SURFACE WATER AND GROUNDWATER MONITORING PROGRAM
FALL 2012 MONITORING REPORT

ARCH CHEMICALS
ROCHESTER PLANT SITE
ROCHESTER, NEW YORK

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

FEBRUARY 2013

SURFACE WATER AND GROUNDWATER MONITORING PROGRAM
FALL 2012 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)

February 2013

3616086023.05

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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 now 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 November 2012, samples from a total of 28 groundwater monitoring or pumping wells and four locations associated with the Dolomite Products Quarry seep and outfall were collected and analyzed by TestAmerica in Amherst, New York.

As in prior reports, monitoring results were compared with previous average concentrations at each sampling location. Twenty of the 28 monitoring wells sampled for chloropyridines had contaminant concentrations that were at or below their respective 5-year prior averages. Twenty-three of the 27 monitoring wells sampled for volatile organic compounds had concentrations at or below their 5-year prior averages. Contaminant contour plots are generally consistent with past observations.

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). Chloropyridine concentrations in quarry seep QS-4 were below the prior 5-year average for this location. Chloropyridines were detected at low levels in the two ditch samples, with the sample at QD-1 being slightly above its prior 5-year average. Chloropyridines were not detected in the canal water at sample location QO2-S1.

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

During the period June 2012 through November 2012, the on-site groundwater extraction system pumped approximately 7.3 million gallons of groundwater to the on-site treatment system, containing an estimated 324 pounds of chloropyridines and 36 pounds of target volatile organic compounds.

Maintenance activity during this reporting period included pump and/or meter repairs at wells PW-14, PW-15 and PW-16. Well PW-15 exhibited an increase in sediment accumulation and scaling during the period, and sediment was pumped out on several occasions. This well also exhibited a strong response to the hydrofracturing pilot test, indicating good hydraulic connection. Arch has recently installed an air-driven pump in PW-15 that is functioning adequately. Well BR-127 remained shut down throughout the reporting period, due to severe scaling and sediment buildup. Arch will attempt to re-activate this well in early 2013 using an air-driven pump. If this is not successful, the well will remain down and Arch will assess the effectiveness of groundwater capture in the area of this well once the planned nearby groundwater collection trench is installed.

The next regular monitoring event will occur in May 2013 and will include groundwater, surface water, and seep sampling.

1.0 INTRODUCTION

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

The Fall 2012 sampling event included the collection and analysis of a total of 32 groundwater, surface water, and seep samples from off-site and on-site locations. Samples were collected November 16 through 21, 2012, for analysis of selected chloropyridines and volatile organic compounds (VOCs).

This report presents the results of the Fall 2012 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 Test America Laboratories, Inc., (TestAmerica) and transported to their lab in Amherst, New York for analysis. Table 1 lists the wells that were sampled and the requested analyses. The off-site and on-site locations of these sampling points are shown in Figures 1 and 2, respectively. Groundwater sampling data sheets are provided in Appendix A.

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

Groundwater piezometric elevations were measured on November 16, 2012. Piezometric contour maps were constructed for each water-bearing zone (overburden, bedrock, and deep bedrock) and are presented in Figures 3, 4, and 5.

All accessible on-site monitoring wells were again 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 TestAmerica on November 16, 2012. All quarry-related samples were analyzed for the Arch suite of selected chloropyridines. The quarry locations sampled during the Fall 2012 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 VOCs by USEPA SW-846 Methods 8270C and 8260B, respectively. The reporting limits for the chloropyridines and VOCs are approximately 10 micrograms per liter (µg/L) and 5 to 25 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 recovery of the VOC surrogate bromofluorobenzene (123%) in sample PW-12 was above the 73-120 control limits, indicating potential high biases for positive results. Positive detections of VOCs reported in PW-12 were qualified as estimated (J) and may represent potential high biases.

Blank Contamination. Carbon disulfide (3.8 – 3.9 ug/L) was reported in the trip blanks associated with a subset of samples. Action levels were calculated at five times the blank concentrations and then were compared to associated sample results. Low level detections of carbon disulfide in the following samples were below the action level and were qualified non-detect (U): BR-127; PZ-104; BR-105; BR-105D; BR-106; and MW-106.

Carbon disulfide (0.58 ug/L) and acetone (5.5 ug/L) were reported in the trip blank associated with a subset of samples. Action levels were calculated at five times the blank concentration for carbon disulfide and ten times the blank concentration for acetone, and then were compared to associated sample results. Low level detections of carbon disulfide in the following samples were below the action level and were qualified non-detect (U): BR-9; BR-5A; PW-14; and PW-16. The low level detection of acetone in sample BR-7A was below the action level and was qualified non-detected (U).

Duplicates. The relative percent difference (RPD) (54%) between results for 2-chloropyridine (2100 ug/L, 1200 ug/L) in sample BR-127 and associated field duplicate BR-127DUP was above the control limit. Results for 2-chloropyridine in BR-127 and BR-127DUP were qualified estimated (J).

Matrix Spike/Matrix Spike Duplicates (MS/MSD). Percent recoveries of chlorobenzene (51%, 44%) and toluene (28%, 18%) in the MS/MSD associated with sample PW-12 were below control limits, indicating potential low biases for chlorobenzene and toluene. In addition, the RPD between percent recoveries for bromomethane (28%) was above the control limit. Bromomethane was not detected in sample PW-12, and the quantitation limit was qualified as estimated (UJ). The positive detections of chlorobenzene and toluene in sample PW-12 were qualified as estimated (J) and may represent potential low biases.

RPDs between percent recoveries of acetone (25%) and chloroethane (21%) in the MS/MSD associated with sample PW-16 were above the control limits. Acetone and chloroethane were not detected in sample PW-16, and quantitation limits were qualified estimated (UJ).

Percent recovery of chloroform (71%) in the MS or MSD associated with sample PW-13 was below the control limits, indicating a potential low bias for chloroform in sample PW-13. In addition, RPDs between percent recoveries of acetone (24%) and chloroethane (16%) were above the control limits. Acetone and chloroethane were not detected in sample PW-13, and quantitation limits were qualified estimated (UJ). The positive detection of chloroform in PW-13 was qualified estimated (J) and may represent a potential low bias.

Percent recovery of 2-chloropyridine (128%) in the MS associated with sample PZ-105 was above the control limits, indicating a potential high bias for 2-chloropyridine. The positive detection of 2-chloropyridine in sample PZ-105 was qualified as estimated (J) and may represent a potential high bias.

Miscellaneous. Samples from 20 of the wells were analyzed at dilutions due to high concentrations of volatile organic and/or semivolatile organic target analytes. Non-detects are reported at elevated reporting limits.

3.0 ANALYTICAL RESULTS

3.1 GROUNDWATER

The validated results from the Fall 2012 groundwater monitoring event are provided in Tables 2 and 3. Table 4 provides a comparison of the Fall 2012 analytical results for selected chloropyridines and VOCs in representative wells to mean concentrations of the

prior five years (Fall 2007 through Spring 2012). Long term trends for both selected chloropyridines and VOCs are also presented as time-series plots for representative wells in Appendix B. A summary of the analytical findings is presented below by parameter class.

3.1.1 Chloropyridines

On-Site. Chloropyridines were detected above sample quantitation limits in all 17 on-site wells sampled in the Fall 2012 event. Concentrations of chloropyridines ranged from 130 micrograms per liter (µg/L) (sum of all chloropyridine and pyridine isomer concentrations) in monitoring well PW-12 (a.k.a. BR-101), to 121,000 µg/L in monitoring well PW-10. Five of the 17 on-site wells exhibited total chloropyridine concentrations that were above their respective means from monitoring events over the previous five years (BR-6A, BR-9, PW-10, PW-13, and PW-16). New well PW-17 was sampled for the first time, and contained 3,800 µg/L total chloropyridines.

Off-Site. Chloropyridines were detected above sample quantitation limits in all 11 off-site wells that were sampled. Concentrations of total selected chloropyridines ranged from 6 µg/L in well MW-16 (on the former General Circuits property) to 34,200 µg/L in well MW-106 on the Aid to Hospitals property. Three of the 11 off-site wells contained total chloropyridine concentrations above their respective 5-year prior means (MW-106, PZ-102, and PZ-103).

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. Contours are approximated (shown as dashed lines) where they are based on historical data.

3.1.2 Selected VOCs.

On-Site. Selected VOCs were detected in 14 of the 17 on-site wells sampled in the Fall 2012 event. Total concentrations of selected VOCs ranged from not detected (in wells MW-127 and PZ-105) to 208,000 µg/L in PZ-106 for the sum of the principal site-related contaminants (carbon tetrachloride, chloroform, methylene chloride, tetrachloroethene, and trichloroethene). Four of the 17 on-site wells (BR-7A, PW-13, PW-14, and PW-16) contained concentrations of total VOCs above their 5-year prior means. New well PW-17 contained total selected VOCs at 16 µg/L.

In addition to the selected VOCs, other notable constituents detected in multiple on-site wells include chlorobenzene (in 12 out of 17 wells), toluene (11 of 17), benzene (11 of 17), vinyl chloride (8 of 17), 1,2-dichloroethene (8 of 17), total xylenes (4 of 17), bromoform (4 of 17), carbon disulfide (3 of 17), chlorodibromomethane (3 of 17), 1,1-dichloroethane (3 of 17), acetone (2 of 17), and ethylbenzene (2 of 17).

Off-Site. Selected VOCs were detected in just one of the 10 off-site wells sampled for VOCs in the Fall 2012 event. The total concentration of selected VOCs in monitoring well BR-105D was 2.3 µg/L, which was below its prior 5-year mean. In addition to the selected VOCs, other notable constituents detected in multiple off-site wells include benzene (in 9 out of 10 wells), chlorobenzene (9 of 10), 1,2-dichloroethene (3 of 10), and 1,1-dichloroethane (2 of 10).

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.

3.2 SURFACE WATER

Results from the Fall 2012 canal and quarry monitoring event are presented in Table 5, and summarized below.

3.2.1 Quarry

One quarry seep (QS-4) was sampled in the Fall 2012 monitoring event. The sample contained 86 µg/L total chloropyridines, which is below its prior 5-year mean.

3.2.2 Quarry Discharge Ditch

Two locations within the quarry discharge ditch were sampled and analyzed for chloropyridines: QD-1, at the point where the quarry's dewatering discharge enters the ditch; and QO-2, at the location where the ditch discharges to the canal. Low levels of chloropyridine-related compounds were detected in these two ditch samples at estimated values of 6.8 µg/L and 5.2 µg/L, respectively. The value at QD-1 was slightly above its prior 5-year mean.

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 June 2012 through November 2012. The total volume pumped during the six-month period was approximately 7.3 million gallons.

Maintenance activity during this reporting period included pump and/or meter repairs at wells PW-14, PW-15 and PW-16.

Pumping wells BR-5A, BR-7A, BR-9, PW-13, and PW-16 operated reliably and consistently throughout the period. Well PW-14 has continued to exhibit poor yield, due to well fouling. Previous efforts to rehabilitate this well have been unsuccessful and eventually PW-14 will likely have to be shut down. Well PW-15 exhibited an increase in sediment accumulation and scaling during the period, and sediment was pumped out on several occasions. This well also exhibited a strong response to the hydrofracturing pilot test, indicating good hydraulic connection. Arch has recently installed an air-driven pump in PW-15 that is functioning adequately. Well BR-127 remained shut down throughout the reporting period, due to severe scaling and sediment buildup. Arch will attempt to re-activate this well in early 2013 using an air-driven pump. If this is not

successful, the well will remain down and Arch will assess the effectiveness of groundwater capture in this part of the site once the planned nearby groundwater collection trench is installed in 2013.

Table 7 provides a calculation of mass removal rates since the previous groundwater monitoring event (i.e., from June 2012 through November 2012). Arch estimates that approximately 36 pounds of target VOCs and 324 pounds of chloropyridine compounds were removed by the groundwater extraction system and treated by the plant's activated carbon adsorption units over that time period.

5.0 NEXT MONITORING EVENT

The next regular monitoring event will occur in May 2013 and will include groundwater, surface water, and seep sampling.

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

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

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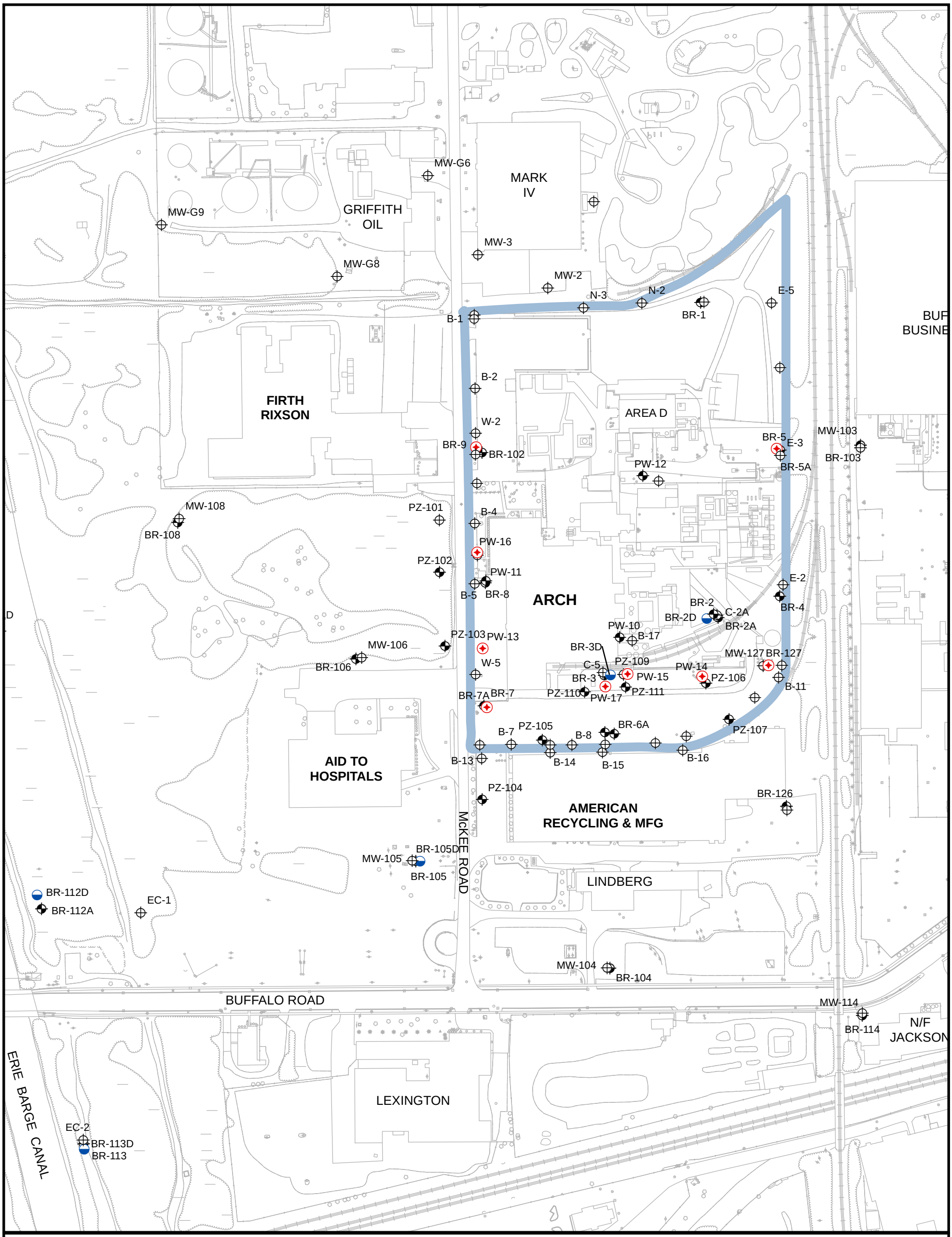

NOTES:

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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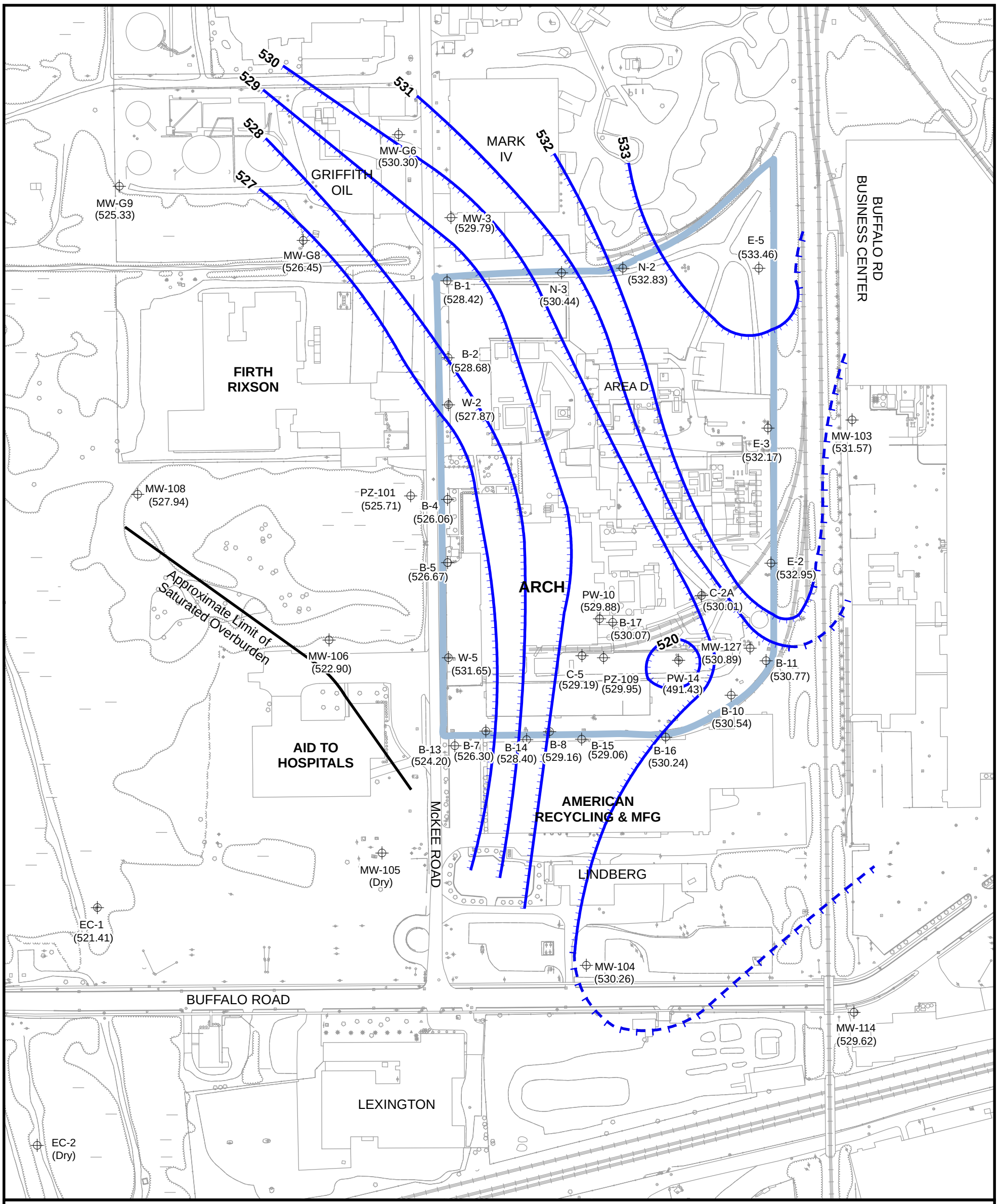

Legend

- Interpreted Groundwater Flow Direction
- 528 — Overburden Piezometric Elevation Contour (MSL)
- Outline of Arch Property Boundary
- MW-114 (529.62) — Piezometric Elevation at Well or Piezometer

N

NOTES:

1. Water Levels Measured on November 16, 2012
2. Measurements at wells W-5 and MW-108 are considered anomalous and were not used in contouring.
3. Dashed Contours Reflect Uncertainty

0 100 200 400 Feet

Prepared/Date: MJW 01/08/13 | Checked/Date: JEB 01/08/13

Figure 3
Fall 2012
Overburden Groundwater
Interpreted Piezometric Contours

Arch Chemicals
Rochester, NY

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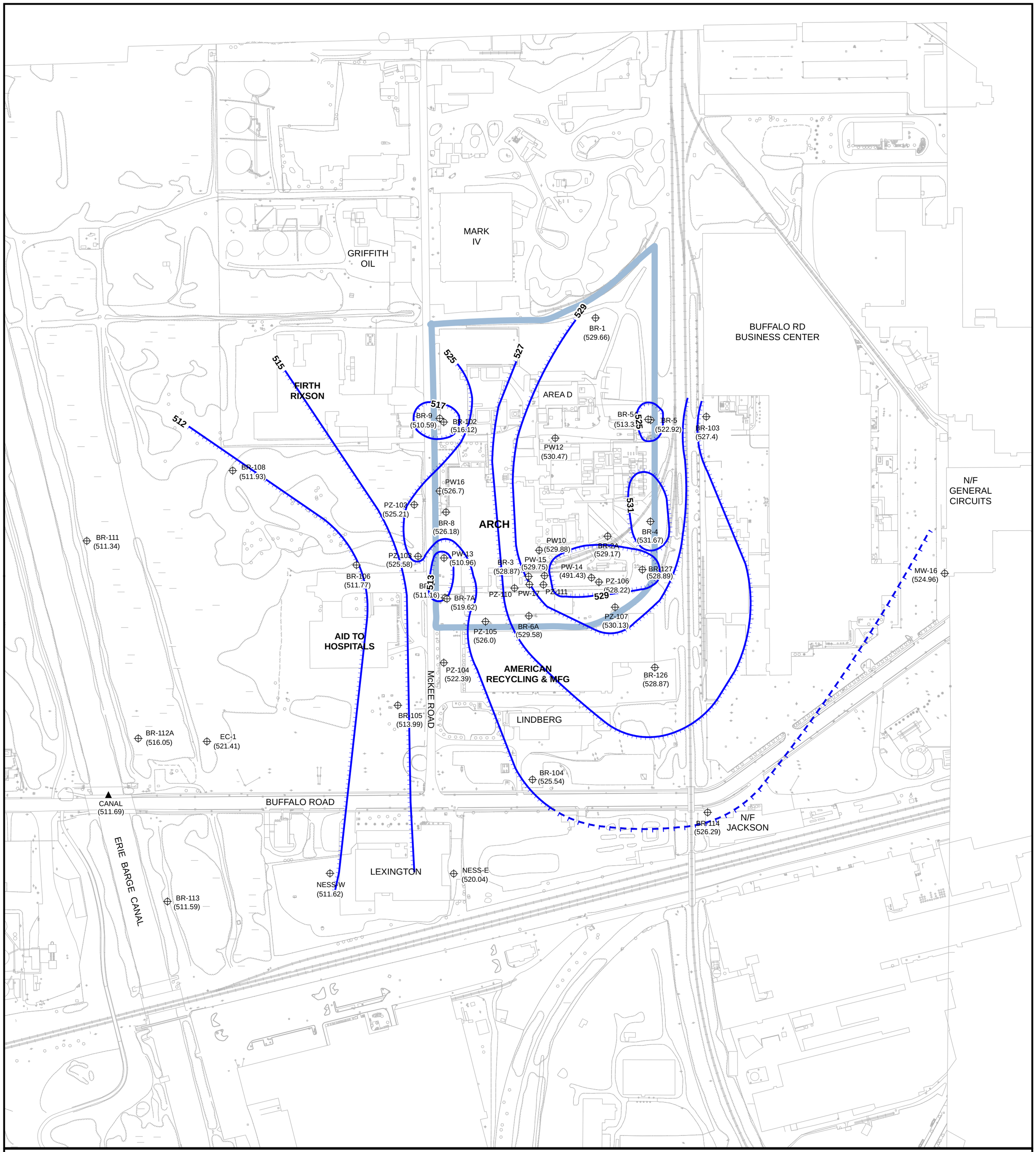

NOTES:

1. Water Levels Measured on November 16, 2012
2. Dashed Contours Reflect Uncertainty
3. Measurements in wells BR-112A and EC-1 are considered anomalous and were not used in contouring.

N

0 100 200 400 Feet

Legend

- BR-112A (516.05) — Piezometric Elevation at Well or Piezometer (Feet MSL)
- CANAL (511.69) — Piezometric Elevation at Surface Water Measuring Point
- Outline of Arch Property Boundary
- Interpreted Groundwater Flow Direction
- 529 — Bedrock Piezometric Elevation Contour (MSL)

Figure 4
Fall 2012
Bedrock Groundwater
Interpreted Piezometric Contours

Arch Chemicals
Rochester, NY

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Legend

- Bedrock Well ('D' Designates Deep Well)
- 500 — Deep Bedrock Elevation Contour (MSL)
- Interpreted Groundwater Flow Direction
- Outline of Arch Property Boundary
- BR-116D (509.03) — Piezometric Elevation at Deep Bedrock Well

NOTES
1. Water Levels Measured on November 16, 2012
2. Dashed Contours Reflect Uncertainty

N

0 250 500 1,000 Feet

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ERIE BARGE CANAL
I-390
BUFFALO ROAD
FIRTH RIXSON
BUFFALO RD. BUSINESS CENTER
ARCH
AID TO HOSPITALS
ARM
CUMBERLAND FARMS PETROLEUM TERMINAL
LEXINGTON
GENERAL RAIL SIGNAL CO.
PFAUDLER
DOLOMITE PRODUCTS QUARRY
LETTINGTON DRIVE

BR-9
BR-103
BR-108
BR-111D (511.51)
BR-111
BR-106
BR-3D (482.00)
BR-112D (511.69)
BR-112
BR-105
BR-105D (510.85)
BR-104
BR-114
BR-113
BR-113D (511.10)
BR-122D (507.15)
BR-123D (508.18)
BR-116D (509.69)
BR-116
BR-117D (496.74)
BR-117
BR-118
BR-118D (499.59)
BR-124D (505.88)

498 500 502 504 506 508 510

Figure 5
Fall 2012
Deep Bedrock Groundwater
Interpreted Piezometric Contours

Arch Chemicals
Rochester, NY

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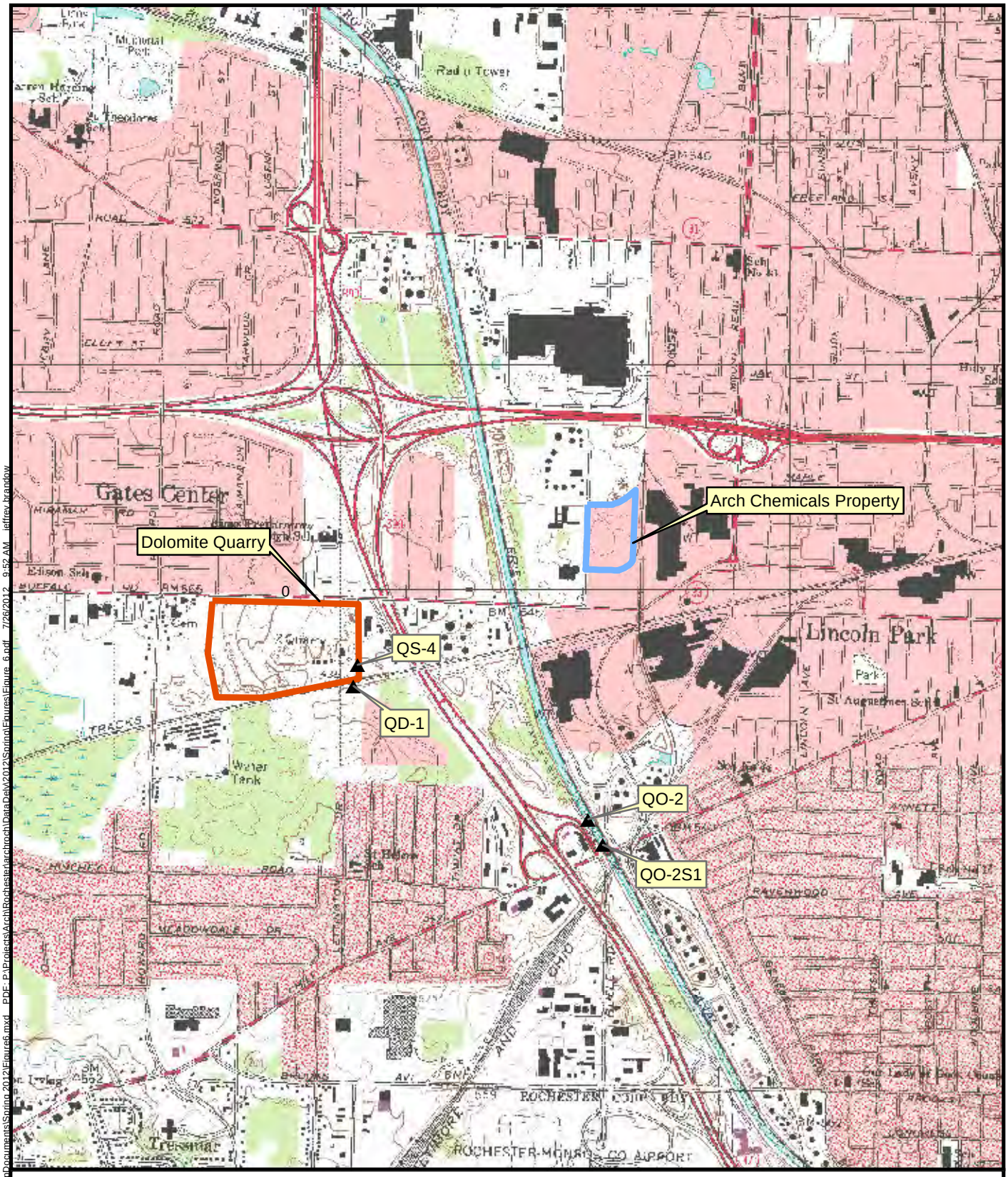

Source:
1:24,000 scale digital topographic map
obtained from New York State GIS
Clearinghouse at: www.nysgis.state.ny.us

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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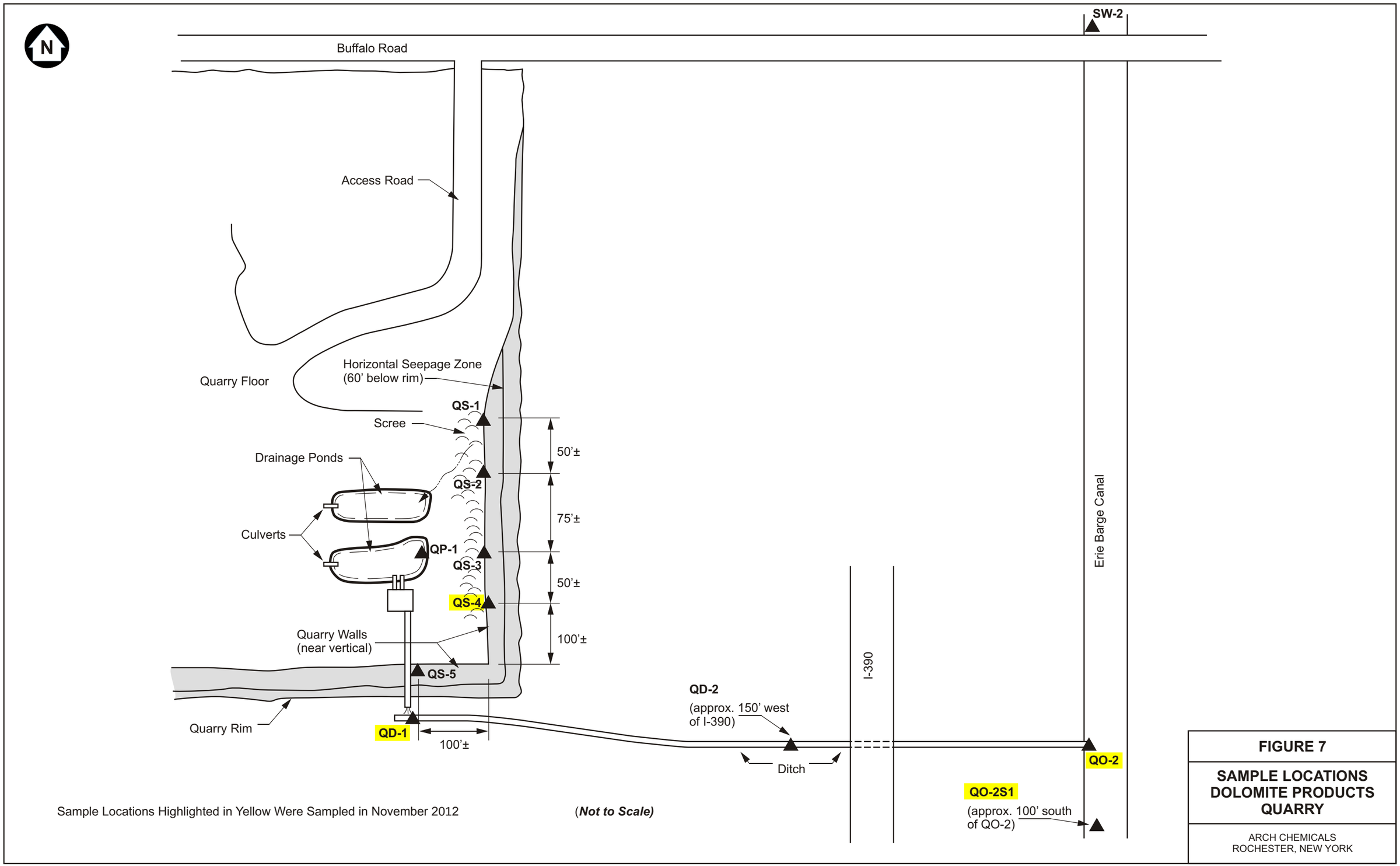

