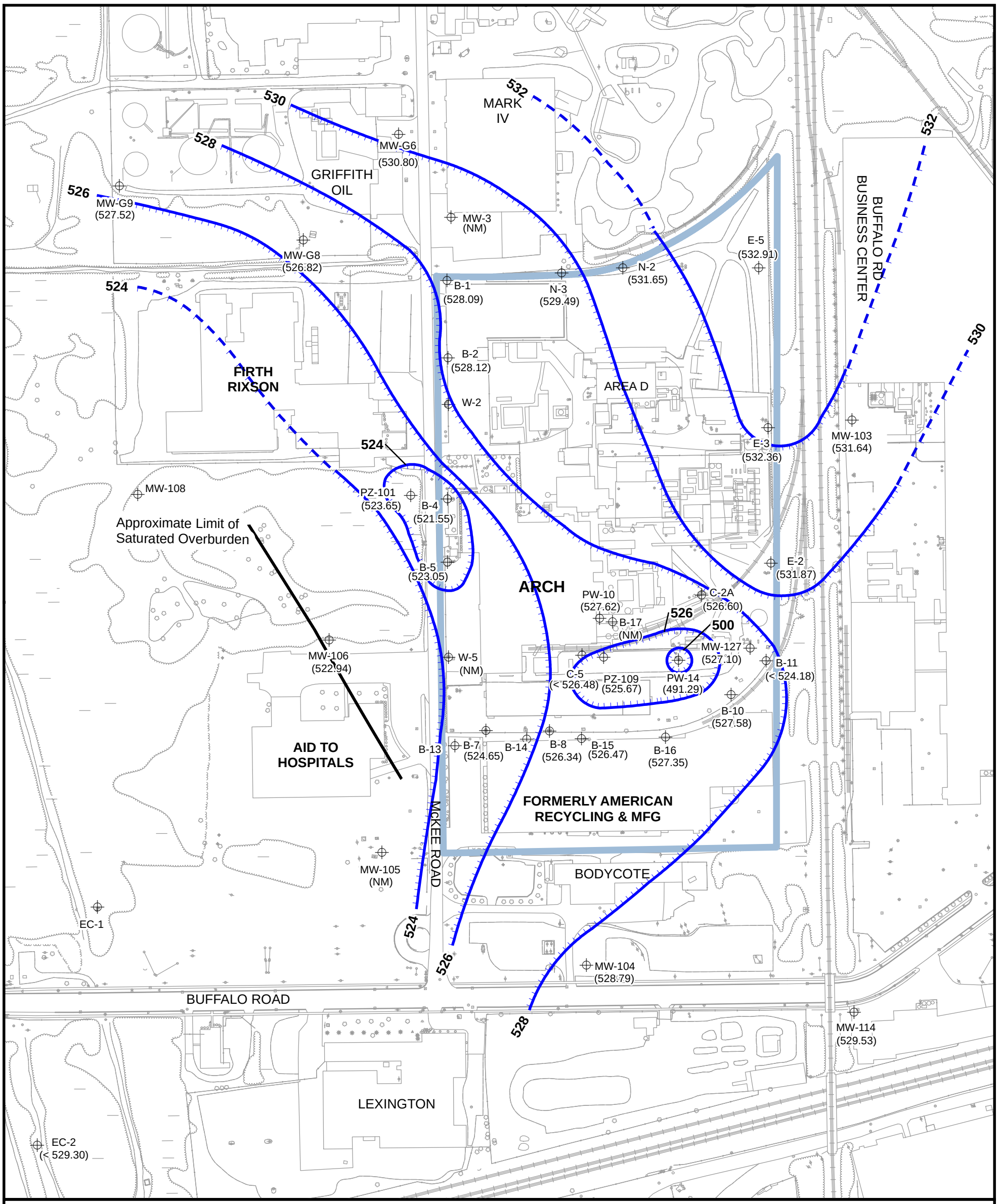

Legend

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

NOTES:

1. Water Levels Measured on May 28, 2015
2. Dashed Contours Reflect Uncertainty

0 100 200 400 Feet

Figure 3
Spring 2015
Overburden Groundwater
Interpreted Piezometric Contours

Arch Chemicals
Rochester, NY

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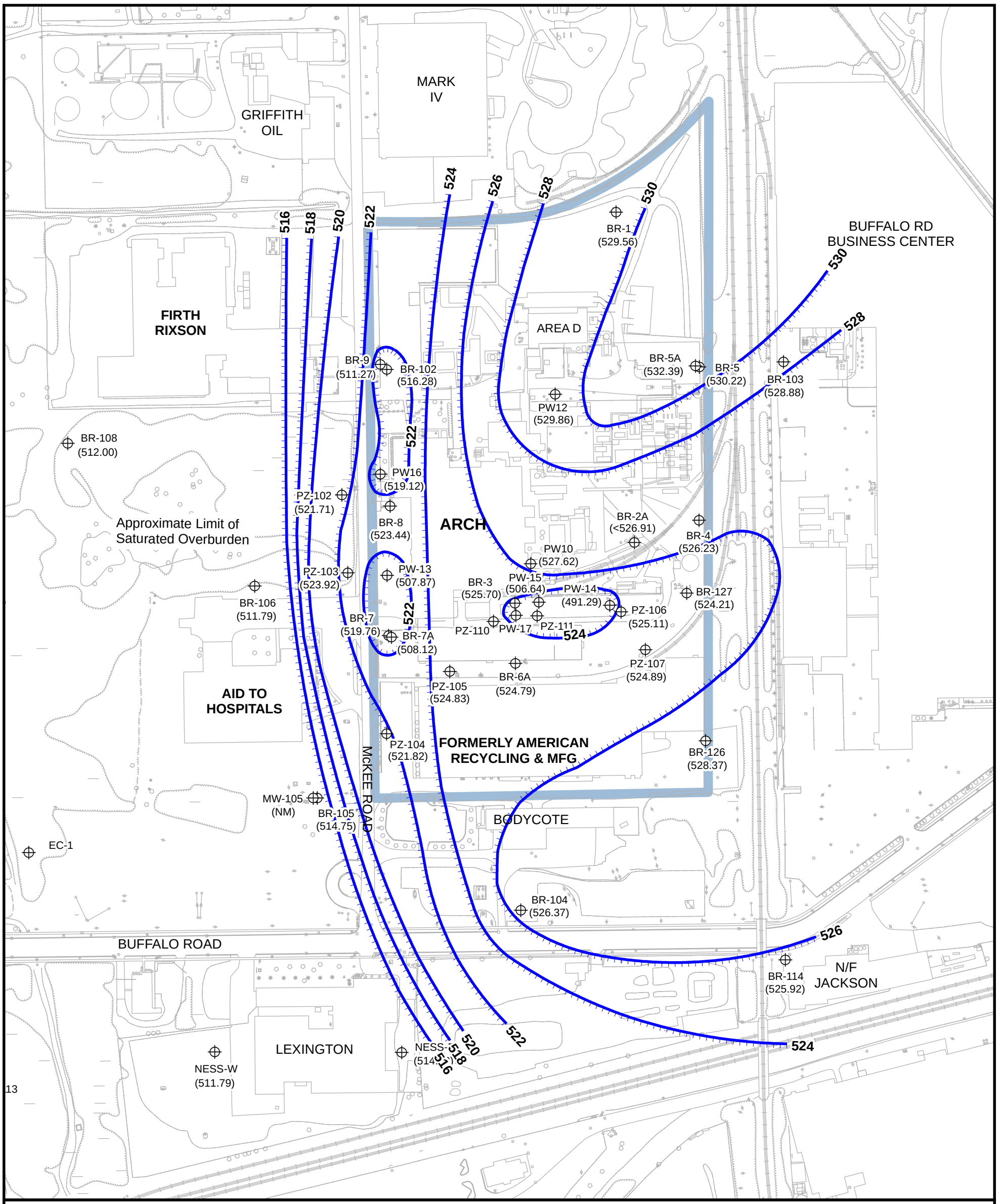

Legend

- MW-114 (529.53) — 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 May 28, 2015

0 100 200 400 Feet

Prepared/Date: JEB 08/19/15 | Checked/Date: NMB 08/19/15

Figure 4
Spring 2015
Bedrock Groundwater
Interpreted Piezometric Contours

Arch Chemicals
Rochester, NY

amec foster wheeler

Legend

- Bedrock Well ('D' Designates Deep Well)
- 500 — Deep Bedrock Elevation Contour (MSL)
- Interpreted Groundwater Flow Direction
- Property Owned by Lonza
- BR-116D (509.52) — Piezometric Elevation at Deep Bedrock Well

NOTES

1. Water Levels Measured on May 28, 2015
2. Dashed Contours Reflect Uncertainty

N

0 250 500 1,000 Feet

Prepared/Date: JEB 06/09/15 | Checked/Date: NMB 06/09/15

I-390

ERIE BARGE CANAL

FIRTH RIXSON

BUFFALO RD. BUSINESS CENTER

ARCH

BR-9

BR-103

BR-108

BR-111D (NM)

BR-111

AID TO HOSPITALS

BR-106

BR-3D (484.41)

BR-112D (511.73)

BR-112

BR-105

BR-105D (510.37)

BUFFALO ROAD

BR-104

BR-114

CUMBERLAND FARMS PETROLEUM TERMINAL

BR-113

BR-113D (511.39)

LEXINGTON

GENERAL RAIL SIGNAL CO.

DOLOMITE PRODUCTS QUARRY

BR-122D (506.89)

PFAUDLER

BR-117D (497.71)

BR-117

BR-118

BR-118D (499.47)

BR-123D (507.89)

BR-116D (509.52)

BR-116

BR-124D (505.01)

LETTINGTON DRIVE

498 500 502 504 505 506 508 510

Figure 5
Spring 2015
Deep Bedrock Groundwater
Interpreted Piezometric Contours

Arch Chemicals
Rochester, NY

amec foster wheeler

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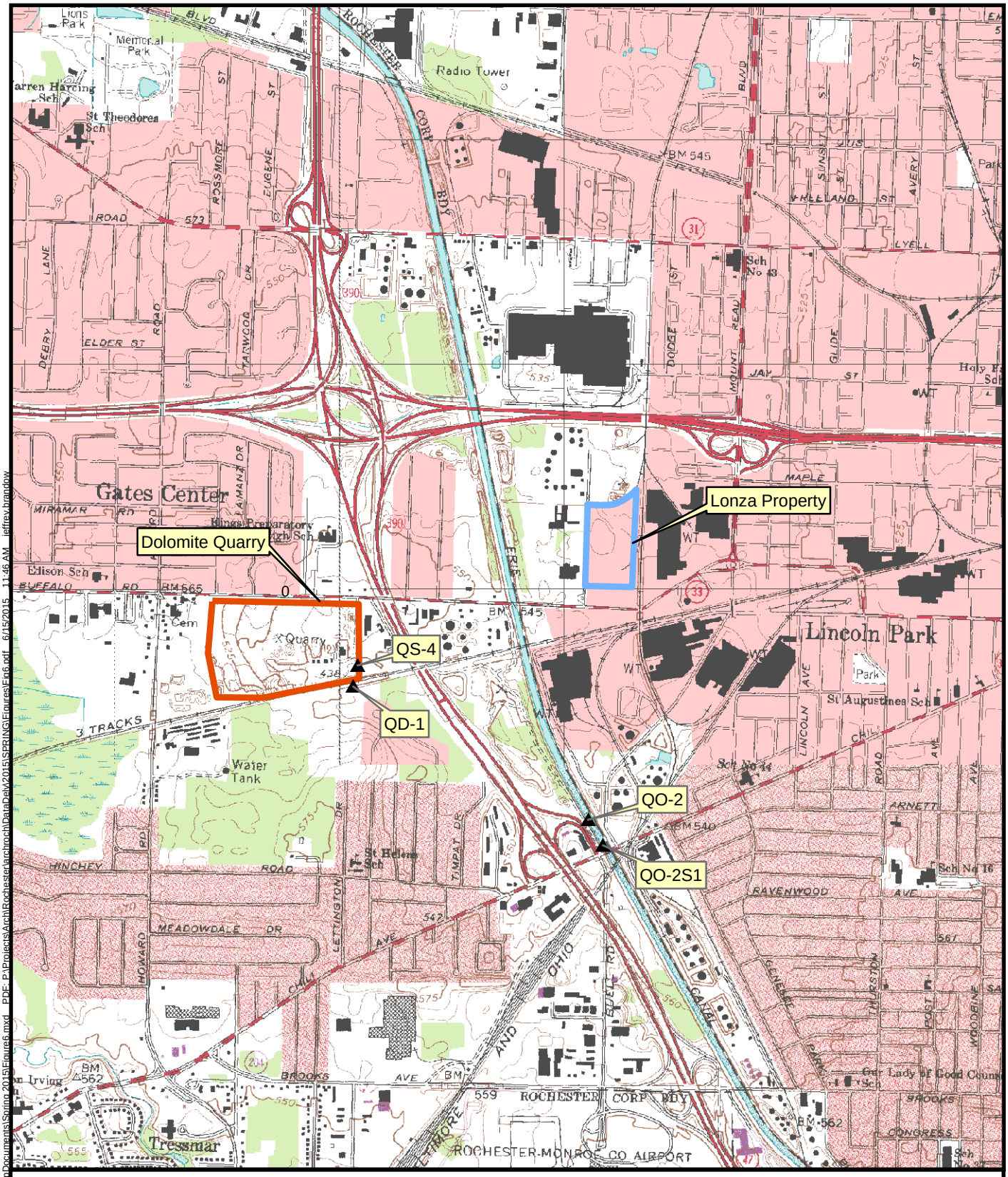

Source:
1:24,000 scale digital topographic map
obtained from New York State GIS
Clearinghouse at: www.nysgis.state.ny.us

Legend

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

Figure 6
Sample Locations
Erie Barge Canal

Arch Chemicals
Rochester, New York

amec foster wheeler

Prepared by JEB | Checked by NMB

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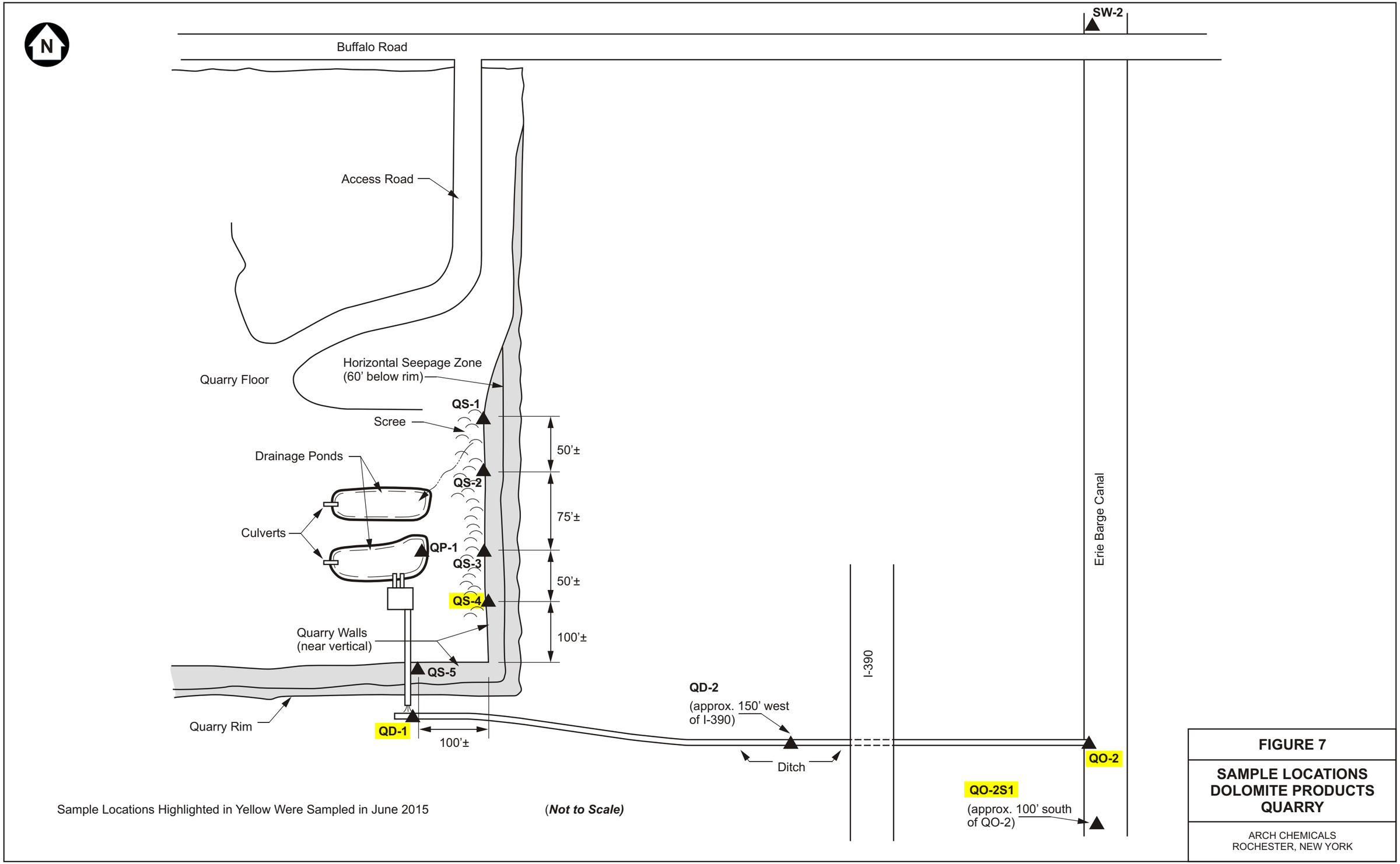


Sample Locations Highlighted in Yellow Were Sampled in June 2015

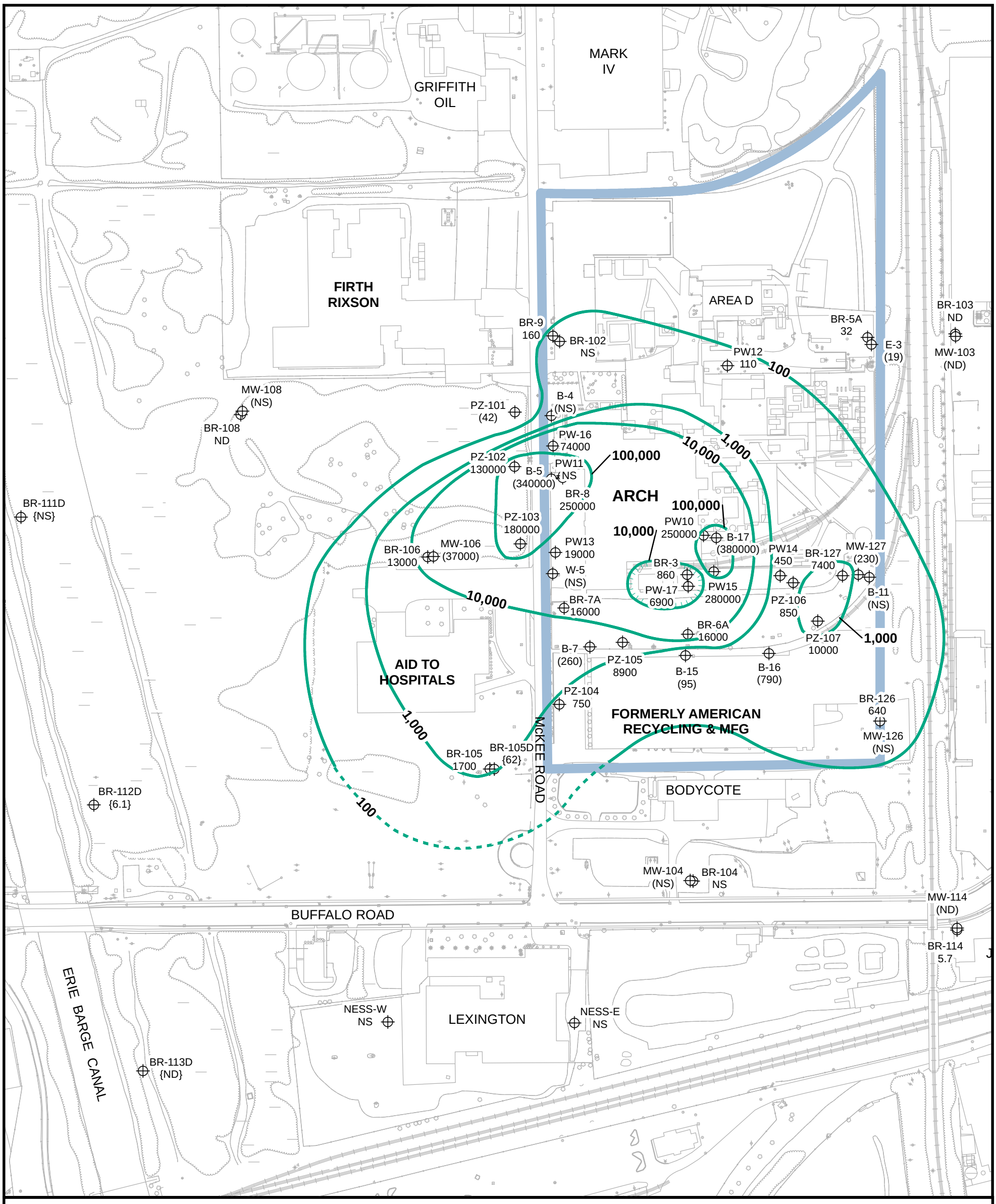
(***Not to Scale)***

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 (1700) — 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 07/16/15 | Checked/Date: NMB 07/16/15

NOTES:

1. Samples Collected June 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
Spring 2015
Selected Chloropyridine Concentration Contours

Arch Chemicals
Rochester, NY

amec foster wheeler

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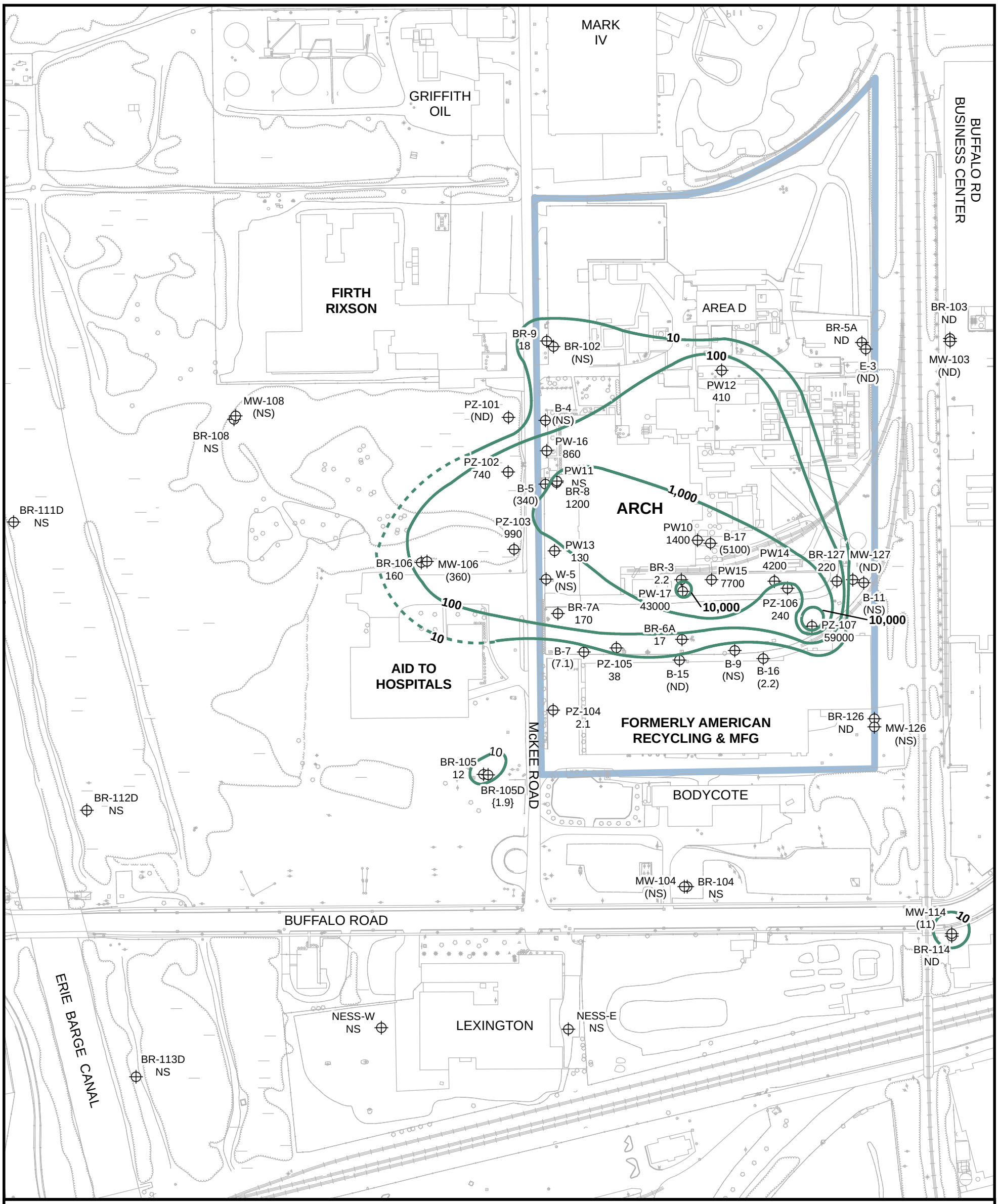

Legend

- Property Owned by Lonza
- **100** VOC Concentration Contour
- B-17 (5,100) 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

NOTES:

1. Samples Collected in June 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
Spring 2015
Selected Volatile Organic Compound Concentration Contours

Arch Chemicals
Rochester, NY

Prepared/Date: JEB 07/16/15	Checked/Date: NMB 07/16/15

amec foster wheeler

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Tables

TABLE 1
SPRING 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	6/2/2015	Sample	X	X
	BR-108	6/2/2015	Sample	X	
	MW-106	6/2/2015	Sample	X	X
	PZ-101	6/4/2015	Sample	X	X
	PZ-102	6/5/2015	Sample	X	X
	PZ-103	6/4/2015	Sample	X	X
ARCH ROCHESTER	B-15	6/4/2015	Sample	X	X
	B-16	6/4/2015	Sample	X	X
	B-17	5/29/2015	Sample	X	X
	B-5	6/1/2015	Sample	X	X
	B-7	6/1/2015	Sample	X	X
	BR-126	6/4/2015	Sample	X	X
	BR-127	5/29/2015	Sample	X	X
	BR-3	6/1/2015	Sample	X	X
	BR-5A	5/29/2015	Sample	X	X
	BR-6A	6/1/2015	Sample	X	X
	BR-7A	6/5/2015	Sample	X	X
	BR-8	6/1/2015	Sample	X	X
	BR-9	6/2/2015	Sample	X	X
	E-3	6/4/2015	Sample	X	X
	MW-127	6/18/2015	Sample	X	X
	PW10	5/29/2015	Sample	X	X
	PW12	5/29/2015	Sample	X	X
	PW13	6/1/2015	Sample	X	X
	PW14	5/29/2015	Sample	X	X
	PW15	6/1/2015	Sample	X	X
	PW16	6/1/2015	Sample	X	X
	PW17	6/1/2015	Sample	X	X
	PZ-104	6/3/2015	Sample	X	X
	PZ-105	5/29/2015	Sample	X	X
	PZ-106	5/29/2015	Sample	X	X
	PZ-107	6/1/2015	Sample	X	X
DOLOMITE PRODUCTS, INC.	BR-117D	6/3/2015	Sample	X	
	BR-118D	6/3/2015	Sample	X	
	QD-1	6/5/2015	Sample	X	
	QS-4	6/5/2015	Sample	X	
ERIE BARGE CANAL	BR-112D	6/2/2015	Sample	X	
(Samples in canal or property along canal)	BR-113D	6/3/2015	Sample	X	
	BR-122D	6/2/2015	Sample	X	
	BR-123D	6/2/2015	Sample	X	
	QO-2	6/5/2015	Sample	X	
	QO-2S1	6/5/2015	Sample	X	
JACKSON WELDING	BR-114	6/3/2015	Sample	X	X
	MW-114	6/3/2015	Sample	X	X
BUFFALO RD BUSINESS CENTER	BR-103	6/3/2015	Sample	X	X
	MW-103	6/3/2015	Sample	X	X
RG & E RIGHT OF WAY	BR-105	6/2/2015	Sample	X	X
	BR-105D	6/2/2015	Sample	X	X

TABLE 2
SPRING 2015 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	B-15	B-16	B-17	B-5	B-7	BR-103	BR-105	BR-105D	BR-106	BR-108
SAMPLE DATE:	6/4/2015	6/4/2015	5/29/2015	6/1/2015	6/1/2015	6/3/2015	6/2/2015	6/2/2015	6/2/2015	6/2/2015
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270D (µg/L)										
2,6-Dichloropyridine	51	268	25000 U	32900	142	10 U	251	15.4	5000 U	10 U
2-Chloropyridine	44	518	381000	310000	120	10 U	1460	26.3	12800	10 U
3-Chloropyridine	10 U	50 U	25000 U	20000 U	10 U	10 U	100 U	13.7	5000 U	10 U
4-Chloropyridine	10 UJ	50 UJ	25000 U	20000 U	10 U	10 UJ	100 U	10 U	5000 U	10 U
p-Fluoroaniline	10 U	50 U	25000 U	20000 U	10 U	10 UJ	100 U	6.62 J	5000 U	10 U
Pyridine	10 UJ	50 UJ	25000 UJ	20000 UJ	10 UJ	10 UJ	100 UJ	10 UJ	5000 UJ	10 UJ

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

TABLE 2
SPRING 2015 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	BR-112D	BR-113D	BR-114	BR-117D	BR-118D	BR-122D	BR-123D	BR-126	BR-127	BR-3
SAMPLE DATE:	6/2/2015	6/3/2015	6/3/2015	6/3/2015	6/3/2015	6/2/2015	6/2/2015	6/4/2015	5/29/2015	6/1/2015
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270D (µg/L)										
2,6-Dichloropyridine	10 U	10 U	5.71 J	10 U	10 U	10 U	10 U	145 J	660 J	100 U
2-Chloropyridine	18.5	10 U	10 U	10 U	5.25 J	6.08 J	73.5	499	6720 J	790
3-Chloropyridine	10 U	10 U	10 U	10 U	10 U	10 U	10 U	200 U	1000 U	100 U
4-Chloropyridine	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 U	200 UJ	1000 U	100 U
p-Fluoroaniline	10 U	10 UJ	10 UJ	10 UJ	10 UJ	10 U	10 U	200 U	1000 U	100 U
Pyridine	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	200 UJ	1000 UJ	66.4 J

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

TABLE 2
SPRING 2015 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	BR-5A	BR-6A	BR-7A	BR-8	BR-9	E-3	MW-103	MW-106	MW-114	MW-127
SAMPLE DATE:	5/29/2015	6/1/2015	6/5/2015	6/1/2015	6/2/2015	6/4/2015	6/3/2015	6/2/2015	6/3/2015	6/18/2015
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270D (µg/L)										
2,6-Dichloropyridine	22.1	2650	1400	16600 J	30.1	6.31 J	10 U	3030	10 U	160
2-Chloropyridine	10.2	13400	14800 J	238000	128	13.1	10 U	34200	10 U	69.7
3-Chloropyridine	10 U	2000 U	800 U	20000 U	10 U	10 U	10 U	2000 U	10 U	40 U
4-Chloropyridine	10 U	2000 U	800 UJ	20000 U	10 U	10 UJ	10 UJ	2000 U	10 UJ	40 U
p-Fluoroaniline	10 U	2000 U	800 U	20000 U	10 U	10 U	10 UJ	2000 U	10 UJ	40 U
Pyridine	10 UJ	2000 UJ	800 UJ	20000 UJ	10 UJ	10 UJ	10 UJ	2000 UJ	10 UJ	40 UJ

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

TABLE 2
SPRING 2015 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	PW10	PW12	PW13	PW14	PW15	PW16	PW17	PZ-101	PZ-102	PZ-103
SAMPLE DATE:	5/29/2015	5/29/2015	6/1/2015	5/29/2015	6/1/2015	6/1/2015	6/1/2015	6/4/2015	6/5/2015	6/4/2015
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270D (µg/L)										
2,6-Dichloropyridine	8030 J	61.6	1050	139	20000 U	4410	4000 U	25	13400	28700
2-Chloropyridine	183000	47.1	18200	312	265000	69200	6940	16.7	115000	152000
3-Chloropyridine	11100	10 U	1000 U	100 U	20000 U	4000 U	4000 U	10 U	10000 U	10000 U
4-Chloropyridine	10000 U	10 U	1000 U	100 U	20000 U	4000 U	4000 U	10 UJ	10000 UJ	10000 UJ
p-Fluoroaniline	10000 U	10 U	1000 U	100 U	20000 U	4000 U	4000 U	10 U	10000 U	10000 U
Pyridine	47500 J	10 UJ	1000 UJ	100 UJ	18400 J	4000 UJ	4000 UJ	10 UJ	10000 UJ	10000 UJ

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

TABLE 2
SPRING 2015 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	PZ-104	PZ-105	PZ-106	PZ-107
SAMPLE DATE:	6/3/2015	5/29/2015	5/29/2015	6/1/2015
QC TYPE:	Sample	Sample	Sample	Sample
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270D (µg/L)				
2,6-Dichloropyridine	178	1480	161 J	1370
2-Chloropyridine	567	7380	687	8790
3-Chloropyridine	40 U	400 U	200 U	500 U
4-Chloropyridine	40 UJ	400 U	200 U	500 U
p-Fluoroaniline	40 UJ	400 U	200 U	500 U
Pyridine	40 UJ	400 UJ	200 UJ	315 J

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

TABLE 3
SPRING 2015 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	B-15	B-16	B-17	B-5	B-7	BR-103	BR-105	BR-105D	BR-106	BR-114
SAMPLE DATE:	6/4/2015	6/4/2015	5/29/2015	6/1/2015	6/1/2015	6/3/2015	6/2/2015	6/2/2015	6/2/2015	6/3/2015
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
VOCs BY SW-846 Method 8260C (µg/L)										
1,1,1-Trichloroethane	2 U	2 U	40 UJ	4 UJ	2 U	2 UJ	2 UJ	2 U	2 UJ	2 U
1,1,2,2-Tetrachloroethane	2 U	2 U	40 UJ	4 UJ	2 U	2 UJ	2 UJ	2 U	2 UJ	2 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	2 U	2 U	40 UJ	4 UJ	2 U	2 UJ	2 UJ	2 U	2 UJ	2 U
1,1,2-Trichloroethane	2 U	2 U	40 UJ	4 UJ	2 U	2 UJ	2 UJ	2 U	2 UJ	2 U
1,1-Dichloroethane	2 U	2 U	40 UJ	4 UJ	2 U	2 UJ	2 UJ	2 U	2 UJ	2 U
1,1-Dichloroethene	2 U	2 U	40 UJ	4 UJ	2 U	2 UJ	2 UJ	2 U	2 UJ	2 U
1,2,3-Trichlorobenzene	5 U	5 U	157 J	10 UJ	5 U	5 UJ	5 UJ	5 U	5 UJ	5 U
1,2,4-Trichlorobenzene	5 U	5 U	659 J	10 UJ	5 U	5 UJ	5 UJ	5 U	5 UJ	5 U
1,2-Dibromo-3-chloropropane	10 U	10 U	200 UJ	20 UJ	10 U	10 UJ	10 UJ	10 U	10 UJ	10 U
1,2-Dibromoethane	2 U	2 U	40 UJ	4 UJ	2 U	2 UJ	2 UJ	2 U	2 UJ	2 U
1,2-Dichlorobenzene	2 U	2 U	40 UJ	321 J	1.88 J	2 UJ	3.15 J	2 U	42.8 J	2 U
1,2-Dichloroethane	2 U	2 U	40 UJ	3.2 J	2 U	2 UJ	2 UJ	2 U	2 UJ	2 U
1,2-Dichloropropane	2 U	2 U	40 UJ	4 UJ	2 U	2 UJ	2 UJ	2 U	2 UJ	2 U
1,3-Dichlorobenzene	2 U	2 U	105 J	312 J	2 U	2 UJ	2 UJ	2 U	2.14 J	2 U
1,4-Dichlorobenzene	2 U	1.37 J	160 J	320 J	1.1 J	2 UJ	2 UJ	2 U	3.75 J	2 U
1,4-Dioxane	20 U	20 U	400 UJ	40 UJ	20 U	20 UJ	20 UJ	20 U	20 UJ	20 U
2-Butanone	10 U	10 U	200 UJ	20 UJ	10 U	10 UJ	10 UJ	10 U	10 UJ	10 U
2-Hexanone	5 U	5 U	100 UJ	10 UJ	5 U	5 UJ	5 UJ	5 U	5 UJ	5 U
4-Methyl-2-pentanone	5 U	5 U	100 UJ	10 UJ	5 U	5 UJ	5 UJ	5 U	5 UJ	5 U
Acetic acid, methyl ester	2 U	2 U	40 UJ	4 UJ	2 U	2 UJ	2 UJ	2 U	2 UJ	2 U
Acetone	10 U	10 U	176 J	20 UJ	10 U	10 UJ	10 UJ	10 U	10 UJ	10 U
Benzene	1 U	0.568 J	38.1 J	9.26 J	0.638 J	1.25 J	1.33 J	7.09	9.22 J	1.9
Bromochloromethane	5 U	5 U	100 UJ	10 UJ	5 U	5 UJ	5 UJ	5 U	5 UJ	5 U
Bromodichloromethane	2 U	2 U	40 UJ	4 UJ	2 U	2 UJ	2 UJ	2 U	2 UJ	2 U
Bromoform	5 U	5 U	97.9 J	10 UJ	5 U	5 UJ	5 UJ	5 U	5 UJ	5 U
Bromomethane	2 U	2 U	40 UJ	4 UJ	2 U	2 UJ	2 UJ	2 U	2 UJ	2 U
Carbon disulfide	2 U	2 U	134 J	4 UJ	2 U	2 UJ	2 UJ	1.58 J	2 UJ	2 U
Carbon tetrachloride	2 U	2 U	974 J	4 UJ	2 U	2 UJ	2 UJ	2 U	2 UJ	2 U
Chlorobenzene	2 U	2.17 J	184 J	339 J	7.1	2 UJ	11.6 J	2 U	164 J	2 U
Chloroethane	2 U	2 U	40 UJ	4 UJ	2 U	2 UJ	2 UJ	2 U	2 UJ	2 U
Chloroform	2 U	2 U	1660 J	2.49 J	2 U	2 UJ	2 UJ	1.93 J	2 UJ	2 U
Chloromethane	2 U	2 U	40 UJ	4 UJ	2 U	2 UJ	2 UJ	2 U	2 UJ	2 U
Cis-1,2-Dichloroethene	2 U	2 U	40 UJ	4 UJ	2 U	2 UJ	1.1 J	7.46	2 UJ	2 U

