SURFACE WATER AND GROUNDWATER MONITORING PROGRAM
SPRING 2014 MONITORING REPORT

ARCH CHEMICALS
ROCHESTER PLANT SITE
ROCHESTER, NEW YORK

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

OCTOBER 2014

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SPRING 2014 MONITORING REPORT

ARCH CHEMICALS
ROCHESTER PLANT SITE
ROCHESTER, NEW YORK

Prepared by

AMEC Environment & Infrastructure, Inc.
Portland, Maine

for

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

October 2014

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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 June 2014, samples from a total of 51 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. Thirty-five of the 51 wells sampled for chloropyridines had contaminant concentrations that were at or below their respective 5-year prior averages. Thirty-one of the 38 wells sampled for volatile organic compounds had concentrations at or below their 5-year prior averages. The contaminant contour plots for chloropyridines and VOCs are generally consistent with past observations. Although there is significant variability in concentrations in some of the monitoring wells, overall long-term groundwater trends are downward or stable in most wells.

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 120 micrograms per liter (µg/L), which was slightly above its prior 5-year average of 100 µg/L. 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 2013 through May 2014, the on-site groundwater extraction system pumped approximately 5.7 million gallons of groundwater to the on-site treatment system, containing an estimated 493 pounds of chloropyridines and 32 pounds of target volatile organic compounds. Total flow and mass removal rates were down during the reporting period due to wells being shut down while Arch conducted a pilot test for in-situ chemical oxidation at the site in November and December, and also due to several line freeze-ups during the unusually cold winter of 2013 – 2014.

The next regular monitoring event will occur in November 2014 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 2014 sampling event included the collection and analysis of a total of 55 groundwater, surface water, and seep samples from off-site and on-site locations. Samples were collected June 24 through July 1, 2014, for analysis of selected chloropyridines and volatile organic compounds (VOCs).

This report presents the results of the Spring 2014 monitoring event.

2.0 SAMPLE COLLECTION AND ANALYSIS

2.1 GROUNDWATER

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

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

Groundwater piezometric elevations were measured on June 23, 2014. Piezometric contour maps were constructed for each water-bearing zone (overburden, bedrock, and deep bedrock) and are presented in Figures 3, 4, and 5. Due to a miscommunication with the new sampling team, water levels were only measured in wells that were scheduled for water quality sampling. For the figures, reasonable interpretations were made based on the extensive historical knowledge that has been accumulated at this site.

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 July 1, 2014. All quarry-related samples were analyzed for the Arch suite of selected chloropyridines. The quarry locations sampled during the Spring 2014 event are shown on Figure 7.

2.3 ANALYTICAL PROCEDURES

The analytical procedures, data review findings, and validated data for this groundwater and surface water 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, as modified by USEPA Region II, "SOP No. HW-6 Revision 14", September 2006. 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): BR5A, B17, PW15, PZ105, PZ107, BR127, PW13, BR7A, PW16, BR8, PZ102, PZ103, MW106, BR105, BR106, PZ104, and BR103.

Percent recoveries of the chloropyridines surrogate 2-fluorobiphenyl in a subset of samples were above the laboratory statistically derived control limits, indicating potential high biases for positive detections. Positive detections of pyridine and chloropyridines in samples PZ107, PZ104, and MW104 were qualified estimated (J) and may represent potential high biases.

Laboratory Control Samples (LCS). Percent recoveries of pyridine (37 to 41) in all laboratory control samples associated with the sampling event were below nominal control limits of 50-140, indicating potential low biases for pyridine in all samples. Nominal control limits were used in the absence of statistically derived laboratory control limits. Positive and non-detected results for pyridine in all samples were qualified estimated (J/UJ).

Matrix Spike/Matrix Spike Duplicates (MS/MSD). Percent recoveries for a subset of VOC target analytes were below the laboratory control limits in the MS/MSD associated with sample BR5A. In addition, relative percent differences (RPDs) between recoveries for 1,1,2-trichloroethane (10), cis-1,3-dichloropropene (12), and trichloroethene (11) were above the laboratory control limits. Results for all affected analytes except benzene were non-detect in sample BR5A, and reporting limits were qualified estimated (UJ). The positive detection of benzene in sample BR5A was qualified estimated (J) and may represent a potential low bias.

Percent recoveries for a subset of VOC target analytes were below the laboratory control limits in the MS/MSD associated with sample BR106. Results for all affected analytes except 1,2-dichlorobenzene and chlorobenzene were non-detect in sample BR106, and reporting limits were qualified estimated (UJ). The positive detections of 1,2-dichlorobenzene and chlorobenzene in sample BR106 were qualified estimated (J) and may represent potential low biases.

In the MS/MSD associated with chloropyridines sample BR5A, percent recoveries were below nominal control limits of 50-140 for 2,6-dichloropyridine (46), 2-chloropyridine (41, 22), 4-fluoroaniline (47), and pyridine (32, 28), indicating potential low biases. RPDs between recoveries for 2,6-dichloropyridine (22), 2-chloropyridine (58), and 4-fluoroaniline (21) were above the nominal control limit of 20. Positive and non-detected results for 2,6-dichloropyridine, 2-chloropyridine, 4-fluoroaniline, and pyridine in sample BR5A were qualified estimated (J/UJ).

In the MS/MSD associated with chloropyridines sample PZ107, the RPD between recoveries for 2-chloropyridine (26) was above the nominal control limit of 20. The positive detection of 2-chloropyridine in sample PZ107 was qualified estimated (J).

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 2014 groundwater monitoring event are provided in Tables 2 and 3. Table 4 provides a comparison of the Spring 2014 analytical results for selected chloropyridines and VOCs in representative wells to mean concentrations of the prior five years (Spring 2009 through Fall 2013). 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 23 of the 24 on-site wells sampled in the Spring 2014 event. Concentrations of chloropyridines ranged from not detected (ND) in well W-5 to 230,000 micrograms per liter (µg/L) (sum of all chloropyridine and pyridine isomer concentrations) in monitoring well BR-8. Eight 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 18 of the 27 off-site wells that were sampled. Concentrations of total selected chloropyridines ranged from ND (in wells BR-103, BR-108, BR-112D, BR-113D, BR-116, BR-117D, MW-103, MW-114, and NESS-W) to 49,000 µg/L in well PZ-103 on the west side of McKee Road. Seven 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. In general, the distribution of chloropyridines in groundwater is consistent with past interpretations, with a gradually shrinking trend. Substantial recent upward trends (generally since 2011) continue to be observed in wells BR-106, BR-8, PZ-102, and PZ-103. These trends coincide with the start-up of pumping from well PW-16 in late 2011, and it is believed that pumping stresses from this well (and PW-17 which was activated in 2012) have resulted in changes in flow patterns as contaminants are drawn toward the new pumping wells. Wells located further downgradient continue to show declining trends.

3.1.2 Selected VOCs.

On-Site. Selected VOCs were detected in 20 of the 24 on-site wells sampled in the Spring 2014 event. Total concentrations of selected VOCs (sum of carbon tetrachloride, chlorobenzene, chloroform, methylene chloride, tetrachloroethene, and trichloroethene) ranged from ND (in wells B-4, E-3, MW-127, and W-5) to 66,000 µg/L (in pumping well PW-17). Five 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 12 out of 24 wells), 1,4-dichlorobenzene (9 of 24), 1,3-dichlorobenzene (9 of 24), 1,2-dichlorobenzene (8 of 24), toluene (5 of 24), cis-1,2-dichloroethene (5 of 24), 1,2,4-trichlorobenzene (4 of 24), vinyl chloride (4 of 24), carbon disulfide (3 of 24),

1,1-dichloroethane (3 of 24), 1,1,2-trichloro-1,2,2-trifluoroethane (3 of 24), methyl tertbutyl ether (3 of 24), 1,2,3-trichlorobenzene (2 of 24), and bromoform (2 of 24).

Off-Site. Selected VOCs were detected in 7 of the 14 off-site wells sampled for VOCs in the Spring 2014 event. The total concentration of selected VOCs ranged from ND (in wells B-15, BR-103, BR-105D, BR-114, MW-103, PZ-101, and PZ-104) to 810 µg/L in PZ-103. Two of the off-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 off-site wells include benzene (in 9 out of 14 wells), 1,4-dichlorobenzene (5 of 14), 1,2-dichlorobenzene (5 of 14), 1,3-dichlorobenzene (2 of 14), cis-1,2-dichloroethene (2 of 14), and vinyl chloride (2 of 14).

Concentration Contours. The distribution of selected VOCs in groundwater is shown as a set of concentration contours on Figure 9. These contours were developed using both overburden and bedrock groundwater data, and are dashed where approximated using historical data. VOC concentration trends are downward or stable in most wells. Noticeable recent improvements are noted in wells PZ-106 and PZ-107. This may be related to the implementation of the in-situ chemical oxidation pilot test in late 2012, although the downward trends in those wells appear to have started just prior to the start of the pilot test.

3.2 SURFACE WATER

Results from the Spring 2014 canal and quarry monitoring event are presented in Table 5. The results are included in Table 5 and are discussed below.

3.2.1 Quarry

One quarry seep sample (QS-4) was collected in the Spring 2014 monitoring event. The sample contained 120 µg/L total chloropyridines, which is slightly above 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 2013 through May 2014. The total volume pumped during the six-month period

was approximately 5.7 million gallons. Total flow rates were adversely affected due to a shutdown of several pumping wells during November and December 2013 while a pilot test of in-situ chemical oxidation was performed at the site, and by several freeze-ups of discharge lines from the extraction wells during the unusually cold winter of 2013-2014.

During the reporting period, new pumps were installed in wells PW-14 and PW-15 on April 15, 2014. Also, controllers and discharge lines in the remaining wells were pulled, inspected, cleaned as necessary, and reinstalled on April 24, 2014. Accumulated sediment was removed from pumping wells BR-5A, BR-7A, and PW-15 on May 29, 2014.

Table 7 provides a calculation of mass removal rates since the previous groundwater monitoring event (i.e., from December 2013 through May 2014). Arch estimates that approximately 32 pounds of target VOCs and 493 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.

Extraction well PW-14 continues to provide minimal contaminant mass removal due to extremely low flow rates, and does not contribute to groundwater containment in any significant way. Capture of groundwater in the vicinity of PW-14 is provided by pumping wells BR-127, PW-15, and PW-17. Arch intends to shut down PW-14 in the fall of 2014. Additionally, pumping well BR-5A continues to provide very little contaminant mass removal. The low levels of site contaminants in this well are likely only present because pumping of the well is drawing impacted water toward the eastern property boundary. Arch has temporarily deactivated well BR-5A as a pumping well. This well and other nearby wells will be evaluated in the Fall 2014 and Spring 2015 sampling events to determine the effect of shutting down the well on contaminant levels in groundwater in that part of the site. In the event we observe an unexpected increase in contaminant concentrations, Arch would be able to re-activate BR-5A as a pumping well as necessary.

5.0 OPTIMIZATION OF MONITORING NETWORK

Several of the off-site monitoring wells are now exhibiting little or no indication of site-related contamination. This can be best seen in the time-series plots included in Appendix B. Arch requests that the following wells be dropped from the groundwater quality monitoring program: BR-103, MW-103, BR-104, MW-104, BR-108, BR-116, BR-116D, MW-16, NESS-E, NESS-W, and PZ-101. Arch does not propose abandoning any of these wells at this time, as they will continue to be used for water level measurements.

6.0 NEXT MONITORING EVENT

The next regular monitoring event will occur in November 2014 and will include groundwater, surface water, and seep sampling.

Table 8 shows the current monitoring program for the Arch Rochester site, along with the changes proposed in Section 5.

Figures

Legend

Outline of Arch Property Boundary

Monitoring Well

NOTES

1. Source - Topographic Quadrangle 7.5-Minute Series

N

0 250 500 1,000 Feet

Prepared by JEB | Checked by NMB

ERIE BARGE CANAL

I-390

FIRTH RIXSON

BUFFALO RD. BUSINESS CENTER

ARCH

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

ARM

BR-126

MW-105/BR-105

BR-112/BR-112D

MW-104/BR-104

BUFFALO ROAD

12-6

MW-114/BR-114

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.

DOLOMITE PRODUCTS QUARRY

9-6

10-6

RW-1

13-4

Morey

OW-102A

OW-103

PFAUDLER

BR-122D

BR-117/BR-117D

BR-121D (Abandoned)

BR-118/BR-118D

BR-123D

BR-116/BR-116D

BR-120D (Abandoned)

BR-119D (Abandoned)

LETTINGTON DRIVE

BR-124D

Figure 1
Off-Site Groundwater Monitoring Well Locations

Arch Chemicals
Rochester, NY

amec

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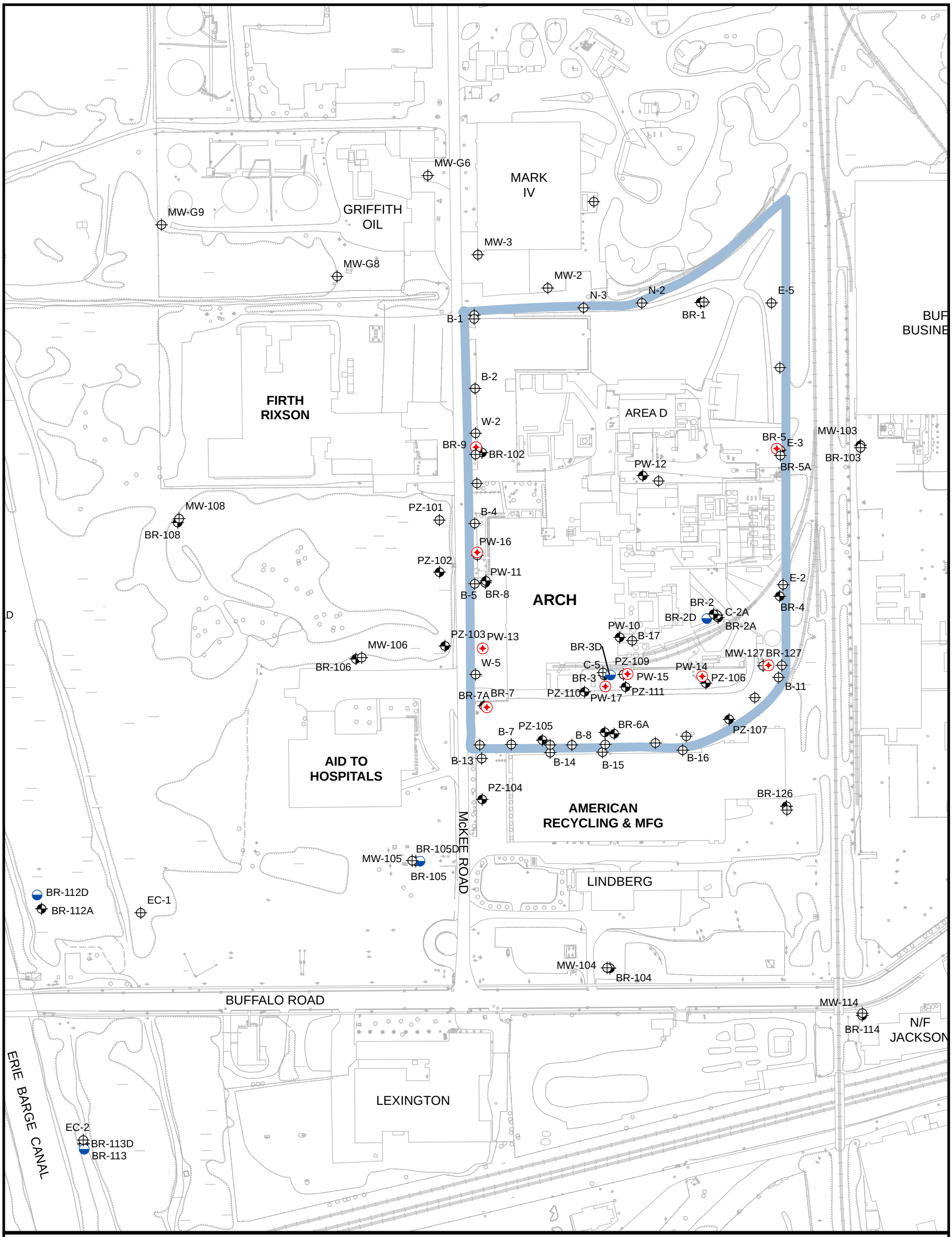

NOTES:

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

N

0 100 200 400 Feet

Legend

- Active Pumping Well
- Overburden Monitoring Well
- Bedrock Monitoring Well
- Deep Bedrock Monitoring Well
- Outline of Arch Property Boundary

Figure 2
Onsite Monitoring Well Locations

Arch Chemicals Rochester, NY

Prepared/Date: MJW 01/31/13 | Checked/Date: JEB 01/31/13

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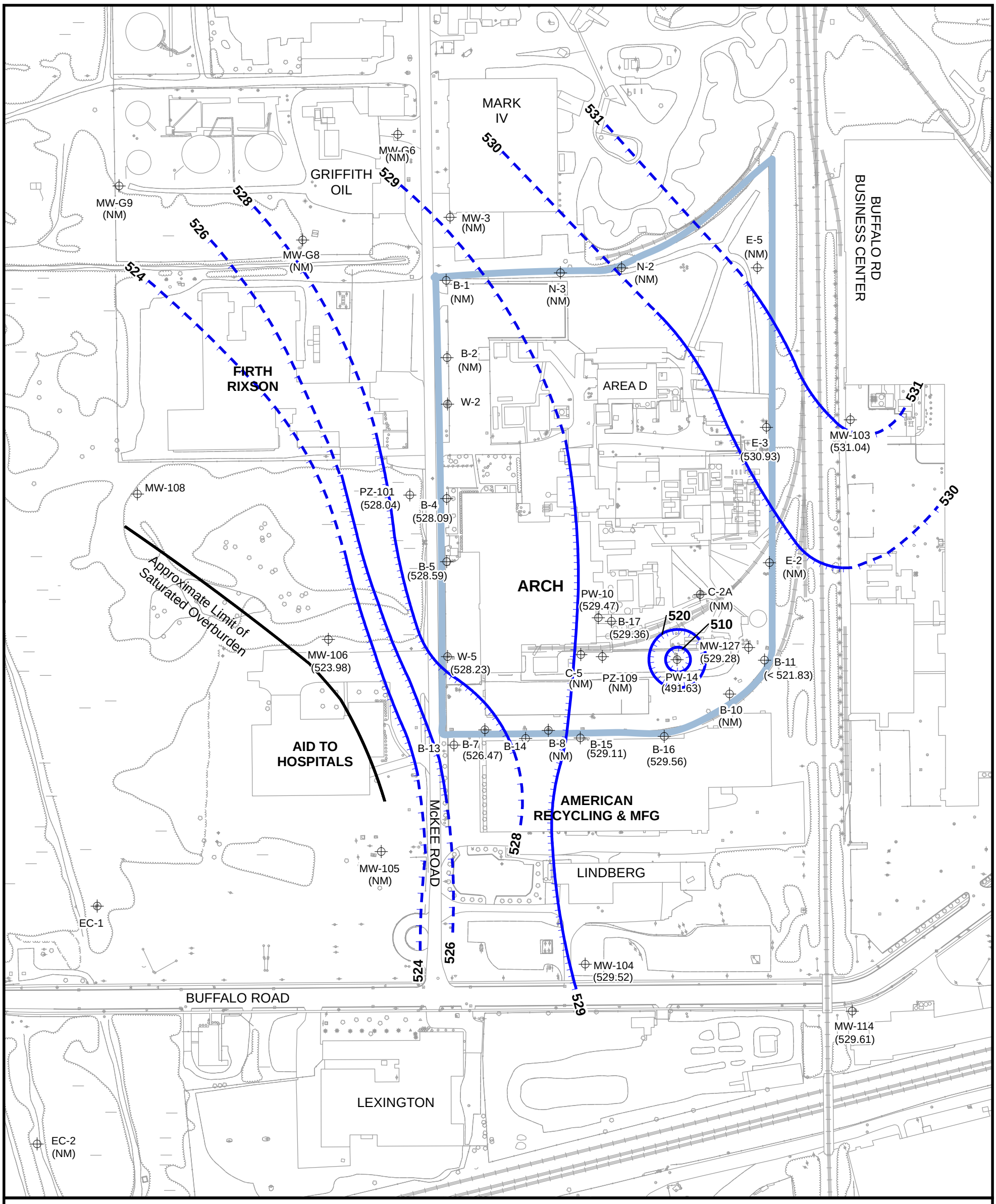

Legend

MW-114 (529.61) — Piezometric Elevation at Well or Piezometer

Outline of Arch Property Boundary

528 — Interpreted Groundwater Flow Direction

Overburden Piezometric Elevation Contour (MSL)

N

NOTES:

1. Water Levels Measured on June 23, 2014
2. Dashed Contours Reflect Uncertainty

0 100 200 400 Feet

Prepared/Date: BRP 09/30/14 | Checked/Date: JEB 09/30/14

Figure 3
Spring 2014
Overburden Groundwater
Interpreted Piezometric Contours

Arch Chemicals
Rochester, NY

amec

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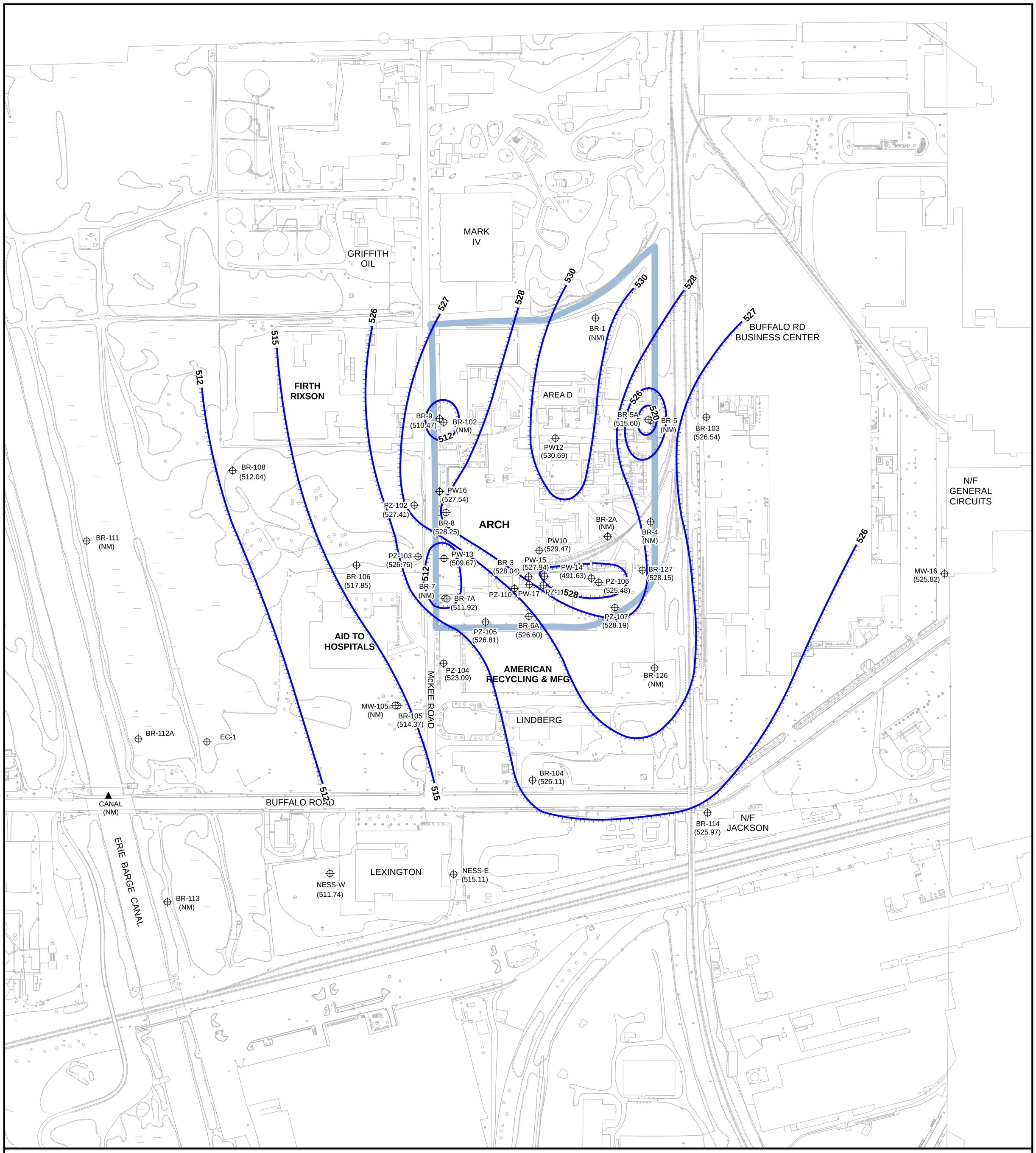

NOTES:

1. Water Levels Measured on June 23, 2014
2. Dashed Contours Reflect Uncertainty

N

0 100 200 400 Feet

Legend

- BR-105 (514.37) — Piezometric Elevation at Well or Piezometer (Feet MSL)
- CANAL (NM) — Piezometric Elevation at Surface Water Measuring Point
- Outline of Arch Property Boundary
- Interpreted Groundwater Flow Direction
- 526 — Bedrock Piezometric Elevation Contour (MSL)

Figure 4
Spring 2014
Bedrock Groundwater
Interpreted Piezometric Contours

Arch Chemicals
Rochester, NY

amec

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Legend

- Bedrock Well ('D' Designates Deep Well)
- 500 — Deep Bedrock Elevation Contour (MSL)
- Interpreted Groundwater Flow Direction
- Outline of Arch Property Boundary
- BR-116D (509.58) — Piezometric Elevation at Deep Bedrock Well

NOTES
1. Water Levels Measured on June 23, 2014
2. Dashed Contours Reflect Uncertainty

N

0 250 500 1,000 Feet

Prepared/Date: BRP 09/26/14 | Checked/Date: JEB 09/26/14

ERIE BARGE CANAL
I-390
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 (NM)
ARM
BR-112D (511.65)
BR-112
BR-105
BR-105D (510.41)
BUFFALO ROAD
BR-104
BR-114
CUMBERLAND FARMS PETROLEUM TERMINAL
BR-113
BR-113D (511.65)
LEXINGTON
GENERAL RAIL SIGNAL CO.
DOLOMITE PRODUCTS QUARRY
BR-122D (506.88)
PFAUDLER
BR-117D (497.60)
BR-117
BR-118
BR-118D (499.35)
BR-123D (507.97)
BR-116D (509.58)
BR-116
BR-124D (NM)
LETTINGTON DRIVE
496
498
500
502
504
506
508
510

Figure 5
Spring 2014
Deep Bedrock Groundwater
Interpreted Piezometric Contours

Arch Chemicals
Rochester, NY

amec

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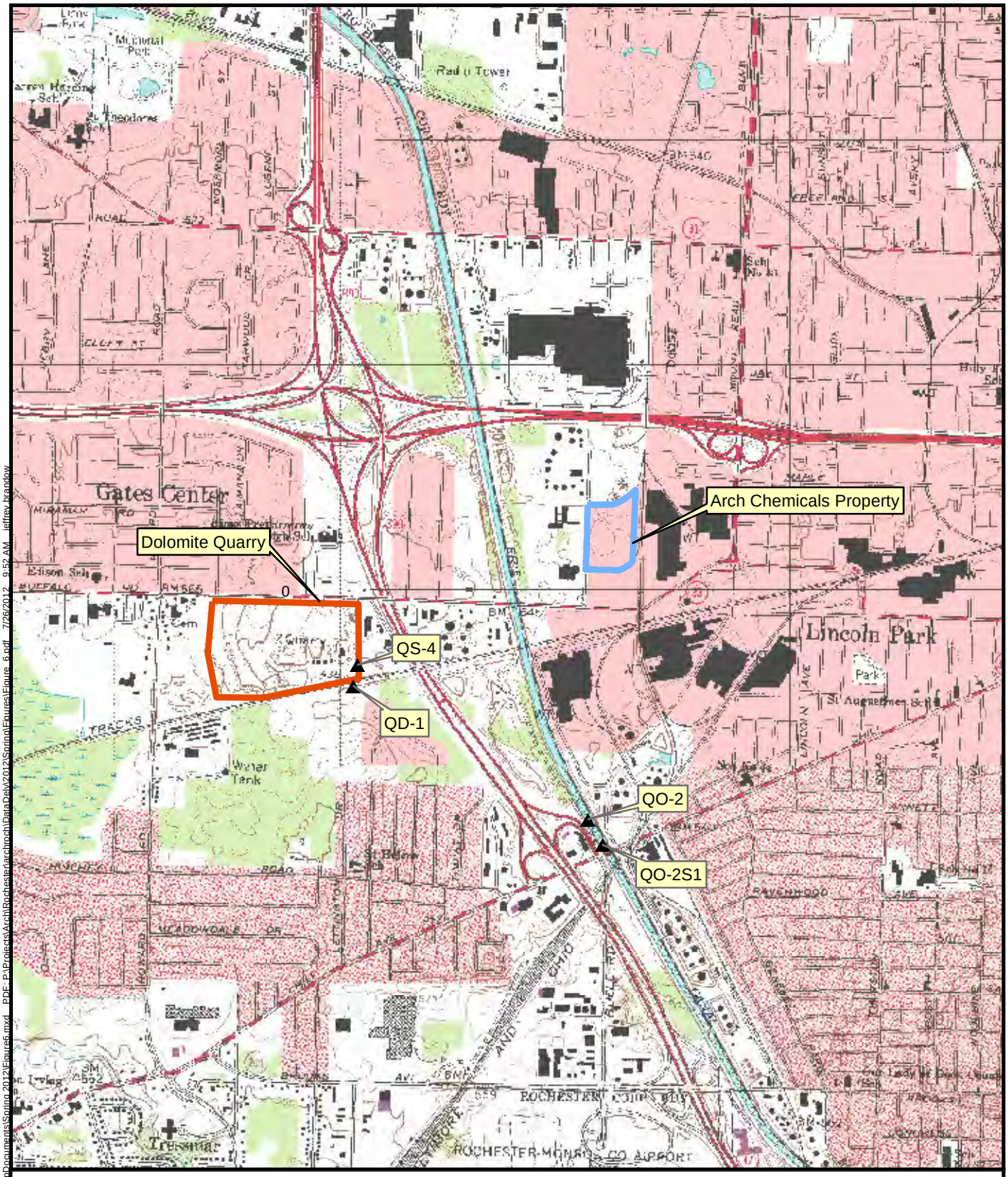

Source:
1:24,000 scale digital topographic map
obtained from New York State GIS
Clearinghouse at: www.nysgis.state.ny.us

N

0 1,000 2,000 Feet

Legend

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

Figure 6
Sample Locations
Erie Barge Canal

Arch Chemicals
Rochester, New York

Prepared by JEB | Checked by NMB

amec

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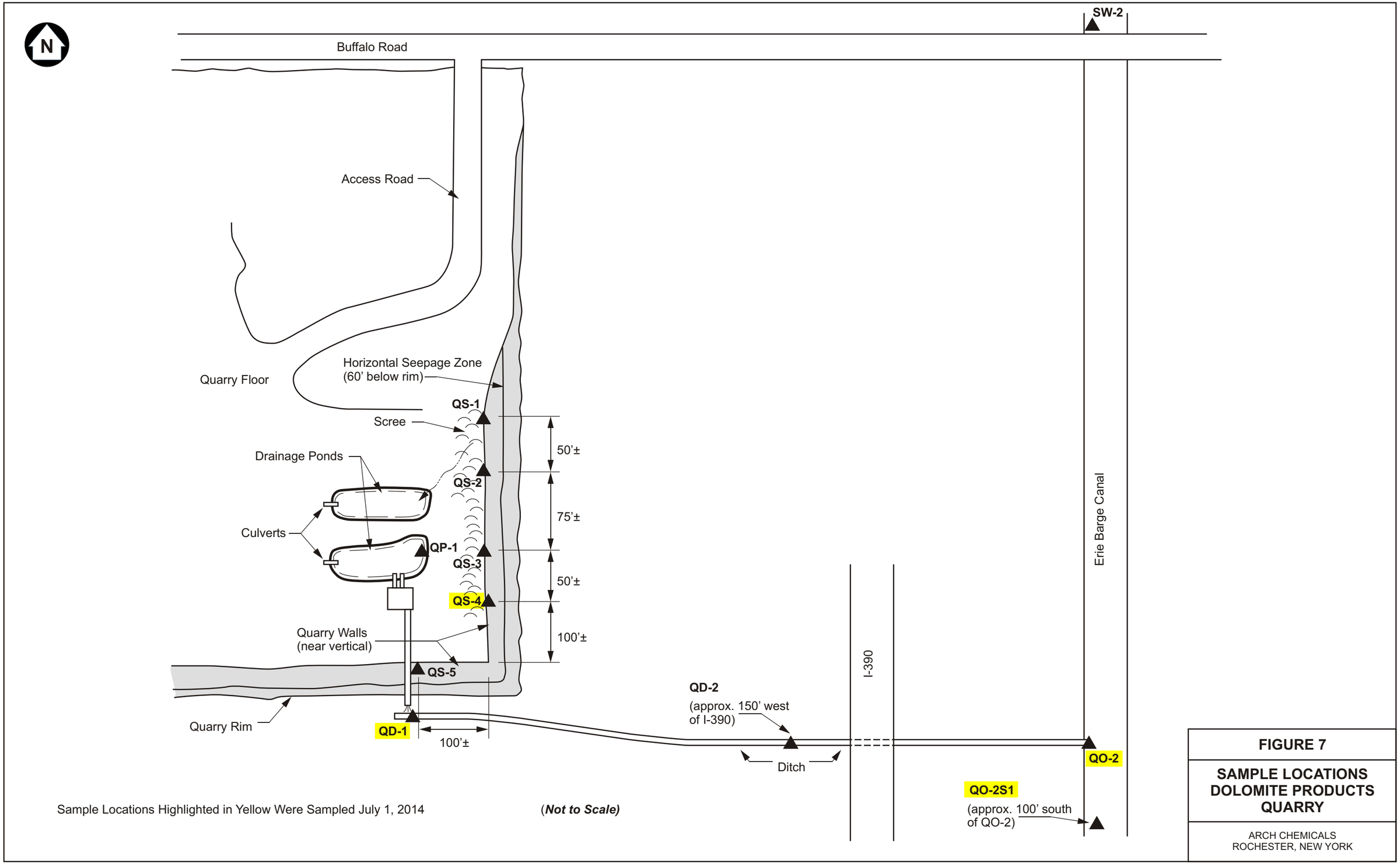


Sample Locations Highlighted in Yellow Were Sampled July 1, 2014

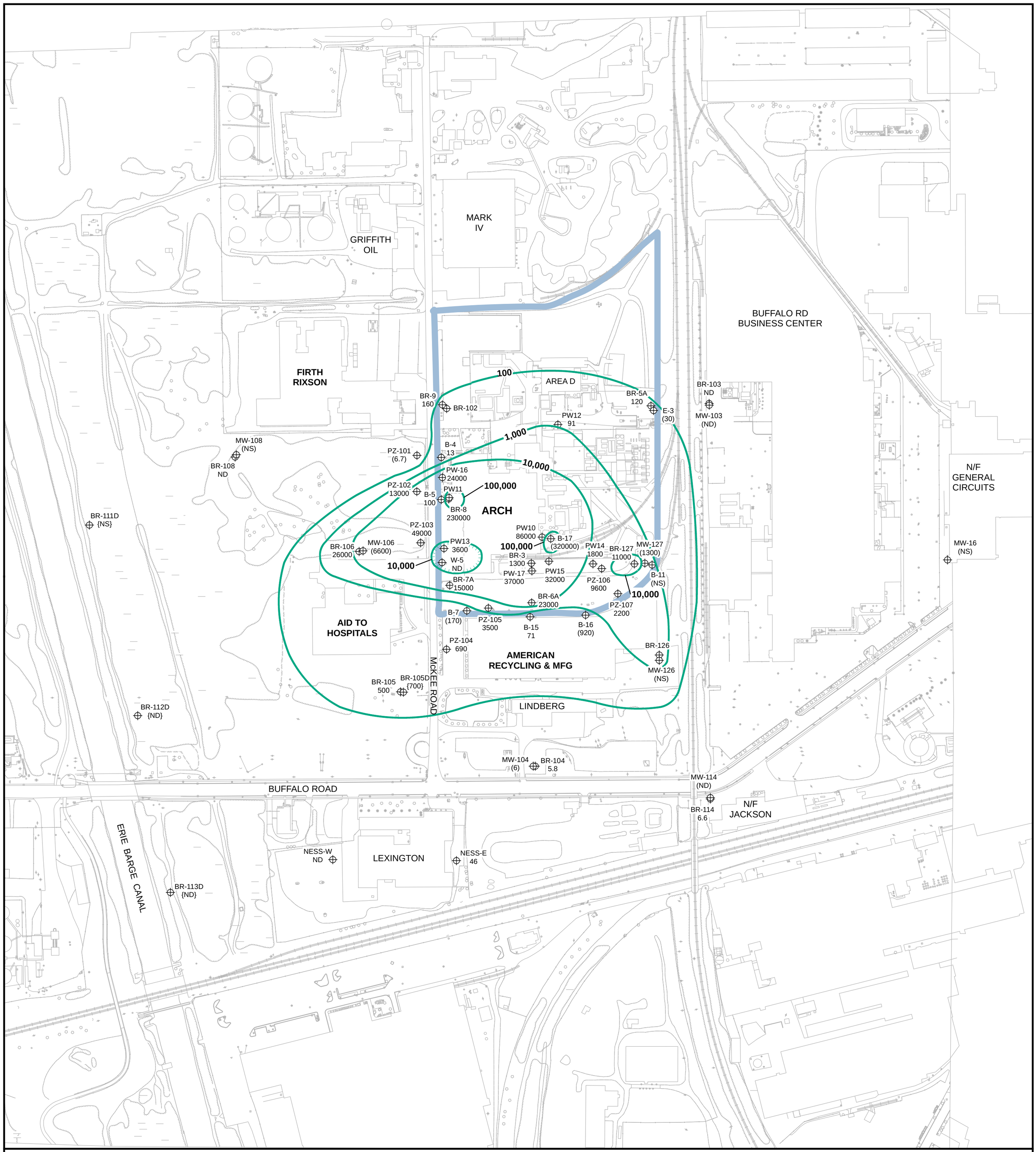
(***Not to Scale***)

FIGURE 7

SAMPLE LOCATIONS
DOLOMITE PRODUCTS
QUARRY

ARCH CHEMICALS
ROCHESTER, NEW YORK

W2004030a.cdr



Legend

- Outline of Arch Property Boundary
- **100** — Chloropyridine Concentration Contour
- BR-105 0.5 — Monitoring Location with Concentration

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

0 100 200 400 Feet

N

NOTES:

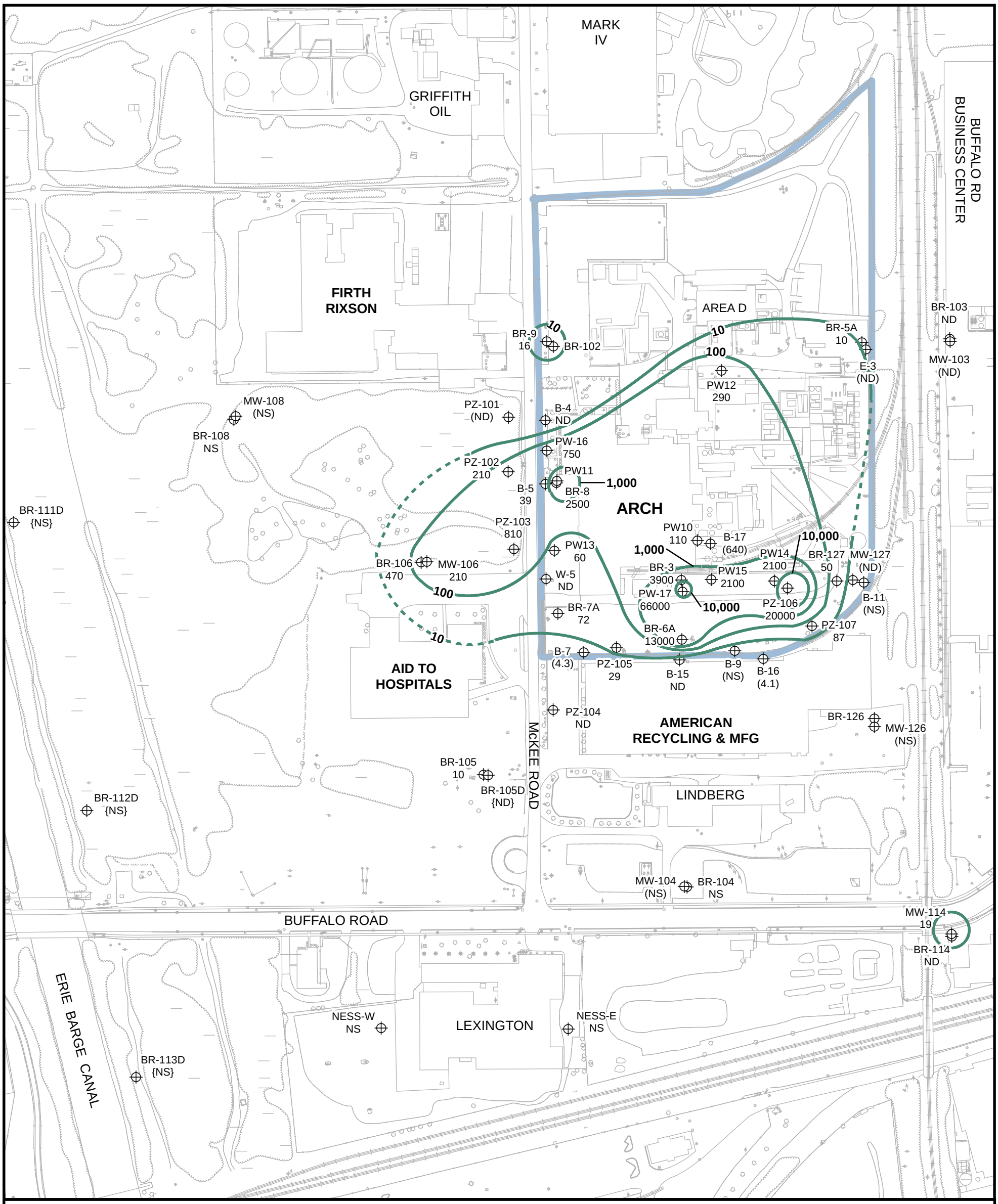
1. Samples Collected June 2014
2. Selected Chloropyridines consist of 2,6-Dichloropyridine, 2-Chloropyridine, 3-Chloropyridine, 4-Chloropyridine, and P-Fluoroaniline.
3. Concentration contours represented for Bedrock Wells and selected Overburden and Deep Bedrock Wells.
4. Dashed concentration contours represent inferences from historical analytical results.
5. Concentrations are in µg/L

Figure 8
Spring 2014
Selected Chloropyridine Concentration Contours

Arch Chemicals
Rochester, NY

Prepared/Date: BRP 09/29/14 | Checked/Date: JEB 09/29/14

Document: P:\Projects\Arch\Rochester\GIS\MapDocuments\Spring 2014\ChloroPyridine_Fig8.mxd PDF: P:\Projects\Arch\Rochester\GIS\Figures\Monitoring_Spring2014\Figure 8.pdf 09/29/2014 8:52 AM brian.peters



Legend

- VOC Concentration Contour
- 100 — Outline of Arch Property Boundary
- B-17 (0.64) — 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: BRP 09/29/14 | Checked/Date: JEB 09/29/14

NOTES:

1. Samples Collected in June 2014
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 2014
Selected Volatile Organic Compound Concentration Contours

Arch Chemicals
Rochester, NY

amec

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Tables

TABLE 1
SPRING 2014 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	6/30/2014	Sample	X	X
	BR-108	6/26/2014	Sample	X	
	MW-106	6/26/2014	Sample	X	X
	PZ-101	6/26/2014	Sample	X	X
	PZ-102	6/26/2014	Sample	X	X
	PZ-103	6/26/2014	Sample	X	X
AMERICAN RECYCLE MANUF. (58 MCKEE ROAD)	B-15	6/30/2014	Sample	X	X
	B-16	6/30/2014	Sample	X	X
	PZ-104	6/30/2014	Sample	X	X
ARCH ROCHESTER	B-17	6/24/2014	Sample	X	X
	B-4	6/26/2014	Sample	X	X
	B-5	6/26/2014	Sample	X	X
	B-7	6/25/2014	Sample	X	X
	BR-127	6/25/2014	Sample	X	X
	BR-3	6/24/2014	Sample	X	X
	BR-5A	6/24/2014	Sample	X	X
	BR-6A	6/24/2014	Sample	X	X
	BR-7A	6/25/2014	Sample	X	X
	BR-8	6/26/2014	Sample	X	X
	BR-9	6/24/2014	Sample	X	X
	E-3	6/25/2014	Sample	X	X
	MW-127	6/25/2014	Sample	X	X
	PW10	6/24/2014	Sample	X	X
	PW12	6/24/2014	Sample	X	X
	PW13	6/25/2014	Sample	X	X
	PW14	6/25/2014	Sample	X	X
	PW15	6/24/2014	Sample	X	X
	PW16	6/26/2014	Sample	X	X
	PW17	6/24/2014	Sample	X	X
	PZ-105	6/25/2014	Sample	X	X
	PZ-106	6/25/2014	Sample	X	X
	PZ-107	6/25/2014	Sample	X	X
	W-5	6/25/2014	Sample	X	X
DOLOMITE PRODUCTS, INC.	BR-117D	6/27/2014	Sample	X	
	BR-118D	6/27/2014	Sample	X	
	QD-1	7/1/2014	Sample	X	
	QS-4	7/1/2014	Sample	X	
ERIE BARGE CANAL (Samples in canal or property along canal)	BR-112D	6/30/2014	Sample	X	
	BR-113D	6/30/2014	Sample	X	
	BR-122D	6/27/2014	Sample	X	
	BR-123D	6/27/2014	Sample	X	
	QO-2	7/1/2014	Sample	X	
	QO-2S1	7/1/2014	Sample	X	
JACKSON WELDING	BR-114	6/30/2014	Sample	X	X
	MW-114	6/30/2014	Sample	X	X
BUFFALO RD BUSINESS CENTER (FORMER KODAK PROPERTY)	BR-103	7/1/2014	Sample	X	X
	MW-103	7/1/2014	Sample	X	X
LEXINGTON MACHINING (Formerly Ness Precision Products)	NESS-E	7/1/2014	Sample	X	
	NESS-W	7/1/2014	Sample	X	
PFAUDLER	BR-116	7/1/2014	Sample	X	
	BR-116D	7/1/2014	Sample	X	
RG & E RIGHT OF WAY	BR-104	6/30/2014	Sample	X	
	BR-105	6/27/2014	Sample	X	X
	BR-105D	6/27/2014	Sample	X	X
	MW-104	6/30/2014	Sample	X	