FIGURE 7

SAMPLE LOCATIONS
DOLOMITE PRODUCTS QUARRY

ARCH CHEMICALS
ROCHESTER, NEW YORK

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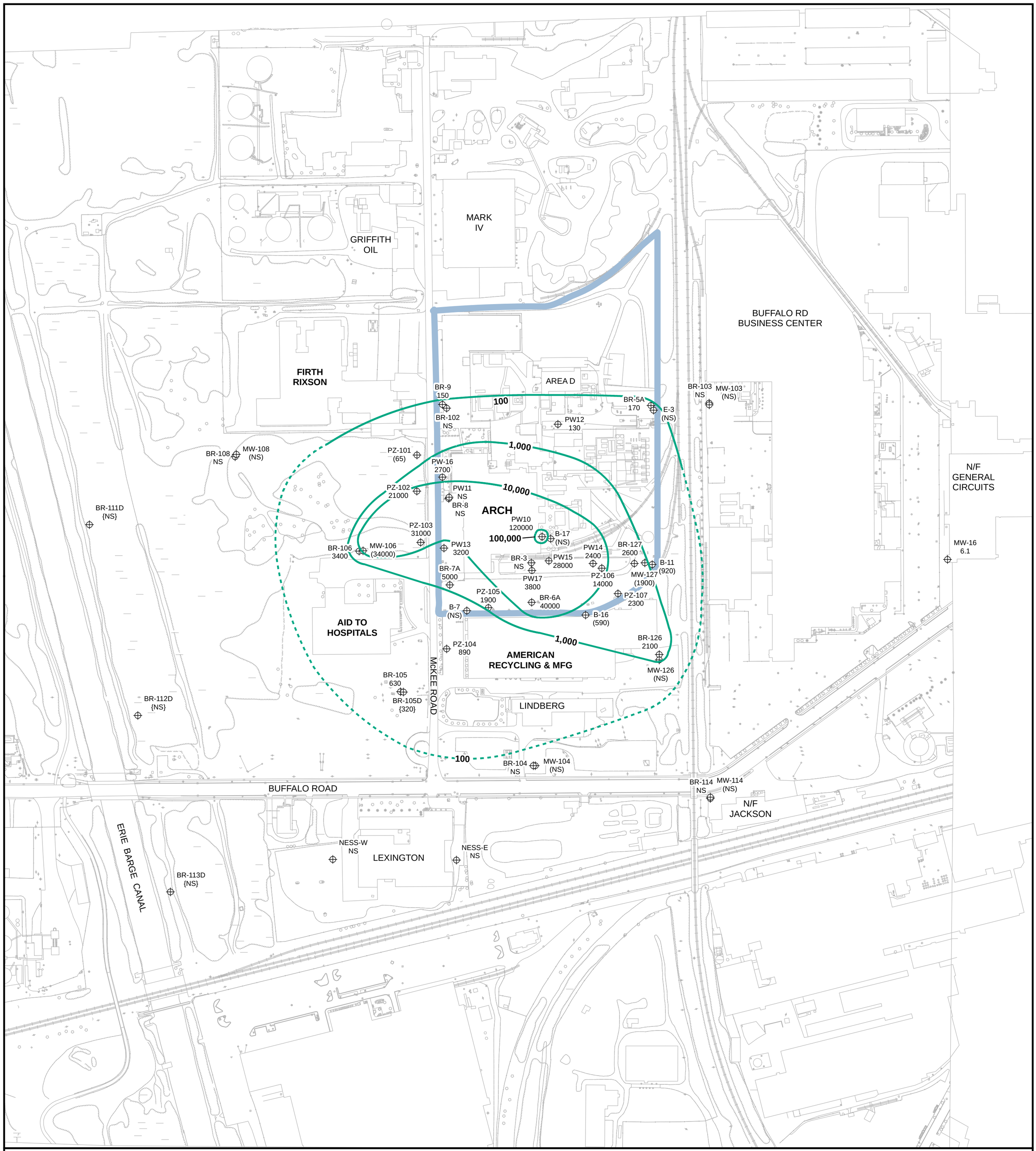

Legend

- Outline of Arch Property Boundary
- **100** — Chloropyridine Concentration Contour
- BR-105 380 — 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 November, 2012
2. Selected Chloropyridines consist of 2,6-Dichloropyridine, 2-Chloropyridine, 3-Chloropyridine, 4-Chloropyridine, and P-Fluoroaniline.
3. Concentration contours represented for Bedrock Wells and selected Overburden and Deep Bedrock Wells.
4. Dashed concentration contours represent inferences from historical analytical results.
5. Concentrations are in µg/L

Figure 8
Fall 2012
Selected Chloropyridine Concentration Contours

Arch Chemicals
Rochester, NY

amec

Prepared/Date: MJW 02/06/13 | Checked/Date: JEB 02/06/13

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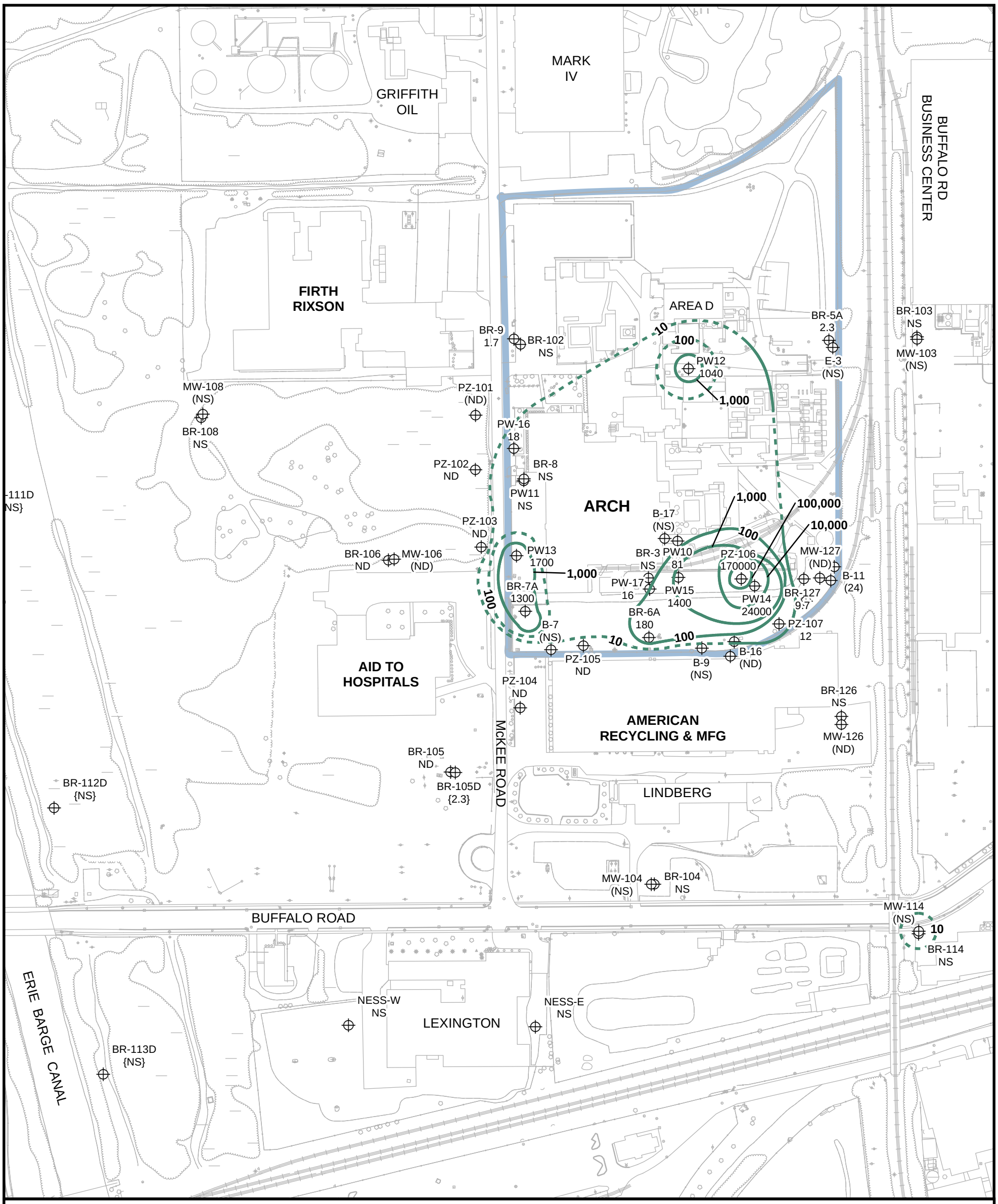

Legend

- GW_Locations
- Outline of Arch Property Boundary
- **100** VOC Concentration Contour
- BR-105D {3.2} Monitoring Location with Concentration

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

0 100 200 Feet

N

Prepared/Date: MJW 02/06/13 | Checked/Date: JEB 02/06/13

NOTES:

1. Samples Collected in November 2012
2. Selected VOCs consist of Carbon tetrachloride, Methylene chloride Chloroform, TCE, and PCE.
3. Concentration contours represented for Bedrock Wells and selected Overburden and Deep Bedrock Wells.
4. Dashed concentration contours represent inferences from historical analytical results.
5. Concentrations are in µg/L

Figure 9
Fall 2012
Selected Volatile Organic Compound Concentration Contours

Arch Chemicals
Rochester, NY

amec

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Tables

TABLE 1
FALL 2012 GROUNDWATER SAMPLING AND ANALYTICAL PROGRAM

ARCH CHEMICALS, INC
ROCHESTER, NEW YORK

			ANALYSIS	PYRIDINES	VOCs
SITE / AREA	**WELL / POINT**	**DATE**	**QC TYPE**		
AID TO HOSPITALS	BR-106	11/19/2012	Sample	X	X
	MW-106	11/19/2012	Sample	X	X
	PZ-101	11/20/2012	Sample	X	X
	PZ-102	11/20/2012	Sample	X	X
	PZ-103	11/20/2012	Sample	X	X
AMERICAN RECYCLE MANUF. (58 MCKEE ROAD)	B-16	11/20/2012	Sample	X	X
	BR-126	11/20/2012	Sample	X	X
	PZ-104	11/19/2012	Sample	X	X
ARCH ROCHESTER	B-11	11/20/2012	Sample	X	X
	BR-127	11/19/2012	Duplicate	X	X
	BR-127	11/19/2012	Sample	X	X
	BR-5A	11/21/2012	Sample	X	X
	BR-6A	11/19/2012	Sample	X	X
	BR-7A	11/21/2012	Sample	X	X
	BR-9	11/21/2012	Sample	X	X
	MW-127	11/19/2012	Sample	X	X
	PW10	11/20/2012	Sample	X	X
	PW12	11/20/2012	Sample	X	X
	PW13	11/21/2012	Sample	X	X
	PW14	11/21/2012	Sample	X	X
	PW15	11/20/2012	Sample	X	X
	PW16	11/21/2012	Sample	X	X
	PW17	11/20/2012	Sample	X	X
	PZ-105	11/19/2012	Sample	X	X
	PZ-106	11/20/2012	Sample	X	X
	PZ-107	11/19/2012	Sample	X	X
DOLOMITE PRODUCTS, INC.	QD-1	11/16/2012	Sample	X	
	QS-4	11/16/2012	Sample	X	
ERIE BARGE CANAL (Samples in canal or property along canal)	QO-2	11/16/2012	Sample	X	
	QO-2S1	11/16/2012	Sample	X	
FORMER GENERAL CIRCUTS	MW-16	11/19/2012	Sample	X	
RG & E RIGHT OF WAY	BR-105	11/19/2012	Sample	X	X
	BR-105D	11/19/2012	Sample	X	X

TABLE 2
FALL 2012 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	B-11	B-16	BR-105	BR-105D	BR-106	BR-126	BR-127	BR-127	BR-5A	BR-6A
SAMPLE DATE:	11/20/2012	11/20/2012	11/19/2012	11/19/2012	11/19/2012	11/20/2012	11/19/2012	11/19/2012	11/21/2012	11/19/2012
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Duplicate	Sample	Sample
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270C (µg/L)										
2,6-Dichloropyridine	370	330	100	31 J	450	570	400	230 J	22	5200
2-Chloropyridine	540	260	530	270	2900	1500	2100 J	1200 J	130	34000
3-Chloropyridine	12 J	9.4 U	50 U	13 J	100 U	500 U	75 J	49 J	9.4 U	420
4-Chloropyridine	53 U	9.4 U	50 U	50 U	100 U	500 U	250 U	250 U	9.4 U	100 U
p-Fluoroaniline	53 U	3.9 J	50 U	9.4 J	21 J	500 U	250 U	250 U	18	67 J
Pyridine	130 U	24 U	130 U	130 U	250 U	1300 U	630 U	630 U	24 U	100 J

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

TABLE 2
FALL 2012 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	BR-7A	BR-9	MW-106	MW-127	MW-16	PW10	PW12	PW13	PW14	PW15
SAMPLE DATE:	11/21/2012	11/21/2012	11/19/2012	11/19/2012	11/19/2012	11/20/2012	11/20/2012	11/21/2012	11/21/2012	11/20/2012
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270C (µg/L)										
2,6-Dichloropyridine	530	23	4000 J	320	2.8 J	86000	68 J	280	500	25000 U
2-Chloropyridine	4400	130	30000	1500	3.3 J	35000	62 J	2800	1700	28000
3-Chloropyridine	49 J	9.4 U	57 J	32 J	9.4 U	10000 U	100 U	39 J	120	25000 U
4-Chloropyridine	100 U	9.4 U	100 U	73	9.4 U	10000 U	100 U	100 U	100 U	25000 U
p-Fluoroaniline	100 U	9.4 U	160	50 U	9.4 U	10000 U	100 U	100 U	11 J	25000 U
Pyridine	64 J	24 U	250 U	130 U	24 U	25000 U	250 U	60 J	27 J	63000 U

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

TABLE 2
FALL 2012 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	PW16	PW17	PZ-101	PZ-102	PZ-103	PZ-104	PZ-105	PZ-106	PZ-107
SAMPLE DATE:	11/21/2012	11/20/2012	11/20/2012	11/20/2012	11/20/2012	11/19/2012	11/19/2012	11/20/2012	11/19/2012
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270C (µg/L)									
2,6-Dichloropyridine	2100	1000	30	1800	3500 J	190	260 J	2100	610
2-Chloropyridine	29000	2800	35	19000	27000	700	1600 J	11000	1600
3-Chloropyridine	85 J	1000 U	9.4 U	97 J	220	100 U	100 U	280 J	43 J
4-Chloropyridine	250 U	1000 U	9.4 U	220 J	7.5 J	100 U	100 U	1000 U	100 U
p-Fluoroaniline	250 U	1000 U	9.4 U	500 U	180	100 U	100 U	1000 U	100 U
Pyridine	630 U	2500 U	24 U	1300 U	5.2 J	250 U	250 U	420 J	250 U

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

TABLE 3
FALL 2012 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	B-11	B-16	BR-105	BR-105D	BR-106	BR-126	BR-127	BR-127	BR-5A	BR-6A
SAMPLE DATE:	11/20/2012	11/20/2012	11/19/2012	11/19/2012	11/19/2012	11/20/2012	11/19/2012	11/19/2012	11/21/2012	11/19/2012
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Duplicate	Sample	Sample	Sample
VOCs BY SW-846 Method 8260/5ML										
1,1,1-Trichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	25 U	5 U	5 U	20 U
1,1,2,2-Tetrachloroethane	5 U	5 U	5 U	5 U	5 U	5 U	25 U	5 U	5 U	20 U
1,1,2-Trichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	25 U	5 U	5 U	20 U
1,1-Dichloroethane	5 U	5 U	5 U	2.1 J	0.74 J	5 U	25 U	5 U	5 U	20 U
1,1-Dichloroethene	5 U	5 U	5 U	5 U	5 U	5 U	25 U	5 U	5 U	20 U
1,2,4-Trimethylbenzene	5 U	5 U	5 U	5 U	5 U	5 U	25 U	5 U	5 U	20 U
1,2-Dichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	25 U	5 U	5 U	20 U
1,2-Dichloroethene (total)	1.3 J	10 U	19	8.3 J	10 U	10 U	50 U	2.3 J	9.6 J	40 U
1,2-Dichloropropane	5 U	5 U	5 U	5 U	5 U	5 U	25 U	5 U	5 U	20 U
1,3,5-Trimethylbenzene	5 U	5 U	5 U	5 U	5 U	5 U	25 U	5 U	5 U	20 U
2-Butanone	25 U	25 U	25 U	25 U	25 U	25 U	130 U	25 U	25 U	200 U
2-Hexanone	25 U	25 U	25 U	25 U	25 U	25 U	130 U	25 U	25 U	100 U
4-Methyl-2-pentanone	25 U	25 U	25 U	25 U	25 U	25 U	130 U	25 U	25 U	100 U
Acetone	25 U	25 U	25 U	25 U	25 U	25 U	130 U	25 U	25 U	200 U
Benzene	0.49 J	0.46 J	1.7 J	5.3	7.4	2.4 J	3.3 J	3.3 J	6	20 U
Bromodichloromethane	5 U	5 U	5 U	5 U	5 U	5 U	25 U	5 U	5 U	20 U
Bromoform	5 U	5 U	5 U	5 U	5 U	5 U	25 U	5 U	5 U	20 U
Bromomethane	5 U	5 U	5 U	5 U	5 U	5 U	25 U	5 U	5 U	20 U
Carbon disulfide	5 U	5 U	5 U	5.2 U	5.6 U	5 U	19 J	5 U	5 U	20 U
Carbon tetrachloride	4.2 J	5 U	5 U	5 U	5 U	5 U	18 J	5.3	5 U	20 U
Chlorobenzene	1.7 J	3.7 J	5.5	5 U	85	5.9	4.5 J	4.3 J	14	20 U
Chlorodibromomethane	5 U	5 U	5 U	5 U	5 U	5 U	25 U	5 U	5 U	20 U
Chloroethane	5 U	5 U	5 U	5 U	5 U	5 U	25 U	5 U	5 U	20 U
Chloroform	17	5 U	5 U	1.1 J	5 U	5 U	2.2 J	2 J	0.68 J	130
Chloromethane	5 U	5 U	5 U	5 U	5 U	5 U	25 U	5 U	5 U	20 U
cis-1,3-Dichloropropene	5 U	5 U	5 U	5 U	5 U	5 U	25 U	5 U	5 U	20 U
Ethyl benzene	5 U	5 U	5 U	5 U	5 U	5 U	25 U	3.2 J	5 U	20 U
Methylene chloride	2 J	5 U	5 U	1.2 J	5 U	5 U	25 U	5 U	0.88 J	45
Styrene	5 U	5 U	5 U	5 U	5 U	5 U	25 U	5 U	5 U	20 U
Tetrachloroethene	0.41 J	5 U	5 U	5 U	5 U	5 U	25 U	0.74 J	5 U	20 U
Toluene	5 U	5 U	5 U	5 U	5 U	5 U	25 U	5 U	2.2 J	41
trans-1,3-Dichloropropene	5 U	5 U	5 U	5 U	5 U	5 U	25 U	5 U	5 U	20 U
Trichloroethene	5 U	5 U	5 U	5 U	5 U	5 U	25 U	1.7 J	0.76 J	20 U
Vinyl acetate	25 U	25 U	25 U	25 U	25 U	25 U	130 U	25 U	25 U	100 U
Vinyl chloride	5 U	5 U	14	5 U	5 U	5 U	25 U	1.9 J	2 J	70
Xylenes, Total	15 U	15 U	15 U	15 U	15 U	15 U	75 U	1.5 J	0.79 J	40 U

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

TABLE 3
FALL 2012 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	BR-7A	BR-9	MW-106	MW-127	PW10	PW12	PW13	PW14	PW15	PW16
SAMPLE DATE:	11/21/2012	11/21/2012	11/19/2012	11/19/2012	11/20/2012	11/20/2012	11/21/2012	11/21/2012	11/20/2012	11/21/2012
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
VOCs BY SW-846 Method 8260/5ML										
1,1,1-Trichloroethane	5 U	10 U	5 U	50 U	5 U	200 U	1 U	200 U	20 U	50 U
1,1,2,2-Tetrachloroethane	5 U	10 U	5 U	50 U	5 U	200 U	1 U	200 U	20 U	50 U
1,1,2-Trichloroethane	5 U	10 U	5 U	50 U	5 U	200 U	1 U	200 U	20 U	50 U
1,1-Dichloroethane	4.5 J	8.8 J	5 U	50 U	5 U	200 U	3.8	200 U	20 U	50 U
1,1-Dichloroethene	5 U	10 U	5 U	50 U	5 U	200 U	1 U	200 U	20 U	50 U
1,2,4-Trimethylbenzene	5 U	10 U	5 U	50 U	5 U	200 U	1 U	200 U	20 U	50 U
1,2-Dichloroethane	5 U	10 U	5 U	50 U	5 U	200 U	1 U	200 U	20 U	50 U
1,2-Dichloroethene (total)	17	160	1.1 J	100 U	10 U	400 U	13	400 U	40 U	100 U
1,2-Dichloropropane	5 U	10 U	5 U	50 U	5 U	200 U	1 U	200 U	20 U	50 U
1,3,5-Trimethylbenzene	5 U	10 U	5 U	50 U	5 U	200 U	1 U	200 U	20 U	50 U
2-Butanone	25 U	50 U	25 U	250 U	50 U	1000 U	10 U	2000 U	200 U	250 U
2-Hexanone	25 U	50 U	25 U	250 U	25 U	1000 U	5 U	1000 U	100 U	250 U
4-Methyl-2-pentanone	25 U	50 U	25 U	250 U	25 U	1000 U	5 U	1000 U	100 U	250 U
Acetone	25 U	50 U	25 U	250 U	130	1000 U	10 UJ	2000 U	77 J	250 UJ
Benzene	8.1	37	35	50 U	5 U	200 U	13	200 U	11 J	27 J
Bromodichloromethane	5 U	10 U	5 U	50 U	5 U	200 U	1 U	200 U	20 U	50 U
Bromoform	8.4	10 U	5 U	50 U	5.2	200 U	9.1	200 U	20 U	50 U
Bromomethane	5 U	10 U	5 U	50 U	5 U	200 UJ	1 U	200 U	20 U	50 U
Carbon disulfide	57	10 U	5.6 U	50 U	5 U	200 U	81	200 U	20 U	50 U
Carbon tetrachloride	350	10 U	5 U	50 U	25	320 J	510	2900	88	50 U
Chlorobenzene	58	7.2 J	430	50 U	5 U	2200 J	57	200 U	16 J	1200
Chlorodibromomethane	0.76 J	10 U	5 U	50 U	5 U	200 U	0.82 J	200 U	20 U	50 U
Chloroethane	5 U	10 U	5 U	50 U	5 U	200 U	1 UJ	200 U	20 U	50 UJ
Chloroform	720	10 U	5 U	50 U	15	310 J	1000 J	20000	1200	50 U
Chloromethane	5 U	10 U	5 U	50 U	5 U	200 U	1 U	200 U	20 U	50 U
cis-1,3-Dichloropropene	5 U	10 U	5 U	50 U	5 U	200 U	1 U	200 U	20 U	50 U
Ethyl benzene	5 U	10 U	5 U	50 U	5 U	230 J	1 U	200 U	20 U	50 U
Methylene chloride	180	10 U	5 U	50 U	5 U	30 J	180	1200	40	18 J
Styrene	5 U	10 U	5 U	50 U	5 U	200 U	1 U	200 U	20 U	50 U
Tetrachloroethene	21	10 U	5 U	50 U	41	380 J	22	180 J	68	50 U
Toluene	7.1	1.2 J	0.72 J	50 U	5 U	2900 J	9.1	200 U	67	8.4 J
trans-1,3-Dichloropropene	5 U	10 U	5 U	50 U	5 U	200 U	1 U	200 U	20 U	50 U
Trichloroethene	3.5 J	1.7 J	5 U	50 U	5 U	200 U	2.8	200 U	14 J	50 U
Vinyl acetate	25 U	50 U	25 U	250 U	25 U	1000 U	5 U	1000 U	100 U	250 U
Vinyl chloride	26	76	5 U	50 U	5 U	200 U	24	200 U	20 U	50 U
Xylenes, Total	15 U	30 U	0.95 J	150 U	5.6 J	1500 J	2 U	400 U	40 U	150 U

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

TABLE 3
FALL 2012 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	PW17	PZ-101	PZ-102	PZ-103	PZ-104	PZ-105	PZ-106	PZ-107
SAMPLE DATE:	11/20/2012	11/20/2012	11/20/2012	11/20/2012	11/19/2012	11/19/2012	11/20/2012	11/19/2012
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
VOCs BY SW-846 Method 8260/5ML								
1,1,1-Trichloroethane	5 U	5 U	50 U	100 U	5 U	5 U	200 U	5 U
1,1,2,2-Tetrachloroethane	5 U	5 U	50 U	100 U	5 U	5 U	200 U	5 U
1,1,2-Trichloroethane	5 U	5 U	50 U	100 U	5 U	5 U	200 U	5 U
1,1-Dichloroethane	5 U	5 U	50 U	100 U	5 U	5 U	200 U	5 U
1,1-Dichloroethene	5 U	5 U	50 U	100 U	5 U	5 U	200 U	5 U
1,2,4-Trimethylbenzene	5 U	5 U	50 U	100 U	5 U	5 U	200 U	5 U
1,2-Dichloroethane	5 U	5 U	50 U	100 U	5 U	5 U	200 U	5 U
1,2-Dichloroethene (total)	5.1 J	10 U	100 U	200 U	10 U	10 U	400 U	4.9 J
1,2-Dichloropropane	5 U	5 U	50 U	100 U	5 U	5 U	200 U	5 U
1,3,5-Trimethylbenzene	5 U	5 U	50 U	100 U	5 U	5 U	200 U	5 U
2-Butanone	25 U	25 U	250 U	500 U	25 U	25 U	2000 U	25 U
2-Hexanone	25 U	25 U	250 U	500 U	25 U	25 U	1000 U	25 U
4-Methyl-2-pentanone	25 U	25 U	250 U	500 U	25 U	25 U	1000 U	25 U
Acetone	25 U	25 U	250 U	500 U	25 U	25 U	2000 U	25 U
Benzene	1.1 J	5 U	18 J	26 J	1.5 J	19	200 U	2.4 J
Bromodichloromethane	5 U	5 U	50 U	100 U	5 U	5 U	200 U	5 U
Bromoform	5 U	5 U	50 U	100 U	5 U	5 U	690	5 U
Bromomethane	5 U	5 U	50 U	100 U	5 U	5 U	200 U	5 U
Carbon disulfide	5 U	5 U	50 U	5.7 J	5 U	5 U	42000	5 U
Carbon tetrachloride	5 U	5 U	50 U	100 U	5 U	5 U	9300	3.8 J
Chlorobenzene	17	3.2 J	560	1400	4.6 J	32	200 U	1.5 J
Chlorodibromomethane	5 U	5 U	50 U	100 U	5 U	5 U	190 J	5 U
Chloroethane	5 U	5 U	50 U	100 U	5 U	5 U	200 U	5 U
Chloroform	6.4	5 U	50 U	100 U	5 U	5 U	150000	1 J
Chloromethane	5 U	5 U	50 U	100 U	5 U	5 U	200 U	5 U
cis-1,3-Dichloropropene	5 U	5 U	50 U	100 U	5 U	5 U	200 U	5 U
Ethyl benzene	5 U	5 U	50 U	100 U	5 U	5 U	200 U	5 U
Methylene chloride	5 U	5 U	50 U	100 U	5 U	5 U	4600	5 U
Styrene	5 U	5 U	50 U	100 U	5 U	5 U	200 U	5 U
Tetrachloroethene	7.8	5 U	50 U	100 U	5 U	5 U	1900	5.1
Toluene	8.9	5 U	50 U	100 U	5 U	2 J	100 J	5 U
trans-1,3-Dichloropropene	5 U	5 U	50 U	100 U	5 U	5 U	200 U	5 U
Trichloroethene	1.6 J	5 U	50 U	100 U	5 U	5 U	200 U	1.7 J
Vinyl acetate	25 U	25 U	250 U	500 U	25 U	25 U	1000 U	25 U
Vinyl chloride	1.2 J	5 U	50 U	100 U	5 U	5 U	200 U	2.6 J
Xylenes, Total	15 U	15 U	150 U	300 U	15 U	15 U	400 U	15 U

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

TABLE 4
COMPARISON OF FALL 2012
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	NOVEMBER-2012 RESULT	# EVENTS IN PRIOR 5 YRS	HISTORIC MAXIMUM	5-YEAR MEAN	NOVEMBER-2012 RESULT
ON-SITE WELLS/LOCATIONS								
B-11	5	4,800	1,500	920	5	570	140	24
B-17	5	28,000,000	360,000		5	350,000	10,000	
B-7	5	9,100	710		5	260	21	
BR-127	10	29,000	8,500	2,600	10	1,300	230	9.7
BR-3	5	6,500,000	61,000		5	920,000	97,000	
BR-5A	10	1,700	190	170	10	9,400	7.5	2.3
BR-6A	10	140,000	9,900	**40,000**	10	26,000	260	180
BR-7A	10	510,000	24,000	5,000	10	3,000	68	**1300**
BR-8	5	160,000	58,000		5	6,900	11	
BR-9	10	720	93	**150**	10	160	1.9	1.7
E-3	5	600	160		5	12,000	42	
MW-127	10	15,000	4,500	1900	10	7,500	1,300	ND
PW10	10	240,000	42,000	**120,000**	10	120,000	1,700	81
PW12	10	15,000	1,600	130	10	120,000	5,600	1,000
PW13	10	7,500	2,900	**3,200**	10	920	69	**1700**
PW14	10	29,000	11,000	2,400	10	160,000	21,000	**24,000**
PW15	10	730,000	110,000	28,000	10	8,200	5,300	1,400
PW16	4	24,000	14,000	**31,000**	4	ND	ND	**18**
PW17	0	NA	NA	3,800	0	NA	NA	16
PZ-105	10	190,000	11,000	1,900	10	9,700	67	ND
PZ-106	10	120,000	64,000	14,000	10	1,400,000	370,000	170,000
PZ-107	10	11,000	6,300	2,300	10	89,000	20,000	12
OFF-SITE WELLS/LOCATIONS								
B-16	5	33,000	870	590	5	4,500	2	ND
BR-103	5	400	0.78		5	38	ND	
BR-104	5	3,100	1.6			9		
BR-105	10	24,000	780	630	10	310	2.2	ND
BR-105D	10	10,000	340	320	10	230	3.2	2.3
BR-106	10	25,000	3,500	3,400	10	6,300	ND	ND
BR-108	5	1,700	24			ND		
BR-112D	5	310	43			4.3		
BR-113D	5	490	23			2.8		
BR-114	5	520	94		5	12	0.1	
BR-116	5	12	ND			84		
BR-116D	5	710	37			120		
BR-117D	5	80	5.5			1.9		
BR-118D	5	330	46			6.6		
BR-122D	5	650	130			ND		
BR-123D	5	860	50			4		
BR-126	10	12,000	3,000	2,100	10	230	0.32	ND
MW-103	5	97	0.6		5	750	ND	
MW-104	5	180	1.2			1		

TABLE 4
COMPARISON OF FALL 2012
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	NOVEMBER-2012 RESULT	# EVENTS IN PRIOR 5 YRS	HISTORIC MAXIMUM	5-YEAR MEAN	NOVEMBER-2012 RESULT
MW-106	10	130,000	5,800	**34,000**	10	450	0.32	ND
MW-114	5	18	ND		5	27	21	
MW-16	5	360	9	6.1		8		
NESS-E	5	5,000	53			700		
NESS-W	5	2,100	ND			89		
PZ-101	10	27,000	110	65	10	6.1	0.32	ND
PZ-102	10	58,000	2,300	**21000**	10	10,000	1.9	ND
PZ-103	10	73,000	9,400	**31000**	10	44,000	3.5	ND
PZ-104	10	9,100	1,700	890	10	40	ND	ND
QD-1	10	11	4.5	**6.8**		ND		
QO-2	11	380	6.7	5.2		ND		
QO-2S1	11	27	2.4	ND		ND		
QS-4	11	3,400	140	86		ND		

Note:
1) Number of samples and mean reflect 5-year sampling period from November 2007 through May 2012. Historic maximum based on all available results from March 1990 through May 2012.
2) Chloropyridines represented by: 2-Chloropyridine, 2,6-Dichloropyridine, 3-Chloropyridine, 4-Chloropyridine, p-Fluoroaniline, and Pyridine.
3) Selected VOCs represented by Carbon Tetrachloride, Chloroform, Methylene Chloride, Tetrachloroethene, and Trichloroethene.
4) **Bold and shade** - November 2012 exceeds 5-year mean.
5) ND = Not detected
BLANK = Not sampled

TABLE 5
FALL 2012 QUARRY SEEP AND OUTFALL WATER SAMPLE RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	QS-4	QO-2	QO-2S1	QD-1
SAMPLE DATE:	11/16/2012	11/16/2012	11/16/2012	11/16/2012
QC TYPE:	Sample	Sample	Sample	Sample
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270C (µg/L)				
2,6-Dichloropyridine	25	2.3 J	9.4 U	3.1 J
2-Chloropyridine	61	2.9 J	9.4 U	3.7 J
3-Chloropyridine	9.6 U	9.4 U	9.4 U	9.4 U
4-Chloropyridine	9.6 U	9.4 U	9.4 U	9.4 U
p-Fluoroaniline	9.6 U	9.4 U	9.4 U	9.4 U
Pyridine	24 U	24 U	24 U	24 U