TABLE 3
SPRING 2015 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	B-15	B-16	B-17	B-5	B-7	BR-103	BR-105	BR-105D	BR-106	BR-114
SAMPLE DATE:	6/4/2015	6/4/2015	5/29/2015	6/1/2015	6/1/2015	6/3/2015	6/2/2015	6/2/2015	6/2/2015	6/3/2015
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
VOCs BY SW-846 Method 8260C (µg/L)										
Cis-1,3-Dichloropropene	2 U	2 U	40 UJ	4 UJ	2 U	2 UJ	2 UJ	2 U	2 UJ	2 U
Cyclohexane	10 U	10 U	200 UJ	20 UJ	10 U	10 UJ	10 UJ	22.3	10 UJ	10 U
Dibromochloromethane	2 U	2 U	40 UJ	4 UJ	2 U	2 UJ	2 UJ	2 U	2 UJ	2 U
Dichlorodifluoromethane	2 U	2 U	40 UJ	4 UJ	2 U	2 UJ	2 UJ	2 U	2 UJ	2 U
Ethyl benzene	2 U	2 U	40 UJ	4 UJ	2 U	2 UJ	2 UJ	1.03 J	2 UJ	2 U
Isopropylbenzene	2 U	2 U	40 UJ	4 UJ	2 U	2 UJ	2 UJ	2 U	2 UJ	2 U
Methyl cyclohexane	2 U	2 U	40 UJ	4 UJ	2 U	2 UJ	2 UJ	15.7	2 UJ	2 U
Methyl Tertbutyl Ether	2 U	2 U	40 UJ	4 UJ	2 U	2 UJ	2 UJ	2 U	2 UJ	2 U
Methylene chloride	5 U	5 U	2070 J	10 UJ	5 U	5 UJ	5 UJ	5 U	5 UJ	5 U
Styrene	5 U	5 U	100 UJ	10 UJ	5 U	5 UJ	5 UJ	5 U	5 UJ	5 U
Tetrachloroethene	2 U	2 U	221 J	4 UJ	2 U	2 UJ	2 UJ	2 U	2 UJ	2 U
Toluene	2 U	2 U	349 J	104 J	2 U	2 UJ	2 UJ	2 U	2 UJ	2 U
trans-1,2-Dichloroethene	2 U	2 U	40 UJ	4 UJ	2 U	2 UJ	2 UJ	2 U	2 UJ	2 U
trans-1,3-Dichloropropene	2 U	2 U	40 UJ	4 UJ	2 U	2 UJ	2 UJ	2 U	2 UJ	2 U
Trichloroethene	2 U	2 U	40 UJ	4 UJ	2 U	2 UJ	2 UJ	2 U	2 UJ	2 U
Trichlorofluoromethane	2 U	2 U	40 UJ	4 UJ	2 U	2 UJ	2 UJ	2 U	2 UJ	2 U
Vinyl chloride	2 U	2 U	40 UJ	3.66 J	2 U	1.09 J	2 UJ	2 U	2 UJ	2 U
Xylene, o	2 U	2 U	40 UJ	4 UJ	2 U	2 UJ	2 UJ	2 U	2 UJ	2 U
Xylenes (m&p)	2 U	2 U	40 UJ	2.46 J	2 U	2 UJ	2 UJ	2 U	2 UJ	2 U

Notes:

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

J = Estimated value

µg/L = micrograms per Liter

TABLE 3
SPRING 2015 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	BR-126	BR-127	BR-3	BR-5A	BR-6A	BR-7A	BR-8	BR-9	E-3	MW-103
SAMPLE DATE:	6/4/2015	5/29/2015	6/1/2015	5/29/2015	6/1/2015	6/5/2015	6/1/2015	6/2/2015	6/4/2015	6/3/2015
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
VOCs BY SW-846 Method 8260C (µg/L)										
1,1,1-Trichloroethane	2 U	2 UJ	2 U	2 U	2 UJ	2 UJ	50 U	2 U	2 U	2 U
1,1,2,2-Tetrachloroethane	2 U	2 UJ	2 U	2 U	2 UJ	2 UJ	50 U	2 U	2 U	2 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	2 U	2 UJ	2 U	2 U	2 UJ	10.1 J	50 U	20.3	2 U	2 U
1,1,2-Trichloroethane	2 U	2 UJ	2 U	2 U	2 UJ	2 UJ	50 U	2 U	2 U	2 U
1,1-Dichloroethane	2 U	2 UJ	2 U	2 U	2 UJ	4.13 J	50 U	5.46	2 U	2 U
1,1-Dichloroethene	2 U	2 UJ	2 U	2 U	2 UJ	2 UJ	50 U	1.23 J	2 U	2 U
1,2,3-Trichlorobenzene	5 U	5 UJ	5 U	5 U	5 UJ	5 UJ	125 U	5 U	5 U	5 U
1,2,4-Trichlorobenzene	5 U	5 UJ	5 U	5 U	2.58 J	5 UJ	125 U	5 U	5 U	5 U
1,2-Dibromo-3-chloropropane	10 U	10 UJ	10 U	10 U	10 UJ	10 UJ	250 U	10 U	10 U	10 U
1,2-Dibromoethane	2 U	2 UJ	2 U	2 U	2 UJ	2 UJ	50 U	2 U	2 U	2 U
1,2-Dichlorobenzene	2 U	3.71 J	2 U	2 U	1.97 J	45.5 J	463	8.84	2 U	2 U
1,2-Dichloroethane	2 U	2 UJ	2 U	2 U	2 UJ	2 UJ	50 U	2 U	2 U	2 U
1,2-Dichloropropane	2 U	2 UJ	2 U	2 U	2 UJ	2 UJ	50 U	2 U	2 U	2 U
1,3-Dichlorobenzene	2 U	3.1 J	2 U	2 U	2 UJ	15.9 J	290	2 U	2 U	2 U
1,4-Dichlorobenzene	2 U	5.67 J	2 U	2 U	2 UJ	14.4 J	340	1.31 J	2 U	2 U
1,4-Dioxane	20 U	20 UJ	20 U	20 U	20 UJ	20 UJ	500 U	20 U	20 U	20 U
2-Butanone	10 U	10 UJ	10 U	10 U	10 UJ	10 UJ	250 U	10 U	10 U	10 U
2-Hexanone	5 U	5 UJ	5 U	5 U	5 UJ	5 UJ	125 U	5 U	5 U	5 U
4-Methyl-2-pentanone	5 U	5 UJ	5 U	5 U	5 UJ	5 UJ	125 U	5 U	5 U	5 U
Acetic acid, methyl ester	2 U	2 UJ	2 U	2 U	2 UJ	2 UJ	50 U	2 U	2 U	2 U
Acetone	10 U	10 UJ	32.2	10 U	10 UJ	10 UJ	250 U	10 U	10 U	10 U
Benzene	0.836	1.69 J	0.7 U	1 U	3.92 J	10.3 J	27.4	46.9	1 U	0.7 U
Bromochloromethane	5 U	5 UJ	5 U	5 U	5 UJ	5 UJ	125 U	5 U	5 U	5 U
Bromodichloromethane	2 U	2 UJ	2 U	2 U	2 UJ	2 UJ	50 U	2 U	2 U	2 U
Bromoform	5 U	5 UJ	5 U	5 U	5 UJ	5 UJ	125 U	5 U	5 U	5 U
Bromomethane	2 U	2 UJ	2 UJ	2 U	2 UJ	2 UJ	50 U	2 U	2 U	2 U
Carbon disulfide	2 U	26.8 J	2 U	2 U	1.01 J	2 UJ	50 U	2 U	2 U	2 U
Carbon tetrachloride	2 U	14.1 J	2 U	2 U	2 UJ	15.9 J	50 U	2 U	2 U	2 U
Chlorobenzene	2 U	3.52 J	2 U	2 U	16.7 J	111 J	1230	16.5	2 U	2 U
Chloroethane	2 U	2 UJ	2 U	2 U	2 UJ	2 UJ	50 U	2 U	2 U	2 U
Chloroform	2 U	185 J	2.16	2 U	2 UJ	16.1 J	50 U	2 U	2 U	2 U
Chloromethane	2 U	2 UJ	2 U	2 U	2 UJ	2 UJ	50 U	2 U	2 U	2 U
Cis-1,2-Dichloroethene	2 U	3.8 J	2 U	2 U	2 UJ	11.3 J	50 U	115	2 U	2 U

TABLE 3
SPRING 2015 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	BR-126	BR-127	BR-3	BR-5A	BR-6A	BR-7A	BR-8	BR-9	E-3	MW-103
SAMPLE DATE:	6/4/2015	5/29/2015	6/1/2015	5/29/2015	6/1/2015	6/5/2015	6/1/2015	6/2/2015	6/4/2015	6/3/2015
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
VOCs BY SW-846 Method 8260C (µg/L)										
Cis-1,3-Dichloropropene	2 U	2 UJ	2 U	2 U	2 UJ	2 UJ	50 U	2 U	2 U	2 U
Cyclohexane	10 U	10 UJ	10 U	10 U	10 UJ	10 UJ	250 U	12.7	10 U	10 U
Dibromochloromethane	2 U	2 UJ	2 U	2 U	2 UJ	2 UJ	50 U	2 U	2 U	2 U
Dichlorodifluoromethane	2 U	2 UJ	2 U	2 U	2 UJ	2 UJ	50 U	2 U	2 U	2 U
Ethyl benzene	2 U	2 UJ	2 U	2 U	2 UJ	2 UJ	50 U	1.16 J	2 U	2 U
Isopropylbenzene	2 U	2 UJ	2 U	2 U	2 UJ	2 UJ	50 U	1.3 J	2 U	2 U
Methyl cyclohexane	2 U	2 UJ	2 U	2 U	2 UJ	2 UJ	50 U	4.04	2 U	2 U
Methyl Tertbutyl Ether	2 U	2 UJ	2 U	2 U	2 UJ	2.88 J	50 U	13.5	2 U	2 U
Methylene chloride	5 U	5.87 J	5 U	5 U	5 UJ	22.2 J	125 U	5 U	5 U	5 U
Styrene	5 U	5 UJ	5 U	5 U	5 UJ	5 UJ	125 U	5 U	5 U	5 U
Tetrachloroethene	2 U	7.37 J	2 U	2 U	2 UJ	2.57 J	50 U	2 U	2 U	2 U
Toluene	2 U	3.46 J	2 U	2 U	53.8 J	1.99 J	50 U	1.18 J	2 U	2 U
trans-1,2-Dichloroethene	2 U	1.55 J	2 U	2 U	1.33 J	2 UJ	50 U	2 U	2 U	2 U
trans-1,3-Dichloropropene	2 U	2 UJ	2 U	2 U	2 UJ	2 UJ	50 U	2 U	2 U	2 U
Trichloroethene	2 U	4.55 J	2 U	2 U	2 UJ	1.62 J	50 U	1.21 J	2 U	2 U
Trichlorofluoromethane	2 U	2 UJ	2 U	2 U	2 UJ	2 UJ	50 U	2 U	2 U	2 U
Vinyl chloride	2 U	4.03 J	2 U	2 U	3.44 J	19.9 J	50 U	58.4	2 U	2 U
Xylene, o	2 U	2 UJ	2 U	2 U	2 UJ	2 UJ	50 U	2 U	2 U	2 U
Xylenes (m&p)	2 U	2 UJ	2 U	2 U	1.13 J	2 UJ	50 U	2 U	2 U	2 U

Notes:

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

J = Estimated value

µg/L = micrograms per Liter

TABLE 3
SPRING 2015 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	MW-106	MW-114	MW-127	PW10	PW12	PW13	PW14	PW15	PW16	PW17
SAMPLE DATE:	6/2/2015	6/3/2015	6/18/2015	5/29/2015	5/29/2015	6/1/2015	5/29/2015	6/1/2015	6/1/2015	6/1/2015
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
VOCs BY SW-846 Method 8260C (µg/L)										
1,1,1-Trichloroethane	10 UJ	2 U	2 U	10 U	20 U	2 UJ	200 U	100 U	10 U	1000 U
1,1,2,2-Tetrachloroethane	10 UJ	2 U	2 U	10 U	20 U	2 UJ	200 U	100 U	10 U	1000 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	10 UJ	2 U	2 U	10 U	20 U	5.07 J	200 U	100 U	10 U	1000 U
1,1,2-Trichloroethane	10 UJ	2 U	2 U	10 U	20 U	2 UJ	200 U	100 U	10 U	1000 U
1,1-Dichloroethane	10 UJ	2 U	2 U	10 U	20 U	3.96 J	200 U	100 U	10 U	1000 U
1,1-Dichloroethene	10 UJ	2 U	2 U	10 U	20 U	2 UJ	200 U	100 U	10 U	1000 U
1,2,3-Trichlorobenzene	25 UJ	5 U	5 U	40	36.3 J	5 UJ	500 U	250 U	25 U	2500 U
1,2,4-Trichlorobenzene	25 UJ	5 U	5 U	176	535 J	5 UJ	500 U	136 J	25 U	2500 U
1,2-Dibromo-3-chloropropane	50 UJ	10 U	10 U	50 U	100 U	10 UJ	1000 U	500 U	50 U	5000 U
1,2-Dibromoethane	10 UJ	2 U	2 U	10 U	20 U	2 UJ	200 U	100 U	10 U	1000 U
1,2-Dichlorobenzene	113 J	2 U	2 U	5.8 J	45 J	44.6 J	200 U	100 U	427	1000 U
1,2-Dichloroethane	10 UJ	2 U	2 U	10 U	20 U	2 UJ	200 U	100 U	10 U	1000 U
1,2-Dichloropropane	10 UJ	2 U	2 U	10 U	20 U	2 UJ	200 U	100 U	10 U	1000 U
1,3-Dichlorobenzene	10 UJ	2 U	2 U	15.8	92.2 J	12 J	200 U	51.7 J	133	1000 U
1,4-Dichlorobenzene	8.61 J	2 U	2 U	18.5	74.1 J	11.8 J	200 U	85 J	151	1000 U
1,4-Dioxane	100 UJ	20 U	20 U	100 U	200 U	20 UJ	2000 U	1000 U	100 U	10000 U
2-Butanone	50 UJ	10 U	10 U	50 U	100 U	10 UJ	1000 U	500 U	50 U	5000 U
2-Hexanone	25 UJ	5 U	5 U	25 U	50 U	5 UJ	500 U	250 U	25 U	2500 U
4-Methyl-2-pentanone	25 UJ	5 U	5 U	25 U	50 U	5 UJ	500 U	250 U	25 U	2500 U
Acetic acid, methyl ester	10 UJ	2 U	2 U	10 U	20 U	2 UJ	200 U	100 U	10 U	1000 U
Acetone	50 UJ	10 U	10 U	36 J	100 U	10 UJ	1000 U	500 U	50 U	5000 U
Benzene	16.1 J	0.7 U	0.7 U	6.88	3.87 J	20.4 J	100 U	43.9	22.1	350 U
Bromochloromethane	25 UJ	5 U	5 U	25 U	50 U	5 UJ	500 U	250 U	25 U	2500 U
Bromodichloromethane	10 UJ	2 U	2 U	10 U	20 U	2 UJ	200 U	100 U	10 U	1000 U
Bromoform	25 UJ	5 U	5 U	496	50 U	5 UJ	500 U	201 J	25 U	2500 U
Bromomethane	10 UJ	2 U	2 U	10 U	20 U	2 UJ	200 U	100 U	10 U	1000 U
Carbon disulfide	10 UJ	2 U	2 U	315	20 U	2 UJ	200 U	337	10 U	1000 U
Carbon tetrachloride	10 UJ	2 U	2 U	602	20 U	2 UJ	200 U	1530 J	10 U	10400
Chlorobenzene	362 J	2 U	2 U	36.3	374 J	129 J	200 U	113	851	1000 U
Chloroethane	10 UJ	2 U	2 U	10 U	20 U	2 UJ	200 U	100 U	10 U	1000 U
Chloroform	10 UJ	7.24	2 U	352	20 U	2 UJ	4240 J	4790 J	12.2	26600
Chloromethane	10 UJ	2 U	2 U	10 U	20 U	2 UJ	200 U	100 U	10 U	1000 U
Cis-1,2-Dichloroethene	10 UJ	2 U	2 U	10 U	20 U	17.5 J	200 U	100 U	13.7	1000 U

TABLE 3
SPRING 2015 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	MW-106	MW-114	MW-127	PW10	PW12	PW13	PW14	PW15	PW16	PW17
SAMPLE DATE:	6/2/2015	6/3/2015	6/18/2015	5/29/2015	5/29/2015	6/1/2015	5/29/2015	6/1/2015	6/1/2015	6/1/2015
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
VOCs BY SW-846 Method 8260C (µg/L)										
Cis-1,3-Dichloropropene	10 UJ	2 U	2 U	10 U	20 U	2 UJ	200 U	100 U	10 U	1000 U
Cyclohexane	50 UJ	10 U	10 U	50 U	100 U	10 UJ	1000 U	500 U	50 U	5000 U
Dibromochloromethane	10 UJ	2 U	2 U	21	20 U	2 UJ	200 U	100 U	10 U	1000 U
Dichlorodifluoromethane	10 UJ	2 U	2 U	10 U	20 U	2 UJ	200 U	100 U	10 U	1000 U
Ethyl benzene	10 UJ	2 U	2 U	10 U	51 J	2 UJ	200 U	100 U	10 U	1000 U
Isopropylbenzene	10 UJ	2 U	2 U	10 U	20 U	2 UJ	200 U	100 U	10 U	1000 U
Methyl cyclohexane	10 UJ	2 U	2 U	10 U	20 U	2 UJ	200 U	100 U	10 U	1000 U
Methyl Tertbutyl Ether	10 UJ	2 U	2 U	10 U	20 U	5.72 J	200 U	100 U	10 U	1000 U
Methylene chloride	25 UJ	5 U	5 U	13 J	50 U	5 UJ	500 U	820	25 U	5010
Styrene	25 UJ	5 U	5 U	25 U	50 U	5 UJ	500 U	250 U	25 U	2500 U
Tetrachloroethene	10 UJ	1.1 J	2 U	344	40.8 J	2 UJ	200 U	428	10 U	1420
Toluene	10 UJ	2 U	2 U	42.9	271 J	2.49 J	200 U	119	8.93 J	1000 U
trans-1,2-Dichloroethene	10 UJ	2 U	2 U	10 U	20 U	2 UJ	200 U	100 U	10 U	1000 U
trans-1,3-Dichloropropene	10 UJ	2 U	2 U	10 U	20 U	2 UJ	200 U	100 U	10 U	1000 U
Trichloroethene	10 UJ	2.38	2 U	13.5	20 U	2 UJ	200 U	100 U	10 U	1000 U
Trichlorofluoromethane	10 UJ	2 U	2 U	10 U	20 U	2 UJ	200 U	100 U	10 U	1000 U
Vinyl chloride	10 UJ	2 U	2 U	10 U	20 U	33.7 J	200 U	100 U	7.03 J	1000 U
Xylene, o	10 UJ	2 U	2 U	6.45 J	79 J	2 UJ	200 U	100 U	10 U	1000 U
Xylenes (m&p)	10 UJ	2 U	2 U	6.62 J	160 J	2 UJ	200 U	100 U	10 U	1000 U

Notes:

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

J = Estimated value

µg/L = micrograms per Liter

TABLE 3
SPRING 2015 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	PZ-101	PZ-102	PZ-103	PZ-104	PZ-105	PZ-106	PZ-107
SAMPLE DATE:	6/4/2015	6/5/2015	6/4/2015	6/3/2015	5/29/2015	5/29/2015	6/1/2015
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample
VOCs BY SW-846 Method 8260C (µg/L)							
1,1,1-Trichloroethane	2 U	40 U	10 UJ	2 U	2 UJ	10 UJ	500 U
1,1,2,2-Tetrachloroethane	2 U	40 U	10 UJ	2 U	2 UJ	10 UJ	500 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	2 U	40 U	10 UJ	2 U	2 UJ	10 UJ	500 U
1,1,2-Trichloroethane	2 U	40 U	10 UJ	2 U	2 UJ	10 UJ	500 U
1,1-Dichloroethane	2 U	40 U	10 UJ	2 U	2 UJ	10 UJ	500 U
1,1-Dichloroethene	2 U	40 U	10 UJ	2 U	2 UJ	10 UJ	500 U
1,2,3-Trichlorobenzene	5 U	100 U	25 UJ	5 U	5 UJ	25 UJ	1250 U
1,2,4-Trichlorobenzene	5 U	100 U	25 UJ	5 U	5 UJ	25 UJ	1250 U
1,2-Dibromo-3-chloropropane	10 U	200 U	50 UJ	10 U	10 UJ	50 UJ	2500 U
1,2-Dibromoethane	2 U	40 U	10 UJ	2 U	2 UJ	10 UJ	500 U
1,2-Dichlorobenzene	2 U	254	484 J	2 U	2.06 J	10 UJ	500 U
1,2-Dichloroethane	2 U	40 U	10 UJ	2 U	2 UJ	10 UJ	500 U
1,2-Dichloropropane	2 U	40 U	10 UJ	2 U	2 UJ	10 UJ	500 U
1,3-Dichlorobenzene	2 U	51.9	171 J	2 U	2 UJ	10 UJ	500 U
1,4-Dichlorobenzene	2 U	55.4	115 J	2 U	2 UJ	10 UJ	500 U
1,4-Dioxane	20 U	400 U	100 UJ	20 U	20 UJ	100 UJ	5000 U
2-Butanone	10 U	200 U	50 UJ	10 U	10 UJ	50 UJ	2500 U
2-Hexanone	5 U	100 U	25 UJ	5 U	5 UJ	25 UJ	1250 U
4-Methyl-2-pentanone	5 U	100 U	25 UJ	5 U	5 UJ	25 UJ	1250 U
Acetic acid, methyl ester	2 U	40 U	10 UJ	2 U	2 UJ	10 UJ	500 U
Acetone	10 U	200 U	50 UJ	10 U	10 UJ	50 UJ	2500 U
Benzene	1 U	24.6	17.6 J	0.913	7.28 J	6.07 J	175 U
Bromochloromethane	5 U	100 U	25 UJ	5 U	5 UJ	25 UJ	1250 U
Bromodichloromethane	2 U	40 U	10 UJ	2 U	2 UJ	10 UJ	500 U
Bromoform	5 U	100 U	25 UJ	5 U	5 UJ	25 UJ	1250 U
Bromomethane	2 U	40 U	10 UJ	2 U	2 UJ	10 UJ	500 U
Carbon disulfide	2 U	40 U	7.03 J	2 U	2.32 J	37.4 J	500 U
Carbon tetrachloride	2 U	40 U	10 UJ	2 U	2 UJ	17.3 J	4140
Chlorobenzene	2 U	735	988 J	2.14	38.3 J	10 UJ	500 U
Chloroethane	2 U	40 U	10 UJ	2 U	2 UJ	10 UJ	500 U
Chloroform	2 U	40 U	10 UJ	2 U	2 UJ	188 J	39400
Chloromethane	2 U	40 U	10 UJ	2 U	2 UJ	10 UJ	500 U
Cis-1,2-Dichloroethene	2 U	40 U	10 UJ	2 U	2 UJ	10 UJ	500 U

TABLE 3
SPRING 2015 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	PZ-101	PZ-102	PZ-103	PZ-104	PZ-105	PZ-106	PZ-107
SAMPLE DATE:	6/4/2015	6/5/2015	6/4/2015	6/3/2015	5/29/2015	5/29/2015	6/1/2015
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample
VOCs BY SW-846 Method 8260C (µg/L)							
Cis-1,3-Dichloropropene	2 U	40 U	10 UJ	2 U	2 UJ	10 UJ	500 U
Cyclohexane	10 U	200 U	50 UJ	10 U	10 UJ	50 UJ	2500 U
Dibromochloromethane	2 U	40 U	10 UJ	2 U	2 UJ	10 UJ	500 U
Dichlorodifluoromethane	2 U	40 U	10 UJ	2 U	2 UJ	10 UJ	500 U
Ethyl benzene	2 U	40 U	10 UJ	2 U	2 UJ	10 UJ	500 U
Isopropylbenzene	2 U	40 U	10 UJ	2 U	2 UJ	10 UJ	500 U
Methyl cyclohexane	2 U	40 U	10 UJ	2 U	2 UJ	10 UJ	500 U
Methyl Tertbutyl Ether	2 U	40 U	10 UJ	2 U	2 UJ	10 UJ	500 U
Methylene chloride	5 U	100 U	25 UJ	5 U	5 UJ	25 UJ	14500
Styrene	5 U	100 U	25 UJ	5 U	5 UJ	25 UJ	1250 U
Tetrachloroethene	2 U	40 U	10 UJ	2 U	2 UJ	33.4 J	1260
Toluene	2 U	40 U	9.12 J	2 U	2 UJ	10 UJ	500 U
trans-1,2-Dichloroethene	2 U	40 U	10 UJ	2 U	2 UJ	10 UJ	500 U
trans-1,3-Dichloropropene	2 U	40 U	10 UJ	2 U	2 UJ	10 UJ	500 U
Trichloroethene	2 U	40 U	10 UJ	2 U	2 UJ	10 UJ	500 U
Trichlorofluoromethane	2 U	40 U	10 UJ	2 U	2 UJ	10 UJ	500 U
Vinyl chloride	2 U	40 U	10 UJ	2 U	2 UJ	10 UJ	500 U
Xylene, o	2 U	40 U	10 UJ	2 U	2 UJ	10 UJ	500 U
Xylenes (m&p)	2 U	40 U	10 UJ	2 U	2 UJ	10 UJ	500 U

Notes:

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

J = Estimated value

µg/L = micrograms per Liter

TABLE 4
COMPARISON OF SPRING 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	JUNE 2015 RESULT	# EVENTS IN PRIOR 5 YRS	HISTORIC MAXIMUM	5-YEAR MEAN	JUNE 2015 RESULT
ON-SITE WELLS/LOCATIONS								
B-11	8	4,800	1,700		8	570	94	
B-15	4	13,000	120	95	4	1,600	0.22	ND
B-16	10	33,000	820	790	10	4,500	8.3	2.2
B-17	7	28,000,000	250,000	**380,000**	7	350,000	6,100	5,100
B-4	3	740	21		3	42	7	
B-5	4	130,000	40,000	**340,000**	4	670	210	**340**
B-7	5	9,100	360	260	5	270	26	7
BR-126	9	12,000	2,800	640	9	240	2.4	ND
BR-127	11	44,000	10,000	7,400	11	1,300	110	**220**
BR-3	5	6,500,000	42,000	860	5	930,000	81,000	2
BR-5A	10	1,700	130	32	10	9,400	16	ND
BR-6A	11	140,000	17,000	16,000	11	69,000	3,500	17
BR-7A	10	510,000	7,900	**16,000**	10	5,600	330	170
BR-8	7	230,000	140,000	**250,000**	7	7,800	820	**1,200**
BR-9	10	1,300	220	160	10	210	14	**18**
E-3	5	600	77	19	5	15,000	9.9	ND
MW-127	11	15,000	1,700	230	11	7,500	740	ND
PW10	10	500,000	120,000	**250,000**	10	120,000	1,200	**1,400**
PW12	10	15,000	650	110	10	120,000	7,700	410
PW13	10	7,500	3,400	**19,000**	10	1,800	350	130
PW14	11	44,000	3,700	450	11	160,000	15,000	4,200
PW15	10	730,000	64,000	**280,000**	10	8,300	3,300	**7,700**
PW16	9	52,000	22,000	**74,000**	9	1,200	670	**860**
PW17	5	63,000	26,000	6,900	5	66,000	39,000	**43,000**
PZ-104	10	9,100	910	750	10	52	5.5	2.1
PZ-105	10	190,000	6,800	**8,900**	10	9,900	68	38
PZ-106	11	290,000	19,000	850	11	1,400,000	310,000	240
PZ-107	11	31,000	4,800	**10,000**	11	130,000	21,000	**59,000**
W-5	2	450,000	ND		2	2,500	9	
OFF-SITE WELLS/LOCATIONS								
BR-103	5	400	2.1	ND	5	46	ND	ND
BR-104	5	3,100	2.7			11		
BR-105	10	24,000	860	**1,700**	10	350	7.9	**12**
BR-105D	10	17,000	390	62	10	230	3.9	1.9
BR-106	10	34,000	8,200	**13,000**	10	12,000	160	160
BR-108	5	1,700	17	ND		2		
BR-112D	5	310	24	19		4.3		
BR-113D	5	490	21	ND		2.8		
BR-114	5	520	20	5.7	5	12	0.2	ND
BR-116	5	12	ND			86		
BR-116D	5	710	27			130		
BR-117D	5	80	3.2	ND		1.9		
BR-118D	5	330	36	5.3		6.6		
BR-122D	5	650	74	6.1		ND		

TABLE 4
COMPARISON OF SPRING 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	JUNE 2015 RESULT	# EVENTS IN PRIOR 5 YRS	HISTORIC MAXIMUM	5-YEAR MEAN	JUNE 2015 RESULT
BR-123D	5	860	40	**74**		7		
MW-103	5	97	0.6	ND	5	750	ND	ND
MW-104	5	180	2.4			5.8		
MW-106	10	130,000	18,000	**37,000**	10	4,000	260	**360**
MW-114	5	18	1	ND	5	27	22	11
MW-16	5	360	11			10		
NESS-E	5	5,000	52			710		
NESS-W	5	6,300	ND			94		
PZ-101	10	27,000	49	42	10	620	2.8	ND
PZ-102	10	210,000	19,000	**130,000**	10	11,000	400	**740**
PZ-103	10	230,000	38,000	**180,000**	10	46,000	1,100	990
QD-1	10	11	2.4	ND		ND		
QO-2	10	380	6.6	ND		ND		
QO-2S1	10	27	1.7	ND		ND		
QS-4	10	13,000	120	70		ND		

Note:
1) Number of samples and mean reflect 5-year sampling period from May 2010 through December 2014. Historic maximum based on all available results from March 1990 through December 2014.
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** - June 2015 exceeds 5-year mean.
5) ND = Not detected
BLANK = Not sampled

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

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	QD-1	QO-2	QO-2S1	QS-4
SAMPLE DATE:	6/5/2015	6/5/2015	6/5/2015	6/5/2015
QC TYPE:	Sample	Sample	Sample	Sample
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270D (µg/L)				
2,6-Dichloropyridine	10 U	10 U	10 U	12.5
2-Chloropyridine	10 U	10 U	10 U	57.7
3-Chloropyridine	10 U	10 U	10 U	10 U
4-Chloropyridine	10 UJ	10 UJ	10 UJ	10 UJ
p-Fluoroaniline	10 U	10 U	10 U	10 U
Pyridine	10 UJ	10 UJ	10 UJ	10 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 - DECEMBER 2014 THROUGH MAY 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.]
Dec '14									
12/07/14	46,444	53,591	2	557	0	9,211	0	10,715	120,520
12/14/14	48,726	36,319	0	474	3,600	6,549	1,185	41,038	137,891
12/21/14	55,999	37,639	0	507	40,910	39,162	1,970	59,733	235,920
12/28/14	105,216	34,450	0	451	70,933	95,456	1,735	62,637	370,878
								Total [Gal.]	865,209
Jan '15									
01/04/15	92,623	20,049	0	445	55,873	114,230	747	33,638	317,605
01/11/15	112,953	28,891	0	417	66,327	127,545	1,748	52,664	390,545
01/18/15	68,556	32,372	0	407	62,747	105,764	1,665	42,092	313,603
01/25/15	67,878	40,201	0	444	58,022	97,341	1,661	39,821	305,368
								Total [Gal.]	1,327,121
Feb '15									
02/01/15	117,495	20,454	0	382	52,776	89,757	1,580	44,881	327,325
02/08/15	112,552	18,962	0	359	42,836	84,173	1,538	26,567	286,987
02/15/15	111,758	17,478	0	378	36,850	88,961	1,586	37,223	294,234
02/22/15	108,732	15,680	0	138	31,719	88,440	1,534	63,869	310,112
								Total [Gal.]	1,218,658
Mar '15									
03/01/15	108,213	15,229	0	335	28,259	85,293	1,505	60,918	299,752
03/08/15	109,823	17,386	0	300	21,658	68,330	1,526	59,101	278,124
03/15/15	125,080	14,537	0	318	21,818	76,103	1,567	56,792	296,215
03/22/15	113,896	26,475	0	241	28,981	83,807	1,628	56,553	311,581
03/29/15	117,037	31,392	0	350	29,843	90,255	1,672	51,724	322,273
								Total [Gal.]	1,507,945
Apr '15									
04/05/15	116,489	36,341	1	383	27,312	87,222	1,790	49,672	319,210
04/12/15	123,867	40,299	1	391	24,882	91,812	1,863	52,232	335,347
04/19/15	121,274	42,189	25	373	25,169	92,537	1,863	50,224	333,653
04/26/15	15,769	63,442	13	445	24,766	98,776	1,999	55,749	260,960
								Total [Gal.]	1,249,169
May '15									
05/03/15	110,147	62,384	40,192	457	21,534	88,472	2,103	49,425	374,714
05/10/15	84,217	33,026	61,223	512	24,824	49,850	2,311	45,953	301,916
05/17/15	121,446	33,658	77,281	461	25,522	82,376	2,269	55,154	398,166
05/24/15	86,389	35,070	60,653	500	25,327	62,729	2,313	28,653	301,634
05/31/15	138,330	31,829	43,428	493	19,502	36,452	2,229	38,402	310,664
								Total [Gal.]	1,687,095
Total 6 Mo. Removal (Gal.)	2,540,909	839,343	282,819	10,518	871,989	2,040,603	43,586	1,225,430	7,855,197

TABLE 7

MASS REMOVAL SUMMARY
PERIOD: DECEMBER 2014 THROUGH MAY 2015

ARCH ROCHESTER
SPRING 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	2,541,000	0.24	19	5.2	402
BR-9	839,000	0.017	0.33	0.12	2.3
PW-13	283,000	0.09	12	0.22	27
PW-14	10,500	2.8	0.7	0.25	0.06
PW-15	872,000	4.9	222	36	1610
PW-16	2,041,000	0.50	40	8.5	680
PW-17	43,500	54	35	19	13
BR-127	1,225,000	0.12	7.5	1.2	76
Totals:	7,855,000			71	2,811

Notes: VOC and pyridine concentrations used in this table are an average of the analytical results from the Fall 2014 and Spring 2015 sampling events for each well;
Total select VOCs include chlorobenzene, PCE, TCE, methylene chloride, carbon tetrachloride, and chloroform

TABLE 8
2015 SAMPLING SCHEDULE
ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

ARCH ROCHESTER						**2015**					
MONITORING PROGRAM						**SPRING**		**FALL**		**TOTAL**	
	Well	***zone***	***area***	***Frequency/Parameters***	***Purpose***	***Pyridines***	***VOCs***	***Pyridines***	***VOCs***	***Pyridines***	***VOCs***
OFF-SITE	MW-103	OB	BRBC	annual monitoring, VOCs & PYR	trend monitoring	1	1			1	1
MONITORING	BR-103	BR	BRBC	annual monitoring, VOCs & PYR	trend monitoring	1	1			1	1
	BR-105	BR	AID-HOSP	semi-annual monitoring, VOCs & PYR	perimeter sentinel/trend monitoring	1	1	1	1	2	2
	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-108	BR	AID-HOSP	annual monitoring, PYR	trend monitoring	1				1	0
	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						49	38	34	30	83	68

Revised: 01/30/15

Prepared by: JEB Checked by: NMB

Appendix A

Groundwater Field Sampling Data Sheets

FIELD REPORT

REMEDIAL INVESTIGATION SAMPLING
LONZA CHEMICAL
ROCHESTER, NEW YORK

Spring 2015 Event

Matrix Environmental Project #04-029

PREPARED FOR:

Lonza
100 McKee Road
Rochester, NY 14611

PREPARED BY:

MATRIX
ENVIRONMENTAL TECHNOLOGIES INC.
3730 California Road
Orchard Park, New York 14127

Written by: D. Robert Gill

Reviewed by: Steven L. Marchetti

Date: July 23, 2015

TABLE OF CONTENTS

1.0 INTRODUCTION

This report describes the sampling of the following points:

- 44 groundwater samples
- Two quarry outfall samples
- One quarry seep sample

These activities were in support of the Phase II Remediation Investigation being conducted at the Lonza Chemical facility in Rochester, New York. The samples were collected from May 29 through June 5, 2015 by Matrix Environmental Technologies Inc. (METI) field personnel. Pumping well MW27 was resampled on June 18, 2015 due to laboratory error.