TABLE 2
SPRING 2014 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	B-15	B-16	B-17	B-4	B-5	B-7	BR-103	BR-104	BR-105	BR-105D	BR-106
SAMPLE DATE:	6/30/2014	6/30/2014	6/24/2014	6/26/2014	6/26/2014	6/25/2014	7/1/2014	6/30/2014	6/27/2014	6/27/2014	6/30/2014
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270C (ug/L)											
2,6-Dichloropyridine	51.9	311	20000 U	13.4	12.6	102	10 U	10 U	96.8	35.1 J	2700
2-Chloropyridine	19.5	606	322000	10 U	74.5	68.9	10 U	5.82 J	402	666	23400
3-Chloropyridine	10 U	50 U	20000 U	10 U	10 U	10 U	10 U	10 U	50 U	50 U	2000 U
4-Chloropyridine	10 U	50 U	20000 U	10 U	10 U	10 U	10 U	10 U	50 U	50 U	2000 U
p-Fluoroaniline	10 U	50 U	20000 U	10 U	16	10 U	10 U	10 U	50 U	50 U	2000 U
Pyridine	10 UJ	50 UJ	20000 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	50 UJ	50 UJ	2000 UJ

Notes:
U = Compound not detected; value represents sample quantitation limit.
J = Estimated value

TABLE 2
SPRING 2014 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	BR-108	BR-112D	BR-113D	BR-114	BR-116	BR-116D	BR-117D	BR-118D	BR-122D	BR-123D	BR-127
SAMPLE DATE:	6/26/2014	6/30/2014	6/30/2014	6/30/2014	7/1/2014	7/1/2014	6/27/2014	6/27/2014	6/27/2014	6/27/2014	6/25/2014
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270C (ug/L)											
2,6-Dichloropyridine	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1140
2-Chloropyridine	10 U	10 U	10 U	6.64 J	10 U	6.58 J	10 U	24.7	7.53 J	15.1	9480
3-Chloropyridine	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	808 J
4-Chloropyridine	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1000 U
p-Fluoroaniline	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1000 U
Pyridine	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	10 UJ	1000 UJ

Notes:
U = Compound not detected; value represents sample quantitation limit.
J = Estimated value

TABLE 2
SPRING 2014 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	BR-3	BR-5A	BR-6A	BR-7A	BR-8	BR-9	E-3	MW-103	MW-104	MW-106	MW-114
SAMPLE DATE:	6/24/2014	6/24/2014	6/24/2014	6/25/2014	6/26/2014	6/24/2014	6/25/2014	7/1/2014	6/30/2014	6/26/2014	6/30/2014
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270C (ug/L)											
2,6-Dichloropyridine	178	20 J	3830	2000 U	12300 J	25	15.6	10 U	10 U	886	10 U
2-Chloropyridine	949	87.8 J	18900	14600	219000	132	14.1	10 U	6.03 J	5700	10 U
3-Chloropyridine	71.6 J	10 U	606 J	2000 U	20000 U	10 U	10 U	10 U	10 U	400 U	10 U
4-Chloropyridine	100 U	10 U	1000 U	2000 U	20000 U	10 U	10 U	10 U	10 U	400 U	10 U
p-Fluoroaniline	100 U	12.7 J	1000 U	2000 U	20000 U	10 U	10 U	10 U	10 U	400 U	10 U
Pyridine	82.3 J	10 UJ	1000 UJ	2000 UJ	20000 UJ	10 UJ	10 UJ	10 UJ	10 UJ	400 UJ	10 UJ

Notes:
U = Compound not detected; value represents sample quantitation limit.
J = Estimated value

TABLE 2
SPRING 2014 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	MW-127	NESS-E	NESS-W	PW10	PW12	PW13	PW14	PW15	PW16	PW17	PZ-101
SAMPLE DATE:	6/25/2014	7/1/2014	7/1/2014	6/24/2014	6/24/2014	6/25/2014	6/25/2014	6/24/2014	6/26/2014	6/24/2014	6/26/2014
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270C (ug/L)											
2,6-Dichloropyridine	143	5.74 J	10 U	18700	24.1	233 J	456	1510 J	1340 J	3950	6.66 J
2-Chloropyridine	1050	40.7	10 U	66800	55.1	3350	990	27800	23100	29900	10 U
3-Chloropyridine	85.7 J	10 U	10 U	4000 U	12	400 U	310	2000 U	2000 U	1380 J	10 U
4-Chloropyridine	100 U	10 U	10 U	4000 U	10 U	400 U	80 U	2000 U	2000 U	2000 U	10 U
p-Fluoroaniline	100 U	10 U	10 U	4000 U	10 U	400 U	80 U	2000 U	2000 U	2000 U	10 U
Pyridine	100 UJ	10 UJ	10 UJ	4000 UJ	10 UJ	400 UJ	80 UJ	2440 J	2000 UJ	2080 J	10 UJ

Notes:
U = Compound not detected; value represents sample quantitation limit.
J = Estimated value

TABLE 2
SPRING 2014 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	PZ-102	PZ-103	PZ-104	PZ-105	PZ-106	PZ-107	W-5
SAMPLE DATE:	6/26/2014	6/26/2014	6/30/2014	6/25/2014	6/25/2014	6/25/2014	6/25/2014
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270C (ug/L)							
2,6-Dichloropyridine	1500	3740 J	164 J	556	1170	401 J	20 U
2-Chloropyridine	11200	45100	524 J	2900	7880	1790 J	20 U
3-Chloropyridine	1000 U	5000 U	50 U	200 U	587 J	200 U	20 U
4-Chloropyridine	1000 U	5000 U	50 U	200 U	1000 U	200 U	20 U
p-Fluoroaniline	1000 U	5000 U	50 U	200 U	1000 U	200 U	20 U
Pyridine	1000 UJ	5000 UJ	50 UJ	200 UJ	1000 UJ	200 UJ	20 UJ

Notes:
U = Compound not detected; value represents sample quantitation limit.
J = Estimated value

TABLE 3
SPRING 2014 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	B-15	B-16	B-17	B-4	B-5	B-7	BR-103	BR-105	BR-105D
SAMPLE DATE:	6/30/2014	6/30/2014	6/24/2014	6/26/2014	6/26/2014	6/25/2014	7/1/2014	6/27/2014	6/27/2014
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
VOCs BY SW-846 Method 8260/5ML (µg/L)									
1,1,1-Trichloroethane	2 U	2 U	20 UJ	2 U	4 U	2 U	2 UJ	2 UJ	2 U
1,1,2,2-Tetrachloroethane	2 U	2 U	20 UJ	2 U	4 U	2 U	2 UJ	2 UJ	2 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	2 U	2 U	20 UJ	2 U	4 U	2 U	2 UJ	2 UJ	2 U
1,1,2-Trichloroethane	2 U	2 U	20 UJ	2 U	4 U	2 U	2 UJ	2 UJ	2 U
1,1-Dichloroethane	2 U	2 U	20 UJ	2 U	4 U	2 U	2 UJ	2 UJ	2 U
1,1-Dichloroethene	2 U	2 U	20 UJ	2 U	4 U	2 U	2 UJ	2 UJ	2 U
1,2,3-Trichlorobenzene	5 U	5 U	56.8 J	5 U	10 U	5 U	5 UJ	5 UJ	5 U
1,2,4-Trichlorobenzene	5 U	5 U	265 J	5 U	10 U	5 U	5 UJ	5 UJ	5 U
1,2-Dibromo-3-chloropropane	10 U	10 U	100 UJ	10 U	20 U	10 U	10 UJ	10 UJ	10 U
1,2-Dibromoethane	2 U	2 U	20 UJ	2 U	4 U	2 U	2 UJ	2 UJ	2 U
1,2-Dichlorobenzene	2 U	2 U	20 UJ	2 U	302	2 U	2 UJ	3.3 J	2 U
1,2-Dichloroethane	2 U	2 U	20 UJ	2 U	4 U	2 U	2 UJ	2 UJ	2 U
1,2-Dichloropropane	2 U	2 U	20 UJ	2 U	4 U	2 U	2 UJ	2 UJ	2 U
1,3-Dichlorobenzene	2 U	2 U	90.6 J	2 U	62.9	2 U	2 UJ	2 UJ	2 U
1,4-Dichlorobenzene	2 U	2.02	131 J	2 U	18.5	2 U	2 UJ	2 UJ	2 U
1,4-Dioxane	20 U	20 U	200 UJ	20 U	40 U	20 U	20 UJ	20 UJ	20 U
2-Butanone	10 U	10 U	100 UJ	10 U	20 U	10 U	10 UJ	10 UJ	10 U
2-Hexanone	5 U	5 U	50 UJ	5 U	10 U	5 U	5 UJ	5 UJ	5 U
4-Methyl-2-pentanone	5 U	5 U	50 UJ	5 U	10 U	5 U	5 UJ	5 UJ	5 U
Acetone	10 U	10 U	1510 J	10 U	20 U	10 U	10 UJ	10 UJ	10 U
Benzene	0.7 U	1.02	46.8 J	0.7 U	1.4 U	0.7 U	0.7 UJ	1.27 J	2.98
Bromochloromethane	5 U	5 U	50 UJ	5 U	10 U	5 U	5 UJ	5 UJ	5 U
Bromodichloromethane	2 U	2 U	20 UJ	2 U	4 U	2 U	2 UJ	2 UJ	2 U
Bromoform	5 U	5 U	137 J	5 U	10 U	5 U	5 UJ	5 UJ	5 U
Bromomethane	2 U	2 U	20 UJ	2 U	4 U	2 U	2 UJ	2 UJ	2 U
Carbon disulfide	2 U	2 U	20 UJ	2 U	4 U	2 U	2 UJ	2 UJ	3.22
Carbon tetrachloride	2 U	2 U	20 UJ	2 U	4 U	2 U	2 UJ	2 UJ	2 U
Chlorobenzene	2 U	4.05	101 J	2 U	31.2	4.27	2 UJ	10.4 J	2 U
Chlorodibromomethane	2 U	2 U	20 UJ	2 U	4 U	2 U	2 UJ	2 UJ	2 U
Chloroethane	2 U	2 U	20 UJ	2 U	4 U	2 U	2 UJ	2 UJ	2 U
Chloroform	2 U	2 U	164 J	2 U	4 U	2 U	2 UJ	2 UJ	2 U
Chloromethane	2 U	2 U	20 UJ	2 U	4 U	2 U	2 UJ	2 UJ	2 U
Cis-1,2-Dichloroethene	2 U	2 U	20 UJ	2 U	4 U	2 U	2 UJ	9.6 J	4.06
Cis-1,3-Dichloropropene	2 U	2 U	20 UJ	2 U	4 U	2 U	2 UJ	2 UJ	2 U
Cyclohexane	10 U	10 U	100 UJ	10 U	20 U	10 U	10 UJ	10 UJ	10 U
Dichlorodifluoromethane	2 U	2 U	20 UJ	2 U	4 U	2 U	2 UJ	2 UJ	2 U
Ethyl benzene	2 U	2 U	20 UJ	2 U	4 U	2 U	2 UJ	2 UJ	2 U
Isopropylbenzene	2 U	2 U	20 UJ	2 U	4 U	2 U	2 UJ	2 UJ	2 U
Methyl cyclohexane	2 U	2 U	20 UJ	2 U	4 U	2 U	2 UJ	2 UJ	2 U

TABLE 3
SPRING 2014 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	B-15	B-16	B-17	B-4	B-5	B-7	BR-103	BR-105	BR-105D
SAMPLE DATE:	6/30/2014	6/30/2014	6/24/2014	6/26/2014	6/26/2014	6/25/2014	7/1/2014	6/27/2014	6/27/2014
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
VOCs BY SW-846 Method 8260/5ML (µg/L)									
Methyl Tertbutyl Ether	2 U	2 U	20 UJ	2 U	4 U	2 U	2 UJ	2 UJ	9.63
Methylene chloride	5 U	5 U	97.7 J	5 U	10 U	5 U	5 UJ	5 UJ	5 U
Styrene	5 U	5 U	50 UJ	5 U	10 U	5 U	5 UJ	5 UJ	5 U
Tetrachloroethene	2 U	2 U	278 J	2 U	4 U	2 U	2 UJ	2 UJ	2 U
Toluene	2 U	2 U	44.7 J	2 U	4 U	2 U	2 UJ	2 UJ	2 U
trans-1,2-Dichloroethene	2 U	2 U	20 UJ	2 U	4 U	2 U	2 UJ	2 UJ	2 U
trans-1,3-Dichloropropene	2 U	2 U	20 UJ	2 U	4 U	2 U	2 UJ	2 UJ	2 U
Trichloroethene	2 U	2 U	20 UJ	2 U	8.25	2 U	2 UJ	2 UJ	2 U
Trichlorofluoromethane	2 U	2 U	20 UJ	2 U	4 U	2 U	2 UJ	2 UJ	2 U
Vinyl chloride	2 U	2 U	20 UJ	2 U	4 U	2 U	2.12 J	4.69 J	2 U
Xylene, o	2 U	2 U	20 UJ	2 U	4 U	2 U	2 UJ	2 UJ	2 U
Xylenes (m&p)	2 U	2 U	20 UJ	2 U	4 U	2 U	2 UJ	2 UJ	2 U

Notes:
U = Compound not detected; value represents sample quantitation limit.
J = Estimated value.

TABLE 3
SPRING 2014 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	BR-106	BR-114	BR-127	BR-3	BR-5A	BR-6A	BR-7A	BR-8	BR-9
SAMPLE DATE:	6/30/2014	6/30/2014	6/25/2014	6/24/2014	6/24/2014	6/24/2014	6/25/2014	6/26/2014	6/24/2014
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
VOCs BY SW-846 Method 8260/5ML (µg/L)									
1,1,1-Trichloroethane	10 UJ	2 U	2 UJ	200 U	2 UJ	200 U	2 UJ	50 UJ	2 U
1,1,2,2-Tetrachloroethane	10 UJ	2 U	2 UJ	200 U	2 UJ	200 U	2 UJ	50 UJ	2 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	10 UJ	2 U	2 UJ	200 U	2 UJ	200 U	6.2 J	50 UJ	41.8
1,1,2-Trichloroethane	10 UJ	2 U	2 UJ	200 U	2 UJ	200 U	2 UJ	50 UJ	2 U
1,1-Dichloroethane	10 UJ	2 U	2 UJ	200 U	2 UJ	200 U	2.77 J	50 UJ	6.99
1,1-Dichloroethene	10 UJ	2 U	2 UJ	200 U	2 UJ	200 U	2 UJ	50 UJ	2 U
1,2,3-Trichlorobenzene	25 UJ	5 U	5 UJ	500 U	5 UJ	500 U	5 UJ	125 UJ	5 U
1,2,4-Trichlorobenzene	25 UJ	5 U	5 UJ	500 U	5 UJ	500 U	5 UJ	125 UJ	5 U
1,2-Dibromo-3-chloropropane	50 UJ	10 U	10 UJ	1000 U	10 UJ	1000 U	10 UJ	250 UJ	10 U
1,2-Dibromoethane	10 UJ	2 U	2 UJ	200 U	2 UJ	200 U	2 UJ	50 UJ	2 U
1,2-Dichlorobenzene	158 J	2 U	3.61 J	200 U	2 UJ	200 U	37.8 J	372 J	5.76
1,2-Dichloroethane	10 UJ	2 U	2 UJ	200 U	2 UJ	200 U	2 UJ	50 UJ	2 U
1,2-Dichloropropane	10 UJ	2 U	2 UJ	200 U	2 UJ	200 U	2 UJ	50 UJ	2 U
1,3-Dichlorobenzene	10 UJ	2 U	2.4 J	200 U	2 UJ	200 U	19.5 J	251 J	2 U
1,4-Dichlorobenzene	15.3 J	2 U	4 J	200 U	2 UJ	200 U	11.8 J	261 J	2 U
1,4-Dioxane	100 UJ	20 U	20 UJ	2000 U	20 UJ	2000 U	20 UJ	500 UJ	20 U
2-Butanone	50 UJ	10 U	10 UJ	1000 U	10 UJ	1000 U	10 UJ	250 UJ	10 U
2-Hexanone	25 UJ	5 U	5 UJ	500 U	5 UJ	500 U	5 UJ	125 UJ	5 U
4-Methyl-2-pentanone	25 UJ	5 U	5 UJ	500 U	5 UJ	500 U	5 UJ	125 UJ	5 U
Acetone	50 UJ	10 U	10 UJ	1000 U	10 UJ	1000 U	10 UJ	250 UJ	10 U
Benzene	26.2 J	2.12	1.08 J	70 U	3.96 J	70 U	6.06 J	56 J	53.3
Bromochloromethane	25 UJ	5 U	5 UJ	500 U	5 UJ	500 U	5 UJ	125 UJ	5 U
Bromodichloromethane	10 UJ	2 U	2 UJ	200 U	2 UJ	200 U	2 UJ	50 UJ	2 U
Bromoform	25 UJ	5 U	5 UJ	500 U	5 UJ	500 U	5 UJ	125 UJ	5 U
Bromomethane	10 UJ	2 U	2 UJ	200 U	2 UJ	200 U	2 UJ	50 UJ	2 U
Carbon disulfide	10 UJ	2 U	7.95 J	200 U	2 UJ	200 U	2 UJ	50 UJ	2 U
Carbon tetrachloride	10 UJ	2 U	3.22 J	2240	2 UJ	200 U	2.6 J	50 UJ	2 U
Chlorobenzene	471 J	2 U	2.57 J	200 U	10 J	200 U	69 J	2490 J	13.3
Chlorodibromomethane	10 UJ	2 U	2 UJ	200 U	2 UJ	200 U	2 UJ	50 UJ	2 U
Chloroethane	10 UJ	2 U	2 UJ	200 U	2 UJ	200 U	2 UJ	50 UJ	2 U
Chloroform	10 UJ	2 U	38.1 J	1630	2 UJ	3310	2 UJ	50 UJ	2.71
Chloromethane	10 UJ	2 U	2 UJ	200 U	2 UJ	200 U	2 UJ	50 UJ	2 U
Cis-1,2-Dichloroethene	10 UJ	2 U	2.9 J	200 U	3.19 J	200 U	3.55 J	50 UJ	130
Cis-1,3-Dichloropropene	10 UJ	2 U	2 UJ	200 U	2 UJ	200 U	2 UJ	50 UJ	2 U
Cyclohexane	50 UJ	10 U	10 UJ	1000 U	10 UJ	1000 U	10 UJ	250 UJ	19.5
Dichlorodifluoromethane	10 UJ	2 U	2 UJ	200 U	2 UJ	200 U	2 UJ	50 UJ	2 U
Ethyl benzene	10 UJ	2 U	2 UJ	200 U	2 UJ	200 U	2 UJ	50 UJ	2 U
Isopropylbenzene	10 UJ	2 U	2 UJ	200 U	2 UJ	200 U	2 UJ	50 UJ	2 U
Methyl cyclohexane	10 UJ	2 U	2 UJ	200 U	2 UJ	200 U	2 UJ	50 UJ	7.4

TABLE 3
SPRING 2014 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	BR-106	BR-114	BR-127	BR-3	BR-5A	BR-6A	BR-7A	BR-8	BR-9
SAMPLE DATE:	6/30/2014	6/30/2014	6/25/2014	6/24/2014	6/24/2014	6/24/2014	6/25/2014	6/26/2014	6/24/2014
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
VOCs BY SW-846 Method 8260/5ML (µg/L)									
Methyl Tertbutyl Ether	10 UJ	2 U	2 UJ	200 U	2 UJ	200 U	2.44 J	50 UJ	11.9
Methylene chloride	25 UJ	5 U	5 UJ	500 U	5 UJ	9970	5 UJ	125 UJ	5 U
Styrene	25 UJ	5 U	5 UJ	500 U	5 UJ	500 U	5 UJ	125 UJ	5 U
Tetrachloroethene	10 UJ	2 U	3.17 J	200 U	2 UJ	200 U	2 UJ	50 UJ	2 U
Toluene	10 UJ	2 U	2.02 J	200 U	2 UJ	200 U	2 UJ	50 UJ	2 U
trans-1,2-Dichloroethene	10 UJ	2 U	2 UJ	200 U	2 UJ	200 U	2 UJ	50 UJ	2 U
trans-1,3-Dichloropropene	10 UJ	2 U	2 UJ	200 U	2 UJ	200 U	2 UJ	50 UJ	2 U
Trichloroethene	10 UJ	2 U	3.05 J	200 U	2 UJ	200 U	2 UJ	50 UJ	2 U
Trichlorofluoromethane	10 UJ	2 U	2 UJ	200 U	2 UJ	200 U	2 UJ	50 UJ	2 U
Vinyl chloride	10 UJ	2 U	2.21 J	200 U	2 UJ	200 U	8.39 J	50 UJ	83.4
Xylene, o	10 UJ	2 U	2 UJ	200 U	2 UJ	200 U	2 UJ	50 UJ	2 U
Xylenes (m&p)	10 UJ	2 U	2 UJ	200 U	2 UJ	200 U	2 UJ	50 UJ	2 U

Notes:
U = Compound not detected; value represents sample quantitation limit.
J = Estimated value.

TABLE 3
SPRING 2014 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	E-3	MW-103	MW-106	MW-114	MW-127	PW10	PW12	PW13	PW14
SAMPLE DATE:	6/25/2014	7/1/2014	6/26/2014	6/30/2014	6/25/2014	6/24/2014	6/24/2014	6/25/2014	6/25/2014
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
VOCs BY SW-846 Method 8260/5ML (µg/L)									
1,1,1-Trichloroethane	2 U	2 U	4 UJ	2 U	2 U	2 U	20 U	2 UJ	200 U
1,1,2,2-Tetrachloroethane	2 U	2 U	4 UJ	2 U	2 U	2 U	20 U	2 UJ	200 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	2 U	2 U	4 UJ	2 U	2 U	2 U	20 U	9.17 J	200 U
1,1,2-Trichloroethane	2 U	2 U	4 UJ	2 U	2 U	2 U	20 U	2 UJ	200 U
1,1-Dichloroethane	2 U	2 U	4 UJ	2 U	2 U	2 U	20 U	3.64 J	200 U
1,1-Dichloroethene	2 U	2 U	4 UJ	2 U	2 U	2 U	20 U	2 UJ	200 U
1,2,3-Trichlorobenzene	5 U	5 U	10 UJ	5 U	5 U	7.47	50 U	5 UJ	500 U
1,2,4-Trichlorobenzene	5 U	5 U	10 UJ	5 U	5 U	21.9	194	5 UJ	500 U
1,2-Dibromo-3-chloropropane	10 U	10 U	20 UJ	10 U	10 U	10 U	100 U	10 UJ	1000 U
1,2-Dibromoethane	2 U	2 U	4 UJ	2 U	2 U	2 U	20 U	2 UJ	200 U
1,2-Dichlorobenzene	2 U	2 U	63.3 J	2 U	2 U	2 U	24.6	22.2 J	200 U
1,2-Dichloroethane	2 U	2 U	4 UJ	2 U	2 U	2 U	20 U	2 UJ	200 U
1,2-Dichloropropane	2 U	2 U	4 UJ	2 U	2 U	2 U	20 U	2 UJ	200 U
1,3-Dichlorobenzene	2 U	2 U	4 UJ	2 U	2 U	2 U	47	8.09 J	200 U
1,4-Dichlorobenzene	2 U	2 U	4.46 J	2 U	2 U	2 U	36.8	7.61 J	200 U
1,4-Dioxane	20 U	20 U	40 UJ	20 U	20 U	20 U	200 U	20 UJ	2000 U
2-Butanone	10 U	10 U	20 UJ	10 U	10 U	10 U	100 U	10 UJ	1000 U
2-Hexanone	5 U	5 U	10 UJ	5 U	5 U	5 U	50 U	5 UJ	500 U
4-Methyl-2-pentanone	5 U	5 U	10 UJ	5 U	5 U	5 U	50 U	5 UJ	500 U
Acetone	10 U	10 U	20 UJ	10 U	10 U	10 U	100 U	10 UJ	1000 U
Benzene	0.7 U	0.7 U	11 J	0.7 U	0.7 U	1.11	7 U	10.8 J	70 U
Bromochloromethane	5 U	5 U	10 UJ	5 U	5 U	5 U	50 U	5 UJ	500 U
Bromodichloromethane	2 U	2 U	4 UJ	2 U	2 U	2 U	20 U	2 UJ	200 U
Bromoform	5 U	5 U	10 UJ	5 U	5 U	68.2	50 U	5 UJ	500 U
Bromomethane	2 U	2 U	4 UJ	2 U	2 U	2 U	20 U	2 UJ	200 U
Carbon disulfide	2 U	2 U	4 UJ	2 U	2 U	2 U	20 U	2 UJ	200 U
Carbon tetrachloride	2 U	2 U	4 UJ	2 U	2 U	24	20 U	2 UJ	200 U
Chlorobenzene	2 U	2 U	207 J	2 U	2 U	2.49	258	59.9 J	200 U
Chlorodibromomethane	2 U	2 U	4 UJ	2 U	2 U	9.2	20 U	2 UJ	200 U
Chloroethane	2 U	2 U	4 UJ	2 U	2 U	2 U	20 U	2 UJ	200 U
Chloroform	2 U	2 U	4 UJ	14.9	2 U	40.9	28.1	2 UJ	2080
Chloromethane	2 U	2 U	4 UJ	2 U	2 U	2 U	20 U	2 UJ	200 U
Cis-1,2-Dichloroethene	2 U	2 U	4 UJ	2 U	2 U	2 U	20 U	15.9 J	200 U
Cis-1,3-Dichloropropene	2 U	2 U	4 UJ	2 U	2 U	2 U	20 U	2 UJ	200 U
Cyclohexane	10 U	10 U	20 UJ	10 U	10 U	10 U	100 U	10 UJ	1000 U
Dichlorodifluoromethane	2 U	2 U	4 UJ	2 U	2 U	2 U	20 U	2 UJ	200 U
Ethyl benzene	2 U	2 U	4 UJ	2 U	2 U	2 U	30.8	2 UJ	200 U
Isopropylbenzene	2 U	2 U	4 UJ	2 U	2 U	2 U	20 U	2 UJ	200 U
Methyl cyclohexane	2 U	2 U	4 UJ	2 U	2 U	2 U	20 U	2 UJ	200 U

TABLE 3
SPRING 2014 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	E-3	MW-103	MW-106	MW-114	MW-127	PW10	PW12	PW13	PW14
SAMPLE DATE:	6/25/2014	7/1/2014	6/26/2014	6/30/2014	6/25/2014	6/24/2014	6/24/2014	6/25/2014	6/25/2014
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
VOCs BY SW-846 Method 8260/5ML (µg/L)									
Methyl Tertbutyl Ether	2 U	2 U	4 UJ	2 U	2 U	2 U	20 U	3.32 J	200 U
Methylene chloride	5 U	5 U	10 UJ	5 U	5 U	7.7	50 U	5 UJ	500 U
Styrene	5 U	5 U	10 UJ	5 U	5 U	5 U	50 U	5 UJ	500 U
Tetrachloroethene	2 U	2 U	4 UJ	2 U	2 U	25.8	20 U	2 UJ	200 U
Toluene	2 U	2 U	4 UJ	2 U	2 U	2.01	215	2 UJ	200 U
trans-1,2-Dichloroethene	2 U	2 U	4 UJ	2 U	2 U	2 U	20 U	2 UJ	200 U
trans-1,3-Dichloropropene	2 U	2 U	4 UJ	2 U	2 U	2 U	20 U	2 UJ	200 U
Trichloroethene	2 U	2 U	4 UJ	4.52	2 U	11.5	20 U	2 UJ	200 U
Trichlorofluoromethane	2 U	2 U	4 UJ	2 U	2 U	2 U	20 U	2 UJ	200 U
Vinyl chloride	2 U	2 U	4 UJ	2 U	2 U	2 U	20 U	30.1 J	200 U
Xylene, o	2 U	2 U	4 UJ	2 U	2 U	2 U	60.3	2 UJ	200 U
Xylenes (m&p)	2 U	2 U	4 UJ	2 U	2 U	2 U	115	2 UJ	200 U

Notes:
U = Compound not detected; value represents sample quantitation limit.
J = Estimated value.

TABLE 3
SPRING 2014 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	PW15	PW16	PW17	PZ-101	PZ-102	PZ-103	PZ-104	PZ-105	PZ-106
SAMPLE DATE:	6/24/2014	6/26/2014	6/24/2014	6/26/2014	6/26/2014	6/26/2014	6/30/2014	6/25/2014	6/25/2014
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
VOCs BY SW-846 Method 8260/5ML (µg/L)									
1,1,1-Trichloroethane	20 UJ	10 UJ	1000 U	2 U	4 UJ	10 UJ	2 UJ	2 UJ	2000 U
1,1,2,2-Tetrachloroethane	20 UJ	10 UJ	1000 U	2 U	4 UJ	10 UJ	2 UJ	2 UJ	2000 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	20 UJ	10 UJ	1000 U	2 U	4 UJ	10 UJ	2 UJ	2 UJ	2000 U
1,1,2-Trichloroethane	20 UJ	10 UJ	1000 U	2 U	4 UJ	10 UJ	2 UJ	2 UJ	2000 U
1,1-Dichloroethane	20 UJ	10 UJ	1000 U	2 U	4 UJ	10 UJ	2 UJ	2 UJ	2000 U
1,1-Dichloroethene	20 UJ	10 UJ	1000 U	2 U	4 UJ	10 UJ	2 UJ	2 UJ	2000 U
1,2,3-Trichlorobenzene	50 UJ	25 UJ	2500 U	5 U	10 UJ	25 UJ	5 UJ	5 UJ	5000 U
1,2,4-Trichlorobenzene	53.7 J	25 UJ	2500 U	5 U	10 UJ	25 UJ	5 UJ	5 UJ	5000 U
1,2-Dibromo-3-chloropropane	100 UJ	50 UJ	5000 U	10 U	20 UJ	50 UJ	10 UJ	10 UJ	10000 U
1,2-Dibromoethane	20 UJ	10 UJ	1000 U	2 U	4 UJ	10 UJ	2 UJ	2 UJ	2000 U
1,2-Dichlorobenzene	20 UJ	264 J	1000 U	2 U	74.5 J	368 J	2 UJ	2 UJ	2000 U
1,2-Dichloroethane	20 UJ	10 UJ	1000 U	2 U	4 UJ	10 UJ	2 UJ	2 UJ	2000 U
1,2-Dichloropropane	20 UJ	10 UJ	1000 U	2 U	4 UJ	10 UJ	2 UJ	2 UJ	2000 U
1,3-Dichlorobenzene	23.7 J	103 J	1000 U	2 U	10.6 J	68.6 J	2 UJ	2 UJ	2000 U
1,4-Dichlorobenzene	46.9 J	109 J	1000 U	2 U	12.1 J	66.5 J	2 UJ	2 UJ	2000 U
1,4-Dioxane	200 UJ	100 UJ	10000 U	20 U	40 UJ	100 UJ	20 UJ	20 UJ	20000 U
2-Butanone	100 UJ	50 UJ	5000 U	10 U	20 UJ	50 UJ	10 UJ	10 UJ	10000 U
2-Hexanone	50 UJ	25 UJ	2500 U	5 U	10 UJ	25 UJ	5 UJ	5 UJ	5000 U
4-Methyl-2-pentanone	50 UJ	25 UJ	2500 U	5 U	10 UJ	25 UJ	5 UJ	5 UJ	5000 U
Acetone	100 UJ	50 UJ	5000 U	10 U	20 UJ	50 UJ	10 UJ	10 UJ	10000 U
Benzene	26.2 J	18.5 J	350 U	0.7 U	4.52 J	17.3 J	0.717 J	6.6 J	700 U
Bromochloromethane	50 UJ	25 UJ	2500 U	5 U	10 UJ	25 UJ	5 UJ	5 UJ	5000 U
Bromodichloromethane	20 UJ	10 UJ	1000 U	2 U	4 UJ	10 UJ	2 UJ	2 UJ	2000 U
Bromoform	50 UJ	25 UJ	2500 U	5 U	10 UJ	25 UJ	5 UJ	5 UJ	5000 U
Bromomethane	20 UJ	10 UJ	1000 U	2 U	4 UJ	10 UJ	2 UJ	2 UJ	2000 U
Carbon disulfide	263 J	10 UJ	1000 U	2 U	4 UJ	10 UJ	2 UJ	2 UJ	5760
Carbon tetrachloride	39.4 J	10 UJ	20900	2 U	4 UJ	10 UJ	2 UJ	2 UJ	2000 U
Chlorobenzene	60.5 J	753 J	1000 U	2 U	209 J	806 J	2 UJ	28.8 J	2000 U
Chlorodibromomethane	20 UJ	10 UJ	1000 U	2 U	4 UJ	10 UJ	2 UJ	2 UJ	2000 U
Chloroethane	20 UJ	10 UJ	1000 U	2 U	4 UJ	10 UJ	2 UJ	2 UJ	2000 U
Chloroform	1670 J	10 UJ	39300	2 U	4 UJ	10 UJ	2 UJ	2 UJ	19700
Chloromethane	20 UJ	10 UJ	1000 U	2 U	4 UJ	10 UJ	2 UJ	2 UJ	2000 U
Cis-1,2-Dichloroethene	20 UJ	10 UJ	1000 U	2 U	4 UJ	10 UJ	2 UJ	2 UJ	2000 U
Cis-1,3-Dichloropropene	20 UJ	10 UJ	1000 U	2 U	4 UJ	10 UJ	2 UJ	2 UJ	2000 U
Cyclohexane	100 UJ	50 UJ	5000 U	10 U	20 UJ	50 UJ	10 UJ	10 UJ	10000 U
Dichlorodifluoromethane	20 UJ	10 UJ	1000 U	2 U	4 UJ	10 UJ	2 UJ	2 UJ	2000 U
Ethyl benzene	20 UJ	10 UJ	1000 U	2 U	4 UJ	10 UJ	2 UJ	2 UJ	2000 U
Isopropylbenzene	20 UJ	10 UJ	1000 U	2 U	4 UJ	10 UJ	2 UJ	2 UJ	2000 U
Methyl cyclohexane	20 UJ	10 UJ	1000 U	2 U	4 UJ	10 UJ	2 UJ	2 UJ	2000 U

TABLE 3
SPRING 2014 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	PW15	PW16	PW17	PZ-101	PZ-102	PZ-103	PZ-104	PZ-105	PZ-106
SAMPLE DATE:	6/24/2014	6/26/2014	6/24/2014	6/26/2014	6/26/2014	6/26/2014	6/30/2014	6/25/2014	6/25/2014
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
VOCs BY SW-846 Method 8260/5ML (µg/L)									
Methyl Tertbutyl Ether	20 UJ	10 UJ	1000 U	2 U	4 UJ	10 UJ	2 UJ	2 UJ	2000 U
Methylene chloride	71 J	25 UJ	4980	5 U	10 UJ	25 UJ	5 UJ	5 UJ	5000 U
Styrene	50 UJ	25 UJ	2500 U	5 U	10 UJ	25 UJ	5 UJ	5 UJ	5000 U
Tetrachloroethene	266 J	10 UJ	1030	2 U	4 UJ	10 UJ	2 UJ	2 UJ	2000 U
Toluene	64.8 J	10 UJ	1000 U	2 U	4 UJ	10 UJ	2 UJ	2 UJ	2000 U
trans-1,2-Dichloroethene	20 UJ	10 UJ	1000 U	2 U	4 UJ	10 UJ	2 UJ	2 UJ	2000 U
trans-1,3-Dichloropropene	20 UJ	10 UJ	1000 U	2 U	4 UJ	10 UJ	2 UJ	2 UJ	2000 U
Trichloroethene	39.5 J	10 UJ	1000 U	2 U	4 UJ	10 UJ	2 UJ	2 UJ	2000 U
Trichlorofluoromethane	20 UJ	10 UJ	1000 U	2 U	4 UJ	10 UJ	2 UJ	2 UJ	2000 U
Vinyl chloride	20 UJ	10 UJ	1000 U	2 U	4 UJ	10 UJ	2 UJ	2 UJ	2000 U
Xylene, o	20 UJ	10 UJ	1000 U	2 U	4 UJ	10 UJ	2 UJ	2 UJ	2000 U
Xylenes (m&p)	20 UJ	10 UJ	1000 U	2 U	4 UJ	10 UJ	2 UJ	2 UJ	2000 U

Notes:
U = Compound not detected; value represents sample quantitation limit.
J = Estimated value.

TABLE 3
SPRING 2014 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	PZ-107	W-5
SAMPLE DATE:	6/25/2014	6/25/2014
QC TYPE:	Sample	Sample
VOCs BY SW-846 Method 8260/5ML (µg/L)		
1,1,1-Trichloroethane	2 UJ	2 U
1,1,2,2-Tetrachloroethane	2 UJ	2 U
1,1,2-Trichloro-1,2,2-Trifluoroethane	2 UJ	2 U
1,1,2-Trichloroethane	2 UJ	2 U
1,1-Dichloroethane	2 UJ	2 U
1,1-Dichloroethene	2 UJ	2 U
1,2,3-Trichlorobenzene	5 UJ	5 U
1,2,4-Trichlorobenzene	5 UJ	5 U
1,2-Dibromo-3-chloropropane	10 UJ	10 U
1,2-Dibromoethane	2 UJ	2 U
1,2-Dichlorobenzene	2 UJ	2 U
1,2-Dichloroethane	2 UJ	2 U
1,2-Dichloropropane	2 UJ	2 U
1,3-Dichlorobenzene	2 UJ	2 U
1,4-Dichlorobenzene	2 UJ	2 U
1,4-Dioxane	20 UJ	20 U
2-Butanone	10 UJ	10 U
2-Hexanone	5 UJ	5 U
4-Methyl-2-pentanone	5 UJ	5 U
Acetone	10 UJ	10 U
Benzene	1.89 J	0.7 U
Bromochloromethane	5 UJ	5 U
Bromodichloromethane	2 UJ	2 U
Bromoform	5 UJ	5 U
Bromomethane	2 UJ	2 U
Carbon disulfide	2 UJ	2 U
Carbon tetrachloride	8.82 J	2 U
Chlorobenzene	2 UJ	2 U
Chlorodibromomethane	2 UJ	2 U
Chloroethane	2 UJ	2 U
Chloroform	63.5 J	2 U
Chloromethane	2 UJ	2 U
Cis-1,2-Dichloroethene	2 UJ	2 U
Cis-1,3-Dichloropropene	2 UJ	2 U
Cyclohexane	10 UJ	10 U
Dichlorodifluoromethane	2 UJ	2 U
Ethyl benzene	2 UJ	2 U
Isopropylbenzene	2 UJ	2 U
Methyl cyclohexane	2 UJ	2 U

TABLE 3
SPRING 2014 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	PZ-107	W-5
SAMPLE DATE:	6/25/2014	6/25/2014
QC TYPE:	Sample	Sample
VOCs BY SW-846 Method 8260/5ML (µg/L)		
Methyl Tertbutyl Ether	2 UJ	2 U
Methylene chloride	10.4 J	5 U
Styrene	5 UJ	5 U
Tetrachloroethene	3.88 J	2 U
Toluene	2 UJ	2 U
trans-1,2-Dichloroethene	2 UJ	2 U
trans-1,3-Dichloropropene	2 UJ	2 U
Trichloroethene	2 UJ	2 U
Trichlorofluoromethane	2 UJ	2 U
Vinyl chloride	2 UJ	2 U
Xylene, o	2 UJ	2 U
Xylenes (m&p)	2 UJ	2 U

Notes:
U = Compound not detected; value represents sample quantitation limit.
J = Estimated value.

TABLE 4
COMPARISON OF SPRING 2014
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 2014 RESULT	# EVENTS IN PRIOR 5 YRS	HISTORIC MAXIMUM	5-YEAR MEAN	JUNE 2014 RESULT
ON-SITE WELLS/LOCATIONS								
B-11	8	4,800	1,700		8	570	94	
B-17	6	28,000,000	300,000	**320,000**	6	350,000	8,900	640
B-4	2	740	25	13	2	42	10	ND
B-5	2	130,000	81,000	100	2	670	360	39
B-7	5	9,100	470	170	5	270	28	4
BR-127	10	29,000	7,900	**11,000**	10	1,300	140	50
BR-3	5	6,500,000	64,000	1,300	5	930,000	100,000	3,900
BR-5A	10	1,700	160	120	10	9,400	18	10
BR-6A	10	140,000	14,000	**23,000**	10	26,000	400	**13,000**
BR-7A	10	510,000	11,000	**15,000**	10	4,400	400	72
BR-8	6	160,000	90,000	**230,000**	6	7,800	540	**2,500**
BR-9	10	720	170	160	10	210	12	**16**
E-3	5	600	92	30	5	15,000	19	ND
MW-127	10	15,000	2,600	1,300	10	7,500	860	ND
PW10	10	240,000	72,000	**86,000**	10	120,000	1,900	110
PW12	10	15,000	1,100	91	10	120,000	8,600	290
PW13	10	7,500	3,100	**3,600**	10	1,800	350	60
PW14	10	29,000	3,800	1,800	10	160,000	23,000	2,100
PW15	10	730,000	50,000	32,000	10	8,300	4,000	2,100
PW16	7	52,000	24,000	24,000	7	1,200	730	**750**
PW17	3	17,000	10,000	**37,000**	3	64,000	21,000	**66,000**
PZ-105	10	190,000	6,300	3,500	10	9,900	110	29
PZ-106	10	120,000	23,000	9,600	10	1,400,000	370,000	20,000
PZ-107	10	14,000	7,700	2,200	10	130,000	42,000	87
W-5	1	450,000	ND	ND	1	2,500	17	ND
OFF-SITE WELLS/LOCATIONS								
B-15	2	13,000	160	71	2	1,600	0.44	ND
B-16	8	33,000	810	**920**	8	4,500	9.4	4.1
BR-103	5	400	2.1	ND	5	46	ND	ND
BR-104	5	3,100	1.6	**5.8**		11		
BR-105	10	24,000	650	500	10	350	6.2	**10**
BR-105D	10	10,000	360	**700**	10	230	4.5	ND
BR-106	10	25,000	4,300	**26,000**	10	12,000	180	**470**
BR-108	5	1,700	18	ND		2		
BR-112D	5	310	46	ND		4.3		
BR-113D	5	490	26	ND		2.8		
BR-114	5	520	24	6.6	5	12	0.2	ND
BR-116	5	12	ND	ND		86		
BR-116D	5	710	42	6.6		130		
BR-117D	5	80	4.4	ND		1.9		
BR-118D	5	330	40	25		6.6		
BR-122D	5	650	100	7.5		ND		
BR-123D	5	860	50	15		7		
BR-126	10	12,000	3,300		10	240	5.3	

TABLE 4
COMPARISON OF SPRING 2014
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 2014 RESULT	# EVENTS IN PRIOR 5 YRS	HISTORIC MAXIMUM	5-YEAR MEAN	JUNE 2014 RESULT
MW-103	5	97	0.6	ND	5	750	ND	ND
MW-104	5	180	1.2	**6**		5.8		
MW-106	10	130,000	7,200	6,600	10	4,000	240	210
MW-114	5	18	1	ND	5	27	23	19
MW-16	5	360	7.5			10		
NESS-E	5	5,000	43	**46**		710		
NESS-W	5	2,100	ND	ND		94		
PZ-101	10	27,000	58	6.7	10	620	3.6	ND
PZ-102	10	58,000	5,900	**13,000**	10	11,000	340	210
PZ-103	10	73,000	11,000	**49,000**	10	46,000	1,100	810
PZ-104	10	9,100	1,500	690	10	52	7.6	ND
QD-1	10	11	3.8	ND		ND		
QO-2	10	380	8.3	ND		ND		
QO-2S1	10	27	2	ND		ND		
QS-4	10	3,400	100	**120**		ND		

Note:
1) Number of samples and mean reflect 5-year sampling period from May 2009 through December 2013. Historic maximum based on all available results from March 1990 through November 2013.
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 2014 exceeds 5-year mean.
5) ND = Not detected
BLANK = Not sampled

TABLE 5
SPRING 2014 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:	7/1/2014	7/1/2014	7/1/2014	7/1/2014
QC TYPE:	FS	FS	FS	FS
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270C (µg/L)				
2,6-Dichloropyridine	10 U	10 U	10 U	21.2
2-Chloropyridine	10 U	10 U	10 U	101
3-Chloropyridine	10 U	10 U	10 U	10 U
4-Chloropyridine	10 U	10 U	10 U	10 U
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 2013 THROUGH MAY 2014

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

Week Ending	BR-5A [Gal./Wk.]	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 '13										
12/01/13	15,822	95,150	31,849	7,035	0 **	0 **	35,271	0 **	0 **	185,127
12/08/13	15,520	89,956	32,501	47	0 **	0 **	36,176	0 **	0 **	174,200
12/15/13	15,545	86,522	30,949	0	0 **	0 **	34,988	0 **	0 **	168,004
12/22/13	15,837	89,617	30,329	0	189 *	0 **	34,176	0 **	0 **	170,148
12/29/13	16,943	92,666	29,303	0	98 *	39,565	34,554	2,200	30,990	246,319
									Total [Gal.]	943,798
Jan '14										
01/05/14	16,541	65,260 *	20,902	0	75 *	37,531	24,959 *	1,787	25,019	192,074
01/12/14	16,745	79,388	25,587	0	36 *	3,989 *	35,398	1,334	3,178 *	165,655
01/19/14	17,593	86,370	27,999	0	3 *	2 *	39,057	1,468	50,045	222,537
01/26/14	17,572	87,780	27,307	0	2 *	0 *	38,132	1,485	49,937	222,215
									Total [Gal.]	802,481
Feb '14										
02/02/14	16,920	90,725	27,332	0	1 *	2 *	37,935	1,438	42,428	216,781
02/09/14	17,528	84,543	25,348	1	1,675	2 *	34,964	1,353	37,781	203,195
02/16/14	16,582	87,337	25,584	0	5,923	0 *	34,856	1,343	34,418	206,043
02/23/14	16,935	88,820	25,223	0	3,380	11,184	33,860	1,314	23,052	203,768
									Total [Gal.]	829,787
Mar '14										
03/02/14	18,046	90,540	25,777	0	1,462	28,079	33,309	1,336	22,706	221,255
03/09/14	17,887	93,822	27,352	1	2,822	25,038	32,499	1,308	22,168	222,897
03/16/14	18,654	92,690	25,923	0	2,940	23,251	30,677	1,293	22,052	217,480
03/23/14	20,210	89,925	27,252	0	2,184	21,239	29,643	1,341	21,548	213,342
03/30/14	19,857	88,931	41,647	1	1,324	21,092	29,614	1,412	21,683	225,561
									Total [Gal.]	1,100,535
Apr '14										
04/06/14	21,666	87,956	42,069	0	174	18,462	28,178	1,397	22,181	222,083
04/13/14	22,315	80,403	36,037	1,256	260	1,811 *	24,839	1,484	19,975	188,379
04/20/14	22,942	82,590	39,665	13	847	24,012	27,957	1,544	21,907	221,476
04/27/14	22,211	91,407	11,637 *	29,355	903	28,677	30,514	1,617	41,440	257,761
									Total [Gal.]	889,700
May '14										
05/04/14	23,485	99,180	19,532 *	38,933	976	22,822	31,668	1,732	55,923	294,252
05/11/14	21,703	83,623	41,810	35,033	842	20,045	28,005	1,560	49,110	281,730
05/18/14	22,649	89,707	44,324	37,518	878	15,811	29,183	1,650	45,809	287,529
05/25/14	22,586	85,110	45,787	35,016	987	101 *	25,893	1,751	44,894	262,125
									Total [Gal.]	1,125,636
Total 6 Mo. Removal (Gal.)	490,294	2,280,018	789,025	184,209	27,981	342,714	836,305	33,147	708,243	5,691,937

Notes:
1) * - Flow rate adversely affected by pump failure, pluggage in discharge line, or other maintenance activity
2) ** - Wells PW-14, PW-15, PW-17, and BR-127 shut down for ISCO Pilot Test

TABLE 7

MASS REMOVAL SUMMARY
PERIOD: DECEMBER 2013 THROUGH MAY 2014

ARCH ROCHESTER
SPRING 2014 GROUNDWATER MONITORING REPORT

Well	Total Vol. Pumped (gallons)	Avg. VOC Conc. (ppm)	Avg. PYR. Conc. (ppm)	VOCs Removed (pounds)	PYR. Removed (pounds)
BR-5A	490,300	0.014	0.13	0.06	0.5
BR-7A	2,280,000	0.08	8.3	2	157
BR-9	789,000	0.019	0.41	0.12	2.7
PW-13	184,200	0.1	3.1	0.1	5
PW-14	28,000	3	2.1	0.7	0.5
PW-15	342,700	2.6	32	7.5	92
PW-16	836,300	0.6	25	3.9	177
PW-17	33,150	64.9	27	17.9	8
BR-127	708,250	0.03	8.7	0.2	51
Totals:	5,691,900			32	493

Notes: VOC and pyridine concentrations used in this table are an average of the analytical results from the Fall 2013 and Spring 2014 sampling events for each well;
Total select VOCs now includes chlorobenzene in addition to PCE, TCE, methylene chloride, carbon tetrachloride, and chloroform

TABLE 8
2014 SAMPLING SCHEDULE
ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

ARCH ROCHESTER						**2014**					
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
	MW-104	OB	BUFFALO RD	annual monitoring, PYR	trend monitoring	1				1	0
	BR-104	BR	BUFFALO RD	annual monitoring, PYR	trend monitoring	1				1	0
	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-116	BR	PFAUDLER	annual monitoring, PYR	trend monitoring	1				1	0
	BR-116D	BR deep	PFAUDLER	annual monitoring, PYR	trend monitoring	1				1	0
	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
	NESS-E	BR deep	NESS	annual monitoring, PYR	trend monitoring	1				1	0
	NESS-W	BR deep	NESS	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
	PZ-104	BR	ARM	semi-annual monitoring, VOCs & PYR	perimeter sentinel/trend monitoring	1	1	1	1	2	2
	BR-126	BR	ARM	semi-annual monitoring, VOCs & PYR	trend monitoring	1	1	1	1	2	2
	B-16	OB	ARM	semi-annual monitoring, VOCs & PYR	continue until replaced by trench	1	1	1	1	2	2
	MW-16	BR	Gen'l Circuits	annual monitoring, PYR	trend monitoring			1		1	0
ON-SITE	PZ-107	BR	ON-SITE	semi-annual monitoring, VOCs & PYR	perimeter sentinel/trend monitoring	1	1	1	1	2	2
MONITORING	PZ-106	BR	ON-SITE	semi-annual monitoring, VOCs & PYR	trend monitoring	1	1	1	1	2	2
	PZ-105	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-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						55	38	35	30	90	68

Revised: 01/24/14

Prepared by: JEB Checked by: NMB

Appendix A

Groundwater Field Sampling Data Sheets

FIELD REPORT

REMEDIAL INVESTIGATION SAMPLING
LONZA CHEMICAL
ROCHESTER, NEW YORK

Spring 2014 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:	Michele Wittman
Reviewed by:	Steven Marchetti
Date:	July 25, 2014

TABLE OF CONTENTS

1.0 INTRODUCTION

This report describes the sampling of the following points:

- 52 groundwater samples
- One barge canal sample
- 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 June 25 to July 1, 2014 by Matrix Environmental Technologies Inc. (METI) field personnel.