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

TABLE 6
EXTRACTION WELL WEEKLY FLOW MEASUREMENTS - JUNE 2012 THROUGH NOVEMBER 2012

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.]	BR-127 **** [Gal./Wk.]	Total [Gal.]
Jun '12									
06/03/12	23,036	81,400	50,193	83,092	781	8,360	32,700	0	279,562
06/10/12	26,872	86,143	50,561	84,193	832	7,921	32,793	0	289,315
06/17/12	27,596	84,786	46,840	82,212	889	7,846	32,543	0	282,712
06/24/12	25,945	81,820	47,520	82,095	915	8,041	33,406	0	279,742
								Total [Gal.]	1,131,331
Jul '12									
07/01/12	23,744	88,697	34,344	86,327	996	7,516	36,003	0	277,627
07/08/12	20,577	81,368	48,018	83,324	994	6,779	34,219	0	275,279
07/15/12	19,282	81,556	54,291	84,228	1,039	6,602	33,725	0	280,723
07/22/12	19,568	82,985	55,966	87,842	1,076	6,419	36,628	0	290,484
07/29/12	18,555	77,458	49,795	79,503	999	5,704	32,132	0	264,146
								Total [Gal.]	1,388,259
Aug '12									
08/05/12	20,968	81,522	52,065	83,874	882	2,973	33,386	0	275,670
08/12/12	49,073	84,291	45,635	81,812	1,187	3,508 **	34,377	0	299,883
08/19/12	30,889	84,296	48,296	83,104	1,279	5,922	35,451	0	289,237
08/26/12	28,418	82,865	49,059	83,167	1,256	6,058	35,507	0	286,330
								Total [Gal.]	1,151,120
Sep '12									
09/02/12	25,590	85,054	48,782	83,492	1,310	4,782	36,030	0	285,040
09/09/12	28,404	74,104	41,860	70,249	1,309 *	3,981	30,240	0	250,147
09/16/12	30,105	91,450	52,230	86,298	1,418	1,955 **	37,937	0	301,393
09/23/12	27,215	84,461	47,841	81,189	1,572	233 **	35,201	0	277,712
09/30/12	26,619	87,319	48,860	84,410	1,622	0 **	36,617	0	285,447
								Total [Gal.]	1,399,739
Oct '12									
10/07/12	23,753	82,151	46,389	77,840	1,567	0 **	33,837	0	265,537
10/14/12	25,438	89,275	52,516	85,224	1,574	15,427	37,327	0	306,781
10/21/12	24,409	87,881	50,945	85,107	1,493	12,324	36,869	0	299,028
10/28/12	23,845	86,697	49,619	86,004	1,453 *	7,970	36,443	0	292,031
								Total [Gal.]	1,163,377
Nov '12									
11/04/12	25,222	87,364	49,549	87,255	1,602	10,211	31,098 *	0	292,301
11/11/12	22,420	59,329	45,177	69,947	1,613	496 **	27,446	0	226,428
11/18/12	23,543	86,622	49,318	83,957	1,578	1 **	35,879	0	280,898
11/25/12	22,576	87,154	47,937	84,911	1,528	0 **	36,064	0	280,170
								Total [Gal.]	1,079,797
Total 6 Mo. Removal (Gal.)	663,662	2,168,048	1,263,606	2,150,656	32,764	141,029	893,858	0	7,313,623

Notes:
1) * - Flow rate is estimated due to a meter failure or reading error
2) ** - Flow rate adversely affected by pump failure, pluggage in discharge line, or other maintenance activity
3) *** - Well yield at PW-14 has been minimal from 2010 - 2012. An attempt to rehab the well by physical and chemical cleaning in October 2010 failed to increase yield.
4) **** - Well BR-127 has failed due to rapid and repeated pluggage of pump and discharge line by sediment and scale

TABLE 7

MASS REMOVAL SUMMARY
PERIOD: JUNE 2012 - NOVEMBER 2012

ARCH ROCHESTER
FALL 2012 GROUNDWATER MONITORING REPORT

Well	Total Vol. Pumped (gallons)	Avg. VOC Conc. (ppm)	Avg. PYR. Conc. (ppm)	VOCs Removed (pounds)	PYR. Removed (pounds)
BR-5A	663,700	0.002	0.13	0.01	0.7
BR-7A	2,168,000	0.65	3.9	11.7	71
BR-9	1,263,600	0.001	0.13	0.01	1.3
PW-13	2,150,700	0.86	2.3	15.4	42
PW-14	32,800	22	2.4	6.0	0.6
PW-15	141,000	2.2	34	2.6	40
PW-16	893,900	0.009	23	0.07	170
BR-127	0	0.005	1.8	0	0
Totals:	7,313,700			36	324

Note: VOC and pyridine concentrations used in this table are an average of the analytical results from the Spring 2012 and Fall 2012 sampling events for each well

TABLE 8
2013 SAMPLING SCHEDULE
ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

ARCH ROCHESTER						**2013**					
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	BR	ON-SITE	semi-annual monitoring, VOCs & PYR	perimeter sentinel/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	annual monitoring, VOCs & PYR	trend monitoring	1	1			1	1
	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
	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	pumping well	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						53	36	32	27	85	63

Revised: 12/13/12

Prepared by: JEB Checked by: NMB

Appendix A

Groundwater Field Sampling Data Sheets

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

FIELD REPORT

REMEDIAL INVESTIGATION SAMPLING
LONZA CHEMICAL
ROCHESTER, NEW YORK

FALL 2012 Event

Prepared For:

AMEC, Inc.
511 Congress Street
Portland, Maine 04101

Attention: Mr. Nelson Breton

Prepared By:

TestAmerica Inc
Audubon Business Center
10 Hazelwood Drive
Amherst, New York 14228-2298

NY5A5762

Written By: Roger Senf

Reviewed By:

Date: 12/14/12

1.0 INTRODUCTION

This report describes the sampling of the following points:

- Twenty-eight (28) groundwater samples
- One (1) barge canal sample
- Two (2) quarry outfall samples
- One (1) 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 November 16 - 21, 2012 by TestAmerica Inc (TAL) 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. All well bottoms were sounded with the weighted steel measuring tape. All 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 wells with a deionized water rinse and paper towel wipe. These data are presented on Sampling Summary Table and Field Observation forms.

2.2 Well Purging

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

1) Purging three (3) times the standing water volume using precleaned or dedicated 1.25" X 5' stainless steel bailers, 2" X 5' polyvinyl chloride bailers, peristaltic pump or QED Low-Flow Bladder pumps.
2) Evacuated with the low flow/low stress puring technique using either QED Low-Flow Bladder pumps or a variable rate peristaltic pump.

   Wells that were purged of three (3) 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 stabilization has occurred, sampling can be conducted. All purged 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 Observation Forms.

2.3 Surface Water Samples

Surface water samples were collected from one (1) location on the Erie Barge Canal, two (2) outfall samples and one (1) 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, perisaltic 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 Observation 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 presented in the Sampling Summary Table and Field Observation Forms.

4.0 SAMPLE CONTAINERS

Monitoring wells and surface water samples requiring analysis for volatile organics were collected into 40 ml glass vials with teflon septa. Samples for semi-volatile and Pyridine analysis were collected into one (1) liter amber glass bottles with teflon-lined caps. All bottles were purchased new and cleaned (Protocol A, 300 series) from Environmental Supply 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. All 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 analysis. Each trip blank consisted of two 40 ml glass vials with teflon septa which were filled with deionized water at the TAL laboratory. These blanks were transported to the site, stored with field collected samples and submitted to the TAL facility for analysis.

6.2 Equipment Rinse Blank

Equipment rinse blanks were collected as required by the work plan.

7.0 CHAIN OF CUSTODY

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

SEMI-ANNUAL GROUNDWATER ELEVATION REPORT
LONZA ROCHESTER, N.Y.

SAMPLE POINT	DATE	DEPTH TO WATER	CASING ELEVATION	GW ELEVATION	TIME	Comments
B-1	11/16/12	9.33		-9.33	1230	NO L-NAPL ; NO D-NAPL
B-10		8.26		-8.26	1152	NO L-NAPL ; NO D-NAPL
B-11		5.23		-5.23	1157	NO L-NAPL ;NO D-NAPL 11.55 BOT.
B-13		12.87		-12.87	1259	
B-14		9.55		-9.55	1302	
B-15		6.23		-6.23	1309	
B-16		5.97		-5.97	1315	NO L-NAPL ;NO D-NAPL 13.20 BOT.
B-17		8.67		-8.67	1125	NO L-NAPL ; NO D-NAPL
B-2		10.34		-10.34	1228	NO L-NAPL ; NO D-NAPL
B-4		16.81		-16.81	1112	NO L-NAPL ; NO D-NAPL
B-5		13.54		-13.54	1110	NO L-NAPL ; NO D-NAPL
B-7		14.81		-14.81	1246	NO L-NAPL ; NO D-NAPL
B-8		9.72		-9.72	1146	NO L-NAPL ; NO D-NAPL
BR-1		7.62		-7.62	1159	NO L-NAPL ; NO D-NAPL
BR-102		23.31		-23.31	1225	
BR-103		5.79		-5.79	1230	
MW-103		1.68		-1.68	1232	
BR-104		12.02		-12.02	1229	
MW-104		7.28		-7.28	1228	
BR-105		22.91		-22.91	1215	
BR-105D		25.64		-25.64	1140	
MW-105		DRY		#VALUE!	1142	
BR-106		23.97		-23.97	1153	
MW-106		12.54		-12.54	1154	
BR-108		28.65		-28.65	1204	
MW-108		12.75		-12.75	1203	
BR-111		29.08		-29.08	1105	
BR-111D		28.83		-28.83	1108	
BR-112A		31.67		-31.67	1053	
BR-112D		36.22		-36.22	1050	
BR-113		31.43		-31.43	1128	
BR-113D		31.83		-31.83	1131	

SEMI-ANNUAL GROUNDWATER ELEVATION REPORT
LONZA ROCHESTER, N.Y.

SAMPLE POINT	DATE	DEPTH TO WATER	CASING ELEVATION	GW ELEVATION	TIME	Comments
BR-114	11/16/12	13.48		-13.48	1226	
MW-114		10.07		-10.07	1225	
BR-116		29.71		-29.71	1238	
BR-116D		35.53		-35.53	1240	
BR-117		24.00		-24.00	1330	CASCADING WELL
BR-117D		50.42		-50.42	1332	
BR-118		28.95		-28.95	1310	
BR-118D		48.89		-48.89	1312	
BR-122D		45.19		-45.19	1257	
BR-123D		45.44		-45.44	1253	
BR-124D		31.57		-31.57	1248	
BR-126		9.03		-9.03	1327	
BR-127		5.91			1154	NO L-NAPL
MW-127		5.98			1153	NO L-NAPL ; NO D-NAPL
BR-2		9.81		-9.81	1123	NO L-NAPL ; NO D-NAPL
BR-2A		11.19		-11.19	1120	NO L-NAPL ; NO D-NAPL
BR-2D		0.05		-0.05	1124	NO L-NAPL ; NO D-NAPL
BR-3		9.33		-9.33	1139	NO L-NAPL
BR-3D		55.67		-55.67	1138	NO L-NAPL ; NO D-NAPL
BR-4		7.36		-7.36	1127	NO L-NAPL
BR-5		13.38		-13.82	1204	NO L-NAPL ; NO D-NAPL
BR-5A		23.02		-23.02	1203	NO L-NAPL
BR-6A		11.32		-11.32	1145	NO L-NAPL
BR-7		27.94		-27.94	1242	NO L-NAPL
BR-7A		19.50		-19.50	1243	NO L-NAPL ; NO D-NAPL
BR-8		13.54		-13.54	1109	NO L-NAPL ; NO D-NAPL
BR-9		31.58		-31.58	1226	NO L-NAPL
C-2A		9.65		-9.65	1121	NO L-NAPL ; NO D-NAPL
C-3						BURIED
C-5		10.44		-10.44	1140	NO L-NAPL ; NO D-NAPL
E-2		5.37		-5.37	1128	NO L-NAPL ; NO D-NAPL
E-3		4.42		-4.42	1205	NO L-NAPL ; NO D-NAPL

SEMI-ANNUAL GROUNDWATER ELEVATION REPORT
LONZA ROCHESTER, N.Y.

SAMPLE POINT	DATE	DEPTH TO WATER	CASING ELEVATION	GW ELEVATION	TIME	Comments
E-5	11/16/12	5.85		-5.85	1201	NO L-NAPL ; NO D-NAPL
EC-1		18.58		-18.58	1145	
EC-2		DRY		#VALUE!	1238	DRY
ERIE CANAL		33.10		-33.10	1140	
MW-16		11.83		-11.83	1233	
MW-3		6.10		-6.10	1155	
MW-G6		4.35		-4.35	1157	
MW-G7						NOT LOCATED
MW-G8		7.80		-7.80	1150	
MW-G9		11.27		-11.27	1153	
N-2		4.50		-4.50	1202	NO L-NAPL ; NO D-NAPL
N-3		6.94		-6.94	1232	NO L-NAPL
NESS-E		20.27		-20.27	1212	
NESS-W		31.42		-31.42	1217	
PW-10		8.88		-8.88	1126	NO L-NAPL
PW-12		7.02		-7.02	1209	NO L-NAPL
PW-13		25.17		-25.17	1239	NO L-NAPL; NO D NAPL
PW-14		45.60		-45.60	1131	NO L-NAPL
PW-15		8.57		-8.57	1135	NO L-NAPL
PW-16		14.30			1111	NO L-NAPL
PW-17		10.50			1141	NO L-NAPL ; NO D-NAPL
PZ-101		17.24		-17.24	1217	
PZ-102		15.68		-15.68	1255	
PZ-103		14.62		-14.62	1253	
PZ-104		14.46		-14.46	1257	
PZ-105		10.93		-10.93	1147	NO L-NAPL ; NO D-NAPL
PZ-106		9.02		-9.02	1130	NO L-NAPL ; NO D-NAPL
PZ-107		8.26		-8.26	1151	NO L-NAPL ; NO D-NAPL
PZ-109		8.64		-8.64	1136	NO L-NAPL; NO D-NAPL
PZ-110		10.63			1140	NO L-NAPL ; NO D-NAPL
PZ-111		7.98			1144	NO L-NAPL ; NO D-NAPL

SEMI-ANNUAL GROUNDWATER ELEVATION REPORT
LONZA ROCHESTER, N.Y.

SAMPLE POINT	DATE	DEPTH TO WATER	CASING ELEVATION	GW ELEVATION	TIME	Comments
W-2		12.45		-12.45	1227	NO L-NAPL ; NO D-NAPL
W-5		6.88		-6.88	1240	NO L-NAPL ; NO D-NAPL

Sampling Summary Table
LONZA

Sample Point	Sample Date	Sample Time	Water Level (ft)	Bottom of Well (ft)	pH STD Units	Spec. Cond. (umhos)	Temp (c)	Turb (NTU)	ORP (mv)	DO (ppm)
PZ-101	11/20/2012	1325	18.26		6.54	5249	12.3	6.4	-9	0.50
PZ-102	11/20/2012	1130	15.83		6.83	3596	12.6	7.1	-88	0.34
PZ-103	11/20/2012	1035	15.43		6.94	4314	13.1	3.67	-161	0.24
PZ-104	11/19/2012	1135	14.70		6.98	2544	15.1	15.9	-100	0.85
PZ-105	11/19/2012	1120	11.41		7.27	1531	14.1	17.23	-37	0.72
PZ-106	11/20/2012	1250	9.38		6.30	6560	13.6	14.97	-60	0.58
PZ-107	11/19/2012	1250	8.11		7.50	1440	14.1	4.26	-108	0.82
BR-5A	11/21/2012	1115	21.79		7.25	1433	14.7	39.0	-83	
BR-6A	11/19/2012	1210	11.39		7.54	4610	15.3	7.01	-246	0.54
BR-7A	11/21/2012	1145	28.72		6.94	1859	15.1	5.22	-133	
BR-9	11/21/2012	1130	28.26		7.00	2010	14.8	7.95	-33	
BR-105	11/19/2012	1135	22.41		6.98	2193	13.3	2.24	-73	0.55
BR-105D	11/19/2012	1055	25.59		6.90	27760	13.1	3.64	-283	
BR-106	11/19/2012	1231	22.51		6.72	3447	15.4	6.2	-39	0.8
BR-108	6/20/2012	1315	28.6		7.04	1535	15.7	199.1	3	
BR-112D	6/19/2012	1120	35.92		7.18	2748	11.9	1.65	-206	
BR-113D	6/19/2012	1204	31.27		7.11	2560	13.8	5.8	-259	
BR-114	6/19/2012	1250	13.48		7.08	1996	18.4	1.76	-101	0.53
BR-116	6/13/2012	1555	28.51		6.88	2346	15.8	10.27	-91	0.69
BR-116D	6/13/2012	1522	35.51		10.29	1429	16.3	22.2	-209	0.48
BR-117D	6/12/2012	1325	50.75		7.3	1656	13	51.5	-37	0.38
BR-118D	6/12/2012	1330	49.53		7.39	1598	14.1	33.7	-144	0.35
BR-122D	6/13/2012	1428	45.49		7.32	2321	10.9	20.7	-218	0.27
BR-123D	6/13/2012	1339	45.53		7.73	2161	10.5	30.3	-204	0.4
BR-126	6/18/2012	1345	8.78		7.09	948	17.6	1.9	-115	0.61
BR-127	6/12/2012	1415	4.78		7.87	1687	17.9	3.9	-231	0.52
MW-103	6/20/2012	1318	1.77		7.12	758	23.1	2.24	-47	0.89
MW-104	6/20/2012	1435	6.85		7.3	749	15.3	100.7	-45	0.99
MW-106	6/20/2012	1202	11.88		6.99	2602	16	8	-98	1.16
MW-114	6/19/2012	1200	10.18		6.55	2088	18.7	9	-4	0.77
MW-127	6/12/2012	1330	4.18		7.41	3133	17.9	2.96	-55	0.67
PW-10	6/13/2012	1145	9.03		9.58	15870	13.5	2.06	-164	0.57
PW-12	6/15/2012	1315	6.05		7.1	5638	14.3	2.29	-133	0.44
PW-13	6/15/2012	1401	28.12		6.8	2455	15.9	3.53	-92	
PW-14	6/15/2012	1217	33.69		6.71	5220	13.4	272	22	
PW-15	6/15/2012	1227	31.01		8.98	6069	15.4	27.3	-85	

Sampling Summary Table
LONZA

Sample Point	Sample Date	Sample Time	Water Level (ft)	Bottom of Well (ft)	pH STD Units	Spec. Cond. (umhos)	Temp (c)	Turb (NTU)	ORP (mv)	DO (ppm)
PW-16	6/15/2012	1027	13.45		6.27	3715	14.7	48.1	-114	
B-7	6/15/2012	1355	14.58		7.12	1350	14.7	14.26	-53	
B-11	6/13/2012	1307	5.97		7.65	1220	12.7	25.5	-11	
B-16	6/18/2012	1425	5.63		7.11	1143	16.5	0.98	-53	0.74
B-17	6/13/2012	1110	8.52		7.3	8419	13.7	20.1	-116	0.65
QD-1	6/12/2012	1233	NA		7.64	1133	20			
QO-2	6/12/2012	1348	NA		7.51	1080	20.2			
QO-2S1	6/12/2012	1355	NA		8.16	622	22.2			
QS-4	6/12/2012	1212	NA		7.89	1775	13.3			
NESS-EAST	6/19/2012	1110	24.09		6.22	2729	17.8	5.06	-77	0.55
NESS-WEST	6/19/2012	1310	31.27		7.52	1511	16.3	6.8	-195	
E-3	6/13/2012	1333	5.18		7.36	1300	13.8	79.9	-66	

FIELD OBSERVATIONS

Facility: LONZA

Sample Point ID: BA-5A

Field Personnel: PC, PN

Sample Matrix: GW

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-21-12 / 1115

Water Level @ Sampling, Feet: 21.79

Method of Sampling: SAMPLE PORT

Dedicated: (Y) / N

Multi-phased/ layered: ( ) Yes (✓) No

If YES: ( ) light ( ) heavy

SAMPLING DATA:

Time	Temp. (°C)	pH (SU)	Conductivity (µmhos/cm)	Turb. (NTU)	Other (ORP)	Other ( )
1117	14.7	7.25	1433	39.0	-83	

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 1,413 µmhos/cm	Check.Std 1,413 µmhos/cm (± 10%)	Cal.Std 10 NTU	Check Std 10 NTU (± 10%)
Solution ID#								

GENERAL INFORMATION:

Weather conditions @ time of sampling: SUN 41

Sample Characteristics: SL TURBID BROWN TINT

COMMENTS AND OBSERVATIONS:

I certify that sampling procedures were in accordance with all applicable USEPA, State and Site-Specific protocals.

Date: 11/21/12 By: [signature] Company: TAC

FIELD OBSERVATIONS

Facility: LONZA

Sample Point ID: BR-6A

Field Personnel: PL, AN, JW, RJ

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-19-12 / 1145

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

Prot. Casing/riser height: ____

Cond of prot. Casing/riser: ( ) Unlocked ( ) Good
( ) Loose (X) Flush Mount
( ) Damaged ____

If prot.casing; depth to riser below: ____

Gas Meter (Calibration/ Reading): % Gas: / % LEL: /

Vol. Organic Meter (Calibration/Reading): Volatiles (ppm) /

PURGE INFORMATION:

Date / Time Initiated: 11-19-12 / 1147

Date / Time Completed: 11-19-12 / 1210

Surf. Meas. Pt: ( ) Prot. Casing (X) Riser

Riser Diameter, Inches: ____

Initial Water Level, Feet: 11.33

Elevation. G/W MSL: ____

Well Total Depth, Feet: ____

Method of Well Purge: Peristaltic

One (1) Riser Volume, Gal: ____

Dedicated: (Y) / N

Total Volume Purged, Gal: ____

Purged To Dryness Y / (N)

Purge Observations: Low flow

Start Clear Finish Clear

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)	mL/m	Cumulative Volume	Temp. (C)	pH (SU)	Conductivity (µmhos/cm)	Turb. (NTU)	Other ORP	Other DO
1155	11.39	200		15.1	7.68	4559	7.50	-244	0.59
1200	↓	↓		15.3	~~7.9~~ PR 7.59	4600	7.20	-245	0.57
1205				15.4	7.55	4609	7.17	-245	0.55
1210	↓	↓		15.3	7.54	4610	7.01	-246	0.54

Started @ 1210 / 11-19-12

MZ

FIELD OBSERVATIONS

Facility: LONZA

Sample Point ID: BR-7A

Field Personnel: PC, PN

Sample Matrix: GW

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-21-12 / ~~15:1~~ 1145

Water Level @ Sampling, Feet: 28.72

Method of Sampling: Same Pump

Dedicated: (Y) / N

Multi-phased/ layered: ( ) Yes (✓) No

If YES: ( ) light ( ) heavy

SAMPLING DATA:

Time	Temp. (°C)	pH (SU)	Conductivity (µmhos/cm)	Turb. (NTU)	Other (ORP)	Other ( )
1146	15.1	6.94	1859	5.22	-133	

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 1,413 µmhos/cm	Check.Std 1,413 µmhos/cm (± 10%)	Cal.Std 10 NTU	Check Std 10 NTU (± 10%)
Solution ID#								

GENERAL INFORMATION:

Weather conditions @ time of sampling: Sun 41

Sample Characteristics: Clear

COMMENTS AND OBSERVATIONS:

I certify that sampling procedures were in accordance with all applicable USEPA, State and Site-Specific protocals.

Date: 11/21/12 By: [signature] Company: TAC

FIELD OBSERVATIONS

Facility: LONZA

Sample Point ID: BR-9 ~~BA-10R~~ PR

Field Personnel: PC, PN

Sample Matrix: GW

(A) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-21-12 / 1130

Water Level @ Sampling, Feet: 28.26

Method of Sampling: SAMPLE PUMP

Dedicated: (Y) / N

Multi-phased/ layered: ( ) Yes (✓) No

If YES: ( ) light ( ) heavy

SAMPLING DATA:

Time	Temp. (°C)	pH (SU)	Conductivity (µmhos/cm)	Turb. (NTU)	Other (ORP)	Other ( )
1133	14.8	7.00	2010	7.95	-33	

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 1,413 µmhos/cm	Check.Std 1,413 µmhos/cm (± 10%)	Cal.Std 10 NTU	Check Std 10 NTU (± 10%)
Solution ID#								

GENERAL INFORMATION:

Weather conditions @ time of sampling: SUN 41

Sample Characteristics: Clear Cool Sandy

COMMENTS AND OBSERVATIONS:

I certify that sampling procedures were in accordance with all applicable USEPA, State and Site-Specific protocals.

Date: 11/21/12 By: [signature] Company: TAL

FIELD OBSERVATIONS

Facility: LONZA

Sample Point ID: BR-105

Field Personnel: RL, PN, JW, RJ

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-19-12 / 11:10

Cond of seal: (X) Good ( ) Cracked ( ) None ( ) Buried %

Prot. Casing/riser height: —

Cond of prot. Casing/riser: ( ) Unlocked ( ) Good ( ) Loose (X) Flush Mount ( ) Damaged

If prot.casing; depth to riser below: —

Gas Meter (Calibration/ Reading): % Gas: — / —

% LEL: — / —

Vol. Organic Meter (Calibration/Reading):

Volatiles (ppm) — / —

PURGE INFORMATION:

Date / Time Initiated: 11-19-12 / 11:10

Date / Time Completed: 11-19-12 / 1135

Surf. Meas. Pt: ( ) Prot. Casing (X) Riser

Riser Diameter, Inches: 4.0

Initial Water Level, Feet: 22.38

Elevation. G/W MSL:

Well Total Depth, Feet:

Method of Well Purge: PERISTALTIC PUMP

One (1) Riser Volume, Gal:

Dedicated: (Y) / N

Total Volume Purged, Gal:

Purged To Dryness Y / (N)

Purge Observations: LO-FLO

Start Clear Finish Clear

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (SU)	Conductivity (µmhos/cm)	Turb. (NTU)	Other ORP	Other DO
11:15	pump 100	WL 22.41		13.1	7.42	2,332	clear	-204	0.62
11:20		↓		13.1	7.11	2,188	↓	-160	0.60
11:25				13.2	6.99	2190		-97	0.58
11:30				13.2	6.99	2185		-88	0.57
11:35		↓		13.3	6.98	2193	2.24	-73	0.55

SAMPLED @ 1135/11-19-12

FIELD OBSERVATIONS

SAMPLING INFORMATION:

POINT ID BR-105

Date/Time 11-19-12 1135 Water Level @ Sampling, Feet: 22.42

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

Multi-phased/ layered: ( ) Yes (X) No If YES: ( ) light ( ) heavy

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conductivity (µmhos/cm)	Turb. (NTU)	Other (ORP)	Other (DO)
1135	13.3	6.98	2,193	2.24	-73	0.55

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 1,413 µmhos/cm	Check.Std 1,413 µmhos/cm (± 10%)	Cal.Std 10 NTU	Check Std 10 NTU (± 10%)
Solution ID#								

GENERAL INFORMATION:

Weather conditions @ time of sampling: Sunny ~40°f

Sample Characteristics: clear

COMMENTS AND OBSERVATIONS:

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

Date: 11/19/12 By: Thomas Webster Company: TAL

FIELD OBSERVATIONS

Facility: LONZA

Sample Point ID: BR-105D

Field Personnel: PL, PN, JW, RJ

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-19-12 / 1020

Cond of seal: (X) Good ( ) Cracked ( ) None ( ) Buried %

Prot. Casing/riser height: —

Cond of prot. Casing/riser: ( ) Unlocked ( ) Good ( ) Loose (X) Flush Mount ( ) Damaged

If prot.casing; depth to riser below: —

Gas Meter (Calibration/ Reading): % Gas: — / —

% LEL: — / —

Vol. Organic Meter (Calibration/Reading):

Volatiles (ppm): — / —

PURGE INFORMATION:

Date / Time Initiated: 11-19-12 / 1025

Date / Time Completed: 11-19-12 / 1055

Surf. Meas. Pt: ( ) Prot. Casing (X) Riser

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 25.56

Elevation. G/W MSL:

Well Total Depth, Feet:

Method of Well Purge: PERISTALTIC PUMP

One (1) Riser Volume, Gal:

Dedicated: (Y) N

Total Volume Purged, Gal:

Purged To Dryness Y / (N)

Purge Observations: CO-FCO

Start CLEAR Finish Clear

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (SU)	Conductivity (µmhos/cm)	Turb. (NTU)	Other ORP	Other DO
1040	100	25.59		12.9	6.99	27,650	CLEAR	-273	
1045	↓	↓		13.1	6.97	27,720	↓	-278	
1050				13.1	6.93	27,730	↓	-272	
1055	↓	↓		13.1	6.90	27,760	3.64	-283	

SAMPLED @ 1055/11-19-12

FIELD OBSERVATIONS

SAMPLING INFORMATION:

POINT ID BR-105D

Date/Time 11-19-12 1055 Water Level @ Sampling, Feet: 26.37

Method of Sampling: peristaltic pump Dedicated: Y / N

Multi-phased/ layered: ( ) Yes (Y) No If YES: ( ) light ( ) heavy

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conductivity (µmhos/cm)	Turb. (NTU)	Other (ORP)	Other ( )
1055	13.1	6.90	27,760	3.64	-283	

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 1,413 µmhos/cm	Check.Std 1,413 µmhos/cm (± 10%)	Cal.Std 10 NTU	Check Std 10 NTU (± 10%)
Solution ID#								

GENERAL INFORMATION:

Weather conditions @ time of sampling: Sunny ~40 mp

Sample Characteristics: clear

COMMENTS AND OBSERVATIONS:

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

Date: 11/19/12 By: Thomas West Company: TAL

FIELD OBSERVATIONS

Facility: LONZA

Sample Point ID: BR-106

Field Personnel: PL, PN, JW, RJ

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-19-12 / 1200

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

Prot. Casing/riser height: —

Cond of prot. Casing/riser: ( ) Unlocked ( ) Good ( ) Loose (X) Flush Mount ( ) Damaged ____

If prot.casing; depth to riser below: —

Gas Meter (Calibration/ Reading): % Gas: — / —

% LEL: — / —

Vol. Organic Meter (Calibration/Reading):

Volatiles (ppm): — / —

PURGE INFORMATION:

Date / Time Initiated: 11-19-12 / 1205

Date / Time Completed: 11-19-12 / 1230

Surf. Meas. Pt: ( ) Prot. Casing (X) Riser

Riser Diameter, Inches: 4.0

Initial Water Level, Feet: 17.52

Elevation. G/W MSL:

Well Total Depth, Feet:

Method of Well Purge: PERISTALTIC PUMP

One (1) Riser Volume, Gal:

Dedicated: (Y) / N

Total Volume Purged, Gal:

Purged To Dryness Y / (N)

Purge Observations: CO-FCO

Start CLEAR Finish CLEAR

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (SU)	Conductivity (µmhos/cm)	Turb. (NTU)	Other ORP	Other DO
1215	200	17.59		13.0	7.25	3359	CLEAR	-59	0.57
1220	200	18.00		13.1	7.02	3383	CLEAR	-69	0.48
1225	200	18.00		13.1	7.07	3407	CLEAR	-68	0.45
1230	200	18.02		13.1	7.05	3405	1.78	-70	0.50

SAMPLED @ 1231/11-19-12

FIELD OBSERVATIONS

SAMPLING INFORMATION:

POINT ID _____

Date/Time _____ / _____ Water Level @ Sampling, Feet: _____

Method of Sampling: _____ Dedicated: Y / N

Multi-phased/ layered: ( ) Yes ( ) No If YES: ( ) light ( ) heavy

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conductivity (µmhos/cm)	Turb. (NTU)	Other ( )	Other ( )

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 1,413 µmhos/cm	Check.Std 1,413 µmhos/cm (± 10%)	Cal.Std 10 NTU	Check Std 10 NTU (± 10%)
Solution ID#								

GENERAL INFORMATION:

Weather conditions @ time of sampling: _____

Sample Characteristics: _____

COMMENTS AND OBSERVATIONS: _____

_____

_____

_____

_____

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

Date: / / By: _____ Company: _____

FIELD OBSERVATIONS

Facility: LONZA

Sample Point ID: BR-126

Field Personnel: PL, AN, JW, RJ

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-20-12 / 1140

Cond of seal: ( ) Good ( ) Cracked ( ) None (X) Buried %

Prot. Casing/riser height: —

Cond of prot. Casing/riser: ( ) Unlocked ( ) Good ( ) Loose (X) Flush Mount ( ) Damaged

If prot.casing; depth to riser below: —

Gas Meter (Calibration/ Reading): % Gas: — / —

% LEL: — / —

Vol. Organic Meter (Calibration/Reading):

Volatiles (ppm) — / —

PURGE INFORMATION:

Date / Time Initiated: 11-20-12 / 1145

Date / Time Completed: 11-20-12 /

Surf. Meas. Pt: ( ) Prot. Casing ( ) Riser

Riser Diameter, Inches: 4.0

Initial Water Level, Feet: 9.11

Elevation. G/W MSL:

Well Total Depth, Feet: 45.45

Method of Well Purge: peristaltic pump

One (1) Riser Volume, Gal:

Dedicated: (Y) / N

Total Volume Purged, Gal:

Purged To Dryness Y / (N)

Purge Observations: Low-Flow

Start SL. turbid Finish clear

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (SU)	Conductivity (µmhos/cm)	Turb. (NTU)	Other ORP	Other DO
1150	200	9.18		13.9	7.06	1016	SL. turbid	-77	
1155	|	9.20		14.1	6.90	1015	clear	-73	
1200	|	9.20		14.1	6.88 (11-20-12)	1018	clear	-76	
1205	↓	9.21		14.2	6.83	1022	5.3	-76	

FIELD OBSERVATIONS

SAMPLING INFORMATION:

POINT ID BR-126

Date/Time 11-20-12 1205 Water Level @ Sampling, Feet: 9.21

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

Multi-phased/ layered: ( ) Yes (X) No If YES: ( ) light ( ) heavy

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conductivity (µmhos/cm)	Turb. (NTU)	Other (ORP)	Other ( )
1205	14.2	6.83	1022	5.3	-76	

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 1,413 µmhos/cm	Check.Std 1,413 µmhos/cm (± 10%)	Cal.Std 10 NTU	Check Std 10 NTU (± 10%)
Solution ID#								

GENERAL INFORMATION:

Weather conditions @ time of sampling: Cloudy ~38°F

Sample Characteristics: Clear

COMMENTS AND OBSERVATIONS: Sampled @ 1205 on 11-20-12

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

Date: 11 20 12 By: [signature] Company: JAL

FIELD OBSERVATIONS

Facility: LONZA

Sample Point ID: BR-127

Field Personnel: PL, PN, JW, RJ

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-19-12 / 1255

Cond of seal: ( ) Good ( ) Cracked ( ) None ( ) Buried PW ____ %

Prot. Casing/riser height: ____

Cond 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 Meter (Calibration/Reading): Volatiles (ppm): /

PURGE INFORMATION:

Date / Time Initiated: 11-19-12 / 1341

Date / Time Completed: 11-19-12 / 1400

Surf. Meas. Pt: (X) Prot. Casing ( ) Riser

Riser Diameter, Inches: 6.0

Initial Water Level, Feet: 5.79

Elevation. G/W MSL: ____

Well Total Depth, Feet: ____

Method of Well Purge: PERISTALTIC

One (1) Riser Volume, Gal: ____

Dedicated: (Y) / N

Total Volume Purged, Gal: ____

Purged To Dryness Y / (N)

Purge Observations: ____

Start clear Finish clear

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (SU)	Conductivity (µmhos/cm)	Turb. (NTU)	Other ORP	Other DO
1345	WL 5.81	MEW 200		13.4	7.53	2549	5.25	-126	0.62
1350	↓			13.6	7.39	2540	5.20	-128	0.60
1355				13.7	7.39	2537	4.16	-129	0.58
1400	↓			13.6	7.39	2535	3.44	-131	0.57

Sampled @ 1400 11-19-12

MW 2

DUP

FIELD OBSERVATIONS

SAMPLING INFORMATION:

POINT ID _____

Date/Time _____ / _____ Water Level @ Sampling, Feet: _____

Method of Sampling: _____ Dedicated: Y / N

Multi-phased/ layered: ( ) Yes ( ) No If YES: ( ) light ( ) heavy

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conductivity (µmhos/cm)	Turb. (NTU)	Other ( )	Other ( )

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 1,413 µmhos/cm	Check.Std 1,413 µmhos/cm (± 10%)	Cal.Std 10 NTU	Check Std 10 NTU (± 10%)
Solution ID#								

GENERAL INFORMATION:

Weather conditions @ time of sampling: _____

Sample Characteristics: _____

COMMENTS AND OBSERVATIONS: _____

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

Date: / / By: _____ Company: _____

FIELD OBSERVATIONS

Facility: LONZA

Sample Point ID: P2-101

Field Personnel: PL, AN, JW, RJ

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-20-12 / 1300

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

Prot. Casing/riser height: —

Cond of prot. Casing/riser: ( ) Unlocked (X) Good ( ) Loose ( ) Flush Mount ( ) Damaged ____

If prot.casing; depth to riser below: —

Gas Meter (Calibration/ Reading): % Gas: — / — % LEL: — / —

Vol. Organic Meter (Calibration/Reading): Volatiles (ppm) — / —

PURGE INFORMATION:

Date / Time Initiated: 11-20-12 / 1305

Date / Time Completed: 11-20-12 / 1325

Surf. Meas. Pt: ( ) Prot. Casing (X) Riser

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 17.38

Elevation. G/W MSL: ____

Well Total Depth, Feet: ____

Method of Well Purge: peristaltic pump

One (1) Riser Volume, Gal: ____

Dedicated: (Y) / N

Total Volume Purged, Gal: ____

Purged To Dryness Y / (N)

Purge Observations: Low-Flow

Start clear Finish clear

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (SU)	Conductivity (µmhos/cm)	Turb. (NTU)	Other ORP	Other DO
1310	100 mL/min	18.23		12.4	6.55	5260	clear	-9	0.54
1315	↓	18.23		12.2	6.55	5252	↓	-17	0.52
1320	↓	18.25		12.2	6.52	5258	↓	-14	0.51
1325	↓	18.26		12.3	6.54	5249	6.4	-9	0.50

FIELD OBSERVATIONS

SAMPLING INFORMATION:

POINT ID PZ-101

Date/Time 11-20-12 / 1325 Water Level @ Sampling, Feet: 18.26

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

Multi-phased/ layered: ( ) Yes (X) No If YES: ( ) light ( ) heavy

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conductivity (µmhos/cm)	Turb. (NTU)	Other (ORP)	Other (DO)
1325	12.3	6.54	5249	6.4	-9	0.50

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 1,413 µmhos/cm	Check.Std 1,413 µmhos/cm (± 10%)	Cal.Std 10 NTU	Check Std 10 NTU (± 10%)
Solution ID#								

GENERAL INFORMATION:

Weather conditions @ time of sampling: cloudy ~38°F

Sample Characteristics: Clear

COMMENTS AND OBSERVATIONS: Sampled @ 13:25 on 11-20-12

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

Date: 11 Nov 12 By: Thomas Webber Company: TAL

FIELD OBSERVATIONS

Facility: LONZA Sample Point ID: PZ-102

Field Personnel: PL, PN, JW, RJ Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-20-12 / 1055 Cond of seal: (X) Good ( ) Cracked ( ) None ( ) Buried ____ %

Prot. Casing/riser height: — Cond of prot. Casing/riser: ( ) Unlocked (X) Good ( ) Loose ( ) Flush Mount ( ) Damaged ____

If prot.casing; depth to riser below: —

Gas Meter (Calibration/ Reading): % Gas: — / — % LEL: — / —

Vol. Organic Meter (Calibration/Reading): Volatiles (ppm) — / —

PURGE INFORMATION:

Date / Time Initiated: 11-20-12 / 1100 Date / Time Completed: 11-20-12 / 1130

Surf. Meas. Pt: ( ) Prot. Casing (X) Riser Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 15.75 Elevation. G/W MSL: ____

Well Total Depth, Feet: 32.60 Method of Well Purge: peristaltic pump

One (1) Riser Volume, Gal: ____ Dedicated: (Y) / N

Total Volume Purged, Gal: ____ Purged To Dryness Y / (N)

Purge Observations: Low-Flow Start Clear Finish Clear

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (SU)	Conductivity (µmhos/cm)	Turb. (NTU)	Other ORP	Other DO
1115	150 mL/min	15.78		12.7	6.97	3584	clear	-76	0.39
1120	↓	15.78		12.8	6.88	3586	↓	-80	0.37
1125	↓	15.81		12.7	6.87	3590	↓	-87	0.36
1130	↓	15.83		12.6	6.83	3596	7.1	-88	0.34

FIELD OBSERVATIONS

SAMPLING INFORMATION:

POINT ID P2-102

Date/Time 11-20-12 1130 Water Level @ Sampling, Feet: 15.83

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

Multi-phased/ layered: ( ) Yes (X) No If YES: ( ) light ( ) heavy

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conductivity (µmhos/cm)	Turb. (NTU)	Other (ORP)	Other ( )
1130	12.6	6.83	3596	7.1	-88	

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 1,413 µmhos/cm	Check.Std 1,413 µmhos/cm (± 10%)	Cal.Std 10 NTU	Check Std 10 NTU (± 10%)
Solution ID#								

GENERAL INFORMATION:

Weather conditions @ time of sampling: Cloudy, ~38°F

Sample Characteristics: clear

COMMENTS AND OBSERVATIONS: Sampled @ 11:30 on 11-20-12

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

Date: 11/20/12 By: Thomas Webster Company: TAL

FIELD OBSERVATIONS

Facility: LONZA

Sample Point ID: P2-103

Field Personnel: PL, PN, JW, RJ

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-20-12 / 1015

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

Prot. Casing/riser height: —

Cond of prot. Casing/riser: ( ) Unlocked ( ) Good ( ) Loose ( ) Flush Mount (X) Damaged Broken cap

If prot.casing; depth to riser below: —

Gas Meter (Calibration/ Reading): % Gas: — / — % LEL: — / —

Vol. Organic Meter (Calibration/Reading): Volatiles (ppm) — / —

PURGE INFORMATION:

Date / Time Initiated: 11-20-12 / 10:20

Date / Time Completed: 11-20-12 / 1035

Surf. Meas. Pt: ( ) Prot. Casing (X) Riser

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 14.68

Elevation. G/W MSL: ____

Well Total Depth, Feet: 32.52

Method of Well Purge: peristaltic pump

One (1) Riser Volume, Gal: ____

Dedicated: (Y) / N

Total Volume Purged, Gal: ____

Purged To Dryness Y / (N)

Purge Observations: Low-Flow

Start Clear Finish Clear

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (SU)	Conductivity (µmhos/cm)	Turb. (NTU)	Other ORP	Other DO
1025	100	15.38		13.2	6.81	4335	clear	-152	0.27
1030	100	15.41		13.1	6.86	4318	1	-159	0.26
1035	100	15.43		13.1	6.94	4314	3.67	-161	0.24

FIELD OBSERVATIONS

SAMPLING INFORMATION:

POINT ID PZ-103

Date/Time 11-20-12 1035 Water Level @ Sampling, Feet: 15.43

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

Multi-phased/ layered: ( ) Yes (N) No If YES: ( ) light ( ) heavy

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conductivity (µmhos/cm)	Turb. (NTU)	Other (ORP)	Other ( )
1035	13.1	6.94	4314	3.67	-161	

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 1,413 µmhos/cm	Check.Std 1,413 µmhos/cm (± 10%)	Cal.Std 10 NTU	Check Std 10 NTU (± 10%)
Solution ID#								

GENERAL INFORMATION

Weather conditions @ time of sampling: cloudy, ~38°F

Sample Characteristics: clear

COMMENTS AND OBSERVATIONS: Sampled @ 1035 on 11-20-12

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

Date: 11/20/12 By: Thomas Nelson Company: TAL

FIELD OBSERVATIONS

Facility: LONZA

Sample Point ID: PZ-104

Field Personnel: PL, PN, JW, RJ

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-19-12 / 1100

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

Prot. Casing/riser height: —

Cond of prot. Casing/riser: ( ) Unlocked ( ) Good ( ) Loose (X) Flush Mount ( ) Damaged

If prot.casing; depth to riser below: —

Gas Meter (Calibration/ Reading): % Gas: — / —

% LEL: — / —

Vol. Organic Meter (Calibration/Reading):

Volatiles (ppm): — / —

PURGE INFORMATION:

Date / Time Initiated: 11-19-12 / 1110

Date / Time Completed: 11-19-12 / 1135

Surf. Meas. Pt: ( ) Prot. Casing ( ) Riser

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 14.53

Elevation. G/W MSL:

Well Total Depth, Feet:

Method of Well Purge: PERISTALTIC PUMP

One (1) Riser Volume, Gal:

Dedicated: (Y) N

Total Volume Purged, Gal:

Purged To Dryness Y (N)

Purge Observations: LO-FLO

Start CLEAR Finish CLEAR

PURGE DATA: (if applicable)

Time	Purge Rate (~~gpm~~/htz)		Cumulative Volume	Temp. (C)	pH (SU)	Conductivity (µmhos/cm)	Turb. (NTU)	Other ORP	Other DO
1120	ml/min 180	14.69		16.2	7.10	2611	19.1	-131	0.97
1125	180	14.69		15.2	7.02	2567	16.3	-105	0.89
1130	180	14.70		15.1	7.00	2555	16.0	-103	0.87
1135	180	14.70		15.1	6.98	2544	15.9	-100	0.85

SAMPLED @ 1135/11-19-12

BJ

FIELD OBSERVATIONS

SAMPLING INFORMATION:

POINT ID _____

Date/Time _____ / _____ Water Level @ Sampling, Feet: _____

Method of Sampling: _____ Dedicated: Y / N

Multi-phased/ layered: ( ) Yes ( ) No If YES: ( ) light ( ) heavy

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conductivity (µmhos/cm)	Turb. (NTU)	Other ( )	Other ( )

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 1,413 µmhos/cm	Check.Std 1,413 µmhos/cm (± 10%)	Cal.Std 10 NTU	Check Std 10 NTU (± 10%)
Solution ID#								

GENERAL INFORMATION:

Weather conditions @ time of sampling: _____

Sample Characteristics: _____

COMMENTS AND OBSERVATIONS: _____

_____

_____

_____

_____

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

Date: / / By: _____ Company: _____

FIELD OBSERVATIONS

Facility: LONZA

Sample Point ID: P2-105

Field Personnel: PL, PN, JW, RJ

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-19-12 / 1055

Cond of seal: ( ) Good ( ) Cracked ( ) None (X) Buried %

Prot. Casing/riser height:

Cond of prot. Casing/riser: ( ) Unlocked ( ) Good ( ) Loose (X) Flush Mount ( ) Damaged

If prot.casing; depth to riser below:

Gas Meter (Calibration/ Reading): % Gas: / % LEL: /

Vol. Organic Meter (Calibration/Reading): Volatiles (ppm): /

PURGE INFORMATION:

Date / Time Initiated: 11-19-12 / 1100

Date / Time Completed: 11-19-12 / 1120

Surf. Meas. Pt: ( ) Prot. Casing (X) Riser

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 10.92

Elevation. G/W MSL:

Well Total Depth, Feet: 32.06

Method of Well Purge: PERISTALTIC

One (1) Riser Volume, Gal:

Dedicated: (Y) / N

Total Volume Purged, Gal:

Purged To Dryness Y / (N)

Purge Observations: Start Cloudy Tint Clear Finish Cloudy Tint Clear

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (SU)	Conductivity (µmhos/cm)	Turb. (NTU)	Other ORP	Other DO
1105	11.41	MP 75		14.7	7.40	1521	18.22	-26	0.76
1110				19.3	7.29	1528	20.00	-31	0.75
1115				14.3	7.27	1529	19.71	-35	0.74
1120				14.1	7.27	1531	17.23	-37	0.72

SAMPLED @ 1120 / 11-19-12

PL

FIELD OBSERVATIONS

SAMPLING INFORMATION:

POINT ID _____

Date/Time _____ / _____ Water Level @ Sampling, Feet: _____

Method of Sampling: _____ Dedicated: Y / N

Multi-phased/ layered: ( ) Yes ( ) No If YES: ( ) light ( ) heavy

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conductivity (µmhos/cm)	Turb. (NTU)	Other ( )	Other ( )

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 1,413 µmhos/cm	Check.Std 1,413 µmhos/cm (± 10%)	Cal.Std 10 NTU	Check Std 10 NTU (± 10%)
Solution ID#								

GENERAL INFORMATION:

Weather conditions @ time of sampling: _____

Sample Characteristics: _____

COMMENTS AND OBSERVATIONS: _____

_____

_____

_____

_____

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

Date: / / By: _____ Company: _____

FIELD OBSERVATIONS

Facility: LONZA

Sample Point ID: PZ-106

Field Personnel: PL, AN, JW, RJ

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-20-12 / 1225

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

Prot. Casing/riser height: ____

Cond 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 Meter (Calibration/Reading): Volatiles (ppm) ____ / ____

PURGE INFORMATION:

Date / Time Initiated: 11-20-12 / 1230

Date / Time Completed: 11-20-12 / 1250

Surf. Meas. Pt: ( ) Prot. Casing (✓) Riser

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 9.20

Elevation. G/W MSL: ____

Well Total Depth, Feet: 27.90

Method of Well Purge: Peristaltic

One (1) Riser Volume, Gal: ____

Dedicated: (Y) / N

Total Volume Purged, Gal: ____

Purged To Dryness Y / (N)

Purge Observations: Start Yellow Clear Finish Yellow clear

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (SU)	Conductivity (µmhos/cm)	Turb. (NTU)	Other ORP	Other DO
1235	WL 9.36	mch 100		13.6	6.31	6619	25.7	-55	0.62
1240	9.30	↓		13.7	6.29	6562	16.12	-60	0.60
1245	↓	↓		13.7	6.29	6560	15.71	-61	0.59
1250	↓	↓		13.6	6.30	6560	14.97	-60	0.58

Sample @ 1250 / 11-20-12

FIELD OBSERVATIONS

SAMPLING INFORMATION:

POINT ID _____

Date/Time _____ / _____ Water Level @ Sampling, Feet: _____

Method of Sampling: _____ Dedicated: Y / N

Multi-phased/ layered: ( ) Yes ( ) No If YES: ( ) light ( ) heavy

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conductivity (µmhos/cm)	Turb. (NTU)	Other ( )	Other ( )

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 1,413 µmhos/cm	Check.Std 1,413 µmhos/cm (± 10%)	Cal.Std 10 NTU	Check Std 10 NTU (± 10%)
Solution ID#								

GENERAL INFORMATION:

Weather conditions @ time of sampling: _____

Sample Characteristics: _____

COMMENTS AND OBSERVATIONS: _____

_____

_____

_____

_____

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

Date: / / By: _____ Company: _____

FIELD OBSERVATIONS

Facility: LONZA

Sample Point ID: PZ-107

Field Personnel: PL, PN, JW, RJ

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-19-12 / 1227

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

Prot. Casing/riser height: ____

Cond of prot. Casing/riser: ( ) Unlocked (X) Good
( ) Loose ( ) Flush Mount
( ) Damaged ____

If prot.casing; depth to riser below: ____

Gas Meter (Calibration/ Reading): % Gas: / % LEL: /

Vol. Organic Meter (Calibration/Reading): Volatiles (ppm): /

PURGE INFORMATION:

Date / Time Initiated: 11-19-12 / 1230

Date / Time Completed: 11-19-12 / 1250

Surf. Meas. Pt: ( ) Prot. Casing (X) Riser

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 8.09

Elevation. G/W MSL: ____

Well Total Depth, Feet: 27.90

Method of Well Purge: Peristaltic

One (1) Riser Volume, Gal: ____

Dedicated: (Y) / N

Total Volume Purged, Gal: ____

Purged To Dryness Y / (N)

Purge Observations: Low Flow

Start Clear Finish Clear

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz) WL	Purge Rate (gpm/htz) ML/M	Cumulative Volume	Temp. (C)	pH (SU)	Conductivity (µmhos/cm)	Turb. (NTU)	Other ORP	Other DO
1235	8.11	200		14.5	7.42	1454	5.21	-101	0.86
1240	↓	↓		14.0	7.50	1444	6.19	-107	0.85
1245				14.0	7.50	1440	4.84	-107	0.83
1250	↓	↓		14.1	7.50	1440	4.26	-108	0.82

SAMPLED 1250 / 11-19-12

FIELD OBSERVATIONS

SAMPLING INFORMATION:

POINT ID _____

Date/Time _____ / _____ Water Level @ Sampling, Feet: _____

Method of Sampling: _____ Dedicated: Y / N

Multi-phased/ layered: ( ) Yes ( ) No If YES: ( ) light ( ) heavy

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conductivity (µmhos/cm)	Turb. (NTU)	Other ( )	Other ( )

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 1,413 µmhos/cm	Check.Std 1,413 µmhos/cm (± 10%)	Cal.Std 10 NTU	Check Std 10 NTU (± 10%)
Solution ID#								

GENERAL INFORMATION:

Weather conditions @ time of sampling: _____

Sample Characteristics: _____

COMMENTS AND OBSERVATIONS: _____

_____

_____

_____

_____

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

Date: / / By: _____ Company: _____

FIELD OBSERVATIONS

Facility: LONZA

Sample Point ID: B-11

Field Personnel: PL, PN, JW, RJ

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-19-12 / 1413

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

Prot. Casing/riser height: ____

Cond of prot. Casing/riser: (X) Unlocked ( ) Good
( ) Loose ( ) Flush Mount
( ) Damaged ____

If prot.casing; depth to riser below: ____

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

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

PURGE INFORMATION:

Date / Time Initiated: 11-19-12 / 1415

Date / Time Completed: 11-19-12 / 1419

Surf. Meas. Pt: ( ) Prot. Casing (X) Riser

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 5.20

Elevation. G/W MSL: ____

Well Total Depth, Feet: 11.55

Method of Well Purge: PERISTALTIC

One (1) Riser Volume, Gal: 1.03

Dedicated: (Y) / N

Total Volume Purged, Gal: 1.0 TO Dry

Purged To Dryness (Y) / N

Purge Observations: ____

Start Clear Finish Clear

PURGE DATA: (if applicable)

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

FIELD OBSERVATIONS

SAMPLING INFORMATION:

POINT ID ~~B-11~~ B-11

Date/Time 11-20-12 / 1310 Water Level @ Sampling, Feet: 5.23

Method of Sampling: PERISTALTIC Dedicated: (Y) / N

Multi-phased/ layered: ( ) Yes (X) No If YES: ( ) light ( ) heavy

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conductivity (µmhos/cm)	Turb. (NTU)	Other (ORP)	Other ( )
1310	13.7	7.32	3156	20.6	-33	

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 1,413 µmhos/cm	Check.Std 1,413 µmhos/cm (± 10%)	Cal.Std 10 NTU	Check Std 10 NTU (± 10%)
Solution ID#								

GENERAL INFORMATION:

Weather conditions @ time of sampling: CLOUD 40

Sample Characteristics: SL TURB

COMMENTS AND OBSERVATIONS:

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

Date: 11/20/12 By: [signature] Company: TAC

FIELD OBSERVATIONS

Facility: LONZA Sample Point ID: B-16

Field Personnel: PL, PN, JW, RJ Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-20-12 / 1220 Cond of seal: (X) Good ( ) Cracked ( ) None ( ) Buried %

Prot. Casing/riser height: — Cond of prot. Casing/riser: ( ) Unlocked ( ) Good ( ) Loose (X) Flush Mount ( ) Damaged

If prot.casing; depth to riser below: —

Gas Meter (Calibration/ Reading): % Gas: — / — % LEL: — / —

Vol. Organic Meter (Calibration/Reading): Volatiles (ppm) — / —

PURGE INFORMATION:

Date / Time Initiated: 11-20-12 / 1230 Date / Time Completed: 11-20-12 / 1250

Surf. Meas. Pt: ( ) Prot. Casing ( ) Riser Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 6.08 Elevation. G/W MSL:

Well Total Depth, Feet: Method of Well Purge: peristaltic pump

One (1) Riser Volume, Gal: Dedicated: (Y) / N

Total Volume Purged, Gal: Purged To Dryness Y / (N)

Purge Observations: Low-Flow Start clear Finish clear

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (SU)	Conductivity (µmhos/cm)	Turb. (NTU)	Other ORP	Other DO
1235	200 ml/min	6.40		13.3	7.03	955	clear	-14	
1240	↓	6.40		13.2	6.93	958	↓	-26	
1245	↓	6.41		13.3	6.92	963	↓	-29	
1250	↓	6.43		13.3	6.89	971	1.5	-31	

FIELD OBSERVATIONS

SAMPLING INFORMATION:

POINT ID B-16

Date/Time 11-20-12 1250 Water Level @ Sampling, Feet: 6.43

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

Multi-phased/ layered: ( ) Yes (X) No If YES: ( ) light ( ) heavy

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conductivity (µmhos/cm)	Turb. (NTU)	Other (ORP)	Other ( )
1250	13.3	6.89	971	1.5	-31	

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 1,413 µmhos/cm	Check.Std 1,413 µmhos/cm (± 10%)	Cal.Std 10 NTU	Check Std 10 NTU (± 10%)
Solution ID#								

GENERAL INFORMATION:

Weather conditions @ time of sampling: cloudy ~38°F

Sample Characteristics: clear

COMMENTS AND OBSERVATIONS: Sampled @ 12:50 on 11-20-12

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

Date: 11/20/12 By: Thomas Weber Company: TAL

FIELD OBSERVATIONS

Facility: LONZA

Sample Point ID: PW-10

Field Personnel: PL, PW, JW, RJ

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-20-12 / 1020

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

Prot. Casing/riser height: ____

Cond of prot. Casing/riser: ( ) Unlocked ( ) Good ( ) Loose (X) Flush Mount ( ) Damaged ____

If prot.casing; depth to riser below: ____

Gas Meter (Calibration/ Reading): % Gas: / % LEL: /

Vol. Organic Meter (Calibration/Reading): Volatiles (ppm): /

PURGE INFORMATION:

Date / Time Initiated: 11-20-12 / 1035

Date / Time Completed: 11-20-12 / 1100

Surf. Meas. Pt: ( ) Prot. Casing (X) Riser

Riser Diameter, Inches: ____

Initial Water Level, Feet: 8.77

Elevation. G/W MSL: ____

Well Total Depth, Feet: ____

Method of Well Purge: Peristaltic

One (1) Riser Volume, Gal: ____

Dedicated: (Y) / N

Total Volume Purged, Gal: ____

Purged To Dryness Y / (N)

Purge Observations: Start Yellow Cloudy Finish Yellow Clear

PURGE DATA (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (SU)	Conductivity (µmhos/cm)	Turb. (NTU)	Other ORP	Other DO
1040	8.93	200		13.8	7.99	2274	5.77	37	0.77
1045	↓	↓		13.5	8.00	2280	5.70	35	0.76
1050				13.0	8.00	2280	5.68	34	0.74
1055				13.0	8.00	2281	5.70	34	0.73
1100	↓	↓		13.0	8.01	2282	5.65	33	0.71

SAMPLED @ 1100 / 11-20-12

FIELD OBSERVATIONS

Facility: LONZA

Sample Point ID: PW 12

Field Personnel: PL, PW, JW, RJ

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-20-12 / 1317

Cond of seal: ( ) Good ( ) Cracked ( ) None ( ) Buried PW %

Prot. Casing/riser height:

Cond 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 Meter (Calibration/Reading): Volatiles (ppm): /

PURGE INFORMATION:

Date / Time Initiated: 11-20-12 / 1320

Date / Time Completed: 11-20-12 / 1340

Surf. Meas. Pt: (X) Prot. Casing ( ) Riser

Riser Diameter, Inches:

Initial Water Level, Feet: 7.25

Elevation. G/W MSL:

Well Total Depth, Feet:

Method of Well Purge: Peristaltic

One (1) Riser Volume, Gal:

Dedicated: (Y) / N

Total Volume Purged, Gal:

Purged To Dryness Y / (N)

Purge Observations: Low Flow

Start Clear Finish Clear

PURGE DATA (if applicable)

Time	Purge Rate, (gpm/htz)		Cumulative Volume	Temp. (C)	pH (SU)	Conductivity (µmhos/cm)	Turb. (NTU)	Other ORP	Other DO
1325	W.L 7.27	ml/m 200		14.3	8.19	385	14.29	-54	0.39
1330	↓	↓		14.3	8.20	380	12.70	-50	0.38
1335	↓	↓		14.3	8.17	380	11.57	-50	0.36
1340	↓	↓		14.3	8.15	379	10.36	-47	0.35

Sample @ 1340 PW 2

FIELD OBSERVATIONS

Facility: LONZA

Sample Point ID: PW-13

Field Personnel: PC, PN

Sample Matrix: GW

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-21-12 / 1140

Water Level @ Sampling, Feet: 29.44

Method of Sampling: Stainless Steel

Dedicated: (Y) / N

Multi-phased/ layered: ( ) Yes (X) No

If YES: ( ) light ( ) heavy

SAMPLING DATA:

Time	Temp. (°C)	pH (SU)	Conductivity (µmhos/cm)	Turb. (NTU)	Other (ORP)	Other ( )
1141	14.7	6.81	2582	5.11	-110	

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 1,413 µmhos/cm	Check.Std 1,413 µmhos/cm (± 10%)	Cal.Std 10 NTU	Check Std 10 NTU (± 10%)
Solution ID#								

GENERAL INFORMATION:

Weather conditions @ time of sampling: Sun 41

Sample Characteristics: Clear

COMMENTS AND OBSERVATIONS:

I certify that sampling procedures were in accordance with all applicable USEPA, State and Site-Specific protocals.

Date: 11/21/12 By: [signature] Company: TAL

FIELD OBSERVATIONS

Facility: LONZA

Sample Point ID: PW-14

Field Personnel: PC, PN

Sample Matrix: GW

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-21-12 / 1100

Water Level @ Sampling, Feet: 43.17

Method of Sampling: Stand Pipe

Dedicated: (Y) / N

Multi-phased/ layered: ( ) Yes (✓) No

If YES: ( ) light ( ) heavy

SAMPLING DATA:

Time	Temp. (°C)	pH (SU)	Conductivity (µmhos/cm)	Turb. (NTU)	Other (ORP)	Other ( )
1104	16.9	6.84	4216	100.1	-101	

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 1,413 µmhos/cm	Check.Std 1,413 µmhos/cm (± 10%)	Cal.Std 10 NTU	Check Std 10 NTU (± 10%)
Solution ID#								

GENERAL INFORMATION:

Weather conditions @ time of sampling: Sun 40

Sample Characteristics: Turbid Yellow

COMMENTS AND OBSERVATIONS:

I certify that sampling procedures were in accordance with all applicable USEPA, State and Site-Specific protocals.

Date: 11/21/12 By: [signature] Company: TAC

FIELD OBSERVATIONS

Facility: LONZA

Sample Point ID: PW 15

Field Personnel: PL, AN, JW, RJ

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-20-12 / 1150

Cond of seal: ( ) Good ( ) Cracked ( ) None ( ) Buried

PW Down Low Flow S/Aud

Prot. Casing/riser height: _____

Cond 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 Meter (Calibration/Reading): Volatiles (ppm) _____ / _____

PURGE INFORMATION:

Date / Time Initiated: 11-20-12 / 1152

Date / Time Completed: 11-20-12 / 1210

Surf. Meas. Pt: (X) Prot. Casing ( ) Riser

Riser Diameter, Inches: PW

Initial Water Level, Feet: 8.59

Elevation. G/W MSL: _____

Well Total Depth, Feet: _____

Method of Well Purge: _____

One (1) Riser Volume, Gal: _____

Dedicated: Y / (N)

Total Volume Purged, Gal: _____

Purged To Dryness Y / (N)

Purge Observations: _____

Start ~~yellow~~ Clear Amber Finish Amber Clear

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (SU)	Conductivity (µmhos/cm)	Turb. (NTU)	Other ORP	Other DO
1155	WL 8.60	motor 200		12.4	8.54	5719	7.12	-32	0.77
~~1200~~ 1200				12.2	8.60	5728	7.00	-35	0.75
1205				12.5	8.69	5733	6.29	-37	0.74
1210	↓	↓		12.4	8.71	5740	6.00	-38	0.73

Stable @ 1210 / 11-20-12

RJ 2

FIELD OBSERVATIONS

Facility: LONZA

Sample Point ID: PW-16

Field Personnel: PC, PN

Sample Matrix: GW

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-21-12 / 1025

Water Level @ Sampling, Feet: 14.91

Method of Sampling: SAMPLE POINT

Dedicated: (Y) / N

Multi-phased/ layered: ( ) Yes (√) No

If YES: ( ) light ( ) heavy

SAMPLING DATA:

Time	Temp. (°C)	pH (SU)	Conductivity (µmhos/cm)	Turb. (NTU)	Other (ORP)	Other ( )
1027	15.1	6.47	6234	9.34	-38	

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 1,413 µmhos/cm	Check.Std 1,413 µmhos/cm (± 10%)	Cal.Std 10 NTU	Check Std 10 NTU (± 10%)
Solution ID#								

GENERAL INFORMATION:

Weather conditions @ time of sampling: SUN 41

Sample Characteristics: CLEAR / BLACK SLUDGE

COMMENTS AND OBSERVATIONS:

I certify that sampling procedures were in accordance with all applicable USEPA, State and Site-Specific protocals.