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 flow 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. (umhos)	Temp ©	Turb (NTU)	ORP (mv)	DO (ppm)
B-15	On-Site	OB	6/4/2015	11:18	11.03	NM	7.79	0.33	19.85	39.6	-13	0.00
B-16	Off-Site	OB	6/4/2015	12:42	9.69	NM	7.92	3.24	19.69	21.2	-82	0.00
B-17	On-Site	OB	5/29/2015	13:57	11.64	NM	9.54	19.80	19.01	40.7	-143	0.00
B-5	On-Site	OB	6/1/2015	13:30	17.15	NM	Not Enough Water to Run Parameters					
B-7	On-Site	OB	6/1/2015	14:20	19.36	NM	7.11	1.98	12.14	46.3	-9	0.00
BR-103	Off-Site	BR	6/3/2015	11:50	3.11	NM	8.03	0.90	17.14	0.1	-138	0.00
BR-105	Off-Site	BR	6/2/2015	13:43	22.76	NM	7.42	3.86	13.90	16.6	-110	0.00
BR-105D	Off-Site	BR deep	6/1/2015	12:55	27.02	NM	7.38	44.50	13.44	0.0	-343	0.00
BR-106	Off-Site	BR	6/2/2015	15:26	23.30	NM	7.21	4.98	13.03	18.6	-169	0.00
BR-108	Off-Site	BR	6/2/2015	11:25	28.32	NM	7.38	1.31	11.71	650.0	25	0.00
BR-112D	Off-Site	BR deep	6/2/2015	10:43	36.18	NM	7.63	3.12	11.09	134.0	-258	0.00
BR-113D	Off-Site	BR deep	6/3/2015	8:48	31.18	NM	7.78	3.19	10.57	3.5	-321	0.00
BR-114	Off-Site	BR	6/3/2015	15:02	12.80	NM	7.60	2.42	17.93	0.0	-156	0.00
BR-117D	Off-Site	BR deep	6/3/2015	9:43	46.61	NM	7.41	65.80	12.48	48.7	-352	0.00
BR-118D	Off-Site	BR deep	6/3/2015	10:33	46.16	NM	7.58	49.50	12.49	100.0	-347	0.00
BR-122D	Off-Site	BR deep	6/2/2015	9:55	44.48	NM	7.59	5.21	11.46	2.4	-312	0.00
BR-123D	Off-Site	BR deep	6/2/2015	9:10	44.88	NM	8.17	2.44	12.46	81.6	-308	0.00
BR-126	Off-Site	BR	6/4/2015	13:35	8.98	NM	7.64	1.61	18.07	5.90	-120	0.00
BR-127	On-Site	BR	5/29/2015	12:42	10.78	NM	7.99	3.54	16.43	1.4	-134	0.00
BR-3	On-Site	BR	6/1/2015	10:50	1.24	NM	9.23	0.30	12.21	249.0	13	0.22
BR-5A	On-Site	pumping well	5/29/2015	9:37	4.18	NM	7.68	1.90	17.27	68.9	130	13.68
BR-6A	On-Site	BR	6/1/2015	9:02	16.34	NM	8.17	6.38	11.89	189.0	-284	6.44
BR-7A	On-Site	pumping well	6/5/2015	9:19	26.45	NM	7.87	3.21	16.80	3.5	-153	5.41
BR-8	On-Site	BR	6/1/2015	13:19	16.59	NM	8.15	6.24	12.34	2.1	-152	0.00
BR-9	On-Site	pumping well	6/2/2015	15:40	30.31	NM	7.50	2.94	16.37	4.1	-33	0.00
E-3	On-Site	OB	6/4/2015	9:28	8.07	NM	8.07	7.56	19.40	251.00	-244.0	0.00
MW-103	Off-Site	OB	6/3/2015	12:25	1.95	NM	7.86	0.82	19.17	0.0	-63	0.00
MW-106	Off-Site	OB	6/2/2015	14:35	13.14	NM	7.45	3.59	12.10	139.0	-213	0.00
MW-114	Off-Site	OB	6/3/2015	14:27	10.47	NM	8.12	0.80	19.54	29.9	-51	0.00
MW-127	On-Site	OB	5/29/2015	13:10	10.78	NM	7.41	5.53	19.26	0.1	1	0.00
MW-127	On-Site	OB	6/18/2015	NM	7.97	NM	NM	NM	NM	NM	NM	NM
PW-10	On-Site	pumping well	5/29/2015	10:25	11.44	NM	9.71	24.90	18.44	26.8	-169	0.00
PW-12	On-Site	BR	5/29/2015	8:48	7.86	NM	8.32	0.59	14.88	28.4	-6	0.00
PW-13	On-Site	pumping well	6/1/2015	15:00	27.80	NM	7.27	4.65	14.17	5.3	-118	0.00
PW-14	On-Site	pumping well	5/29/2015	15:00	45.66	NM	7.36	2.82	31.98	140.0	-213	0.00
PW-15	On-Site	pumping well	6/1/2015	11:10	24.65	NM	9.77	13.80	12.38	53.5	-158	2.40
PW-16	On-Site	pumping well	6/1/2015	12:35	20.46	NM	7.53	7.70	13.34	530.0	-128	0.00

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. (umhos)	Temp ©	Turb (NTU)	ORP (mv)	DO (ppm)
PW-17	On-Site	pumping well	6/1/2015	11:25	30.44	NM	7.35	3.78	13.03	1.0	-195	0.00
PZ-101	Off-Site	BR	6/4/2015	15:10	20.52	NM	7.61	3.55	19.94	24.0	-6	0.00
PZ-102	Off-Site	BR	6/5/2015	8:50	19.40	NM	7.80	5.36	17.04	49.8	-193	0.00
PZ-103	Off-Site	BR	6/3/2015	6:00	16.78	NM	8.44	4.86	19.62	0.0	-333	0.00
PZ-104	Off-Site	BR	6/3/2015	13:40	14.85	NM	7.49	3.74	16.13	0.0	-134	0.00
PZ-105	On-Site	BR	5/29/2015	11:10	16.05	NM	8.00	1.95	22.26	374.0	-137	0.00
PZ-106	On-Site	BR	5/29/2015	14:40	13.38	NM	7.57	1.88	23.72	3.1	-268	0.00
PZ-107	On-Site	BR	6/1/2015	9:55	13.23	NM	6.64	6.20	10.91	6.3	-117	0.00
QD-1	Quarry/Canal	quarry ditch	6/5/2015	10:05	NM	NA	8.52	1.56	18.31	96.4	62	13.07
QO-2	Quarry/Canal	quarry outfall	6/5/2015	11:00	NM	NA	8.55	1.48	19.11	4.7	56	17.02
QO-2SA	Quarry/Canal	canal at outfall	6/5/2015	10:52	NM	NA	8.69	0.53	21.08	15.2	47	14.64
QS-4	Quarry/Canal	quarry seep	6/5/2015	9:44	NM	NA	8.57	1.92	16.13	1.9	-19	22.00

** Water level at time of sampling

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	5/28/2015	9.66	537.75	528.09	8:15	
B-10	On-Site	OB	5/28/2015	11.72	538.80	527.08	9:45	
B-11	On-Site	OB	5/28/2015	DRY	536.00	< 521.83	9:37	
B-15	On-Site	OB	5/28/2015	8.82	535.29	526.47	11:34	
B-16	Off-Site	OB	5/28/2015	8.86	536.21	527.35	11:31	
B-17	On-Site	OB	5/28/2015	NM	538.74	NM	9:32	Pallet of drums on well
B-2	On-Site	OB	5/28/2015	10.9	539.02	528.12	11:27	
B-4	On-Site	OB	5/28/2015	21.32	542.87	521.55	10:20	
B-5	On-Site	OB	5/28/2015	17.16	540.21	523.05	10:27	
B-7	On-Site	OB	5/28/2015	16.46	541.11	524.65	11:07	
B-8	On-Site	OB	5/28/2015	12.54	538.88	526.34	9:52	
BR-1	On-Site	BR	5/28/2015	7.72	537.28	529.56	9:17	
BR-102	On-Site	BR	5/28/2015	23.15	539.43	516.28	9:07	
BR-103	Off-Site	BR	5/28/2015	14.31	533.19	518.88	14:02	
BR-104	Off-Site	BR	5/28/2015	11.19	537.56	526.37	14:16	
BR-105	Off-Site	BR	5/28/2015	23.15	536.90	513.75	11:48	
BR-105D	Off-Site	BR deep	5/28/2015	26.12	536.49	510.37	11:47	
BR-106	Off-Site	BR	5/28/2015	13.95	535.74	521.79	14:02	
BR-108	Off-Site	BR	5/28/2015	28.58	540.58	512.00	13:48	
BR-111	Off-Site	BR	5/28/2015	28.54	540.42	511.88	13:35	
BR-111D	Off-Site	BR	5/28/2015	28.88	540.34	511.46	13:36	
BR-112D	Off-Site	BR deep	5/28/2015	36.18	547.91	511.73	13:30	
BR-113	Off-Site	BR	5/28/2015	31.24	543.02	511.78	13:16	
BR-113D	Off-Site	BR deep	5/28/2015	31.24	542.93	511.69	13:14	
BR-114	Off-Site	BR	5/28/2015	13.85	539.77	525.92	14:23	
BR-116	Off-Site	BR	5/28/2015	28.70	545.38	516.68	14:48	
BR-116D	Off-Site	BR deep	5/28/2015	35.70	545.22	509.52	14:50	
BR-117	Off-Site	BR	5/28/2015	35.74	547.61	511.87	12:43	
BR-117D	Off-Site	BR deep	5/28/2015	49.45	547.16	497.71	12:41	
BR-118	Off-Site	BR	5/28/2015	36.72	547.79	511.07	12:45	
BR-118D	Off-Site	BR deep	5/28/2015	48.46	547.93	499.47	12:46	
BR-122D	Off-Site	BR deep	5/28/2015	45.45	552.34	506.89	12:58	
BR-123D	Off-Site	BR deep	5/28/2015	45.72	553.62	507.90	13:03	
BR-124D	Off-Site	BR deep	5/28/2015	32.44	537.45	505.01	14:57	
BR-126	Off-Site	BR	5/28/2015	9.53	537.90	528.37	11:39	
BR-127	On-Site	BR	5/28/2015	11.84	536.05	524.21	9:37	
BR-2	On-Site	BR	5/28/2015	13.02	538.97	525.95	9:26	
BR-2A	On-Site	BR	5/28/2015	Dry	540.36	Dry	9:28	
BR-2D	On-Site	BR deep	5/28/2015	12.93	537.26	524.33	9:27	
BR-3	On-Site	BR	5/28/2015	12.50	538.20	525.70	10:09	
BR-3D	On-Site	BR deep	5/28/2015	53.26	537.67	484.41	10:13	
BR-4	On-Site	BR	5/28/2015	12.80	539.03	526.23	9:34	
BR-5	On-Site	BR	5/28/2015	6.08	536.30	530.22	9:13	
BR-5A	On-Site	pumping well	5/28/2015	3.96	536.35	532.39	9:12	
BR-6A	On-Site	BR	5/28/2015	16.11	540.90	524.79	9:50	
BR-7	On-Site	BR	5/28/2015	19.34	539.10	519.76	11:06	
BR-7A	On-Site	pumping well	5/28/2015	31.00	539.12	508.12	11:04	
BR-8	On-Site	BR	5/28/2015	16.28	539.72	523.44	10:22	
BR-9	On-Site	pumping well	5/28/2015	30.90	542.17	511.27	9:05	
C-2A	On-Site	OB	5/28/2015	13.06	539.66	526.60	9:25	
C-5	On-Site	OB	5/28/2015	Dry	539.63	Dry	10:12	
CANAL	Off-Site	SW	5/28/2015	36.11	544.79	508.68	14:37	
E-2	On-Site	OB	5/28/2015	6.95	538.32	531.37	9:35	
E-3	On-Site	OB	5/28/2015	4.23	536.59	532.36	9:14	
E-5	On-Site	OB	5/28/2015	6.40	539.31	532.91	9:15	
EC-2	Off-Site	BR	5/28/2015	Dry	542.00	Dry	13:15	
MW-103	Off-Site	OB	5/28/2015	1.61	533.25	531.64	14:30	
MW-104	Off-Site	OB	5/28/2015	8.75	537.54	528.79	14:17	
MW-105	Off-Site	OB	5/28/2015	NM	536.91	NM		Could Not Locate Well
MW-106	Off-Site	OB	5/28/2015	12.50	535.44	522.94	14:08	
MW-114	Off-Site	OB	5/28/2015	10.16	539.69	529.53	14:20	
MW-127	On-Site	OB	5/28/2015	9.77	536.87	527.10	9:33	
MW-16	Off-Site	BR	5/28/2015	NM	536.79	NM		Inaccessible
MW-3	Off-Site	OB	5/28/2015	NM	535.89	NM		Inaccessible

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	5/28/2015	3.85	534.65	530.80	8:30	
MW-G8	Off-Site	OB	5/28/2015	7.43	534.25	526.82	11:16	
MW-G9	Off-Site	OB	5/28/2015	9.68	536.60	526.92	11:21	
N-2	On-Site	OB	5/28/2015	5.68	537.33	531.65	9:18	
N-3	On-Site	OB	5/28/2015	7.89	537.38	529.49	8:13	
NESS-E	Off-Site	BR deep	5/28/2015	26.02	540.31	514.29	14:14	
NESS-W	Off-Site	BR deep	5/28/2015	31.25	543.04	511.79	14:09	
PW-10	On-Site	pumping well	5/28/2015	11.14	538.76	527.62	9:30	
PW-12	On-Site	BR	5/28/2015	7.63	537.49	529.86	9:09	
PW-13	On-Site	pumping well	5/28/2015	28.26	536.13	507.87	11:01	
PW-14	On-Site	pumping well	5/28/2015	45.74	537.03	491.29	10:38	
PW-15	On-Site	pumping well	5/28/2015	31.68	538.32	506.64	10:04	
PW-16	On-Site	pumping well	5/28/2015	20.20	539.32	519.12	10:18	
PW-17	On-Site	pumping well	5/28/2015	30.40	NA	NA	10:09	
PZ-101	Off-Site	BR	5/28/2015	19.36	542.95	523.59	10:57	
PZ-102	Off-Site	BR	5/28/2015	19.18	540.89	521.71	10:55	
PZ-103	Off-Site	BR	5/28/2015	16.28	540.20	523.92	10:59	
PZ-104	Off-Site	BR	5/28/2015	15.03	536.85	521.82	11:31	
PZ-105	On-Site	BR	5/28/2015	12.10	536.93	524.83	9:54	
PZ-106	On-Site	BR	5/28/2015	12.13	537.24	525.11	10:35	
PZ-107	On-Site	BR	5/28/2015	13.50	538.39	524.89	9:47	
PZ-109	On-Site	BR	5/28/2015	12.92	538.59	525.67	10:06	
PZ-110	On-Site	BR	5/28/2015	14.57	NA	NA	10:07	
PZ-111	On-Site	BR	5/28/2015	5.83	NA	NA	10:08	
W-5	On-Site	OB	5/28/2015	NM	538.53	NM		Inaccessible

APPENDIX A
FIELD OBSERVATION FORMS

5-28-15

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		9.66	537.75	537.75	8:15	
B-10	On-Site	OB		11.72	538.80	538.80	9:45	
B-11	On-Site	OB		DRY	536.00	< 521.83	9:37	Dry (at 11.17) ~~Plug~~ 4.44
B-15	On-Site	OB	8.82	DRY	535.29	535.29	~~9:43~~ 11:34	~~Dry at 4.44~~
B-16	Off-Site	OB		8.36	536.21	536.21	11:33	
B-17	On-Site	OB		NS-i	538.74	538.74	9:32	pallet of drums
B-2	On-Site	OB		10.90	539.02	539.02	11:27	
B-4	On-Site	OB		21.32	542.87	542.87	10:20	
B-5	On-Site	OB		17.16	540.21	540.21	10:27	
B-7	On-Site	OB		16.46	541.11	541.11	11:07	
B-8	On-Site	OB		12.54	538.88	538.88	9:52	
BR-1	On-Site	BR		7.72	537.28	537.28	9:17	
BR-102	On-Site	BR		23.15	539.43	539.43	9:07	
BR-103	Off-Site	BR		14.31	533.19	533.19	4.02	
BR-104	Off-Site	BR		11.79	537.56	537.56	14:16	
BR-105	Off-Site	BR		23.15	536.90	536.90	11:48	
BR-105D	Off-Site	BR deep		26.13	536.49	536.49	11:47	
BR-106	Off-Site	BR		33.95	535.74	535.74	14:02	
BR-108	Off-Site	BR	28.58	~~28.58~~	~~540.58~~	540.58	~~13:36~~	13:48
BR-111	Off-Site	BR		28.54	540.42	540.42	13:35	
BR-111D	Off-Site	BR		28.90	540.34	540.34		13:36
BR-112D	Off-Site	BR deep		36.18	547.91	547.91	13:30	
BR-113	Off-Site	BR		31.24	543.02	543.02	13:16	
BR-113D	Off-Site	BR deep		31.54	542.93	542.93	13:14	
BR-114	Off-Site	BR		13.85	539.77	539.77	14:3[illegible]	
BR-116	Off-Site	BR		38.70	545.38	545.38	14:46	Dup 140
BR-116D	Off-Site	BR deep	35.70	~~38.70~~	545.22	545.22	~~14:48~~	Not Dup 14:50
BR-117	Off-Site	BR		35.74	547.61	547.61	12:43	
BR-117D	Off-Site	BR deep		49.45	547.16	547.16	12:41	
BR-118	Off-Site	BR		36.70	547.79	547.79	12:45	
BR-118D	Off-Site	BR deep		48.48	547.93	547.93	12:46	
BR-122D	Off-Site	BR deep		45.48	552.34	552.34	12.58	
BR-123D	Off-Site	BR deep		45.72	553.62	553.62	13.03	
BR-124D	Off-Site	BR deep		32.44	537.45	537.45	14:57	
BR-126	Off-Site	BR		9.53	537.90	537.90	11:39	well under debris
BR-127	On-Site	BR		11.84	534.80	534.80	9:32	pumping
BR-2	On-Site	BR		13.02	538.97	538.97	9:26	
BR-2A	On-Site	BR		DRY	540.36	540.36	9:28	
BR-2D	On-Site	BR deep		12.93	537.26	537.26	9:27	
BR-3	On-Site	BR		13.50	538.20	538.20	10:09	debris in well Damaged steel cap
BR-3D	On-Site	BR deep		53.26	537.67	537.67	10:13	
BR-4	On-Site	BR		12.80	539.03	539.03	9:34	
BR-5	On-Site	BR	6.08	~~6.30~~	536.30	536.30	9:13	6.0
BR-5A	On-Site	pumping well		3.96	536.35	536.35	9:12	
BR-6A	On-Site	BR		16.11	540.90	540.90	9:50	
BR-7	On-Site	BR		19.34	539.10	539.10	11:06	
BR-7A	On-Site	pumping well		31.06	539.12	539.12	11:04	
BR-8	On-Site	BR		16.58	539.72	539.72	10:32	
BR-9	On-Site	pumping well		30.90	542.17	542.17	9:05	
C-2A	On-Site	OB		13.06	539.66	539.66	9:25	
C-5	On-Site	OB		DRY	539.63	539.63	10:12	13.15 Dry
CANAL	Off-Site	SW		36.11	544.79	544.79	14:3[illegible]	
E-2	On-Site	OB		6.95	538.32	538.32	9:35	
E-3	On-Site	OB		4.23	536.59	536.59	9:14	
E-5	On-Site	OB		6.40	539.31	539.31	9:15	
EC-2	Off-Site	BR		DRY	542.00	542.00	1315	8.70 DTB
MW-103	Off-Site	OB		1.61	533.25	533.25	14:30	
MW-104	Off-Site	OB		8.95	537.54	537.54	14:17	NO Plug
MW-105	Off-Site	OB		—	536.91	536.91	CAN-T find it	
MW-106	Off-Site	OB		12.50	535.44	535.44	14:00	
MW-114	Off-Site	OB		10.16	539.69	539.69	14:20	
MW-127	On-Site	OB		9.77	536.87	536.87	9:33	
MW-16	Off-Site	BR		NS-i	536.79	536.79	—	
MW-3	Off-Site	OB			535.89	535.89		NS-i

35.70 ⊖ 3.24 3.24 ~~4.64~~

5-28-15

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		3.85	534.65	534.65	8:30	
MW-G8	Off-Site	OB		7.43	534.25	534.25	11:16	
MW-G9	Off-Site	OB	9.08	~~7.08~~	536.60	536.60	11:21	
N-2	On-Site	OB		5.68	537.33	537.33	9:18	
N-3	On-Site	OB		7.81	537.38	537.38	8:13	
NESS-E	Off-Site	BR deep		26.05	540.31	540.31	14:14	
NESS-W	Off-Site	BR deep		31.25	543.04	543.04	14:09	
PW-10	On-Site	pumping well		11.14	538.76	538.76	9:30	
PW-12	On-Site	BR		7.63	537.49	537.49	9:09	new lid?
PW-13	On-Site	pumping well		38.26	536.13	536.13	10:21	
PW-14	On-Site	pumping well		45.74	537.03	537.03	10:38	
PW-15	On-Site	pumping well		31.68	538.32	538.32	10:04	
PW-16	On-Site	pumping well		20.20	539.32	539.32	10:18	
PW-17	On-Site	pumping well		30.40	NA	#VALUE!	10:09	
PZ-101	Off-Site	BR		19.36	542.95	542.95	10:57	
PZ-102	Off-Site	BR		19.18	540.89	540.89	10:55	
PZ-103	Off-Site	BR		16.28	540.20	540.20	10:59	
PZ-104	Off-Site	BR		15.43	536.85	536.85	11:31	
PZ-105	On-Site	BR		12.10	536.93	536.93	9:54	
PZ-106	On-Site	BR		13.13	537.24	537.24	10:35	
PZ-107	On-Site	BR		13.50	538.39	538.39	9:47	
PZ-109	On-Site	BR		12.92	538.59	538.59	10:06	
PZ-110	On-Site	BR		14.57	NA	#VALUE!		
PZ-111	On-Site	BR		5.83	NA	#VALUE!	10:07	
W-5	On-Site	OB			538.53	538.53	11:03	NSL

PW11 26.65

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: PW14

SAMPLING INFORMATION

Date/Time 5-29-15 Water Level at Sampling (ft) 45.66

Method of Sampling Pumping well, sample port 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
15:00	31.98	~~7.6~~ 7.36	2.82 mS/cm	140	-213	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: 80°F overcast

Sample characteristics: cloudy, flakes

Comments and Observations:

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

Date: 5-29-15 by: DFC+PB Company: Matrix

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: PZ106

Field Personnel: DK+PB Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 5-29-15 14:12 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: 5-29-15 Date/Time Completed: 14:50

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

Initial Water Level (ft): 11.88 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): ____ Purged to Dryness: Y / (N)

Purge Observations: Start clear Finish same, black particles

PURGE DATA (if applicable)

mL/min mS/cm

Time	Water Level	Purge Rate (~~gpm~~/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos~~/cm)	Turb. (NTU)	ORP	DO	Other
14:20	12.75	125		25	7.40	2.09	30.4	-202	1.26	
14:25	13.35			23.12	7.40	1.89	19.2	-217	0.00	
14:30	13.35			23.85	7.51	1.87	9.5	-248	0.00	
14:35	13.36			23.6	7.55	1.88	5.3	-260	0.00	
14:40	13.38			23.72	7.57	1.88	3.1	-268	0.00	
↳SAMPLE										

FIELD OBSERVATIONS

Facility: Lonza | Sample Point ID: B17

Field Personnel: DK + PB | Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 5-29 13:30 | Condition of seal: (✓) Good ( ) Cracked ____ %

( ) None ( ) Buried

Prot. Casing/Riser Height: ____ | Condition of Prot. Casing/Riser: (✓) unlocked ( ) Good 4" Box

( ) loose (✓) flush mount

( ) Damaged No bolts Box filled w/dirt

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: 5/29/15 1334 | Date/Time Completed: 14:06

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

Initial Water Level (ft): 11.59 | 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): ____ | Purged to Dryness: Y / (N)

Purge Observations: | Start Brwn, cloudy Finish Same

PURGE DATA (if applicable)

mS/cm

Time	Water Level	Purge Rate ~~(gpm/htz)~~	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~)	Turb. (NTU)	ORP	DO	Other
13:37	11.62	250		21.16	9.50	20.2	139	-203	0.00	
13:42	11.63	125		19.04	9.53	20.9	138	-209	0.00	
13:47	11.63			18.85	9.55	20.2	79.1	-211	0.00	
13:52	11.63			18.93	9.55	20.0	54	-144	0.00	
13:57	11.64			19.01	9.54	19.8	40.7	-143	0.00	
↳ Sample										

77°F Sun, Clouds, wind

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: MW27

Field Personnel: DK+PR Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 12:48 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: 5/29 12:50 Date/Time Completed: 13:22

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

Initial Water Level (ft): 9.71 Elevation G/W MSL: ____

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

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

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

Purge Observations: Start Clean Finish ~~Cl~~ Clean

PURGE DATA (if applicable)

Time	Water Level	Purge Rate ~~(gpm/htz)~~	Cumulative Volume	Temp (C)	pH (SU)	Conductivity ~~(umhos/cm)~~ mS/cm	Turb. (NTU)	ORP	DO	Other
12:55	10.06	250mL/min		24.46	7.22	4.74	5.1	29	0.00	
13:00	10.20	125		19.74	7.32	5.37	1.2	10	0.00	
13:05	10.36			19.42	7.38	5.52	0.8	5	0.00	
13:10	10.41			19.26	7.41	5.53	0.1	1	0.00	
↳	Sample									

75°F, Sunny

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: BR 127

SAMPLING INFORMATION

Date/Time 5-29-15 Water Level at Sampling (ft) 10.78

Method of Sampling 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
12:42	16.43	7.99	3.54 ms/cm	1.4	-134	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: 74°F Sunny

Sample characteristics: Clear

Comments and Observations:

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

Date: 5-29-15 by: DK + PB Company: Matrix

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: PZ105

Field Personnel: DK+PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 5-29-15 10:40

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

( ) None (✓) Buried Box filled w/dirt

2" PVC

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: 5-29-15

Date/Time Completed: 11:25

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

Riser Diameter (inches) 2"

Initial Water Level (ft): 12.06

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): ____

Purged to Dryness: Y / N

Purge Observations:

Start black, cloudy Finish same

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (~~gpm~~ ml/min)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~ mS/cm)	Turb. (NTU)	ORP	DO	Other
10:50	13.13	250		23.81	8.07	2.03	758	-83	18.23	
10:55	14.50	125		22.35	7.95	1.96	526	-136	0.00	
11:00	15.10			22.19	7.96	1.96	508	-139	0.00	
11:05	15.53			22.26	7.97	1.96	417	-136	0.00	
11:10	16.05			22.26	8.00	1.95	374	-137	0.00	
↳ sample										

73°F Sunny, lovely breeze

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: PW10

Field Personnel: DK+PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 5/29/15 9:56

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: 5-29 10:01

Date/Time Completed: 10:35

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

Riser Diameter (inches) 6" SS Leak

Initial Water Level (ft): 11.11

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): ____

Purged to Dryness: Y / (N)

Purge Observations:

Start Brwn, clear Finish Brwn, cloudy

PURGE DATA (if applicable)

mL/min mS/cm

Time	Water Level	Purge Rate (~~gpm/htz~~)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~)	Turb. (NTU)	ORP	DO	Other
10:05	11.33	250		20.24	9.63	23.4	187	-153	11.8	
10:10	11.38	125		18.80	9.61	24.2	120	-160	0.00	
10:15	11.41			18.55	9.66	24.6	62.4	-164	0.00	
10:20	11.42			18.51	9.69	24.8	51.9	-167	0.00	
10:25	11.44			18.44	9.71	24.9	26.8	-169	0.00	
	↓	SAMPLE								

71°F, Sunny

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: BR5A

Field Personnel: PB+DK

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 5-29-15 9:05

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

(X) None ( ) Buried Hot Box

Prot. Casing/Riser Height: ____

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

if prot casing; depth to riser below: ____

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

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

PURGE INFORMATION

Date/Time Initiated: 5-29 9:11

Date/Time Completed: 9:48

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

Riser Diameter (inches) 6" inside 8" steel

Initial Water Level (ft): 4.00

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): Apx 2L

Purged to Dryness: Y / (N)

Purge Observations:

Start clear/light brown Finish Same

PURGE DATA (if applicable)

mL/min ~~25~~ mS/cm

Time	Water Level	Purge Rate (~~gpm/hr~~)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~)	Turb. (NTU)	ORP	DO	Other
9:17	4.10	250		18.23	7.62	1.79	202	133	4.2	
9:22	4.13	125		16.89	7.64	1.85	95.7	131	17.47	
9:27	4.15	125		16.82	7.66	1.87	76.8	129	11.88	
9:32	4.16	125		17.25	7.68	1.89	69.4	131	13.98	
9:37	4.18	125		17.27	7.68	1.90	68.9	130	13.68	
↳sample										

70°F, Sunny

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: PW12

Field Personnel: DK + PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 5-29-15 Friday 8:15

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

Prot. Casing/Riser Height: 6" Steel

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

lid on vault is stiff

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: 5-29 TH 8:23

Date/Time Completed: 5-29-15 8:56

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

Riser Diameter (inches) 6"

Initial Water Level (ft): 7.66

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): ____

Purged to Dryness: Y / (N)

Purge Observations:

Start clear Finish clear

PURGE DATA (if applicable) mL/min mS/cm

Time	Water Level	Purge Rate (~~gpm~~/mL)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~)	Turb. (NTU)	ORP	DO	Other
8:28	7.78	125		15.96	8.19	0.576	104	76	29	
8:33	7.83			15.53	8.09	0.592	70.3	68	0.00	
8:38	7.84			15.22	8.12	0.589	42.5	35	0.00	
8:43	7.86			14.99	8.22	0.589	32.7	-13	0.00	
8:48	7.86			14.88	8.32	0.590	28.4	-60	0.00	
→ Sample										

70°F, Sunny

FIELD OBSERVATIONS

Facility: Lonza- Arch Sample Point ID: BR105D

Field Personnel: DK + DB Sample Matrix: Gw

MONITORING WELL INSPECTION

Date/Time: 6-1-15 12:25 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: 6-2-15 12:31 Date/Time Completed: 13:10

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

Initial Water Level (ft): 24.88 Elevation G/W MSL: ____

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

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

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

Purge Observations: Start Clear Finish Clear ~~Soft~~ no odor

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (~~gpm~~ mL/min)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~ mS/cm)	Turb. (NTU)	ORP	DO	Other
12:35	26.14	250		14.01	7.34	30	20	-311	7.69	
12:40	26.62	250		13.40	7.41	41.4 mS/cm	5.6	-336	0.00	
12:45	29.90	125		13.31	7.43	42	2.7	-337	0.00	
12:50	29.95	125		13.39	7.40	43	0.00	-342	0.00	
12:55	27.02			13.44	7.38	44.5	0.00	-343	0.00	
↳	Sample									

56°F Cloudy

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: B5

Field Personnel: _____

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6/1/15 13:30

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: 6-1-15 13:32

Date/Time Completed: _____

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

Riser Diameter (inches) 1.5" Riser

Initial Water Level (ft): 17.15

Elevation G/W MSL: _____

Well Total Depth (ft): 17.80

Method of Well Purge _____

One (1) Riser Vol (gal): _____

Dedicated: (Y)/ N

Total Volume Purged (gal): _____

Purged to Dryness: (Y)/ N

Purge Observations: large ammount of sand in water

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
	Not enough water in well to run parameters									

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: PW13

SAMPLING INFORMATION

Date/Time 6-1-15 Water Level at Sampling (ft) 27.80

Method of Sampling Pumping well, sample port 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
15:00	14.17	7.27	4.65 mS/cm	5.3	-118	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: 50°F lightning

Sample characteristics: clear

Comments and Observations:

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

Date: 6-1-15 by: DK+PB Company: Matrix

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: BR8

Field Personnel: DK+PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-1-15 12:50

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: 6-1-15 12:54

Date/Time Completed: 13:28

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

Riser Diameter (inches) 6" steel

Initial Water Level (ft): 16.23

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): ____

Purged to Dryness: Y / N

Purge Observations:

Start clear, particles, Finish Same

PURGE DATA (if applicable)

mS/cm

Time	Water Level	Purge Rate ~~(gpm/htz)~~	Cumulative Volume	Temp (C)	pH (SU)	Conductivity ~~(umhos/cm)~~	Turb. (NTU)	ORP	DO	Other
12:58	16.58	125 mL/min		12.34	8.58	6.38	32.6	-108	8.47	
13:03	16.59	<125		12.27	8.25	6.40	29.5	-125	0.00	
13:08	16.59			12.25	8.16	6.41	25.5	-146	0.00	
13:13	16.59			12.30	8.14	6.42	22.5	-152	0.00	
13:18	16.59			12.34	8.15	6.24	21.1	-152	0.00	
13:19	SAMPLE									

FIELD OBSERVATIONS

Facility: Lonza - Arch Sample Point ID: B7

Field Personnel: DK + PB Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-1-15 13:50 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: 6-1-15 13:55 Date/Time Completed: 14:30

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

Initial Water Level (ft): 16.20 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): ____ Purged to Dryness: Y / N

Purge Observations: Start Brwn ~~Strong~~ cloudy Finish Clean

ms/cm

PURGE DATA (if applicable)

mL/min

Time	Water Level	Purge Rate (~~gpm~~/mL)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~)	Turb. (NTU)	ORP	DO	Other
14:00	17.78	125mL/min		12.69	7.17	2.12	574	1	0.00	
14:05	18.68			12.51	7.10	2.14	231	25	0.00	
14:10	19.12			12.41	7.09	2.10	140	6	0.00	
14:15	19.24	<125		12.24	7.10	2.05	72.6	-8	0.00	
14:20	19.36			12.14	7.11	1.98	46.3	-9	0.00	
→ Sample										

50°F. MIST

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: BR ~~MW~~ GA

Field Personnel: DKT BB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-1-15 8:25

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

( ) None ( ) Buried

Prot. Casing/Riser Height: 4" Stee

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: 6-1-15 8:33

Date/Time Completed: 9:21

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

Riser Diameter (inches) 4" Steel

Initial Water Level (ft): 15.62

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): ____

Purged to Dryness: Y / N

Purge Observations:

Start Brown turbid Finish cleaner but still cloudy

PURGE DATA (if applicable)

mL/min mS/cm

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other
8:42	15.97	300		11.68	7.68	6.36	0.0	-157	50.00	
8:47	15.99	250		11.81	7.89	6.38	861	-189	15.60	
8:52	16.18	125		11.91	8.07	6.37	328	-265	10.52	
8:57	16.28			11.89	8.12	6.38	217	-283	8.12	
9:02	16.34			11.89	8.17	6.38	189	-284	6.44	
↳	sample									

45°F, Misty Rain

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: PZ107

Field Personnel: DK + PR

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-1-15 9:27

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: 6-1-15 9:31

Date/Time Completed: 10:11

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

Riser Diameter (inches) 2" PVC

Initial Water Level (ft): 12.79

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:

Start Clear Finish ____

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (~~gpm/htz~~) mL/min	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~) mS/cm	Turb. (NTU)	ORP	DO	Other
9:35 ~~9:30~~	13.26	250		11.17	6.67	5.80	6.3	-85	19.27	
9:40	13.24	125		11.05	6.62	6.15	4.5	-102	0.00	
9:45	13.24	<125		10.98	6.63	6.20	5.6	-108	0.00	
9:50	13.24			10.93	6.63	6.21	5.9	-112	0.00	
9:55	13.23			10.91	6.64	6.20	6.3	-117	0.00	
↳ Sample										

47°F, Misty Rain

FIELD OBSERVATIONS

Facility: Lonza Arch Sample Point ID: PW 16

SAMPLING INFORMATION

Date/Time 6-1-15 Water Level at Sampling (ft) 20.46

Method of Sampling Pumping well, sampled discharge stream Dedicated: Y / N

Multi-phased/layered: Y / N → sample port If yes: ( ) Light ( ) Heavy

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity ~~(umhos/cm)~~	Turb. (NTU)	ORP	DO	Other
12:35	13.34	7.53	7.70 mS/cm	530	-128	0.00	

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: 50°F, Mist

Sample characteristics: Brown, cloudy, turbid

Comments and Observations:

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

Date: 6-1-15 by: OK + PB Company: Matrix

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: PW17

SAMPLING INFORMATION

Date/Time 6-1-15 11:30 Water Level at Sampling (ft) 30.44

Method of Sampling pumping well sample port Dedicated: Y / N

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

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity ~~(umhos/cm)~~	Turb. (NTU)	ORP	DO	Other
11:35	13.03	7.35	3.78 mS/cm	1.0	-195	0.00	

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: 48°F, Misty Rain

Sample characteristics: Clear

Comments and Observations: rotten egg odor

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

Date: 6-1-15 by: DLC + PB Company: MATRIX

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: PW15

SAMPLING INFORMATION

Date/Time 6-1-1 11: Water Level at Sampling (ft) 24.65

Method of Sampling Pumping well, extraction hose Dedicated: (Y) / N

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

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity ~~(umhos/cm)~~ mS/cm	Turb. (NTU)	ORP	DO	Other
11:10	12.38	9.77	13.8	53.5	-158	2.40	

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: 47°F, Misty Rain

Sample characteristics: Clear, Brown tint

Comments and Observations:

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

Date: 6-1-15 by: DK + OB Company: Matrix

FIELD OBSERVATIONS

Facility: Lonza | Sample Point ID: BR3

Field Personnel: DK + DB | Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-4-15 10:20 | Condition of seal: ( ) Good (✓) Cracked ____ %

(✓) None ( ) Buried

Well filled w/ surface water from Rain.