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-11	On-Site	OB	6/25/2014	12:00	DRY	14.17						
B-15	On-Site	OB	6/30/2014	12:20	7.88	13.00	7.20	0.49	19.91	0.0	-98	0.00
B-16	Off-Site	OB	6/30/2014	12:45	7.61	13.35	7.30	0.97	17.98	0.0	-238	0.00
B-17	On-Site	OB	6/24/2014	11:13	9.42	10.75	9.28	13.40	16.69	680.0	-103	4.12
B-4	On-Site	OB	6/26/2014	9:10	19.04	23.00	7.09	10.10	18.57	9.6	-30	5.00
B-5	On-Site	OB	6/26/2014	12:10	12.10	18.12	7.21	2.16	18.81	211.0	-60	0.00
B-7	On-Site	OB	6/25/2014	14:52	17.85	20.90	6.91	0.90	19.33	20.5	-25	0.00
BR-103	Off-Site	BR	7/1/2014	11:00	6.65	14.90	7.28	0.76	22.25	0.0	-146	0.00
BR-104	Off-Site	BR	6/30/2014	14:05	11.58	19.60	7.71	0.43	18.84	4.8	-206	0.00
BR-105	Off-Site	BR	6/27/2014	12:55	24.42	25.30	7.00	3.50	18.28	0.0	-110	0.00
BR-105D	Off-Site	BR deep	6/27/2014	13:25	26.60	80.50	7.18	19.00	20.57	0.0	-360	0.00
BR-106	Off-Site	BR	6/30/2014	10:40	23.06	18.00	7.03	4.79	14.68	0.0	-188	0.00
BR-108	Off-Site	BR	6/26/2014	13:55	28.48	30.00	6.78	0.75	18.05	434.0	37	8.72
BR-112D	Off-Site	BR deep	6/30/2014	9:55	36.30	74.30	7.06	2.72	14.54	0.0	-294	1.64
BR-113D	Off-Site	BR deep	6/3/2014	9:05	31.60	80.40	7.09	2.01	14.46	106.0	-180	0.92
BR-114	Off-Site	BR	6/30/2014	14:35	13.70	17.00	7.04	2.61	21.22	0.0	-162	0.00
BR-116	Off-Site	BR	7/1/2014	7:50	28.13	34.30	6.85	12.60	22.54	0.0	-124	0.00
BR-116D	Off-Site	BR deep	7/1/2014	8:38	35.56	37.30	7.06	1.97	23.99	0.0	-82	4.70
BR-117D	Off-Site	BR deep	6/27/2014	11:32	49.57	46.40	9.09	0.58	13.80	2.0	-161	0.00
BR-118D	Off-Site	BR deep	6/27/2014	10:45	48.88	45.40	7.79	0.94	13.88	0.0	-27	0.00
BR-122D	Off-Site	BR deep	6/27/2014	8:35	45.25	51.00	6.97	5.07	16.26	0.0	-296	0.00
BR-123D	Off-Site	BR deep	6/27/2014	9:25	45.41	82.80	8.05	2.12	12.22	0.0	-266	1.47
BR-126	Off-Site	BR	under debris - not sampled									
BR-127	On-Site	BR	25-Jun	9:50	pumping	NM	7.59	4.52	16.15	0.0	-123	0.84
BR-3	On-Site	BR	6/24/2014	13:20	12.90	NM	7.95	0.70	19.77	782.0	-120	0.00
BR-5A	On-Site	pumping well	6/24/2014	10:10	25.80	pump	7.25	1.57	17.92	6.5	-64	4.82
BR-6A	On-Site	BR	6/24/2014	14:00	16.55	27.40	7.25	6.04	18.31	59.4	-144	0.00
BR-7A	On-Site	pumping well	6/25/2014	14:05	27.77	pump	7.27	1.86	17.35	0.0	-119	2.58
BR-8	On-Site	BR	6/26/2014	10:05	11.51	14.80	7.93	8.13	17.56	0.0	-224	0.00
BR-9	On-Site	pumping well	6/24/2014	8:40	31.80	pump	6.92	2.40	17.65	7.0	-62	0.00
E-3	On-Site	OB	6/25/2014	8:45	6.54	11.80	7.12	3.86	18.49	20.5	-128	0.00
MW-103	Off-Site	OB	7/1/2014	11:26	2.90	8.25	7.16	0.61	24.46	0.0	-90	0.00
MW-104	Off-Site	OB	6/30/2014	13:35	12.60	16.60	7.34	0.71	21.64	240.0	-178	0.00
MW-106	Off-Site	OB	6/25/2014	14:35	12.36	12.48	6.73	2.32	19.93	0.0	-135	0.00
MW-114	Off-Site	OB	6/30/2014	15:00	11.23	15.80	7.46	0.83	19.50	0.0	-87	0.00
MW-127	On-Site	OB	6/25/2014	12:30	8.55	11.34	7.62	5.63	18.64	0.0	-174	0.00
MW-16	Off-Site	BR	sampled only in Fall			11.95						

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)
NESS-E	Off-Site	BR deep	7/1/2014	9:40	26.30	59.80	6.71	1.61	23.08	0.0	-74	6.97
NESS-W	Off-Site	BR deep	7/1/2014	10:20	31.30	40.20	7.23	1.88	18.76	0.0	-237	0.00
PW-10	On-Site	pumping well	6/24/2014	11:45	0.44	pump	7.56	11.60	19.76	10.6	23	0.00
PW-12	On-Site	BR	6/24/2014	9:25	6.91	7.90	8.82	0.23	22.24	54.4	31	3.47
PW-13	On-Site	pumping well	6/25/2014	13:10	26.45	pump	7.13	2.78	17.64	0.0	-110	0.00
PW-14	On-Site	pumping well	6/25/2014	11:15	23.50	50.50	7.11	4.05	26.07	28.0	16	4.02
PW-15	On-Site	pumping well	6/24/2014	14:03	10.35	pump	9.38	7.99	17.78	0.0	-214	0.00
PW-16	On-Site	pumping well	6/26/2014	9:33	20.61	pump	7.12	8.21	17.72	0.0	-109	5.60
PW-17	On-Site	pumping well	6/24/2014	14:02	31.15	38.50	7.31	7.63	20.41	0.0	-213	0.00
PZ-101	Off-Site	BR	6/26/2014	11:03	15.98	21.75	6.77	1.12	17.95	0.0	-1	0.00
PZ-102	Off-Site	BR	6/26/2014	12:17	13.64	32.75	6.87	2.99	19.22	0.0	-93	0.00
PZ-103	Off-Site	BR	6/26/2014	1:20	14.35	32.55	7.10	5.26	18.96	0.0	-240	0.00
PZ-104	Off-Site	BR	6/30/2014	11:40	13.89	23.80	6.99	3.69	21.45	0.0	-159	0.00
PZ-105	On-Site	BR	6/25/2014	9:30	15.03	31.40	7.58	1.86	18.18	338.0	-133	0.00
PZ-106	On-Site	BR	6/25/2014	11:00	13.39	32.20	9.54	4.29	17.78	0.0	-190	0.00
PZ-107	On-Site	BR	6/25/2014	10:13	10.74	27.80	7.06	0.76	15.11	0.0	-125	0.00
QD-1	Quarry/Canal	quarry ditch	7/1/2014	12:50	NA	NA	8.05	2.07	23.49	0.0	51	8.40
QO-2	Quarry/Canal	quarry outfall	7/1/2014	13:55	NA	NA	8.19	2.09	24.90	0.0	47	8.27
QO-2SA	Quarry/Canal	canal at outfall	7/1/2014	14:02	canal	NA	8.18	0.47	27.01	0.0	47	5.59
QS-4	Quarry/Canal	quarry seep	7/1/2014	12:25	NA	NA	8.18	2.10	20.59	0.0	13	10.30
W-5	On-Site	OB	6/25/2014	13:45	9.50	11.90	7.68	0.25	20.06	107.0	-30	6.15

** 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-11	On-Site	OB	6/23/2014	DRY				Dry
B-15	On-Site	OB	6/23/2014	6.18				
B-16	Off-Site	OB	6/23/2014	6.65				
B-17	On-Site	OB	6/23/2014	9.38				
B-4	On-Site	OB	6/23/2014	14.78				
B-5	On-Site	OB	6/23/2014	11.62				
B-7	On-Site	OB	6/23/2014	14.64				
BR-103	Off-Site	BR	6/23/2014	6.65				
BR-104	Off-Site	BR	6/23/2014	11.45				
BR-105	Off-Site	BR	6/23/2014	22.53				
BR-105D	Off-Site	BR deep	6/23/2014	26.08				
BR-106	Off-Site	BR	6/23/2014	17.89				
BR-108	Off-Site	BR	6/23/2014	28.54				
BR-112D	Off-Site	BR deep	6/23/2014	36.26				
BR-113D	Off-Site	BR deep	6/23/2014	31.28				
BR-114	Off-Site	BR	6/23/2014	13.80				
BR-116	Off-Site	BR	6/23/2014	27.95				
BR-116D	Off-Site	BR deep	6/23/2014	35.64				
BR-117D	Off-Site	BR deep	6/23/2014	36.64				
BR-118D	Off-Site	BR deep	6/23/2014	37.98				
BR-122D	Off-Site	BR deep	6/23/2014	45.46				
BR-123D	Off-Site	BR deep	6/23/2014	45.65				
BR-126	Off-Site	BR	6/23/2014	NA				well under debris
BR-127	On-Site	BR	6/23/2014	7.90				
BR-3	On-Site	BR	6/23/2014	10.16				debris in well
BR-5A	On-Site	pumping well	6/23/2014	20.75				
BR-6A	On-Site	BR	6/23/2014	14.30				
BR-7A	On-Site	pumping well	6/23/2014	27.20				
BR-8	On-Site	BR	6/23/2014	11.47				
BR-9	On-Site	pumping well	6/23/2014	31.70				
E-3	On-Site	OB	6/23/2014	5.66				
MW-103	Off-Site	OB	6/23/2014	2.21				
MW-104	Off-Site	OB	6/23/2014	8.02				
MW-106	Off-Site	OB	6/23/2014	11.46				
MW-114	Off-Site	OB	6/23/2014	10.08				
MW-127	On-Site	OB	6/23/2014	7.59				
MW-16	Off-Site	BR	6/23/2014	10.97				
NESS-E	Off-Site	BR deep	6/23/2014	25.20				
NESS-W	Off-Site	BR deep	6/23/2014	31.30				
PW-10	On-Site	pumping well	6/23/2014	9.29				
PW-12	On-Site	BR	6/23/2014	6.80				
PW-13	On-Site	pumping well	6/23/2014	26.46				
PW-14	On-Site	pumping well	6/23/2014	45.40				
PW-15	On-Site	pumping well	6/23/2014	10.38				
PW-16	On-Site	pumping well	6/23/2014	11.78				
PW-17	On-Site	pumping well	6/23/2014	31.05				
PZ-101	Off-Site	BR	6/23/2014	14.91				
PZ-102	Off-Site	BR	6/23/2014	13.48				
PZ-103	Off-Site	BR	6/23/2014	13.44				
PZ-104	Off-Site	BR	6/23/2014	13.76				
PZ-105	On-Site	BR	6/23/2014	10.12				
PZ-106	On-Site	BR	6/23/2014	11.76				
PZ-107	On-Site	BR	6/23/2014	10.20				
QD-1	Quarry/Canal	quarry ditch	6/23/2014	NA				
QO-2	Quarry/Canal	quarry outfall	6/23/2014	NA				
QO-2SA	Quarry/Canal	canal at outfall	6/23/2014	NA				Canal
QS-4	Quarry/Canal	quarry seep	6/23/2014	NA				
W-5	On-Site	OB	6/23/2014	10.30				

APPENDIX A
FIELD OBSERVATION FORMS

FIELD OBSERVATIONS

BR3

Facility: Lonza

Sample Point ID:

Field Personnel: DK+PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-24-14 12:45

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

(✓) None ( ) Buried

Removed old tubing + lines from well prior to sampling

Prot. Casing/Riser Height: ___

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

Covered by Fiberglass box

Metal casing sticks up 1' above ground

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: 6-24-14 12:54

Date/Time Completed: 6-24 13:25

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

Riser Diameter (inches) ___

Initial Water Level (ft): 10.50

Elevation G/W MSL: ___

Well Total Depth (ft): ___

Method of Well Purge: Bladder pump

Set @ 14'

Obstruction @ 17'

One (1) Riser Vol (gal): ___

Dedicated: Y / N

Total Volume Purged (gal): ___

Purged to Dryness: Y / N

Purge Observations: Low Flow

Start Brownish tint Finish Brown tint

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
12:55	10.45			27.04	8.61	0.752 ms/cm	1000+	62	3.72	
13:00	11.07	125mL/min		20.61	8.26	0.692	1000+	-17	0.00	
13:05	11.70			19.71	8.25	0.696	1000+	-84	0.00	
13:10	12.25	125mL/min		19.67	8.10	0.693	961	-109	0.00	
13:15	12.90			19.77	7.95	0.696	782	-120	0.00	
→ Sample 13:20										

80°F
Sunt clouds
5 Liters

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: B4

Field Personnel: DK + PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-26-14 8:40

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

(✓) None ( ) Buried

Prot. Casing/Riser Height: ____

Condition of Prot. Casing/Riser: (✓) unlocked ( ) Good ( ) loose ( ) flush mount ( ) Damaged No Riser, just Casing

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: 6-26 8:49

Date/Time Completed: 9:22

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

Riser Diameter (inches): 1.5

Initial Water Level (ft): 14.36

Elevation G/W MSL: ____

Well Total Depth (ft): ____

Method of Well Purge: Peristaltic

One (1) Riser Vol (gal): ____

Dedicated: Y /(✓)

Total Volume Purged ~~(gal):~~ 1.75 L

Purged to Dryness: (✓) N – Ran out of water

Purge Observations:

Start clear → slight red tint

Finish 191 → 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
8:55	~~14.80~~ 16.09	125 mL/min		18.96	6.56	9.70 ms/cm	27	-52	8.10	
9:00	18.21	125		18.06	7.11	9.01	13.2	-37	9.43	
9:05	18.85	90 mL/min		18.15	7.12	9.00	7.5	-37	4.51	
9:10	19.04	"		18.57	7.09	10.1	9.6	-30	5.08	
→ Sample										

70° F, Cloudy

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: B5

Field Personnel: DF+PB Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-26-14 10:16 Condition of seal: ( ) Good ( ) Cracked 7A Brick%

( ) None ( ) Buried

Prot. Casing/Riser Height: _____ Condition of Prot. Casing/Riser: (D unlocked (C) 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: 6-26-14 10:18 Date/Time Completed: _____

Surf. Meas. Point: ( ) Pro Casing (R) Riser Riser Diameter (inches): ~~2~~ 1.5"

Initial Water Level (ft): 11.28 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): 1L Purged to Dryness: Y / N

Purge Observations: Start Cloudy Brown Finish Clear, some particles

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
10:20	11.95	<100ml/min		19.40	7.87	1.87mS/cm	0.0	-90	0.00	
10:25	12.08			18.47	7.43	1.94	710	-70	0.00	
10:30	12.09			18.74	7.27	2.03	306	-62	0.00	
10:35	12.10			18.81	7.21	2.16	211	-60	0.00	
↳	Sample									

74°F, Sun + Hi Clouds

FIELD OBSERVATIONS

Facility: Lonza OKTPB

Sample Point ID: BR5A

SAMPLING INFORMATION

Date/Time: 6-24-14

Water Level at Sampling (ft): 25.80

Method of Sampling: Sample pump

Dedicated: (Y) N

Multi-phased/layered: Y / (N)

if yes: ( ) Light ( ) Heavy

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other
1010	17.92	7.25	1.57 mS/cm	6.5	-64	4.82	

INSTRUMENT CALIFBRATION/CHECK DATA

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

GENERAL INFORMATION

Weather conditions at time of sampling: 78°F overcast

Sample characteristics: orange/brown tint

Comments and Observations:

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

Date: _____ by: _____ Company: _____

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: BRGA

Field Personnel: DK + PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-24-14 13:35

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

(✓) None ( ) Buried

Rusty old stickup, apx 6" tall

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: 6-24-14

Date/Time Completed: 6-24 14:05

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

Riser Diameter (inches) ____

Initial Water Level (ft): 14.09

Elevation G/W MSL: ____

Well Total Depth (ft): ____

Method of Well Purge: Bladder - Low Flow

One (1) Riser Vol (gal): ____

Dedicated: Y / (N)

Total Volume Purged (gal): 5 Liters

Purged to Dryness: Y / (N)

Purge Observations:

Start: Slight tint, clear

Finish: sulfur odor, yellow tint

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
13:40	14.38			23.65	7.80	5.89	35.8	-166	1.23	
13:45	14.75	turned down Flow		20.09	7.66	5.99	37.6	-228	0.00	
13:50	15.35	150 mL/min		18.73	7.56	6.04	47.6	-194	0.00	
13:55	15.90	150mL/min		18.56	7.38	6.03	53.7	-160	0.00	
14:00	16.55	↓		18.31	7.25	6.04	59.4	-144	0.00	
Lab sample						mS/cm				

Sun + Clouds, 80°F, Windy

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: B7

Field Personnel: DK + PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-25-14 14:15

Condition of seal: (✓) Good ( ) Cracked Flip top cap %

( ) 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: 6-25-14 2:18PM

Date/Time Completed: 14:57

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

Riser Diameter (inches) 1.5 in

Initial Water Level (ft): 14.09

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 slight tint Finish

PURGE DATA (if applicable)

mS/cm

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~mhos/cm~~)	Turb. (NTU)	ORP	DO	Other
14:22	16.01	250		21.32	7.37	0.882	38	17	6.83	
14:27	18.09	200 mL/min		18.25	6.88	0.882	22	-1	0.00	
14:29	DRY									
14:34	18.64	letting recharge to sample								
14:42	16.35			19.70	7.20	0.906	31.2	-23	4.57	
14:47	17.46	125 mL/min		19.45	6.97	0.902	24.8	-22	0.00	

Switched pump head from 0-600 RPM to 0-350 RPM

74° F, overcast

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: B7

SAMPLING INFORMATION

Date/Time 6-25-14 Water Level at Sampling (ft) 17.85

Method of Sampling Peristaltic 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
14:52	19.33	6.91	0.899 ms/cm	20.5	-25	DO	Clear, slight tint

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:

Sample characteristics:

Comments and Observations:

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

Date: 6-25-14 by: [signature] Company: Matrix

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: BR7A

Field Personnel: DK+PB Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-25-14 14:05 Condition of seal: ( ) Good ( ) Cracked ____ %

(✓) None ( ) Buried

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

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: 6-25-14 Active pumping well Date/Time Completed: ____

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

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

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

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

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

Purge Observations: Clear Start ____ Finish ____

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~)	Turb. (NTU)	ORP	DO	Other
1405	27.77	←	←	17.35	7.27	1.86 ms/cm	0.0	419	2.58	

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: BR.8

Field Personnel: DK + PB Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-26-14 9:40 Condition of seal: ( ) Good ( ) Cracked ____ %

(✓) None ( ) Buried

Prot. Casing/Riser Height: ____ Condition of Prot. Casing/Riser: (✓) Unlocked (✓) Good ( ) loose ( ) flush mount ( ) Damaged Steel, old, flip top 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: 6-26 9:42 Date/Time Completed: 10:13

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

Initial Water Level (ft): 11.38 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):~~ 3.75L Purged to Dryness: Y / (N)

Purge Observations: Start small particles Finish Yellow tint small particles

PURGE DATA (if applicable)

Time	Water Level	Purge Rate ~~(gpm/hr2)~~	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other
9:45	11.50	200mL/min		20.08	7.32	7.51 mS/cm	30	-118	3.26	
9:50	11.50	125mL/min		18.30	7.91	8.07	7.4	-208	2.91	
9:55	11.50	↓		18.29	7.92	8.12	2.9	-217	0.00	
10:00	11.50	↓		17.91	7.92	8.08	0.0	-221	0.00	
10:05	11.51	↓		17.56	7.93	8.13	0.0	-224	0.00	
↳	Sample									

72°F, Sun + clouds

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: BRG

SAMPLING INFORMATION

Date/Time 6-24-14 Water Level at Sampling (ft) 31.80

Method of Sampling 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
8:40	17.65	6.92	2.40 ms/cm	7.0	-62	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: Overcast, 78°F

Sample characteristics: used sample port from well pumping hose

Comments and Observations:

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

Date: 6/24/14 by: DK + PB Company:

FIELD OBSERVATIONS

Facility: OK+PB

Sample Point ID: B11

Field Personnel: Lonza

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-25-14

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

( ) None ( ) Buried

Prot. Casing/Riser Height: _____

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

( ) loose ( ) flush mount

( ) Damaged _____

if prot casing; depth to riser below: _____

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

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

PURGE INFORMATION

Date/Time Initiated: 12:00

Date/Time Completed: _____

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

Riser Diameter (inches) _____

Initial Water Level (ft): DRY

Elevation G/W MSL: _____

Well Total Depth (ft): _____

Method of Well Purge _____

One (1) Riser Vol (gal): _____

Dedicated: Y / N

Total Volume Purged (gal): _____

Purged to Dryness: Y / N

Purge Observations:

Start _____ Finish _____

PURGE DATA (if applicable)

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

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: B15

Field Personnel: DK + RB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-30-14 11:50

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

( ) None (✓) ~~Buried~~ → partially top of riser bentin/damaged slip cap over riser

Prot. Casing/Riser Height: ____

Condition of Prot. Casing/Riser: ( ) unlocked ( ) Good ( ) loose (✓) ~~flush~~ mount ( ) Damaged No bolts

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: 6-14 11:55

Date/Time Completed: 12:25

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

Riser Diameter (inches) 2"

Initial Water Level (ft): 6.15

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)

mS/cm

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~)	Turb. (NTU)	ORP	DO	Other
~~12:00~~ 12:00	6.76	250 mL/min		25.20	7.42	0.433	52.4	-153	3.30	
12:05	6.74	125 mL/min		21.88	7.28	0.436	23.7	-137	0.00	
12:10	7.20	125		~~12~~ 21.46	7.26	0.439	0.00	-114	0.00	
12:15	7.55	<125		19.88	7.23	0.462	0.10	-103	0.00	
12:20	7.88	<125		19.91	7.20	0.489	0.10	-98	0.00	
~~4~~	Sample									

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: B16

Field Personnel: DK + RB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-30-14 12:25

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

(✓) None ( ) Buried

6" Box

Prot. Casing/Riser Height: ____

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

( ) loose (✓) flush mount

( ) Damaged Bolt not in, Tabs broken

if prot casing; depth to riser below: ____

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

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

PURGE INFORMATION

Date/Time Initiated: 6-30 12:27

Date/Time Completed: 12:50

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

Riser Diameter (inches) 2"

Initial Water Level (ft): 6.65

Elevation G/W MSL: ____

Well Total Depth (ft): ____

Method of Well Purge Peristaltic

One (1) Riser Vol (gal): ~~1.5L~~

Dedicated: Y / (N)

Total Volume Purged (gal): 1.5L

Purged to Dryness: Y / (N)

Purge Observations:

Start Clear, blackfine

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
12:30	7.20	250 mL/min		21.00	7.28	0.857 mS/cm	0.0	-234	0.00	
12:35	7.65	125 mL/min		18.62	7.30	0.899	0.0	-253	0.00	
12:40	7.60	<125		18.28	7.31	0.942	0.0	-245	0.00	
12:45	7.61	<125		17.98	7.30	0.970	0.0	-238	0.00	
→ Sample										

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: B17

Field Personnel: JK + PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-24-14

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

( ) None ( ) Buried

Need snow Box, Filled w/dirt

Prot. Casing/Riser Height: ____

Condition of Prot. Casing/Riser: ( ) unlocked ( ) Good ( ) loose ( ) flush mount ( ) Damaged No bolts

6" 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: 6-24 10:38

Date/Time Completed: 6-24 11:16

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

Riser Diameter (inches) 2"

Initial Water Level (ft): 9.40

Elevation G/W MSL: #

Well Total Depth (ft): ____

Method of Well Purge: Bladder pump bottom of well due to apx. 1.25' water column

One (1) Riser Vol (gal): ____

Dedicated: Y (N)

Total Volume Purged (gal): ____

Purged to Dryness: Y / N

Purge Observations:

Start Brown Finish Brown

PURGE DATA (if applicable)

4.5/cm

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~)	Turb. (NTU)	ORP	DO	Other
10~~:45~~	Bad	seal on	Flow	thru cell,	Fixing it.					
10:56	~~10~~ 9.43			17.81	9.21	12.5	0.10	-94	2.32	
11:01	~~10~~ 9.43			16.51	9.24	12.9	1000+	-low	3.36	
~~11~~:06	~~10~~ 9.48			16.46	9.27	13.4	699	-101	3.96	
11:11	9.42			16.69	9.28	13.4	680	-103	4.12	
			2.5 Liters							

Sample @ 11:13

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: BR 103

Field Personnel: OK + PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 7-1-14 10:35

Condition of seal: ( ) Good (✓) Cracked — Prg top lid, Broken — %

( ) None ( ) Buried

Prot. Casing/Riser Height: _____

Condition of Prot. Casing/Riser: ( ) unlocked (✓) Good ( ) loose (✓) flush mount ( ) Damaged No Bolts

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: 7-1-14 10:42

Date/Time Completed: 11:08

Surf. Meas. Point: (✓) Casing ( ) Riser ~6" mp/gl

Riser Diameter (inches): 6"

Initial Water Level (ft): 6.38

Elevation G/W MSL: _____

Well Total Depth (ft): _____

Method of Well Purge: Peristaltic - Low flo

One (1) Riser Vol (gal): _____

Dedicated: Y / N

Total Volume Purged (gal): 1.5L

Purged to Dryness: Y / N

Purge Observations:

Start Clean Finish Clean

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
10:45	6.55	250 mL/min		23.29	7.35	0.738 mS/cm	0.0	-119	0.11	
10:50	6.60	125		22.21	7.28	0.770	0.0	-133	0.00	
10:55	6.62	175		22.33	7.27	0.768	0.0	-143	0.00	
11:00	6.65	125		22.25	7.28	0.763	0.0	-146	0.00	
↳	Sample									

82°F, Windy, overcast

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: BR104

Field Personnel: 6-30-14

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-30 13:40

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

( ) None ( ) Buried Lid: Protag

Prot. Casing/Riser Height: ____

Condition of Prot. Casing/Riser: (✓) unlocked ( ) Good ( ) loose (✓) flush mount ( ) Damaged NO BOLTS

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: 6-30 13:47 ~~14:15~~

Date/Time Completed: 6/30/14 14:40

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

Riser Diameter (inches) 6"

Initial Water Level (ft): 11.75

Elevation G/W MSL: ____

Well Total Depth (ft): ____

Method of Well Purge Peristaltic

One (1) Riser Vol (gal): ____

Dedicated: Y (✓)

Total Volume Purged (gal): 1.5L

Purged to Dryness: Y (✓)

Purge Observations:

Start clear 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
13:49	10.95	250mL/min		22.54	7.67	0.406	~~0~~ 14	-169	0.00	
13:55	11.16	125mL/min		20.70	7.68	0.418	13.4	-193	0.00	
14:00	11.45			19.08	7.70	0.428	6.6	-203	0.00	
14:05	11.58			18.84	7.71	0.433	4.8	-206	0.00	
	→ Sample									

85F, Clouds/Sun

FIELD OBSERVATIONS

Facility: Lonza

Field Personnel: OK + PB

Sample Point ID: BR 105

Sample Matrix:

MONITORING WELL INSPECTION

Date/Time: 6-27-14 12:20

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

(✓) None ( ) Buried → Protop lid, no regular plug

Prot. Casing/Riser Height:

Condition of Prot. Casing/Riser: ( ) unlocked (✓) Good ( ) loose (✓) flush mount ( ) Damaged No bolts

if prot casing; depth to riser below:

Gas Meter Calibration/Reading: % Gas

Vol. Organic Matter (Calibration/Reading): % LEL:

Volatiles (ppm):

PURGE INFORMATION

Date/Time Initiated: 6-27 12:35 Obstruction @ 22.41

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

Date/Time Completed: 1:05

Initial Water Level (ft): 22.40

Riser Diameter (inches) 6"

Well Total Depth (ft):

Elevation G/W MSL:

One (1) Riser Vol (gal): 1L

Method of Well Purge Bladder

Total Volume Purged (gal):

Dedicated: Y (✓) N

Purge Observations:

Purged to Dryness: Y (✓) N

Start Amber Cloudy orange particles 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
12:40	22.4	125 mL/min		21.35	7.26	3.33 mS/cm	0.0	455	0.00	
12:45	22.41			18.46	7.05	3.63	0.0	-114	0.00	
12:50	22.41			18.32	7.04	3.54	0.0	-100	0.00	
12:55	24.42			18.28	7.00	3.50	0.0	-116	0.00	
→ Sample										

FIELD OBSERVATIONS

Facility: Lonza

Field Personnel: DF+PB

Sample Point ID: BR105D

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-27-14 1:05

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 ____

Vol. Organic Matter (Calibration/Reading): ____ % LEL: ____

Volatiles (ppm): ____

PURGE INFORMATION

Date/Time Initiated: 1:05 25.62

Date/Time Completed: 1:32

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

Riser Diameter (inches) 2"

Initial Water Level (ft): ____

Elevation G/W MSL: ____

Well Total Depth (ft): ____

Method of Well Purge Peristaltic

One (1) Riser Vol (gal): 1L

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/hte~~)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (umhos/cm) mS/cm	Turb. (NTU)	ORP	DO	Other
1:10	26.03	<125	mL/min	24.53	7.37	15.3	0.0	-321	0.00	
1:15	26.36			20.90	7.34	17.2	0.0	-348	0.00	
1:20	26.55			20.58	7.24	17.8	0.0	-358	0.00	
1:25	26.60			20.54	7.18	19	0.0	-360	0.00	
↳	Sample									

FIELD OBSERVATIONS

Facility: Lonza-Arch

Sample Point ID: BR106

Field Personnel: DK + PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-30-14 10:10

Condition of seal: (✓) Good ( ) Cracked pvc casing lid %

( ) None ( ) Buried

Prot. Casing/Riser Height:

Condition of Prot. Casing/Riser: ( ) unlocked ( ) Good ( ) loose (✓) flush mount ( ) Damaged No Bolts

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: 6-30-14 10:20

Date/Time Completed: 11:10

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

Riser Diameter (inches) 6"

Initial Water Level (ft): 23.00

Elevation G/W MSL:

Well Total Depth (ft): 39.50 Bailer stuck in well

Method of Well Purge Peristaltic

One (1) Riser Vol (gal):

Dedicated: Y / (N)

Total Volume Purged (gal): 1.5L

Purged to Dryness: Y / N

Purge Observations:

Start Clear Finish Clear

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~mhos/cm~~ mS/cm)	Turb. (NTU)	ORP	DO	Other
10:25	23.04	125mL/min		19.93	7.33	4.30	57.6	-178	3.80	
10:30	23.05			15.95	7.05	4.72	4.4	-183	0.00	
10:35	23.05			15.00	7.02	4.75	0.0	-185	0.00	
10:40	23.06			14.68	7.03	4.79	0.0	-188	0.00	
↳ Sample w/ MS/MSD										

80°F, Sunshine

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: BR108 PZ103

SAMPLING INFORMATION

Date/Time 6-26-14 14:00 Water Level at Sampling (ft) 28.48

Method of Sampling SS Bailer, only 1.5' of water in well, not enough +- pump Dedicated: Y / N

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

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity ~~(umhos/cm)~~	Turb. (NTU)	ORP	DO	Other
13:55	18.05	6.78	0.759 mS/cm	434	37	8.72	

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: 76°F, Sun

Sample characteristics: cloudy, orange/red particles

Comments and Observations: New lock on protop

Protop in good shape

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

Date: 6-26-14 by: DK + PB Company: _____

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: BR12D

Field Personnel: DKH*B

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-30-14

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

( ) None ( ) Buried

New 2537 Locks

( ) unlocked (✓) Good

Prot. Casing/Riser Height: ____

Condition of Prot. Casing/Riser: ( ) loose ( ) flush mount

( ) Damaged ____

if prot casing; depth to riser below: ____ 2" PVC inside protop

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

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

PURGE INFORMATION

Date/Time Initiated: 36.30 9:54 32 Date/Time Completed: 10:00

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

Initial Water Level (ft): 36.30 Elevation G/W MSL: ____

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

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

Total Volume Purged (gal): 1.5L Purged to Dryness: Y / (N)

Purge Observations: YA used Bailer Start clear Finish ____

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
9:35	36.30	125 mL/min	n/a	18.01	7.12	2.08	0.0	-255	8.00	
9:40	36.30	↓		16.10	7.14	2.13	0.0	-282	0.00	
9:45	36.30			14.90	7.11	2.18 ~~2.93~~	0.0	-293	0.37	
9:50	36.30			14.73	7.08	2.25	0.0	-296	1.46	
9:55	36.30	↓		14.54	7.06	2.72	0.0	-294	1.64	
↳	sample									

16°F Sunny D

FIELD OBSERVATIONS

Facility: Lonza | Sample Point ID: BR 113D

Field Personnel: DK + PB | Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-30-14 8:20 | Condition of seal: ( ) Good ( ) Cracked ____ %

(✓) ~~None~~ ( ) Buried

New 2537 lock

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

( ) loose ( ) flush mount

( ) Damaged ____

Good Pro top

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: 6-30-14 8:37 | Date/Time Completed: 9:11

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

Initial Water Level (ft): 31.31 | Elevation G/W MSL: ____

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

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

Total Volume Purged (gal): 1.75L | Purged to Dryness: Y (✓) N

Purge Observations: | Start Black particles | Finish same

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (~~gpm/hr~~)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~)	Turb. (NTU)	ORP	DO	Other
8:50	31.55	250mL/min		17.25	7.45	2.27	125	-163	6.02	
8:55	31.55	125		14.52	7.10	2.01	100	-177	0.00	
9:00	31.55	125		14.86	7.06	2.00	110	-179	0.00	
9:05	31.60			14.46	7.09	2.01	106	-180	0.92	
↳	Sample									

74°F Sunny

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: BR114

Field Personnel: DK+PB Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-30-14 14:10 Condition of seal: (✓) Good ( ) Cracked ____ %

( ) None ( ) Buried

Prot. Casing/Riser Height: ____ Condition of Prot. Casing/Riser: ( ) Unlocked ( ) Good ( ) loose ( ) Flush mount ( ) Damaged NO Bolts

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: 6-30-14 14:15 Date/Time Completed: 14:40

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

Initial Water Level (ft): 13.72 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): 1.5L Purged to Dryness: Y N

Purge Observations: Start ____ Finish ____

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other
14:20	13.70	250 mL/min		20.67	7.06	2.51 ms/cm	0.0	-139	0.00	
14:25	13.70			19.99	7.04	2.57	0.0	-149	0.00	
14:30	13.70			20.20	7.03	2.58	0.0	-154	0.00	
14:35	13.70			21.22	7.04	2.61	0.0	-162	0.00	
↳ Sample										

85 OF

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: BR MW 116 [redacted] DK

Field Personnel: DK + PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 7-1-14 7:30

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

(✓) None ( ) Buried

Need-sq new road box.

Prot. Casing/Riser Height: ____

Condition of Prot. ( ) unlocked ( ) Good

Casing/Riser: ( ) loose (✓) flush mount

( ) Damaged NVBolts

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: 7-1 7:30

Date/Time Completed: 8 AM

Surf. Meas. Point: ( ) Pro Casing (✓) Riser Steel/case

Riser Diameter (inches) 2-3"

Initial Water Level (ft): 28.13

Elevation G/W MSL: ____

Well Total Depth (ft): ____

Method of Well Purge Bladder

One (1) Riser Vol (gal): ____

Dedicated: Y / N

Total Volume Purged (gal): 1.75L

Purged to Dryness: Y / N

Purge Observations: Low Flow sampling

Start ____ Finish ____

PURGE DATA (if applicable)

Horriba U52

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos~~/cm)	Turb. (NTU)	ORP	DO	Other
7:30	~~28~~ 28.13			22.27	6.82	10.0 mS/cm	88	-114	0.00	
7:35	28.13			22.48	6.87	13.2	97.6	-127	0.00	
7:40	28.13			22.07	6.88	13.6	26	-131	0.00	
7:45	28.13			22.48	6.85	12.7	0.0	-124	0.00	
7:50	28.13			22.54	6.85	12.6	0.0	-124	0.00	
↳ Sample										

78° F, overcast

FIELD OBSERVATIONS

Facility: Lonza | Sample Point ID: BR116D

Field Personnel: DK+PB | Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: ~~DW~~ 7-1-14 8 AM | Condition of seal: ( ) Good ( ) Cracked ____ %
Upside down threaded cap
( ) None (✓) Buried

Prot. Casing/Riser Height: ____ | Condition of Prot. Casing/Riser: ( ) unlocked ( ) Good ( ) loose (✓) flush mount ( ) Damaged No Bolts

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: 7-1-14 8:07 | Date/Time Completed: 8:55

Surf. Meas. Point: ( ) Pro Casing (✓) Riser | Riser Diameter (inches) ~~2"~~ ~~3"~~ 3"-4"

Initial Water Level (ft): 35.64 | Elevation G/W MSL: ____

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

One (1) Riser Vol (gal): ~~1.8~~ | Dedicated: Y (N)

Total Volume Purged (gal): 1L | Purged to Dryness: Y (N)

Purge Observations: Start clear Finish Clear

PURGE DATA (if applicable) Horiba U52

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity ~~(umhos/cm)~~ mS/cm	Turb. (NTU)	ORP	DO	Other
8:18	35.54	125 mL/min		25.77	7.69	0.540	92.6	-100	1.22	
8:23	35.54	<125		24.20	7.11	1.66	83.9	-117	0.00	
8:28	35.54			23.59	7.06	1.88	27.1	-111	0.00	
8:33	35.54			23.81	7.05	1.93	0.0	-99	0.00	
8:38	35.56			23.99	7.06	1.97	0.0	-82	4.20	
↳	Sample									

78°F, Breezy, overcast

FIELD OBSERVATIONS

Facility: Lonza | Sample Point ID: BR117D

Field Personnel: DKYPB | Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-27-14 11:00 | Condition of seal: ( ) Good ( ) Cracked ____ %

( ) None ( ) Buried

Prot. Casing/Riser Height: ____

Condition of Prot. Casing/Riser: Locked ( ) unlocked ( ) Good Slide top ( ) loose ( ) flush mount

( ) Damaged ____

if prot casing; depth to riser below: ____ | New Lock 2537

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

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

PURGE INFORMATION

Obstruction @ apx 49'

Date/Time Initiated: 6-27-14 11:06 | Date/Time Completed: 6-27 11:37

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

Initial Water Level (ft): 49.54 | Elevation G/W MSL: ____

Well Total Depth (ft): 85.00 | Method of Well Purge Bladder

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

Total Volume Purged ~~(gal)~~: 2L | Purged to Dryness: Y / N

Purge Observations: | Start Clear, Yellow tint Finish Same

PURGE DATA (if applicable)

mS/cm

Time	Water Level	Purge Rate (~~gpm~~/ml/min)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~)	Turb. (NTU)	ORP	DO	Other
11:12	49.57	250ml/min		16.09	8.63	0.565	17	-132	0.80	
11:17	49.57	125ml/min		15.04	8.95	0.583	11.6	-138	0.00	
11:22	49.57	↓		14.01	9.09	0.577	7.0	-151	0.00	
11:27	49.57			13.53	9.11	0.579	3.2	-156	0.00	
11:32	49.57			13.80	9.09	0.578	2.0	-161	0.00	
→ sample										

80°F, Flaffy white Cloads

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: BR118D

Field Personnel: DL+PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-27-14 10:00

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

(✓) None ( ) Buried

Metal prot. slide access lid.