Date: 11/21/12 By: [signature] Company: TAC

FIELD OBSERVATIONS

Facility: LONZA

Sample Point ID: MW27

Field Personnel: PL, AN, JW, RJ

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-20-12 / 1110

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

Prot. Casing/riser height: ~

Cond of prot. Casing/riser: (X) Unlocked ( ) Good
( ) Loose ( ) Flush Mount
( ) Damaged ____

If prot.casing; depth to riser below: ~

Gas Meter (Calibration/ Reading): % Gas: ~ / ~ % LEL: ~ / ~ PW

Vol. Organic Meter (Calibration/Reading): Volatiles (ppm) ~ / ~

PURGE INFORMATION:

Date / Time Initiated: 11-20-12 / 1115

Date / Time Completed: 11-20-12 / 1135

Surf. Meas. Pt: (X) Prot. Casing ( ) Riser

Riser Diameter, Inches: ____

Initial Water Level, Feet: 10.47

Elevation. G/W MSL: ____

Well Total Depth, Feet: ____

Method of Well Purge: PERISTALTIC

One (1) Riser Volume, Gal: ____

Dedicated: Y / (N)

Total Volume Purged, Gal: ____

Purged To Dryness Y / (N)

Purge Observations: ____

Start Clear Finish Clear

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (SU)	Conductivity (µmhos/cm)	Turb. (NTU)	Other ORP	Other DO
1120	10.150	mL/m 200		11.6	8.25	1778	9.67	-25	0.62
1125	↓	↓		11.5	8.24	1771	10.02	-27	0.60
1130				11.7	8.23	1769	9.82	-29	0.59
1135	↓	↓		11.9	8.22	1766	10.06	-29	0.58

SAmple @ 1135 / 11-20-12

MW

FIELD OBSERVATIONS

Facility: LONZA

Sample Point ID: MW 127

Field Personnel: PL, AN, JW, RJ

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-19-12 / 1254

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

Prot. Casing/riser height: ____

Cond of prot. Casing/riser: ( ) Unlocked (X) Good ( ) Loose ( ) Flush Mount ( ) Damaged ____

If prot.casing; depth to riser below: ____

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

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

PURGE INFORMATION:

Date / Time Initiated: 11-19-12 / 1300

Date / Time Completed: 11-19-12 / 1315

Surf. Meas. Pt: ( ) Prot. Casing (X) Riser

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 5.95

Elevation. G/W MSL: ____

Well Total Depth, Feet: ____

Method of Well Purge: Peristaltic

One (1) Riser Volume, Gal: ____

Dedicated: (Y) / N

Total Volume Purged, Gal: ____

Purged To Dryness Y / (N)

Purge Observations: ____

Start Clear Finish Clear

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (SU)	Conductivity (µmhos/cm)	Turb. (NTU)	Other ORP	Other DO
1305	WL 6.01	mL/M 75		13.5	7.80	2944	6.03	-32	0.51
1310	↓	↓		13.2	7.79	3009	5.75	-34	0.50
1315	↓	↓		13.2	7.79	3009	5.51	-34	0.50

SAMPLED @ 1315 / 11-19-12

PL 2

FIELD OBSERVATIONS

Facility: LONZA

Sample Point ID: MW-16

Field Personnel: PL, AN, JW, RJ

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-19-12 / 1145

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

Prot. Casing/riser height: —

Cond of prot. Casing/riser: ( ) Unlocked ( ) Good ( ) Loose (X) Flush Mount ( ) Damaged ____

If prot.casing; depth to riser below: —

Gas Meter (Calibration/ Reading): % Gas: — / — % LEL: — / —

Vol. Organic Meter (Calibration/Reading): Volatiles (ppm) — / —

PURGE INFORMATION:

Date / Time Initiated: 11-19-12 / 1150

Date / Time Completed: 11-19-12 / 1210

Surf. Meas. Pt: ( ) Prot. Casing (X) Riser

Riser Diameter, Inches: 4.0

Initial Water Level, Feet: 11.81

Elevation. G/W MSL: ____

Well Total Depth, Feet: ____

Method of Well Purge: PERISTALTIC PUMP

One (1) Riser Volume, Gal: ____

Dedicated: (Y) / N

Total Volume Purged, Gal: ____

Purged To Dryness Y / (N)

Purge Observations: CO-FCO

Start YELLOW TINT Finish YELLOW TINT

PURGE DATA: (if applicable)

Time	Purge Rate ~~(gpm/htz)~~		Cumulative Volume	Temp. (C)	pH (SU)	Conductivity (µmhos/cm)	Turb. (NTU)	Other ORP	Other DO
1155	mL/min 120	11.95		12.9	7.13	2725	YELLOW TINT	-30	0.80
1205	120	11.95		13.1	7.07	2707	↓	-25	0.82
1210	120	11.95		13.1	7.04	2693	23.3	-23	0.79

SAMPLED @ 1211/11-19-12

FIELD OBSERVATIONS

Facility: LONZA

Sample Point ID: MW-106

Field Personnel: PL, AN, JW, RJ

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-19-12 / 1237

Cond of seal: (X) Good ( ) Cracked ( ) None ( ) Buried %

Prot. Casing/riser height: —

Cond of prot. Casing/riser: ( ) Unlocked ( ) Good ( ) Loose (X) Flush Mount ( ) Damaged

If prot.casing; depth to riser below: —

Gas Meter (Calibration/ Reading): % Gas: — / —

% LEL: — / —

Vol. Organic Meter (Calibration/Reading):

Volatiles (ppm) — / —

PURGE INFORMATION:

Date / Time Initiated: 11-19-12 / 1239

Date / Time Completed: 11-19-12 / 1305

Surf. Meas. Pt: ( ) Prot. Casing ( ) Riser

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 12.42

Elevation. G/W MSL:

Well Total Depth, Feet:

Method of Well Purge: PERISTALTIC PUMP

One (1) Riser Volume, Gal:

Dedicated: (Y) / N

Total Volume Purged, Gal:

Purged To Dryness Y / (N)

Purge Observations: LO-FLO

Start CLEAR Finish CLEAR

PURGE DATA (if applicable)

Time	Purge Rate ~~(gpm/ltz)~~		Cumulative Volume	Temp. (C)	pH (SU)	Conductivity (µmhos/cm)	Turb. (NTU)	Other ORP	Other DO
1250	150 ~~140~~	12.72		13.6	6.91	4251	CLEAR	-169	0.82
1255	140	12.59		13.5	6.96	4164	CLEAR	-172	0.79
1300	140	12.55		13.4	6.97	4155	CLEAR	-172	0.78
1305	140	12.55		13.5	6.99	4124	2.40	-171	0.78

SAMPLED @ 1306 / 11-19-12

BJ

FIELD OBSERVATIONS

Facility: LONZA

Sample Point ID: GD - 1

Field Personnel: R. SENF

Sample Matrix: S/W

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-16-12 / 1130

Water Level @ Sampling, Feet: N/A

Method of Sampling: MANUAL GRAB

Dedicated: (Y) N

Multi-phased/ layered: ( ) Yes (X) No

If YES: ( ) light ( ) heavy

SAMPLING DATA:

Time	Temp. (°C)	pH (SU)	Conductivity (µmhos/cm)	Turb. (NTU)	Other ( )	Other ( )
1135	10.2	7.72	1458			

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 1,413 µmhos/cm	Check.Std 1,413 µmhos/cm (± 10%)	Cal.Std 10 NTU	Check Std 10 NTU (± 10%)
C								
Solution ID#								

GENERAL INFORMATION:

Weather conditions @ time of sampling: SUNNY, 40°F

Sample Characteristics: CLEAR

COMMENTS AND OBSERVATIONS:

I certify that sampling procedures were in accordance with all applicable USEPA, State and Site-Specific protocals.

Date: 11/16/12 By: [signature] Company: TAL

FIELD OBSERVATIONS

Facility: LONZA

Sample Point ID: 90 - 2

Field Personnel: R. STANT

Sample Matrix: S/W

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-16-12 / 1205

Water Level @ Sampling, Feet: N/A

Method of Sampling: MANUAL GRAB

Dedicated: (Y) / N

Multi-phased/ layered: ( ) Yes (X) No

If YES: ( ) light ( ) heavy

SAMPLING DATA:

Time	Temp. (°C)	pH (SU)	Conductivity (µmhos/cm)	Turb. (NTU)	Other ( )	Other ( )
1210	10.0	7.68	1456			

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 1,413 µmhos/cm	Check.Std 1,413 µmhos/cm (± 10%)	Cal.Std 10 NTU	Check Std 10 NTU (± 10%)
C								
Solution ID#								

GENERAL INFORMATION:

Weather conditions @ time of sampling: SUNNY, 40°F

Sample Characteristics: CLEAR

COMMENTS AND OBSERVATIONS:

I certify that sampling procedures were in accordance with all applicable USEPA, State and Site-Specific protocals.

Date: 11/16/12 By: [signature] Company: JAC

FIELD OBSERVATIONS

Facility: LOUZA

Sample Point ID: QO-251

Field Personnel: R. SENF

Sample Matrix: S/W

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-16-12 1215

Water Level @ Sampling, Feet: N/A

Method of Sampling: DIPPER

Dedicated: (Y) / N

Multi-phased/ layered: ( ) Yes (X) No

If YES: ( ) light ( ) heavy

SAMPLING DATA:

Time	Temp. (°C)	pH (SU)	Conductivity (µmhos/cm)	Turb. (NTU)	Other ( )	Other ( )
1220	10.1	6.88	601			

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 1,413 µmhos/cm	Check.Std 1,413 µmhos/cm (± 10%)	Cal.Std 10 NTU	Check Std 10 NTU (± 10%)
C								
Solution ID#								

GENERAL INFORMATION:

Weather conditions @ time of sampling: SUNNY, 40°F

Sample Characteristics: CLEAR

COMMENTS AND OBSERVATIONS:

I certify that sampling procedures were in accordance with all applicable USEPA, State and Site-Specific protocals.

Date: 11/16/12 By: [signature] Company: TAC

FIELD OBSERVATIONS

Facility: CONZA

Sample Point ID: QS-4

Field Personnel: R. Stout

Sample Matrix: SEEP

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-16-12 / 1350

Water Level @ Sampling, Feet: N/A

Method of Sampling: MANUAL GRAB

Dedicated: (Y) / N

Multi-phased/ layered: ( ) Yes (X) No

If YES: ( ) light ( ) heavy

SAMPLING DATA:

Time	Temp. (°C)	pH (SU)	Conductivity (µmhos/cm)	Turb. (NTU)	Other ( )	Other ( )
1355	9.6	7.35	1923			

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 1,413 µmhos/cm	Check.Std 1,413 µmhos/cm (± 10%)	Cal.Std 10 NTU	Check Std 10 NTU (± 10%)
C								
Solution ID#								

GENERAL INFORMATION:

Weather conditions @ time of sampling: SUNNY, 40°F

Sample Characteristics: CLEAR

COMMENTS AND OBSERVATIONS:

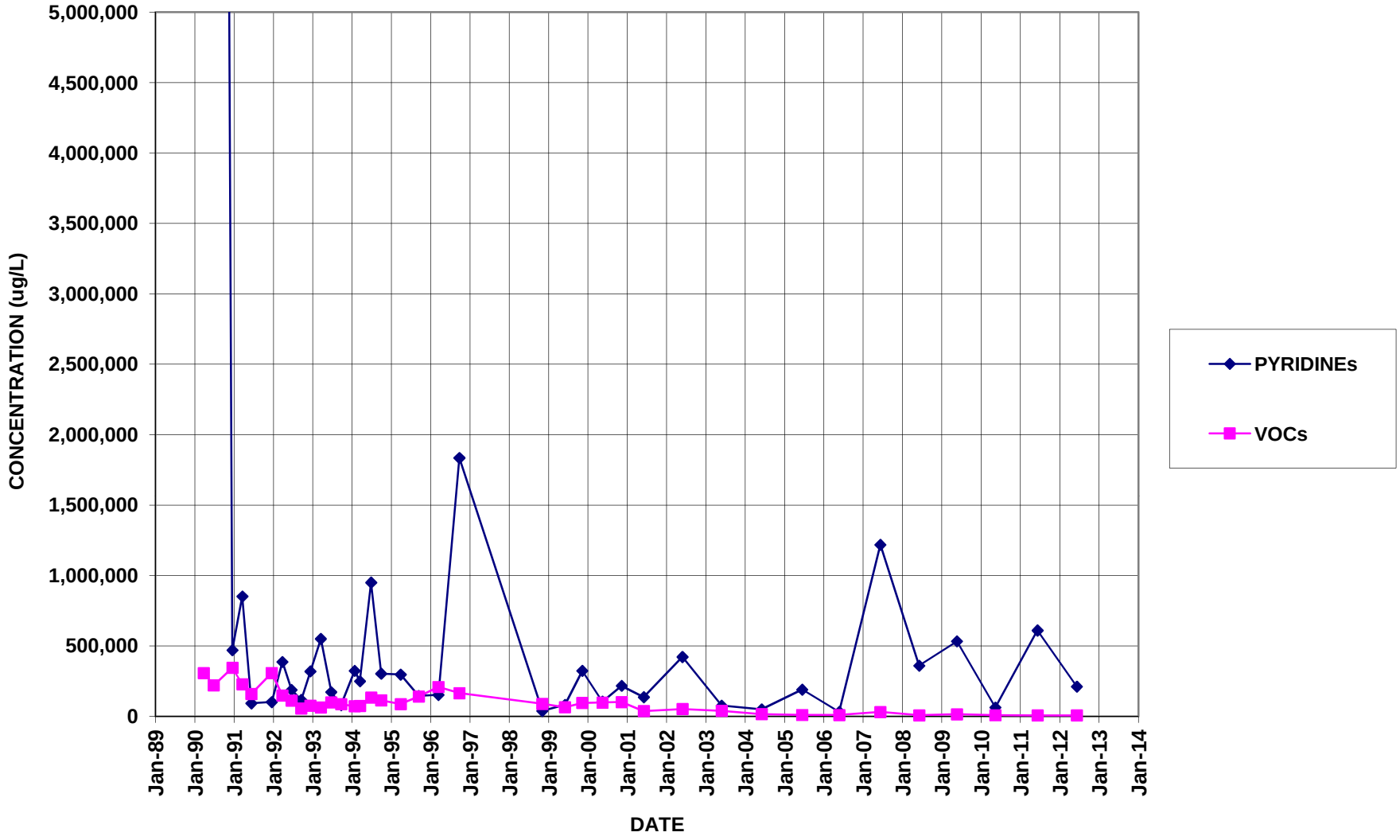
I certify that sampling procedures were in accordance with all applicable USEPA, State and Site-Specific protocals.