Prot. Casing/Riser Height: ____ | Condition of Prot. Casing/Riser: (✓) unlocked ( ) Good (✓) loose ( ) flush mount (✓) Damaged Protop damaged,

well must have had gravel go in it. pushed over by snow plow

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: 6-4-15 10:26 | Date/Time Completed: 11:02

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

Initial Water Level (ft): ____ | Elevation G/W MSL: 1.24

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

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

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

Purge Observations: Start Clear Finish light brown cloudy

PURGE DATA (if applicable)

mS/cm

Time	Water Level	Purge Rate (~~gpm/htz~~)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~)	Turb. (NTU)	ORP	DO	Other
10:30	1.24	250mL/min		12.38	8.37	0.332	207	-83	1842	
10:35	1.24	250		12.34	8.89	0.301	149	-33	3.22	
10:40	1.24	125		12.22	9.16	0.296	146	-1	0.78	
10:45	1.24			12.20	9.21	0.3000	193	7	0.00	
10:50	1.24			12.21	9.23	0.303	249	13	0.22	
↳ Sample										

FIELD OBSERVATIONS

Facility: Lonza - Arch Sample Point ID: BCR 23 D

Field Personnel: DK + PB Sample Matrix: Gw

MONITORING WELL INSPECTION

Date/Time: 6-2-15 8:20 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: 6-2-15 8:30 Date/Time Completed: 9:18

Surf. Meas. Point: (✓) Pro Casing (✓) ~~Riser~~ Riser Diameter (inches) 4" Steel

Initial Water Level (ft): 44.85 Elevation G/W MSL:

Well Total Depth (ft): Method of Well Purge Bladder Pump

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

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

Purge Observations: Start Cloudy, black Finish same

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
8:50	44.88	175 ml/min		12.43	8.09	2.44	171	-222	34.40	
8:55	44.88	125		12.33	8.02	2.44	120	-268	0.00	
9:00	44.88	125		12.40	8.10	2.44	99	-291	0.00	
9:05	44.88			12.58	8.15	2.44	99	-301	0.00	
9:10	44.88			12.46	8.17	2.44	81.6	-308	0.00	
↳	Sample									

FIELD OBSERVATIONS

Facility: Lonza - Arch

Sample Point ID: BR122D

Field Personnel: DK + PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-2-15 9:28

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: 6-2-15 9:32

Date/Time Completed: 10:01

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

Riser Diameter (inches) 4" Steel

Initial Water Level (ft): 44.50

Elevation G/W MSL: ____

Well Total Depth (ft): ____

Method of Well Purge Bladder pump

One (1) Riser Vol (gal): ____

Dedicated: Y / (N)

Total Volume Purged (gal): ____

Purged to Dryness: Y / (N)

Purge Observations:

Start clear/black particles Finish Clear

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~ mS/cm)	Turb. (NTU)	ORP	DO	Other
9:35	44.50	250 mL/min		11.96	7.38	4.32	14	~~238~~	0.00	
9:40	44.50	250		11.91	7.52	4.93	2.5	-283	0.00	
9:45	44.48			11.44	7.55	5.14	0.1	-298	0.00	
9:50	44.48			11.47	7.59	5.21	1.5	-309	0.00	
9:55	44.48			11.46	7.59	5.21	2.4	-312	0.00	
↳ Sample										

50°F, cloudy

FIELD OBSERVATIONS

Facility: Arch Sample Point ID: BR112D

Field Personnel: DK HPB Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-2-15 10:12 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: 6-2-15 10:18 Date/Time Completed: 10:50

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

Initial Water Level (ft): 36.15 Elevation G/W MSL: ____

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

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

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

Purge Observations: Start Cloudy, gray Finish clearer

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
10:23	36.20	mL/min 250		11.67	7.51	3.32	0.0	-189	0.00	
10:28	36.18	125		11.30	7.58	3.20	0.00	-260	0.00	
10:33	36.18			11.12	7.61	3.15	233	-261	0.00	
10:38	36.18			11.10	7.63	3.14	196	-259	0.00	
10:43	36.18			11.09	7.63	3.12	134	-258	0.00	
→ Sample										

51°F, Cloudy

FIELD OBSERVATIONS

Facility: Lonza - ARCH Sample Point ID: BR108

SAMPLING INFORMATION

Date/Time: 6-2-15 11:25 Water Level at Sampling (ft): 28.32

Method of Sampling: stainless steel bailer Dedicated: Y / N

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

6" Steel procasing

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity ~~(umhos/cm)~~	Turb. (NTU)	ORP	DO	Other
11:25	11.71	7.38	1.131 mS/cm	650	25	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: 54F, cloudy

Sample characteristics: cloudy, red/orange particles

Comments and Observations:

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

Date: 6-2-15 by: DK + PB Company: Matrix

FIELD OBSERVATIONS

Facility: Lonza - Ancs Sample Point ID: BR9

SAMPLING INFORMATION

Date/Time: 6-2-15 15:38 Water Level at Sampling (ft): 30.31

Method of Sampling: Pumping Well Dedicated: (Y) / N

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

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other
15:40	16.37	7.50	2.94 ms/cm	4.1	-33	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: 68F, Sunny

Sample characteristics: Clear, slight sulfur odor

Comments and Observations:

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

Date: 6-2-15 by: DK + PB Company: Matrix

FIELD OBSERVATIONS

Facility: Lonza-Arch Sample Point ID: BR106

Field Personnel: DK+PB Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-2-15 14:40 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: 6-2-15 14:44 Date/Time Completed: 15:28

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

Initial Water Level (ft): 23.30 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): ____ Purged to Dryness: Y / (N)

Purge Observations: Start clear w/ black particles Finish clear, fewer particles

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz) mL/min	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (umhos/cm) mS/cm	Turb. (NTU)	ORP	DO	Other
15:00	23.31	250		13.15	7.29	4.95	36.4	-113	0.00	
15:05	23.30	125		13.05	7.28	4.96	20.4	-132	0.00	
15:10	23.30			13.14	7.25	4.98	23.8	-141	0.00	
15:15	23.30			13.02	7.24	4.98	19.9	-163	0.00	
15:20	23.30			13.03	7.21	4.98	18.6	-169	0.00	
↳ SAMPLE										

64°F, Sunshine

FIELD OBSERVATIONS

Facility: Lonza – Arch

Sample Point ID: MW106

Field Personnel: DK+PB

Sample Matrix: Gw

MONITORING WELL INSPECTION

Date/Time: 6-2-15 14:05

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: 6-2-15 14:40

Date/Time Completed: 14:44

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

Riser Diameter (inches) 2"

Initial Water Level (ft): 12.48

Elevation G/W MSL: ____

Well Total Depth (ft): ____

Method of Well Purge peristaltic pump

One (1) Riser Vol (gal): ____

Dedicated: (Y) / N

Total Volume Purged (gal): ____

Purged to Dryness: Y / (N)

Purge Observations:

Start cloudy, orange stem

Finish orange, clearer

PURGE DATA (if applicable) Horiba

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other
14:15	12.97	125 mL/min		13.10	7.33	2.90	1,000	-80	0.00	
14:20	13.05			13.01	7.32	2.86	748	-91	0.00	
14:25	13.10			12.88	7.37	3.17	448	-161	0.00	
14:30	13.13			12.23	7.41	3.38	261	-190	0.00	
14:35	13.14			12.10	7.45	3.59	139	-213	0.00	
→ SAMPLE										

60°F, Cloudy

FIELD OBSERVATIONS

Facility: Arch - Lonza

Sample Point ID: BR105

Field Personnel: DK+PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-2-15 13:15

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: 6-2-15 13:20

Date/Time Completed: 14:00

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

Riser Diameter (inches) 6" steel

Initial Water Level (ft): 22.76

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): ____

Purged to Dryness: Y / N

Purge Observations:

Start Brown Finish Clear

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (~~gpm/hr~~) mL/min	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~) mS/cm	Turb. (NTU)	ORP	DO	Other
13:23	22.76	250		14.01	7.54	4.48	424	-182	19.10	
13:28	22.76	125		13.90	7.34	4.11	428	-164	0.00	
13:33	22.76	62.5		13.80	7.39	3.93	133	-142	0.00	
13:38	22.76			13.84	7.41	3.87	21.2	-128	0.00	
13:43	22.76			13.90	7.42	3.86	16.6	-110	0.00	
↳	SAMPLE									

58°F Cloudy

FIELD OBSERVATIONS

Facility: Lonza-Arch

Sample Point ID: BR114

Field Personnel: DKtpB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-3-15 14:35

Condition of seal: (/) Good ( ) Cracked 6" plug %

( ) None ( ) Buried

Prot. Casing/Riser Height: _____

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

( ) 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: 6-3-15 14:40

Date/Time Completed: 15:13

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

Riser Diameter (inches) 6" Steel

Initial Water Level (ft): 12.76

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): _____

Purged to Dryness: (Y) N

Purge Observations:

Start Clear Finish Clean

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (~~gpm/hlz~~ mL/min)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~ mS/cm)	Turb. (NTU)	ORP	DO	Other
14:42	12.80	200		19.38	7.78	1.90	0.0	-87	0.00	
14:47	12.80	150		18.18	7.56	2.24	1.2	-128	0.00	
14:52	12.80	150		18.25	7.58	2.36	0.0	-142	0.00	
14:57	12.80			18.02	7.59	2.40	0.0	-150	0.00	
15:02	12.80			17.93	7.60	2.42	0.0	-156	0.00	
→ SAMPLE										

Sunny, 74°F

Lovely Breeze

FIELD OBSERVATIONS

Facility: Lonza Arch

Sample Point ID: MW114

Field Personnel: DK + PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-3-15 14:00

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

(✓) None ( ) Buried

Prot. Casing/Riser Height: ____

Condition of Prot. Casing/Riser: ( ) unlocked (✓) Good – Lid, Road Box

( ) 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: 6-3-15 14:02

Date/Time Completed: 14:40

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

Riser Diameter (inches) 2" PVC

Initial Water Level (ft): 8.63

Elevation G/W MSL: ____

Well Total Depth (ft): ____

Method of Well Purge Peristaltic

One (1) Riser Vol (gal): ____

Dedicated: Y (✓)

Total Volume Purged (gal): ____

Purged to Dryness: Y (✓) N

Purge Observations:

Start Clear Finish Cloudy

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (~~gpm/htz~~) mL/min	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~) mS/cm	Turb. (NTU)	ORP	DO	Other
14:07	9.70	125		17.70	8.14	0.812	45.3	-75	0.00	
14:12	10.07	~~62.5~~ 62.5		18.51	8.17	0.791	37.5	-74	0.00	
14:17	10.38	62.5		19.24	8.15	0.792	39.1	-63	0.00	
14:22	10.47	62.5		19.29	8.14	0.801	45.2	-58	0.00	
14:27	10.47	62.5		19.54	8.12	0.808	29.9	-51	0.00	
↳	SAMPLE									

74°F, Sunny

S S S

FIELD OBSERVATIONS

Facility: Lonza - Arch

Sample Point ID: PZ104

Field Personnel: DK + PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-3-15 13:10

Condition of seal: (✓) Good ( ) Cracked 2" plug %

( ) None ( ) Buried

Prot. Casing/Riser Height: _____

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

Road Box

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: 6-3-15 13:19

Date/Time Completed: 13:52

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

Riser Diameter (inches) 2" PVC

Initial Water Level (ft): 14.79

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): _____

Purged to Dryness: Y / (✓) N

Purge Observations: Start Clear Finish _____

PURGE DATA (if applicable)

Time	Water Level	Purge Rate ~~(gpm/htz)~~ mL/min	Cumulative Volume	Temp (C)	pH (SU)	Conductivity ~~(umhos/cm)~~ mS/cm	Turb. (NTU)	ORP	DO	Other
13:25	14.88	250		15.95	7.57	3.64	2.3	-106	0.00	
13:30	14.84	200		16.19	7.54	3.63	2.5	-124	0.00	
13:35	14.85	125		16.28	7.51	3.68	0.0	-128	0.00	
13:40	14.85	125		16.13	7.49	3.74	0.0	-134	0.00	
→ SAMPLE										

74°F, Sunny

FIELD OBSERVATIONS

Facility: Lonza - Arch Sample Point ID: MW103

Field Personnel: NC + PB Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-3-15 12:00 Condition of seal: ( ) Good ( ) Cracked ____ %

No plug. won't fit beneath lid anyway (✓) None ( ) Buried

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

Road Box Lid

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: 6-3 12:02 Date/Time Completed: 12:35

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

Initial Water Level (ft): 1.38 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): ____ Purged to Dryness: Y / ~~N~~

Purge Observations: Start Clear Finish Clear

PURGE DATA (if applicable)

Time	Water Level	Purge Rate ~~(gpm/htz)~~ mL/min	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (umhos/cm) mS/cm	Turb. (NTU)	ORP	DO	Other
12:05	1.85	>50		18.74	7.84	0.818	8.4	-46	0.00	
12:10	1.89	125		19.00	7.87	0.812	6.1	-47	0.00	
12:15	1.93	125		19.02	7.870	0.817	0.5	-51	0.00	
12:20	1.95	100		19.01	7.86	0.822	0.0	-60	0.00	
12:25	1.95	100		19.14	7.86	0.821	0.0	-63	0.00	
↳ SAMPLE										

72°F, Sunny

FIELD OBSERVATIONS

Facility: Lonza - ARCH

Sample Point ID: BR103

Field Personnel: SK+PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-3-15 11:20

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

( ) None ( ) Buried

Lid-Rough Bolt →

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: 6-3-15 11:26

Date/Time Completed: 12:01

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

Riser Diameter (inches) 6" Steel

Initial Water Level (ft): 2.99

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): ____

Purged to Dryness: Y / (N)

Purge Observations:

Start Clear Finish Same

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (~~gpm/htz~~) mL/min	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~) mS/cm	Turb. (NTU)	ORP	DO	Other
11:30	3.06	125		16.37	8.12	0.909	4.4	-102	5.17	
11:35	3.08	125		16.71	8.04	0.903	2.9	-116	0.00	
11:40	3.09	62.5		17.21	8.01	0.895	5.3	-130	0.00	
11:45	3.10			17.23	8.04	0.905	0.0	-135	0.00	
11:50	3.11			17.14	8.03	0.904	0.1	-138	0.00	
→ SAMPLE										

70°F, Sunny

FIELD OBSERVATIONS

Facility: Lonza - Arch Sample Point ID: BR118D

Field Personnel: DK+PB Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-3-15 10:00 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: 6-3-15 10:04 Date/Time Completed: 10:43

Surf. Meas. Point: (✓) Pro Casing ( ) Riser Riser Diameter (inches) 4" Steel

Initial Water Level (ft): 45.71 Elevation G/W MSL: ____

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

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

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

Purge Observations: Start Black, sulfur smell particles Finish Clearer

mS/cm

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
10:12	46.09	125 mL/min		16.24	8.33	112	785	-260	0.00	
10:17	46.11	62.5		15.43	7.62	50.9	687	-253	0.00	
10:22	46.16	125		12.73	7.50	58.9	606	-344	0.00	
10:27	46.16			12.44	7.62	54.2	232	-359	0.00	
10:33	46.16			12.49	7.58	49.5	100	-347	0.00	
↳	SAMPLE									

62°F, Blue skies

FIELD OBSERVATIONS

Facility: Lenzo Sample Point ID: BR117D

Field Personnel: DK + PR Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-3-15 9:10 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: 6-3-15 9:20 Date/Time Completed: 9:51

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

Initial Water Level (ft): 46.31 Elevation G/W MSL: ____

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

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

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

Purge Observations: Start Black, sulfur smell Finish SAME

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (~~gpm~~ mL/min)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~ mS/cm)	Turb. (NTU)	ORP	DO	Other
9:23	46.61	375		13.26	7.35	53.7	28	-302	4.89	
9:28	46.61	250		12.88	7.42	63.8	23	-317	0.00	
9:33	46.61	125		12.64	7.45	65.8	27.2	-340	0.00	
9:38	46.61			12.61	7.44	65.9	39.8	-346	0.00	
9:43	46.61			12.48	7.41	65.8	48.7	-352	0.00	
→ SAMPLE										

60°F, Sunny

FIELD OBSERVATIONS

Facility: Kenza-Ann | Sample Point ID: BR113D

Field Personnel: DK + RB | Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-3-15 8:08 | 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: 6-3 8:25 | Date/Time Completed: 8:52

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

Initial Water Level (ft): 31.17 | Elevation G/W MSL: ____

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

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

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

Purge Observations: | Start Clear Finish Same

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/~~htz~~) ml/min	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other
8:28	31.17	250		10.68	7.50	3.20	~~4.1~~	-255	29.7	
8:33	31.19	125		10.44	7.69	316	3.2	-292	0.00	
8:37	31.18	125		10.36	7.79	3.18	3.6	-309	0.00	
8:43	31.18			10.48	7.78	3.19	2.8	-318	0.00	
8:48	31.18			10.57	7.78	3.19	3.5	-321	0.00	
→	SAMPLE									

50°F, Sunny

FIELD OBSERVATIONS

Facility: Lonza-Arch

Sample Point ID: PZ 101

Field Personnel: DC+PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-4-15 14:42

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: 6-4-15 14:44

Date/Time Completed: 15:35

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

Riser Diameter (inches) 2" PVC

Initial Water Level (ft): 19.45

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): ____

Purged to Dryness: Y / (N) Almost

Purge Observations:

Start clear Finish clear

PURGE DATA (if applicable)

mL/min mL/min

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~)	Turb. (NTU)	ORP	DO	Other
14:50	19.97	125		21.18	7.77	3.28	38.9	-46 -30	20	
14:55	20.13	50		19.84	7.69	3.43	32.4	-34	5.08	
15:00	20.32			19.90	7.66	3.46	32.7	-23	0.00	
15:05	20.45			19.86	7.64	3.51	29.3	-10	0.00	
15:10	20.52			19.94	7.61	3.55	27	-6	0.00	
→	SAMPLE									

74°F, Cloudy

FIELD OBSERVATIONS

Facility: Lonza - Arch

Sample Point ID: PZ103

Field Personnel: DK + PB

Sample Matrix:

MONITORING WELL INSPECTION

Date/Time: 6-4-15 13:57

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: 6-4-15 14:01

Date/Time Completed: 14:37

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

Riser Diameter (inches) 2" PVC

Initial Water Level (ft): 16.02

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):

Purged to Dryness: Y / (N)

Purge Observations:

Start clear w/ black particles

Finish SAME silt on small

PURGE DATA (if applicable)

Time	Water Level	Purge Rate ~~(gpm/htz)~~ mL/min	Cumulative Volume	Temp (C)	pH (SU)	Conductivity ~~(umhos/cm)~~ mS/cm	Turb. (NTU)	ORP	DO	Other
14:05	16.85	250		21.26	7.96	4.77	0.0	~~108~~ ~~50 ft~~	50	Flushing
14:10	16.84	125		20.49	8.34	5.02	0.0	-256	"	
14:15	16.78	62.5		20.03	8.29	5.09	0.0	-296	"	
14:20	16.78			19.89	8.36	4.89	0.0	-329	"	
14:25	16.78			19.62	8.44	4.86	0.0	-333	"	
↳	SAMPLE									

70°F, Cloudy

FIELD OBSERVATIONS

Facility: Lonza-Arch

Sample Point ID: BR126

Field Personnel: DK+PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-4-15 13:05

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: 6-4-15 13:11

Date/Time Completed: 13:48

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

Riser Diameter (inches) 4" Steel

Initial Water Level (ft): 8.90

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): ____

Purged to Dryness: Y / (N)

Purge Observations:

Start Clear Finish SAME

tiny particles

PURGE DATA (if applicable)

mL/min

mS/cm 64.1

Time	Water Level	Purge Rate ~~(gpm/mL)~~	Cumulative Volume	Temp (C)	pH (SU)	Conductivity ~~(umhos/cm)~~	Turb. (NTU)	ORP	DO	Other
13:15	8.98	125		18.29	7.65	1.57	45.7	-123	12	
13:20	8.94	62.5		17.93	7.71	1.60	45.1	-119	0.06	
13:25	8.98			18.23	7.69	1.59	32.6	-118	0.00	
13:30	8.98			17.91	7.66	1.61	5.6	-119	0.00	
13:35	8.98			18.07	7.64	1.61	5.9	-120		
→	SAMPLE									

68°F, Cloudy

FIELD OBSERVATIONS

Facility: Lonza - Arch

Sample Point ID: B16

Field Personnel: DK + PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-4-15 12:15

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: 6-4-15 12:18

Date/Time Completed: 13:02

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

Riser Diameter (inches) 2" pvc

Initial Water Level (ft): 5.43

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): ____

Purged to Dryness: Y / (N)

Purge Observations:

Start Clear Finish SAME

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
~~12:18~~ 12:26	9.61	~~10~~ 12.5		21.91	7.44	2.67	34.5	59	50 Flashing	
12:27	9.68	62.5		20.57	7.70	2.68	30.5	59	"	
12:32	9.77	62.5		19.83	7.76	2.75	27.3	8	"	
12:37	9.75	50		19.44	7.90	3.06	~~65~~ 35.4	-66	"	
12:42	9.69	50		19.69	7.92	3.24	21.2	-82	"	
L → SAMPLE										

66°F, Overcast

FIELD OBSERVATIONS

Facility: Lonza- Arch Sample Point ID: B15

Field Personnel: DK+PB Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-4-15 10:50 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: 6-4 10:54 Date/Time Completed: 11:36

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

Initial Water Level (ft): 7.95 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): ____ Purged to Dryness: Y / (N)

Purge Observations: Start clear w/ some black particles Finish clear, some particles w/ slow

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
10:58	9.13	125 ml/min		21.11	7.80	0.336	650	-75	13.61	
11:03	9.83	62.5		19.53	7.94	0.319	416	-43	0.00	
11:08	10.21			19.96	7.94	0.319	322	-26	0.00	
11:13	10.56			20.18	7.88	0.321	187	-21	0.00	
11:18	11:03			19.85	7.79	0.328	39.6	-13	0.00	
↳	SAMPLE									

FIELD OBSERVATIONS

Facility: Lonza - Arch Sample Point ID: E3

Field Personnel: DK+PB Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-4 8:55 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: 6-4-15 9:00 Date/Time Completed: 9:40

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

Initial Water Level (ft): 3.60 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): ____ Purged to Dryness: Y / (N)

Purge Observations: Start orange/brown cloudy tiny particles Finish orange, somewhat clearer 1mS/cm

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/~~htz~~)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~)	Turb. (NTU)	ORP -40	DO	Other
9:07	4.23	125mL/min		18.52	7.72	7.85	1000	45	45	
9:13	4.29	62.5		19.00	8.06	7.83	492	-250	0.00	
9:18	4.29			19.27	8.08	7.75	609	-256	0.00	
9:23	4.29			19.32	~~7.68~~ 8.07	7.68	397	-256	0.00	
9:28	4.29			19.40	~~8.07~~ 8.07	7.56	251	-244	0.00	
→	SAMPLE									

60°F, Sun + clouds

FIELD OBSERVATIONS

Facility: Lonza - Ash Sample Point ID: QO-2

SAMPLING INFORMATION

Date/Time: 6-5-15 10:58 Water Level at Sampling (ft): Outfall

Method of Sampling: Bucket into waterflow Dedicated: Y / N

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

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity ~~(umhos/cm)~~	Turb. (NTU)	ORP	DO	Other
11:00	19.11	8.55	1.48 mS/cm	4.7	56	17.02	

INSTRUMENT CALIFBRATION/CHECK DATA

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

GENERAL INFORMATION

Weather conditions at time of sampling: 75°F, Sun + Clouds

Sample characteristics: Clear

Comments and Observations:

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

Date: 6-5-15 by: DK + PB Company: Matrix

FIELD OBSERVATIONS

Facility: Lonza-Arch Sample Point ID: QO-251

SAMPLING INFORMATION

Date/Time 6-5-15 10:50 Water Level at Sampling (ft) —

Method of Sampling Bailer into Canal Dedicated: Y / N

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

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other
10:52	21.08	8.69	0.528 mS/cm	15.2	47	14.64	

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: 74°F, Sun+Clouds

Sample characteristics: Clear

Comments and Observations:

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

Date: 6-5-15 by: DK+PB Company: Matrix

FIELD OBSERVATIONS

Facility: Lonza-Arch Sample Point ID: QD-1

SAMPLING INFORMATION

Date/Time 6-5-15 10:00 Water Level at Sampling (ft) Ditch

Method of Sampling Bailer dipped into ditch flow Dedicated: Y (N)

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

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other
10:05	18.31	8.52	1.56mS/cm	96.4	62	13.07	

INSTRUMENT CALIFBRATION/CHECK DATA

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

GENERAL INFORMATION

Weather conditions at time of sampling: 71°F Sun + Clouds

Sample characteristics: Clear, slight sheen

Comments and Observations:

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

Date: 6-5-15 by: OC + PB Company: Matrix

FIELD OBSERVATIONS

Facility: Lonza - Arch Sample Point ID: QS-4

SAMPLING INFORMATION

Date/Time: 6-5-15 9:40 Water Level at Sampling (ft): ———

Method of Sampling: Quarry seep 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
9:44	16.13	8.57	1.92 ms/cm	1.92	-19	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: 70°F, Cloudy

Sample characteristics: Clear

Comments and Observations: SAMPLED water coming out of sides of quarry

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

Date: 6-5-15 by: AK + PB Company: Matrix

FIELD OBSERVATIONS

Facility: Lonza - Ach Sample Point ID: BR7A

SAMPLING INFORMATION

Date/Time: 6-5-14 9:12 Water Level at Sampling (ft): 26.45

Method of Sampling: pumping well Dedicated: Y / N SAMPLE Port

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

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~)	Turb. (NTU)	ORP	DO	Other
9:19	16.80	7.87	3.21 ms/cm	35	153	5.41	

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: 68°F, Cloudy Clear

Sample characteristics:

Comments and Observations: Difficult to get accurate water level due to tubing, pump, probes, etc. in well and due to the slime on the sides of the well.

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

Date: 6-5-14 by: DK + PB Company: Matrix

FIELD OBSERVATIONS

Facility: Lonza-Arch Sample Point ID: PZ102

Field Personnel: DK+PB Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-5-15 8:15 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: 6-5-15 8:25 Date/Time Completed: 9:02

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

Initial Water Level (ft): 19.10 Elevation G/W MSL: ____

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

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

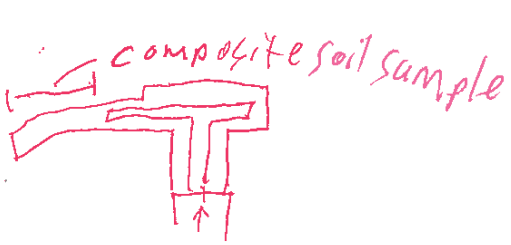
Total Volume Purged (gal): ____ Purged to Dryness: Y / (N)

Purge Observations: Start A little cloudy Finish Clear

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (~~gpm/htz~~)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other
8:30	19.38	250		17.42	7.64	5.20	233	-177	34.8	
8:35	19.40	125		17.28	7.63	5.31	171	-181	0.00	
8:40	19.40	62.5		17.19	7.64	5.33	143	-186	0.00	
8:45	19.40			17.26	7.77	5.33	83.9	-192	0.00	
8:50	19.40			17.04	7.80	5.36	49.8	-193	0.00	
↳	SAMPLE									

60°F, Cloudy



SITE UPDATE SHEET

SITE AMEC/ARCH-Lonza DATE 6-18-15

PROJECT NO. 04029 TECHNICIAN DK+PB

Resample MW127

DTW: 7.14

Ran peristaltic pump for 20 min then sampled

DTW 8 min: 7.75

DTW 20 min. 7.97

2" PVC

3"

- Final trench inspection

Active worksite

4" 4"

metal Trough

Apx 38'

Area BT

dry silt trace clay and gravel

Soil: light brown, dry

composited soil into plastic bag, detected odor (Pyradine?) in soil

Sample soil

Apx. 17' long

Sample-final phase

some water in this end

Depth Apx 12"