Prot. Casing/Riser Height: ____

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

( ) loose ( ) flush mount

( ) Damaged

New 2537 Lock

if prot casing; depth to riser below: ____

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

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

PURGE INFORMATION

Obstruction in well @ approx. 48.5'

Date/Time Initiated: 6-27-14 10:22

Date/Time Completed: 10:53

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

Riser Diameter (inches) 4"

Initial Water Level (ft): 48.58

Elevation G/W MSL: ____

Well Total Depth (ft): 89.80

Method of Well Purge Bladder

One (1) Riser Vol (gal): ____

Dedicated: Y / (N)

Total Volume Purged (gal): 1.5L

Purged to Dryness: Y / (N)

Purge Observations:

Start Slight yellow tint mS/cm

Finish Dark particles

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
10:25	48.74	125 mL/min		18.06	9.03	0.742	7.8	164	1.29	
10:30	48.78			15.79	9.01	0.778	0.0	-190	0.00	
10:35	48.84			14.67	7.91	0.944	0.0	-262	0.00	
10:40	48.88			14.16	7.79	0.952	0.0	-269	0.00	
10:45	48.88			13.88	7.79	0.939	0.0	-27	0.00	
→ Sample										

75°F, Blue sky

FIELD OBSERVATIONS

Facility: Loiza Sample Point ID: BR122D

Field Personnel: DK+PB Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-27-14 Condition of seal: ( ) Good ( ) Cracked ____ %

(✓) None ( ) Buried

Metal/Pro top

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

( ) loose ( ) flush mount

( ) Damaged ____

if prot casing; depth to riser below: ____ puta 2537 Lock on

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

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

PURGE INFORMATION

Date/Time Initiated: 6-27-14 8:10 Date/Time Completed: 8:50 AM

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

Initial Water Level (ft): 45.28 - pump not in Elevation G/W MSL: ____

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

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

Total Volume Purged ~~(gal):~~ 1L Purged to Dryness: Y /(N)

Purge Observations: Start Clear Blackish 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
8:16	45.25	Cell had it Filled				mS/cm Yet				
8:20	45.26	<100mL/min		17.31	7.10	2.55	0.0	-204	0.84	
8:25	45.26	|		16.22	7.04	4.27	0.0	-270	0.00	
8:30	45.25	|		16.07	7.03	4.77	0.0	-283	0.00	
8:35	45.25	↓		16.26	6.97	5.07	0.0	-296	0.00	
	→ Sample									

74 °F, Sunny

FIELD OBSERVATIONS

Facility: Lonza | Sample Point ID: BR123D

Field Personnel: DK + PB | Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-27-14

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

Prot. Casing/Riser Height: ____

Condition of (Prot) Casing/Riser: ( ) unlocked (✓) Good Locked
( ) loose ( ) flush mount
( ) Damaged ____
New 2537 Lock

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: 6-27-14 9807

Date/Time Completed: 9:31

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

Riser Diameter (inches) 4"

Initial Water Level (ft): ____

Elevation G/W MSL: 45.47

Well Total Depth (ft): ____

Method of Well Purge Bladder pump

One (1) Riser Vol (gal): 2L

Dedicated: Y / (✓)

Total Volume Purged (gal): ____

Purged to Dryness: Y / (✓)

Purge Observations: Start Cloudy, Black particles, strong 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
9:10	45.41	250mL/min		14.50	7.86	2.13	6.3	-277	0.04	
9:15	45.40			12.71	7.88	2.13	0.0	-279	0.00	
9:20	45.41			12.33	7.91	2.11	0.0	-270	0.00	
9:25	45.41			12.22	8.05	2.12	0.0	-266	1.47	
↳	Sample									

75°F, Sunny

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: BR27

SAMPLING INFORMATION

Date/Time 6-25-14 12:40 Water Level at Sampling (ft) Pumping

Method of Sampling Samples From extraction tubing 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
12:41	16.15	7.59	4.52 mS/cm	0.6	-123	0.84	

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: 74°F, Rain

Sample characteristics: Well has large enclosure over it

Comments and Observations: Clear, slight tint

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

Date: 6-25-14 by: DK + PB Company:

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: E3

Field Personnel: DKC + PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-25-14

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

(✓) None ( ) Buried

Prot. Casing/Riser Height: ____

Condition of Prot. Casing/Riser: (✓) Unlocked ( ) Good

( ) loose ( ) flush mount

(✓) Damaged Bent

no real plug, broken flip 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: 8:22 AM 6-25

too bent to use bladder

Date/Time Completed: 8:48

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

Riser Diameter (inches) 2" metal

Initial Water Level (ft): 4.79

Elevation G/W MSL: ____

Well Total Depth (ft): ____

Method of Well Purge Peristaltic

One (1) Riser Vol (gal): ____

Dedicated: Y / (✓)

Total Volume Purged (gal): 5L

Purged to Dryness: Y / N

Purge Observations:

Start dark tint Finish slight ~~yell~~ Amber tint

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
8:25	5.72			19.45	6.30	3.76	1000	-1	0.00	
8:30	6.23		2L	18.47	6.90	3.63 mS/cm	243	-136	0.00	
8:35	6.34			18.50	7.13	3.59 mS/cm	52.6	-145	0.00	
8:40	6.40	250mL/min		18.72	7.16	3.75	26.8	-136	0.00	
8:45	6.54			18.49	7.15	3.86	20.5	-128	0.00	
	→ sample									

70°F Light rain

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: MW103

Field Personnel: DK+BB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 7-1-14 11:10

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

Prot. Casing/Riser Height: ____

Condition of Prot. Casing/Riser: ( ) unlocked (X) Good
( ) loose (X) flush mount
( ) Damaged NO BOLTS

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: 7-1-14 11:10

Date/Time Completed: 11:35

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

Riser Diameter (inches) 2"

Initial Water Level (ft): 1.92

Elevation G/W MSL: ____

Well Total Depth (ft): ____

Method of Well Purge Peristaltic Low Flow

One (1) Riser Vol (gal): 1.5L

Dedicated: Y / N

Total Volume Purged (gal): ____

Purged to Dryness: Y / N

Purge Observations: Start Clear Finish Clear

Horiba U52 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
11:11	2.55	250 ml/min		26.02	7.32	0.583	0.0	-59	2.44	
11:16	2.65	125 ml/min		25.16	7.20	0.596	0.0	-86	0.00	
11:21	2.78	125		24.72	7.18	0.604	0.0	-85	0.00	
11:26	2.90	125		24.46	7.16	0.607	0.0	-90	0.00	
↳	Sample									

840 = Overcast Breezy

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: MW-104

Field Personnel: DCT PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-30-14 13:00

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

( ) None ( ) Buried

Prot. Casing/Riser Height: ____

Condition of Prot. Casing/Riser: ( ) unlocked ( ) Good ( ) loose (✓) flush mount ( ) Damaged NO BOLTS

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: 6-30-14 13:12

Date/Time Completed: 13:42

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

Riser Diameter (inches) 2"

Initial Water Level (ft): 7.32

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): 1.5L

Purged to Dryness: Y / (N)

Purge Observations:

Start cloudy 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
13:15	~~7.80~~ 8.10	250mL/min		25.20	7.57	0.674 mS/cm	1000+	-146	0.17	
13:20	8.45	250		24.24	7.43	0.691	894	-169	0.00	
13:25	10.42	250		22.55	7.38	0.696	319	-178	0.00	
13:30	11.57	125mL/min		21.78	7.35	0.707	277	-180	0.00	
13:35	12.60	125		21.64	7.34	0.712	240	-178	0.00	
↳ Sample										

85° F Hot!!

FIELD OBSERVATIONS

Facility: Lonza | Sample Point ID: MW106

Field Personnel: DK+PB | Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-26-14 14:00

1' of water in well

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

( ) None ( ) Buried

Prot. Casing/Riser Height: ____

Condition of Prot. Casing/Riser: (✓) unlocked ( ) Good ( ) loose (✓) flush mount ( ) Damaged NO BOLTS

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: 6-26-14 ~~11:21~~ 14:10

Date/Time Completed: 6-26 14:45

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

Riser Diameter (inches) 2"

Initial Water Level (ft): 11.31

Elevation G/W MSL: ____

Well Total Depth (ft): ____

Method of Well Purge ____

One (1) Riser Vol (gal): ____

Dedicated: Y / N

Total Volume Purged (gal): 1.25L

Purged to Dryness: Y / N

Purge Observations:

Start Brown tint

Finish Clear slight tint

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
14:20	~~12.31~~	125 mL/min		23.84	6.83	1.61 mS/cm	174	-118	0.00	
14:25	12.35			21.54	6.76	1.70	95.2	-123	0.19	
14:30	12.35			20.42	6.71	2.08	0.0	-126	0.00	
14:35	12.36			19.93	6.73	2.32	0.0	-135	0.00	
→ Sample										

80°F SUN

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: MW14

Field Personnel: OK + PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-30-14

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

(/) None ( ) Buried

No plug

Prot. Casing/Riser Height: ____

Condition of Prot. Casing/Riser: ( ) unlocked ( ) Good ( ) loose (/) flush mount ( ) Damaged No Bolts

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: 6-30 14:42

Date/Time Completed: 15:10

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

Riser Diameter (inches) 2" PVC

Initial Water Level (ft): 9.78

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): 1.5L

Purged to Dryness: Y (N)

Purge Observations:

Start Clear Finish Clear

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
14:45	10.38	250mL/min		21.48	7.51	0.834	0.0	-70	0.00	
14:50	10.68	~~mL~~/250mL/min		19.34	7.48	0.873	0.0	-94	0.00	
14:55	10.97	~~mL~~/250mL/min		19.38	7.47	0.853	0.0	-92	0.00	
15:00	11.23	"		19.50	7.46	0.832	0.0	-87	0.00	
↳	sample									

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: MW127

Field Personnel: DK + PB Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-25-14 12:05 Condition of seal: (✓) Good ( ) Cracked ____ %

( ) None ( ) Buried

Good plug + protector

Condition of Prot. (✓) Unlocked (✓) Good

Prot. Casing/Riser Height: ____ Casing/Riser: ( ) 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: 6-25-14 12:08 Date/Time Completed: 12:38

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

Initial Water Level (ft): 7.16 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): 5L Purged to Dryness: Y / N

Purge Observations: Start Clear 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
12:10	7.80	250mL/min		20.86	7.15	5.43	36.4	-153	3.19	
12:15	8.19	200mL/min		19.52	7.52	5.55	0.0	-189	0.00	
12:20	8.31	↓		19.01	7.61	5.63	0.0	-187	0.00	
12:25	8.45	↓		18.90	7.62	5.61	0.0	-178	0.00	
12:30	8.55	↓		18.64	7.62	5.63	0.0	-174	0.00	
	↳ Sample									

74°F Rain

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: NESS-E

Field Personnel: DK + PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 7-1-14 9:10

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

(✓) None ( ) Buried

Grant Manhole cover

Prot. Casing/Riser Height: ____

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

( ) loose (✓) flush mount

( ) Damaged ____

well is 4ft x 6' down in confined space

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: 7-1 9:15

Date/Time Completed: 9:50

Surf. Meas. Point: (✓) Pro Casing ( ) Riser 5 1/4 in

Riser Diameter (inches) 4"-7

Initial Water Level (ft): Lip that cover 24.67

Elevation G/W MSL: ____

Well Total Depth (ft): ____

Method of Well Purge Bladder - Low Flow

One (1) Riser Vol (gal): ____

Dedicated: Y / (N)

Total Volume Purged (gal): 1.25 L

Purged to Dryness: Y / (N)

Purge Observations:

Start clear Finish clear

PURGE DATA (if applicable) Horriba U52

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~)	Turb. (NTU)	ORP	DO	Other
9:20	25.25	250mL/min		19.57	6.77	1.64 mS/cm	0.0	-67	1.08	
9:25	26.05	125mL/min		17.52	6.75	1.77	0.0	-71	2.68	
9:30	26.25	90mL/min		20.11	6.74	1.69	0.0	-68	5.74	
9:35	26.25	↓		21.75	6.72	1.66	0.0	-71	6.26	
9:40	26.30	↓		23.08	6.71	1.61	0.0	-74	6.97	
↳	sample									

80°F, Overcast, breezy

FIELD OBSERVATIONS

Facility: Lonza | Sample Point ID: NESS-W

Field Personnel: OKHPB | Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 7-1-14 9:56 | Condition of seal: ( ) Good ( ) Cracked ____ %

( ) None ( ) Buried

Giant Manhole

( ) unlocked (✓) Good

Prot. Casing/Riser Height: ____ | Condition of Prot. Casing/Riser: ( ) 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: 7-1-14 10AM | Date/Time Completed: 10:30

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

↳ Lip thatfld sits on | Riser Diameter (inches) 4"-2 Reference Well

Initial Water Level (ft): 31.25 | Elevation G/W MSL: ____

Well Total Depth (ft): ____ | Method of Well Purge Bladder pump Low Flow

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

Total Volume Purged (gal): 1.5L | Purged to Dryness: Y / N

Purge Observations: | Start Clear 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
10:05	31.26	~~400 ML~~ 125 ML/MIN		22.46	7.19	1.79 mS/cm	0.0	-130	1.96	
10:10	31.27			19.68	7.19	1.88	0.0	-220	0.00	
10:15	31.30			18.95	7.22	1.88	0.0	-238	0.00	
10:20	31.30			18.76	7.23	1.88	0.0	-237	0.00	
↳ SAMPLE										

80°F, wind, overcast

FIELD OBSERVATIONS

Facility: Lonza | Sample Point ID: PW10

Field Personnel: 6-24-14 | Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-24-14 | Condition of seal: Steel Vault (✓) Good ( ) Cracked ____ %

( ) None ( ) Buried

pumpstock in well, no plug

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: 6-24 11:27 | Date/Time Completed: ____

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

Initial Water Level (ft): 9.11 | Elevation G/W MSL: ____

Well Total Depth (ft): ____ | Method of Well Purge Bladder pump set @ 11'

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

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

Purge Observations: | Start Yellowish tint | Finish Yellow tint

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other
11:30	9.50			22.85	8.55	11 ms/cm	20.1	56	1.08	
11:35	9.85	125mL/min		19.72	7.63	11.6	11.1	25	0.00	
11:40	10.16			19.84	7.55	11.6	10.6	23	0.06	
11:45	10.40		2L	Sample						

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: PW10

SAMPLING INFORMATION

Date/Time 6-24-14 Water Level at Sampling (ft)

Method of Sampling Bladder - Lo-Flow Dedicated: Y (N)

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

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity ~~(umhos/cm)~~ mS/cm	Turb. (NTU)	ORP	DO	Other
11:45	19.76	7.56	11.6	10.6	23	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, Sun + clouds

Sample characteristics: Yellow tint to water

Comments and Observations:

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

Date: _____ by: _____ Company: _____

FIELD OBSERVATIONS

Facility: Lorza

Sample Point ID: PW12

Field Personnel: DK+PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-24-14 9Am

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

(X) None ( ) Buried no plug

Prot. Casing/Riser Height: ____

Condition of Prot. Casing/Riser: ( ) unlocked ( ) Good ( ) loose ( ) flush mount ( ) Damaged Rusty old steel vault

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: 6-24-14 9:07Am

Date/Time Completed: ____

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

Riser Diameter (inches) ____

Initial Water Level (ft): 6.79

Elevation G/W MSL: ____

Well Total Depth (ft): ____

Method of Well Purge Bladder pump @ bottom of well

One (1) Riser Vol (gal): ____

Dedicated: Y / (N)

Total Volume Purged (gal): ____

Purged to Dryness: Y / N

Purge Observations:

Start clear Finish Brown tint

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
9:11	6.92	not enough water								
9:12	6.93			21.61	8.52	.223	56.1	23	3.54	
9:17	6.91			22.04	8.75	.225	56.2	29	3.24	
9:22	6.91			22.24	8.82	.226	54.4	31	3.47	
9:25	sample	750mL								

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: PW13

SAMPLING INFORMATION

Date/Time 6-25-14 1:05 PM Water Level at Sampling (ft) 26.45

Method of Sampling Sample Port Dedicated: Y (N/A)

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

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other
13:10	17.64	7.13	2.78 mS/cm	0.0	-110	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, Rain

Sample characteristics: Clear

Comments and Observations:

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

Date: 6-25 by: DK+PB Company:

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: PW14

SAMPLING INFORMATION

Date/Time 6-25-14 11:15 Water Level at Sampling (ft) 23.50

Method of Sampling Sample pump Dedicated: (Y) N

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

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity ~~(umhos/cm)~~ mS/cm	Turb. (NTU)	ORP	DO	Other
11:15	26.07	7.11	4.05	28	16	4.02	2.59 TDS

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: 74°F, Rain

Sample characteristics: Clear w/a tint + debris

Comments and Observations: Sample Enclosure Box surrounds well.

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

Date: 6-25-14 by: DK + PB Company:

FIELD OBSERVATIONS

Facility: Alt Lonza Sample Point ID: PW15

SAMPLING INFORMATION

Date/Time 6-24-14 14:30 Water Level at Sampling (ft) 10.35

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

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

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other
14:30	17.78	9.38	7.99 ms/cm	0.0	-214	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, Clouds, windy

Sample characteristics: Dark Brown tint

Comments and Observations: Dedicated enclosure

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

Date: 6-24-14 by: DK+BB Company: _____

FIELD OBSERVATIONS

Facility: Conoco Sample Point ID: PW6

SAMPLING INFORMATION

Date/Time 6-26-14 9:30 Water Level at Sampling (ft) 20.61

Method of Sampling Active 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
9:33	17.72	7.12	8.21 mS/cm	0.0	-109	5.60	

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: 70°F, Cloudy

Sample characteristics: Clear, black particles

Comments and Observations: Good Vault around well

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

Date: 6-26-14 by: DK+PB Company: Matrix

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: PW17

SAMPLING INFORMATION

Date/Time 6-24-14 2:20 PM Water Level at Sampling (ft) 31.15

Method of Sampling 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
14:20	20.41	7.31	7.63 mS/cm	0.0	213	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: Sunny, 80°F, Wind

Sample characteristics: Clear yellow tint, ~~##~~ sch Finodon

Comments and Observations: 8", no plug (orange cone is plug) Fiberglass hut over well, no lock, casing in good shape

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

Date: 6-24-14 by: DK + PB Company: _____

FIELD OBSERVATIONS

Facility: Lonza | Sample Point ID: PZ101

Field Personnel: DKF PB | Sample Matrix: Gw

MONITORING WELL INSPECTION

Date/Time: 6-26-14 11:08 | 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: ____ | New Lock 2537

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

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

PURGE INFORMATION

Date/Time Initiated: 6-26-14 11:15 | Date/Time Completed: 11:55

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

Initial Water Level (ft): 14.78 | Elevation G/W MSL: ____

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

One (1) Riser Vol (gal): 4L | Dedicated: Y / (N)

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

Purge Observations: | Start Clean Finish Clean

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~)	Turb. (NTU)	ORP	DO	Other
11:18	15.26	250 mL/min		19.10	7.03	1.09 ms/cm	0.0	33	1.66	
11:23	15.48	250		17.62	6.84	1.12	0.0	32	0.00	
11:28	15.51	125		18.13	6.79	1.13	0.0	-9	0.00	
11:33	15.78	↓		18.03	6.78	1.13	0.0	-10	0.00	
11:38	15.	↓		17.95	6.77	1.12	0.0	-1	0.00	
	15.98									

→ Sample

75°F, white puffy clouds

FIELD OBSERVATIONS

Facility: Lonza | Sample Point ID: PZ102

Field Personnel: DK + PB | Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 11:55 6-26-14 | Condition of seal: (✓) Good ( ) Cracked ____ %

( ) None ( ) Buried

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

( ) loose ( ) flush mount

( ) Damaged

if prot casing; depth to riser below: ____ | New #537 Lock

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

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

PURGE INFORMATION

Date/Time Initiated: 6-26-14 12:00 | Date/Time Completed: 12:27

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

Initial Water Level (ft): 13.32 | 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): 1.75L | Purged to Dryness: Y / N

Purge Observations: | Start Clear particles | Finish Clear some particles

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
12:02	13.61	125mL/min		19.93	6.78	2.45 mS/cm	0.0	-81	3.58	
12:07	13.61			18.93	6.83	2.80	0.0	-88	0.00	
12:12	13.62			18.98	6.86	2.94	0.0	-91	0.00	
12:17	13.64			19.22	6.87	2.99	0.0	-93	0.00	
→ sample										

75°F, Scattered clouds

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: P2103

Field Personnel: DFC+PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-26-14 12:55

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

( ) None (✓) Buried

Prot. Casing/Riser Height: ____

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

( ) loose ( ) flush mount

(✓) Damaged tab on lid broken can't lock

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: 6-26-14 1:00PM

Date/Time Completed: 1:30pm

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

Riser Diameter (inches) 2"

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): 1.5L

Purged to Dryness: Y / (N)

Purge Observations:

Start clear debris

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
1:05	14.05	180 mL/min		20.27	6.92	4.74 ms/cm	0.0	-157	0.00	
1:10	14.55	125 mL/min		19.20	7.05	5.10	0.0	-192	0.00	
1:15	15.18			18.88	7.10	5.29	0.0	-231	0.00	
1:20	14.35			18.96	7.10	5.26	0.6	-247	0.00	
→	sample									

76°F, Sun + clouds

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: PZ104

Field Personnel: DK + PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-30-14 11:15

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

( ) None ( ) Buried

needs a new 2" plug

Prot. Casing/Riser Height: ____

Condition of Prot. Casing/Riser: ( ) Unlocked (✓) Good

( ) loose (✓) flush mount

( ) Damaged NO Bolts

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: 6-30-14 11:20

Date/Time Completed: 11:50

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

Riser Diameter (inches) 2"

Initial Water Level (ft): 13.83

Elevation G/W MSL: ____

Well Total Depth (ft): ____

Method of Well Purge Peristaltic

One (1) Riser Vol (gal): ____

Dedicated: Y (✓)

Total Volume Purged (gal): 1.5L

Purged to Dryness: Y (✓) N

Purge Observations:

Start Clear Finish ____

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other
11:25	13.88	125 mL/min		24.37	7.06	3.64 mS/cm	0.0	-139	0.92	
11:30	13.89	↓		22.07	7.00	3.70	0.0	-151	0.00	
11:35	13.89			21.62	6.99	3.69	0.0	-157	0.00	
11:40	13.89			21.45	6.99	3.69	0.0	-154	0.00	
↳	Sample									

Sunt clouds 80°F

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: PZ105

Field Personnel: DK + PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-25-14 9:10

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

( ) None ( ) Buried

Prot. Casing/Riser Height: ____

Condition of Prot. Casing/Riser: ( ) unlocked (✓) Good ( ) loose ( ) flush mount ( ) Damaged No bolts, box doesn't have any place for bolts, 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: 6-25-14 9:12

Date/Time Completed: 9:34

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

Riser Diameter (inches) ____

Initial Water Level (ft): 9.20

Elevation G/W MSL: ____

Well Total Depth (ft): ____

Method of Well Purge Peristaltic

One (1) Riser Vol (gal): ____

Dedicated: Y (✓)

Total Volume Purged (gal): 4 Liters

Purged to Dryness: Y / N

Purge Observations:

Start tint Finish Black tint

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (gpm/htz)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~)	Turb. (NTU)	ORP	DO	Other
9:15	11.05			19.84	7.26	2.03 ms/cm	350	-121	0.00	
9:20	12.95		2L	18.49	7.55	10.7 ms/cm	387	-121	0.00	
9:25	14.45			18.20	7.56	1.69	349	-123	0.00	
9:30	15.03			18.18	7.58	1.86	338	-133	0.00	
↳	Sample									

74°F Rain

FIELD OBSERVATIONS

Facility: Lonza

Sample Point ID: PZ106

Field Personnel: DK + PB

Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-25-14 10:35 Wed.

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

( ) None ( ) Buried

Obstruction in well apx 3' down

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: 6-25-14 10:39

Date/Time Completed: 11:10AM 6-25-14

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

Riser Diameter (inches) 2"

Initial Water Level (ft): 11.39

Elevation G/W MSL: ____

Well Total Depth (ft): ____

Method of Well Purge ____

One (1) Riser Vol ~~(gal):~~ ____

Dedicated: Y / (✗)

Total Volume Purged ~~(gal):~~ 5 L

Purged to Dryness: Y / (✗)

Purge Observations: Start slightly tint Finish clear, amber

PURGE DATA (if applicable)

Time	Water Level	Purge Rate (~~gpm/hr~~)	Cumulative Volume	Temp (C)	pH (SU)	Conductivity (~~umhos/cm~~)	Turb. (NTU)	ORP	DO	Other
10:40	11.95	250 mL/min		19.01	8.16	3.90 mS/cm	0.0	-127	5.97	
10:45	12.85	"		18.70	9.50	4.01	0.0	-163	0.00	
10:50	13.13	200 mL/min		18.03	9.53	4.17	0.0	-180	0.00	
10:55	13.32	↓		17.81	9.54	4.25	0.0	-186	0.00	
11:00	13.34	↓		17.78	9.54	4.29	0.0	-190	0.00	
sample										

74°F, Rain

FIELD OBSERVATIONS

Facility: Lonza | Sample Point ID: PZ107

Field Personnel: DK+PB | Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-25-14 9:47 | Condition of seal: (✓) Good ( ) Cracked ____ %

( ) None ( ) Buried 2"

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: 6-25 9:49 | Date/Time Completed: 6-25 10:28

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

Initial Water Level (ft): 9.77 | 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): 5L | Purged to Dryness: Y / (N)

Purge Observations: | Start clear Finish clear

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
9:53	10.44	250 mL/min		19.43	7.12	0.764	5.3	116	0.62	
9:58	10.54			18.12	7.05	0.792	1.7	-120	0.00	
10:03	10.58			16.54	7.05	0.774	3.7	-121	0.00	
10:08	10.73			15.51	7.05	0.755	0.1	-122	0.00	
10:13	10.74			15.11	7.06	0.755	0.0	-125	0.00	
↳ SAMPLE			including MS/MSD							

74°F, Rain

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: QD1

SAMPLING INFORMATION

Date/Time 7-1-14 QD1 Water Level at Sampling (ft) —

Method of Sampling Bucket Grab of Flowthrough Dedicated: Y (N)

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

SAMPLING DATA

Horiba U52

Time	Temp (C)	pH (SU)	Conductivity ~~(umhos/cm)~~	Turb. (NTU)	ORP	DO	Other
12:50	23.49	8.05	2.07 mS/cm	0.0	51	8.40	

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: 85°F, Breezy, 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: 7-1-14 by: DK+PB Company: Matrix

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: OO2

SAMPLING INFORMATION

Date/Time 7-1-14 Water Level at Sampling (ft) —

Method of Sampling Bucket grab of outfall 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
13:55	24.90	8.19	2.09 ms/cm	0.0	47	8.27	

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: 85°F, Sun, Breezy

Sample characteristics: clear

Comments and Observations:

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

Date: 7-14 by: DC HB Company: Matrix

FIELD OBSERVATIONS

Facility: Conza

Sample Point ID: QO251

SAMPLING INFORMATION

Date/Time 7-1-14

Water Level at Sampling (ft) Canal

Method of Sampling Bucket Grab From Erie Canal

Dedicated: Y / ~~N~~

Multi-phased/layered: Y / ~~N~~

if yes: ( ) Light ( ) Heavy

SAMPLING DATA

Time	Temp (C)	pH (SU)	Conductivity (umhos/cm)	Turb. (NTU)	ORP	DO	Other
2:02pm	27.01	8.18	0.474 ms/cm	0.0	47	5.59	

INSTRUMENT CALIFBRATION/CHECK DATA

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

GENERAL INFORMATION

Weather conditions at time of sampling: 85°F, Sunny & Breezy

Sample characteristics: Clean

Comments and Observations:

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

Date: 7-1-14 by: DK & PB Company: Matrix

FIELD OBSERVATIONS

Facility: Lonza Sample Point ID: QSC4

SAMPLING INFORMATION

Date/Time 7/1/14 12:25 Water Level at Sampling (ft)

Method of Sampling Catch seep water OFF wall Dedicated: Y / N

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

SAMPLING DATA

Horiba U52

Time	Temp (C)	pH (SU)	Conductivity ~~(umhos/cm)~~	Turb. (NTU)	ORP	DO	Other
12:25	20.59	8.18	2.10 mS/cm	0.00	13	10.30	

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: 84F, Overcast

Sample characteristics: Clear, Slight sulfur odor in area

Comments and Observations:

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

Date: 7/1/14 by: DVC+BB Company: Matrix

FIELD OBSERVATIONS

Facility: Lonza | Sample Point ID: MW5

Field Personnel: DK + PB | Sample Matrix: GW

MONITORING WELL INSPECTION

Date/Time: 6-25-14 13:15 | Condition of seal: ( ) Good ( ) Cracked ____ %

(✓) None ( ) Buried

Prot. Casing/Riser Height: ____ | Condition of Prot. 3' Diameter steel lid Giant Concrete Lock (✓) unlocked ( ) Good

Casing/Riser: ( ) 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: 6-25-14 1:19PM | Date/Time Completed: 14:00

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

Initial Water Level (ft): 6.94 | 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):~~ 1L | Purged to Dryness: (Y) N

Purge Observations: | Start Brownish Finish Brown tint, particles

PURGE DATA (if applicable)

Time	Water Level	Purge Rate ~~(gpm/hr)~~	Cumulative Volume	Temp (C)	pH (SU)	Conductivity ~~(umhos/cm)~~	Turb. (NTU)	ORP	DO	Other
13:20	8.72	250mL/min		20.32	7.66	0.275 mS/cm	341	-57	7.48	
13:25	9.50	200		20.06	7.68	0.247	107	-30	6.15	
13:30	DRY - stopped pumping									
13:35	~~DRY~~	low volume in well, let recharge to get sample								
13:45	~~DRY~~	sample								

74°F, overcast, slight Breeze

FIELD OBSERVATIONS

Facility: _____ Sample Point ID: _____

SAMPLING INFORMATION

Date/Time _____ Water Level at Sampling (ft)

Method of Sampling _____ 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

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, Sun, Clouds, Windy

Sample characteristics: _____

Comments and Observations: _____

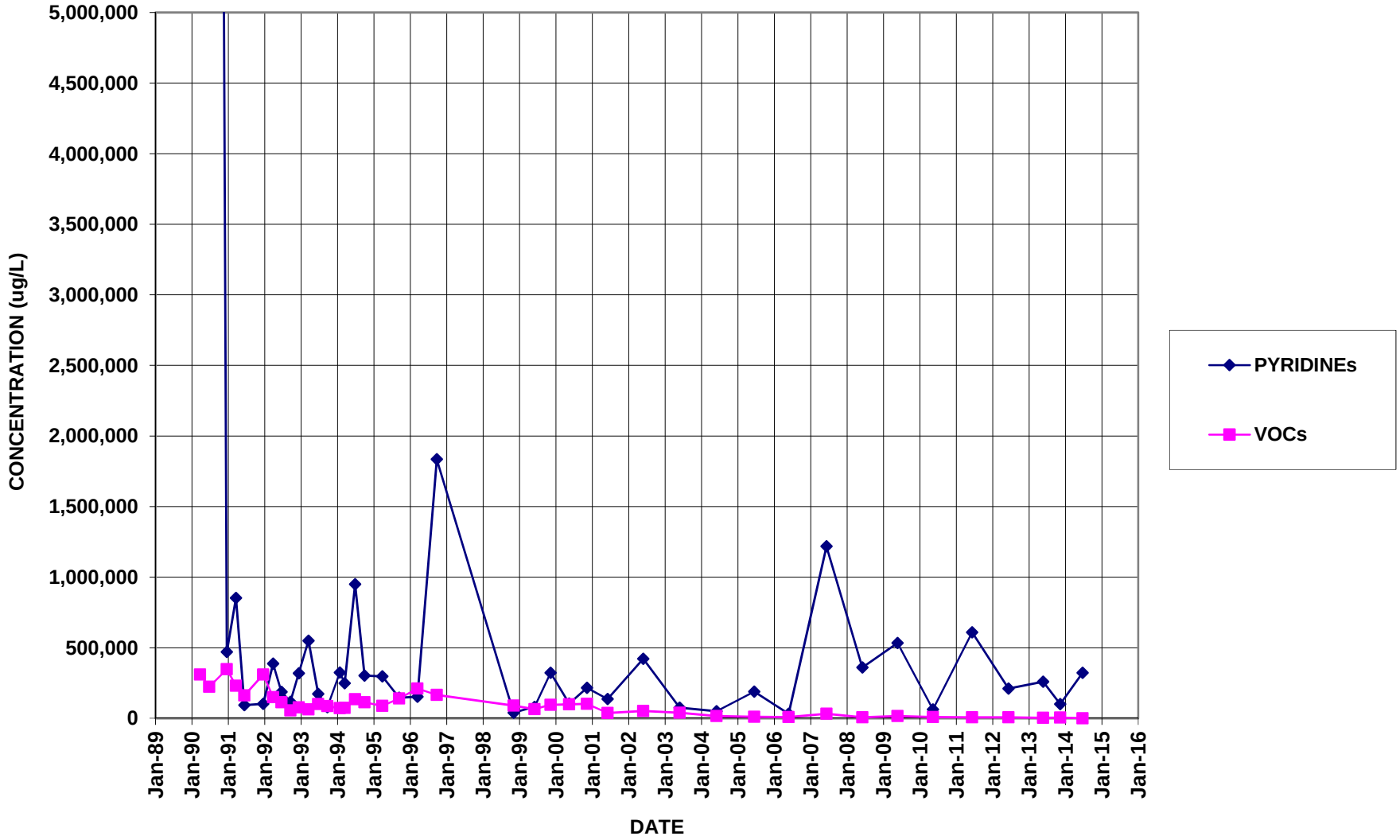
I certify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific protocols:

Date: _____ by: _____ Company: _____

Appendix B

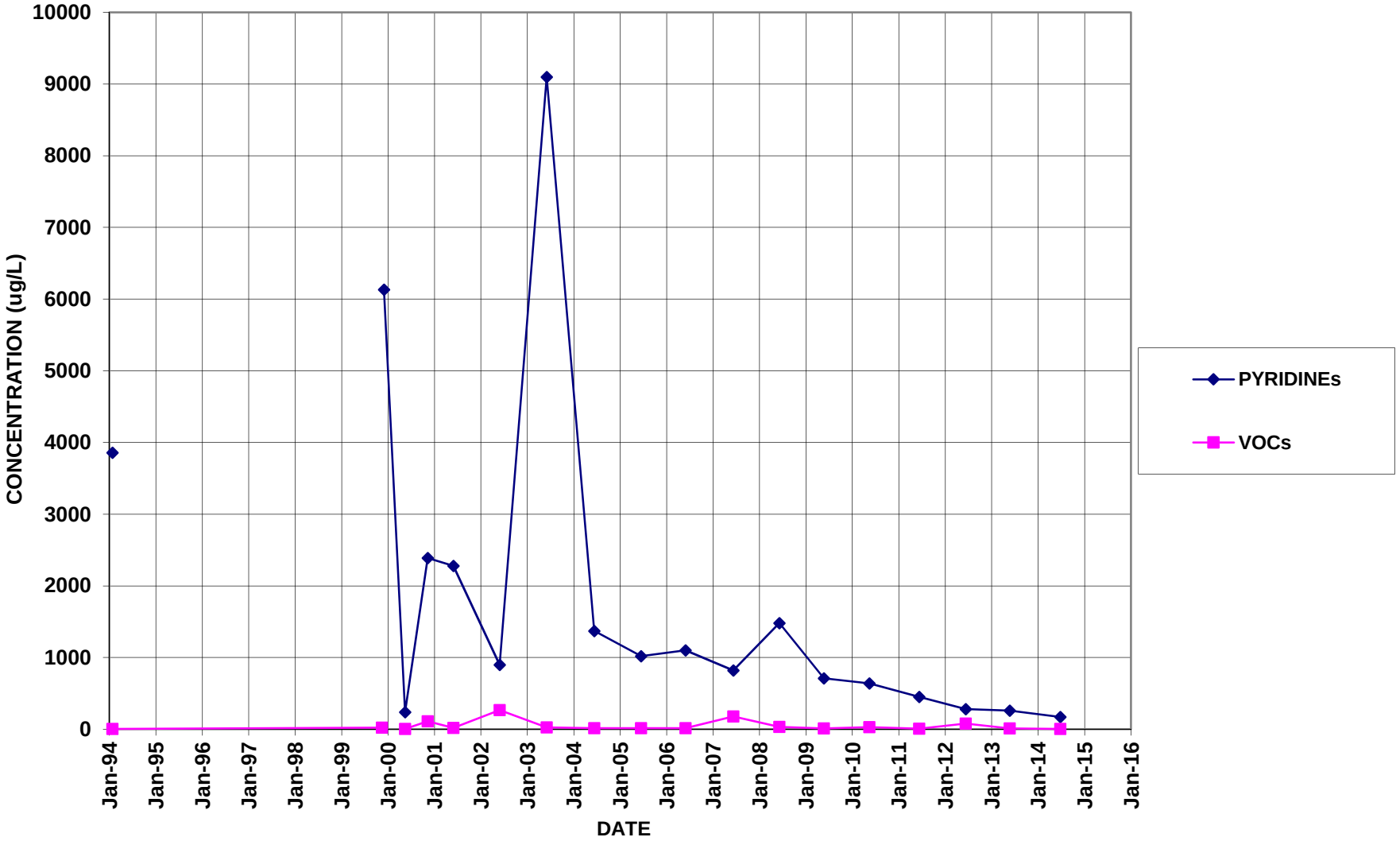
Well Trend Data

B-17



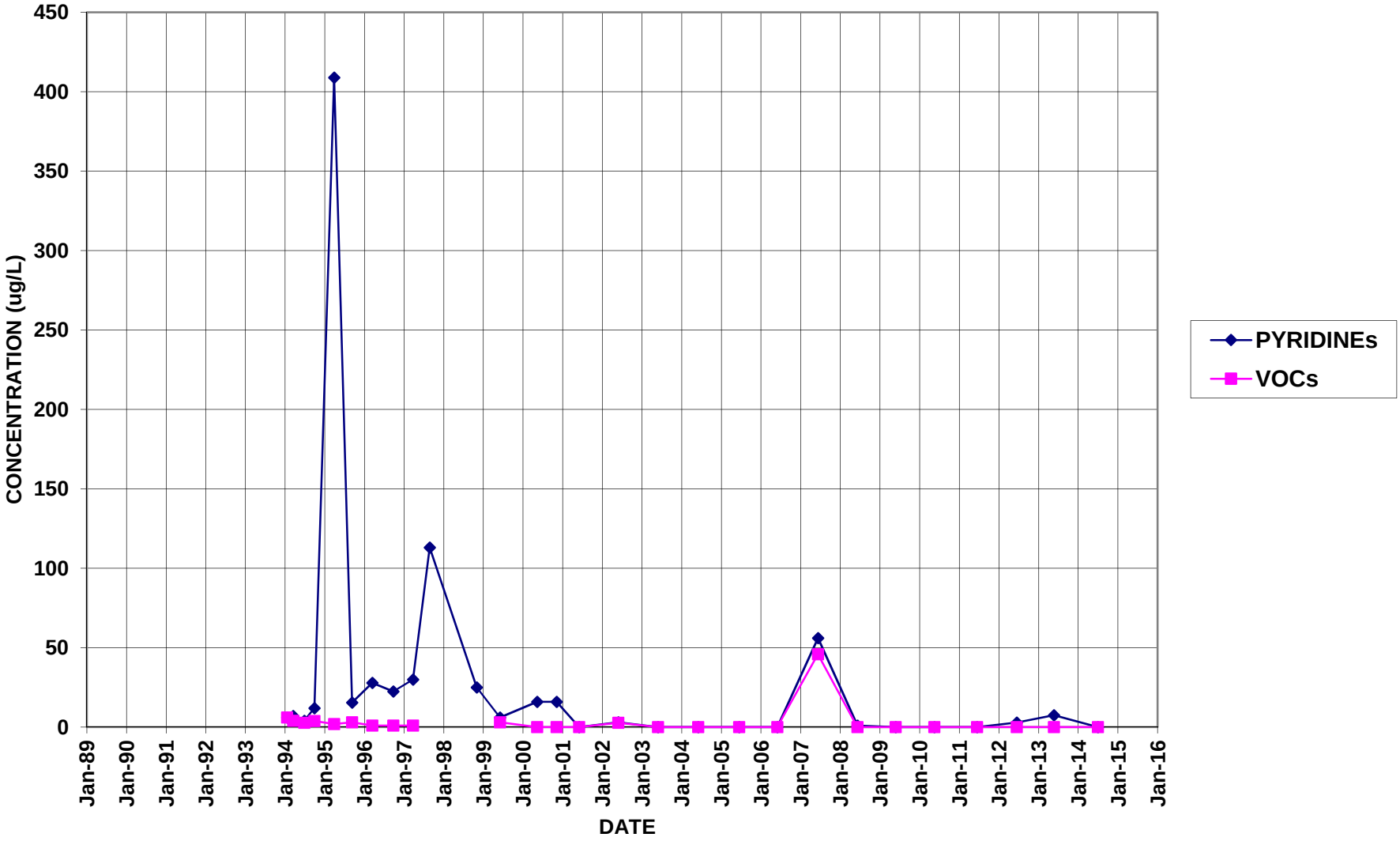
Prepared by: jeb
Reviewed by: nmb

B-7



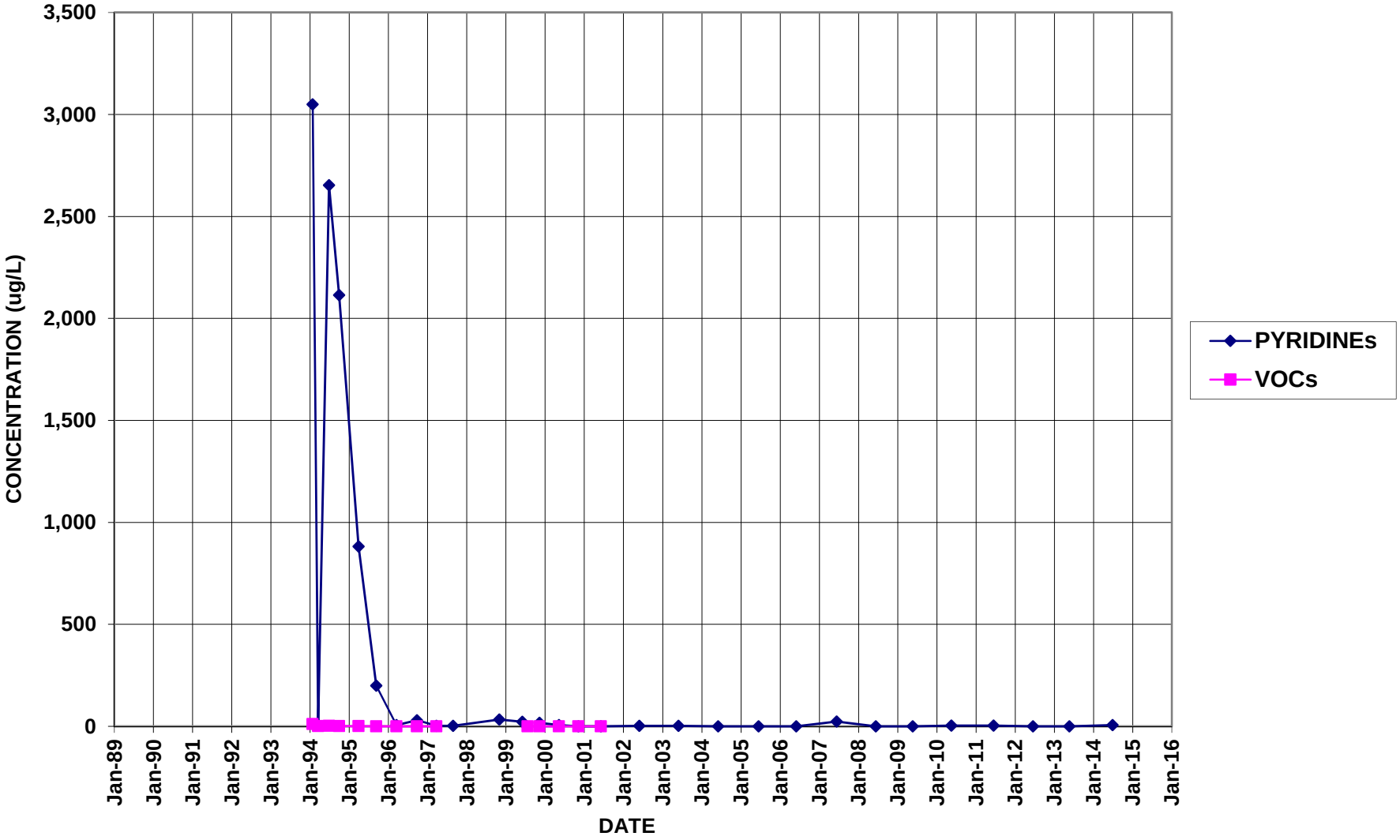
Prepared by: nmb
Reviewed by: jeb

BR-103

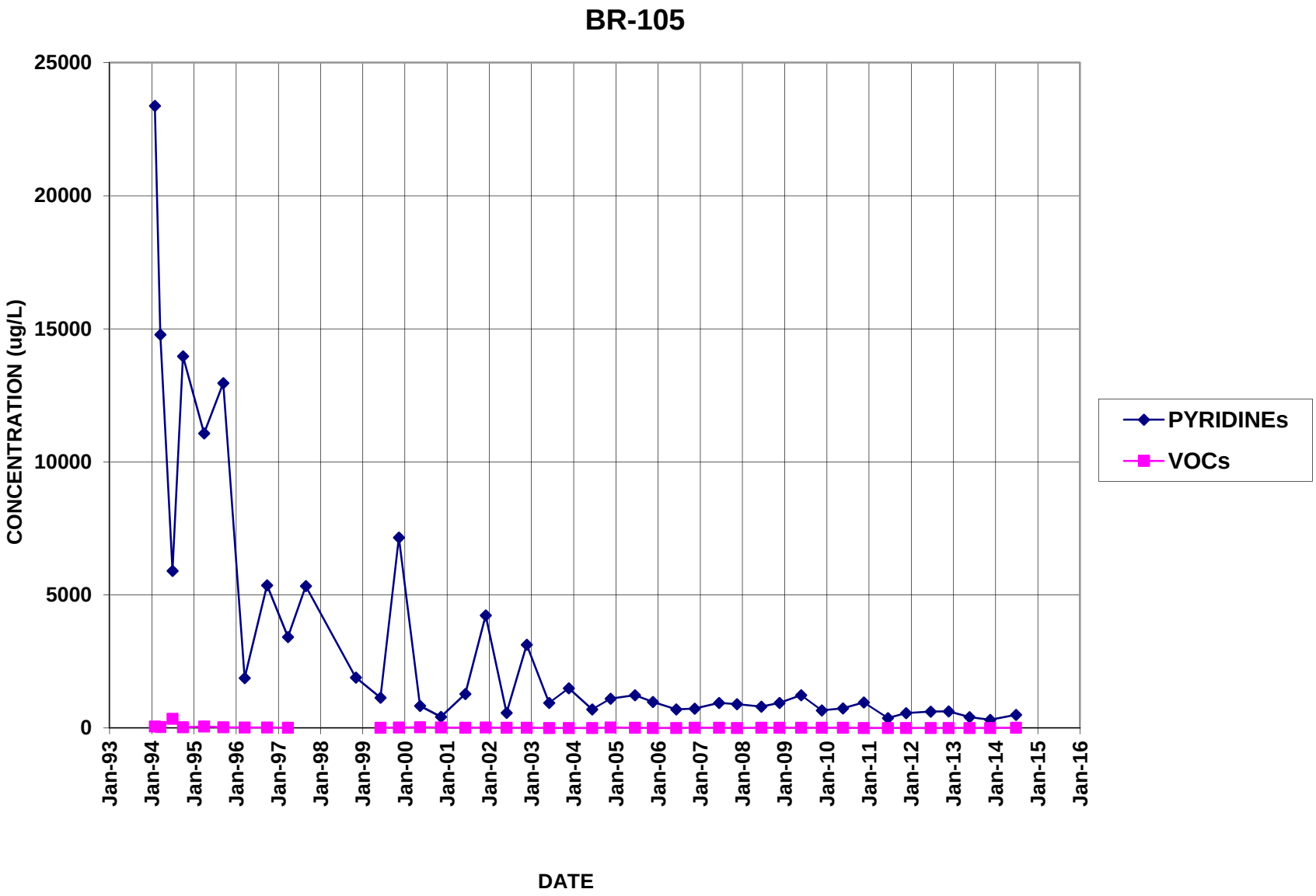


Prepared by: nmb
Reviewed by: jeb

BR-104

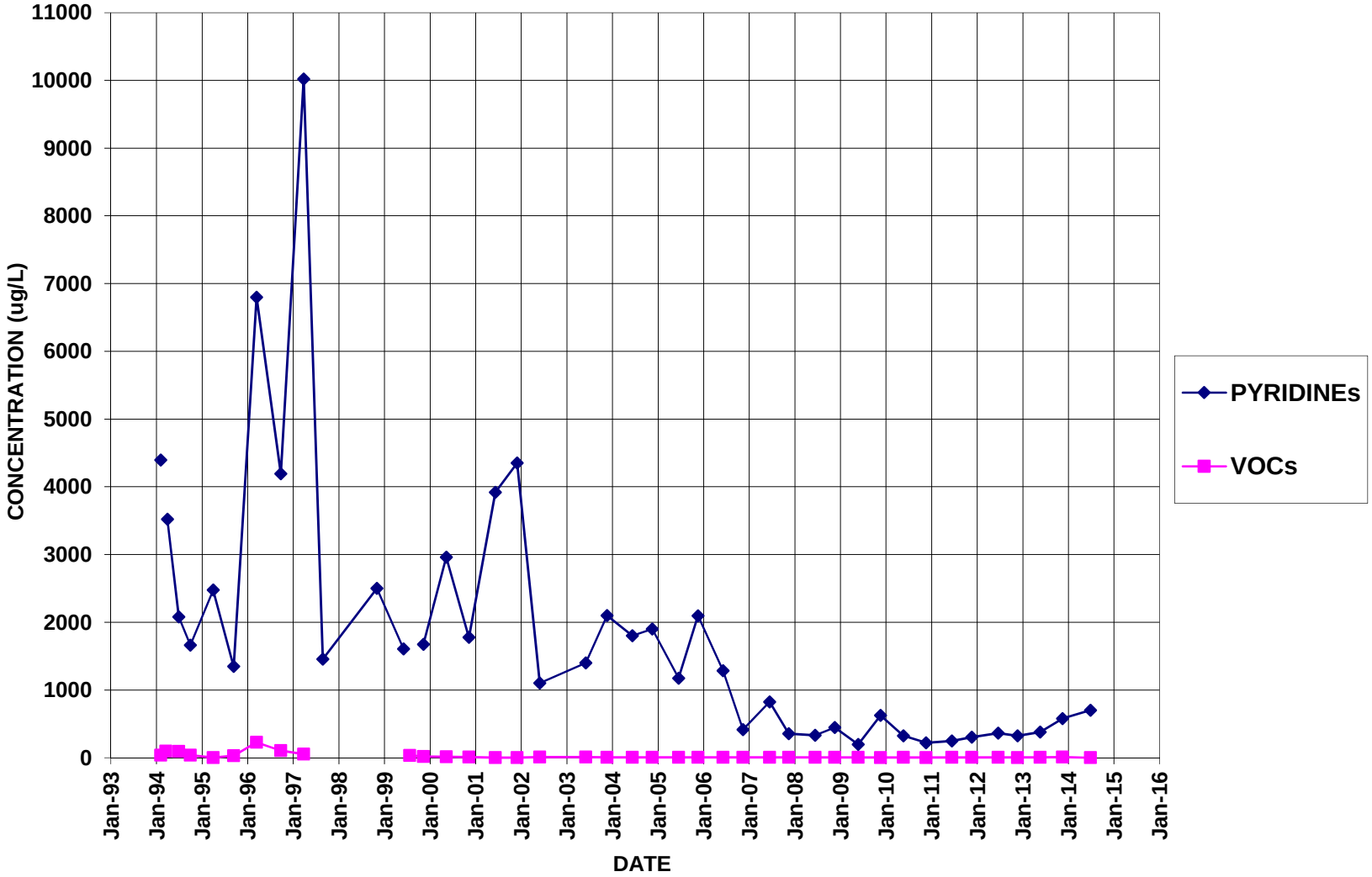


Prepared by: nmb
Reviewed by: jeb



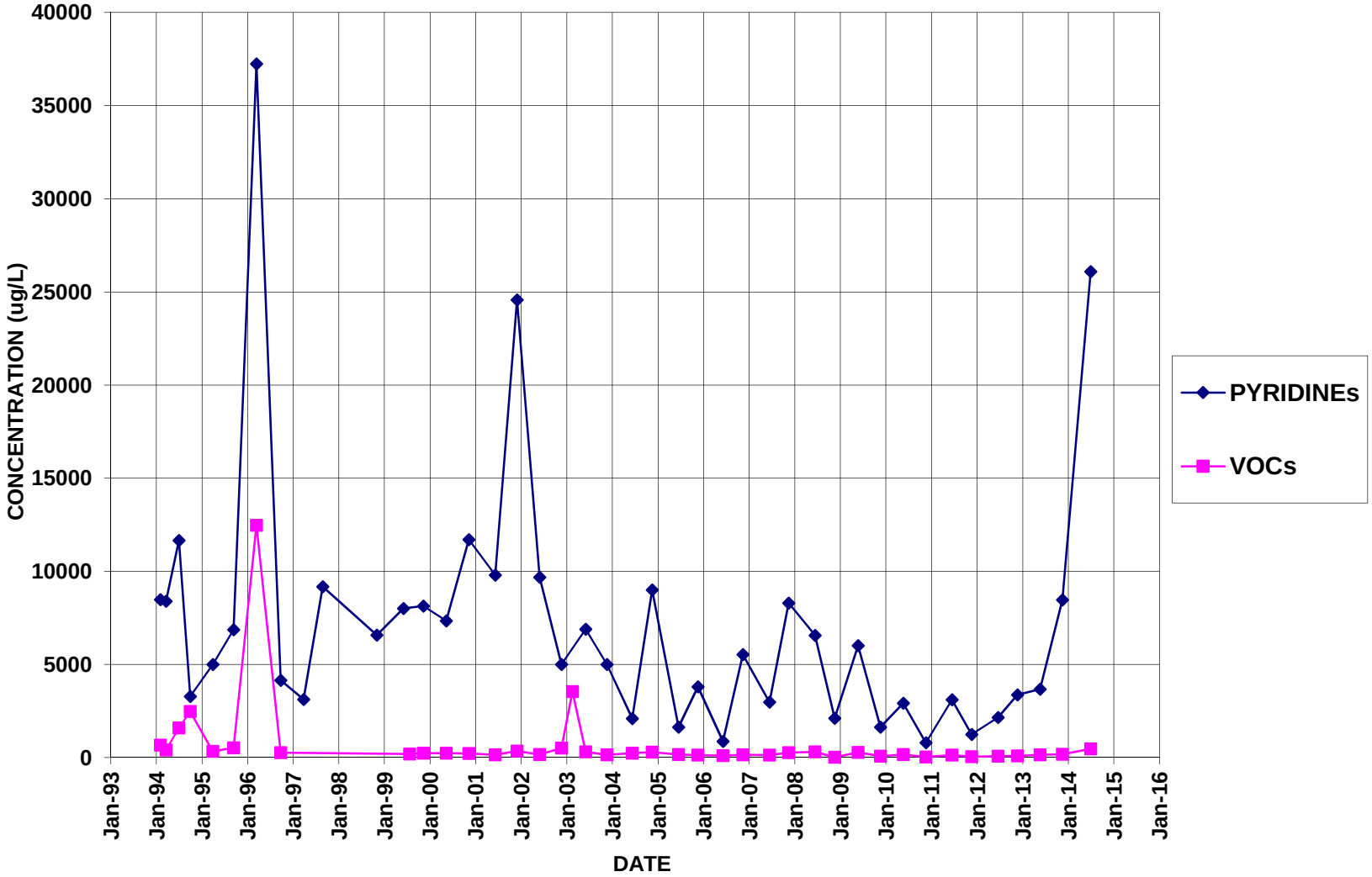
Prepared by: nmb
Reviewed by: jeb

BR-105D

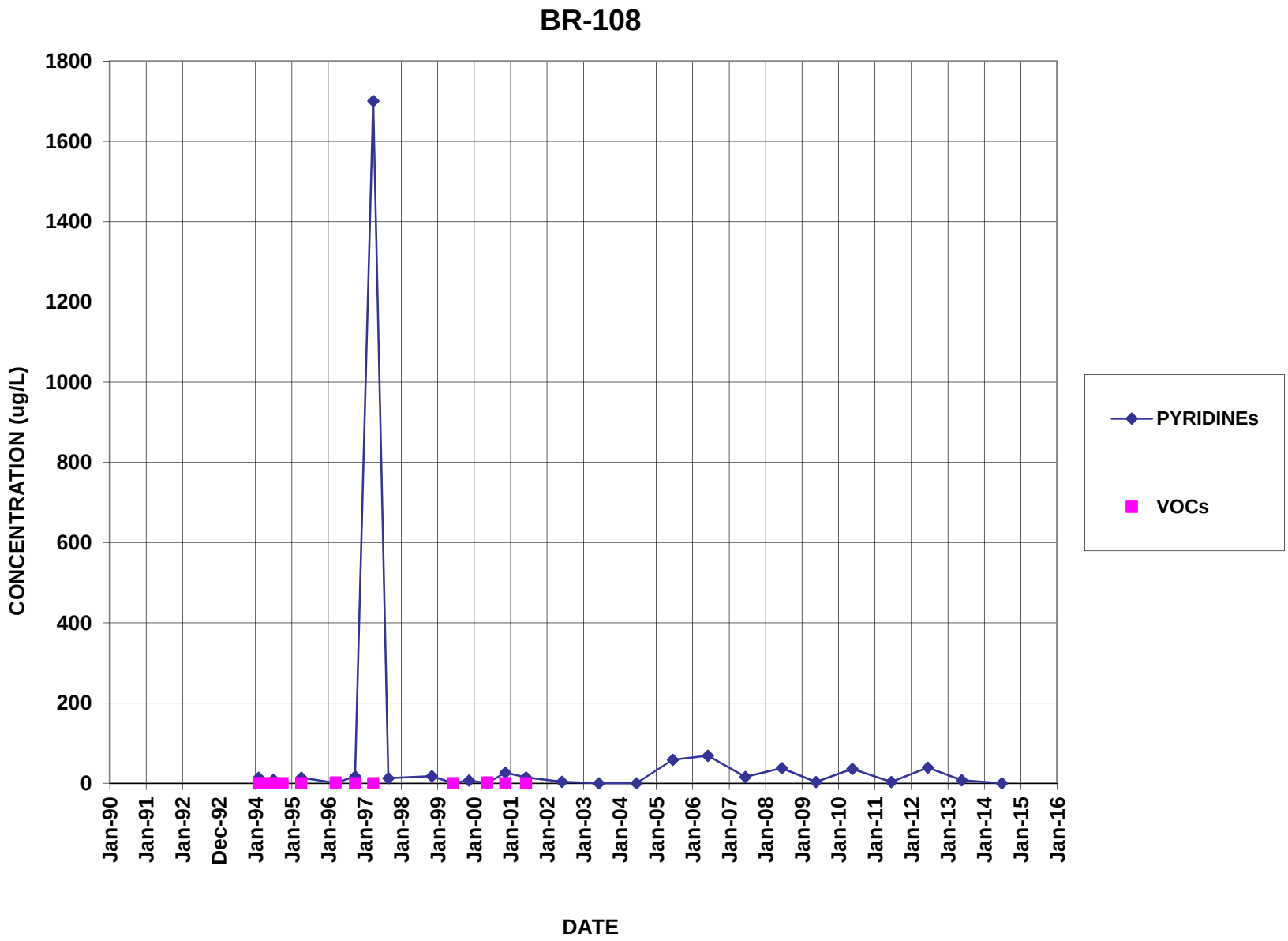


Prepared by: nmb
Reviewed by: jeb

BR-106

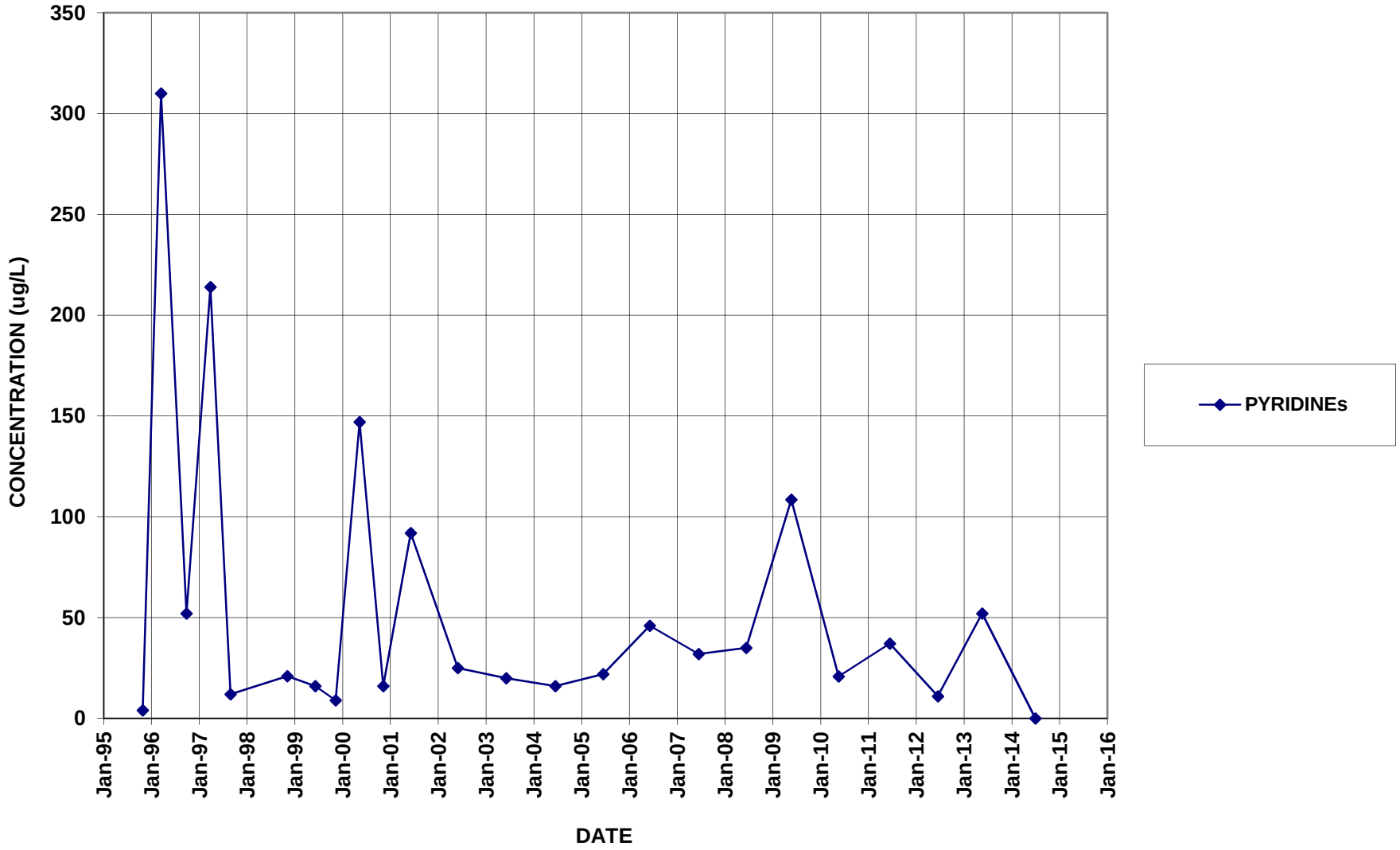


Prepared by: nmb
Reviewed by: jeb



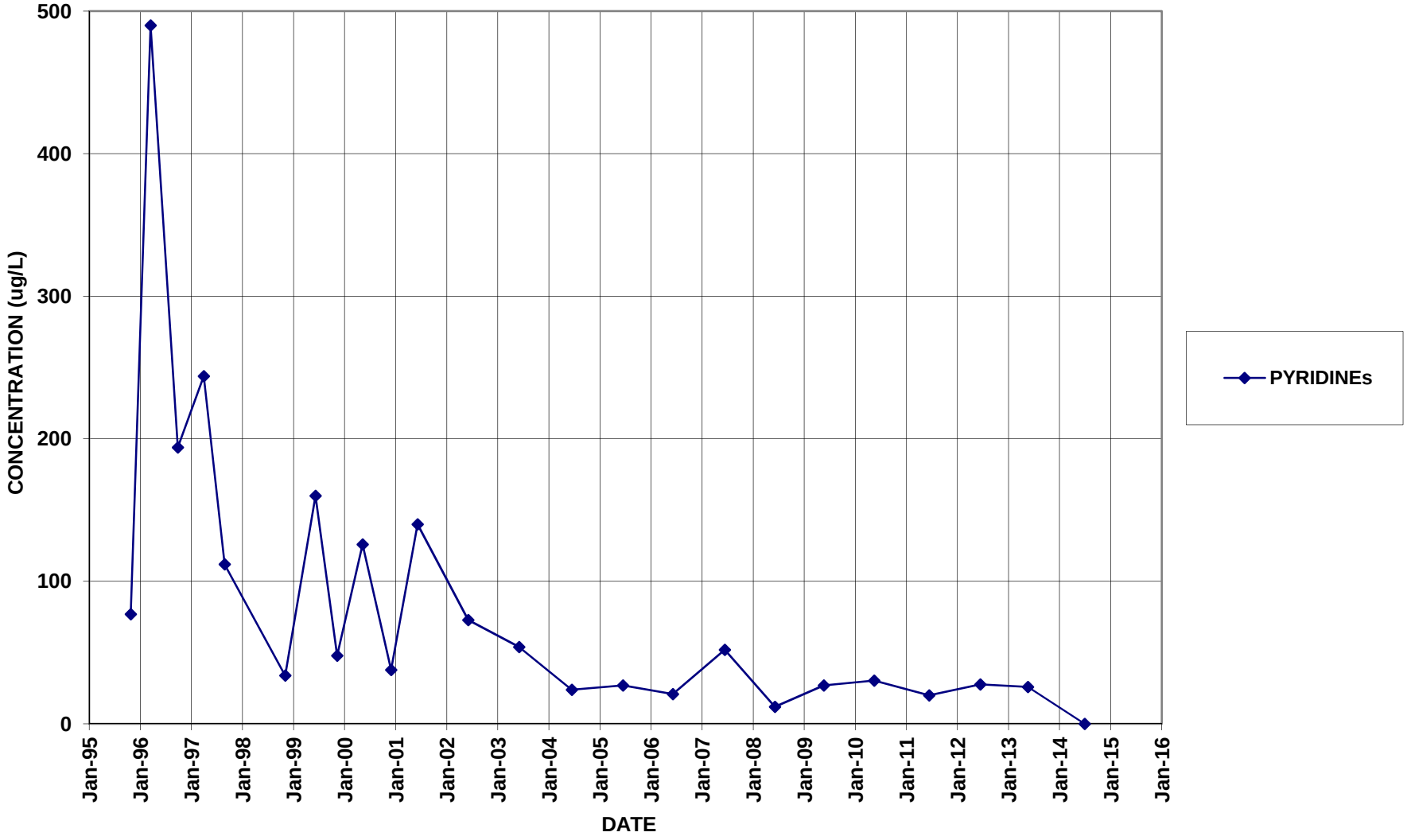
Prepared by: nmb
Reviewed by: jeb

BR-112D



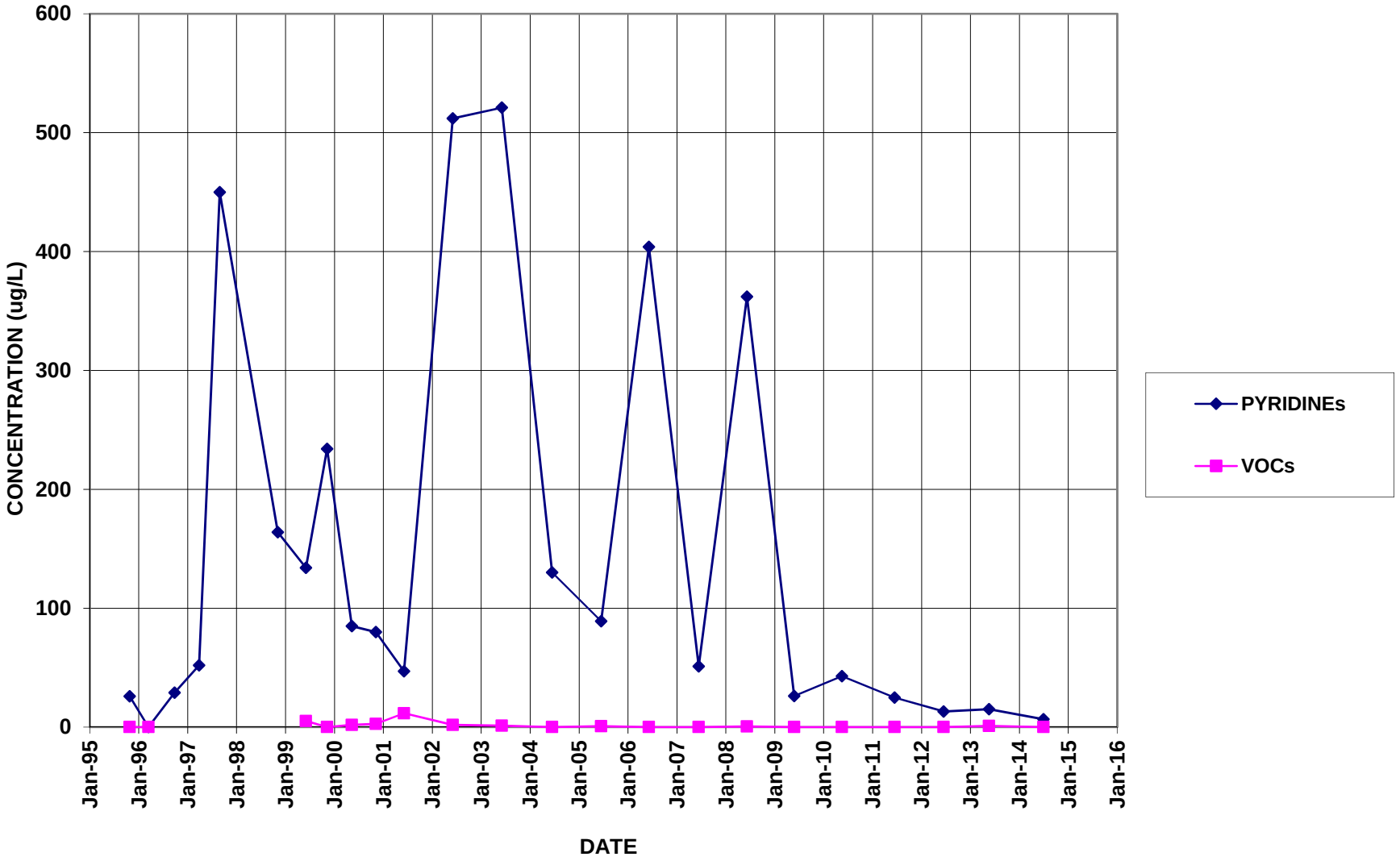
Prepared by: nmb
Reviewed by: jeb

BR-113D



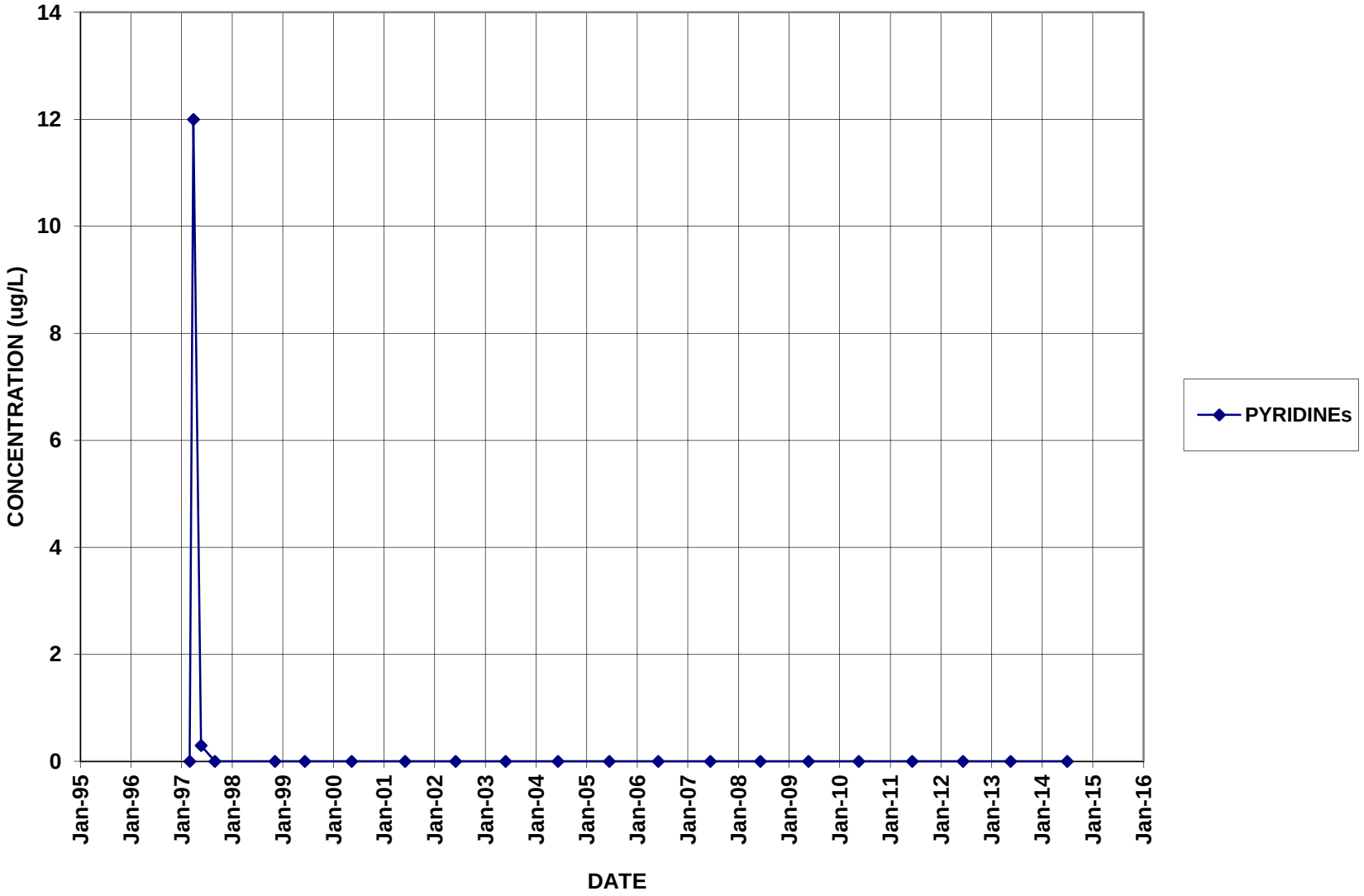
Prepared by: nmb
Reviewed by: jeb

BR-114



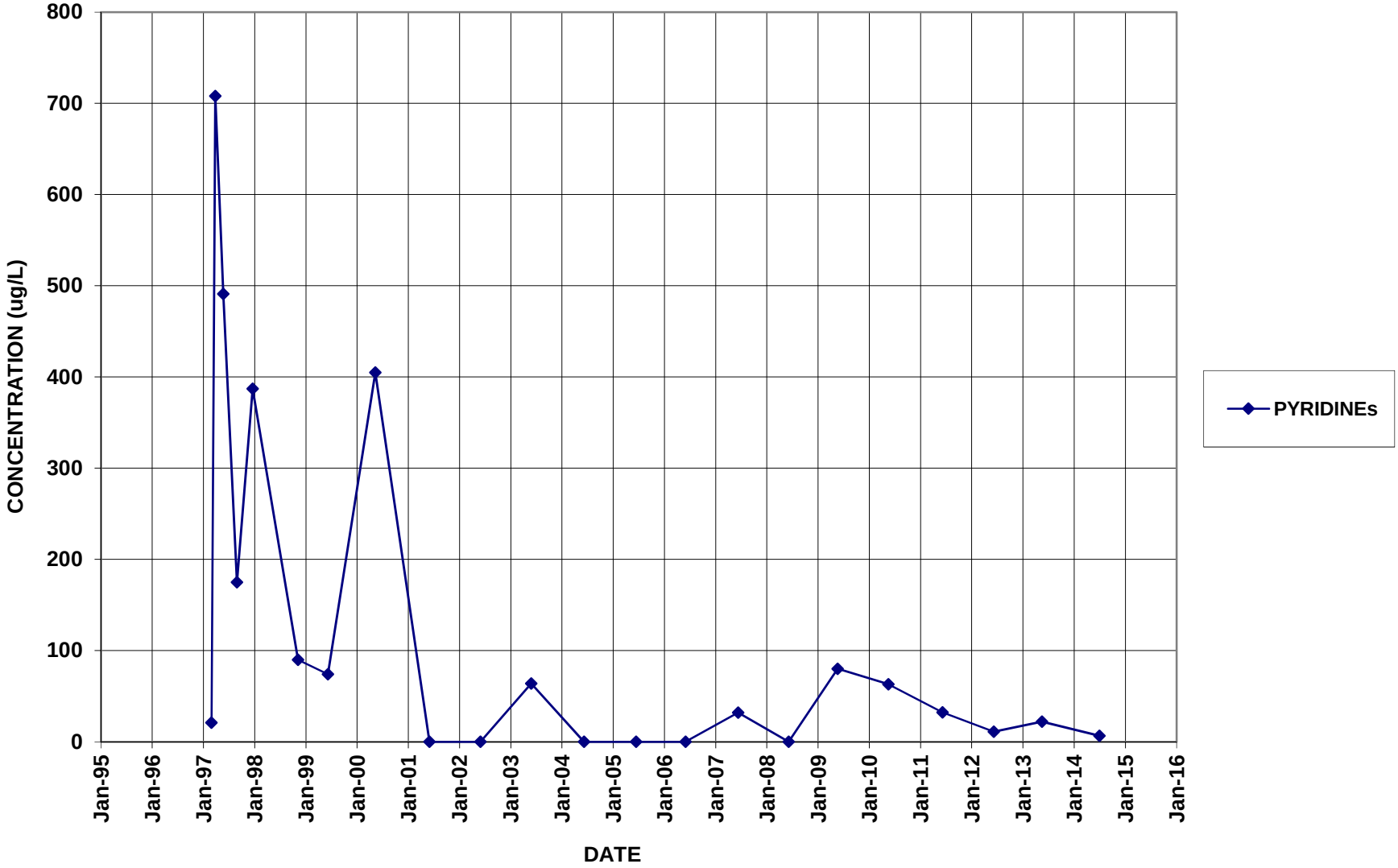
Prepared by: nmb
Reviewed by: jeb

BR-116



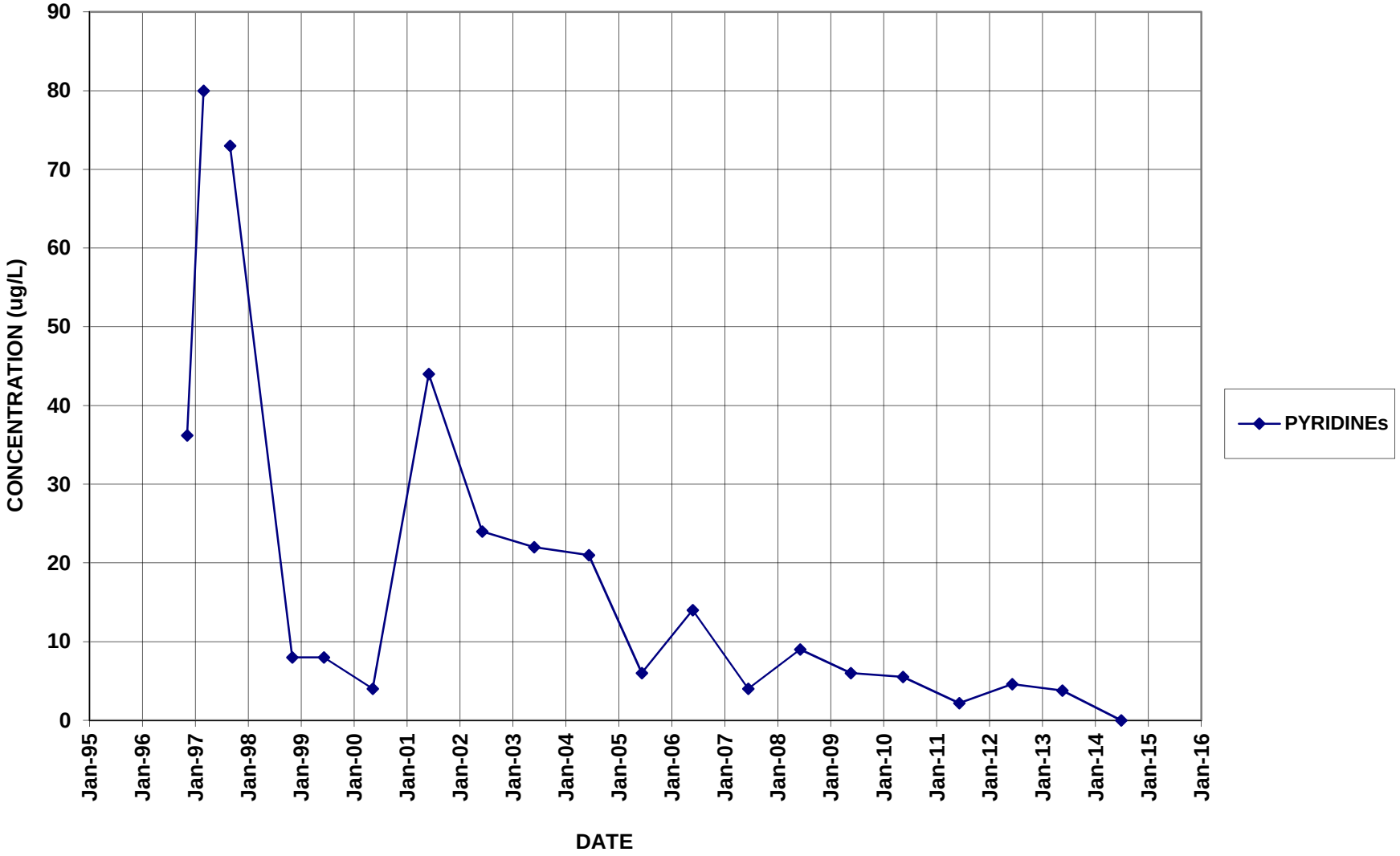