Date: 11/16/12 By: [signature] Company: TAL

Appendix B

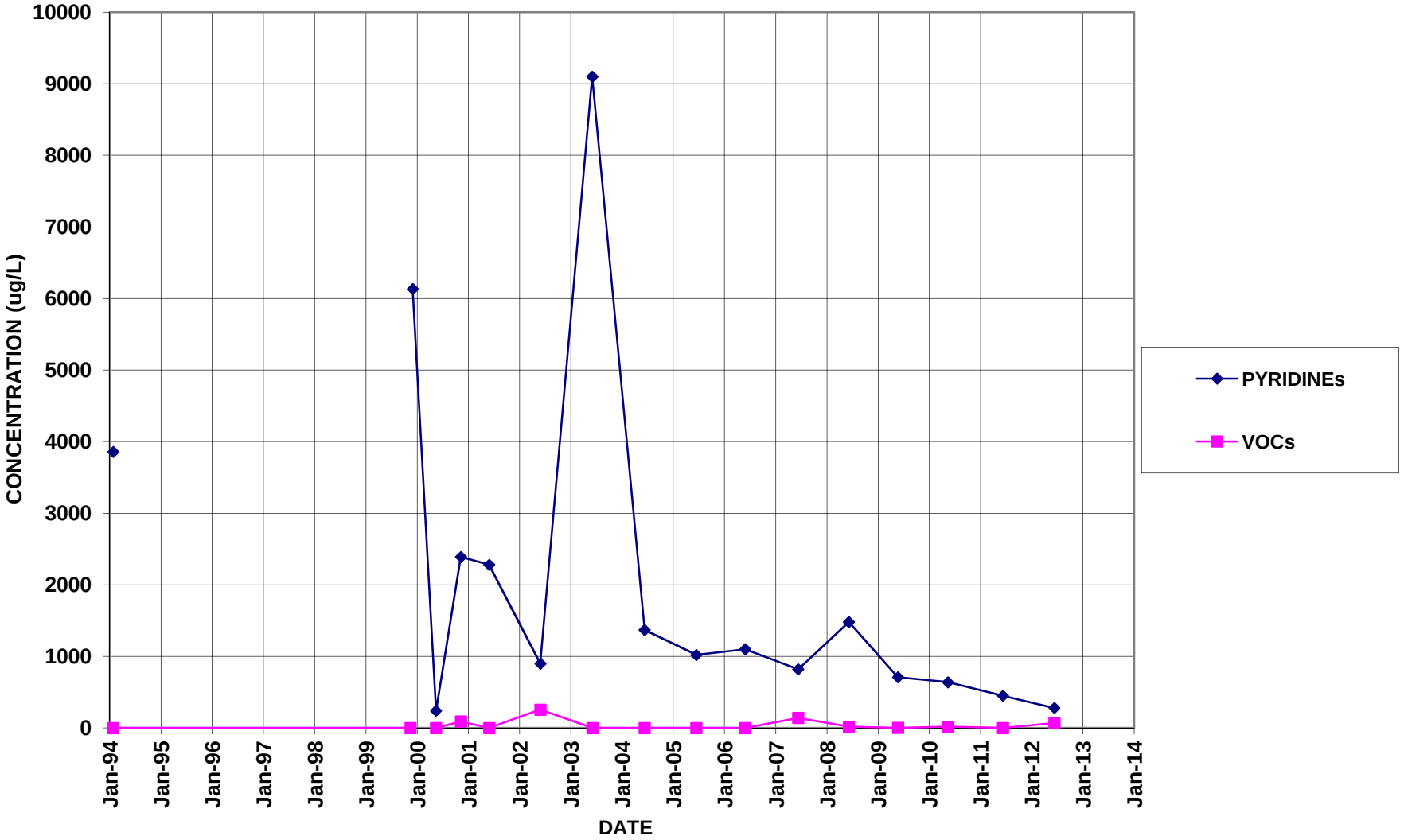
Well Trend Data

B-17



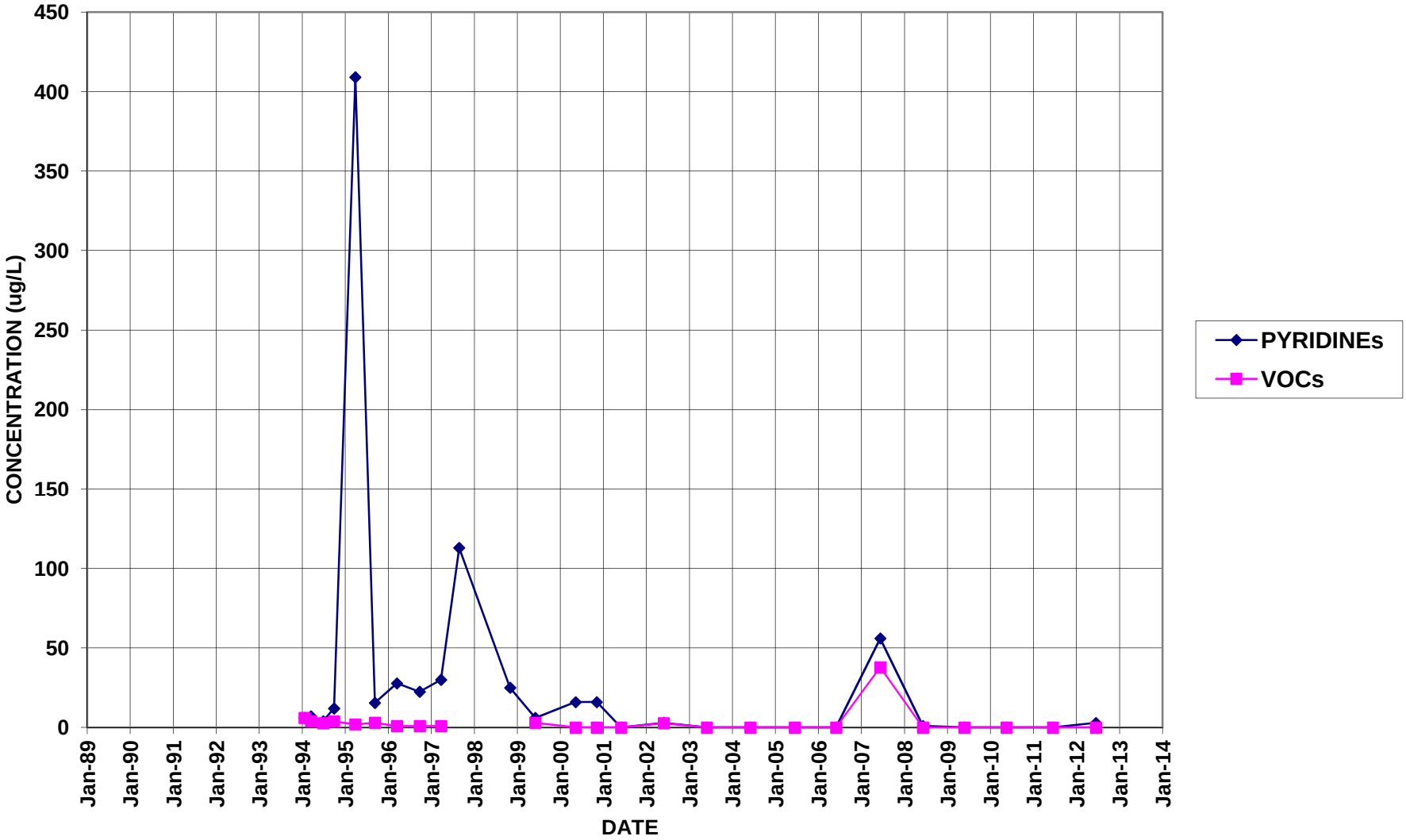
Prepared by: nmb
Reviewed by: jeb

B-7



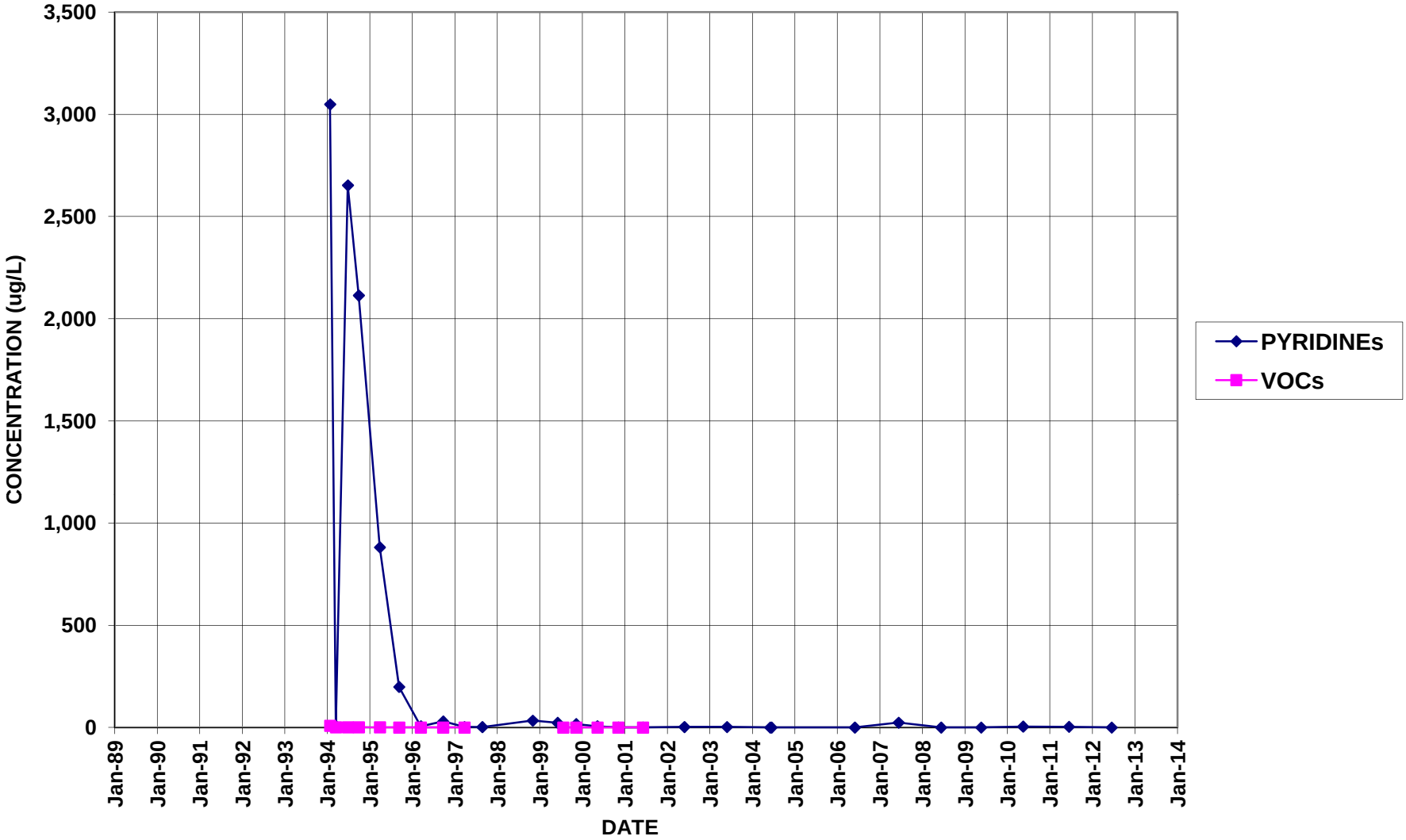
Prepared by: nmb
Reviewed by: jeb

BR-103

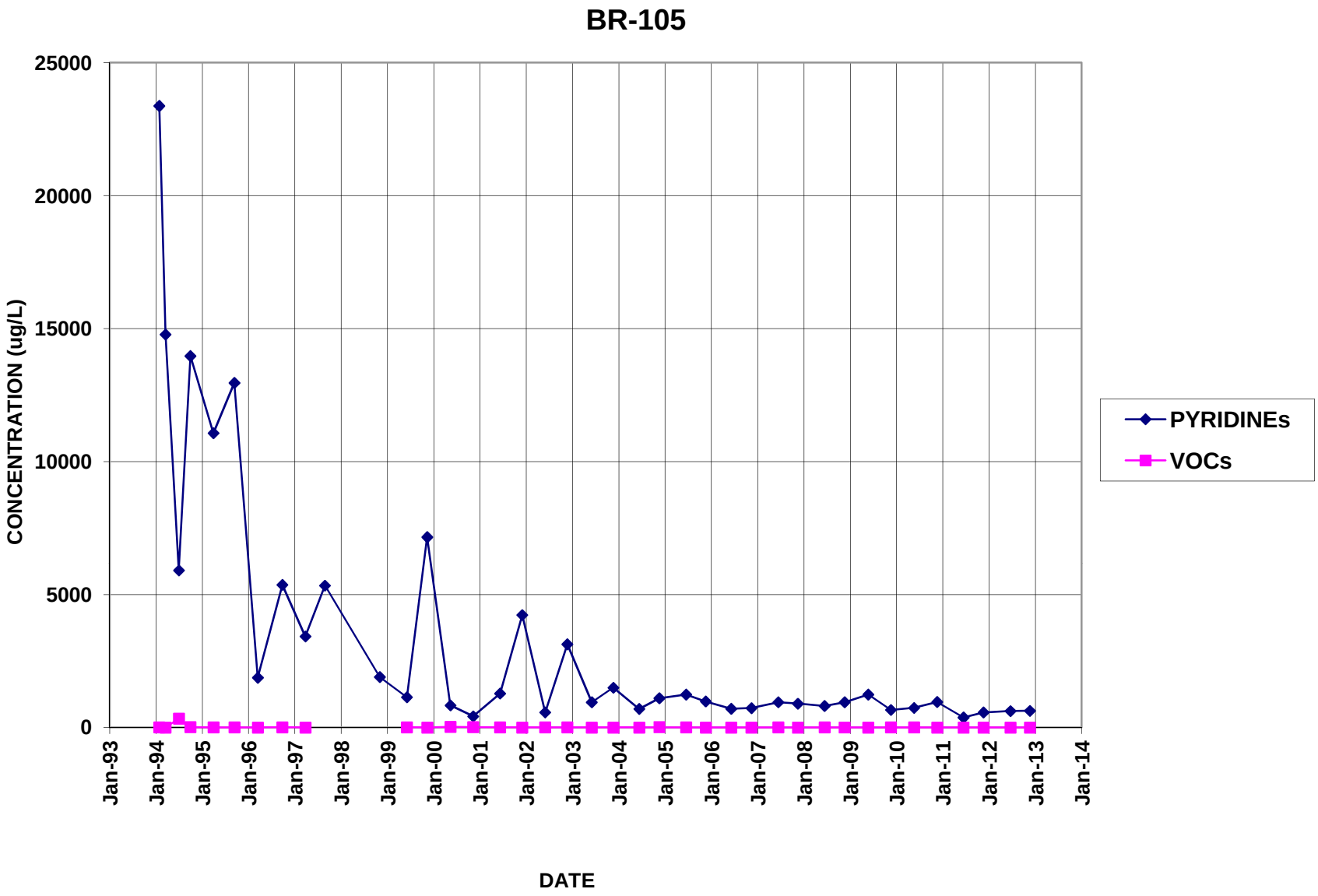


Prepared by: nmb
Reviewed by: jeb

BR-104

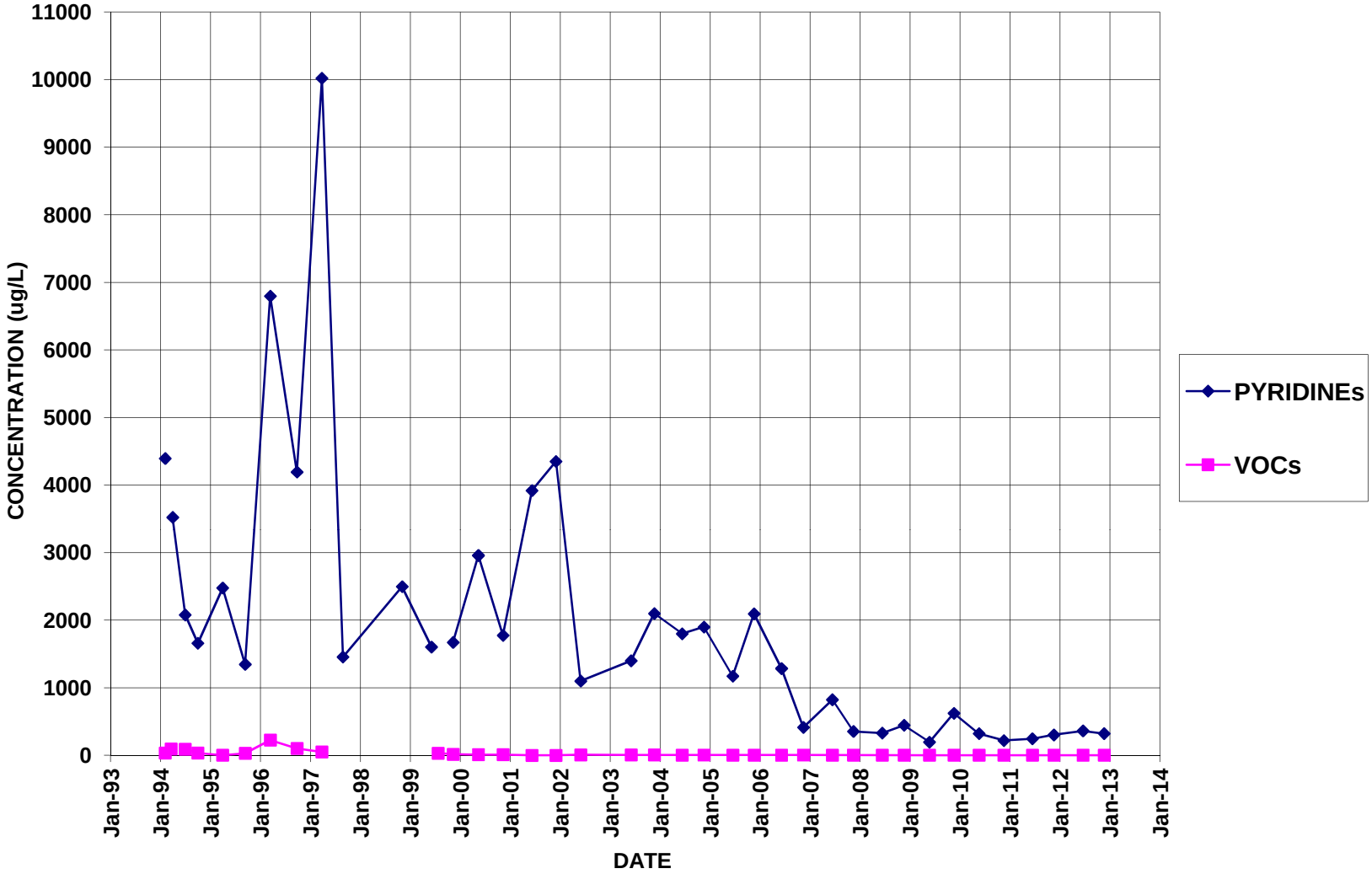


Prepared by: nmb
Reviewed by: jeb



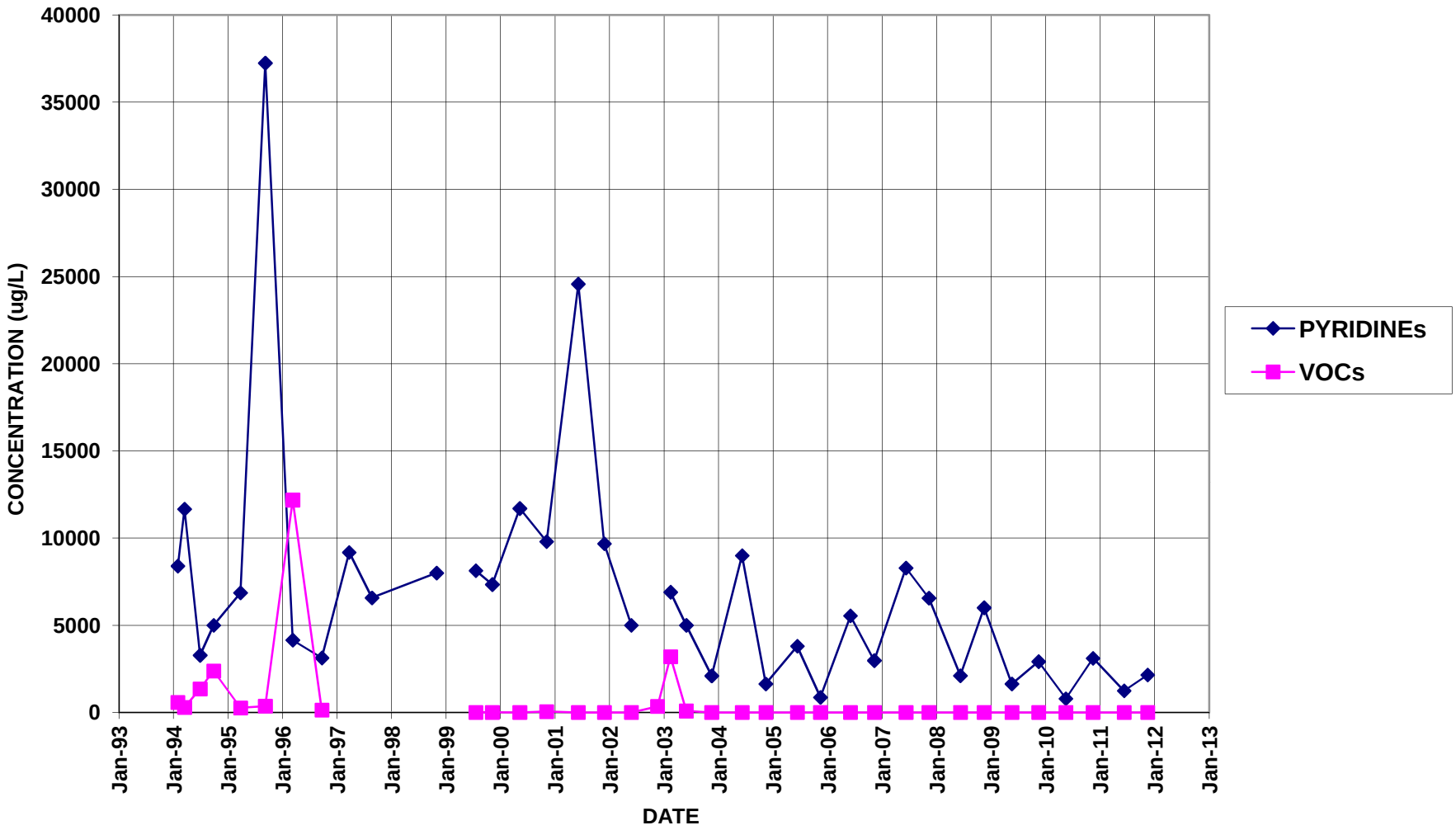
Prepared by: nmb
Reviewed by: jeb

BR-105D

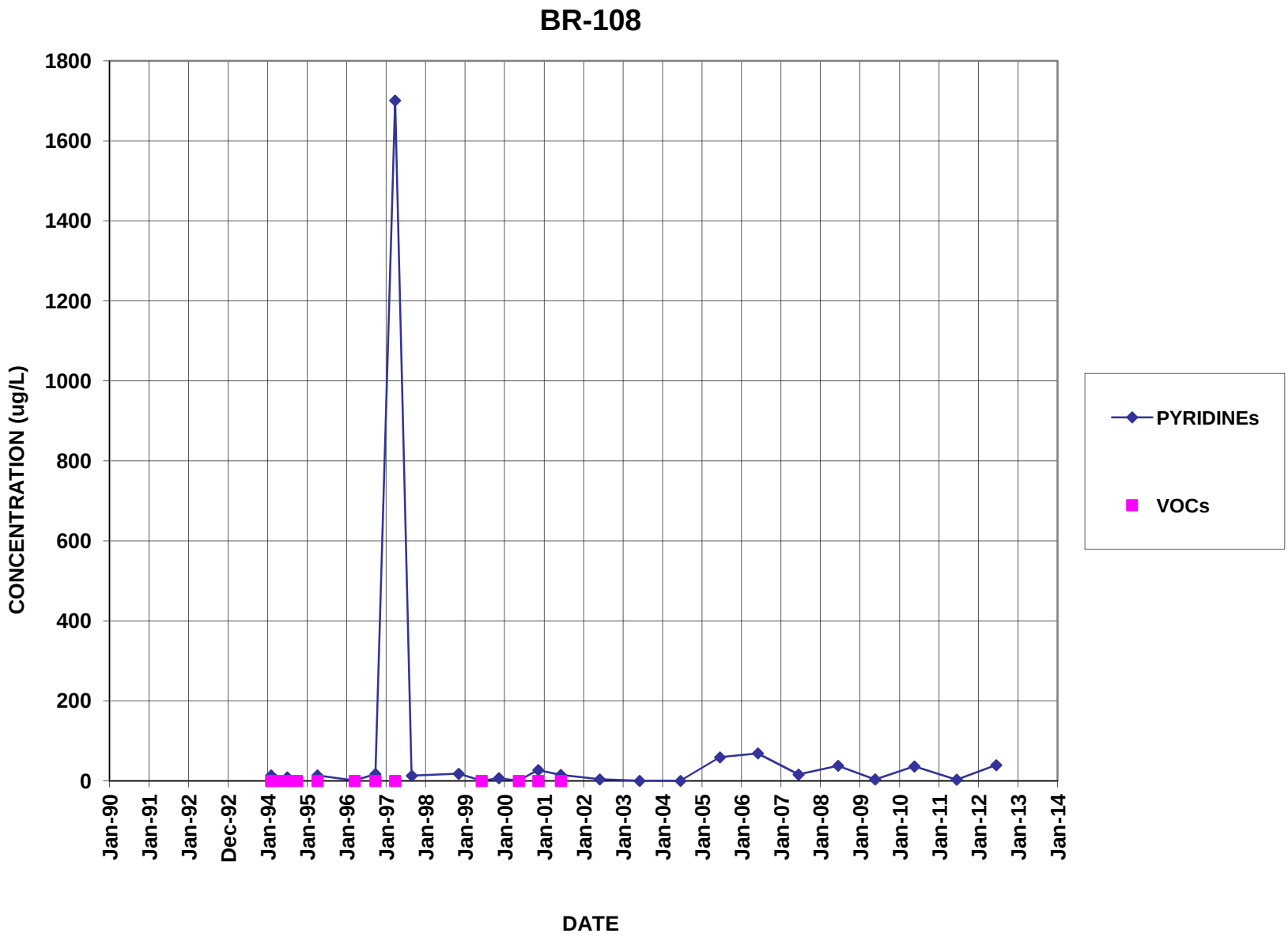


Prepared by: nmb
Reviewed by: jeb

BR-106

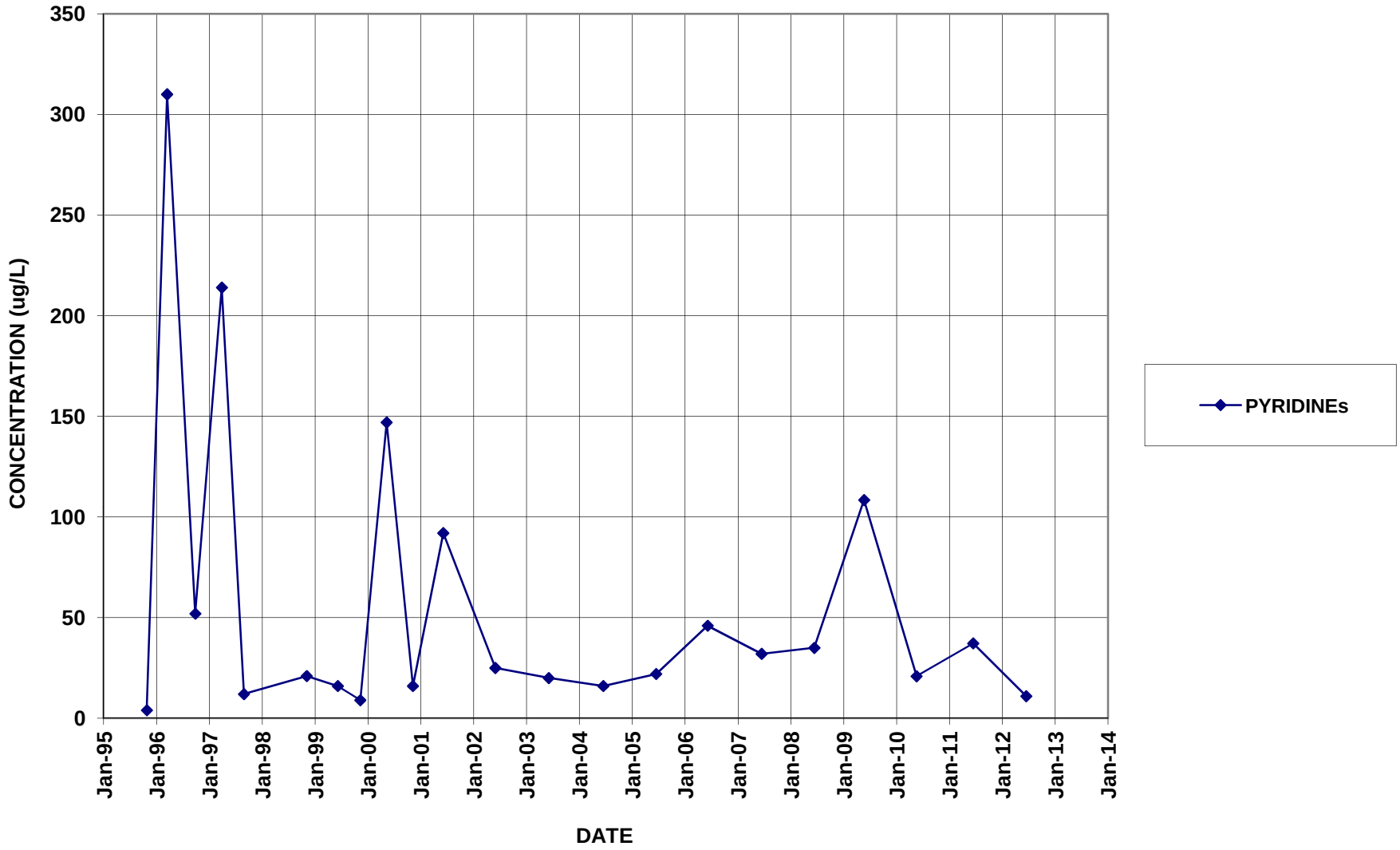


Prepared by: nmb
Reviewed by: jeb



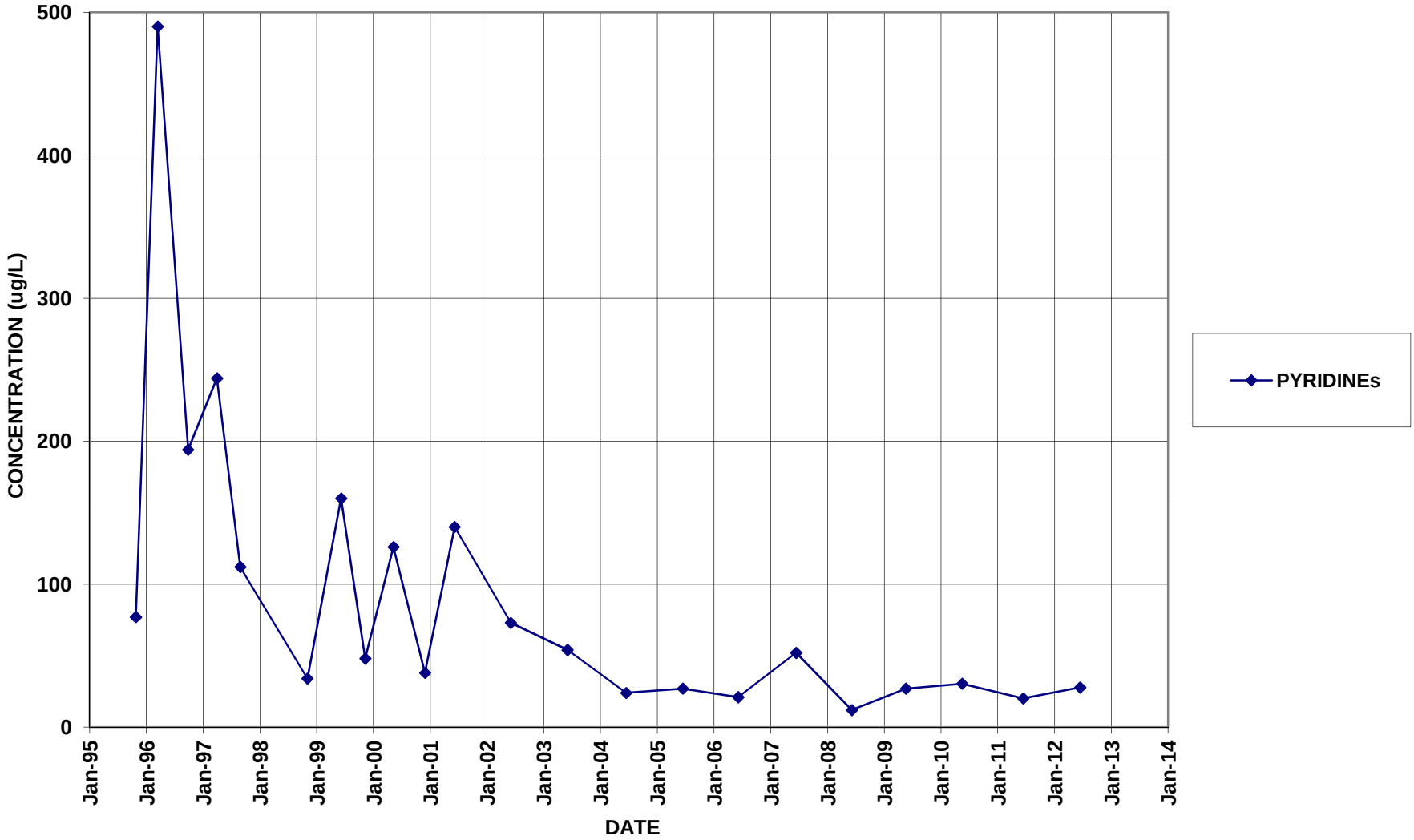
Prepared by: nmb
Reviewed by: jeb

BR-112D



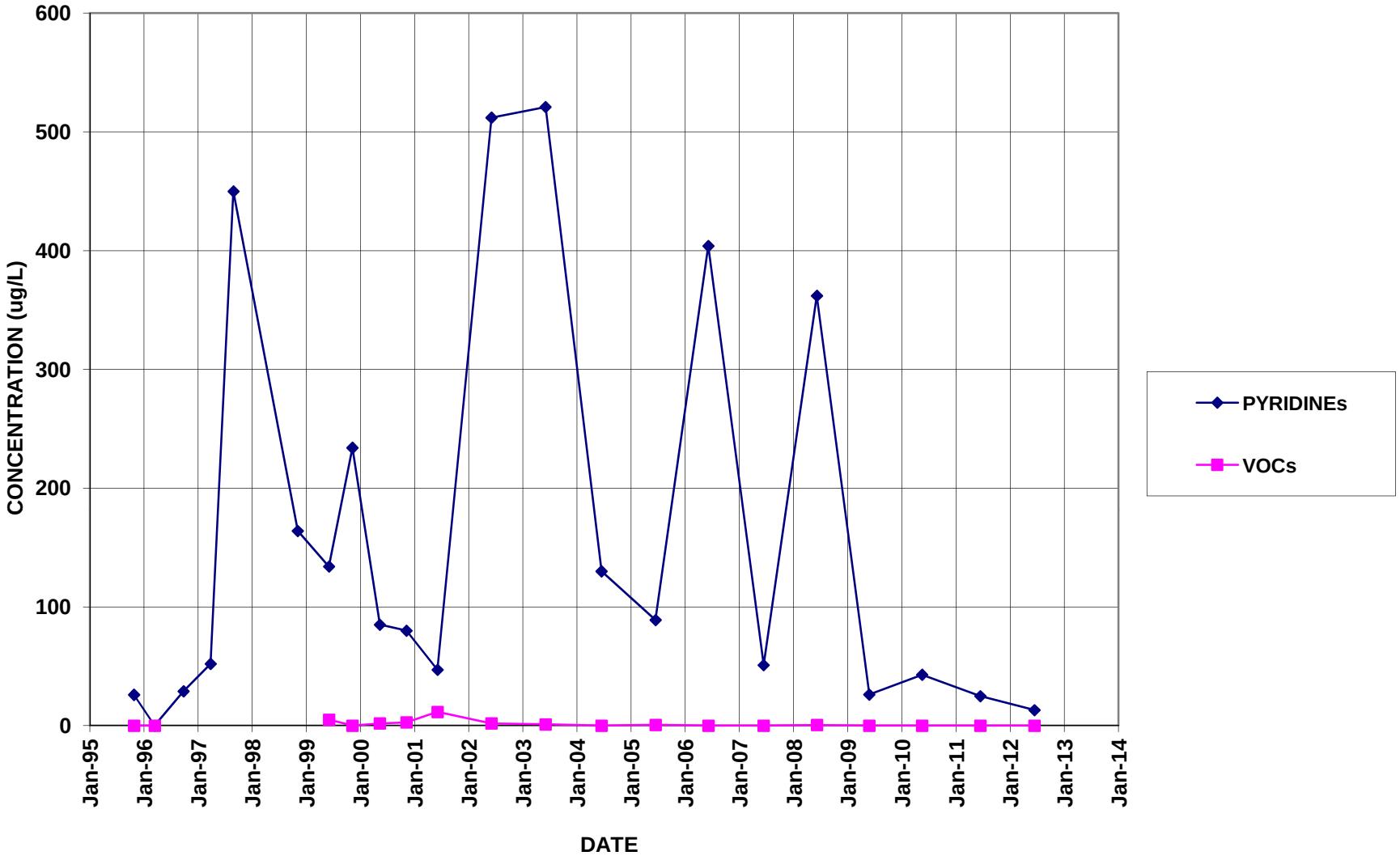
Prepared by: nmb
Reviewed by: jeb

BR-113D



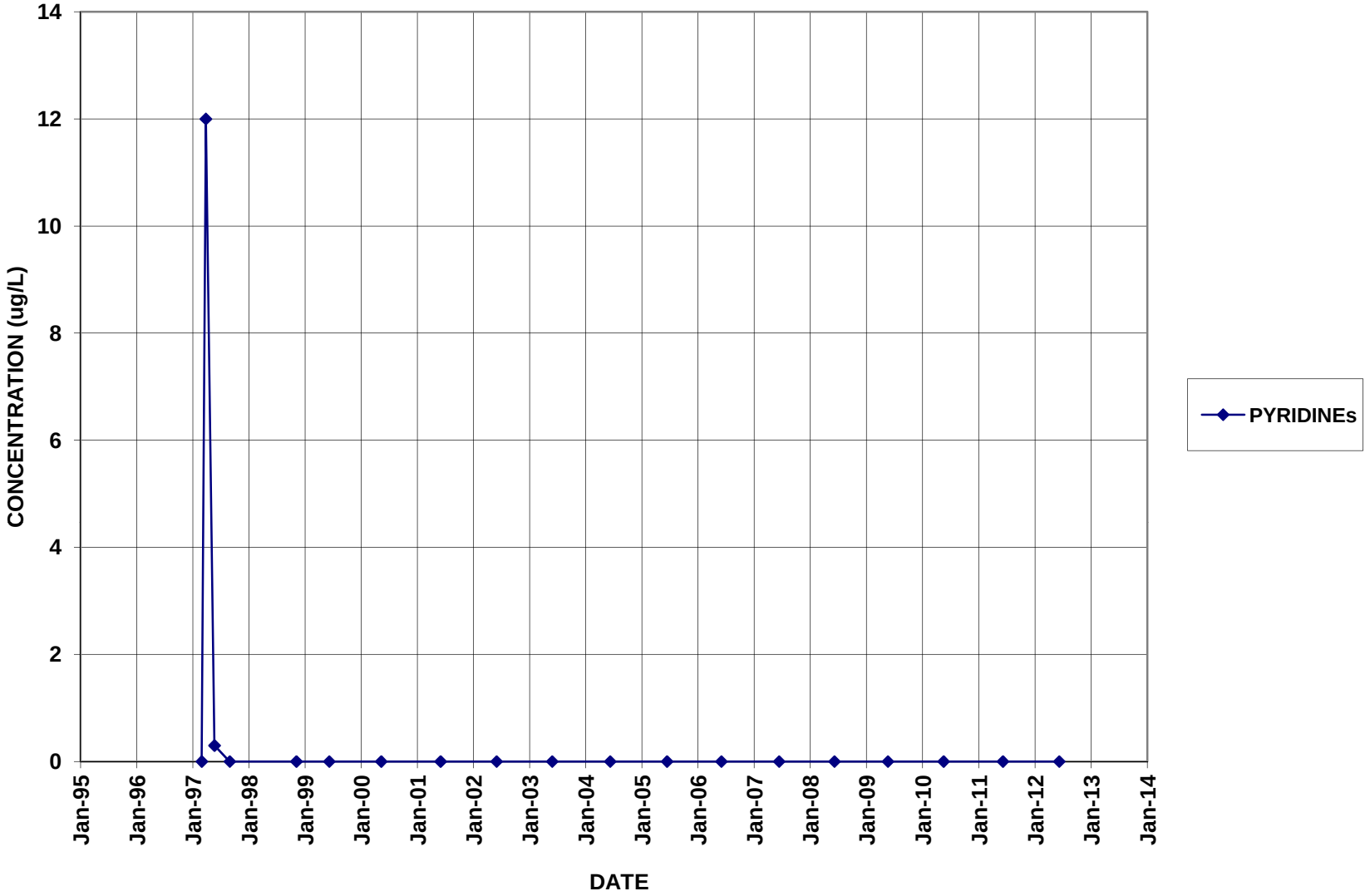