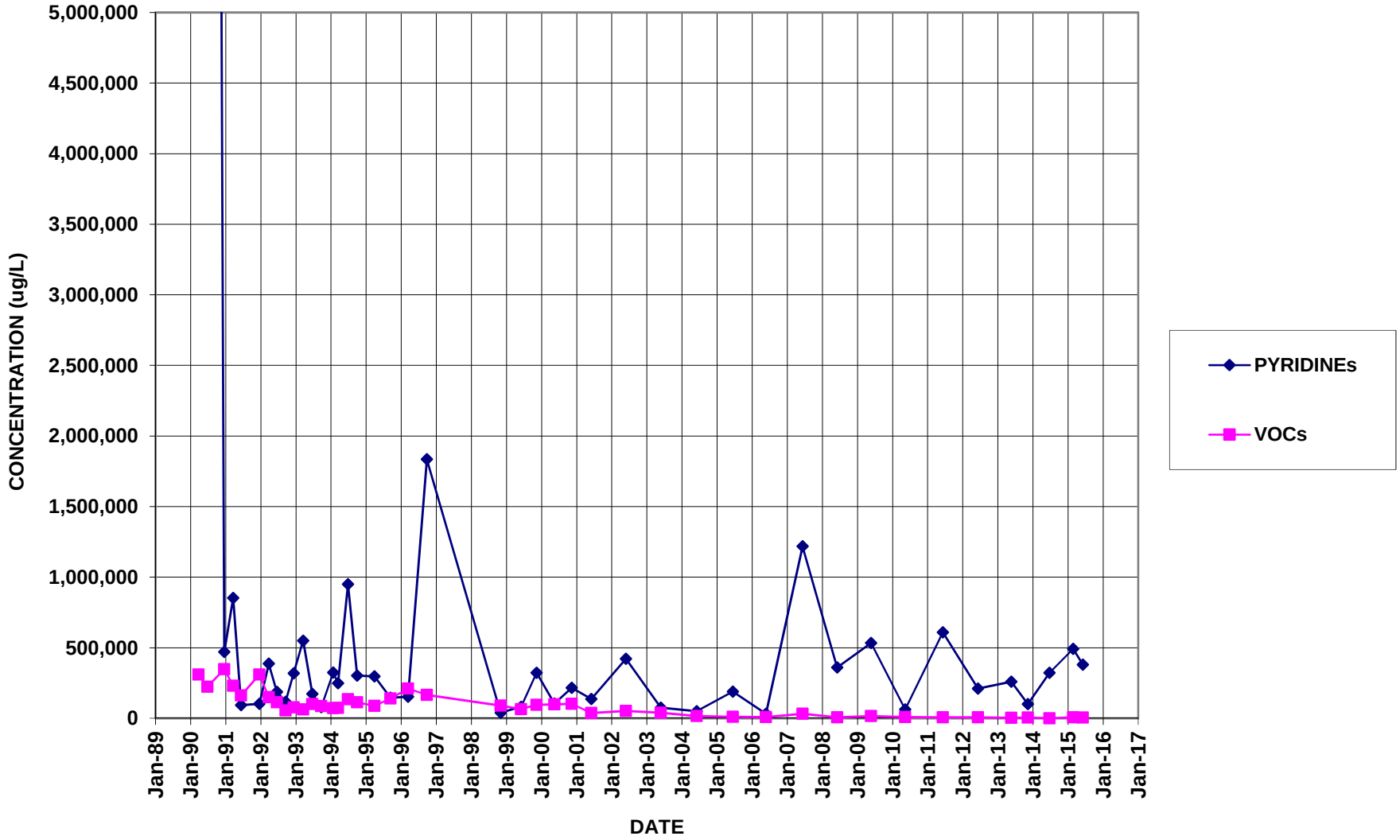
Only exposed soil

S trough

Appendix B

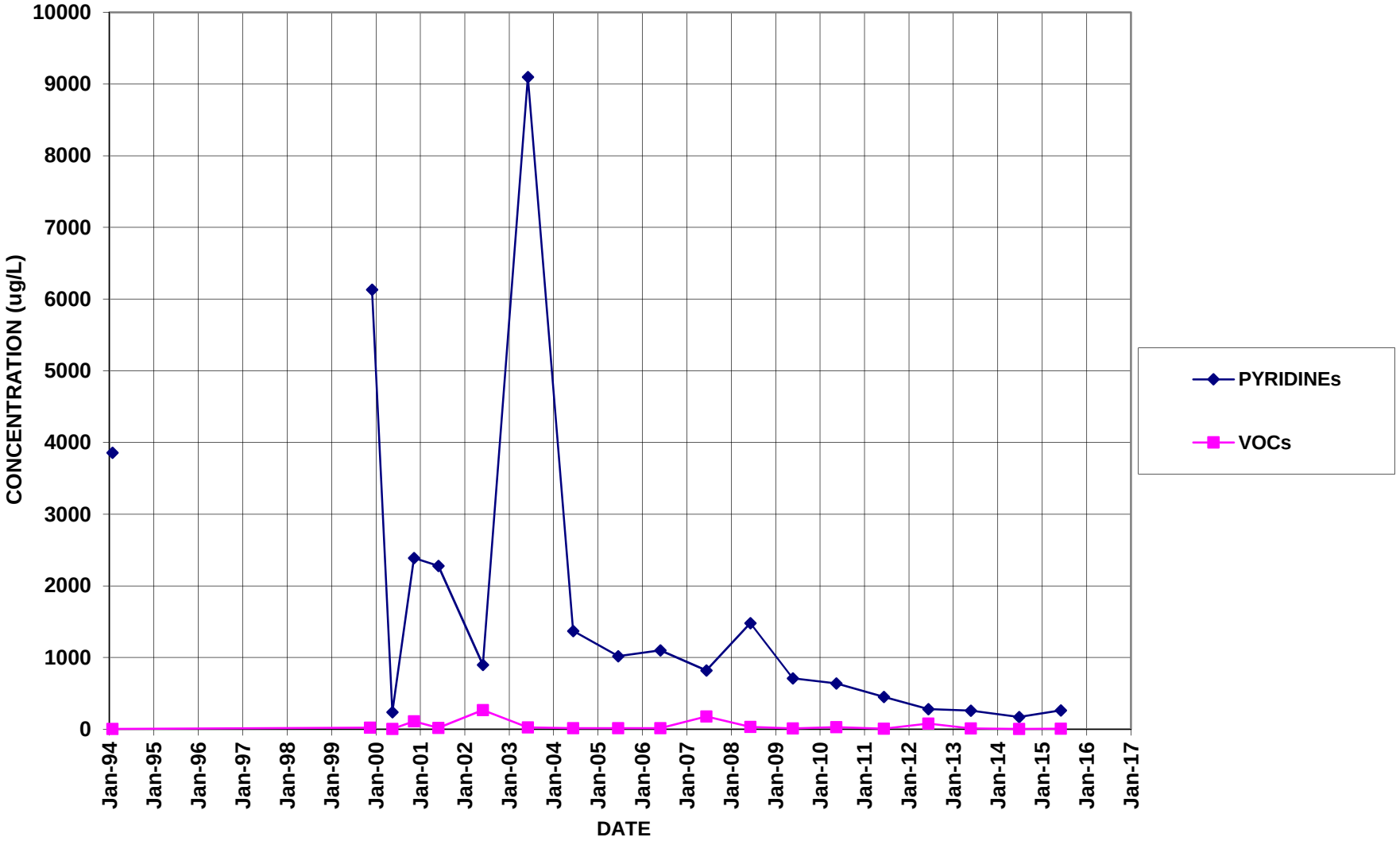
Well Trend Data

B-17



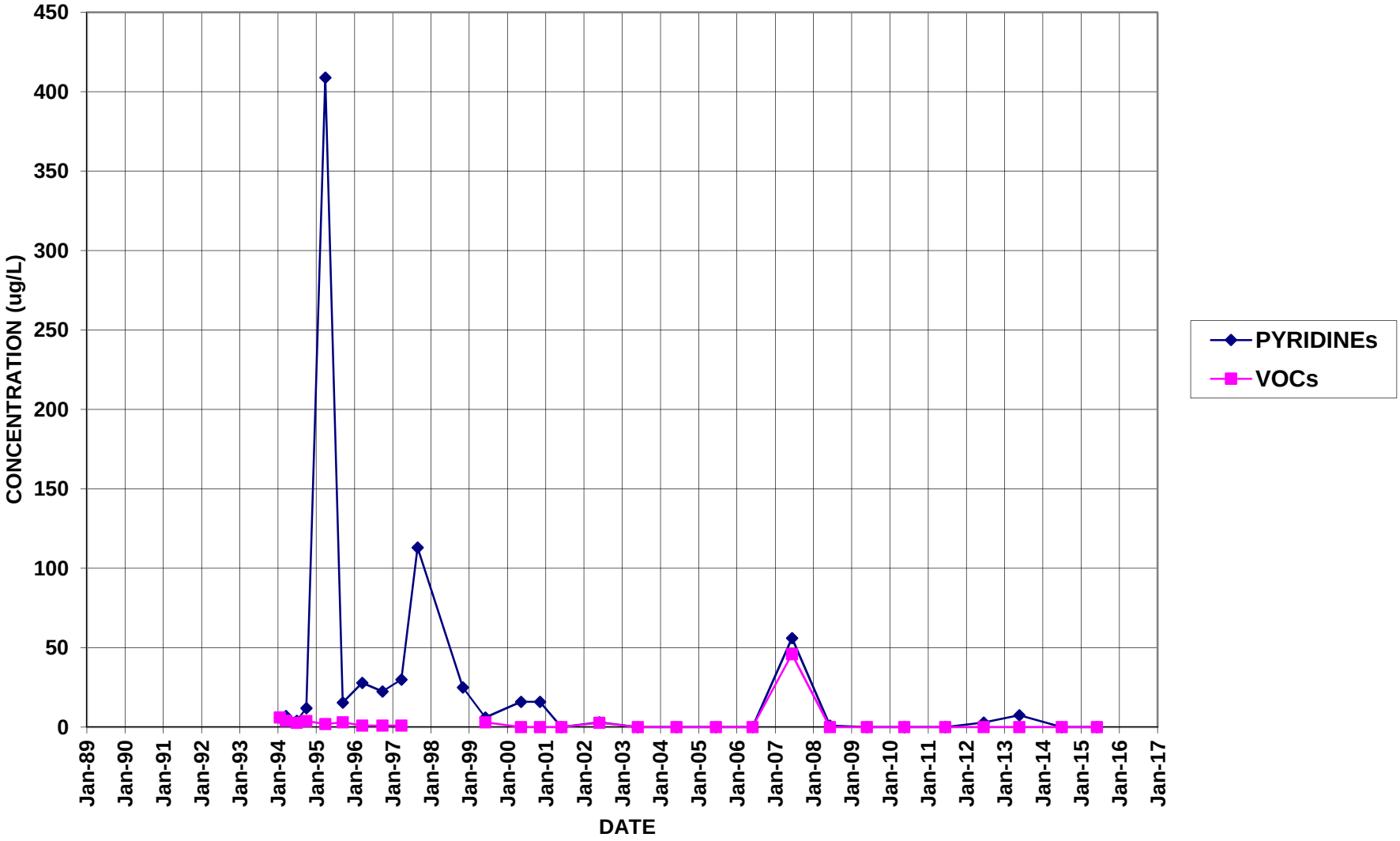
Prepared by: jeb
Reviewed by: nmb

B-7



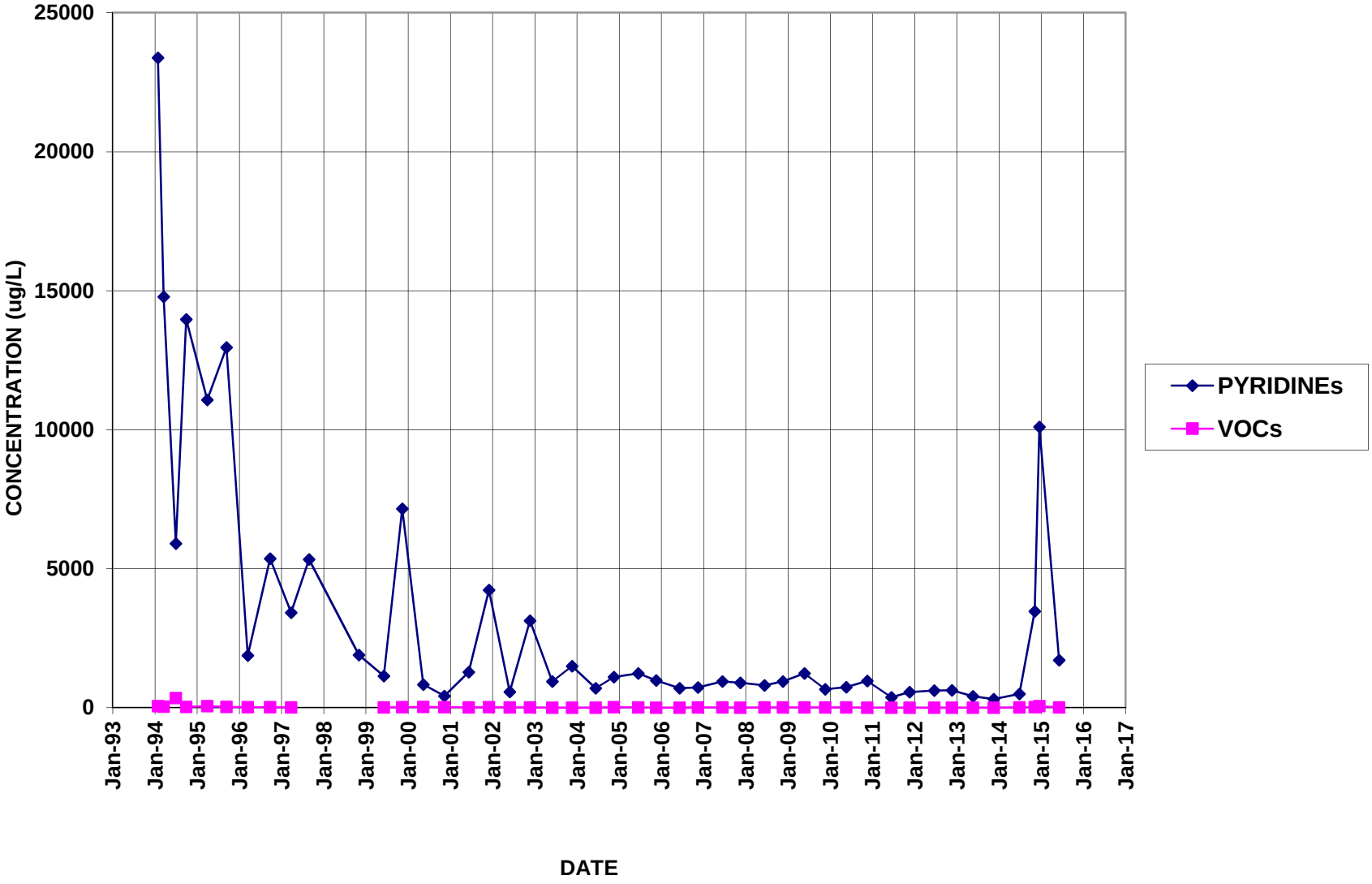
Prepared by: nmb
Reviewed by: jeb

BR-103



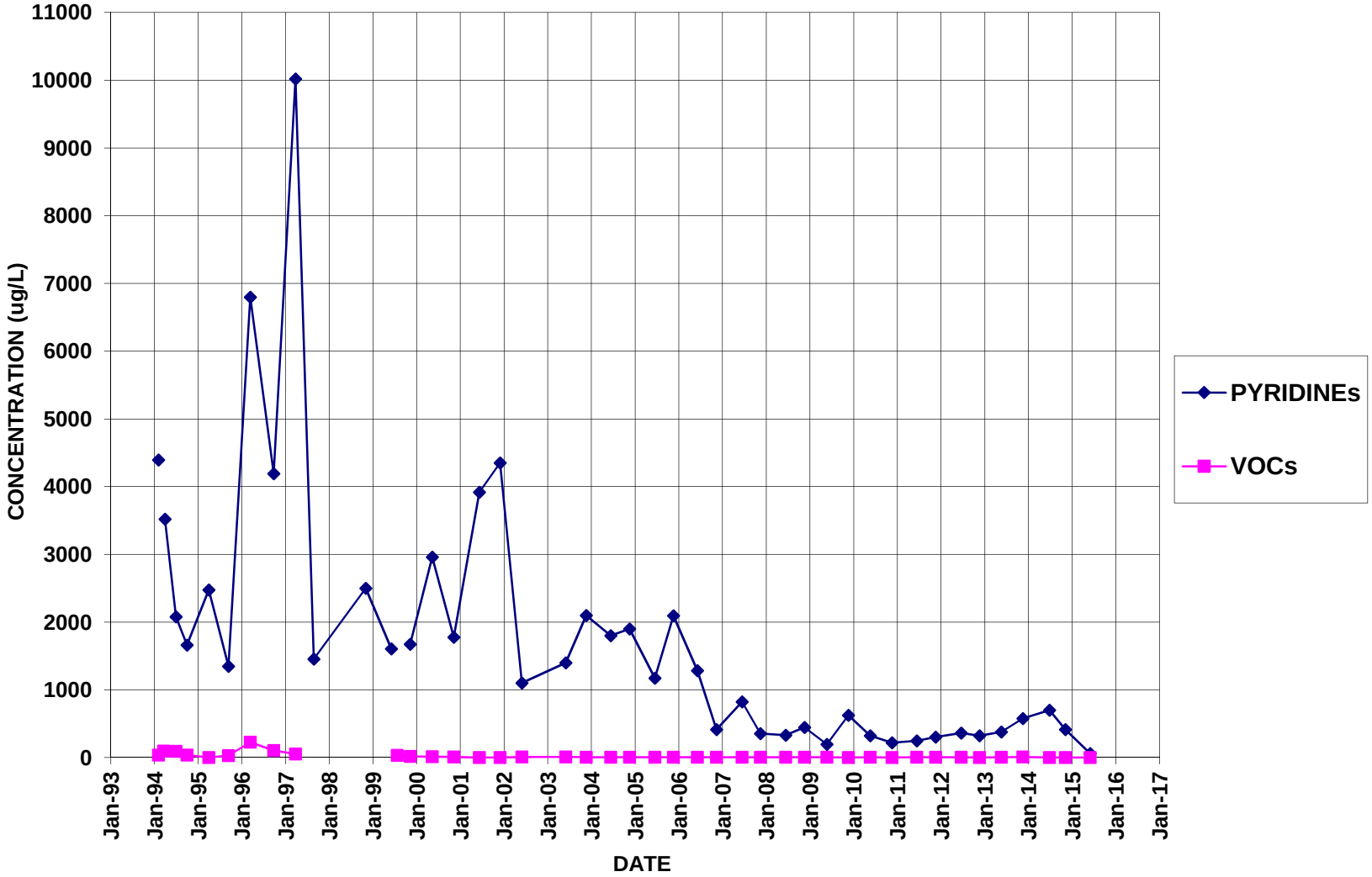
Prepared by: nmb
Reviewed by: jeb

BR-105



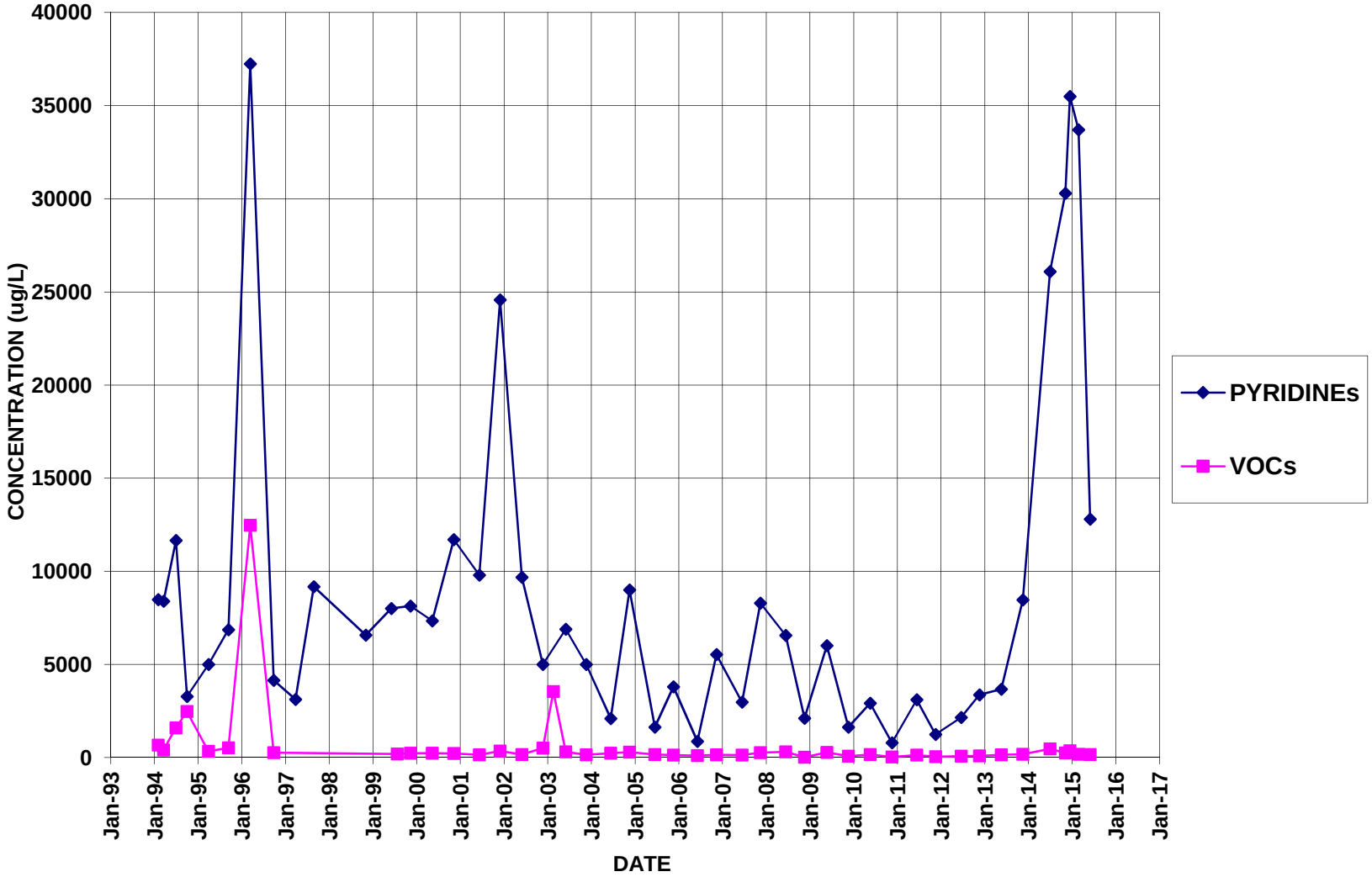
Prepared by: nmb
Reviewed by: jeb

BR-105D

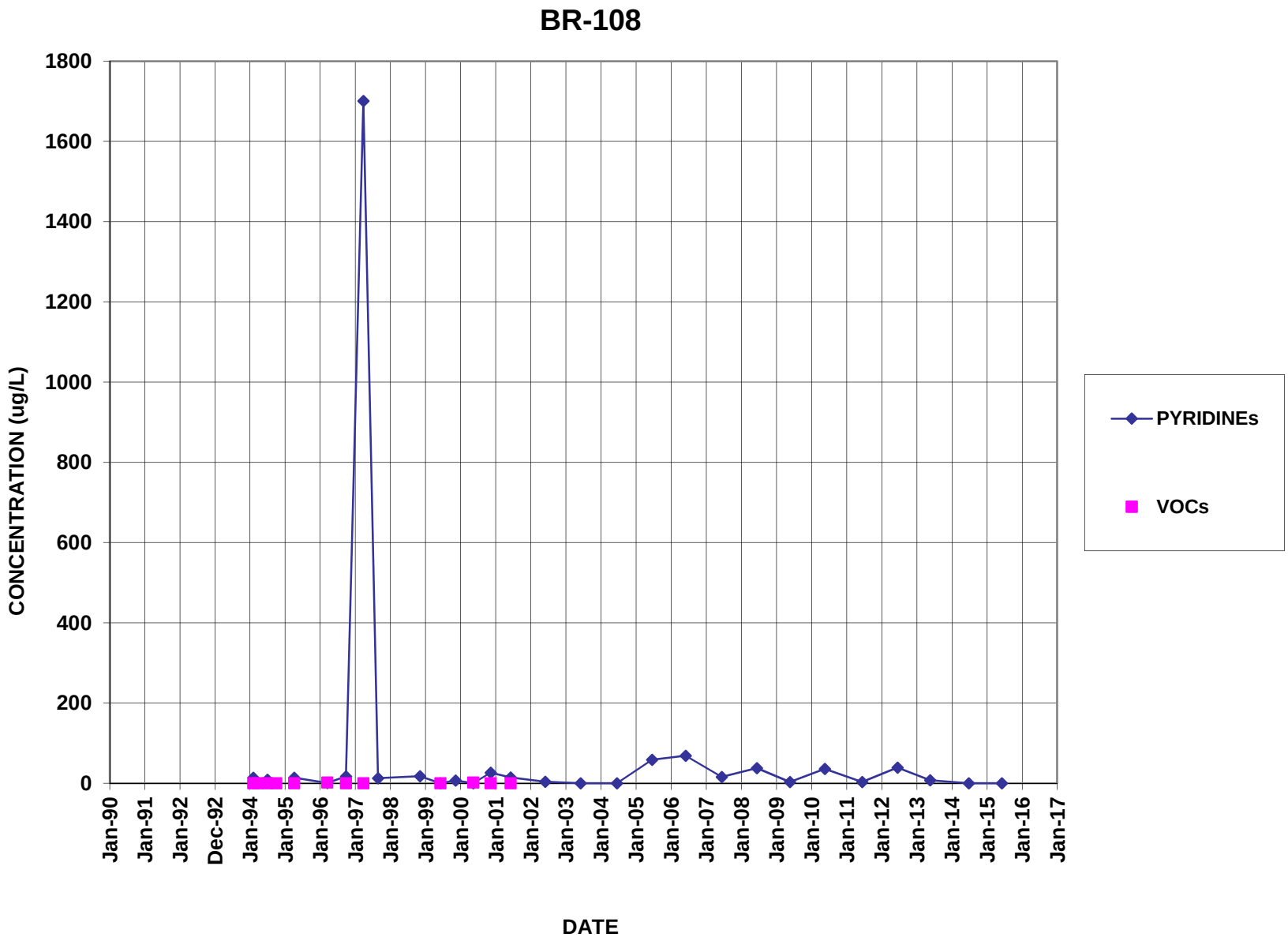


Prepared by: nmb
Reviewed by: jeb

BR-106

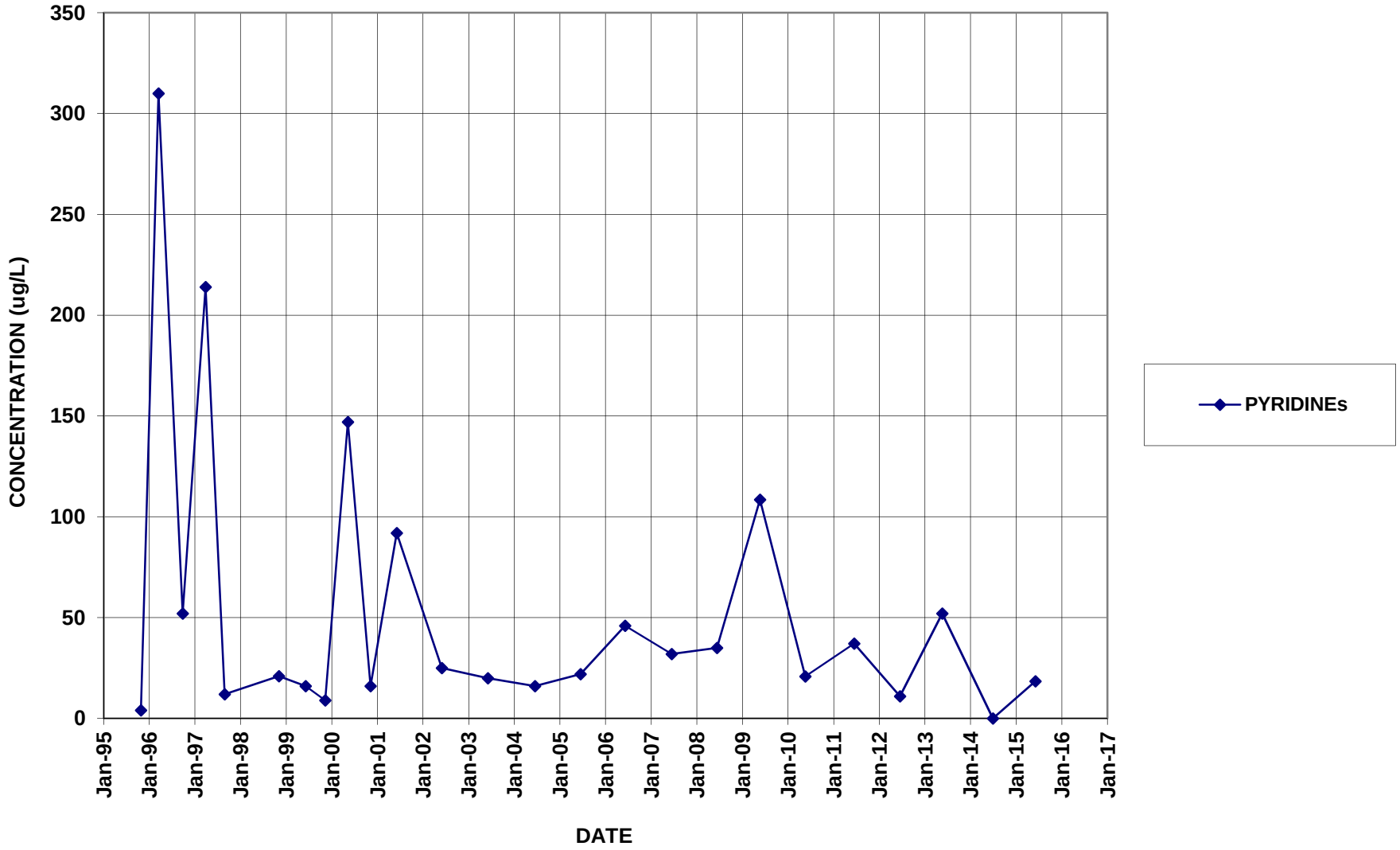


Prepared by: nmb
Reviewed by: jeb



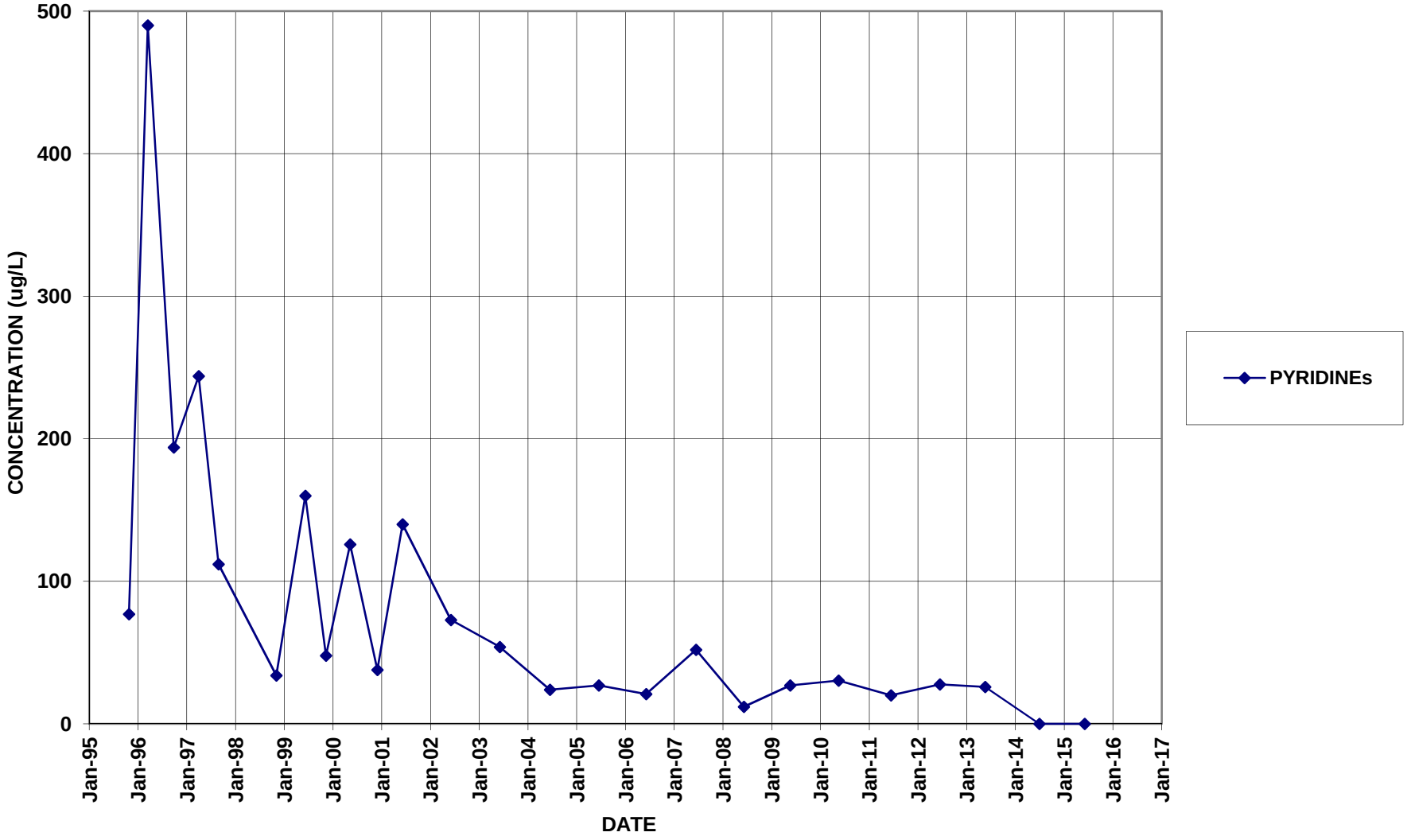
Prepared by: nmb
Reviewed by: jeb

BR-112D



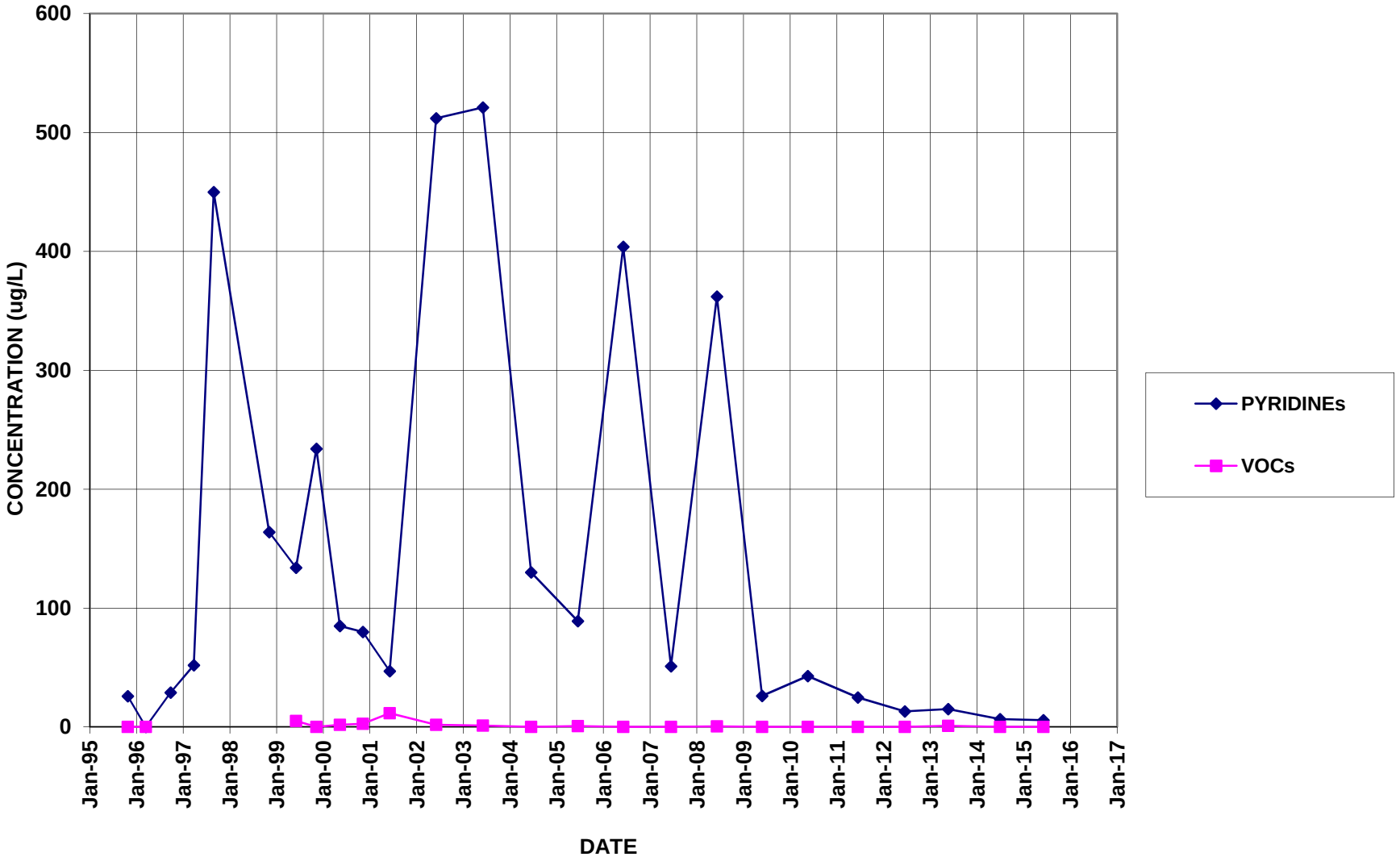
Prepared by: nmb
Reviewed by: jeb

BR-113D



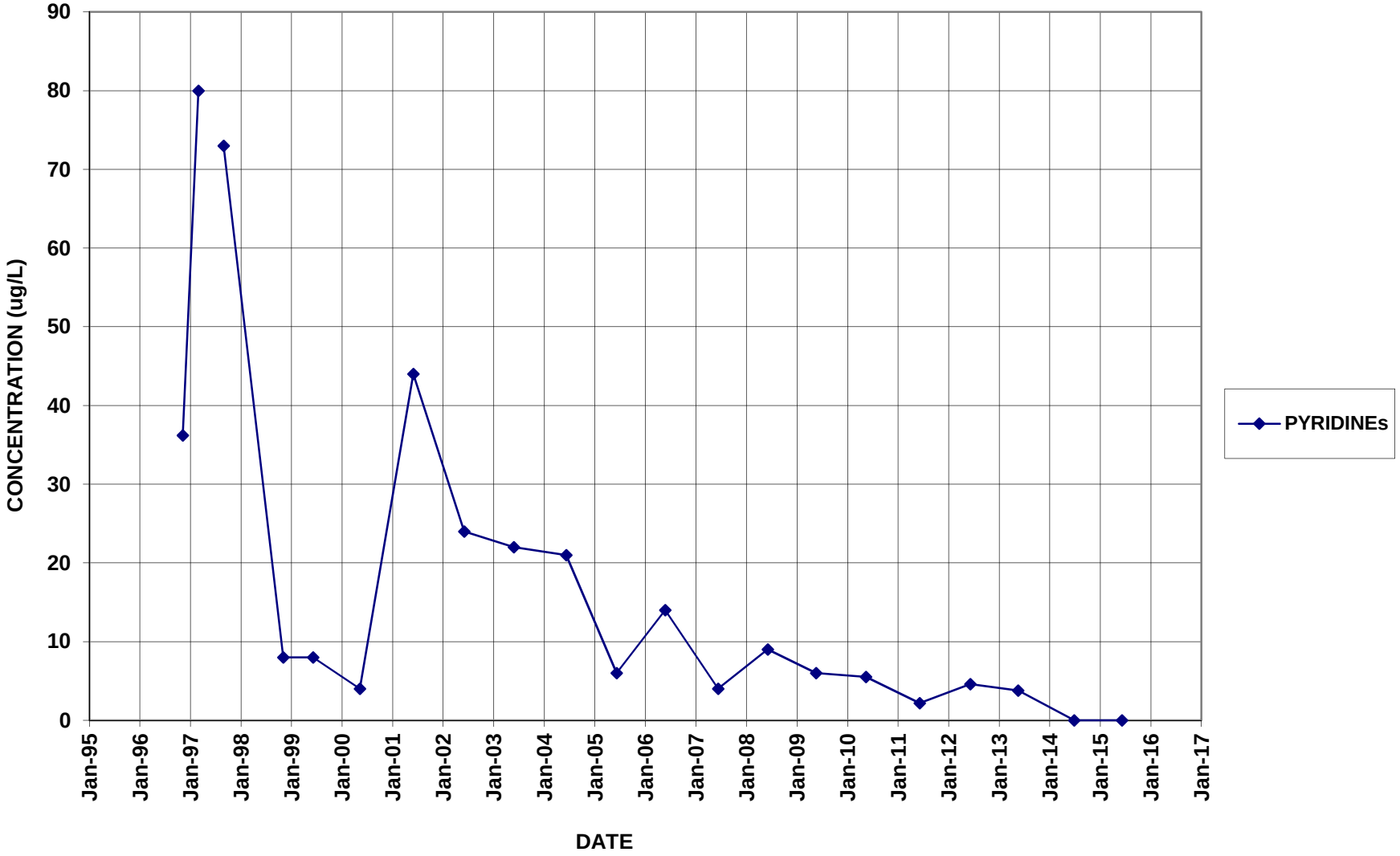