Prepared by: nmb
Reviewed by: jeb

BR-116D



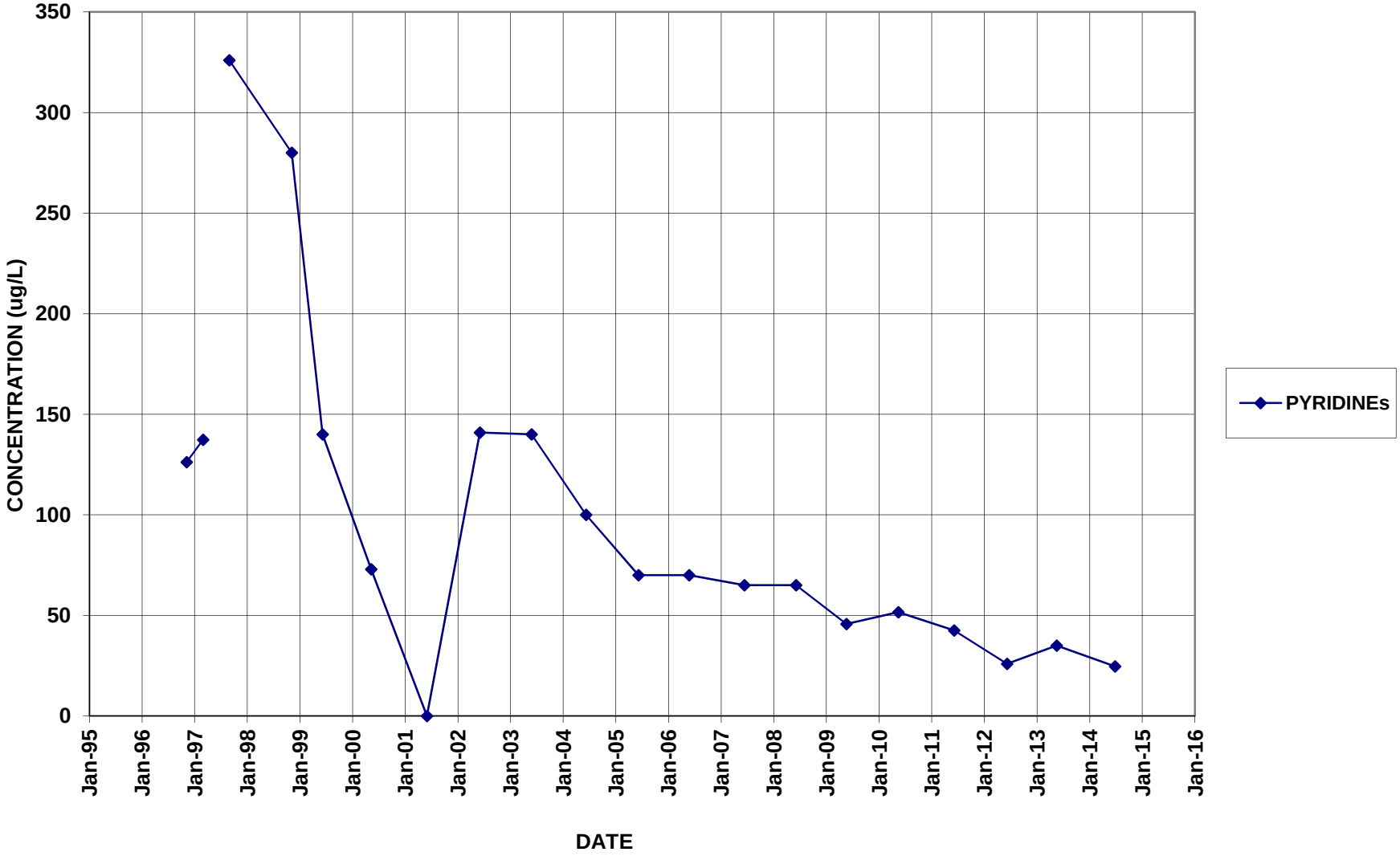
Prepared by: nmb
Reviewed by: jeb

BR-117D



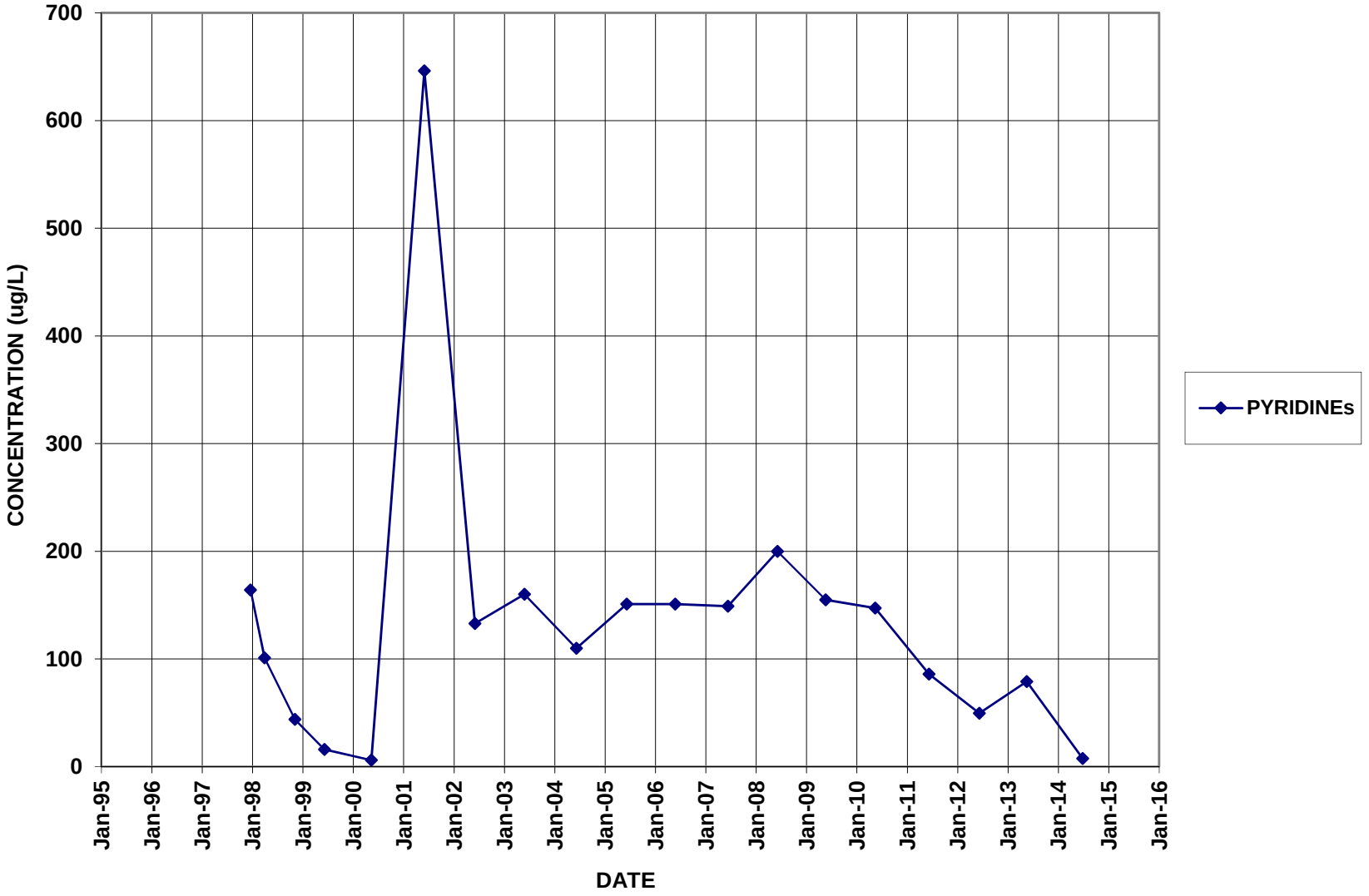
Prepared by: nmb
Reviewed by: jeb

BR-118D



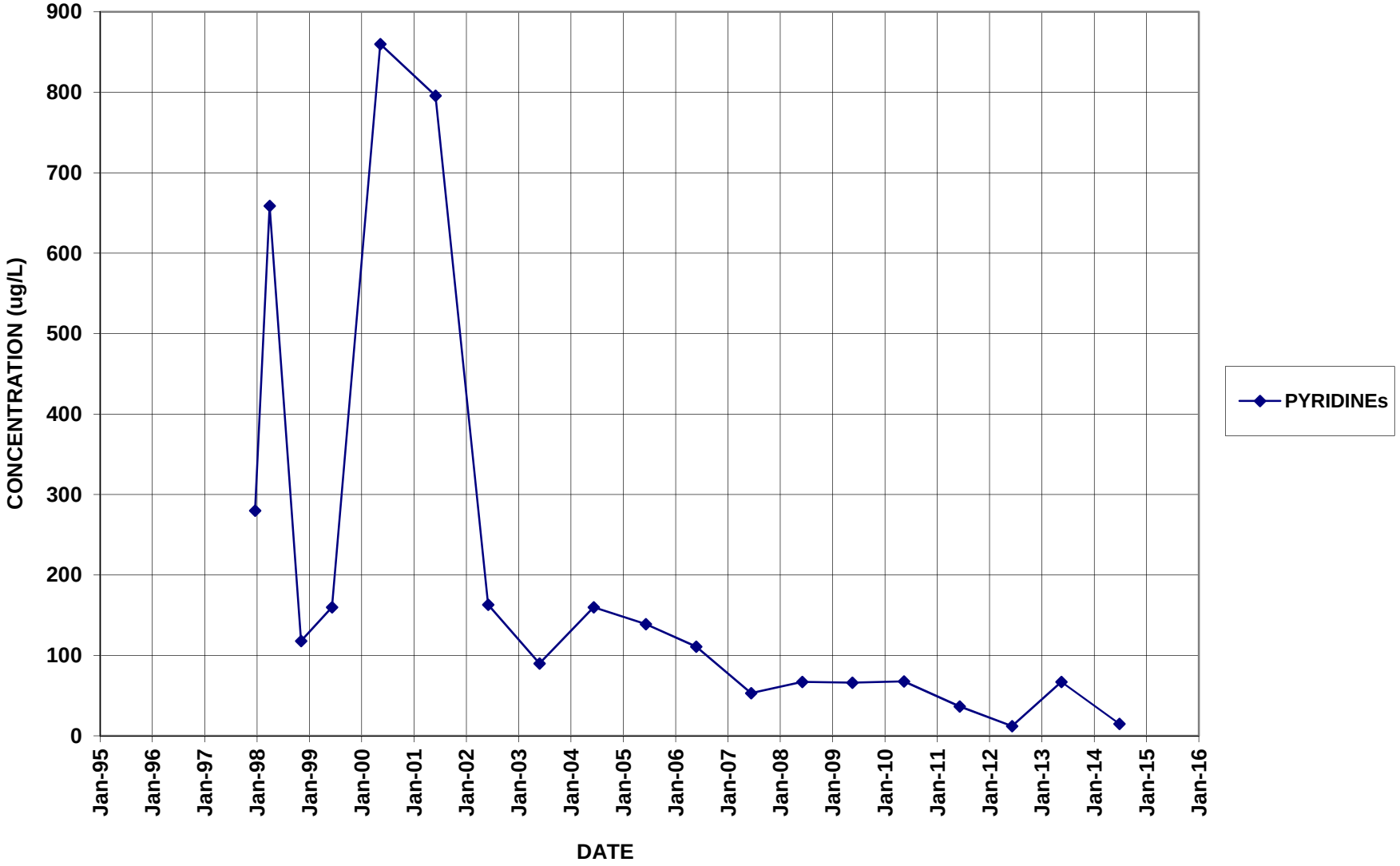
Prepared by: nmb
Reviewed by: jeb

BR-122D



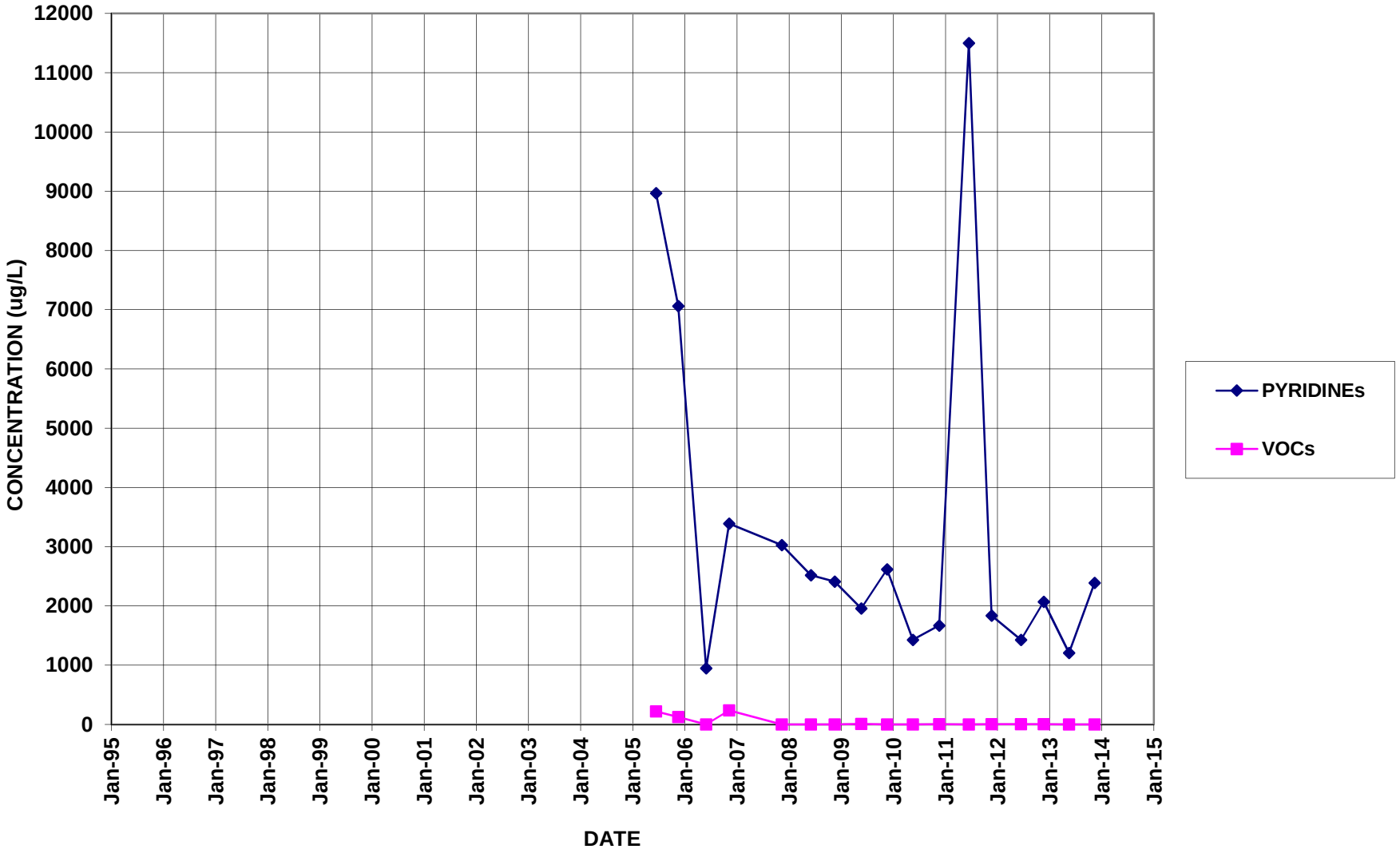
Prepared by: nmb
Reviewed by: jeb

BR-123D



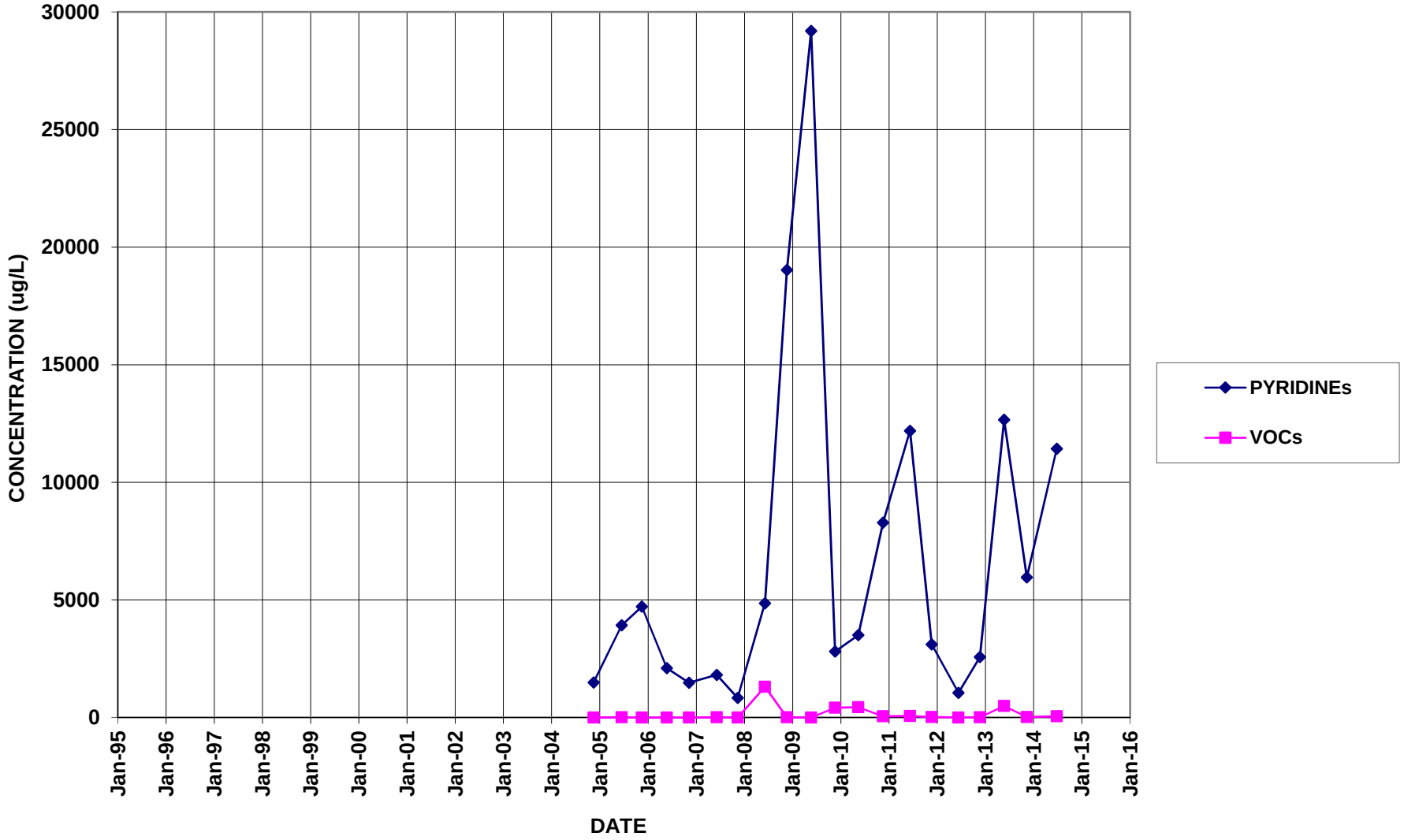
Prepared by: nmb
Reviewed by: jeb

BR-126

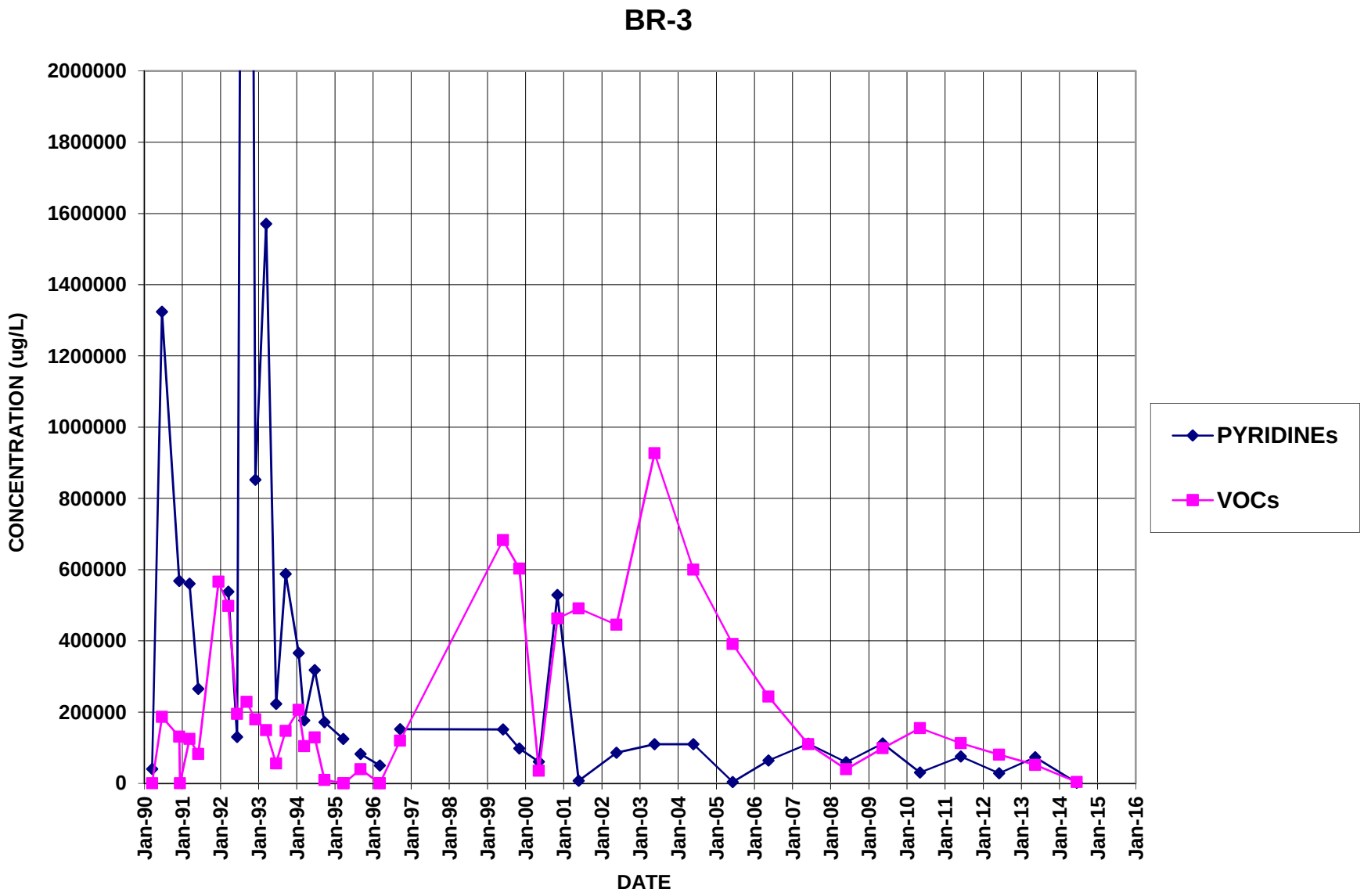


Prepared by: nmb
Reviewed by: jeb

BR-127

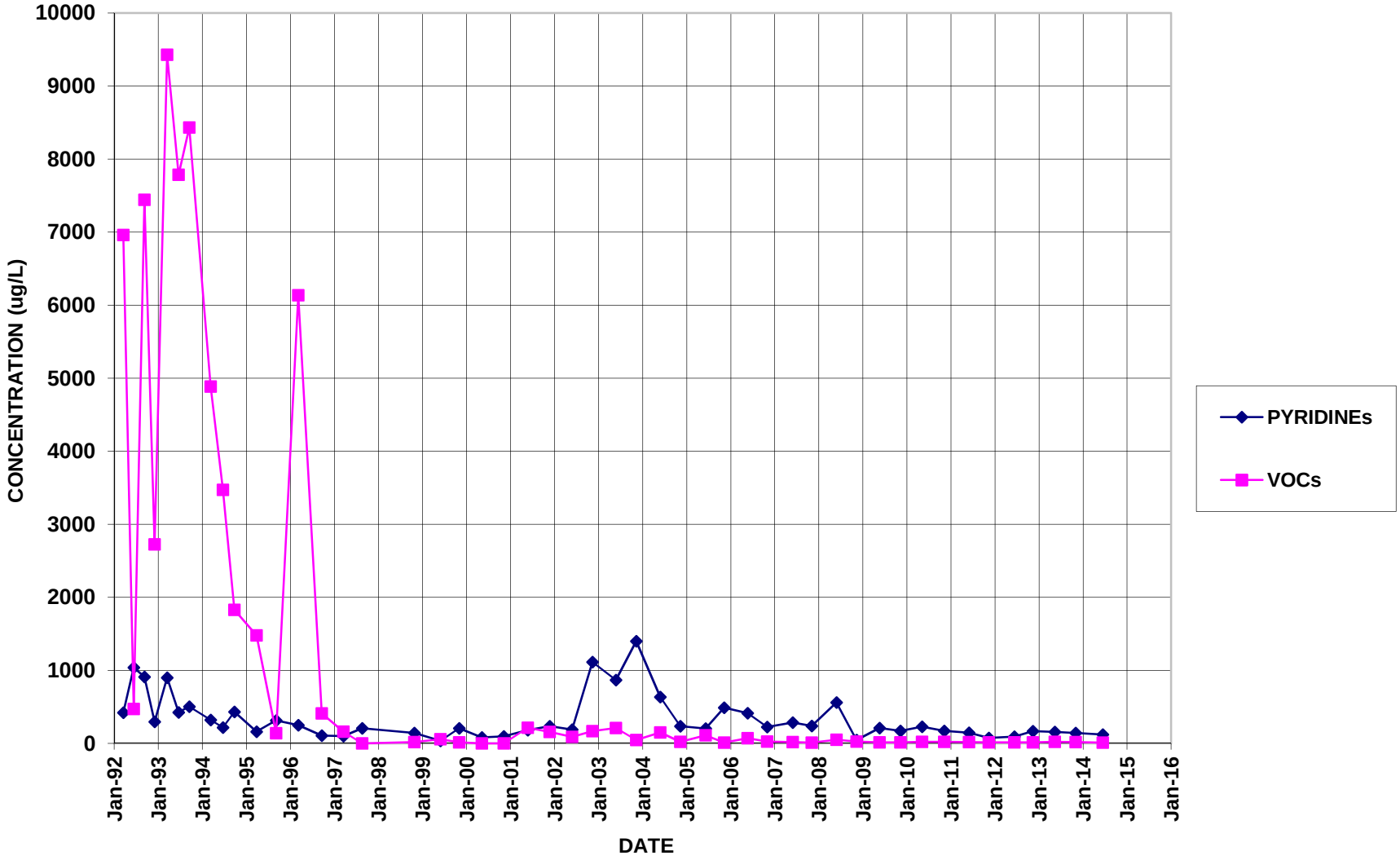


Prepared by: nmb
Reviewed by: jeb



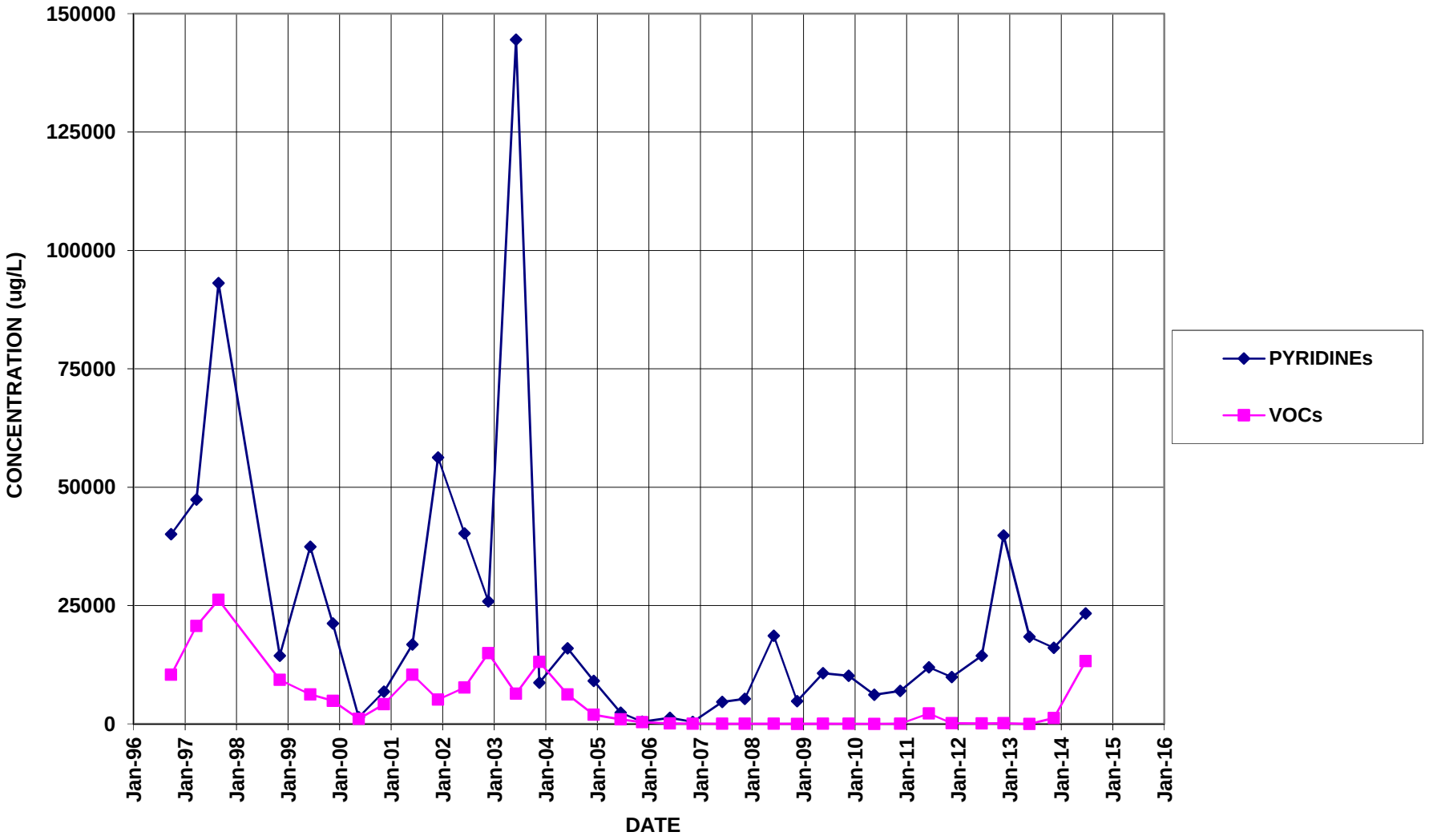
Prepared by: nmb
Reviewed by: jeb

BR-5A



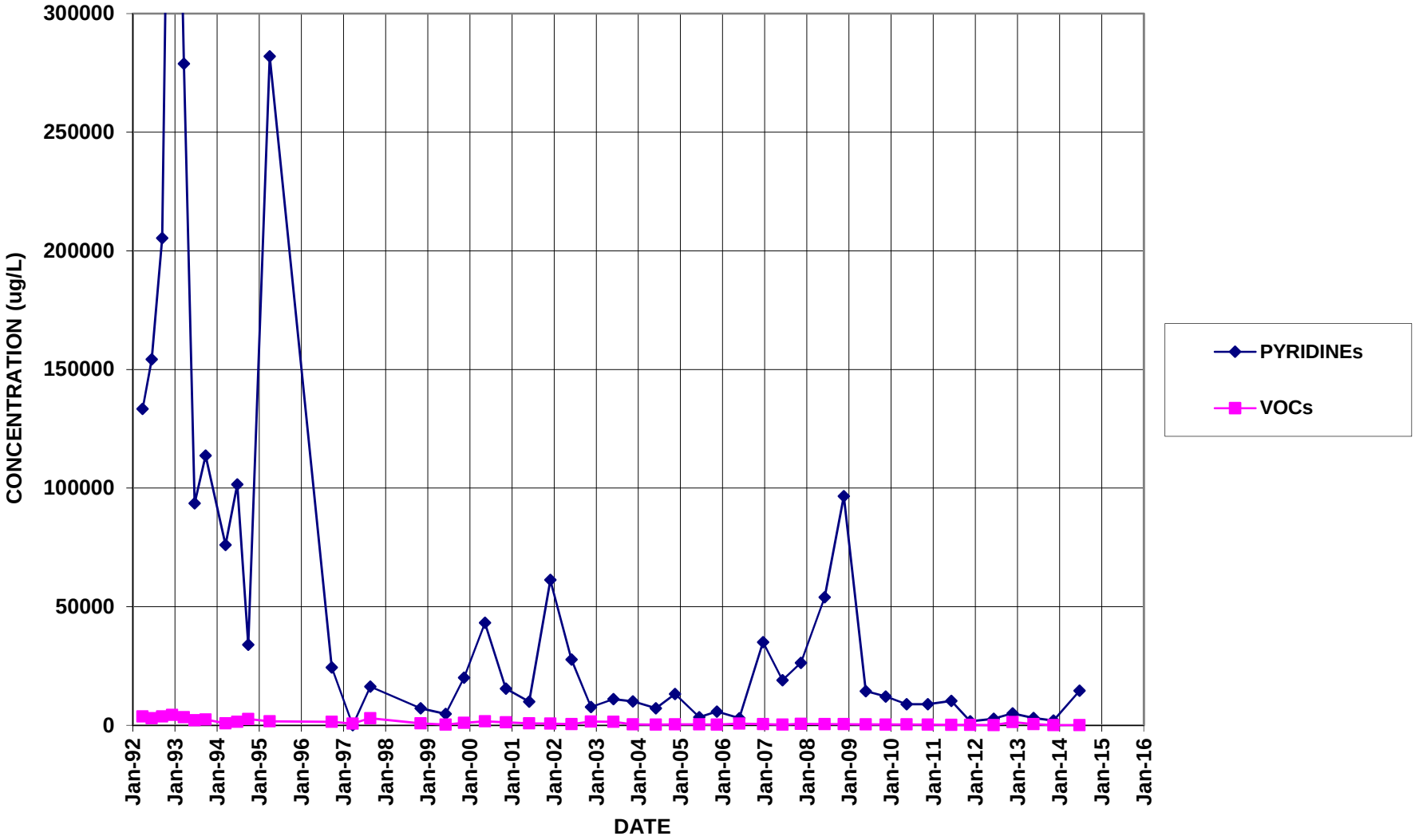
Prepared by: nmb
Reviewed by: jeb

BR-6A



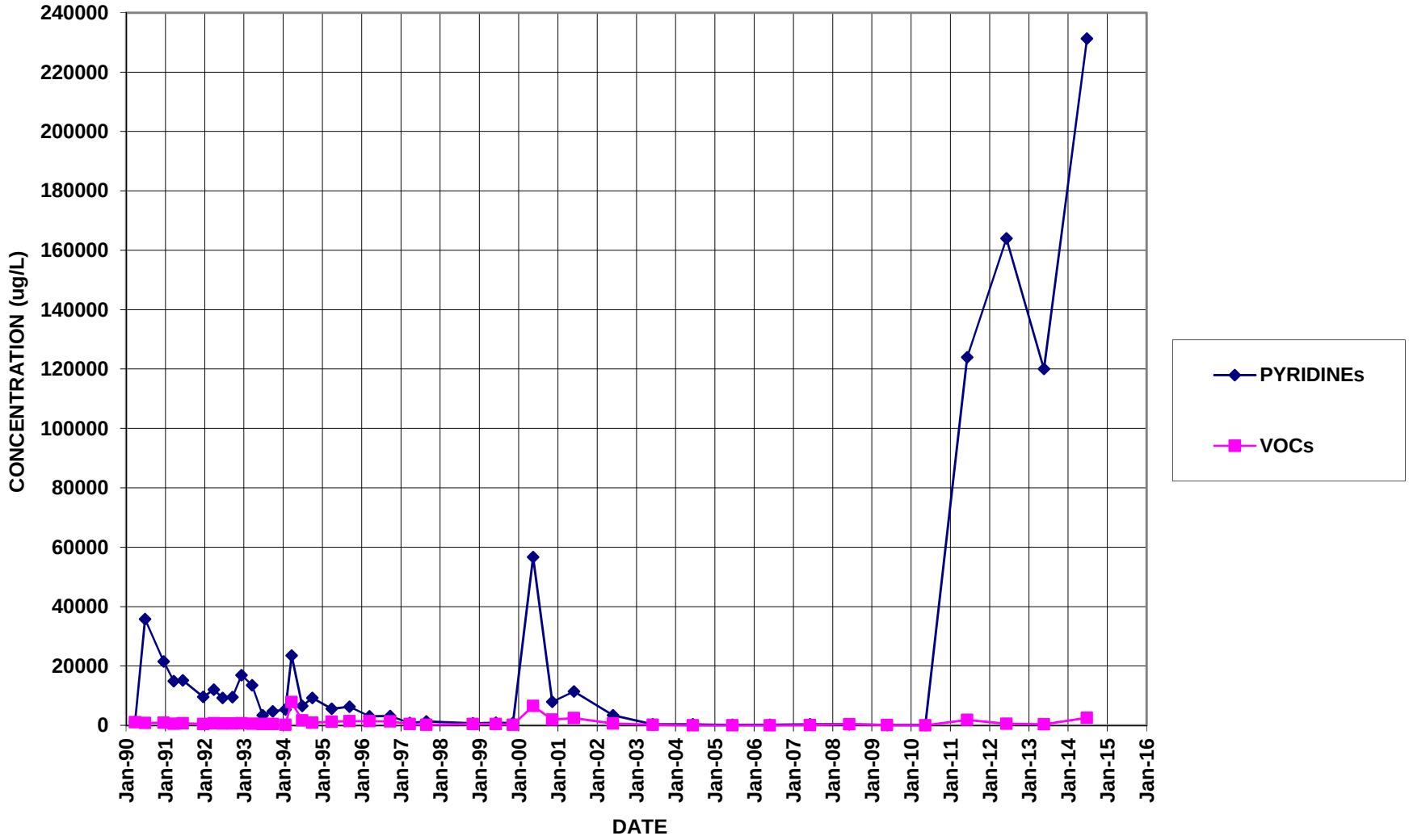
Prepared by: nmb
Reviewed by: jeb

BR-7A



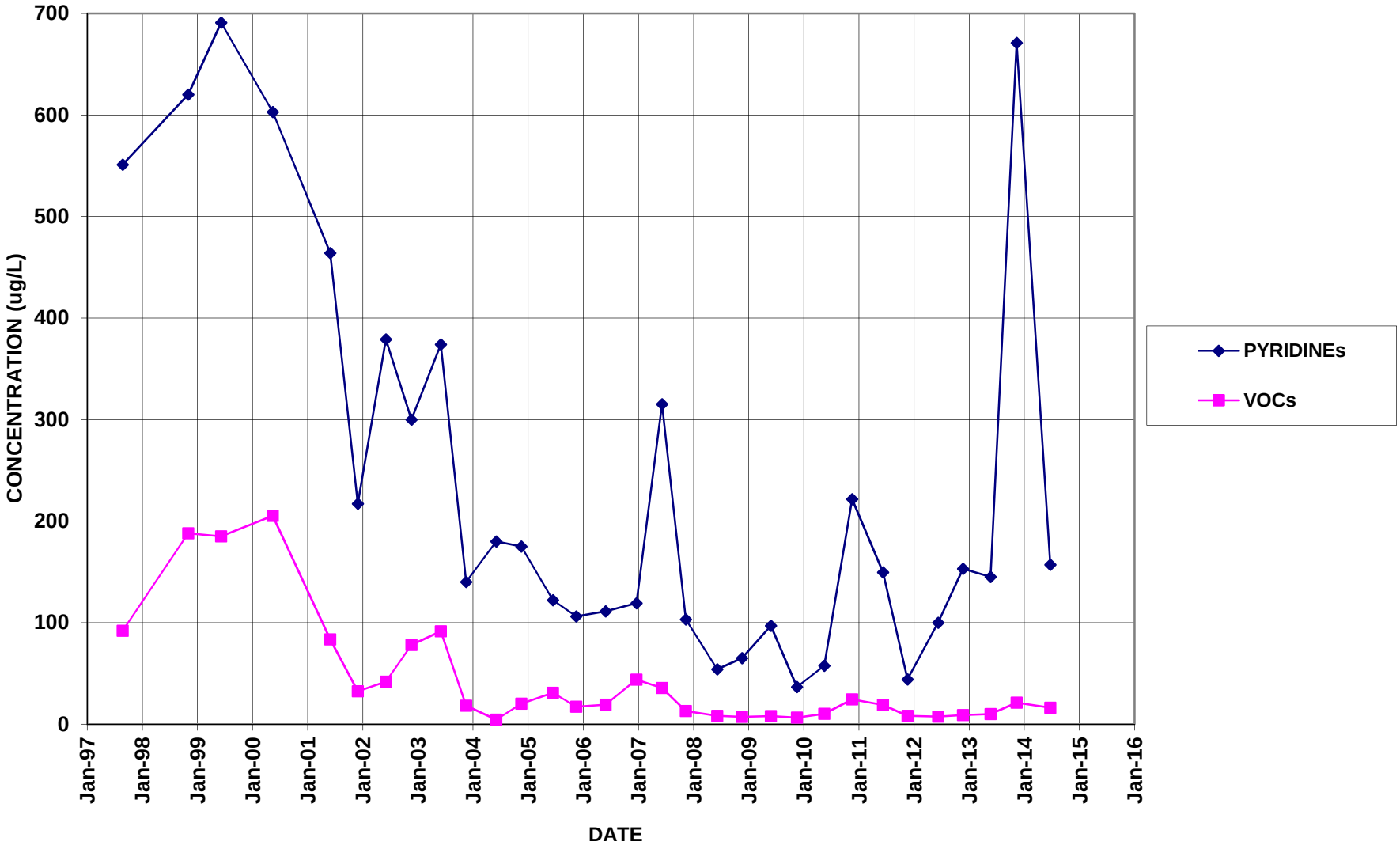
Prepared by: nmb
Reviewed by: jeb

BR-8

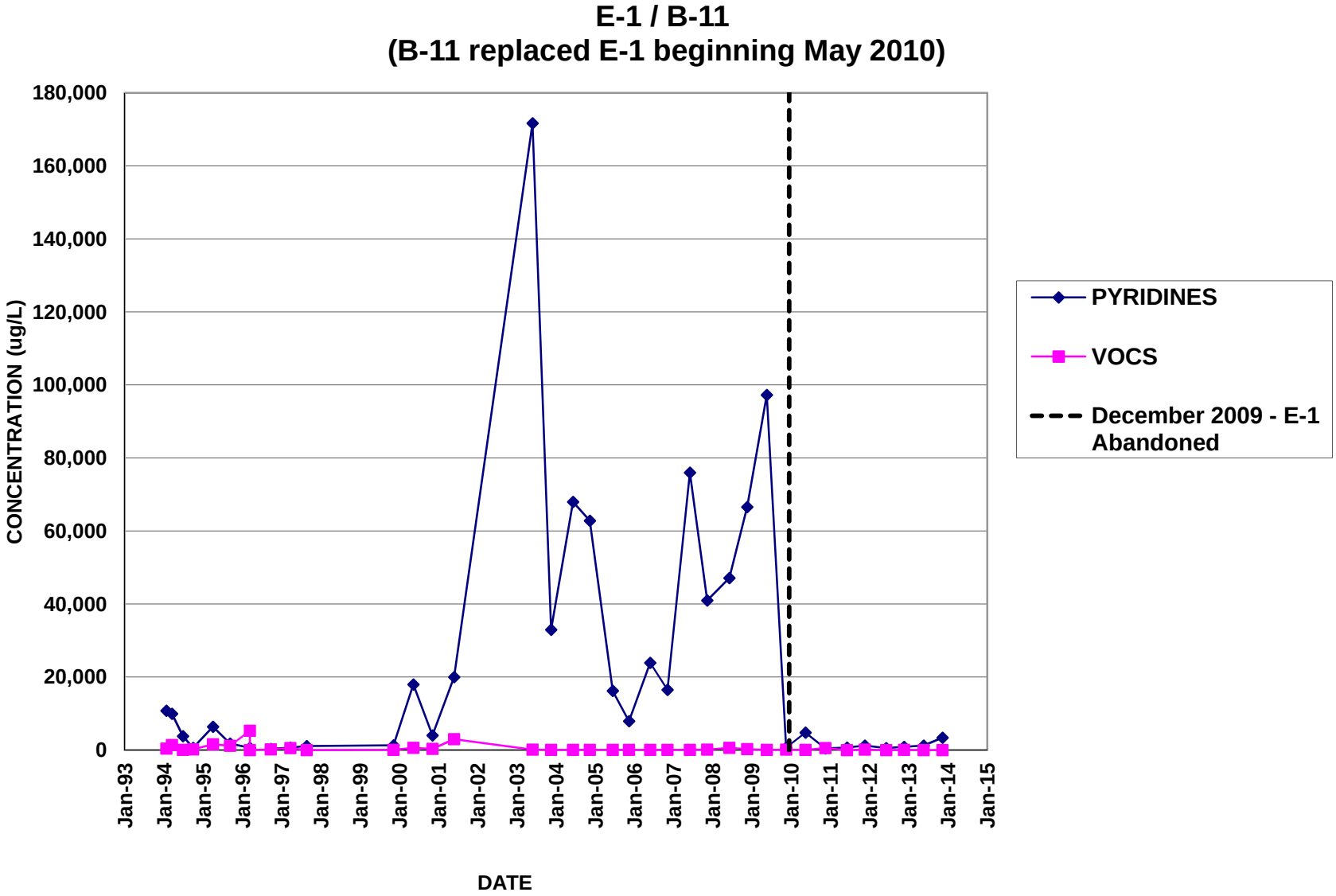


Prepared by: nmb
Reviewed by: jeb

BR-9

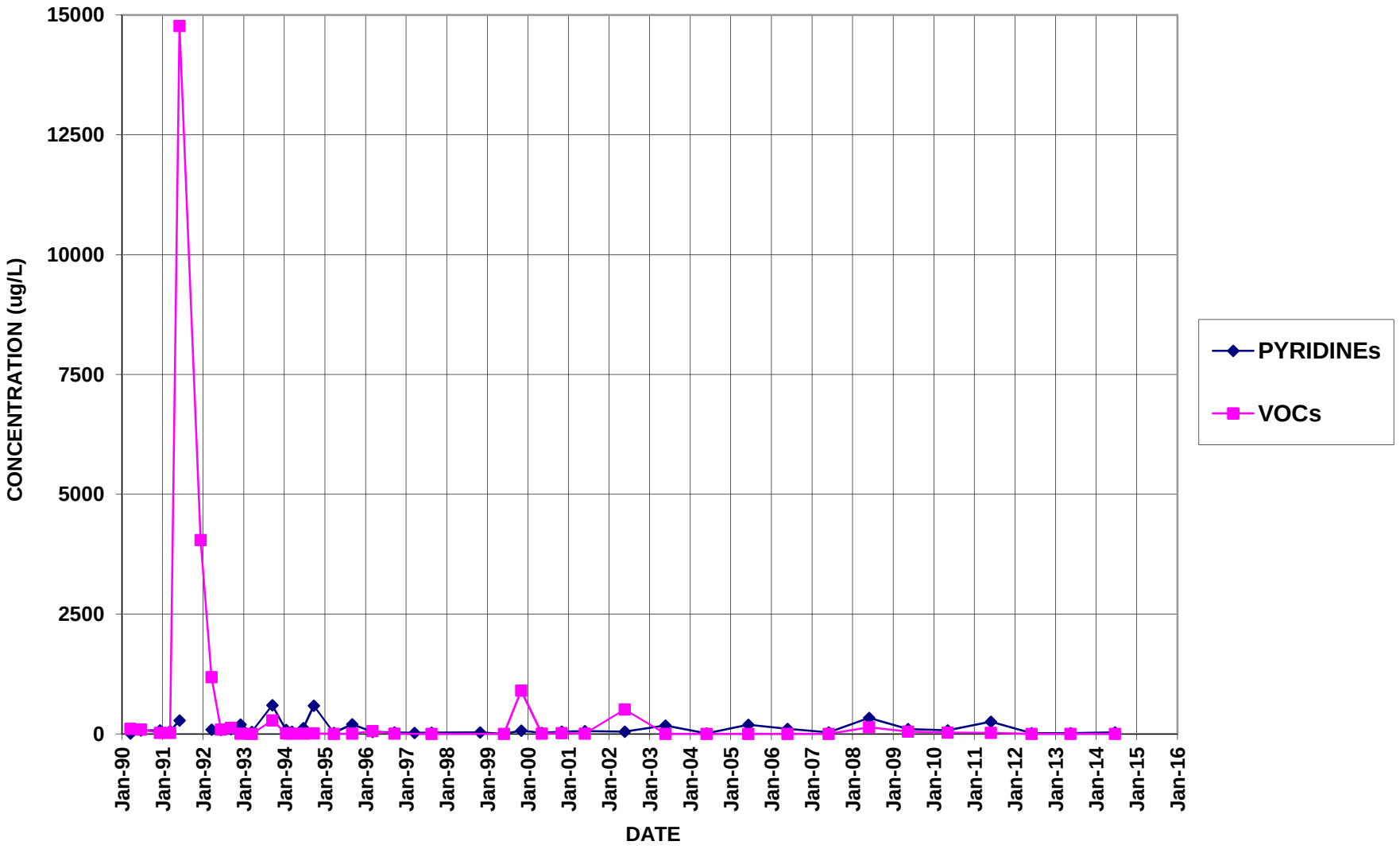