Prepared by: nmb
Reviewed by: jeb

BR-114



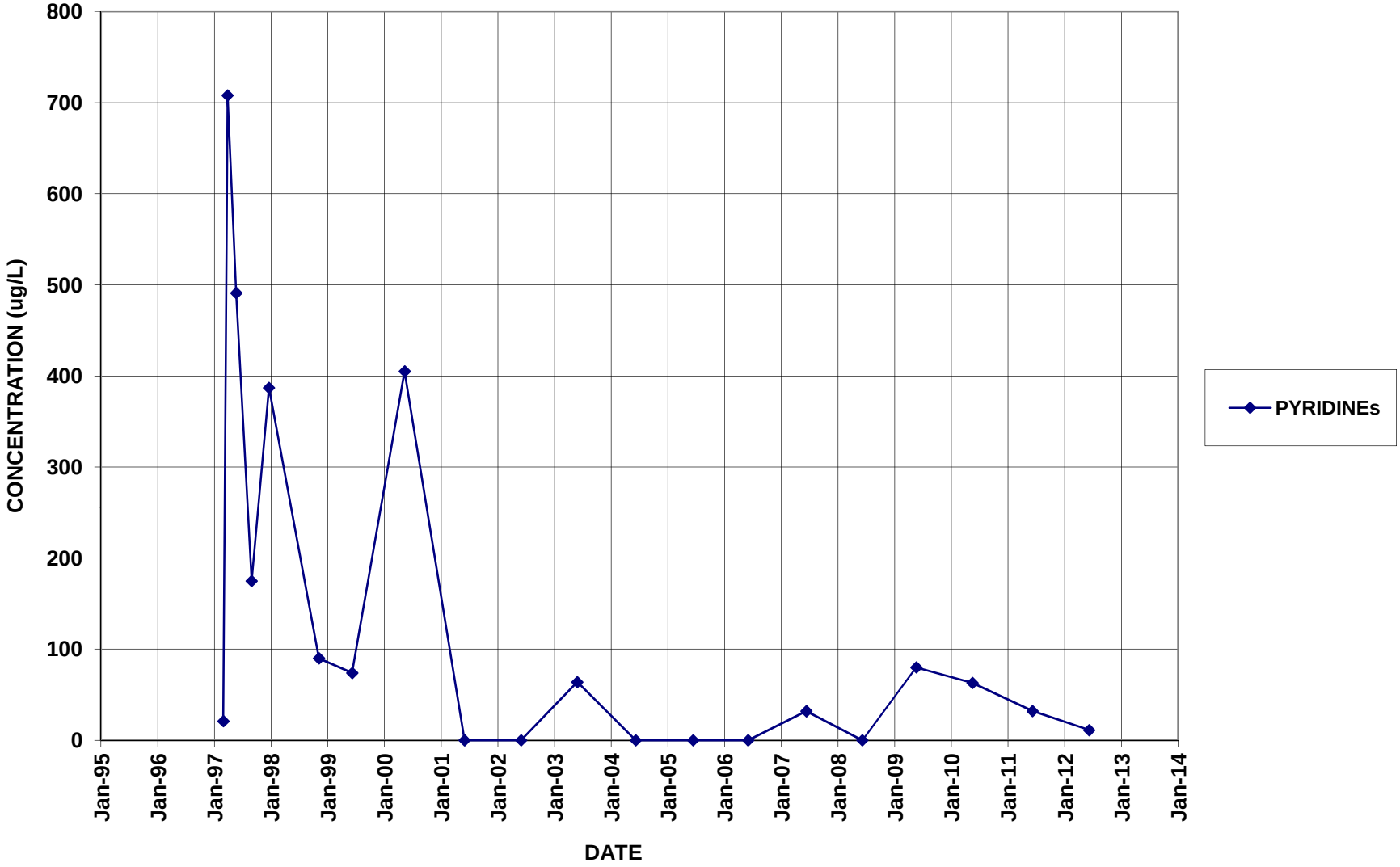
Prepared by: nmb
Reviewed by: jeb

BR-116



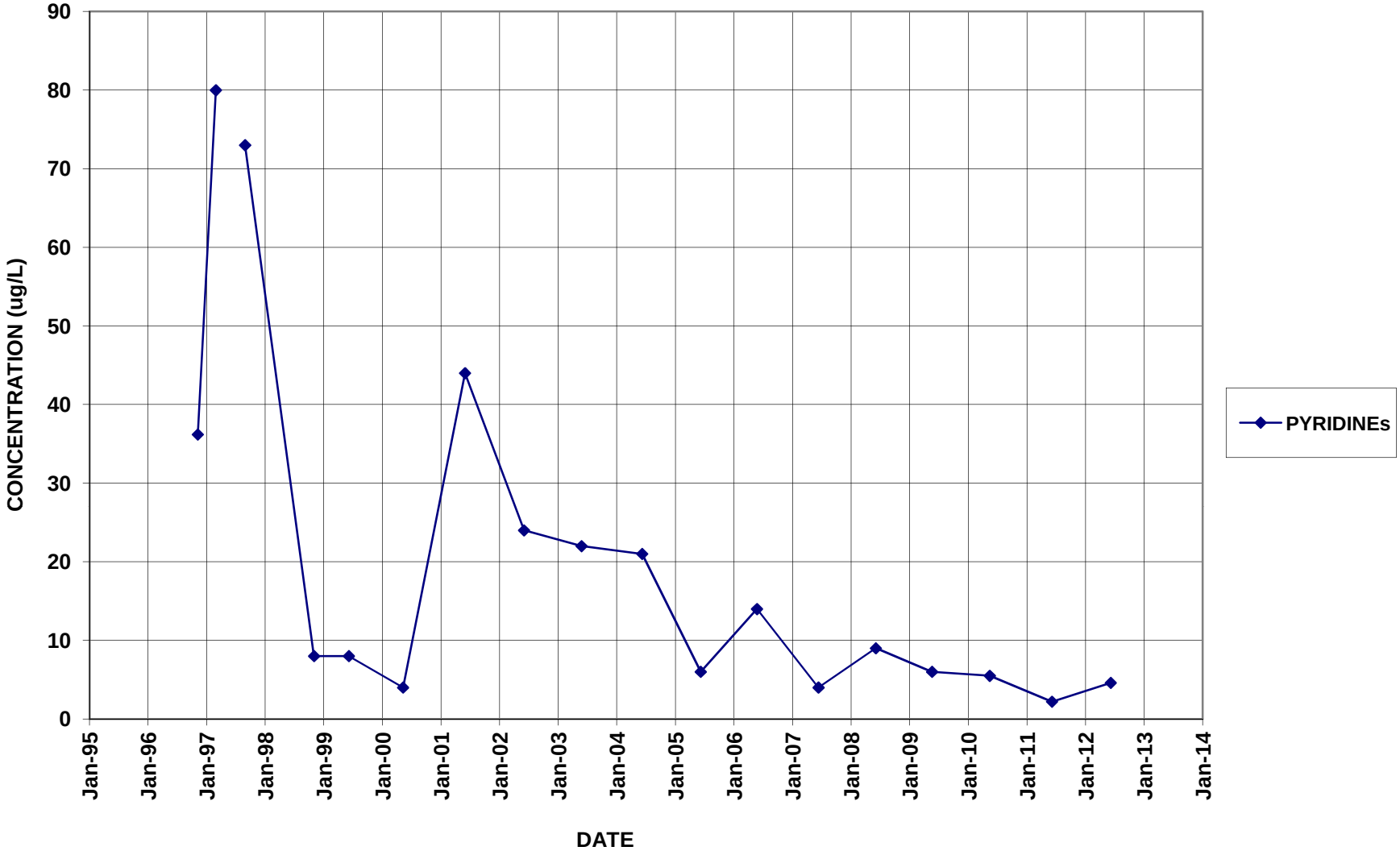
Prepared by: nmb
Reviewed by: jeb

BR-116D



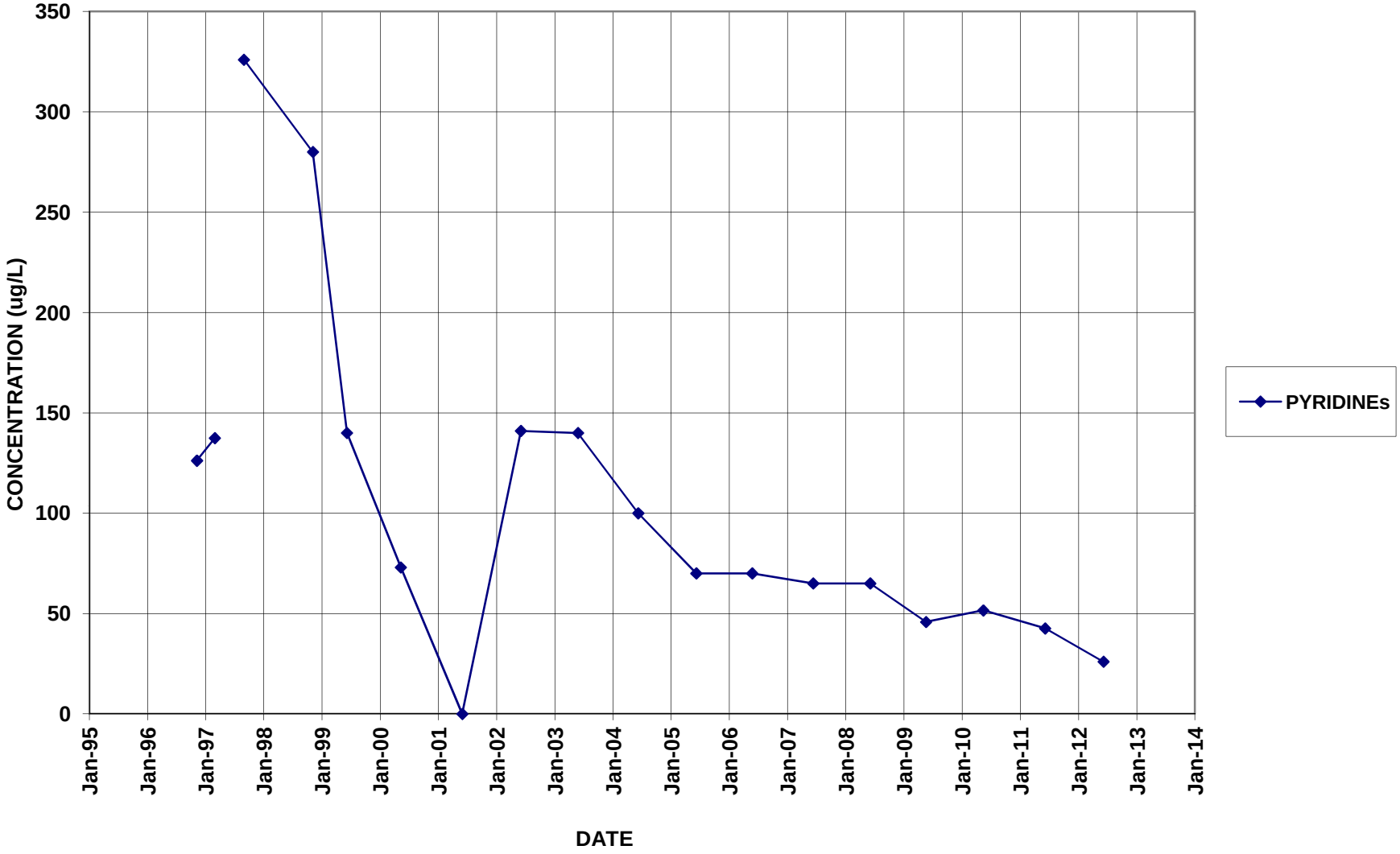
Prepared by: nmb
Reviewed by: jeb

BR-117D



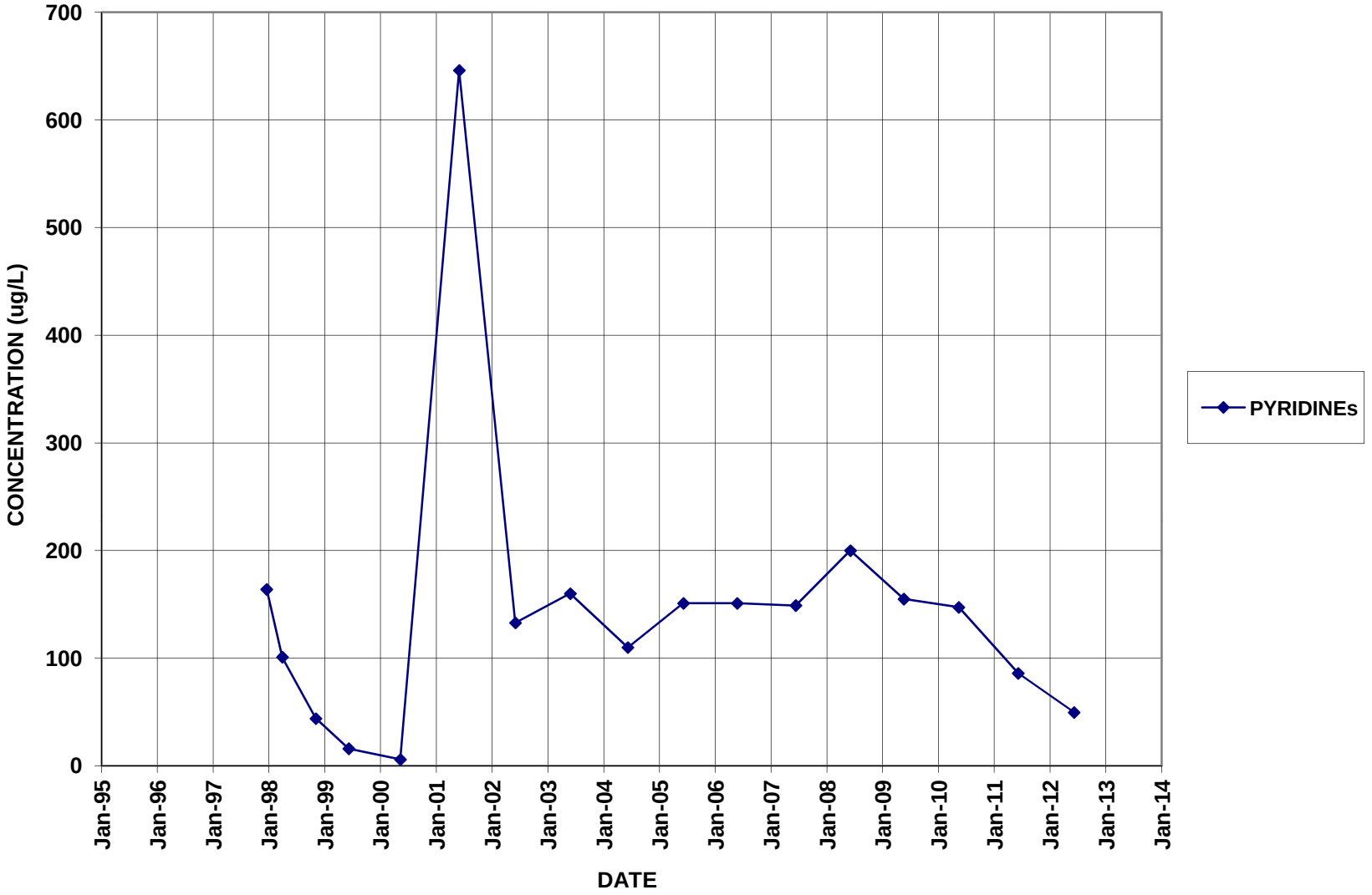
Prepared by: nmb
Reviewed by: jeb

BR-118D



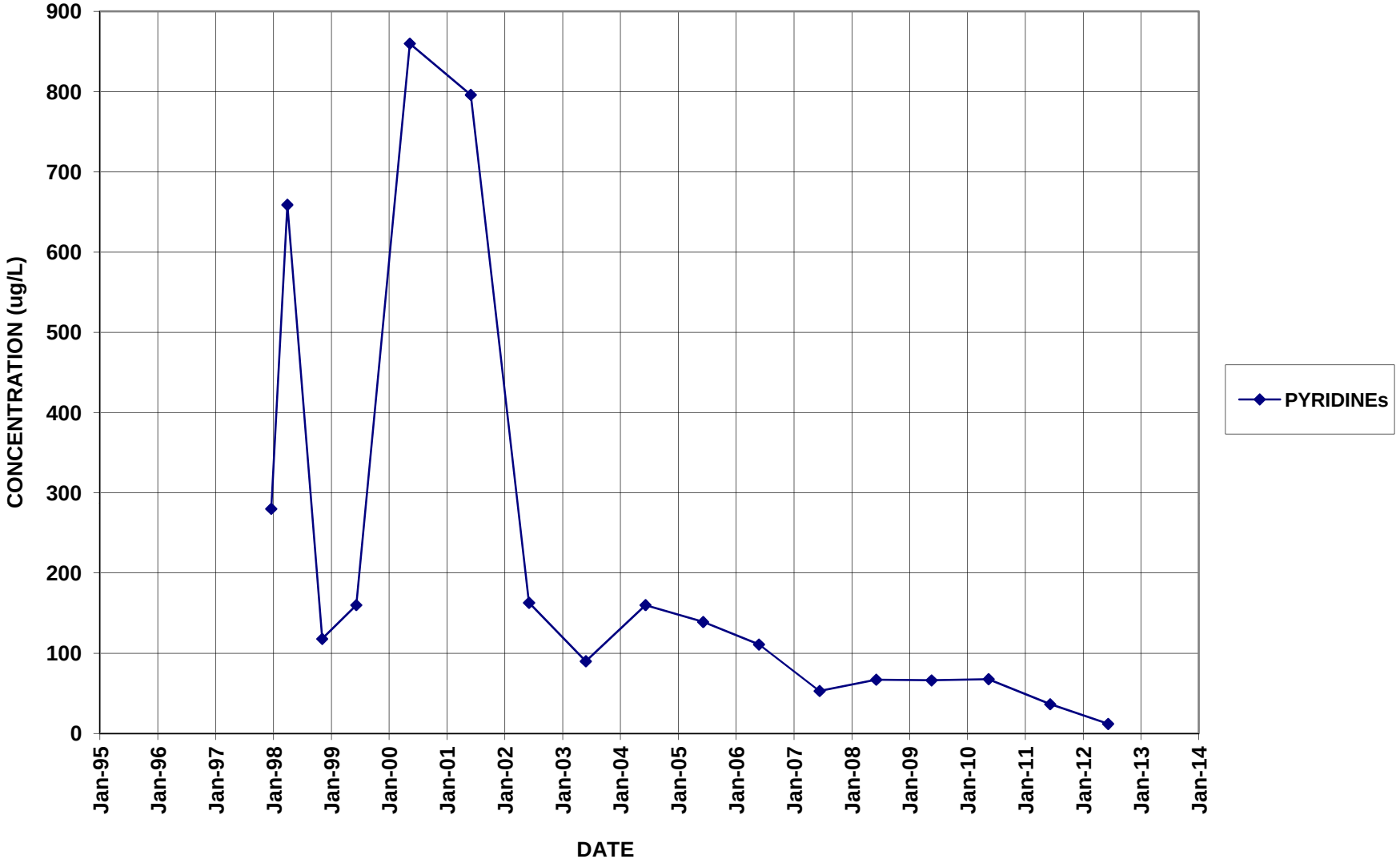
Prepared by: nmb
Reviewed by: jeb

BR-122D



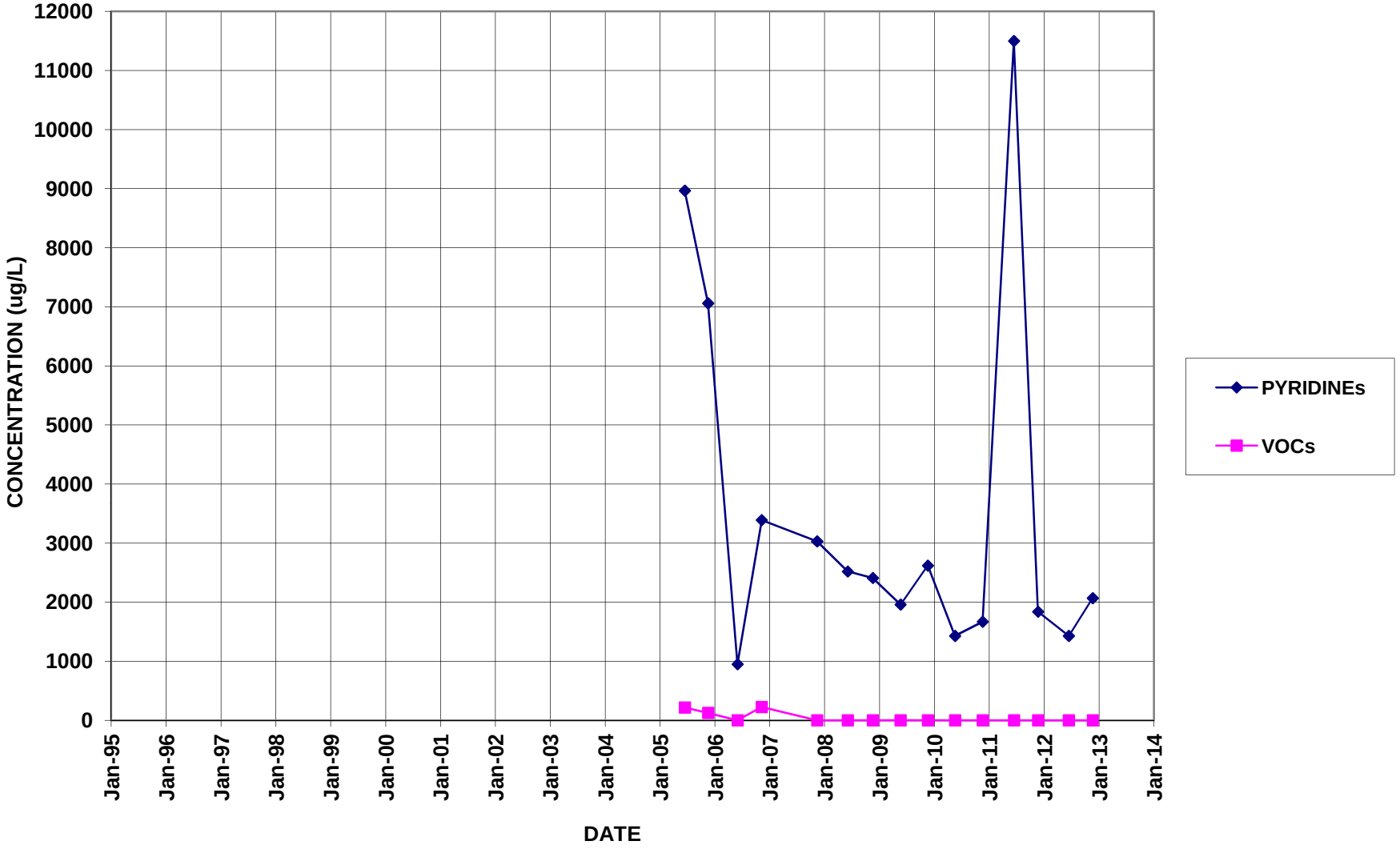
Prepared by: nmb
Reviewed by: jeb

BR-123D



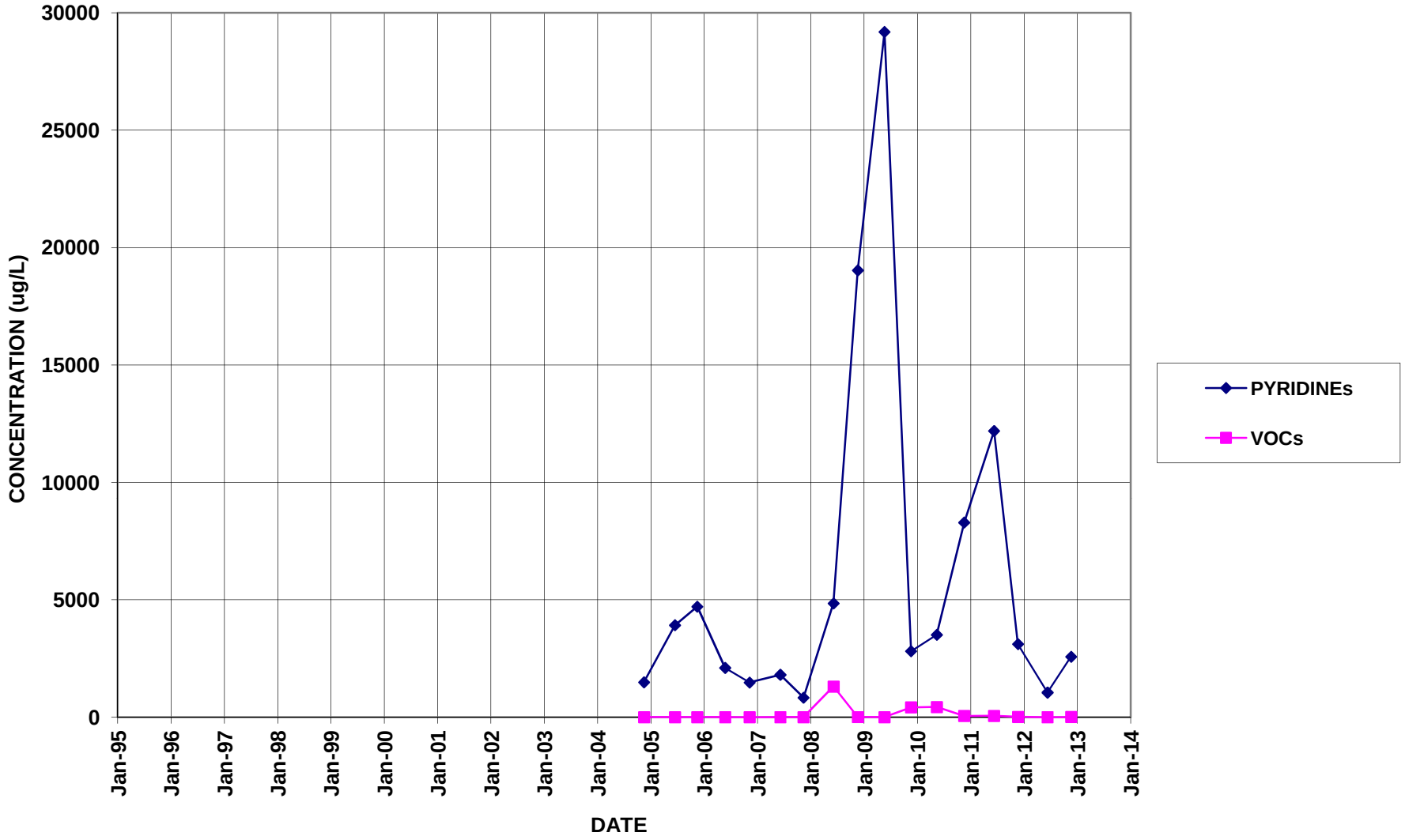
Prepared by: nmb
Reviewed by: jeb

BR-126

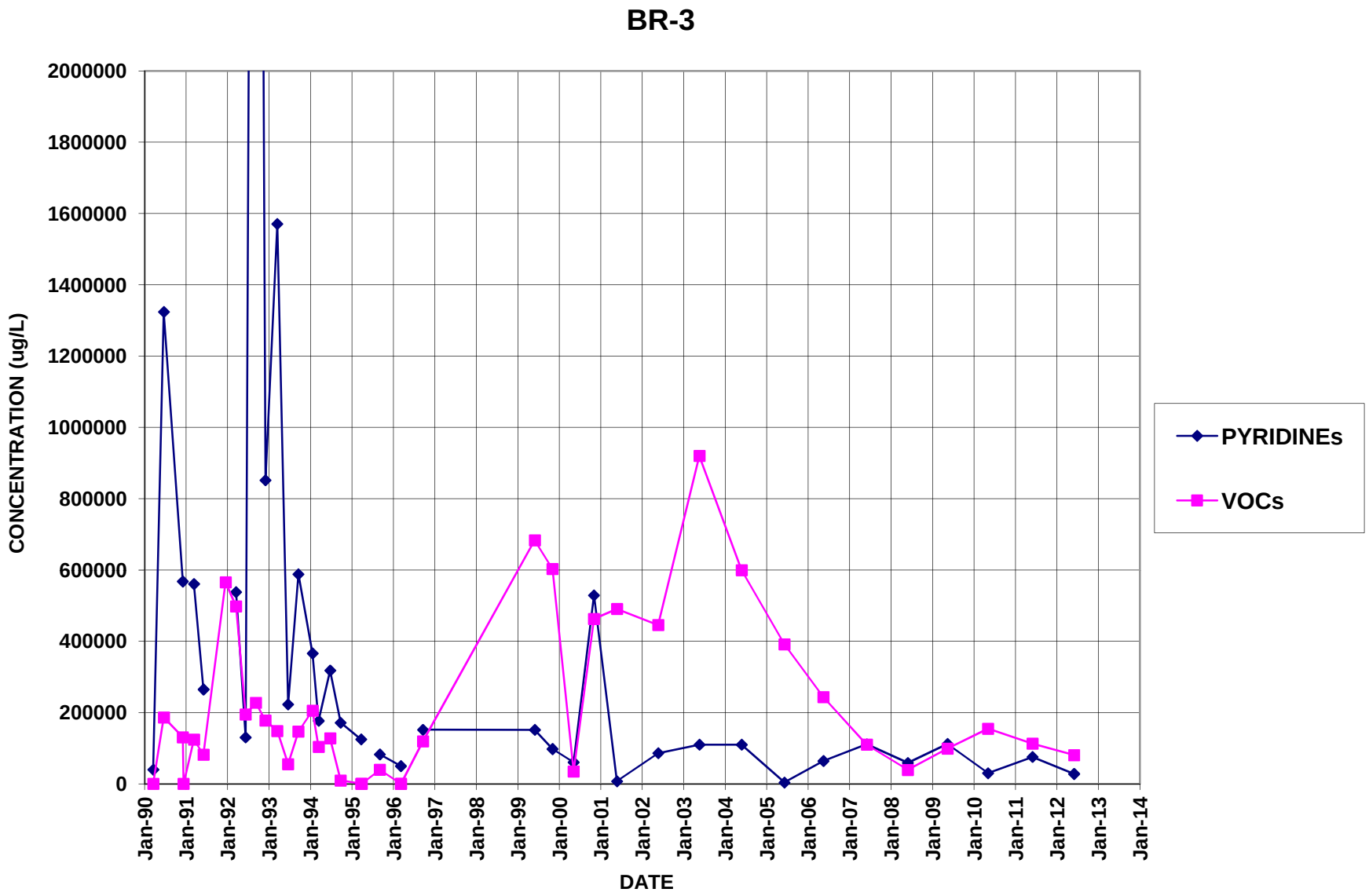


Prepared by: nmb
Reviewed by: jeb

BR-127

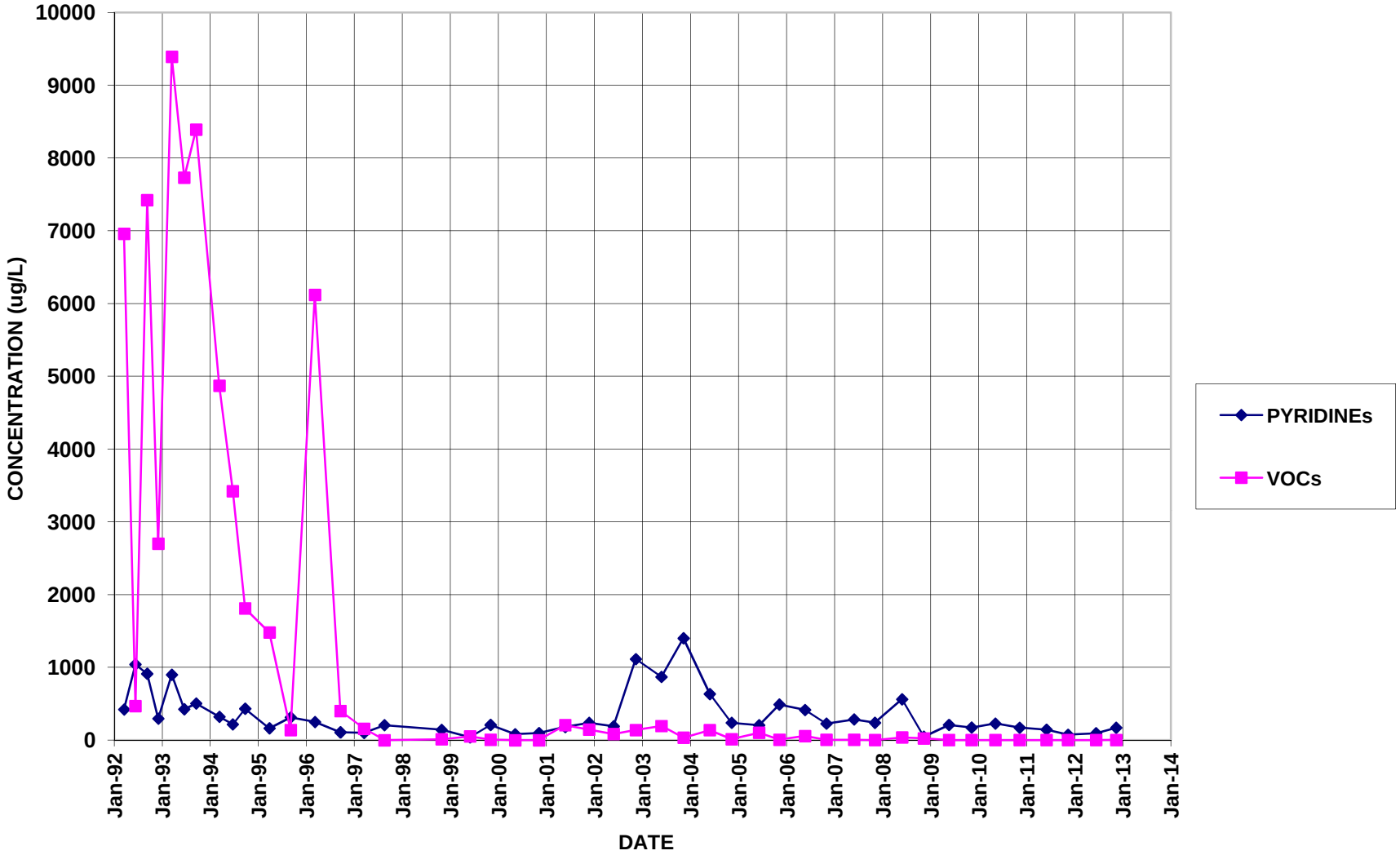


Prepared by: nmb
Reviewed by: jeb



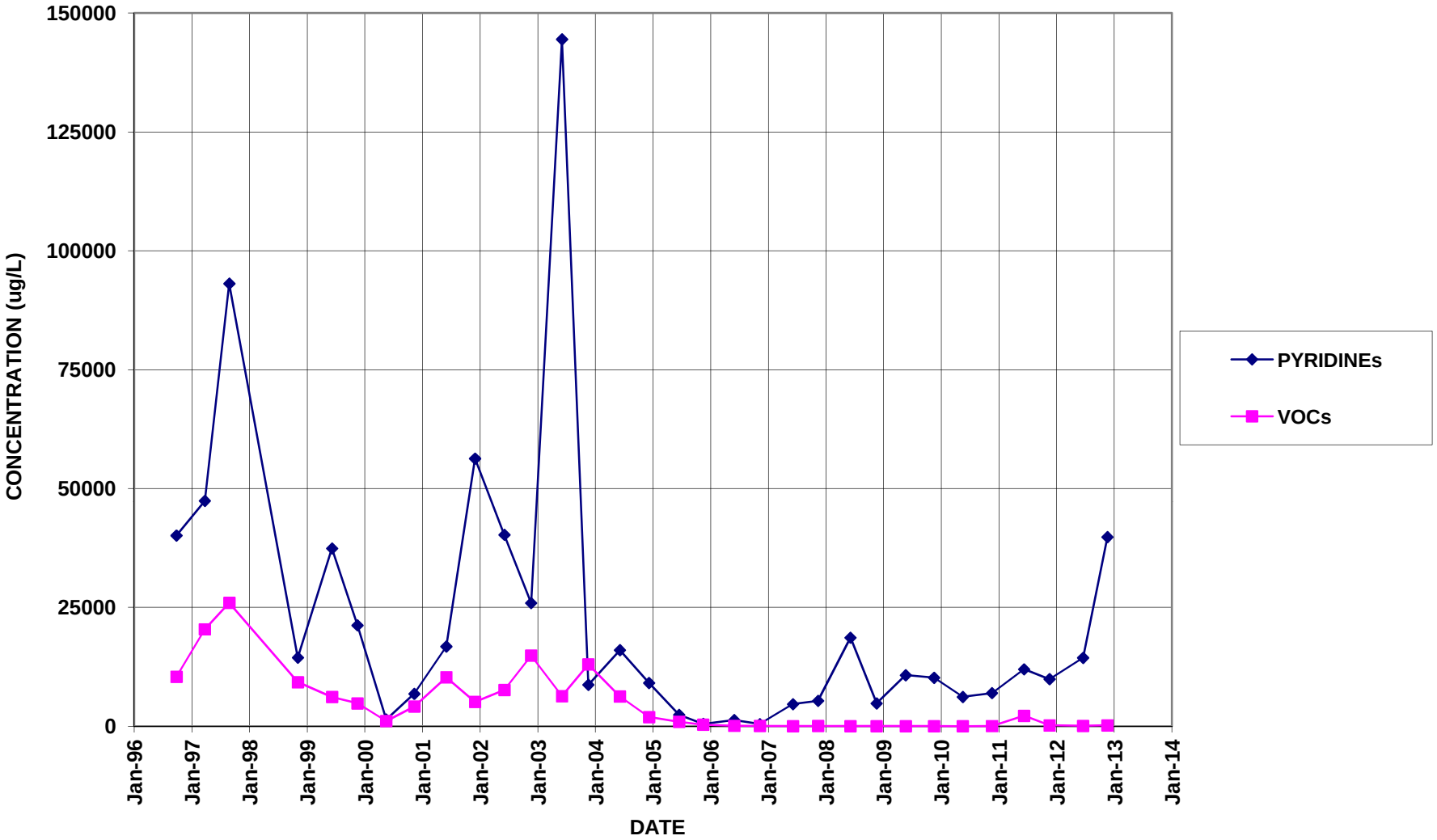
Prepared by: nmb
Reviewed by: jeb

BR-5A