Prepared by: nmb
Reviewed by: jeb

BR-114



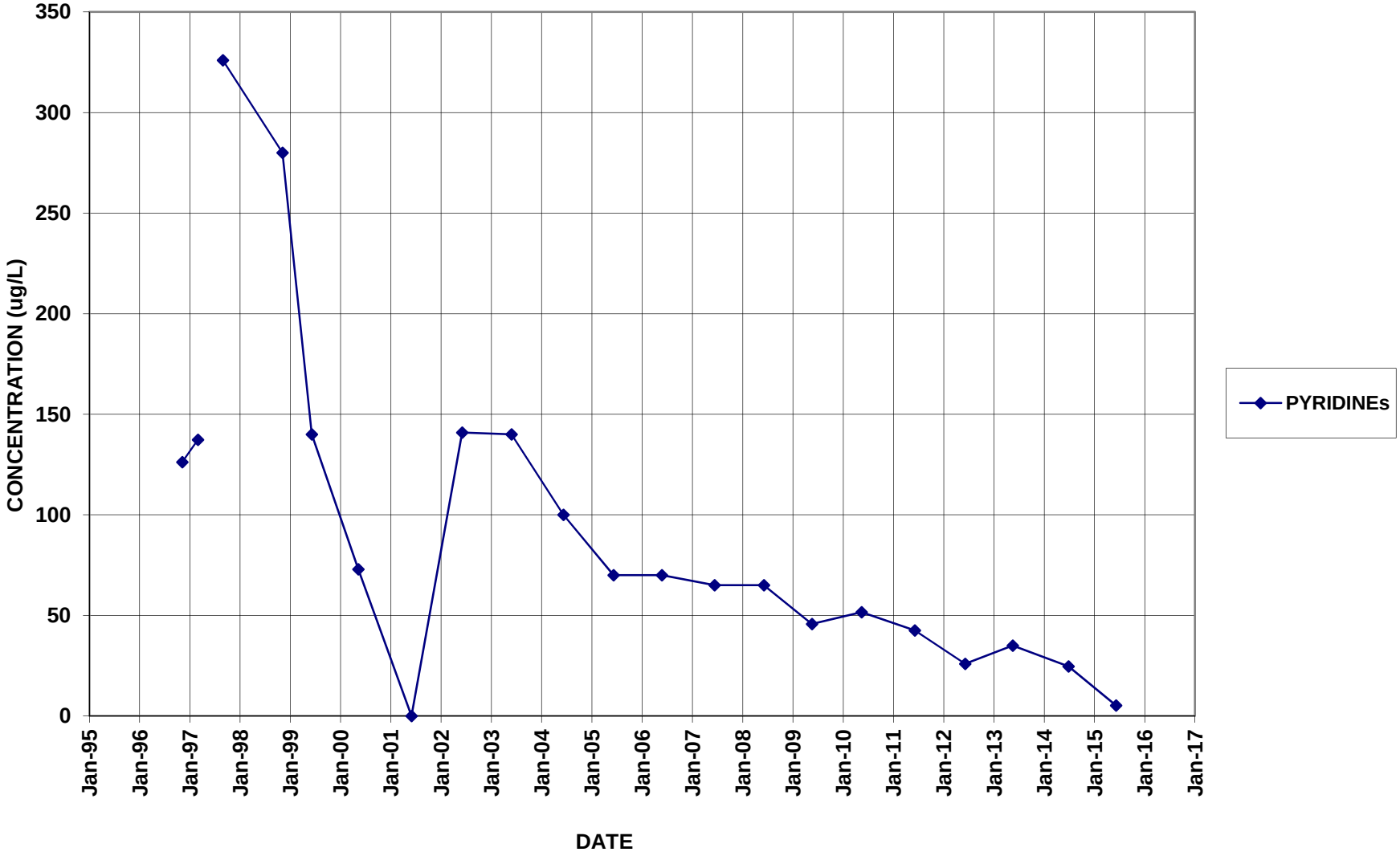
Prepared by: nmb
Reviewed by: jeb

BR-117D



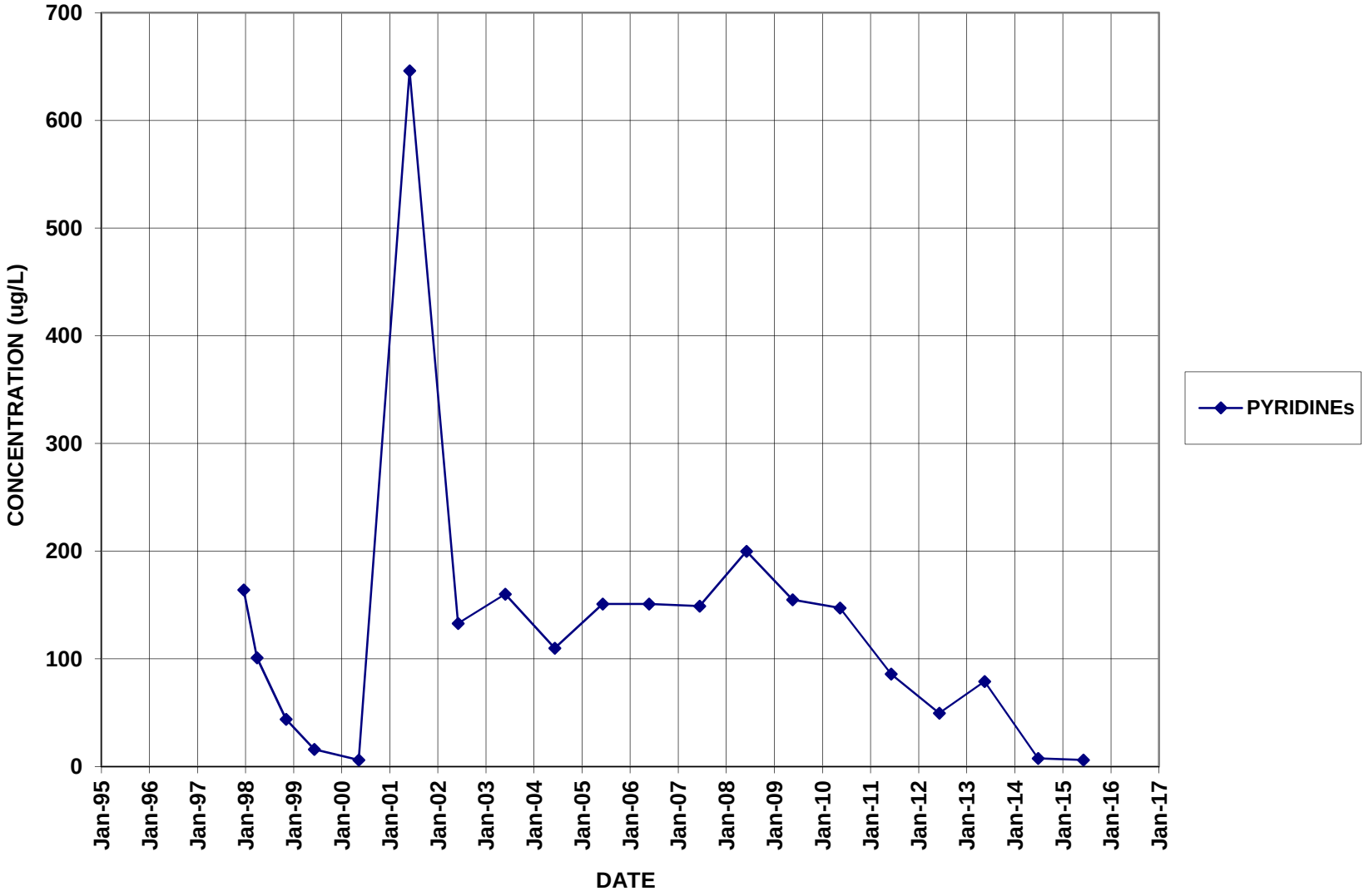
Prepared by: nmb
Reviewed by: jeb

BR-118D



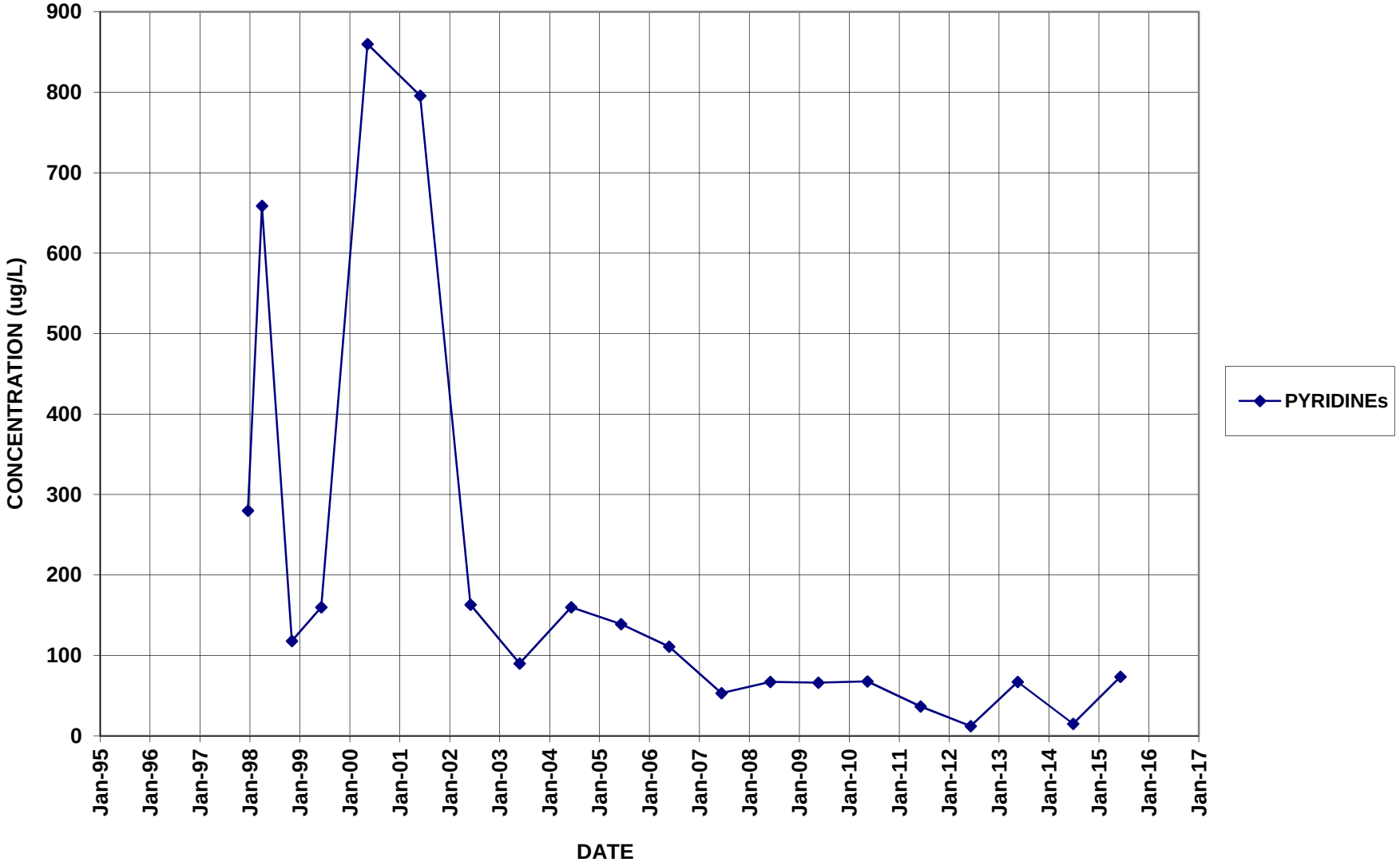
Prepared by: nmb
Reviewed by: jeb

BR-122D



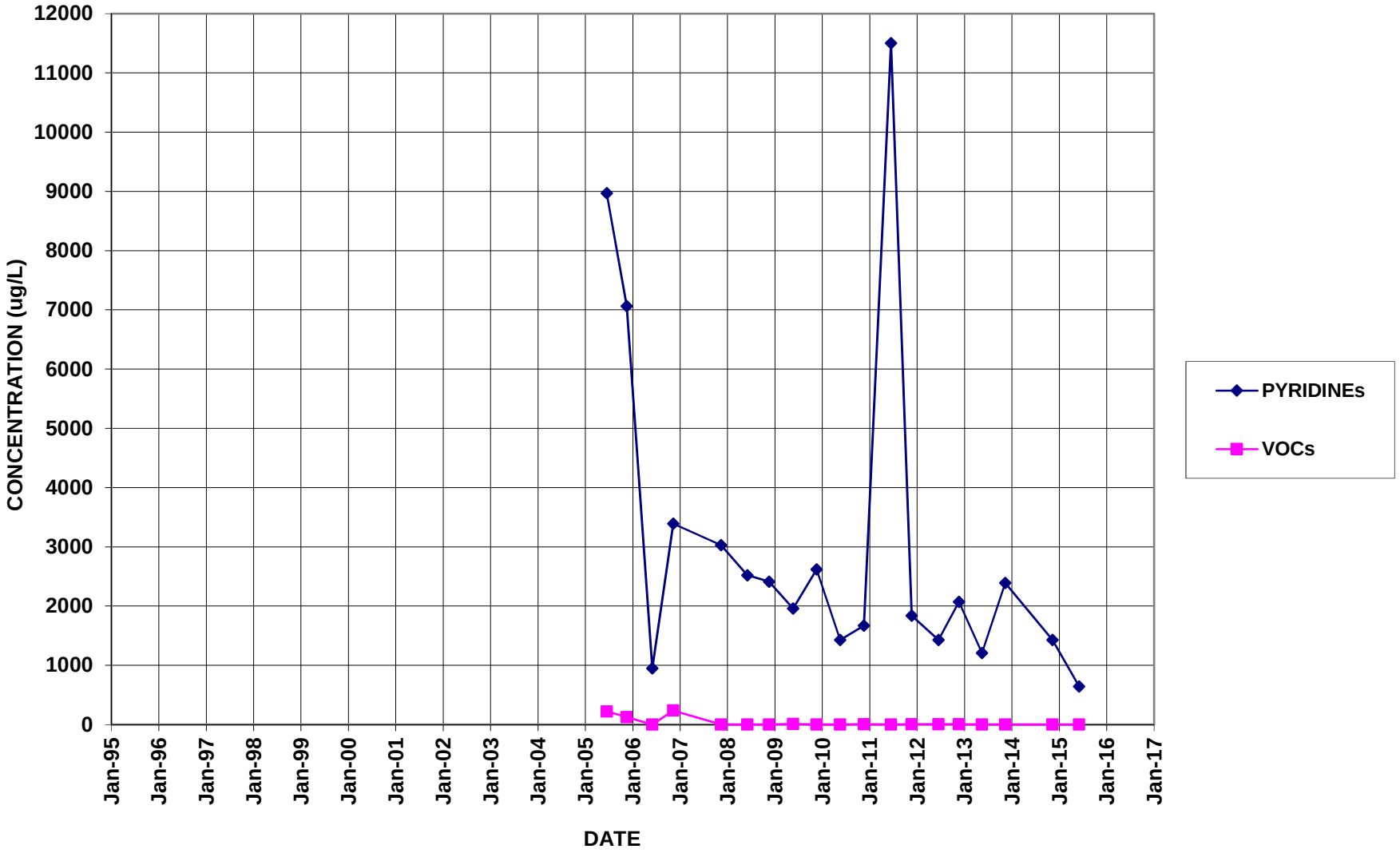
Prepared by: nmb
Reviewed by: jeb

BR-123D



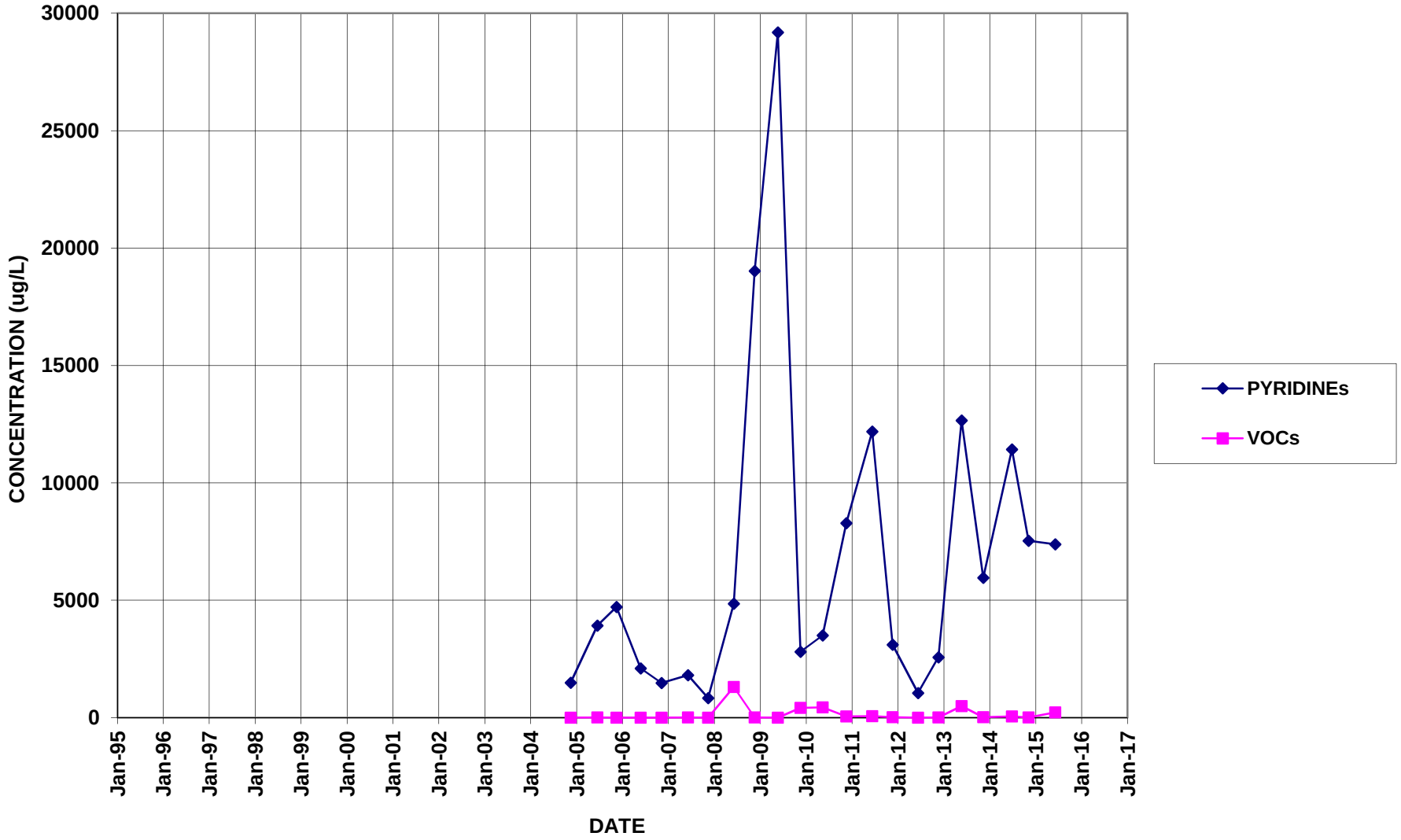
Prepared by: nmb
Reviewed by: jeb

BR-126

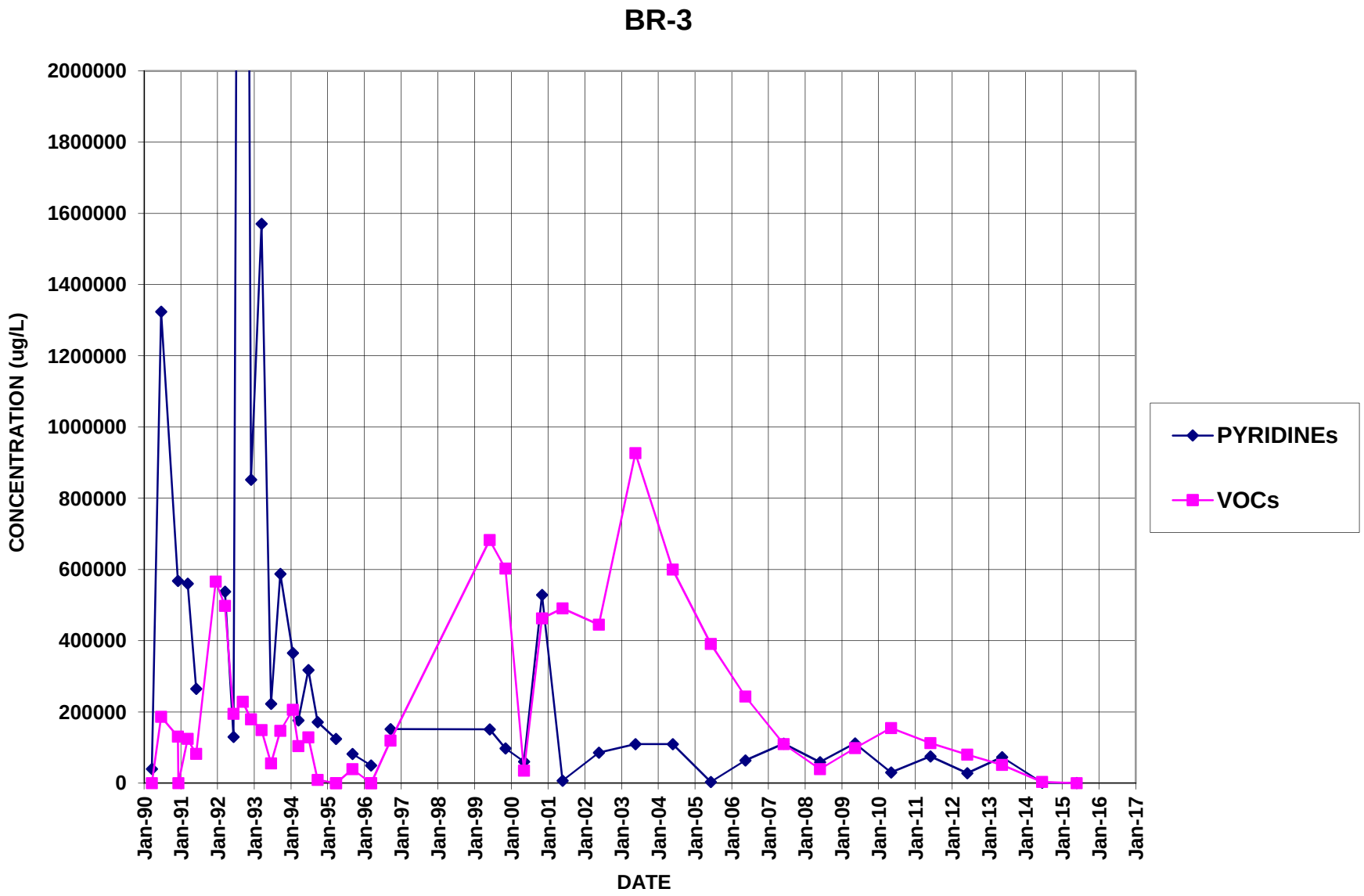


Prepared by: nmb
Reviewed by: jeb

BR-127

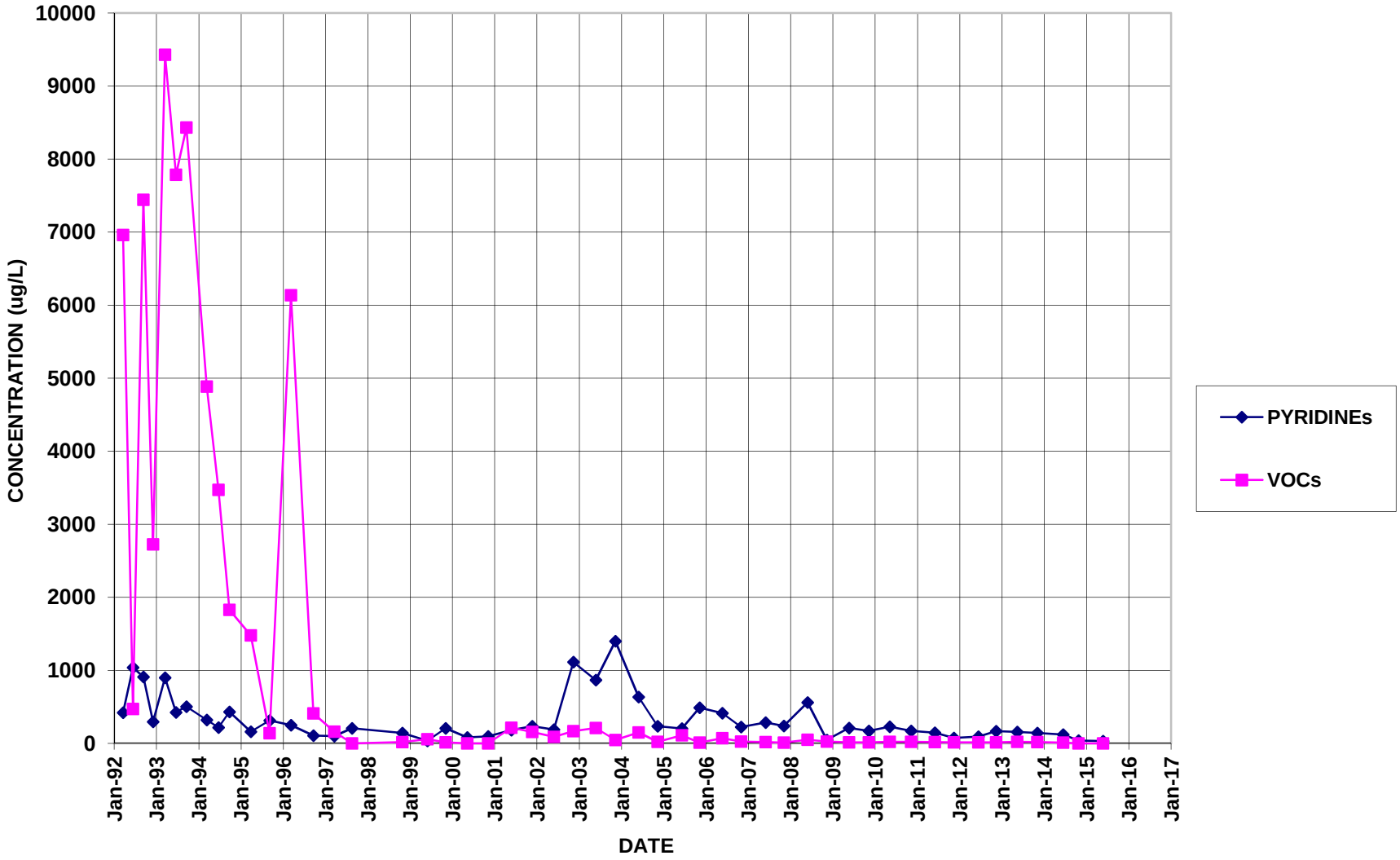


Prepared by: nmb
Reviewed by: jeb



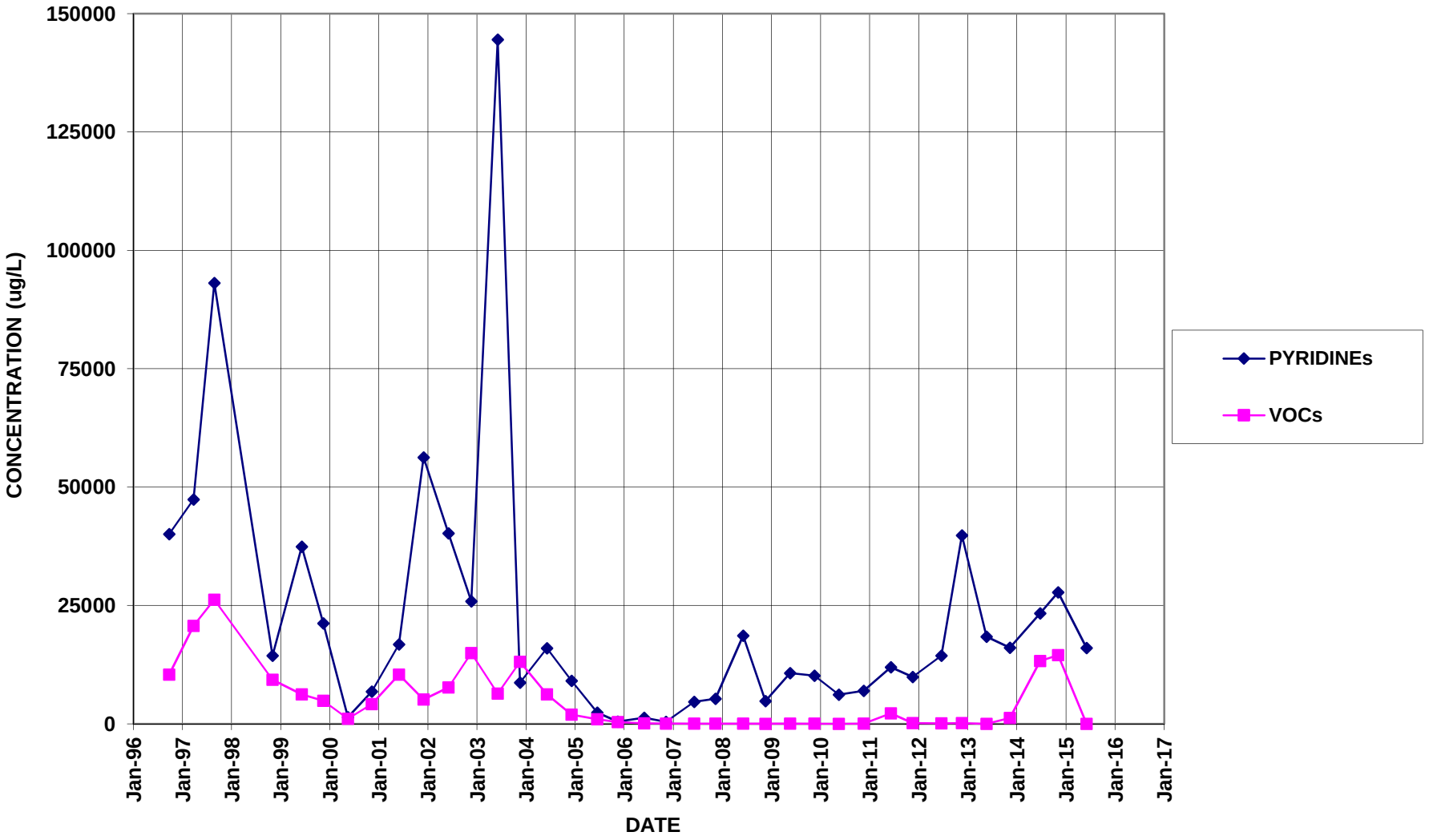
Prepared by: nmb
Reviewed by: jeb

BR-5A

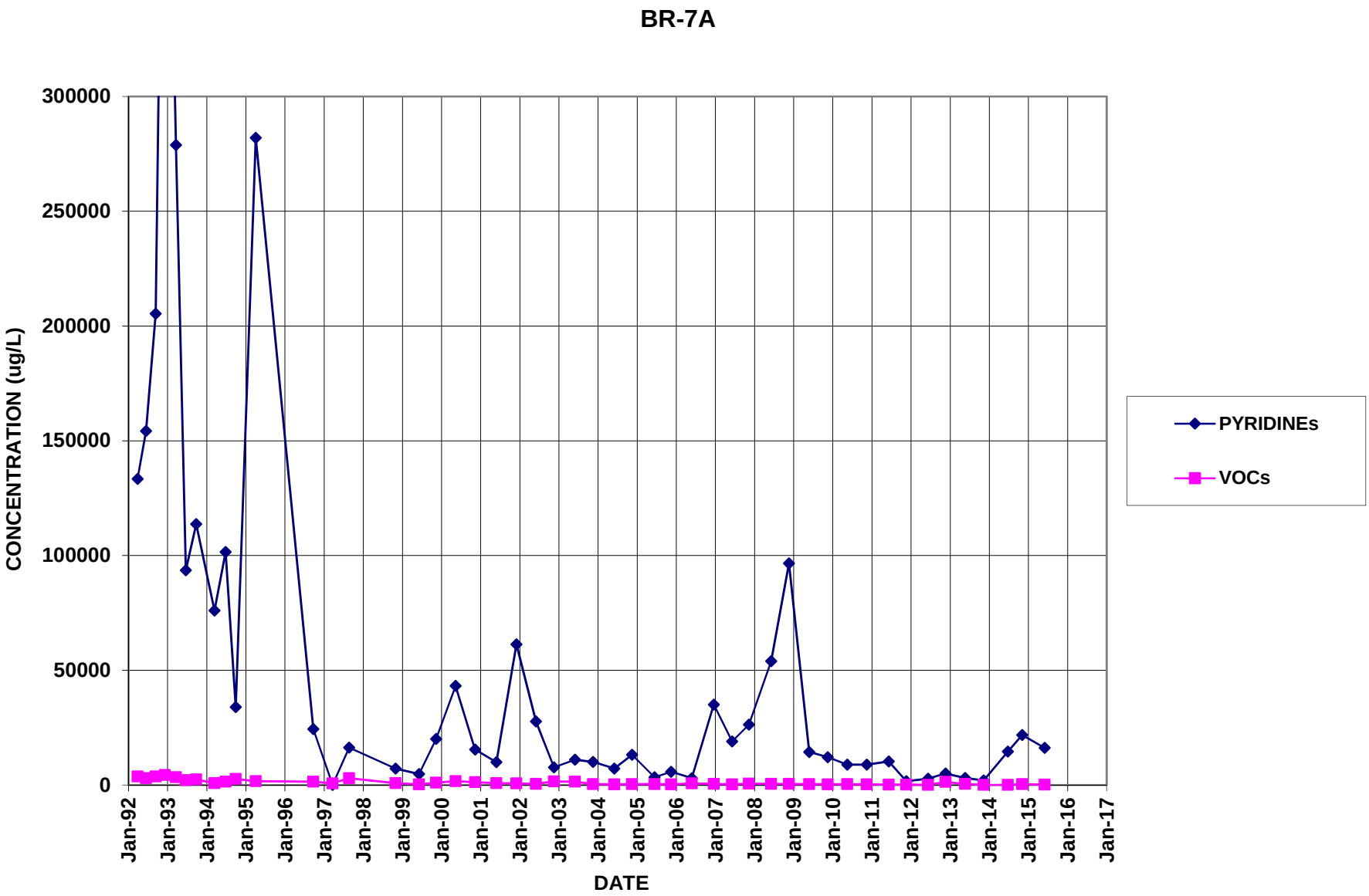


Prepared by: nmb
Reviewed by: jeb

BR-6A

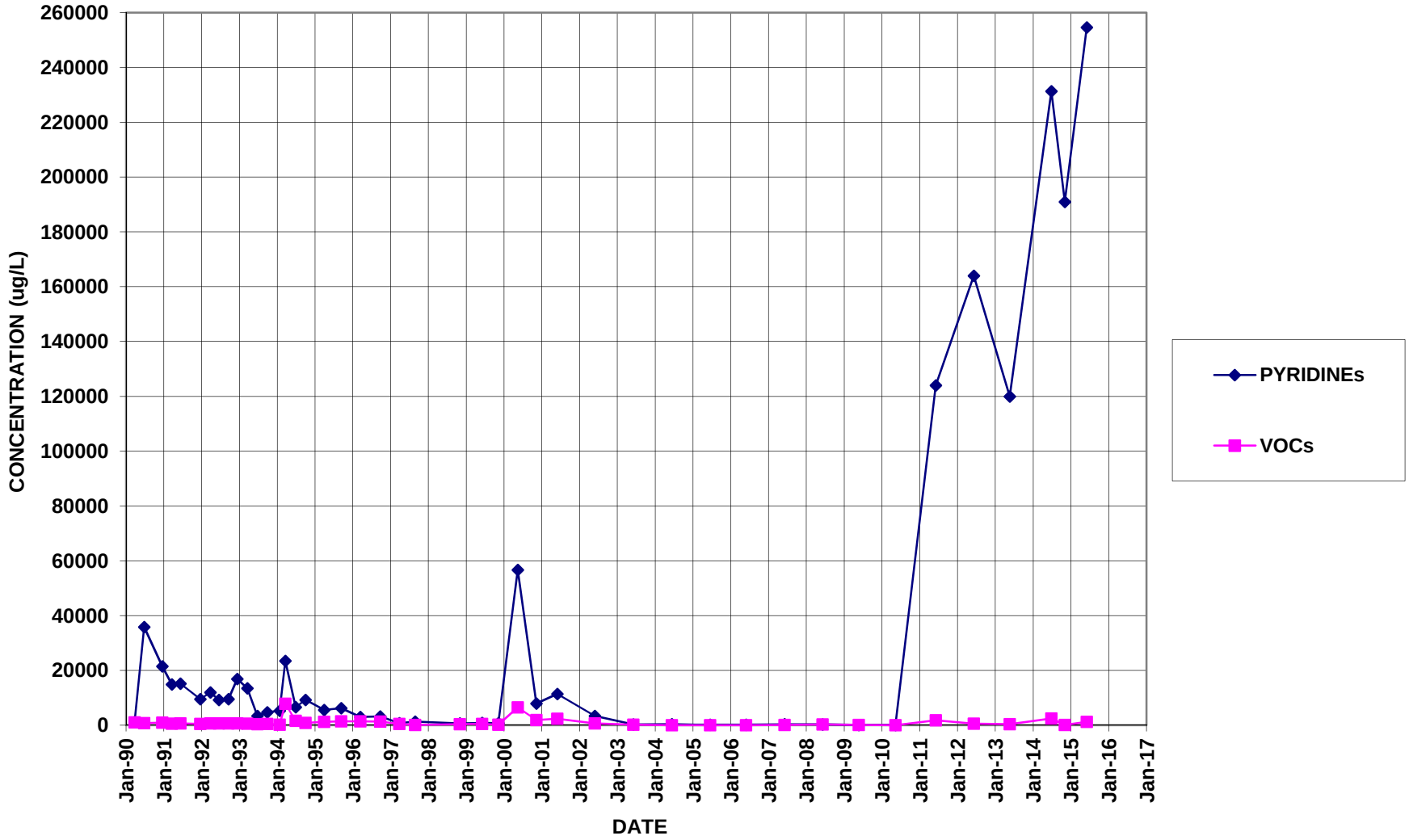