Prepared by: nmb
Reviewed by: jeb



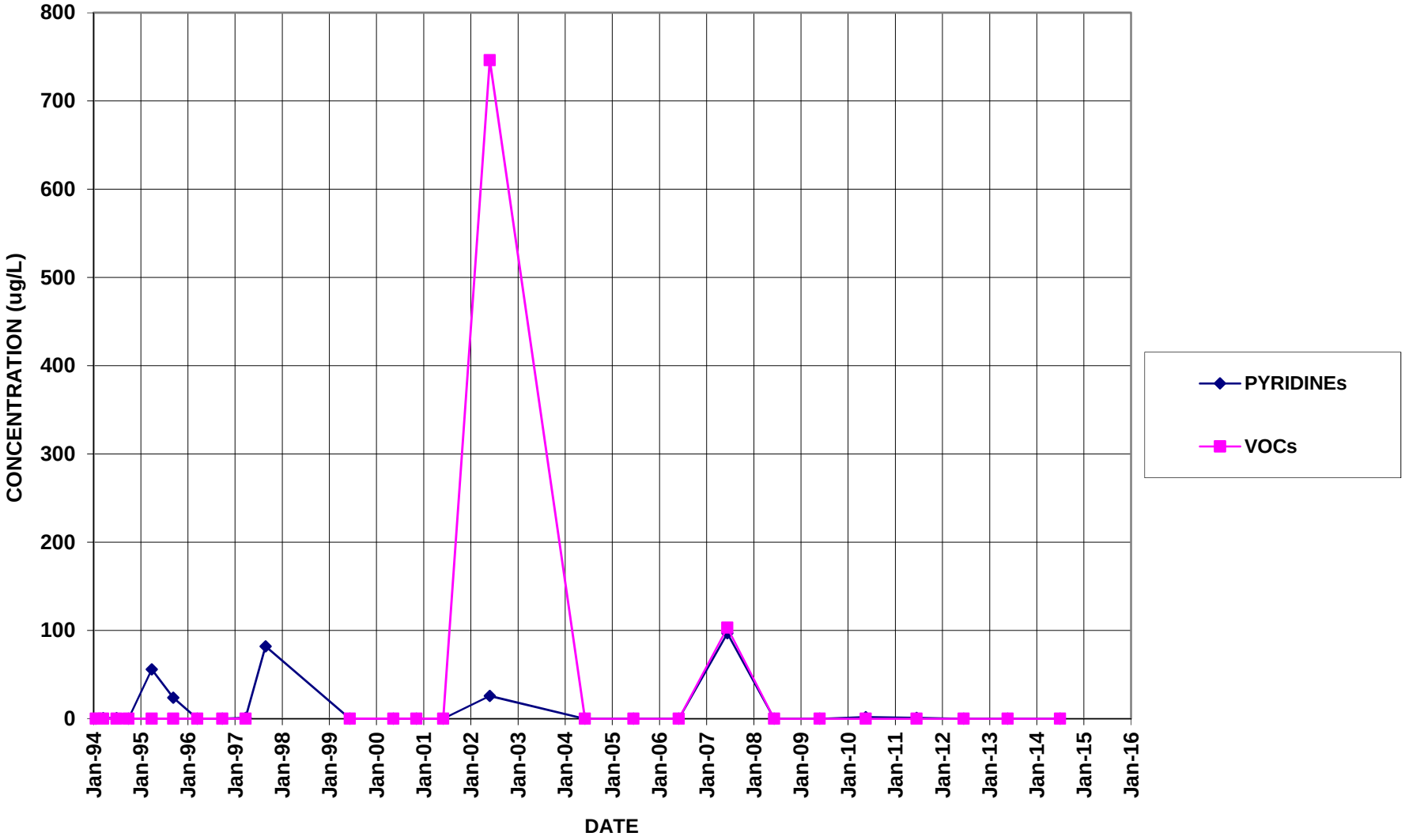
Prepared by: nmb
Reviewed by: jeb

E-3



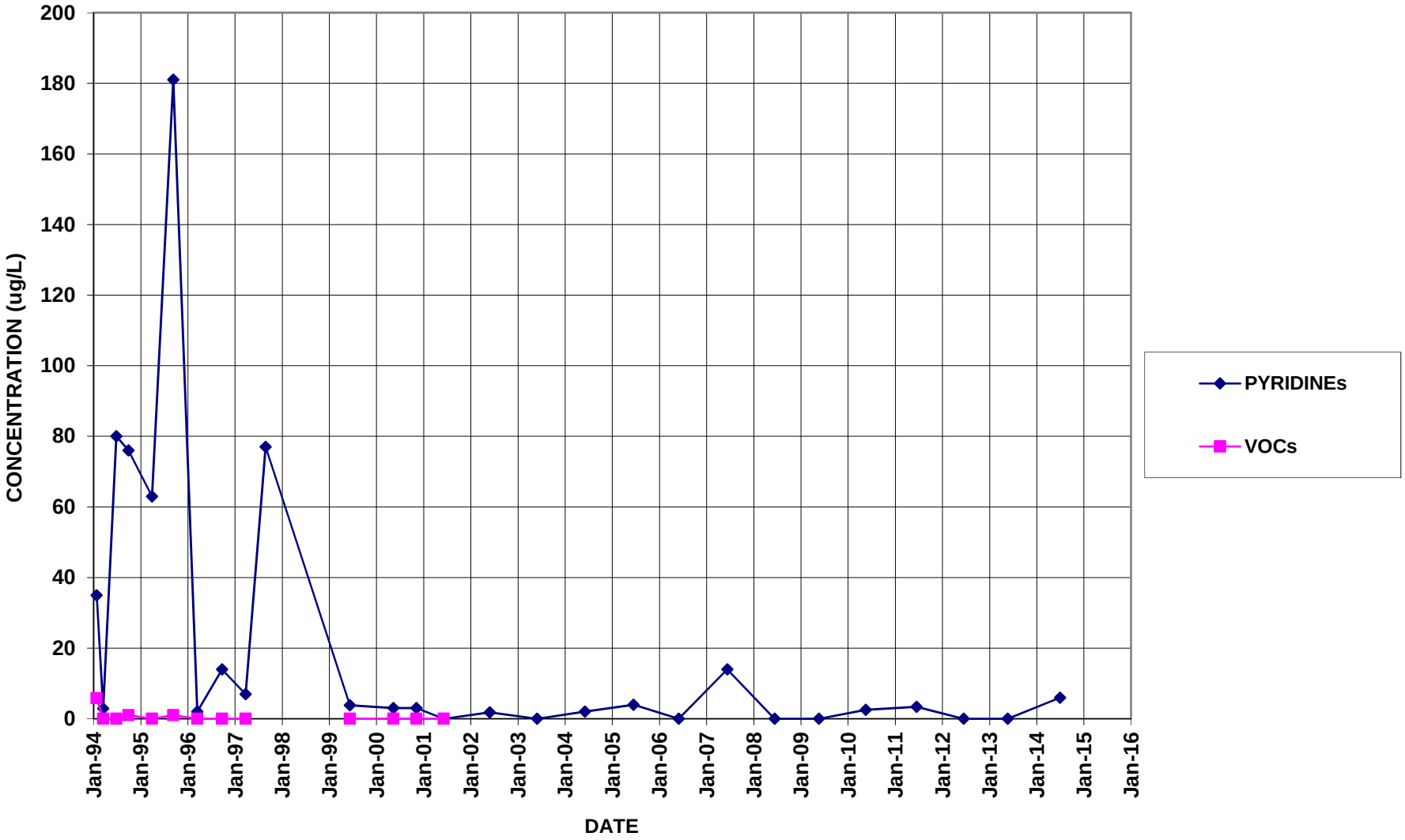
Prepared by: nmb
Reviewed by: jeb

MW-103



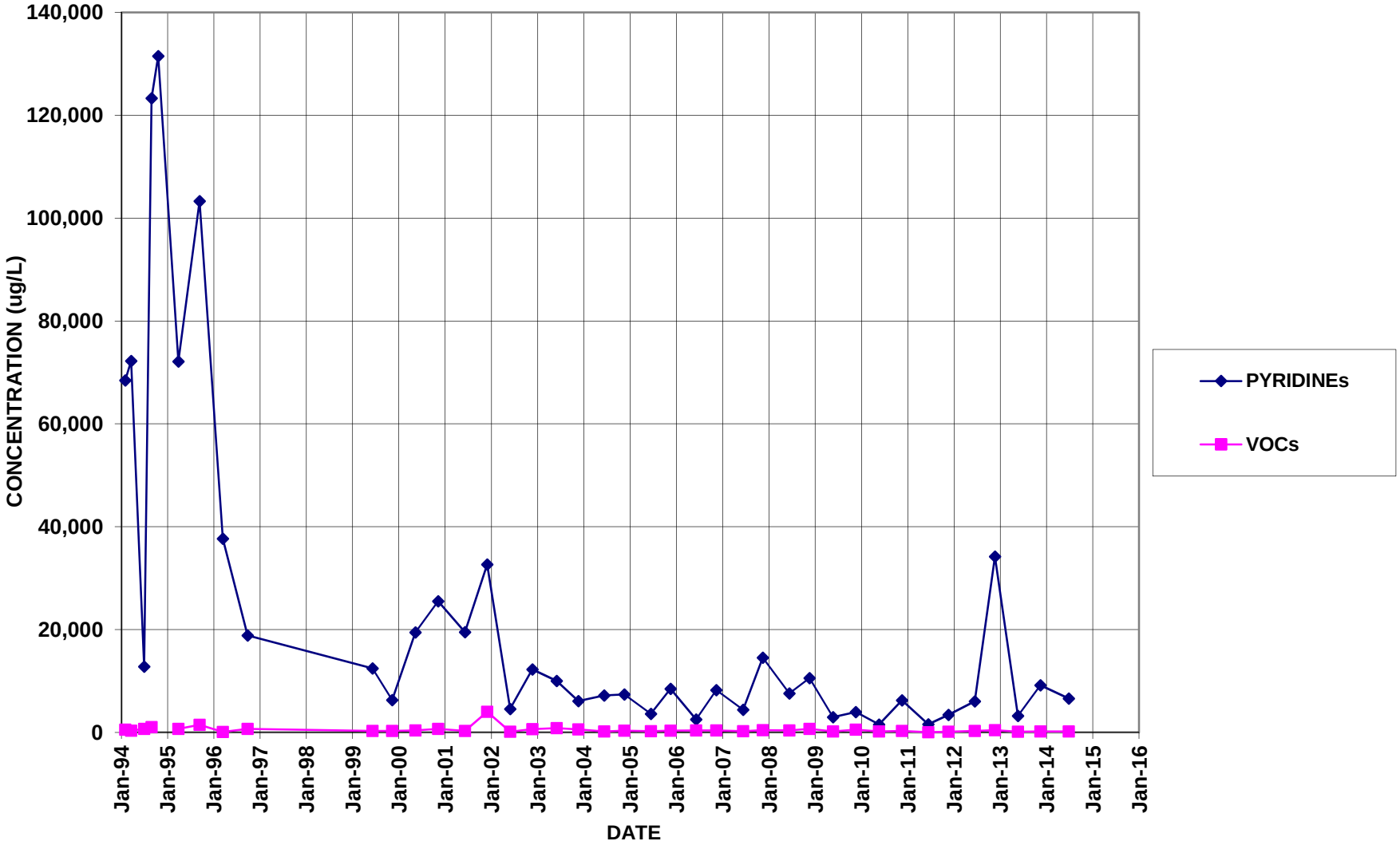
Prepared by: nmb
Reviewed by: jeb

MW-104



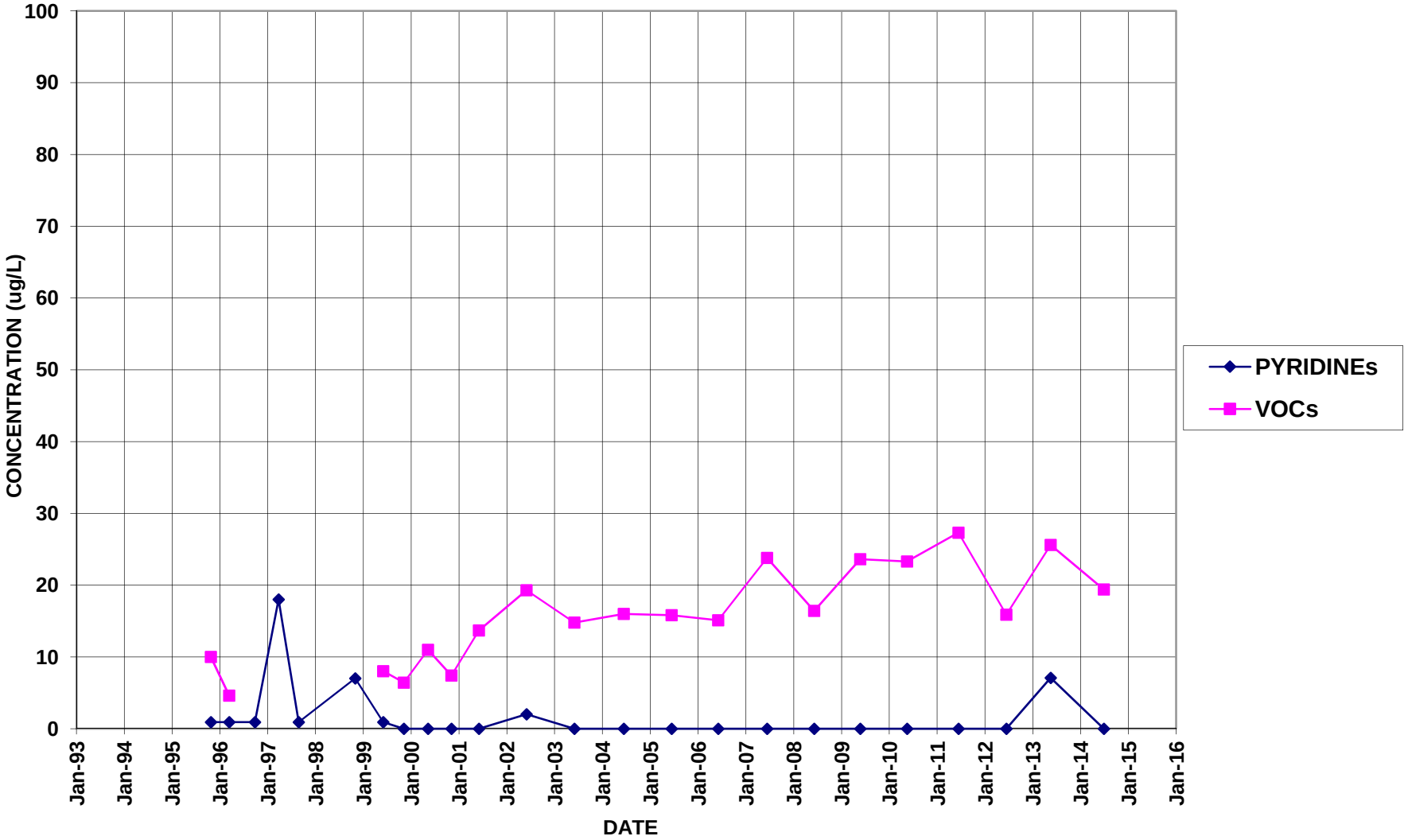
Prepared by: nmb
Reviewed by: jeb

MW-106



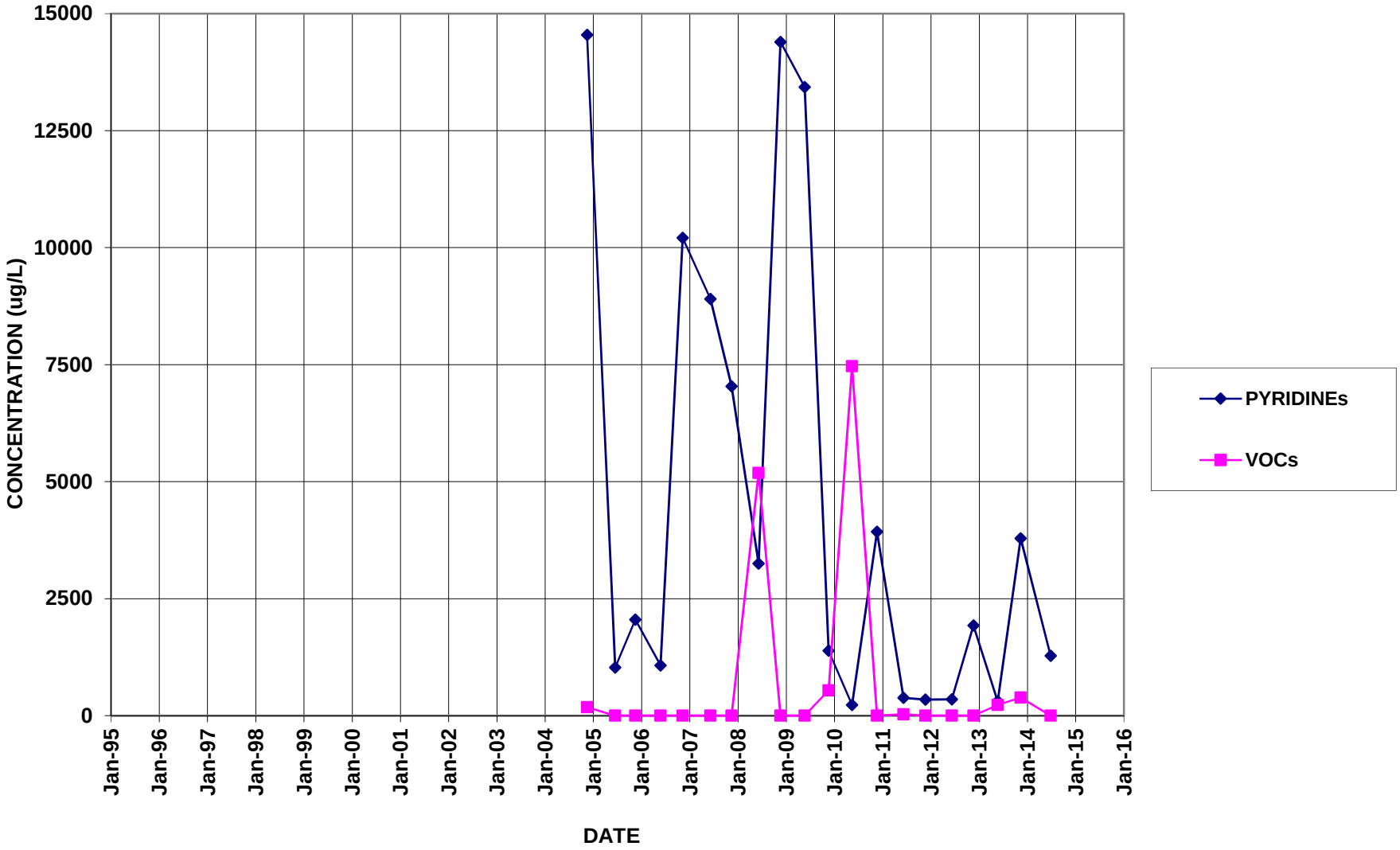
Prepared by: nmb
Reviewed by: jeb

MW-114



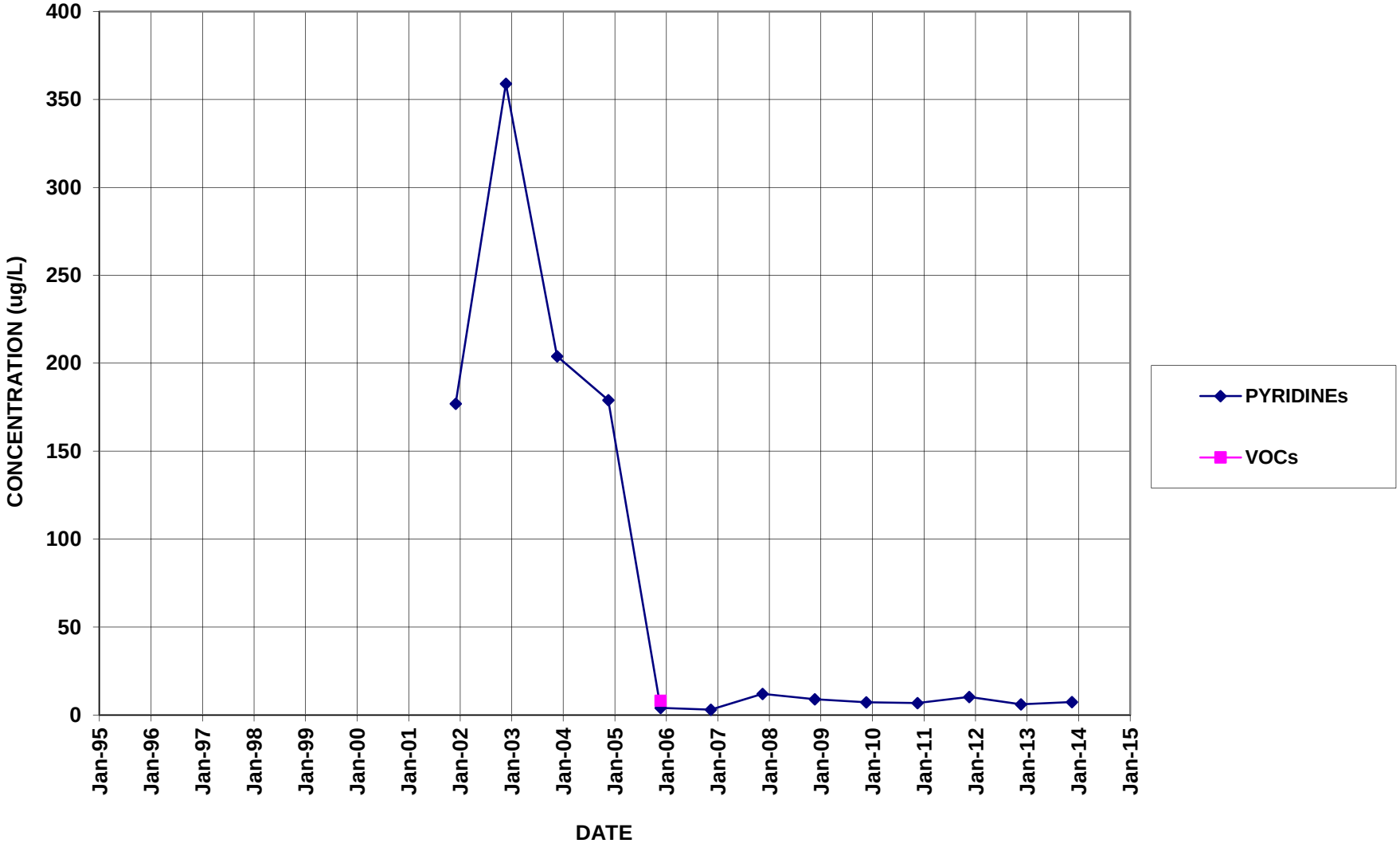
Prepared by: nmb
Reviewed by: jeb

MW-127



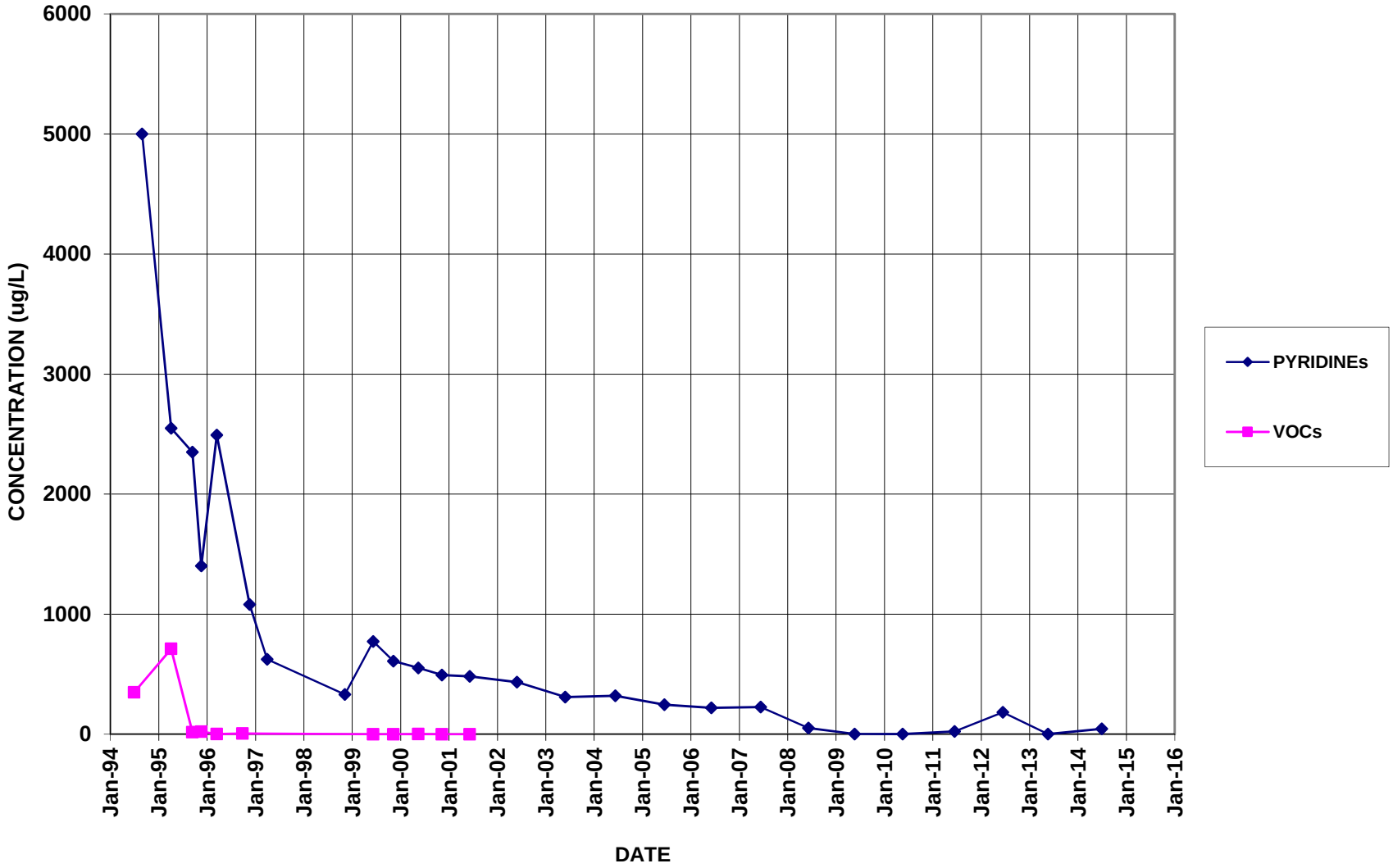
Prepared by: nmb
Reviewed by: jeb

MW-16



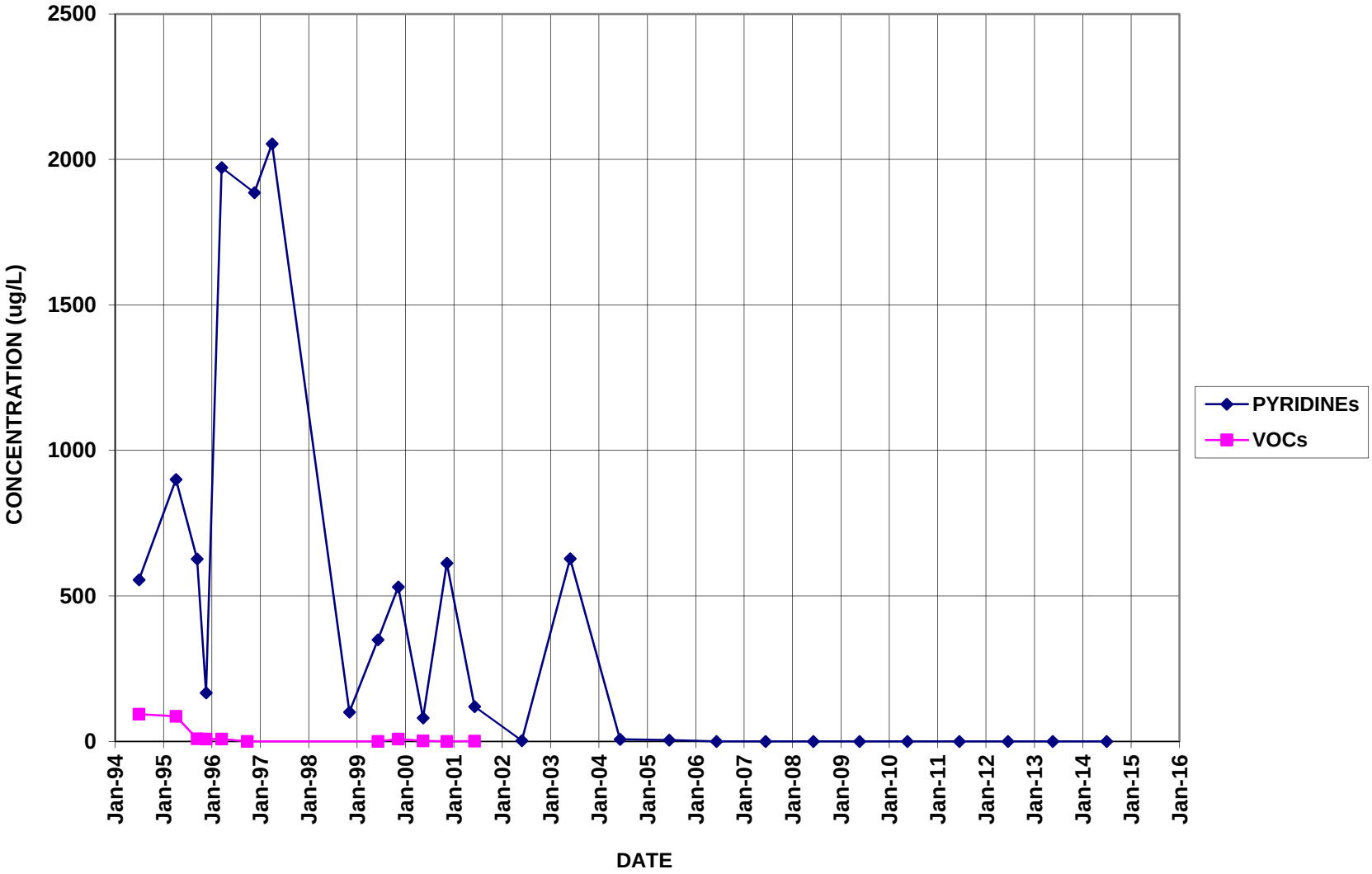
Prepared by: nmb
Reviewed by: jeb

NESS-E



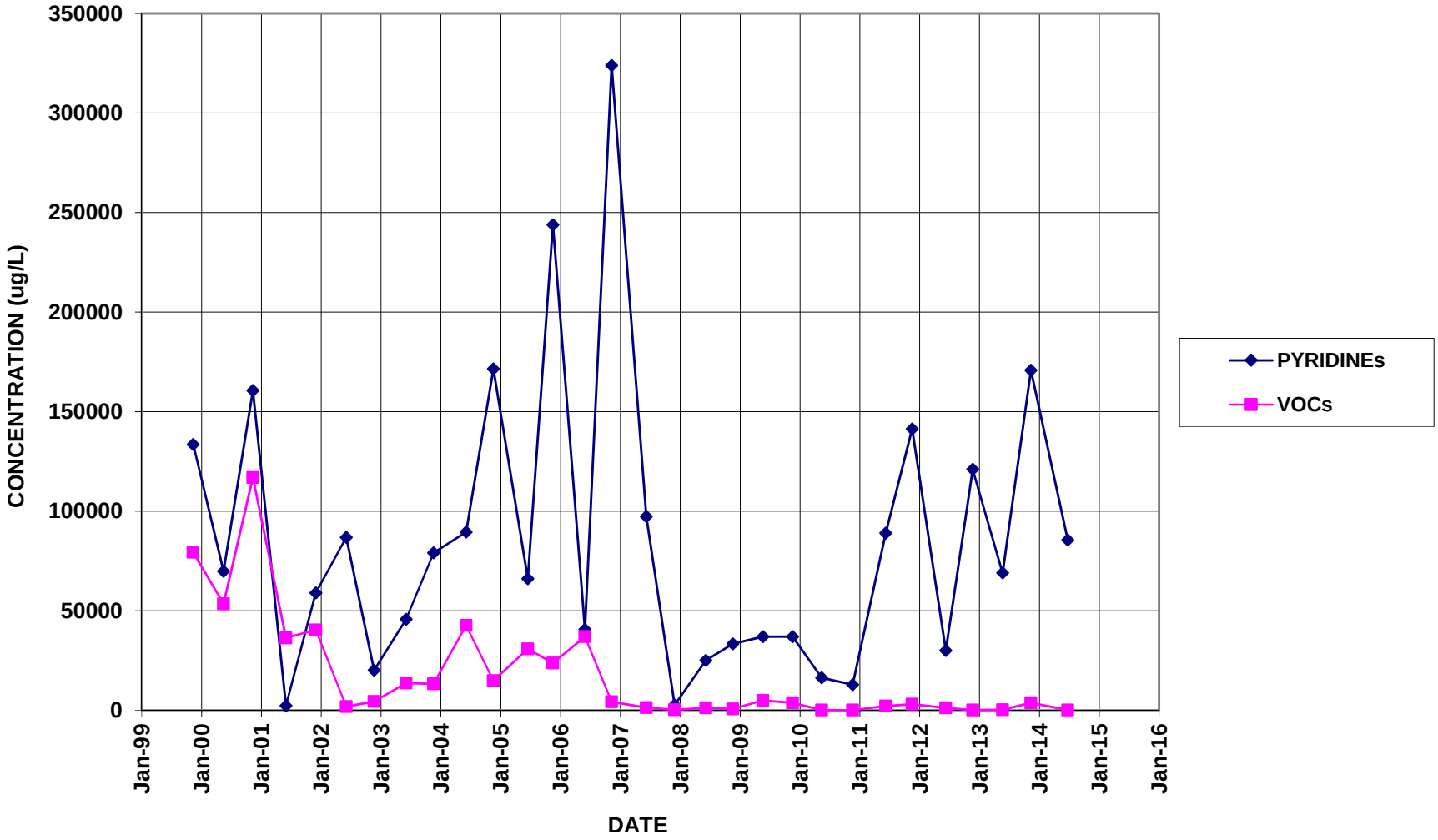
Prepared by: nmb
Reviewed by: jeb

NESS-W



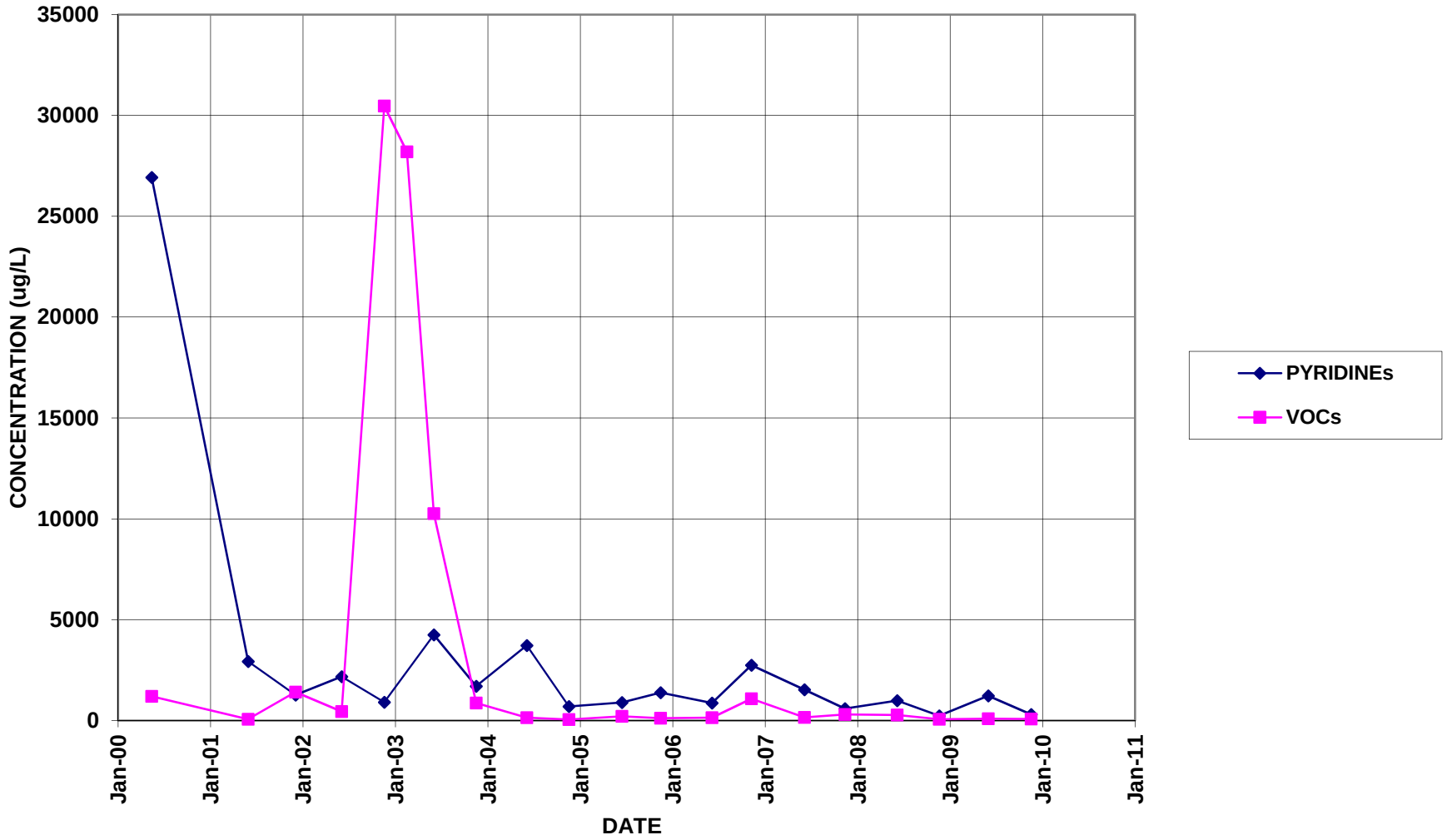
Prepared by: nmb
Reviewed by: jeb

PW10



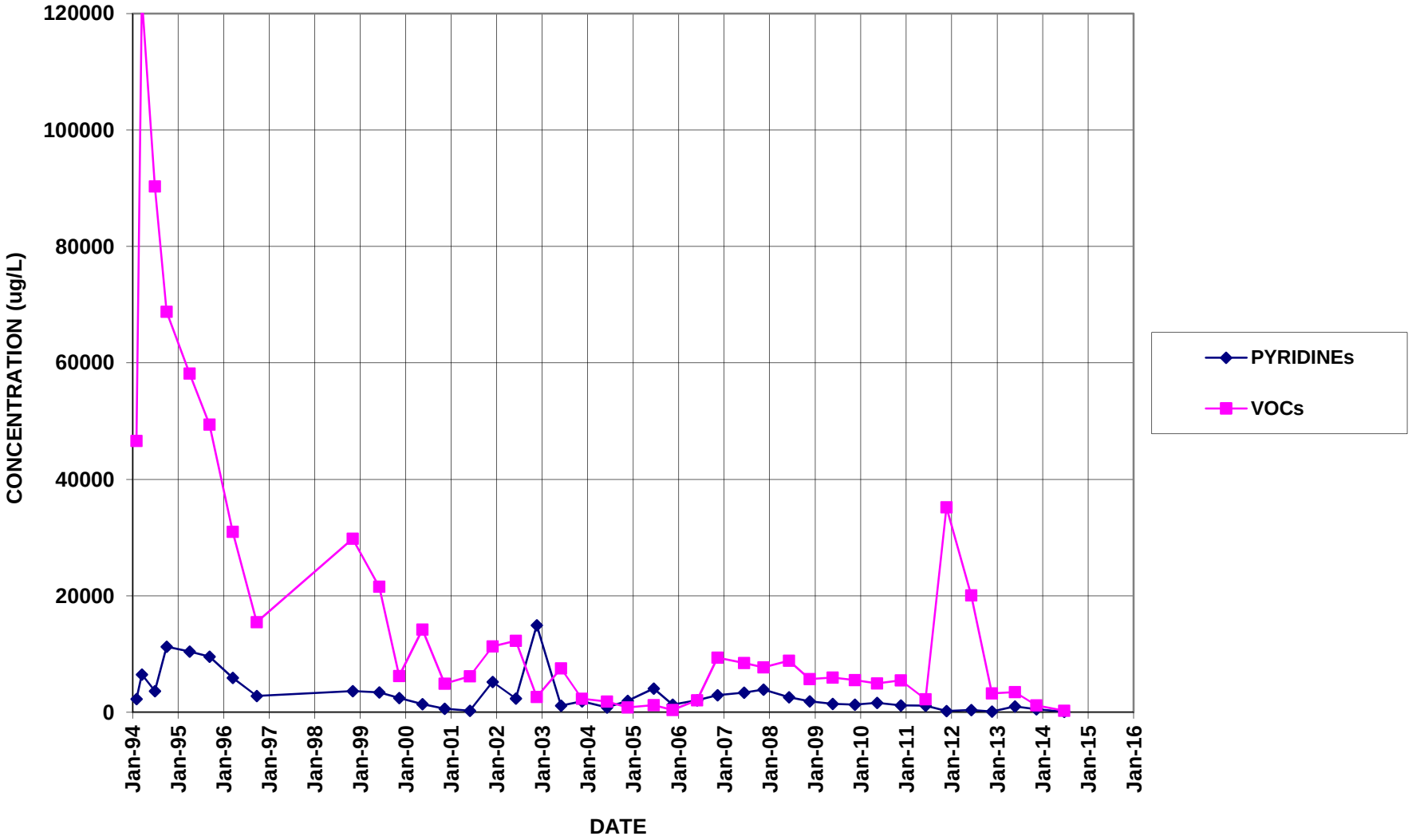
Prepared by: nmb
Reviewed by: jeb

PW11



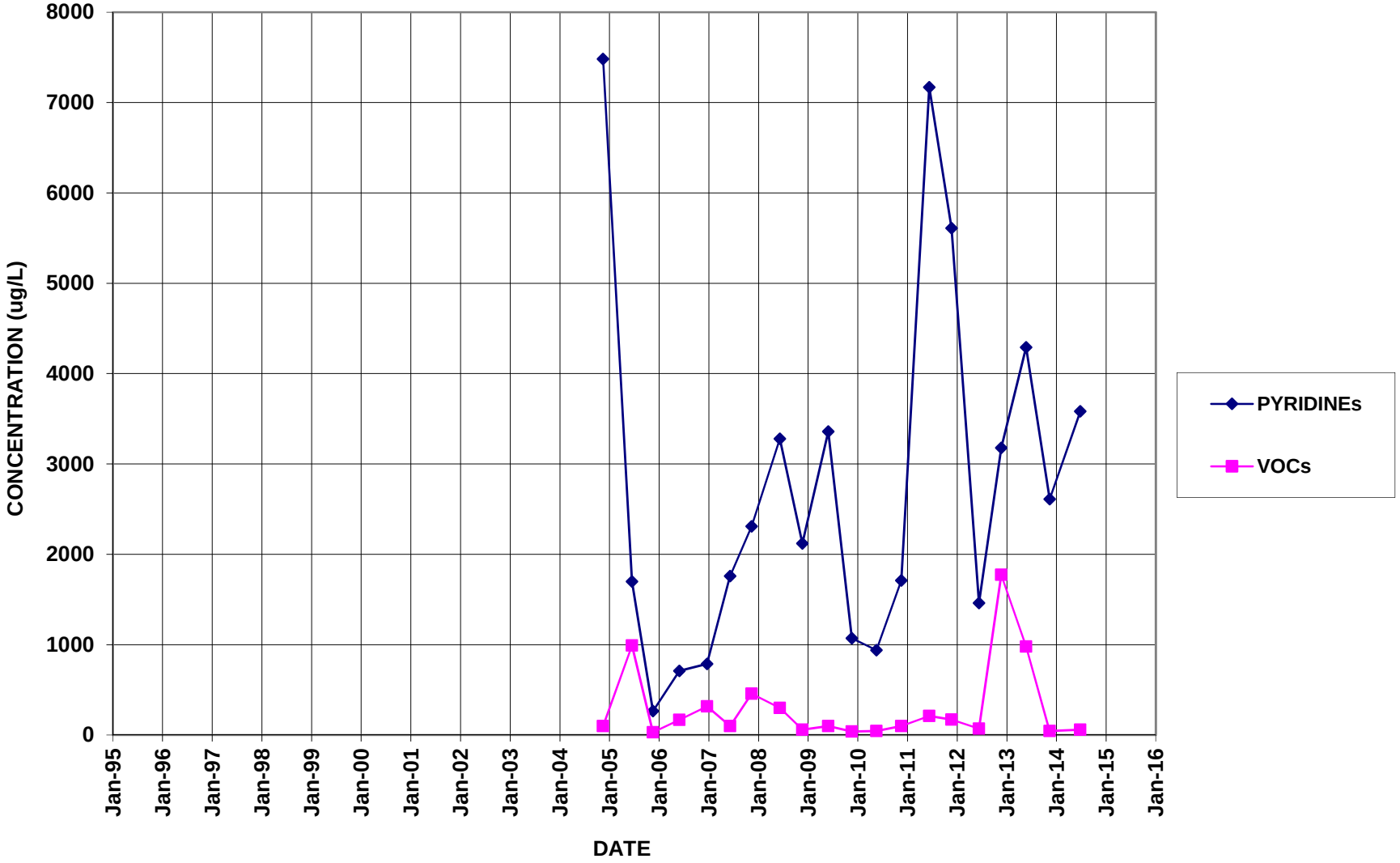
Prepared by: nmb
Reviewed by: jeb

PW12 (Formerly BR-101)