Prepared by: nmb
Reviewed by: jeb



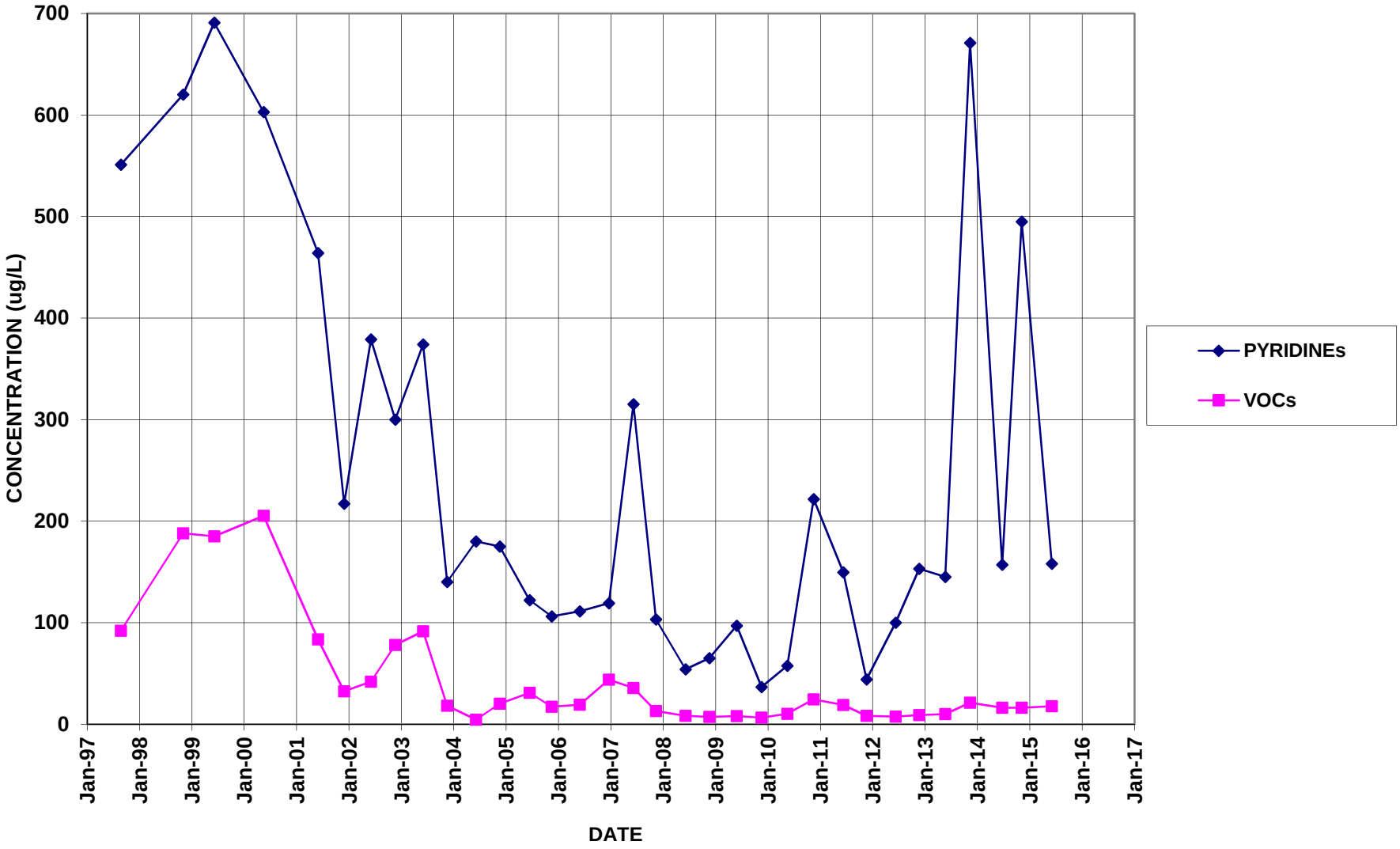
Prepared by: nmb
Reviewed by: jeb

BR-8



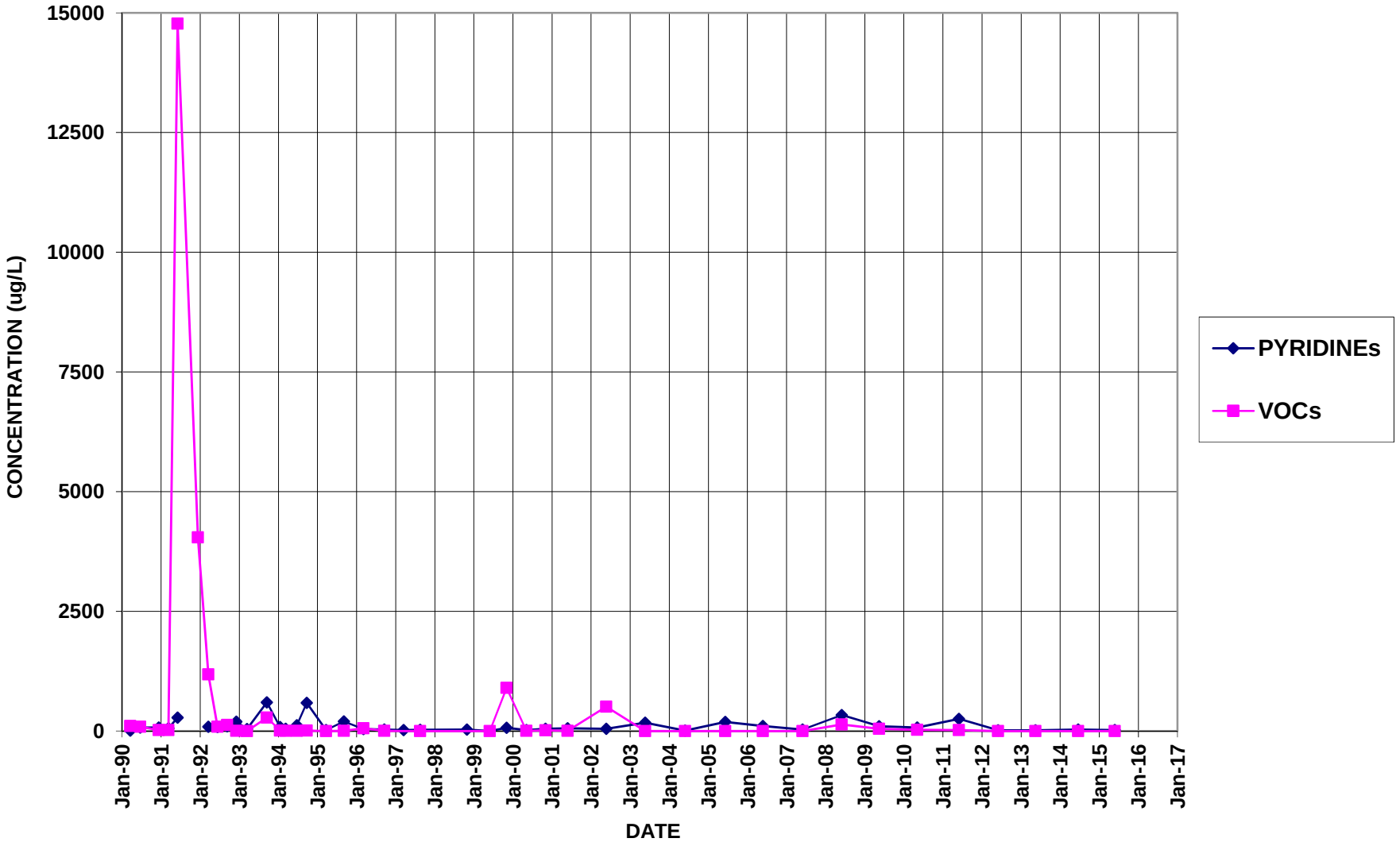
Prepared by: nmb
Reviewed by: jeb

BR-9



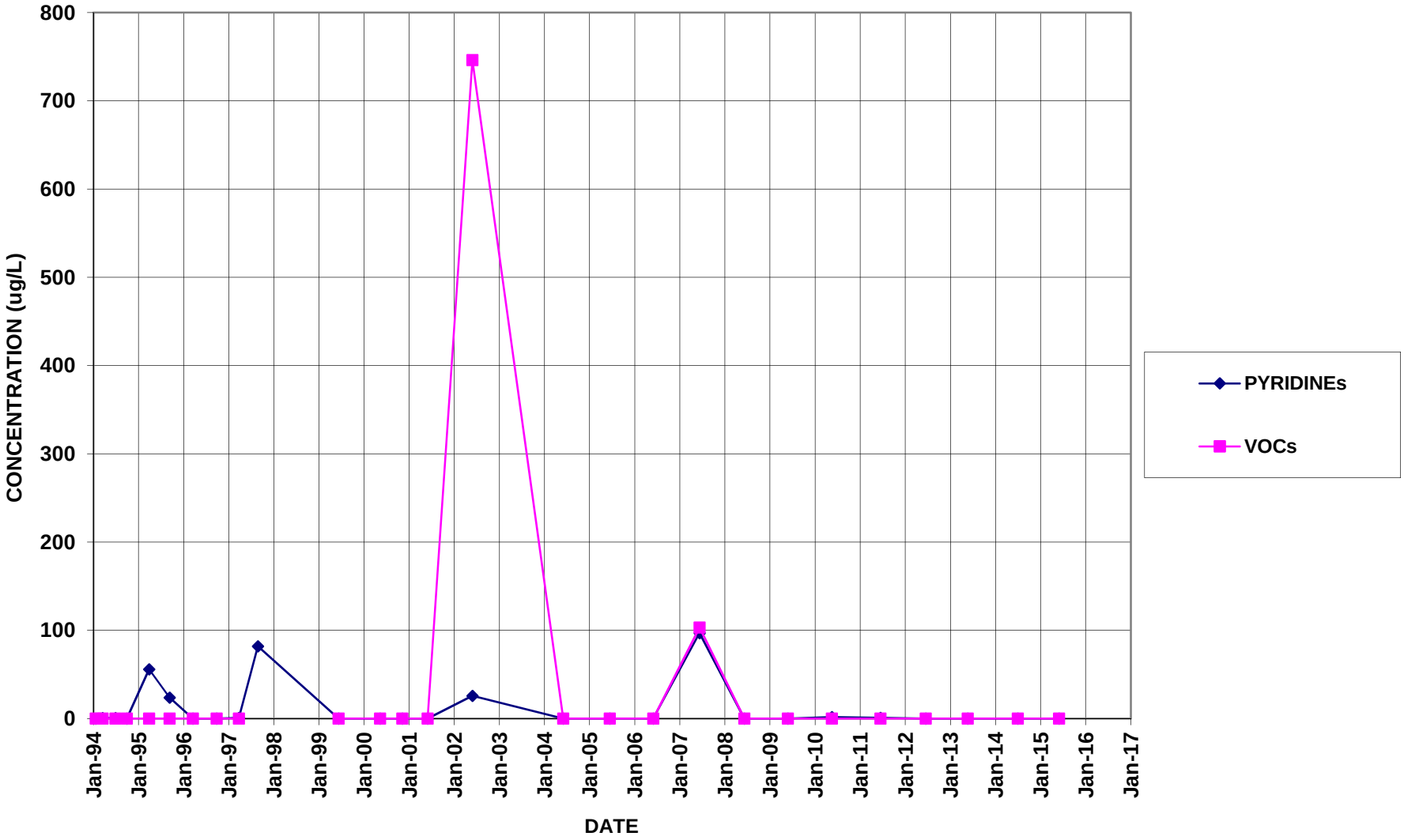
Prepared by: nmb
Reviewed by: jeb

E-3



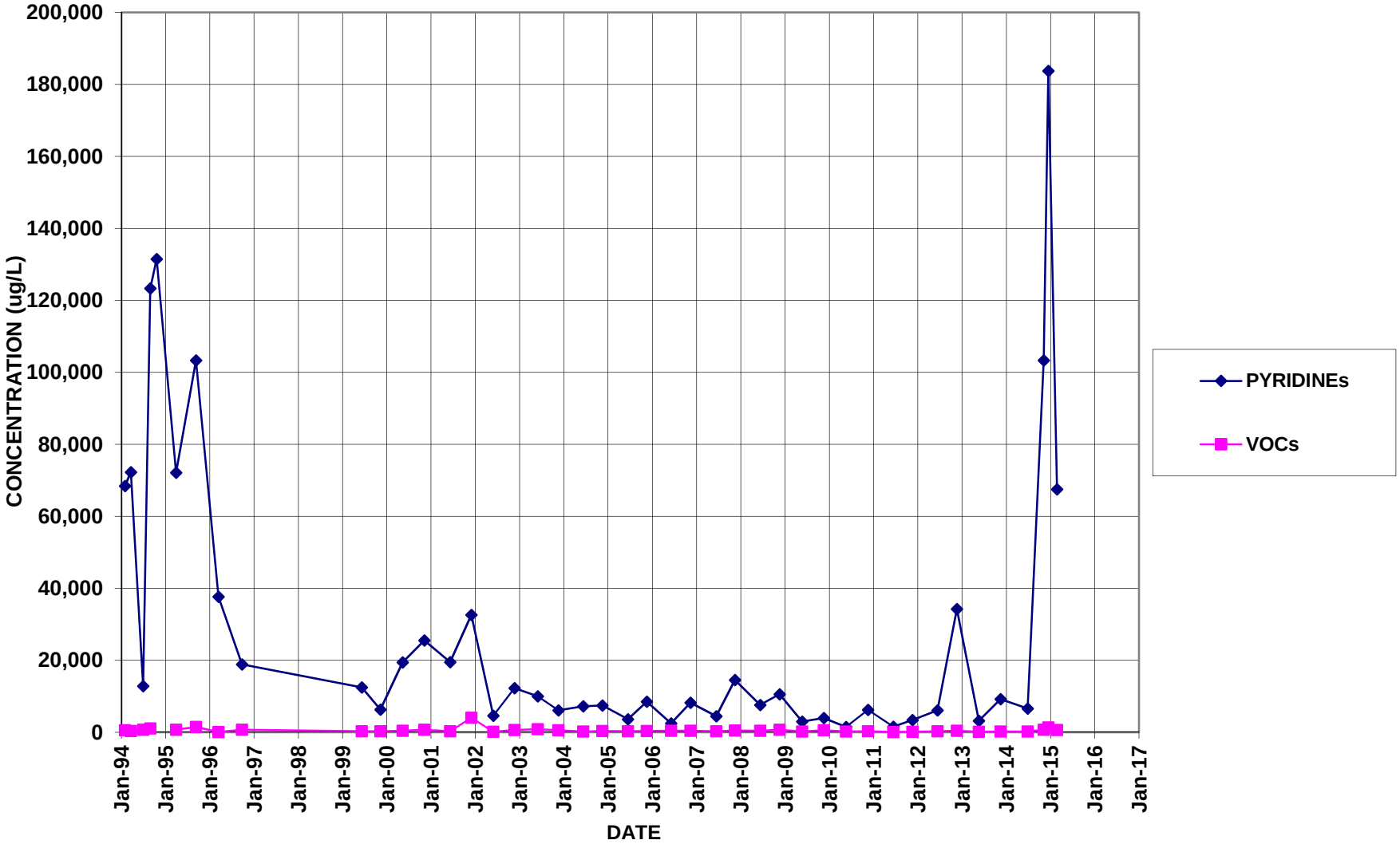
Prepared by: nmb
Reviewed by: jeb

MW-103



Prepared by: nmb
Reviewed by: jeb

MW-106



Prepared by: nmb
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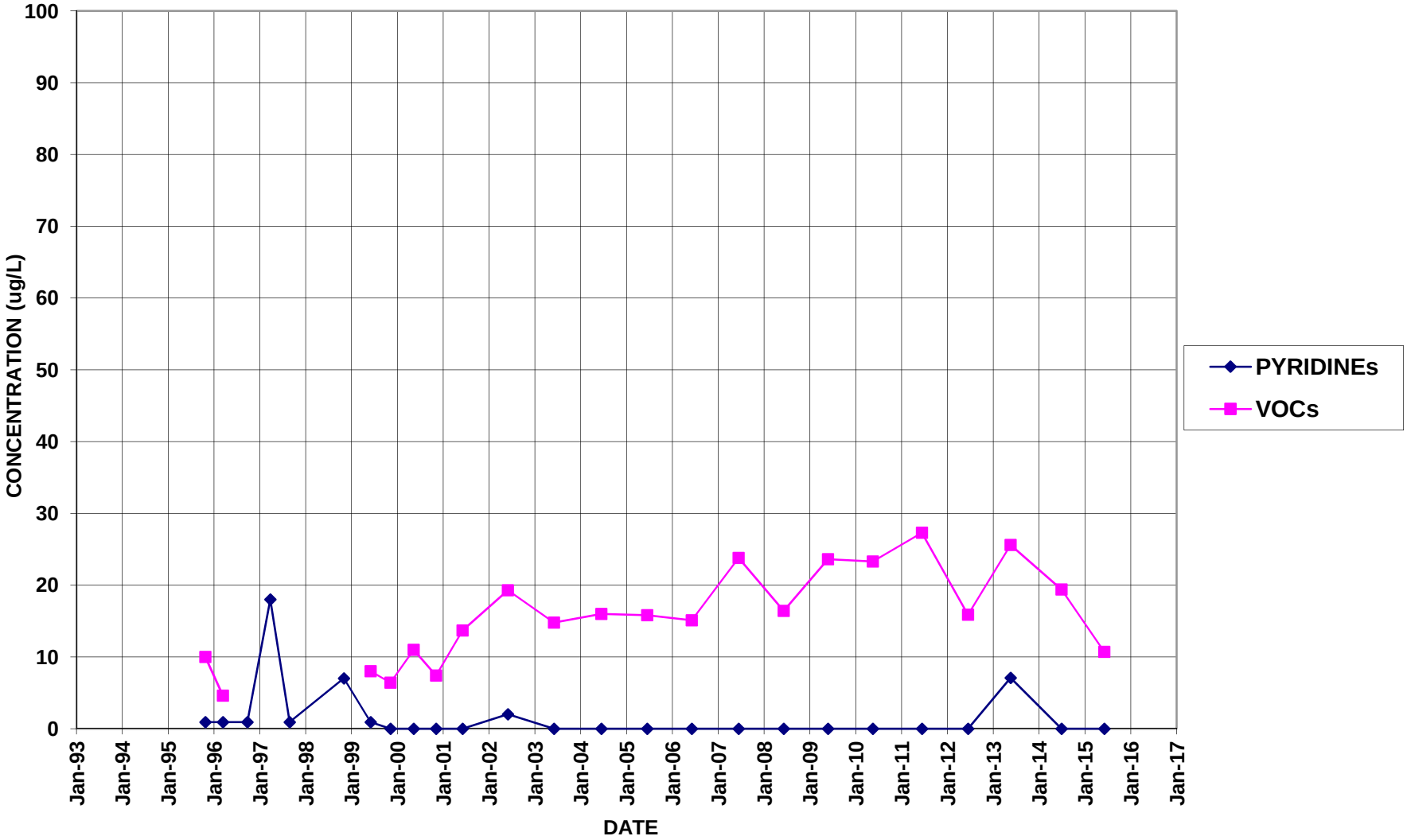
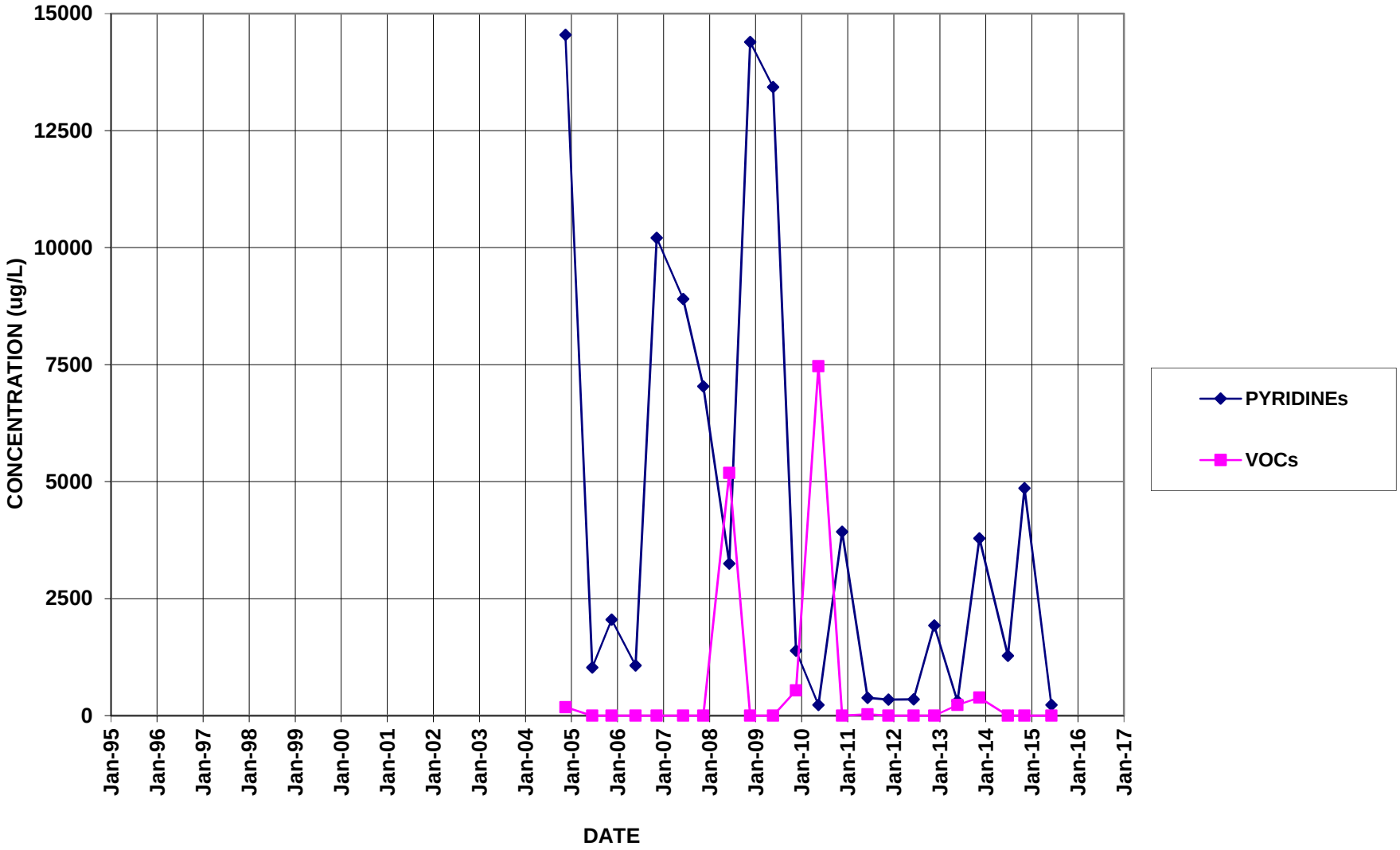
MW-114



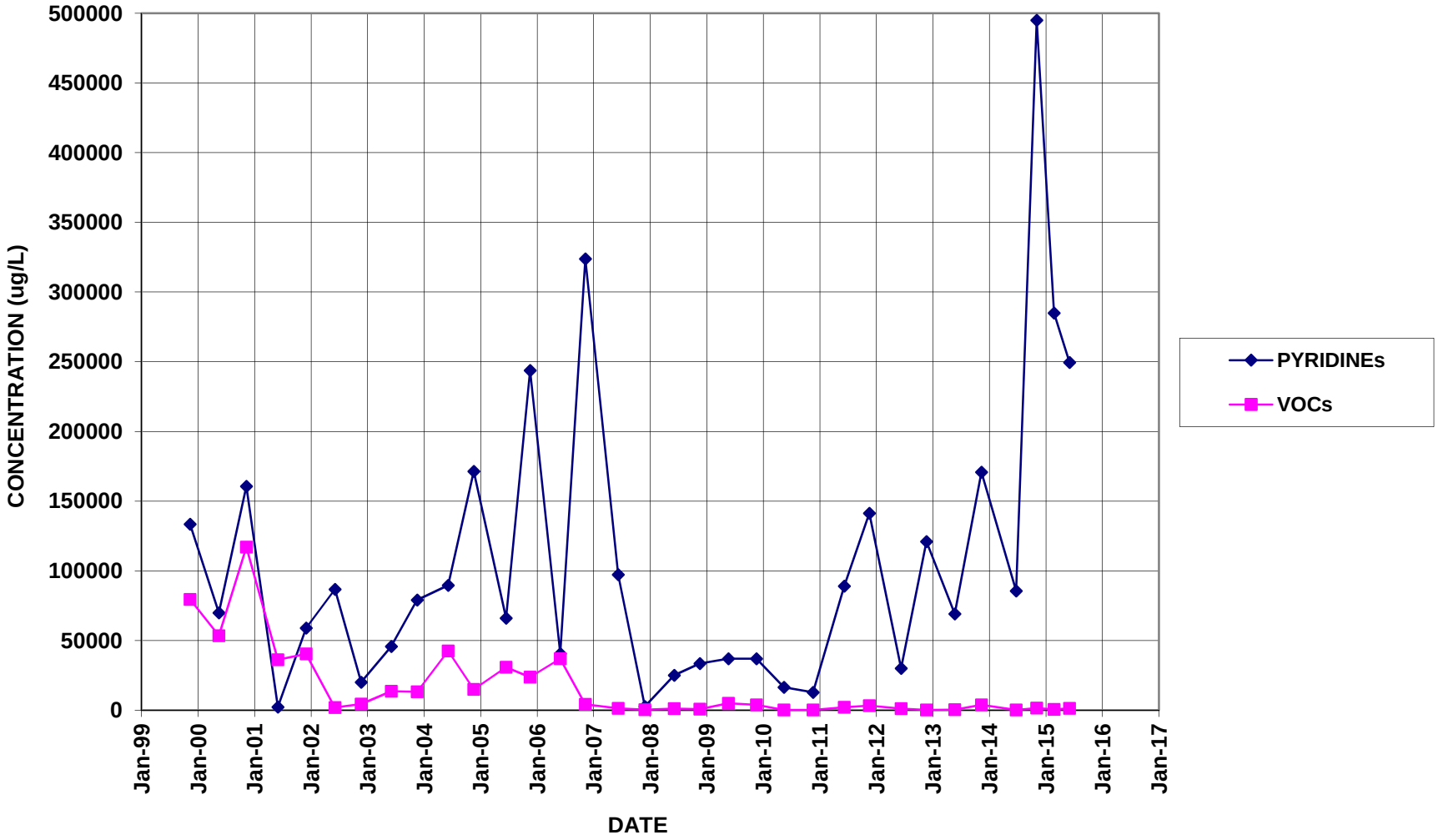
Prepared by: nmb
Reviewed by: jeb

MW-127



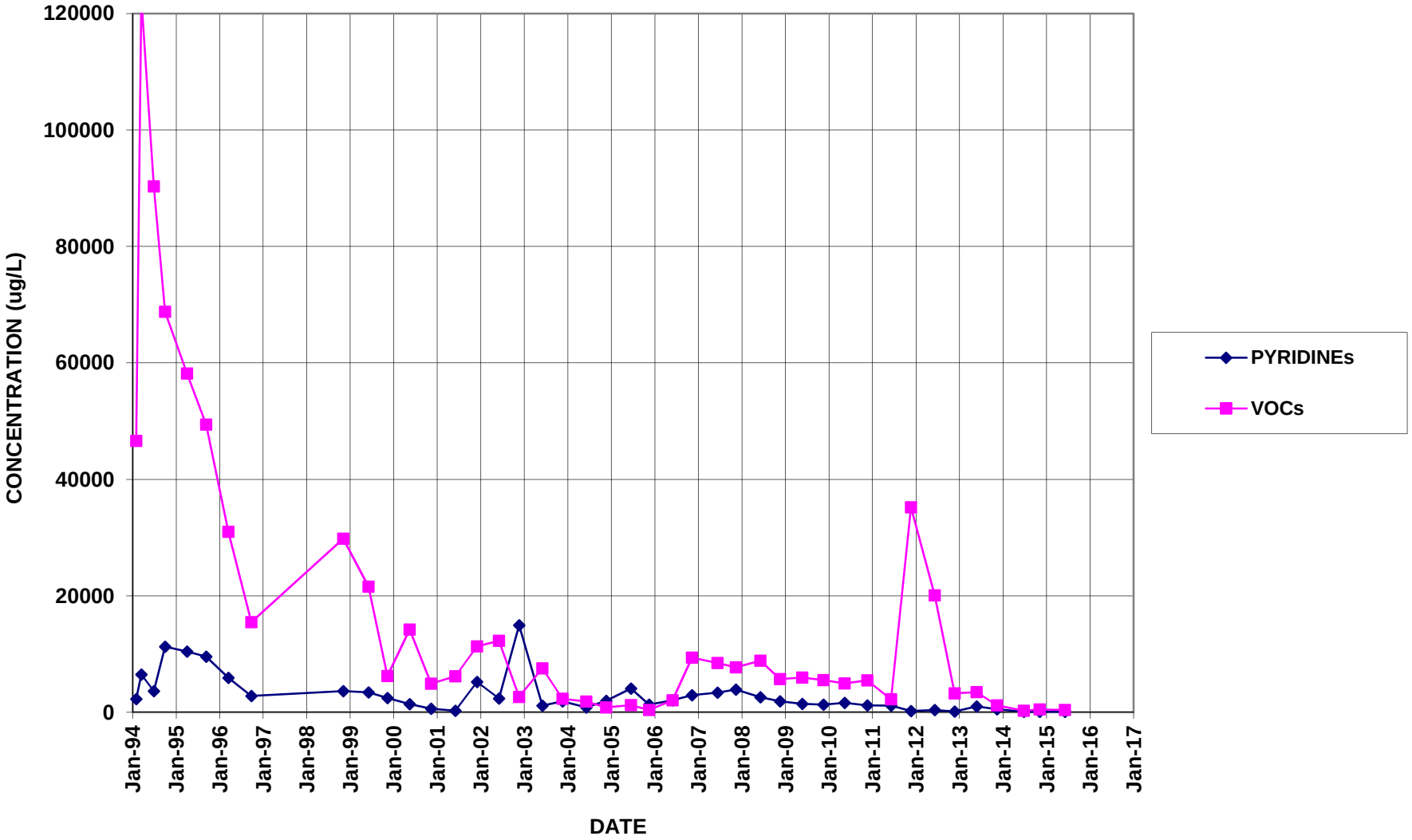
Prepared by: nmb
Reviewed by: jeb

PW10



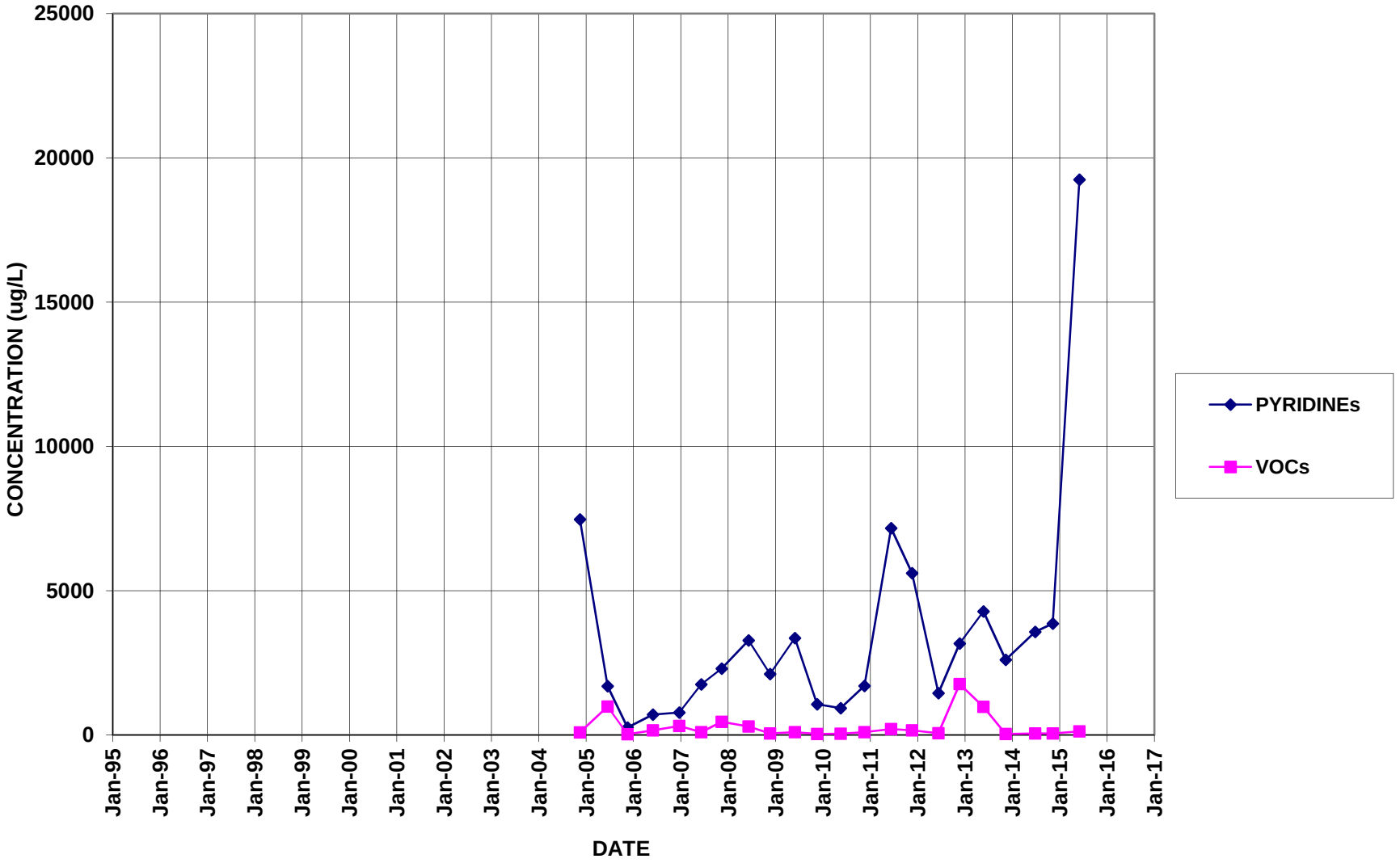
Prepared by: nmb
Reviewed by: jeb

PW12 (Formerly BR-101)