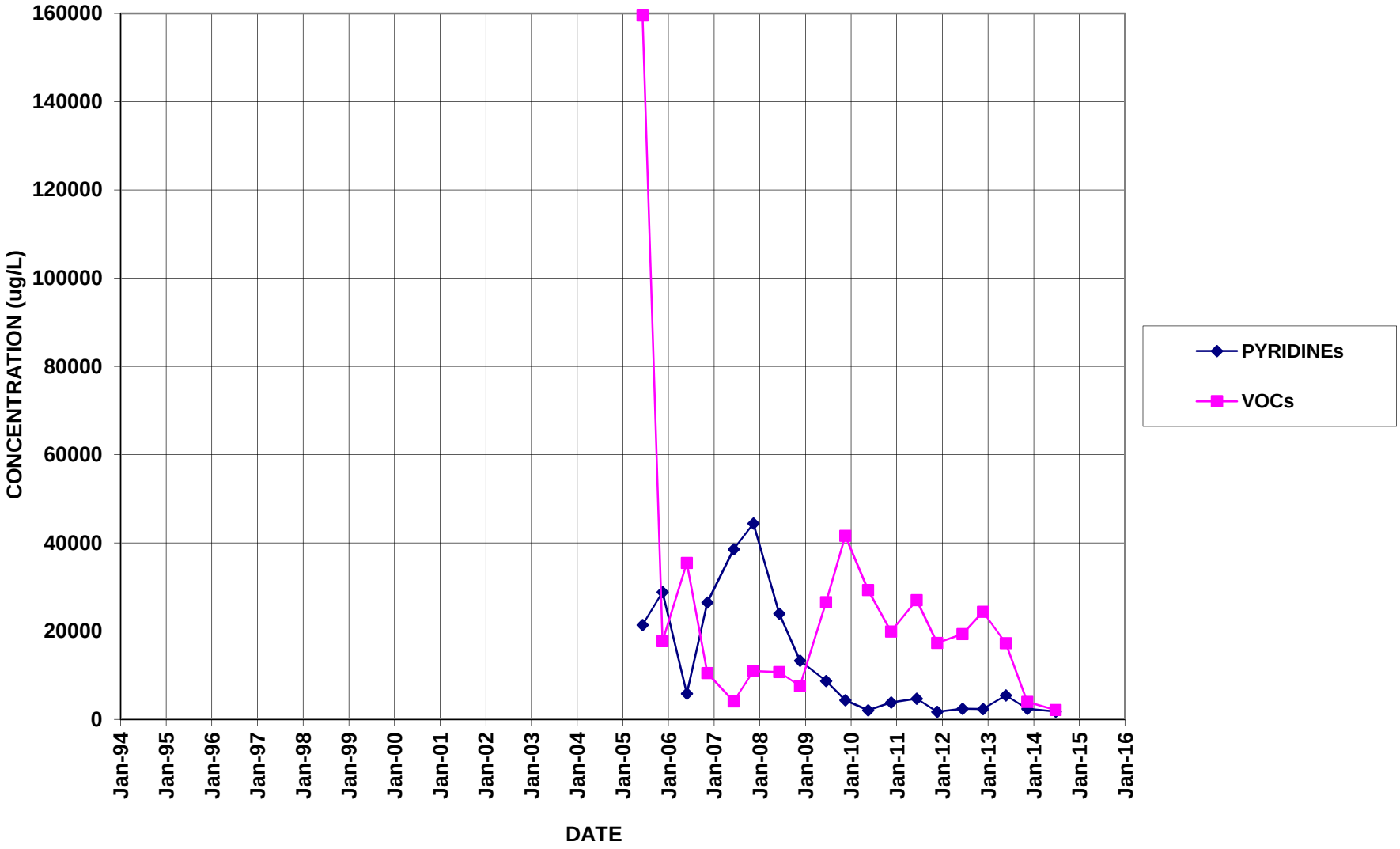
Prepared by: nmb
Reviewed by: jeb

PW13



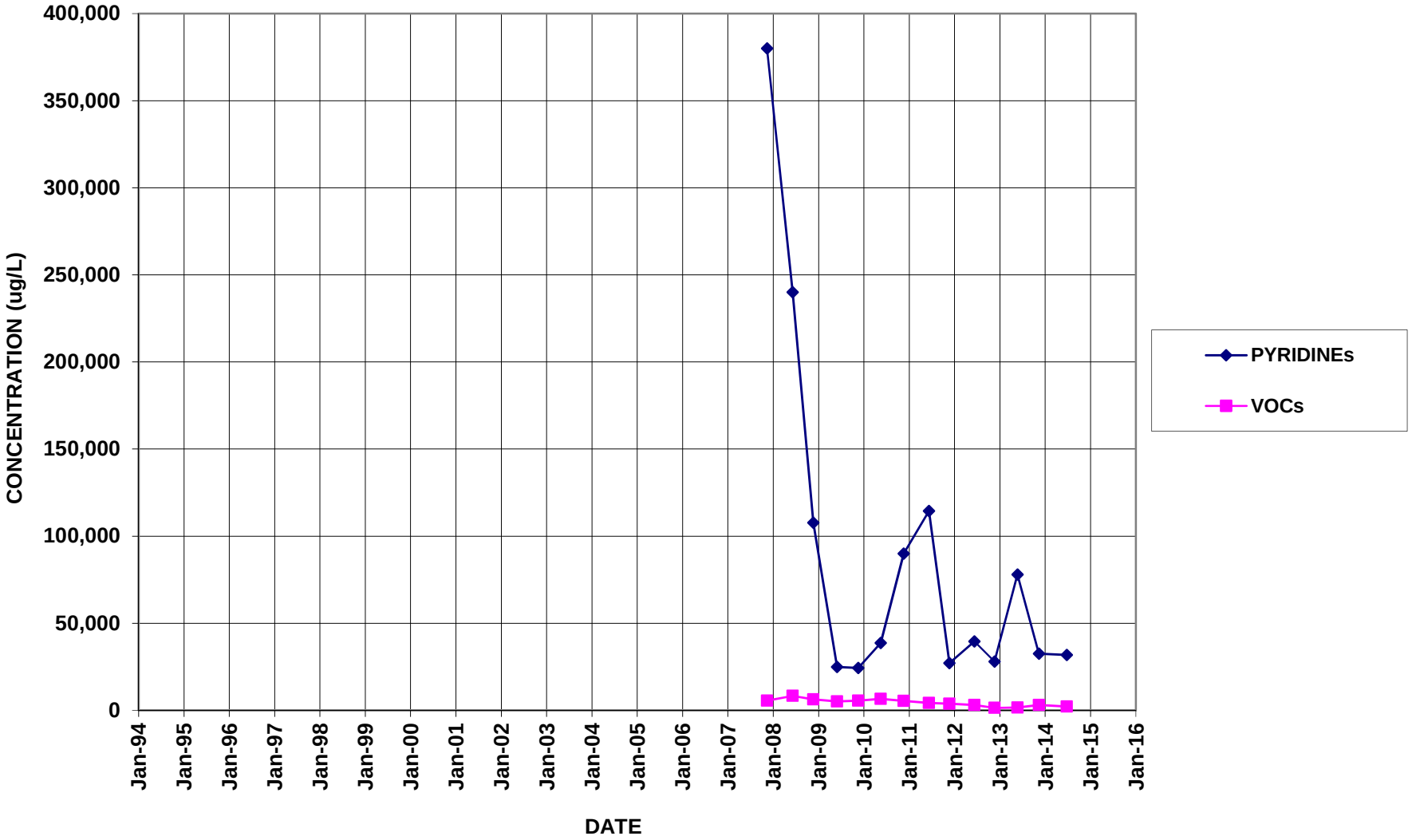
Prepared by: nmb
Reviewed by: jeb

PW14



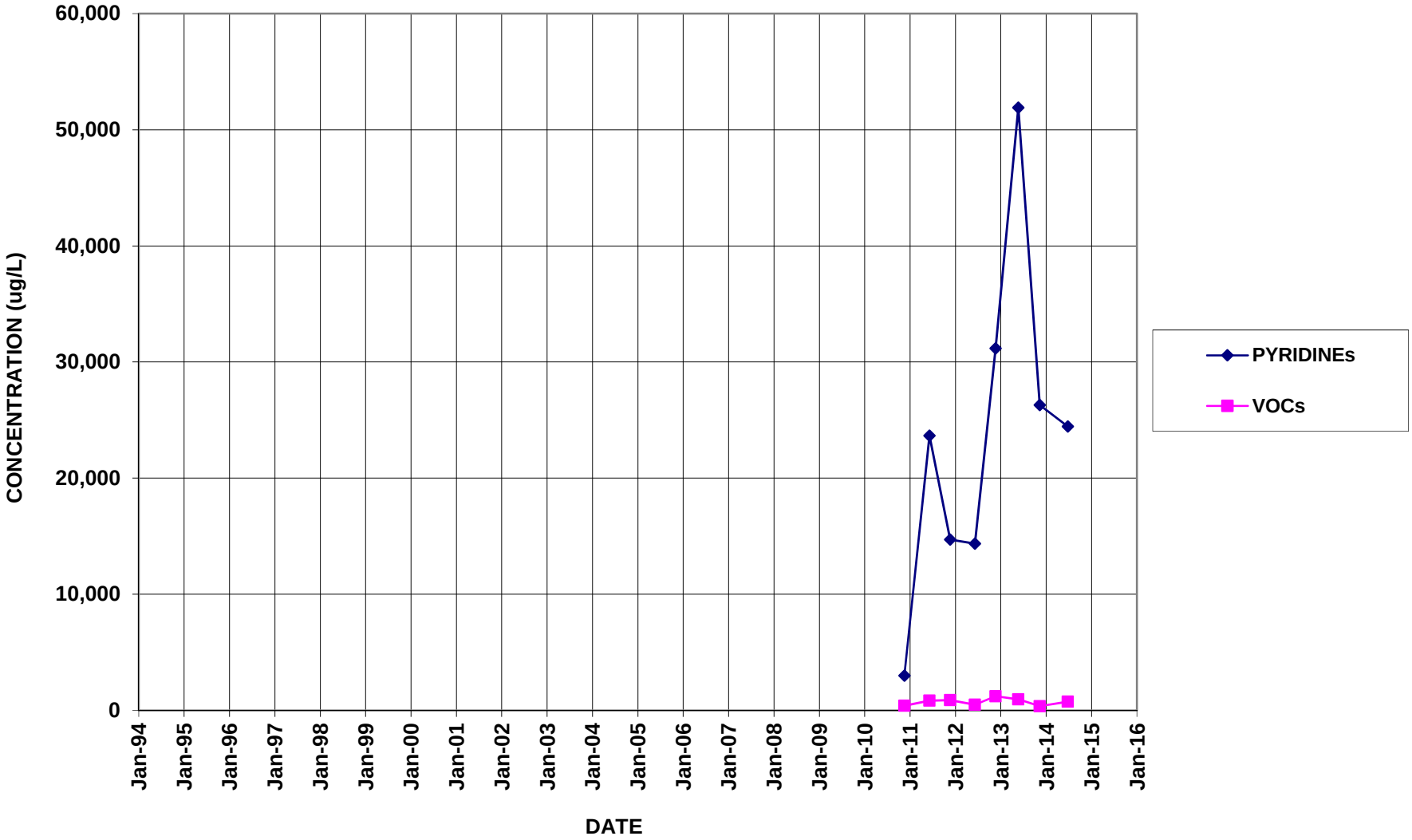
Prepared by: nmb
Reviewed by: jeb

PW15



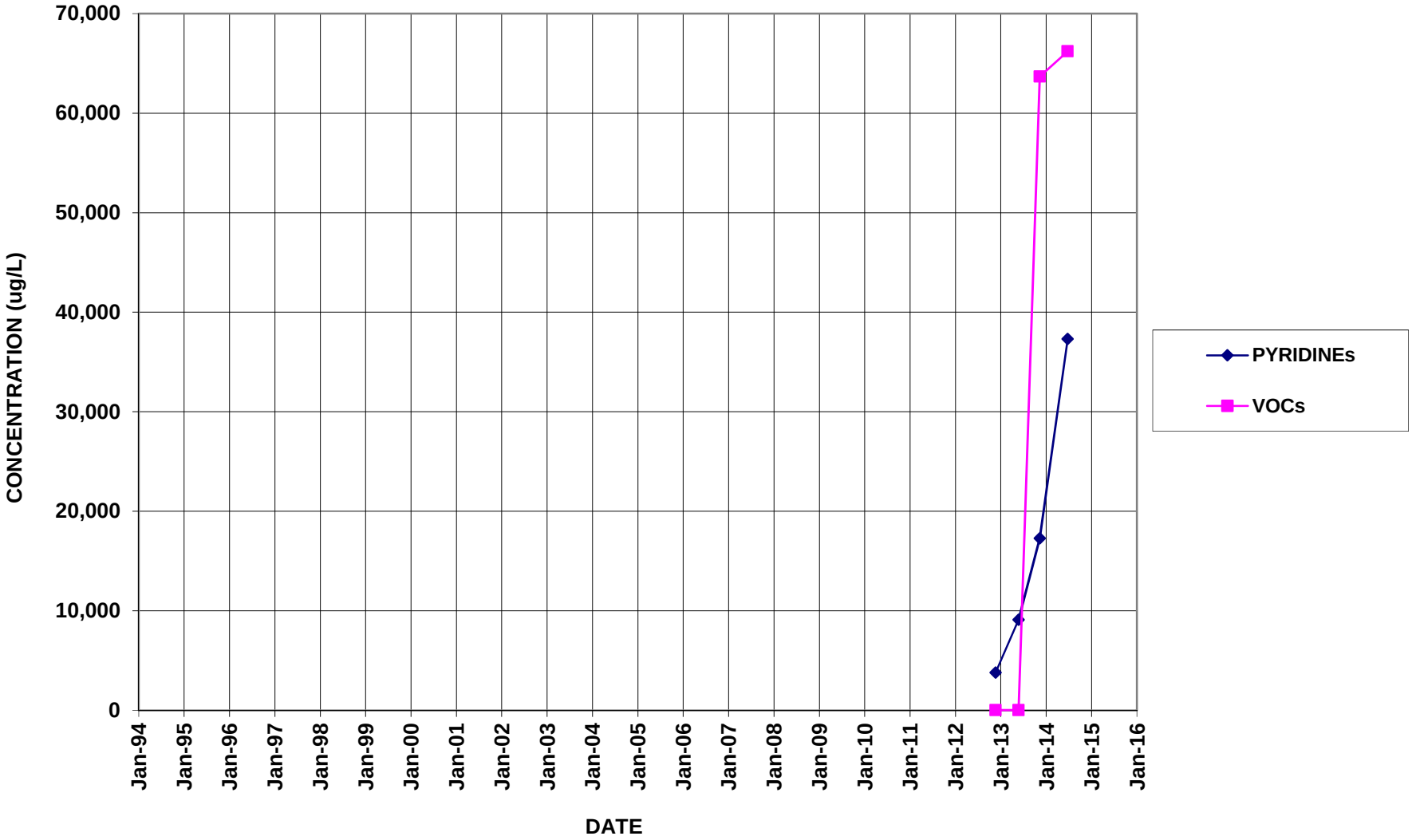
Prepared by: nmb
Reviewed by: jeb

PW16



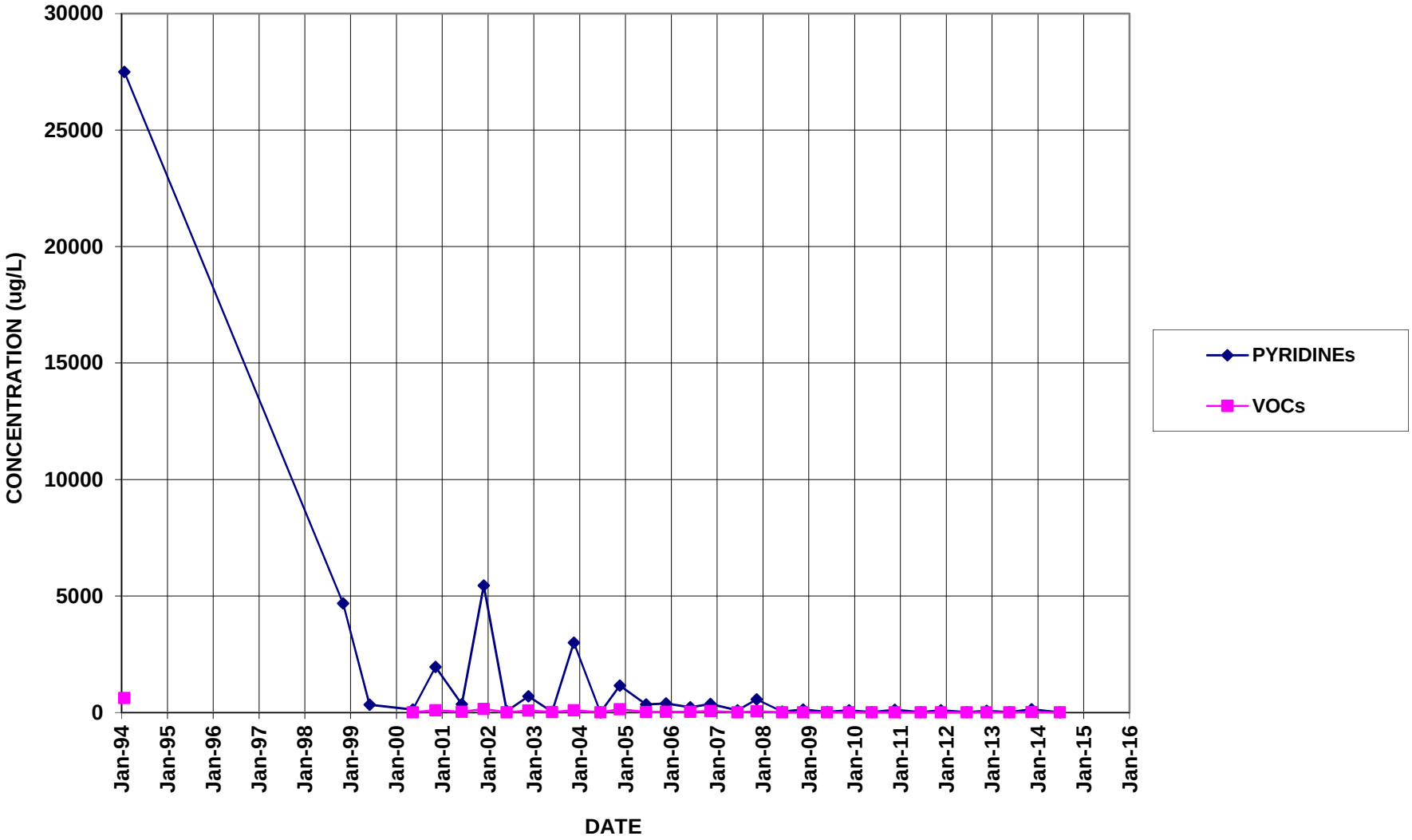
Prepared by: nmb
Reviewed by: jeb

PW17



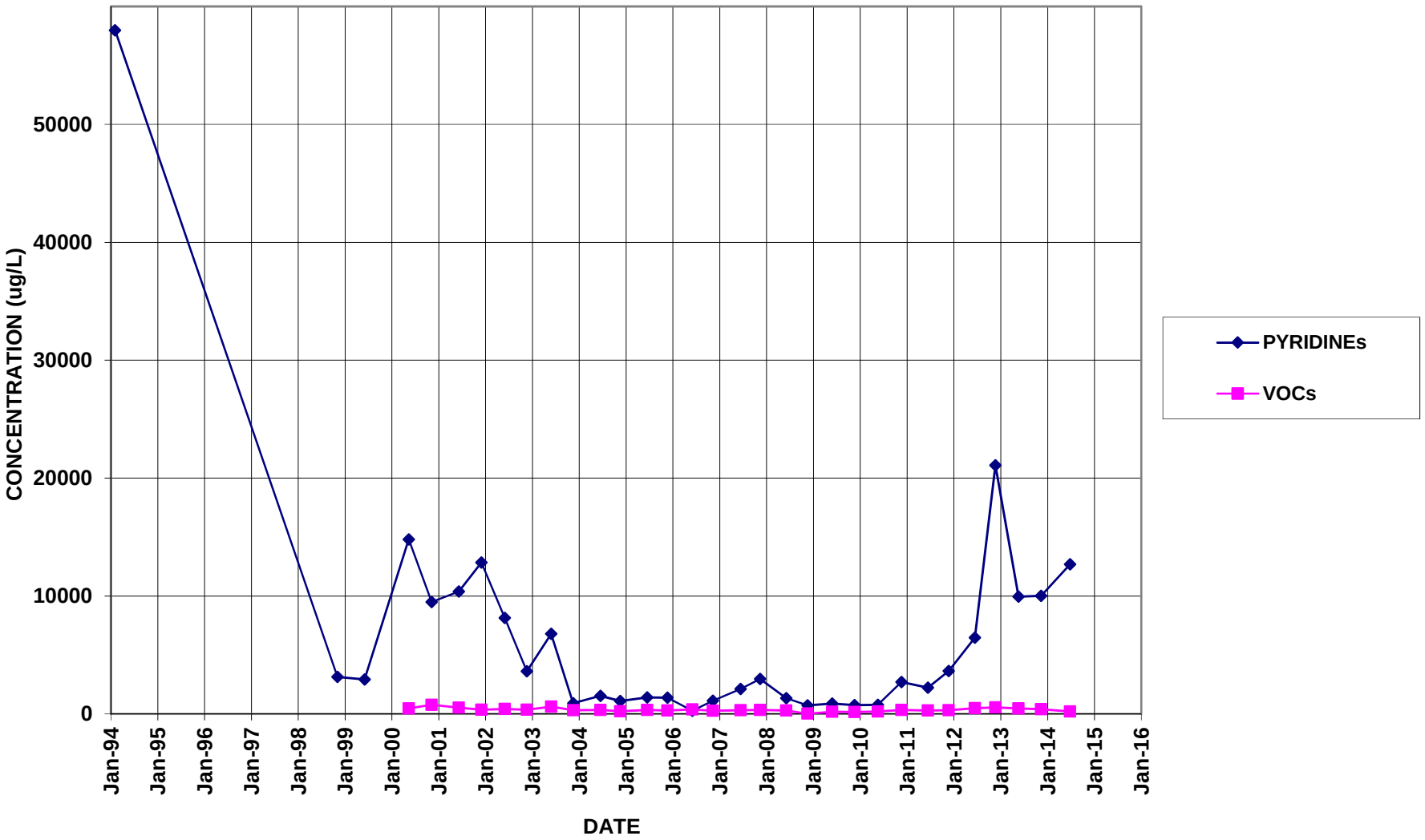
Prepared by: nmb
Reviewed by: jeb

PZ-101



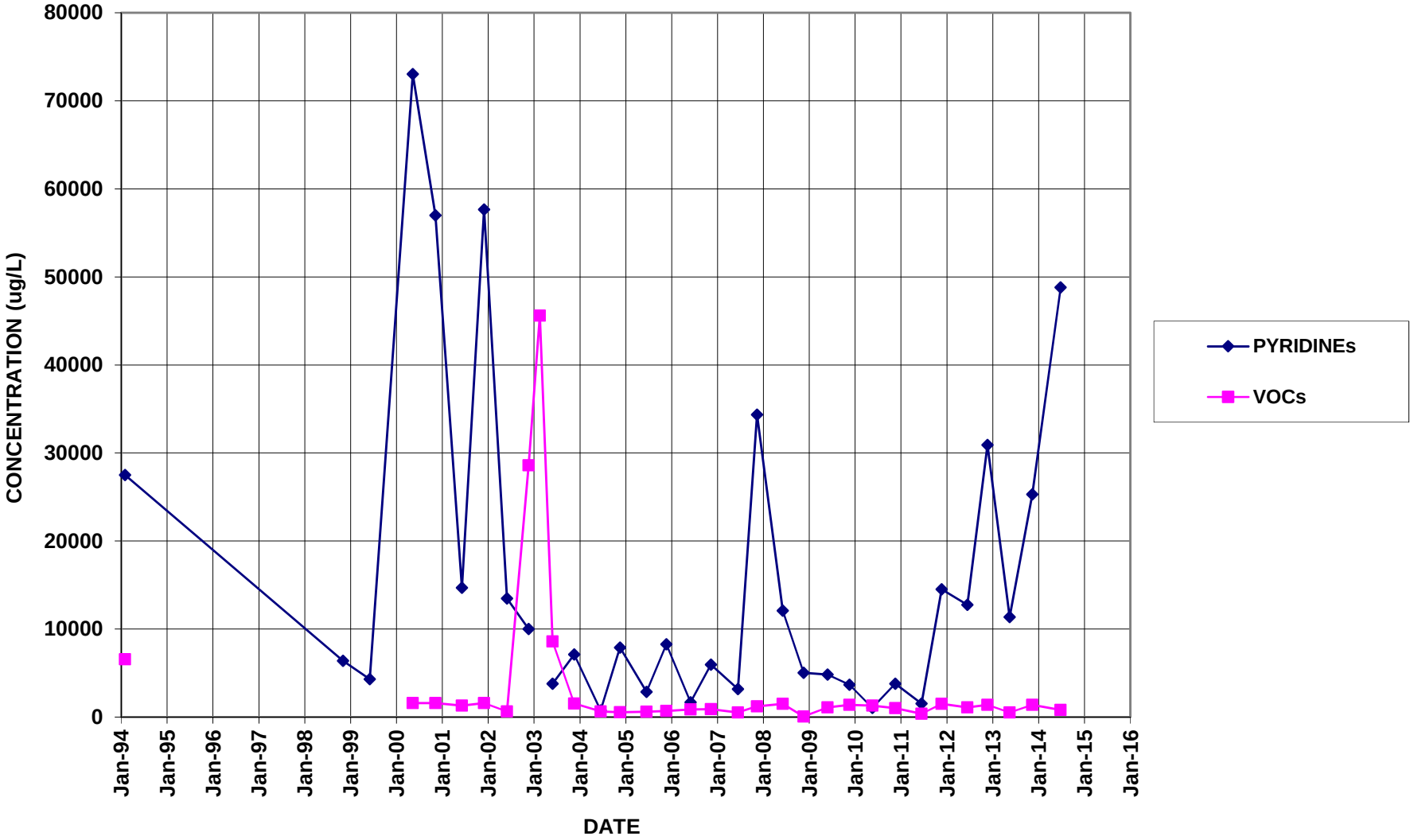
Prepared by: nmb
Reviewed by: jeb

PZ-102



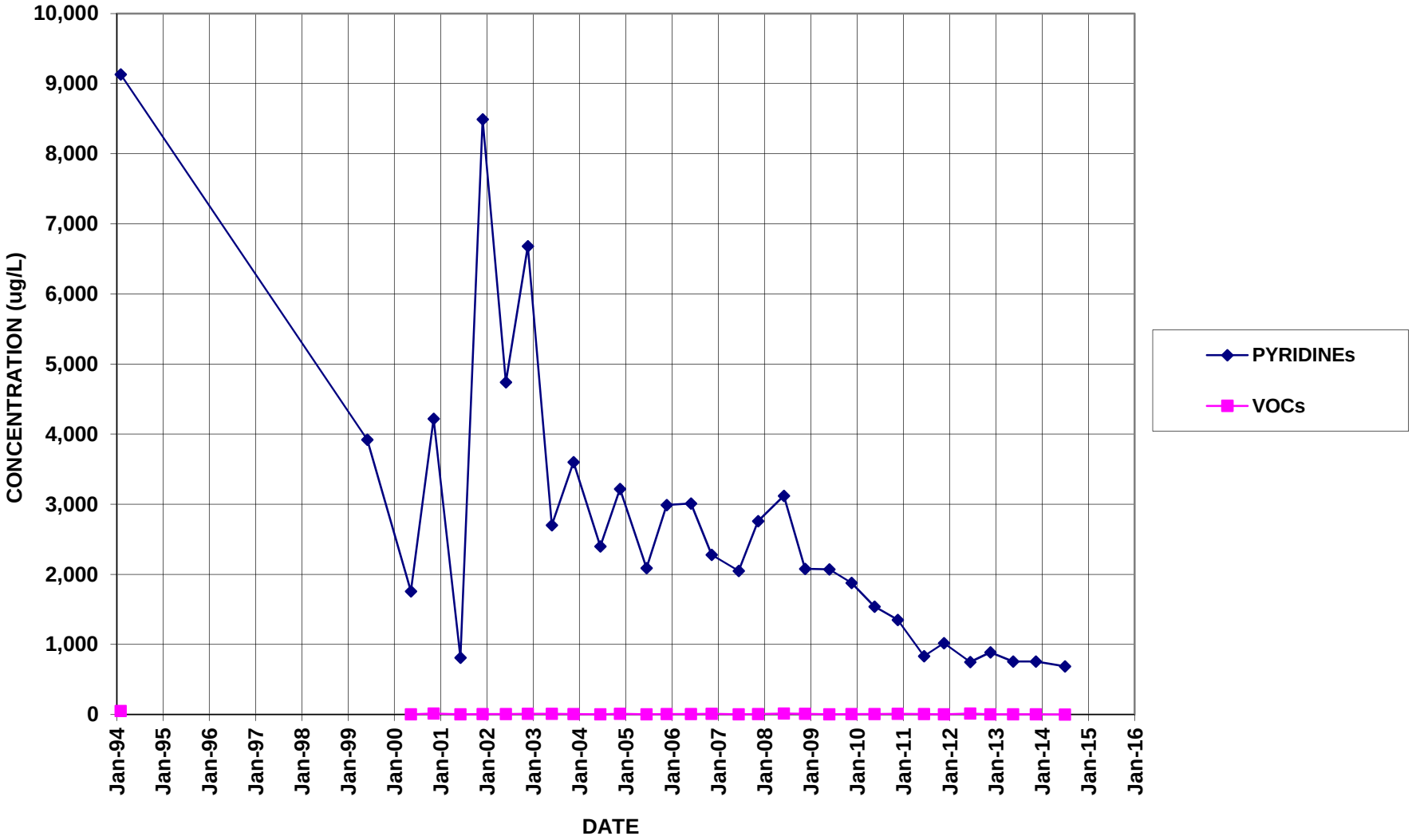
Prepared by: nmb
Reviewed by: jeb

PZ-103



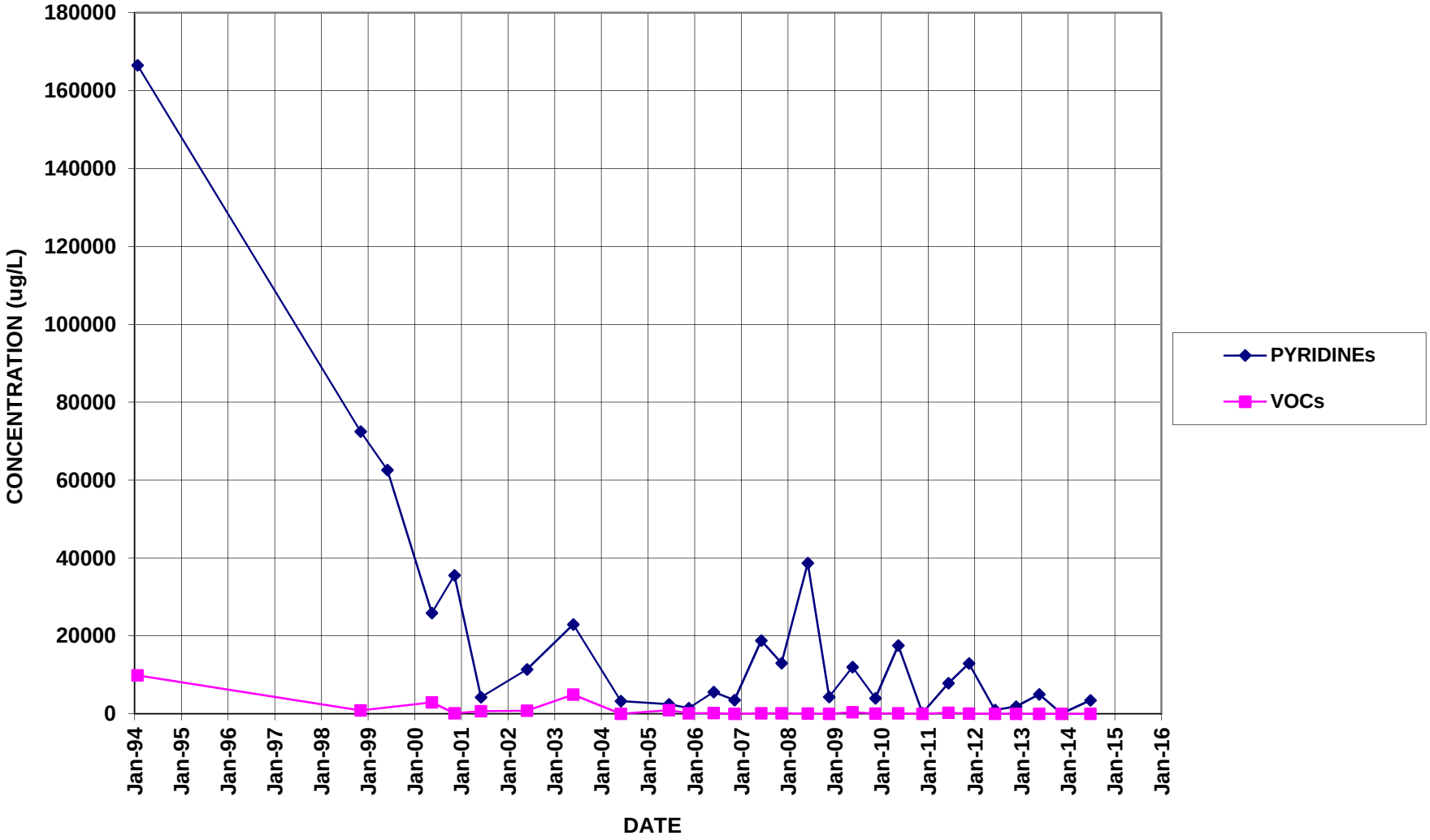
Prepared by: nmb
Reviewed by: jeb

PZ-104



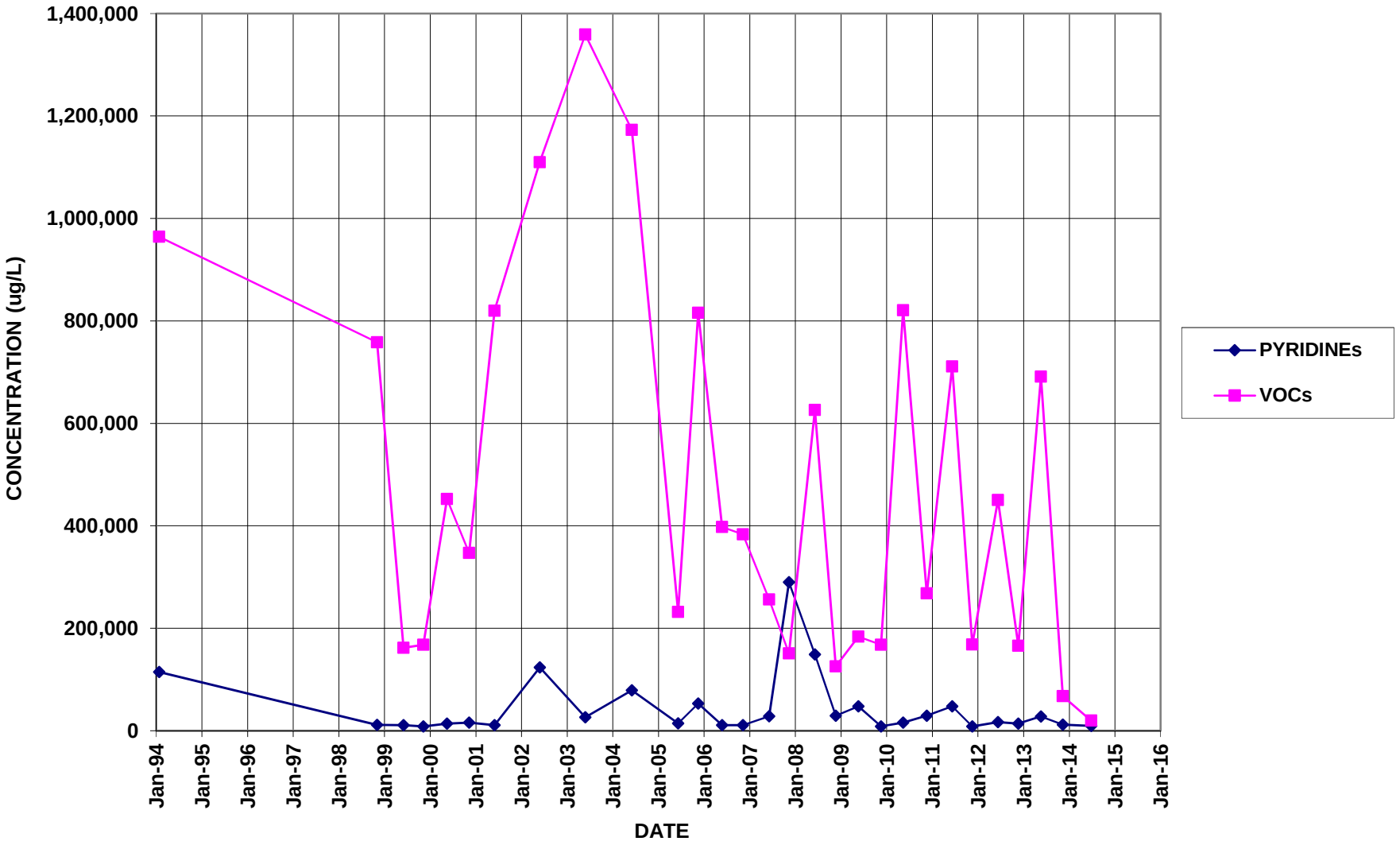
Prepared by: nmb
Reviewed by: jeb

PZ-105



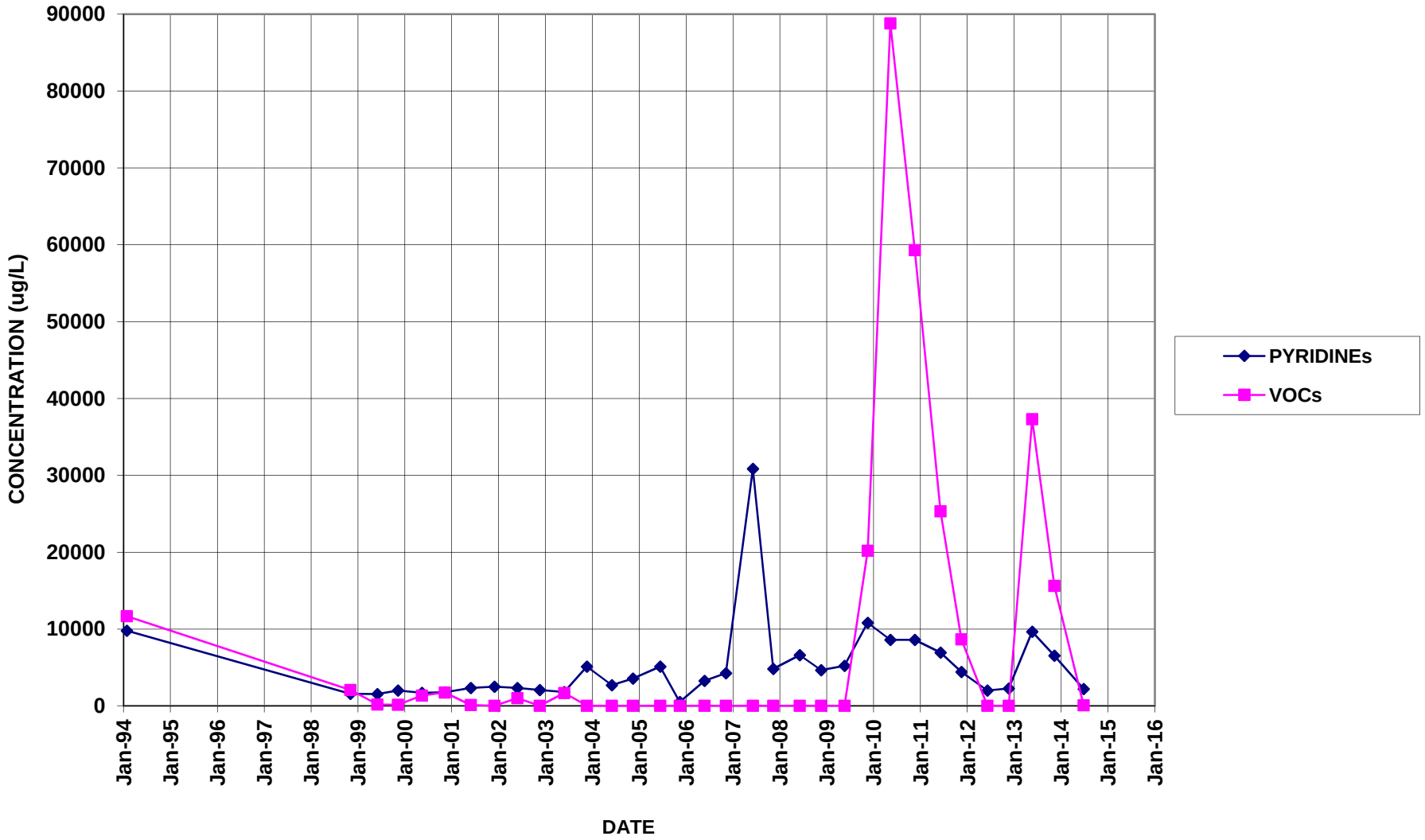
Prepared by: nmb
Reviewed by: jeb

PZ-106

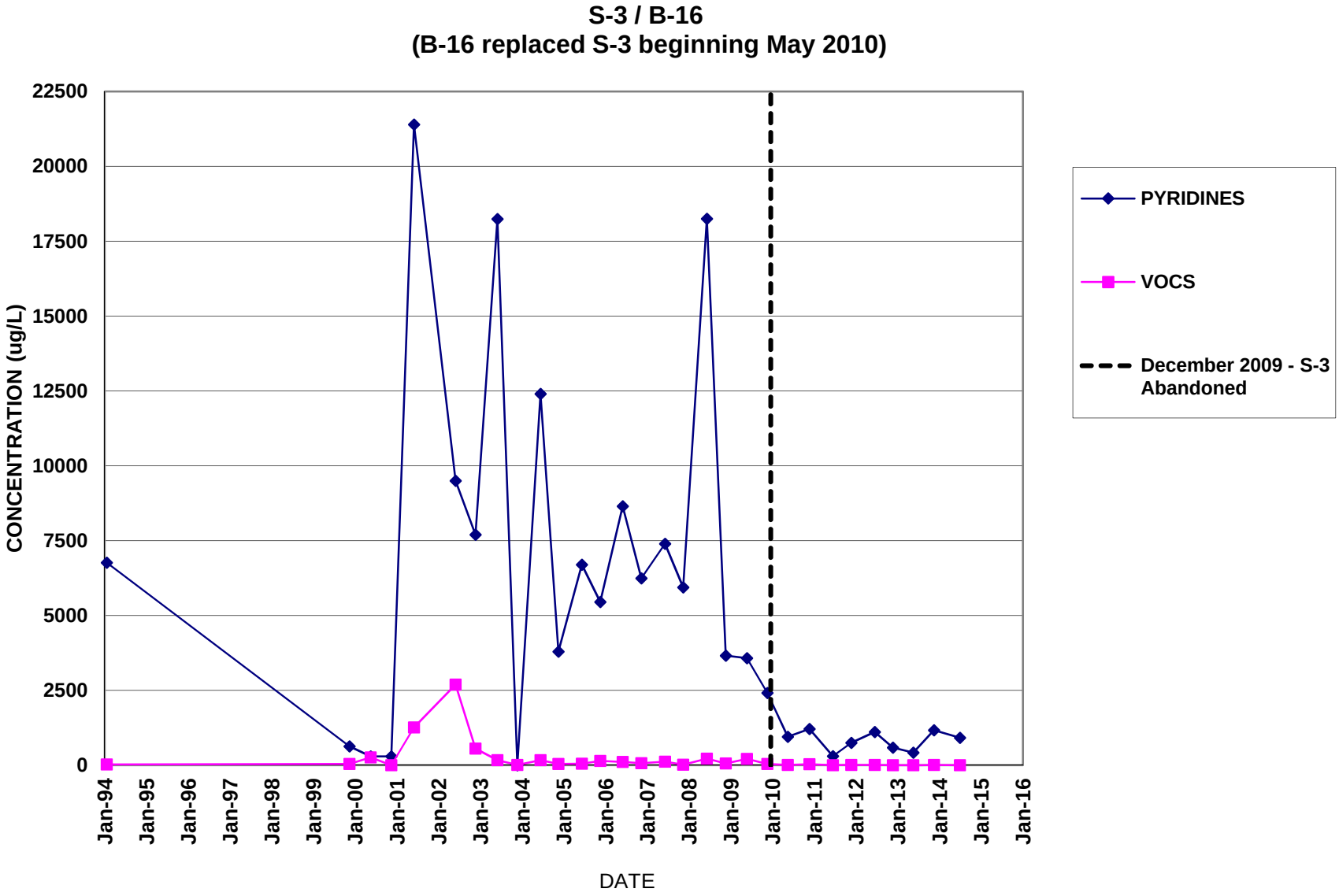


Prepared by: nmb
Reviewed by: jeb

PZ-107

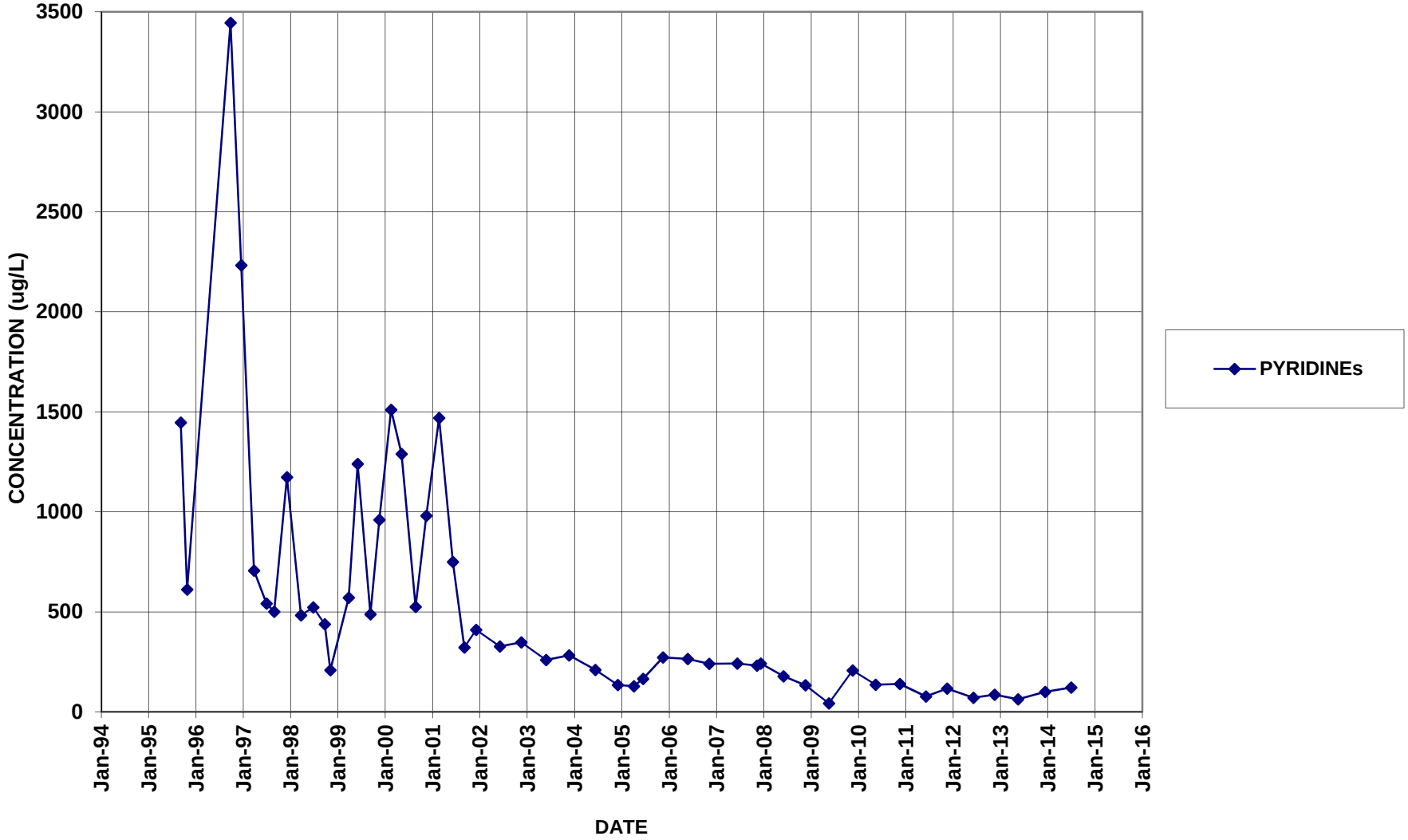


Prepared by: nmb
Reviewed by: jeb



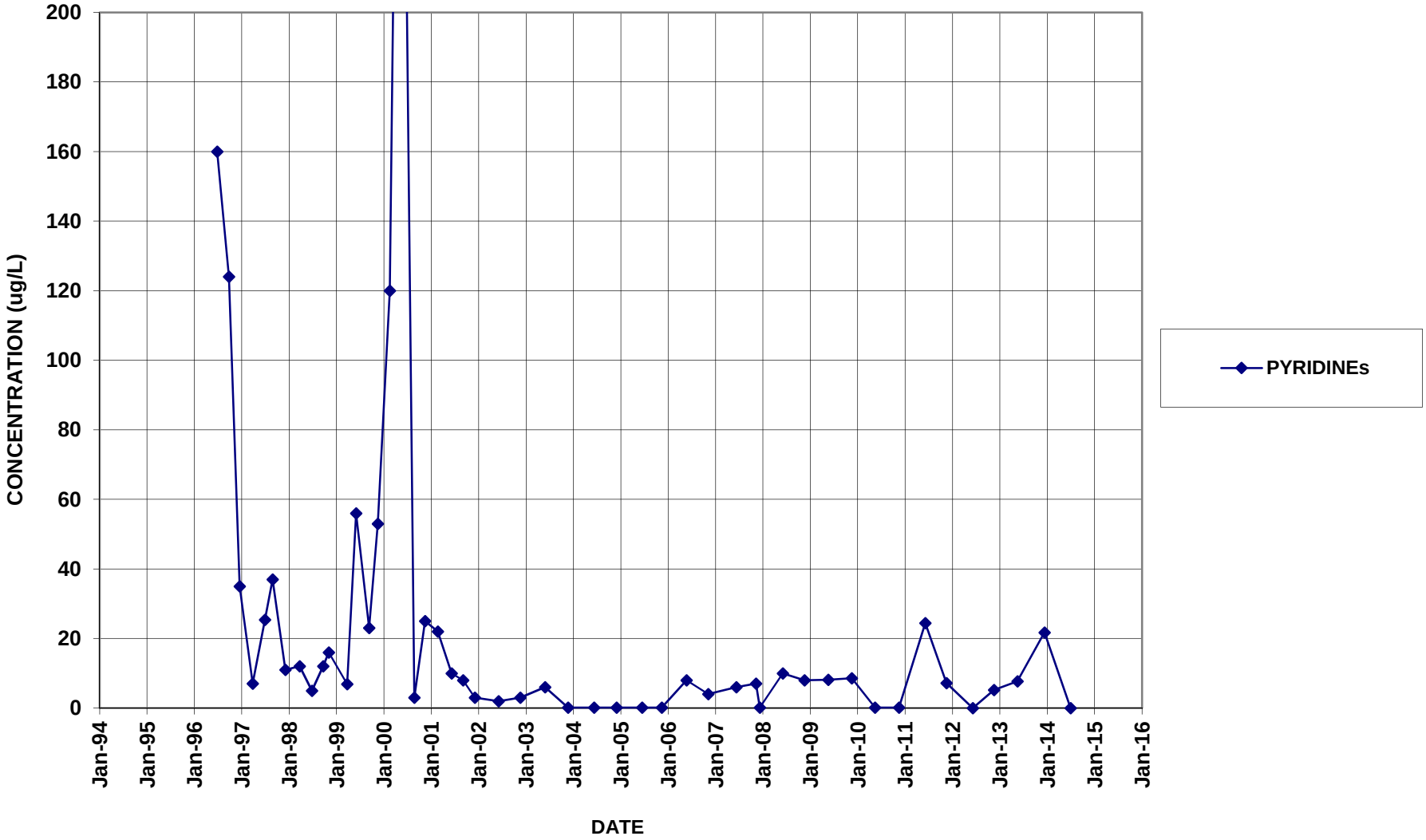
Prepared by: nmb
Reviewed by: jeb

QS-4 (QUARRY SEEP)



Prepared by: nmb
Reviewed by: jeb

QO-2 (QUARRY OUTFALL)



Prepared by: nmb
Reviewed by: jeb