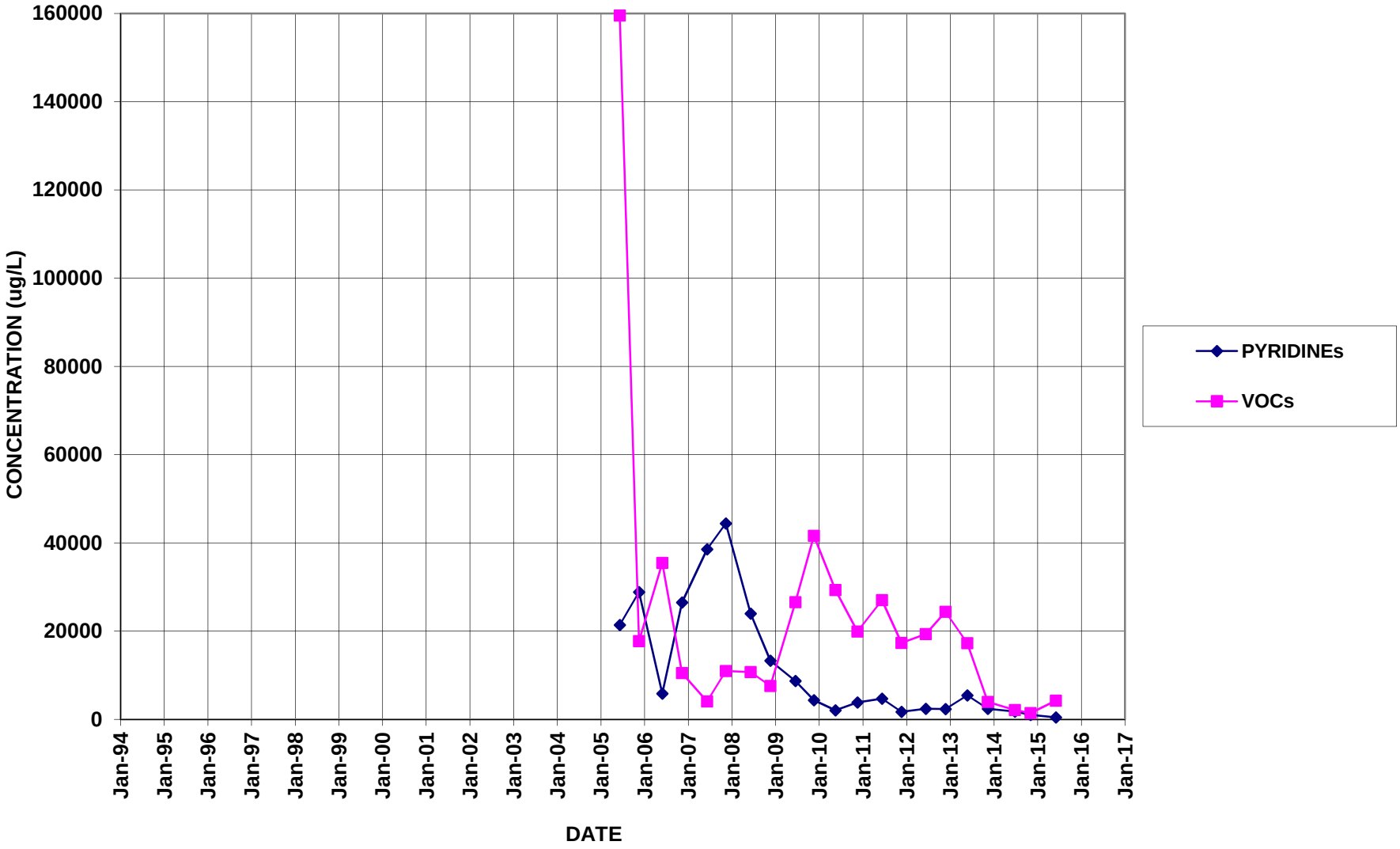
Prepared by: nmb
Reviewed by: jeb

PW13



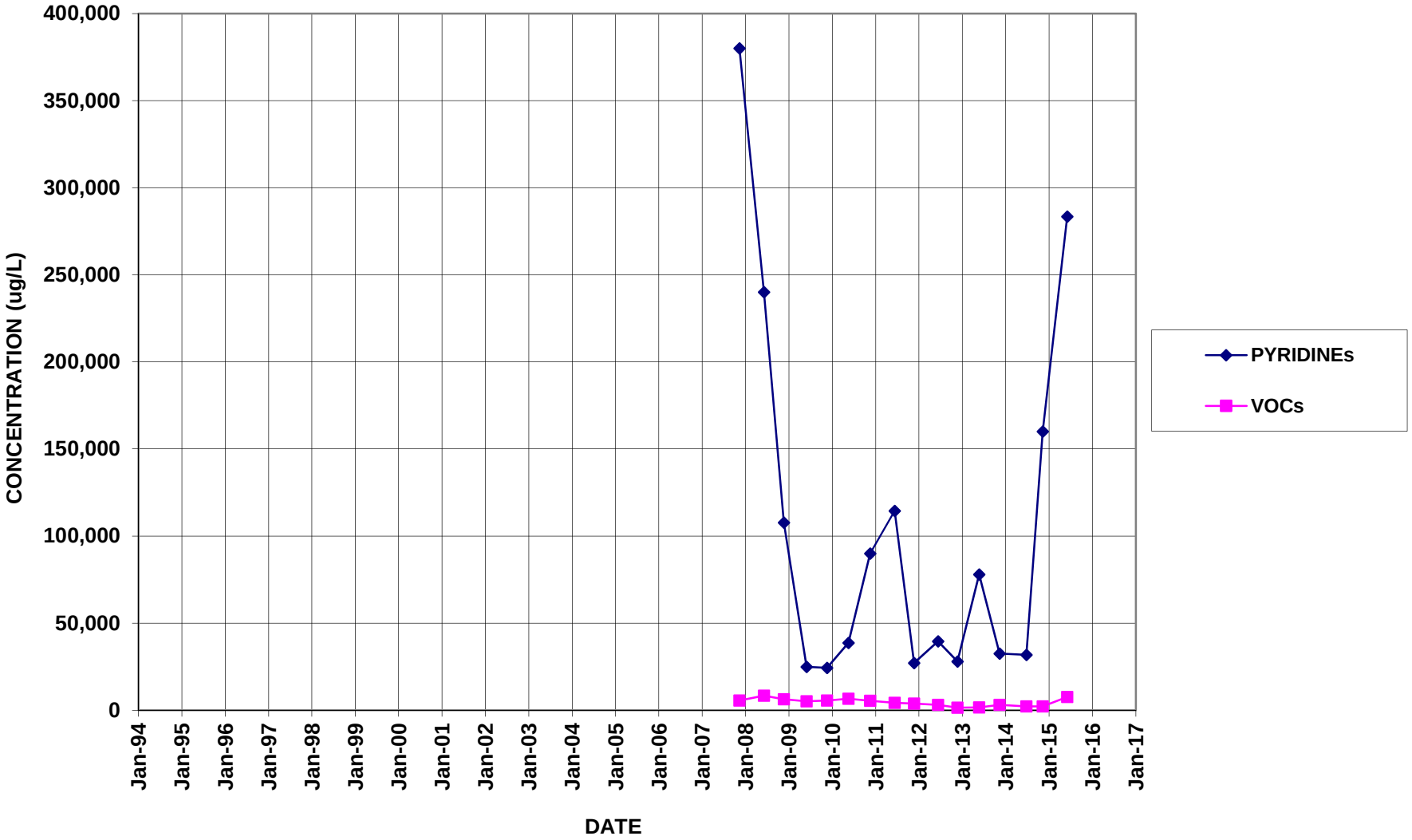
Prepared by: nmb
Reviewed by: jeb

PW14



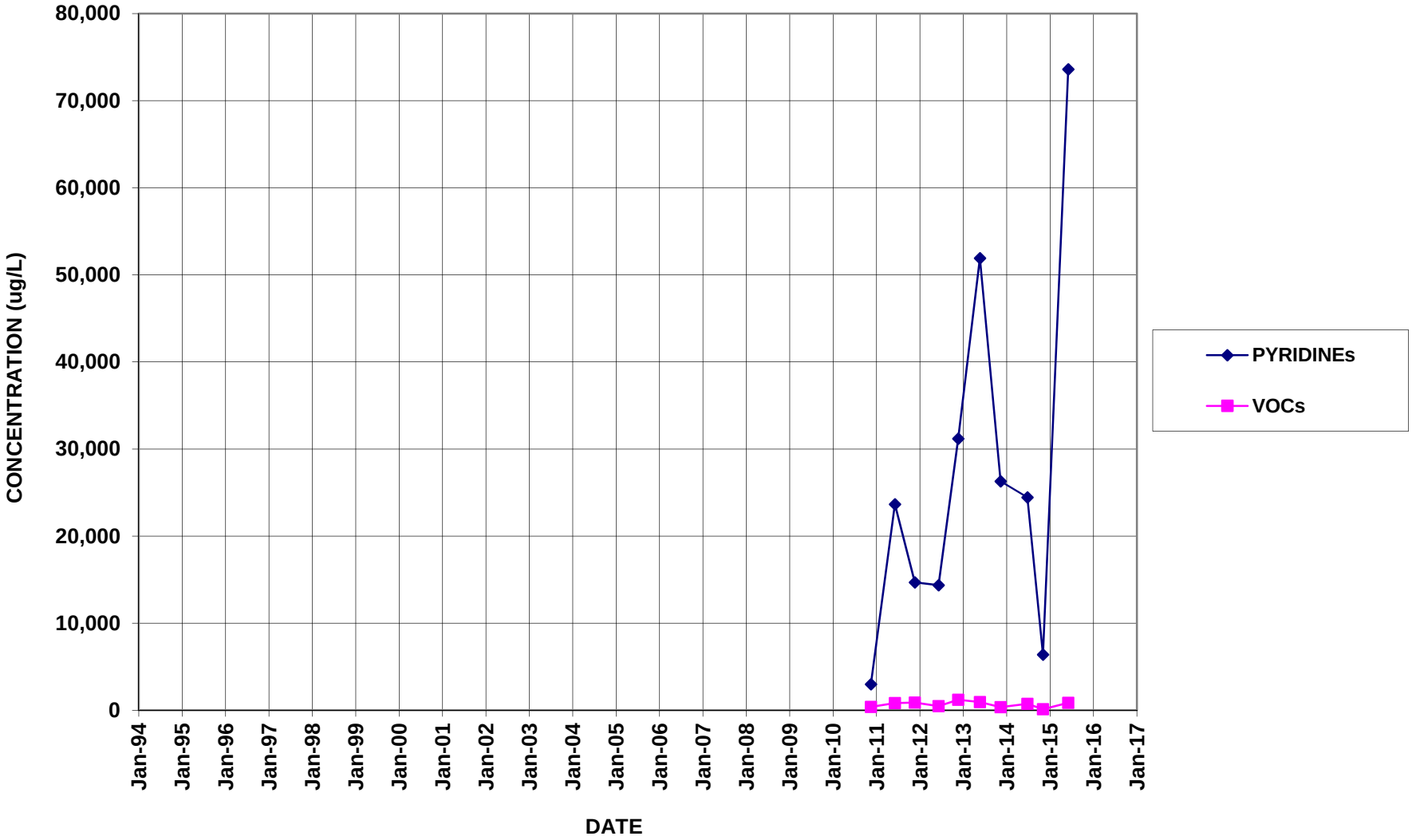
Prepared by: nmb
Reviewed by: jeb

PW15



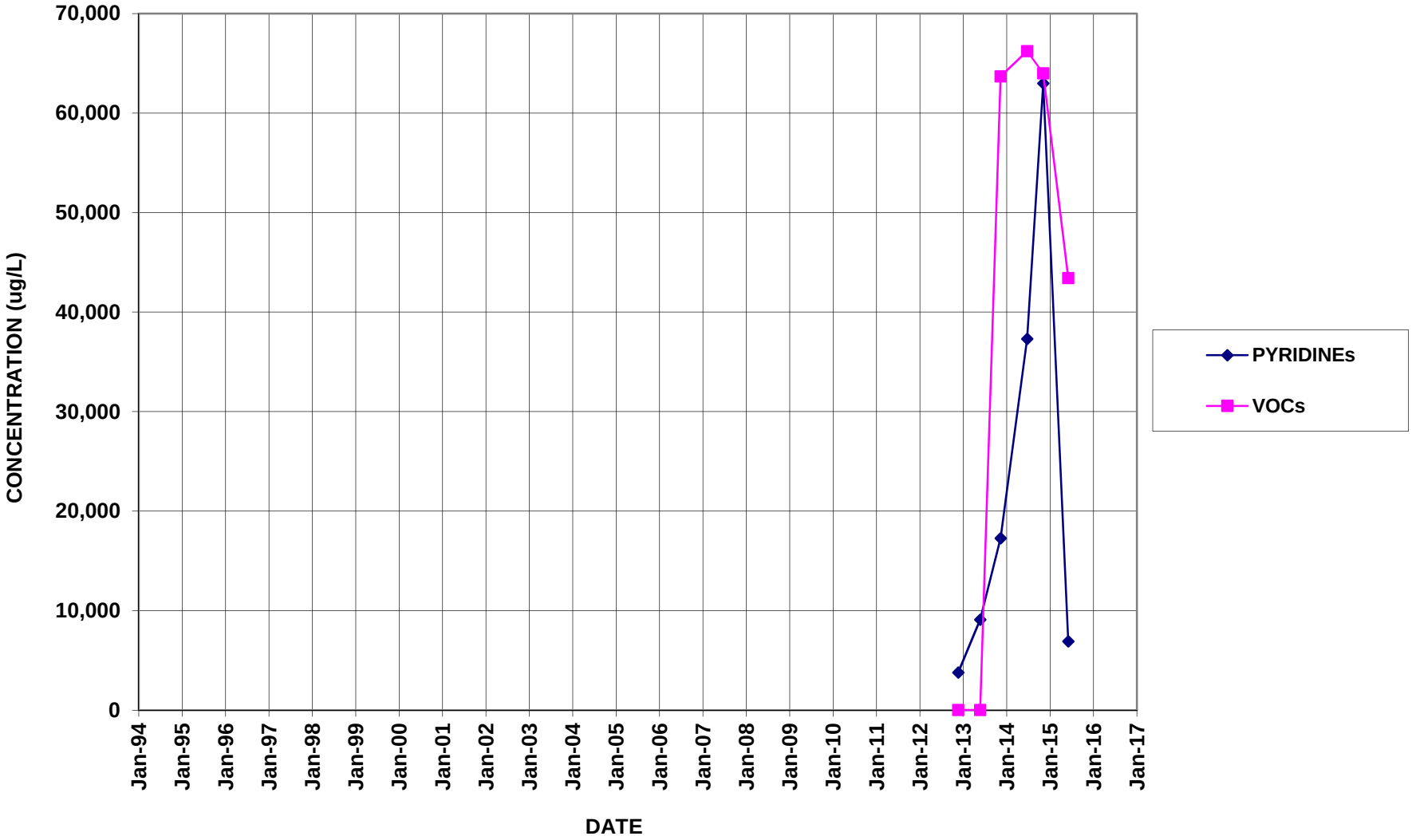
Prepared by: nmb
Reviewed by: jeb

PW16



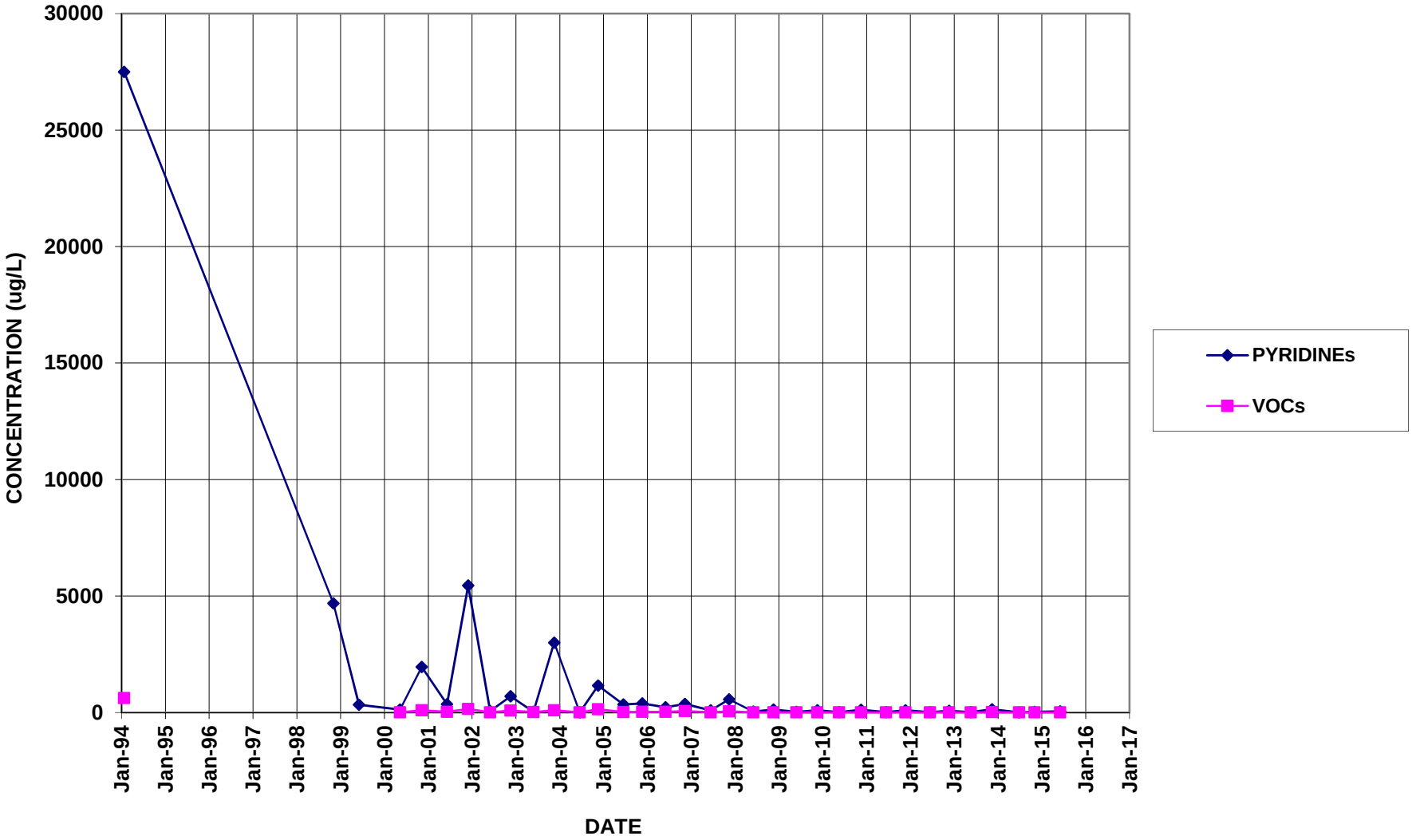
Prepared by: nmb
Reviewed by: jeb

PW17



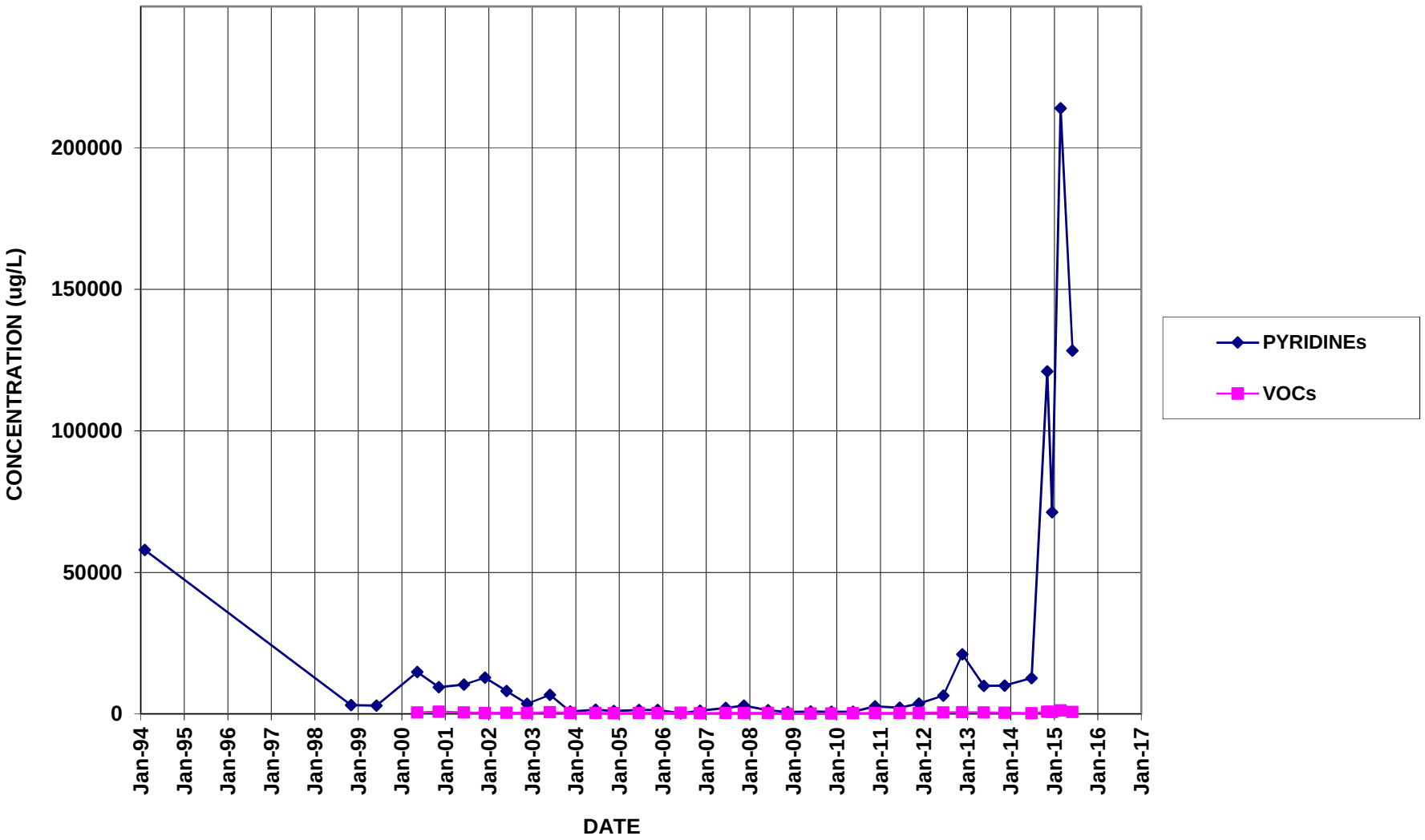
Prepared by: nmb
Reviewed by: jeb

PZ-101



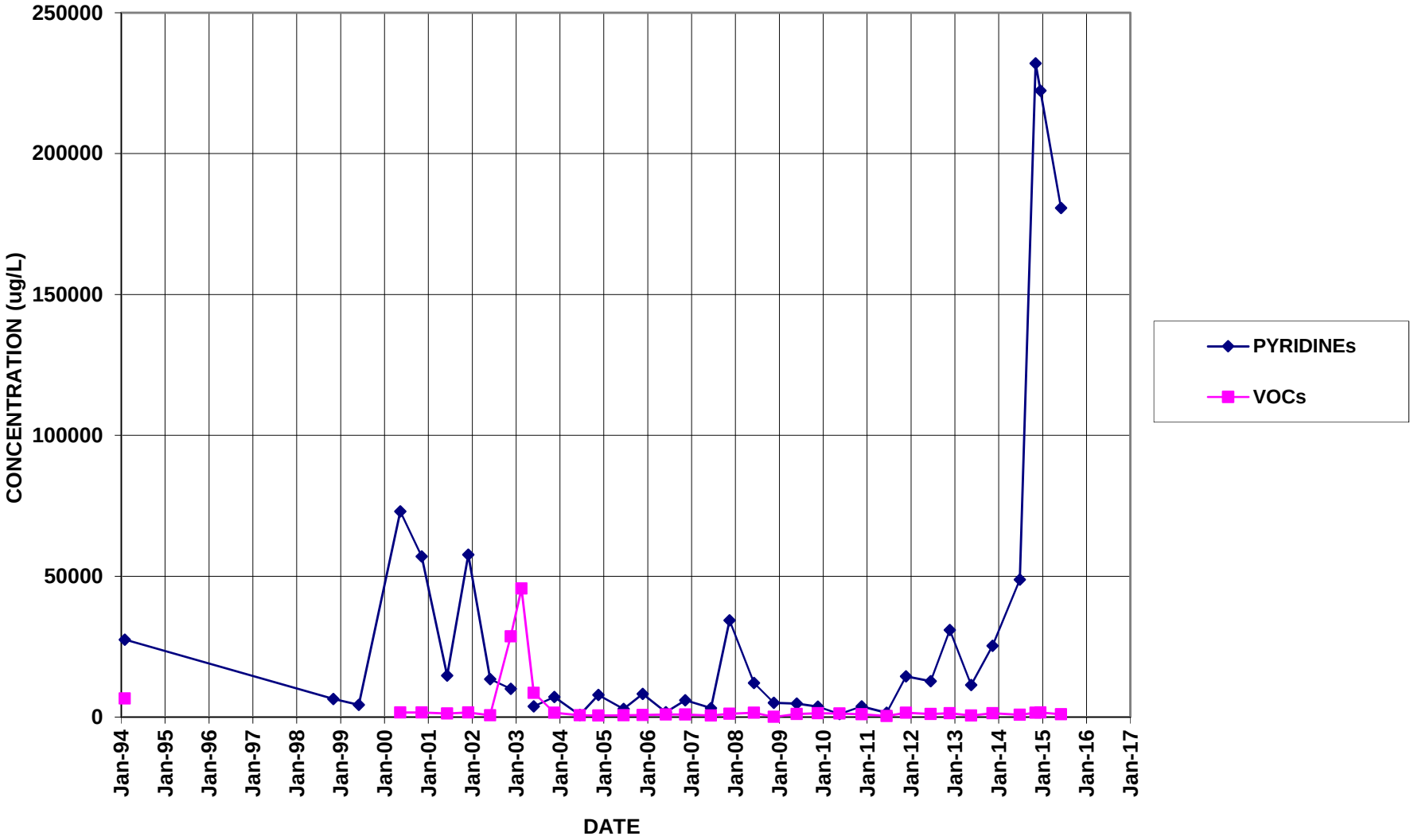
Prepared by: nmb
Reviewed by: jeb

PZ-102



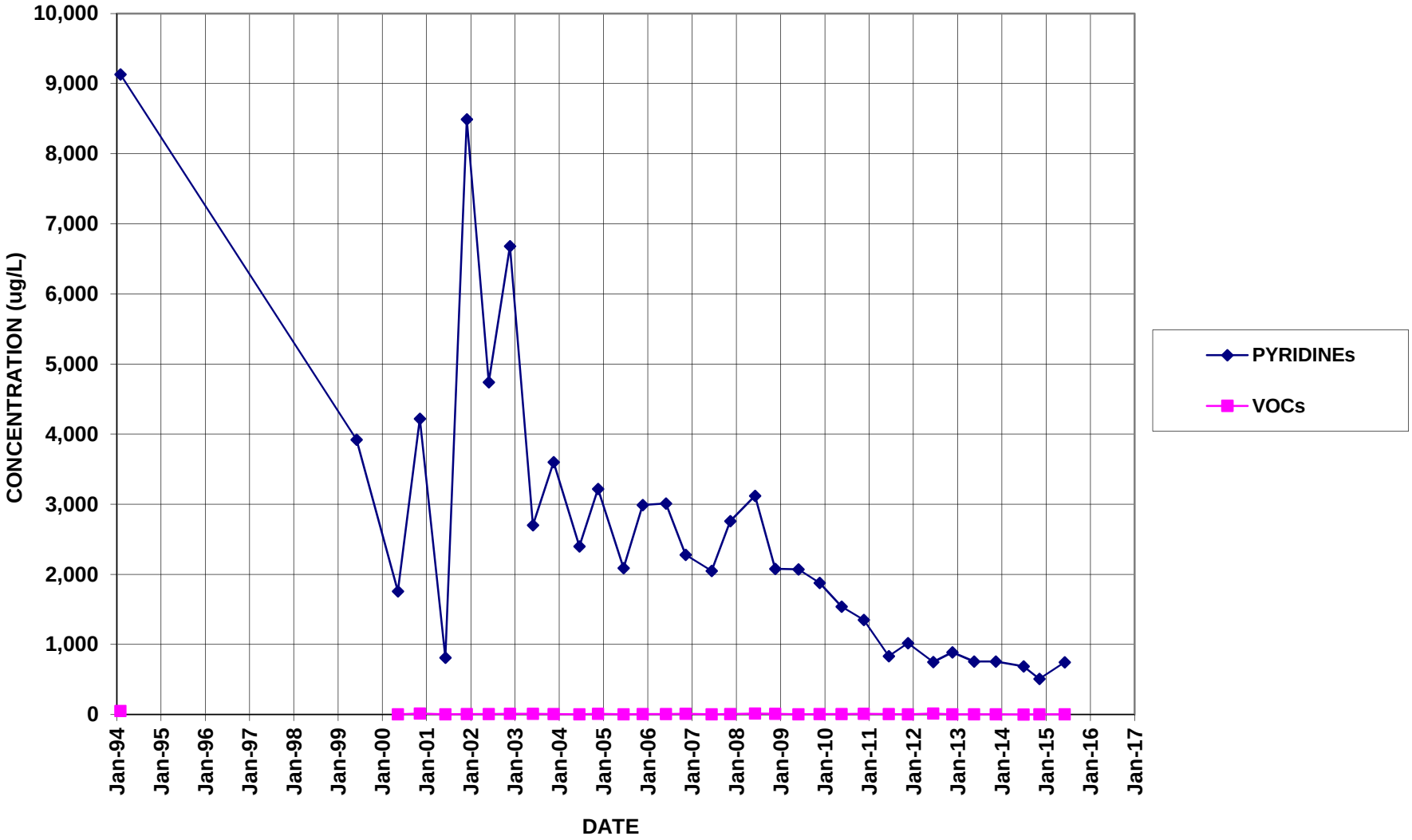
Prepared by: nmb
Reviewed by: jeb

PZ-103



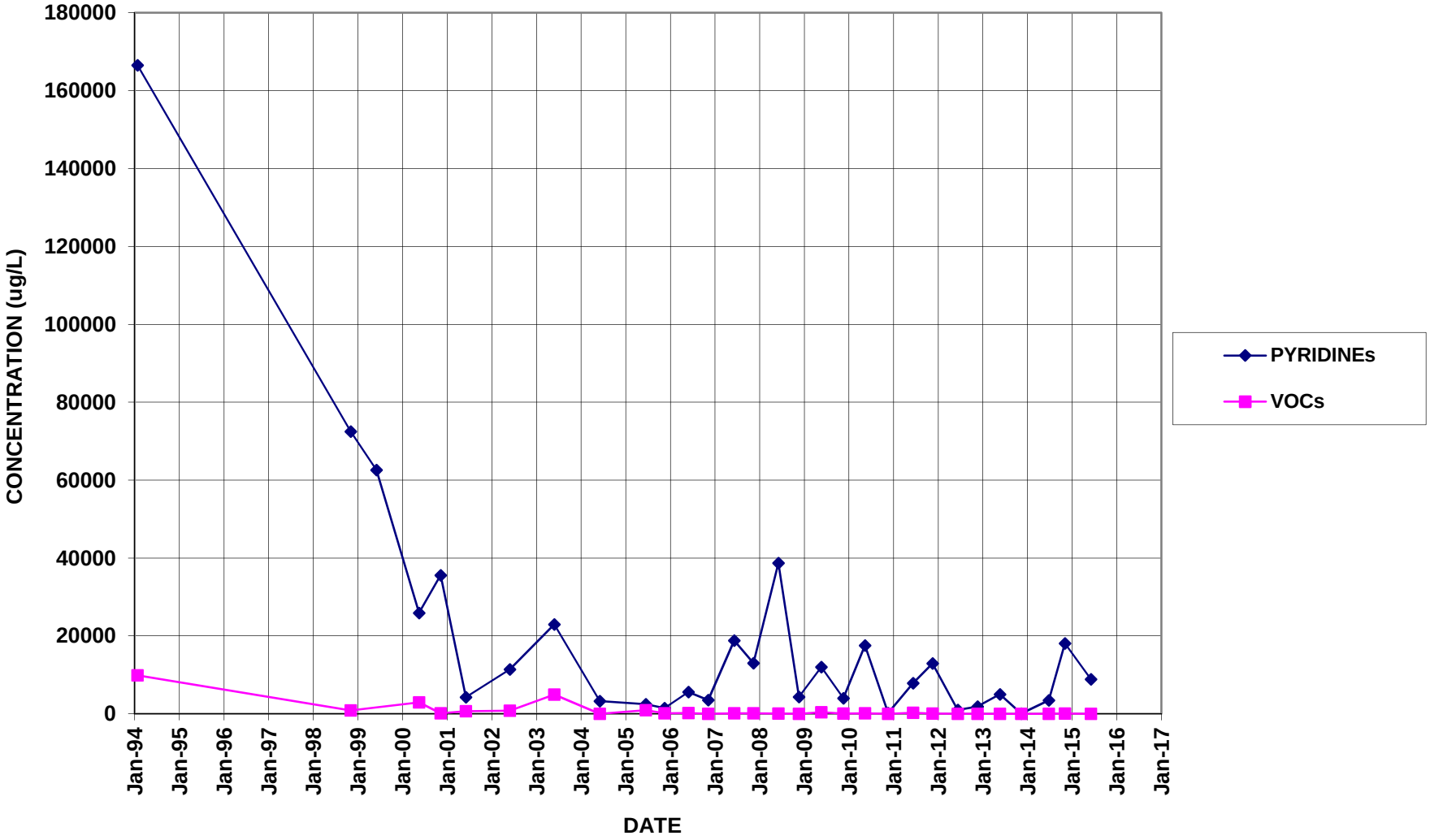
Prepared by: nmb
Reviewed by: jeb

PZ-104



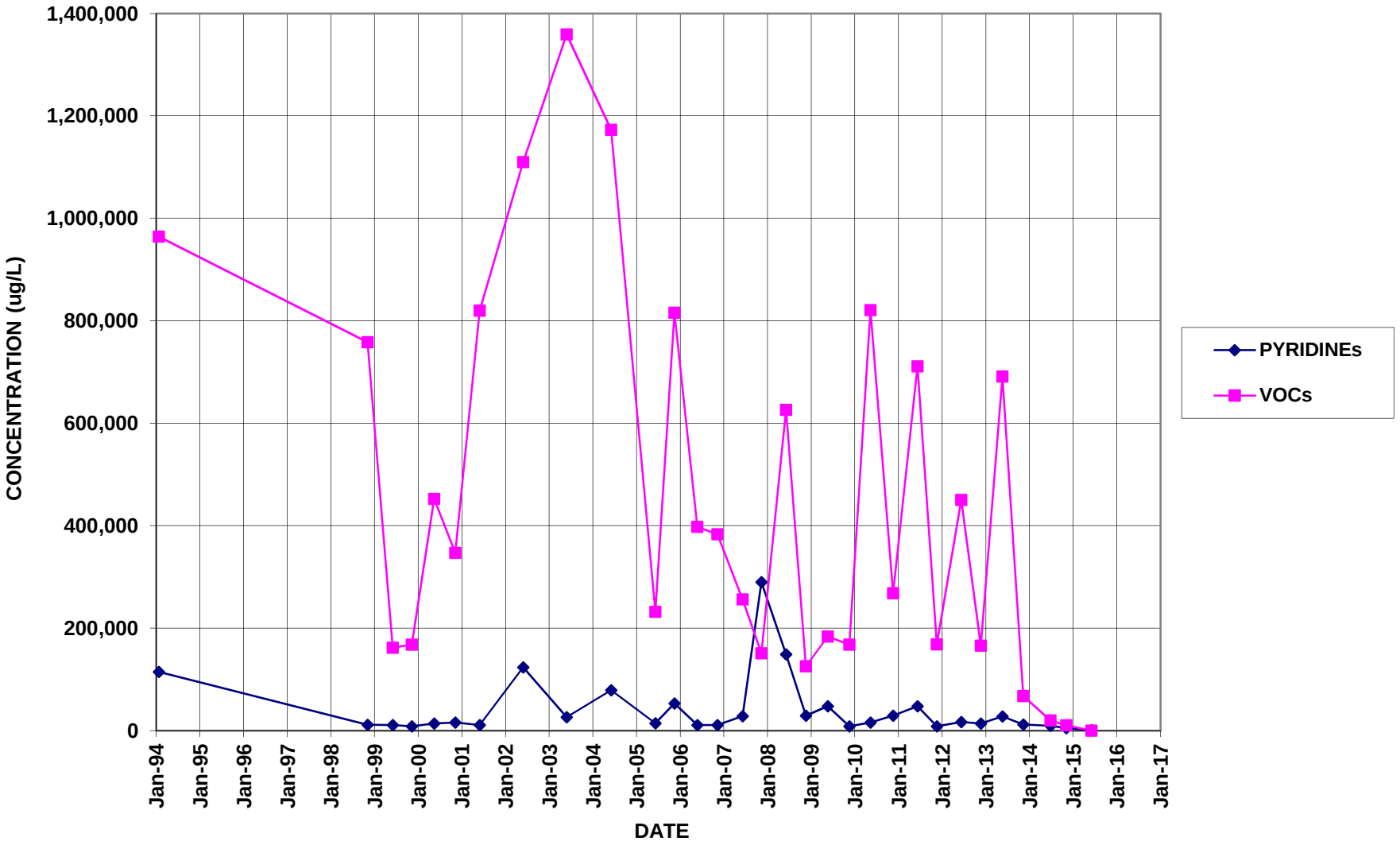
Prepared by: nmb
Reviewed by: jeb

PZ-105



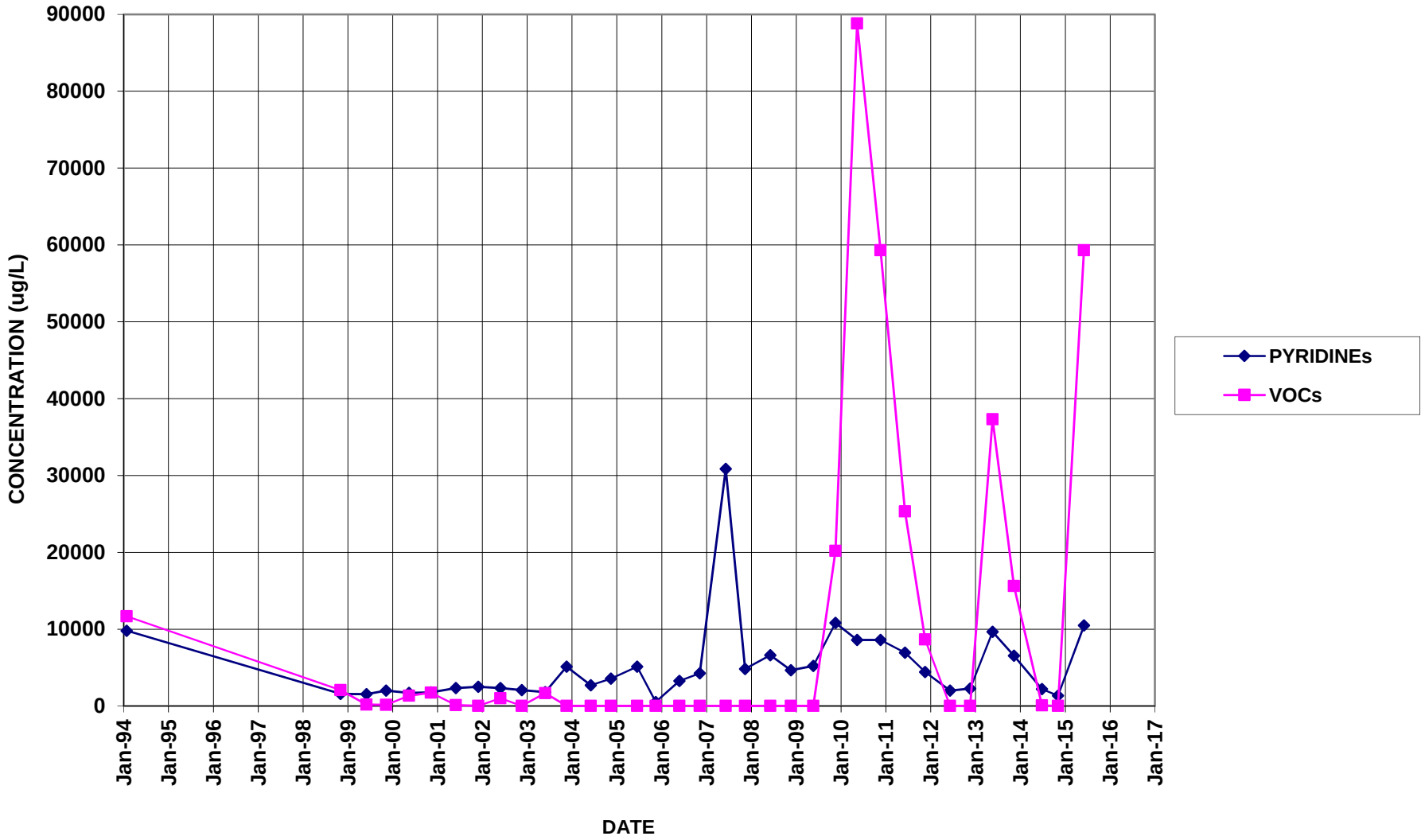
Prepared by: nmb
Reviewed by: jeb

PZ-106

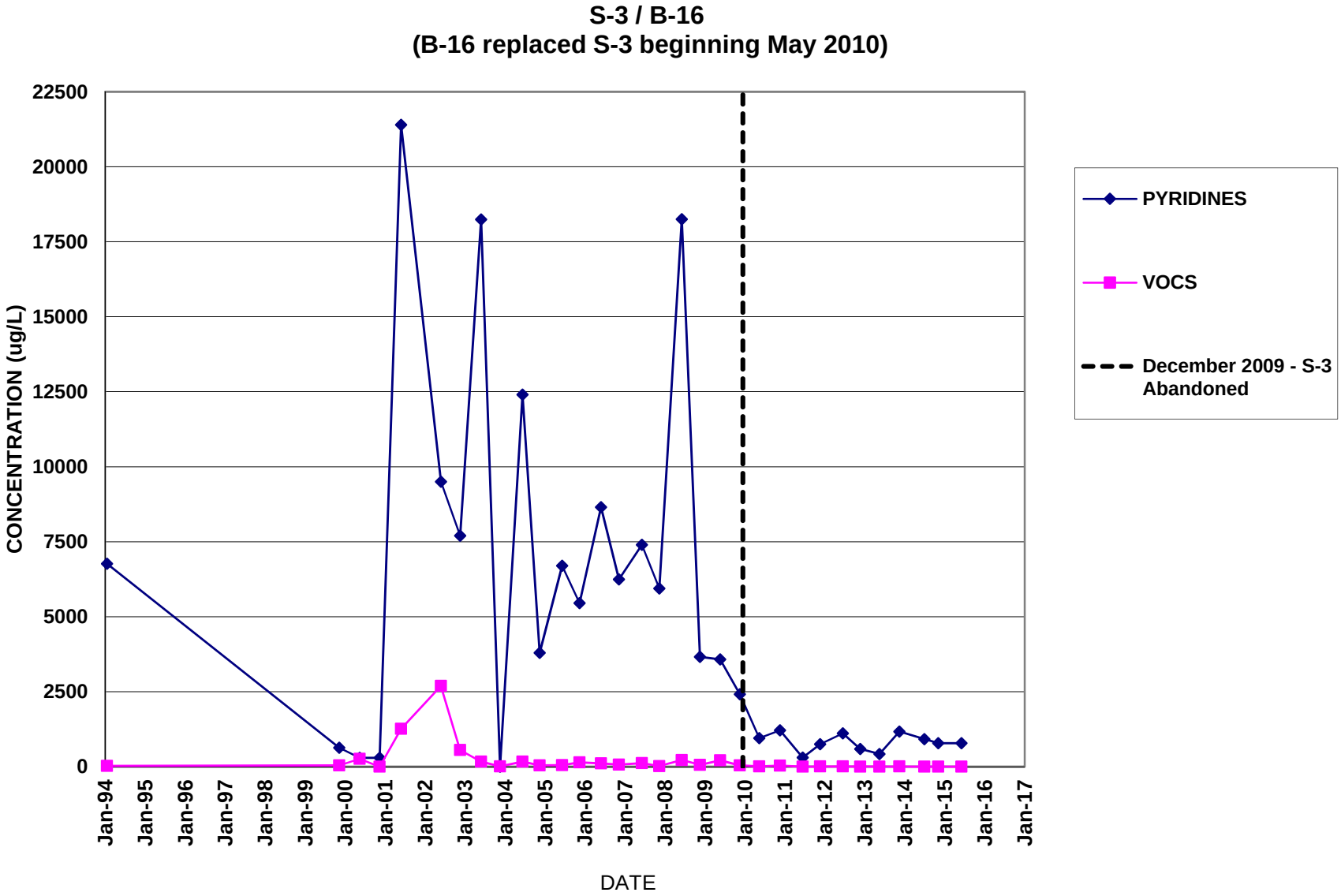


Prepared by: nmb
Reviewed by: jeb

PZ-107

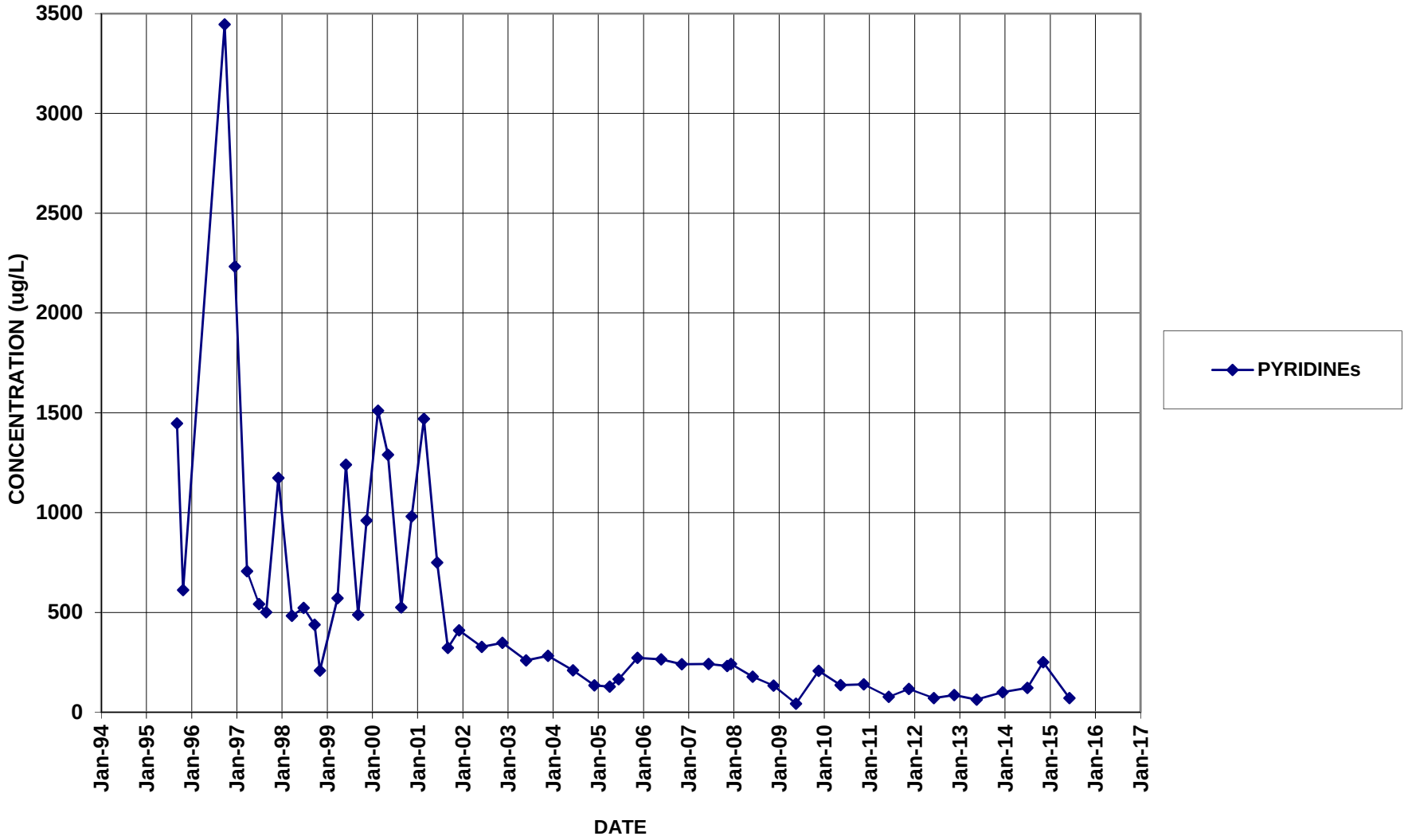


Prepared by: nmb
Reviewed by: jeb



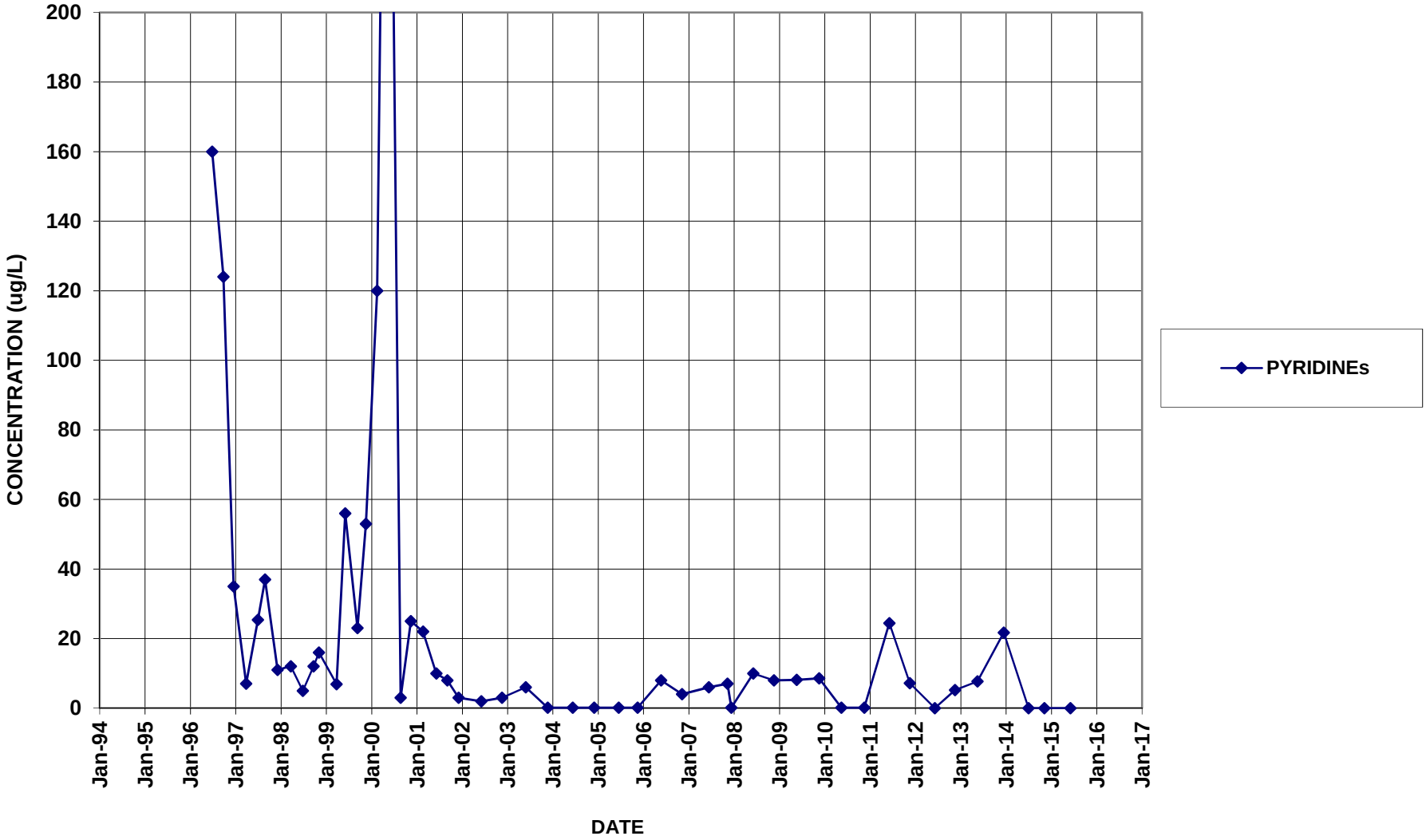
Prepared by: nmb
Reviewed by: jeb

QS-4 (QUARRY SEEP)



Prepared by: nmb
Reviewed by: jeb

QO-2 (QUARRY OUTFALL)



Prepared by: nmb
Reviewed by: jeb