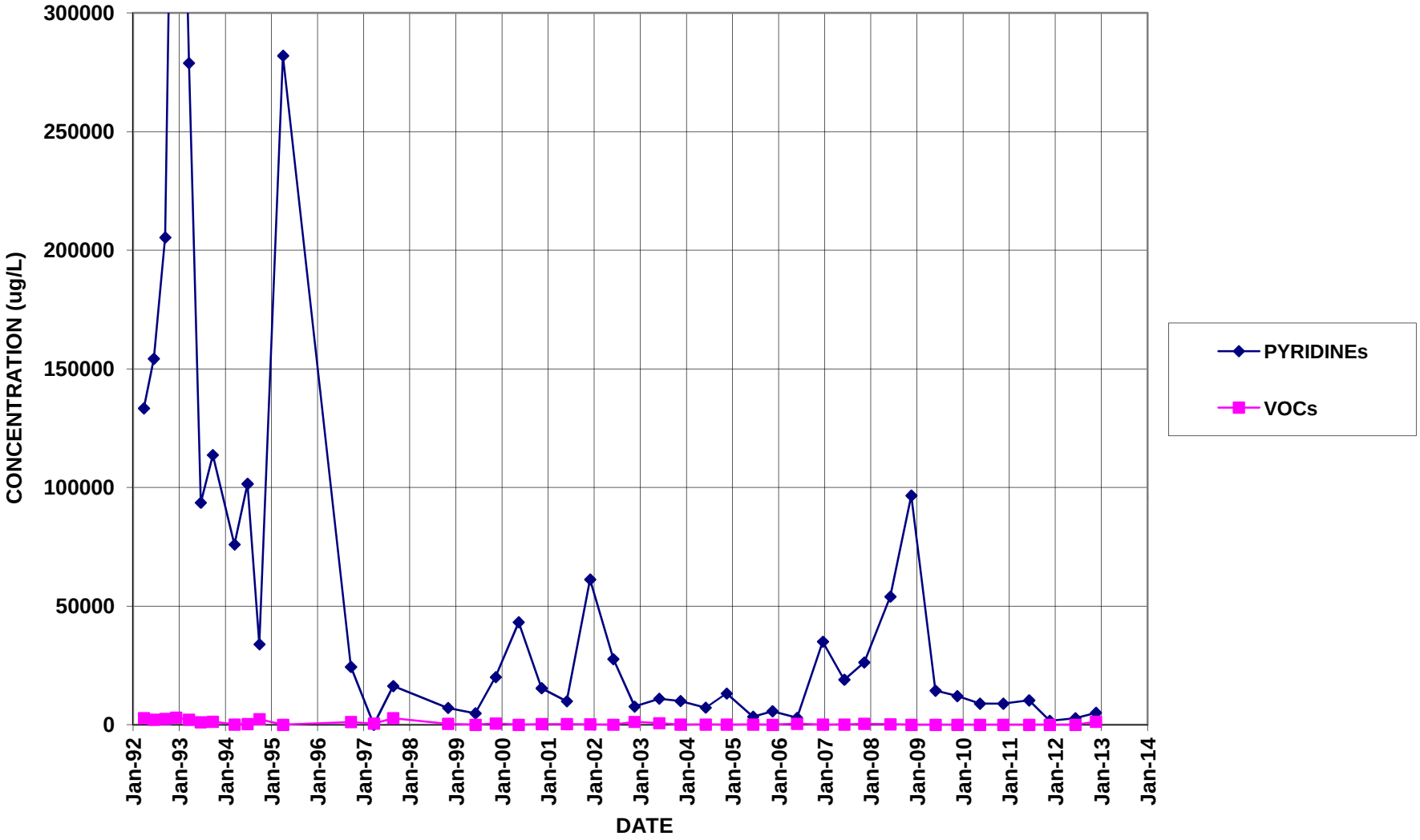
Prepared by: nmb
Reviewed by: jeb

BR-6A



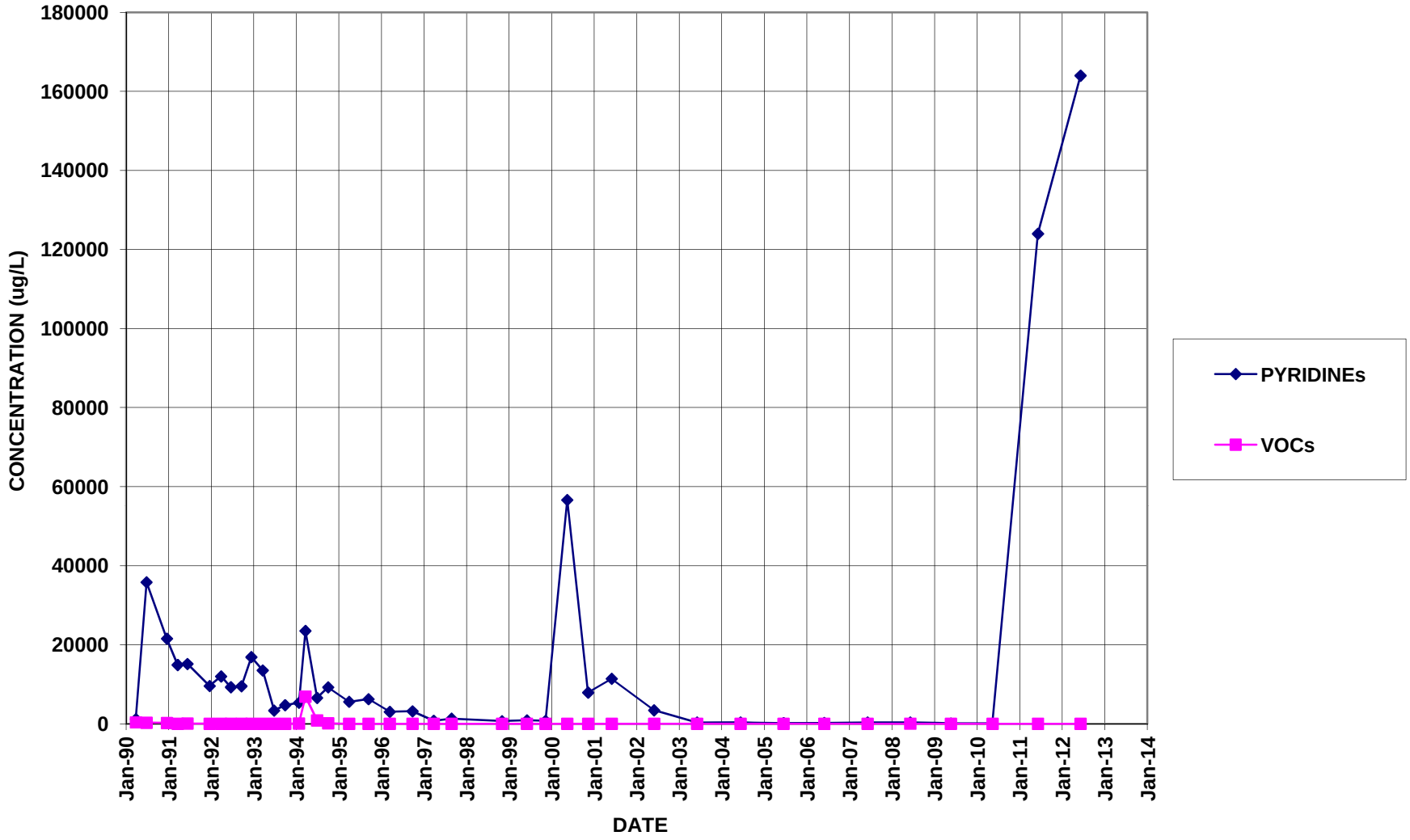
Prepared by: nmb
Reviewed by: jeb

BR-7A



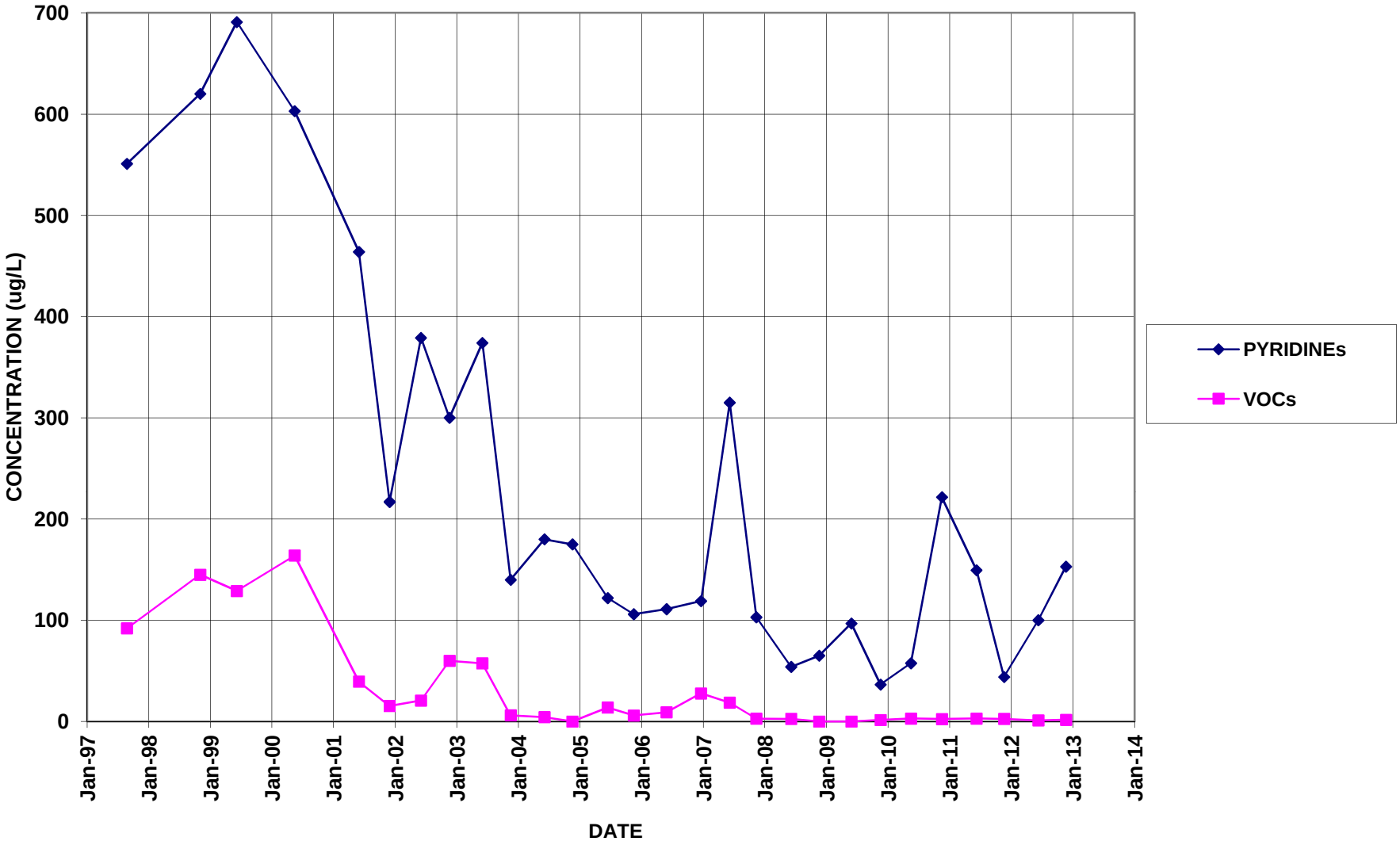
Prepared by: nmb
Reviewed by: jeb

BR-8

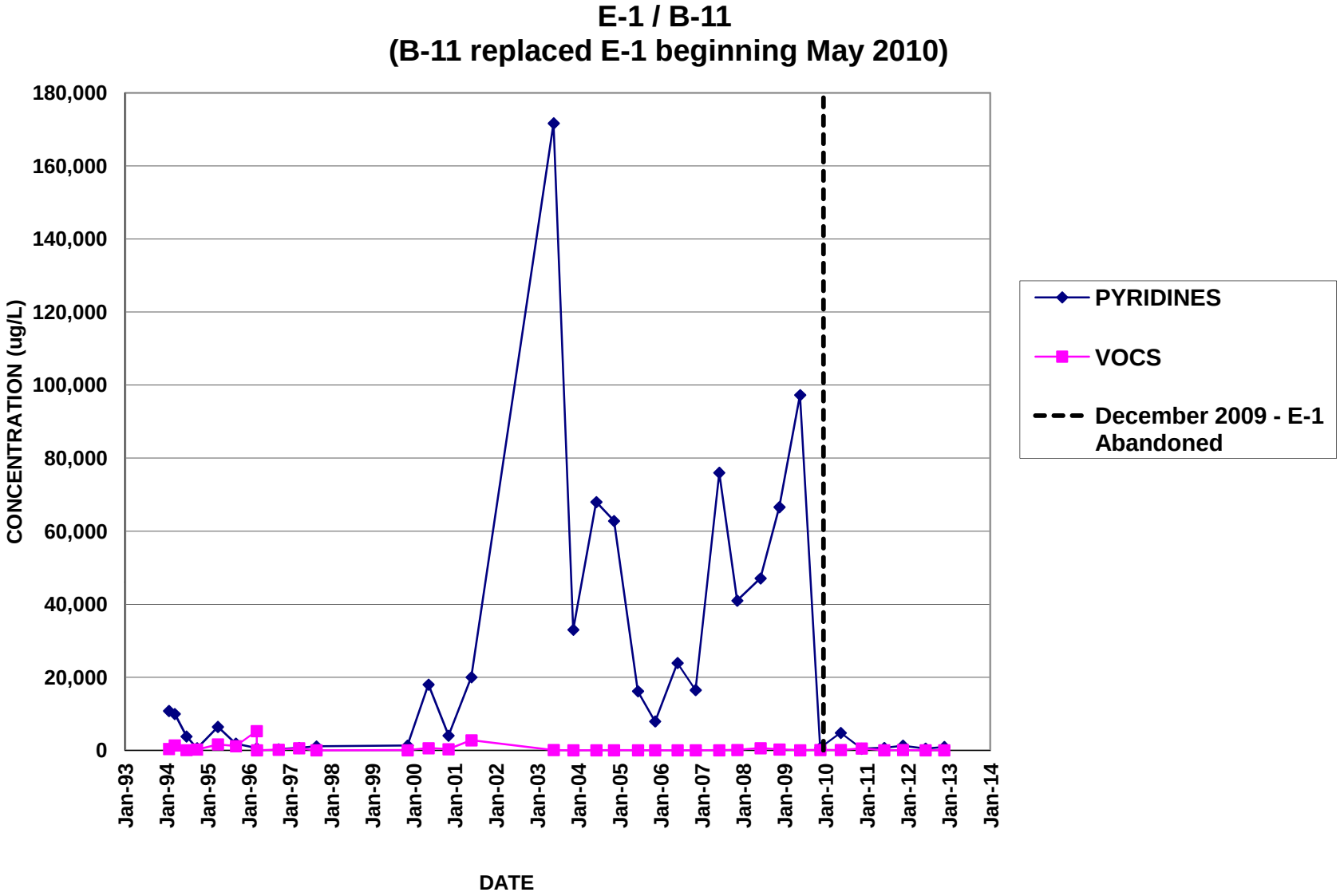


Prepared by: nmb
Reviewed by: jeb

BR-9

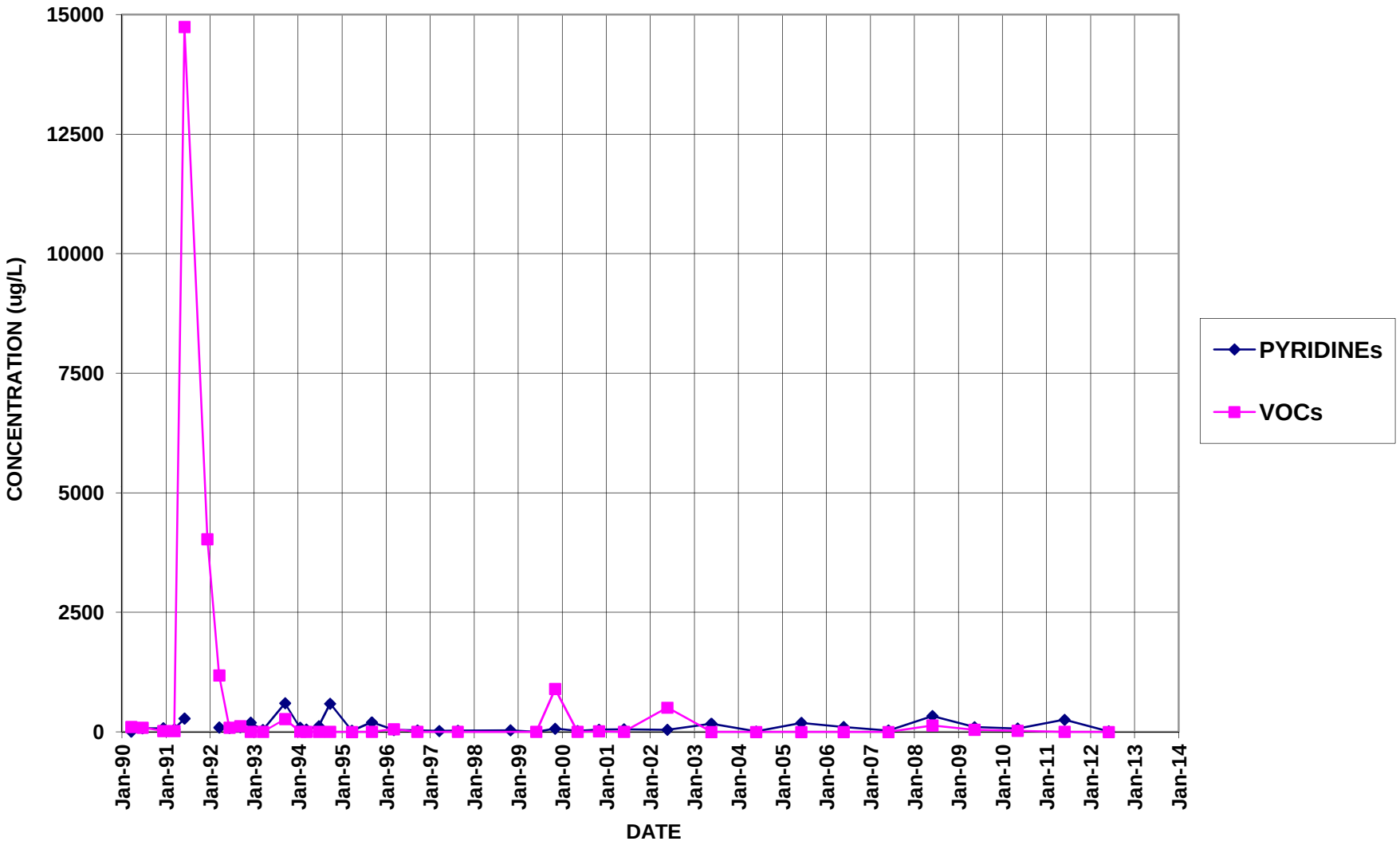


Prepared by: nmb
Reviewed by: jeb



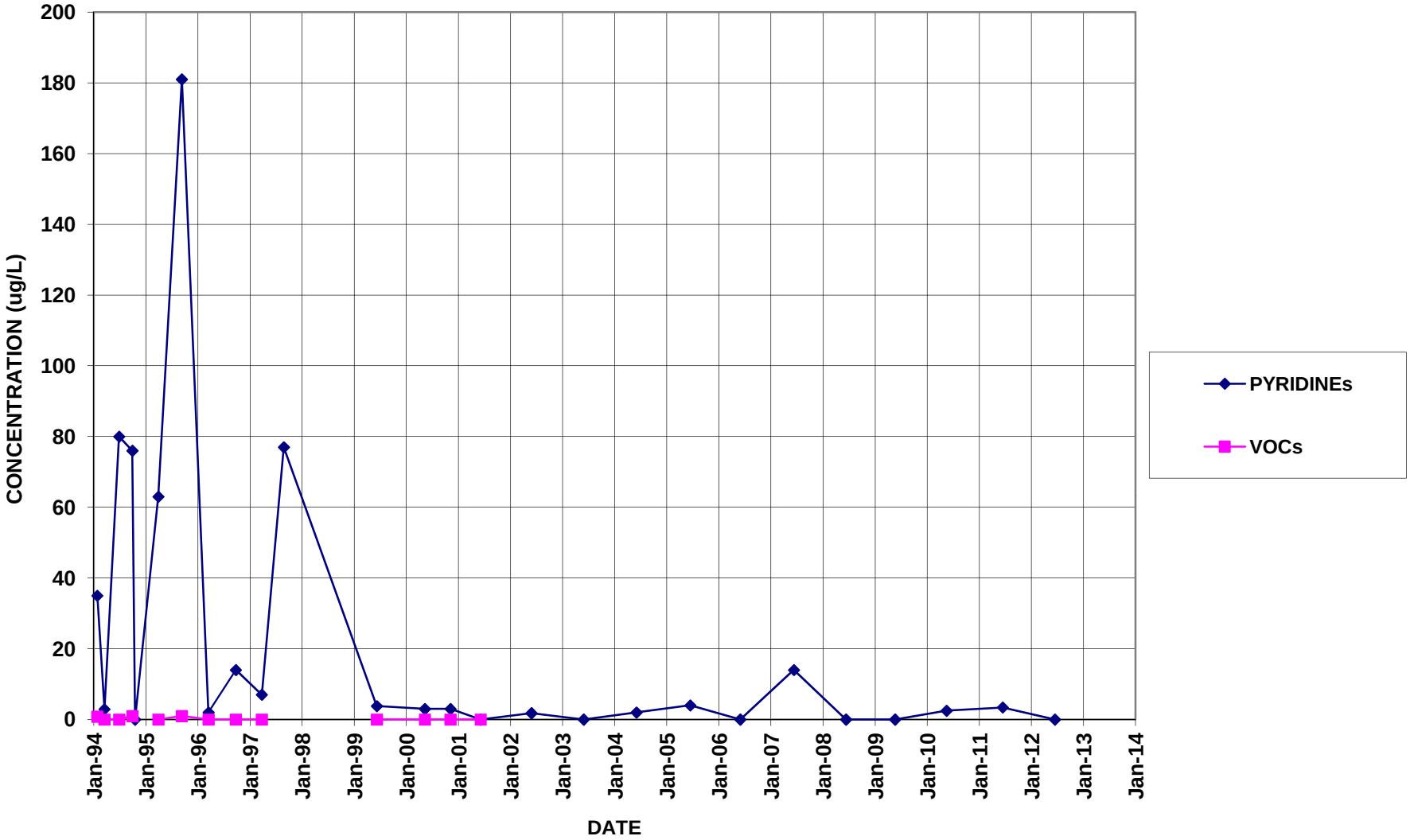
Prepared by: nmb
Reviewed by: jeb

E-3



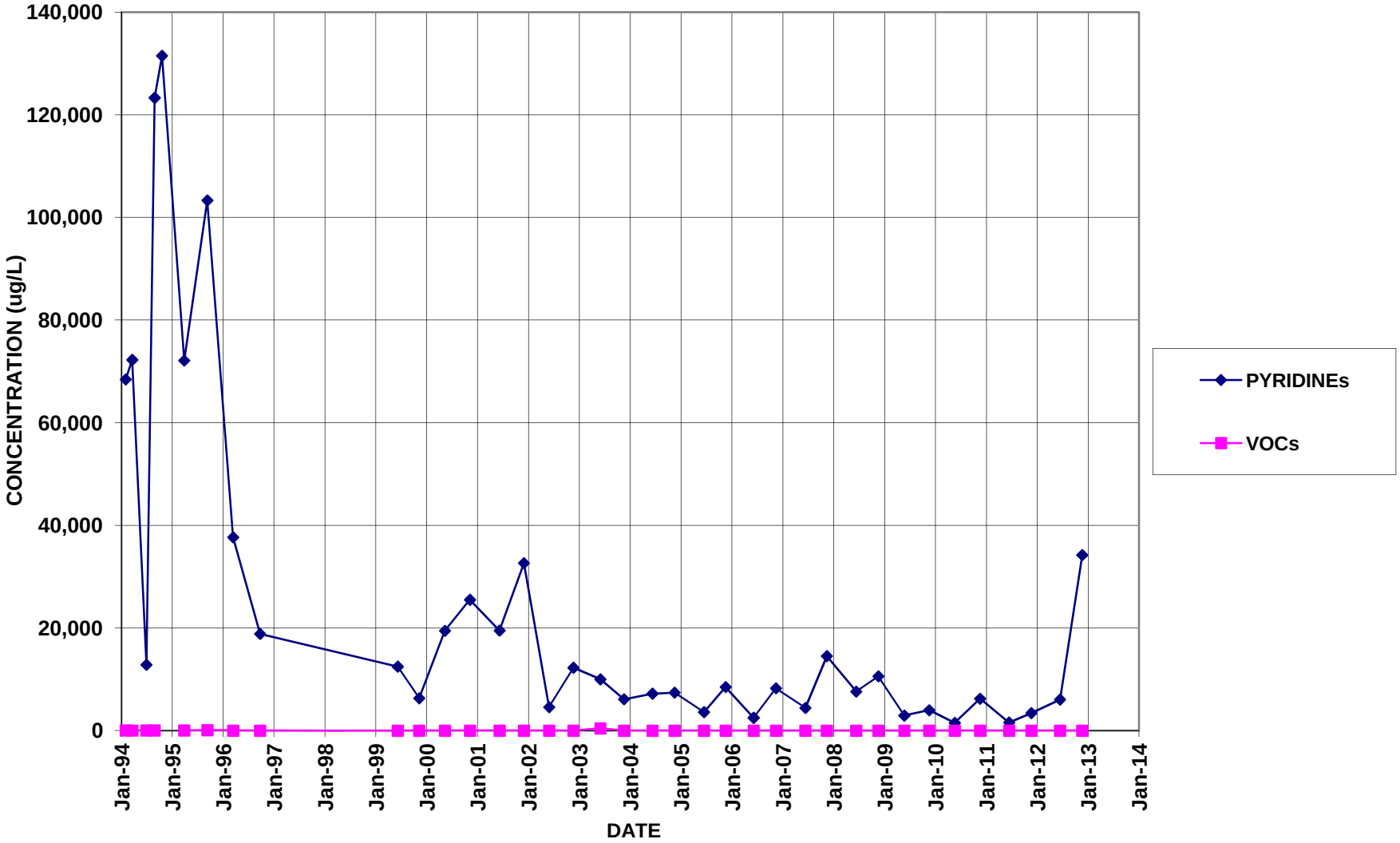
Prepared by: nmb
Reviewed by: jeb

MW-104



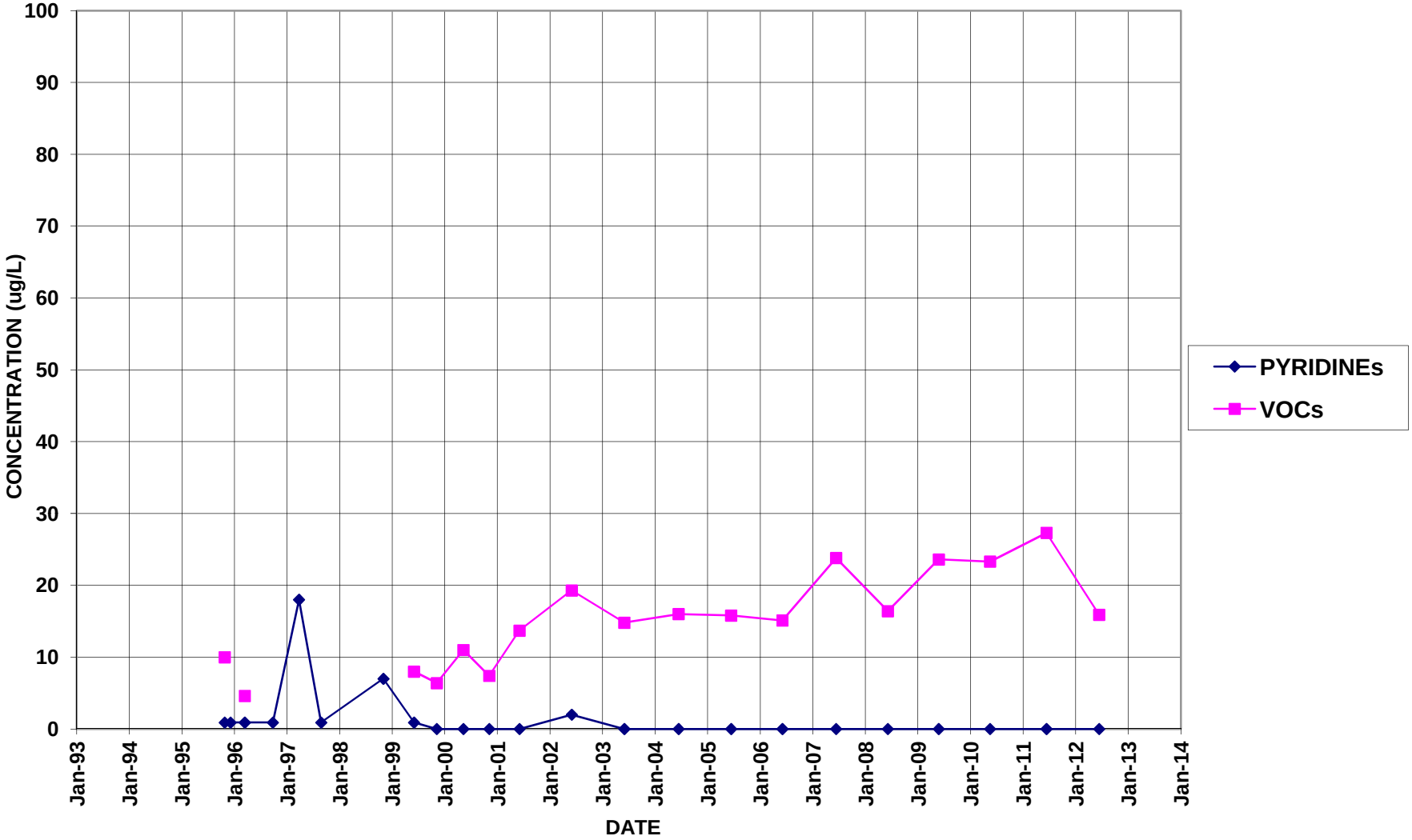
Prepared by: nmb
Reviewed by: jeb

MW-106



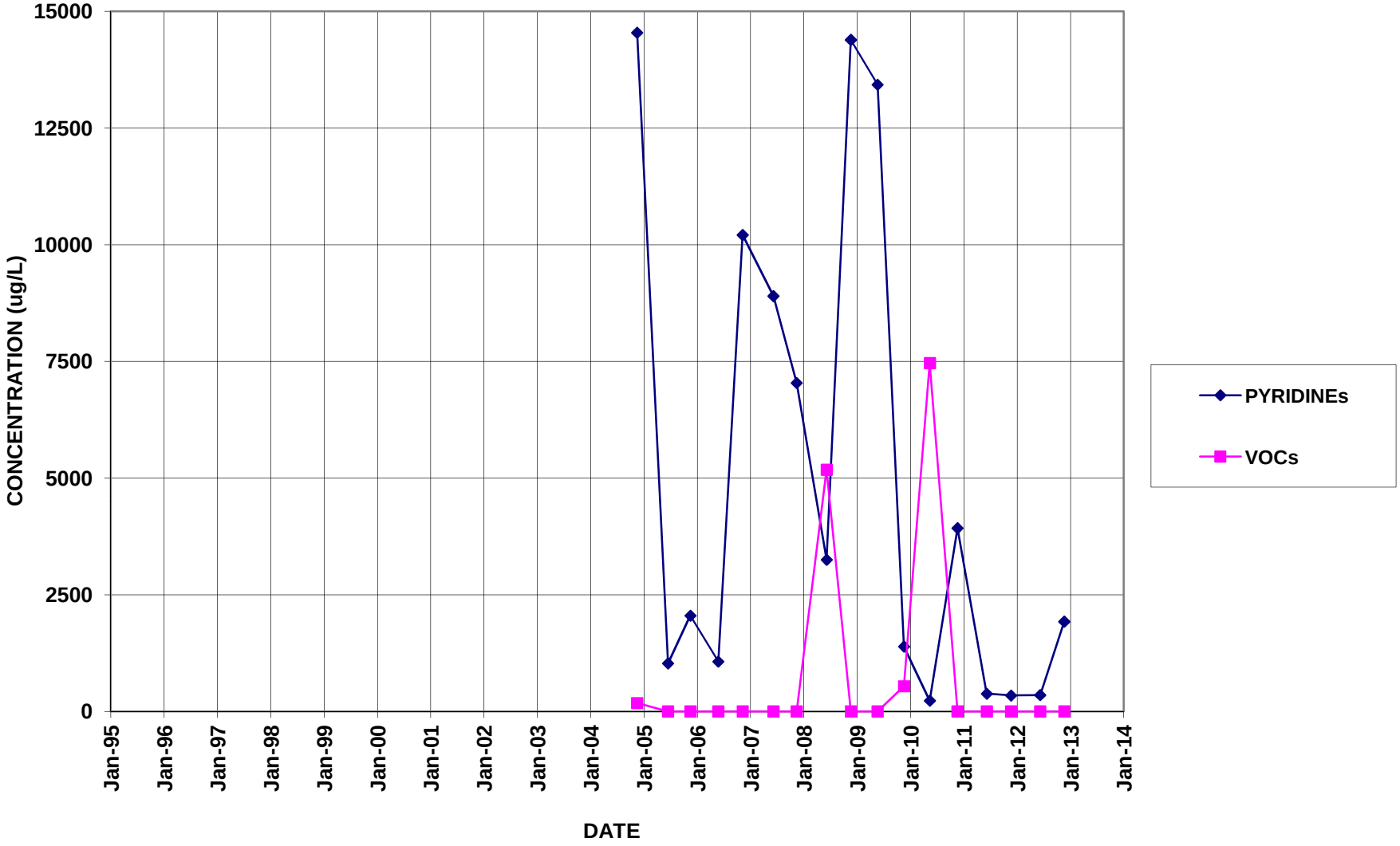
Prepared by: nmb
Reviewed by: jeb

MW-114



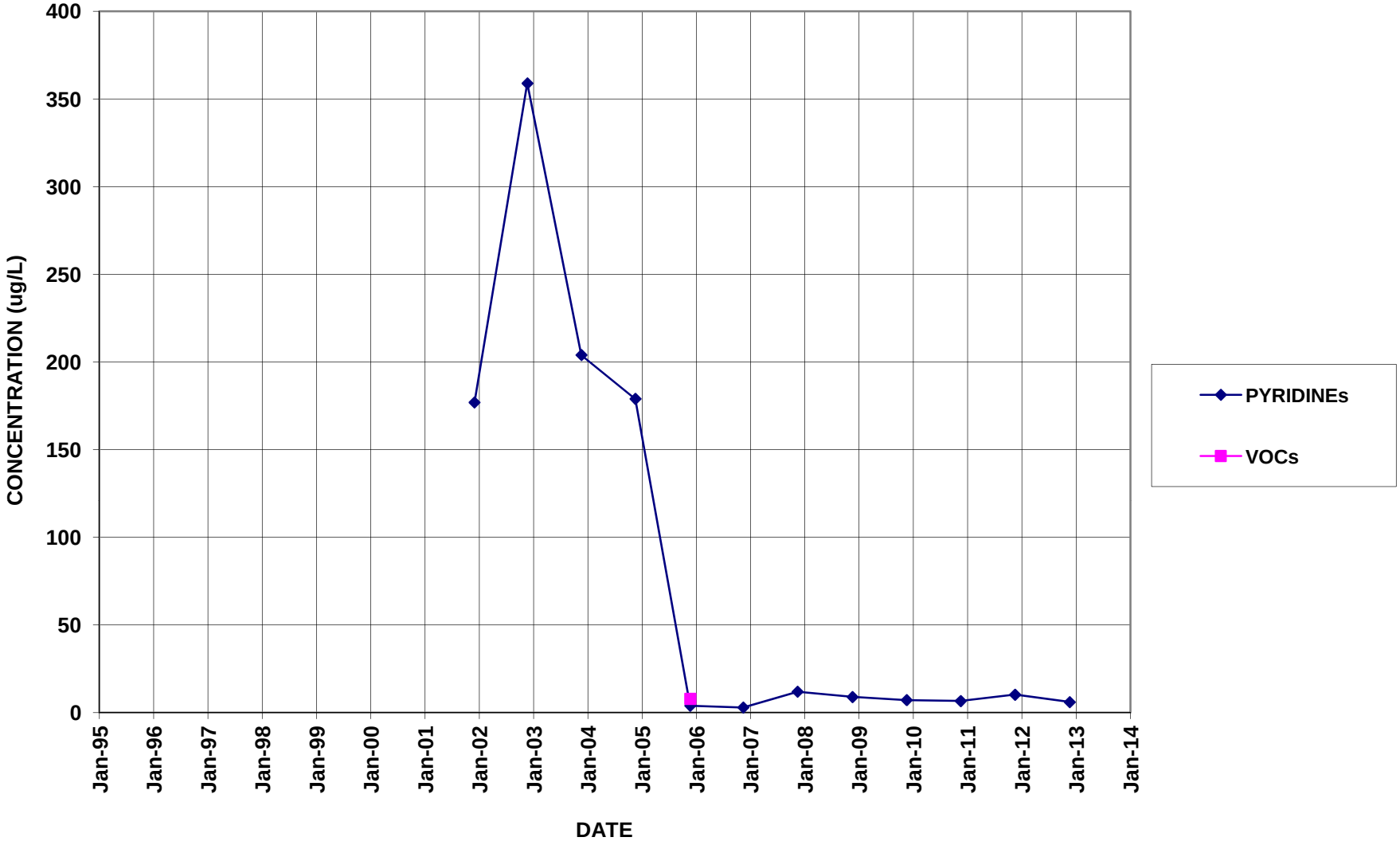
Prepared by: nmb
Reviewed by: jeb

MW-127



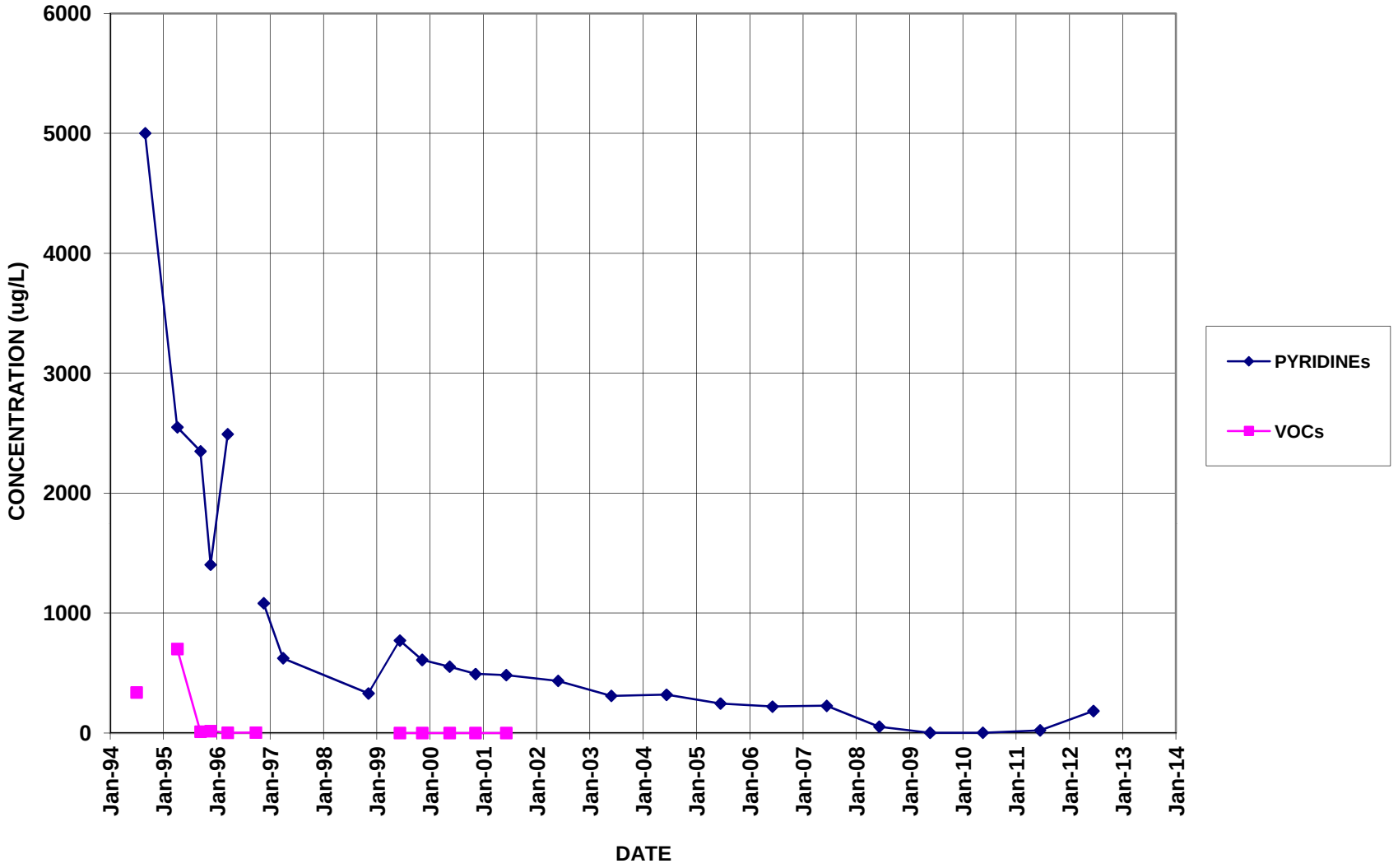
Prepared by: nmb
Reviewed by: jeb

MW-16

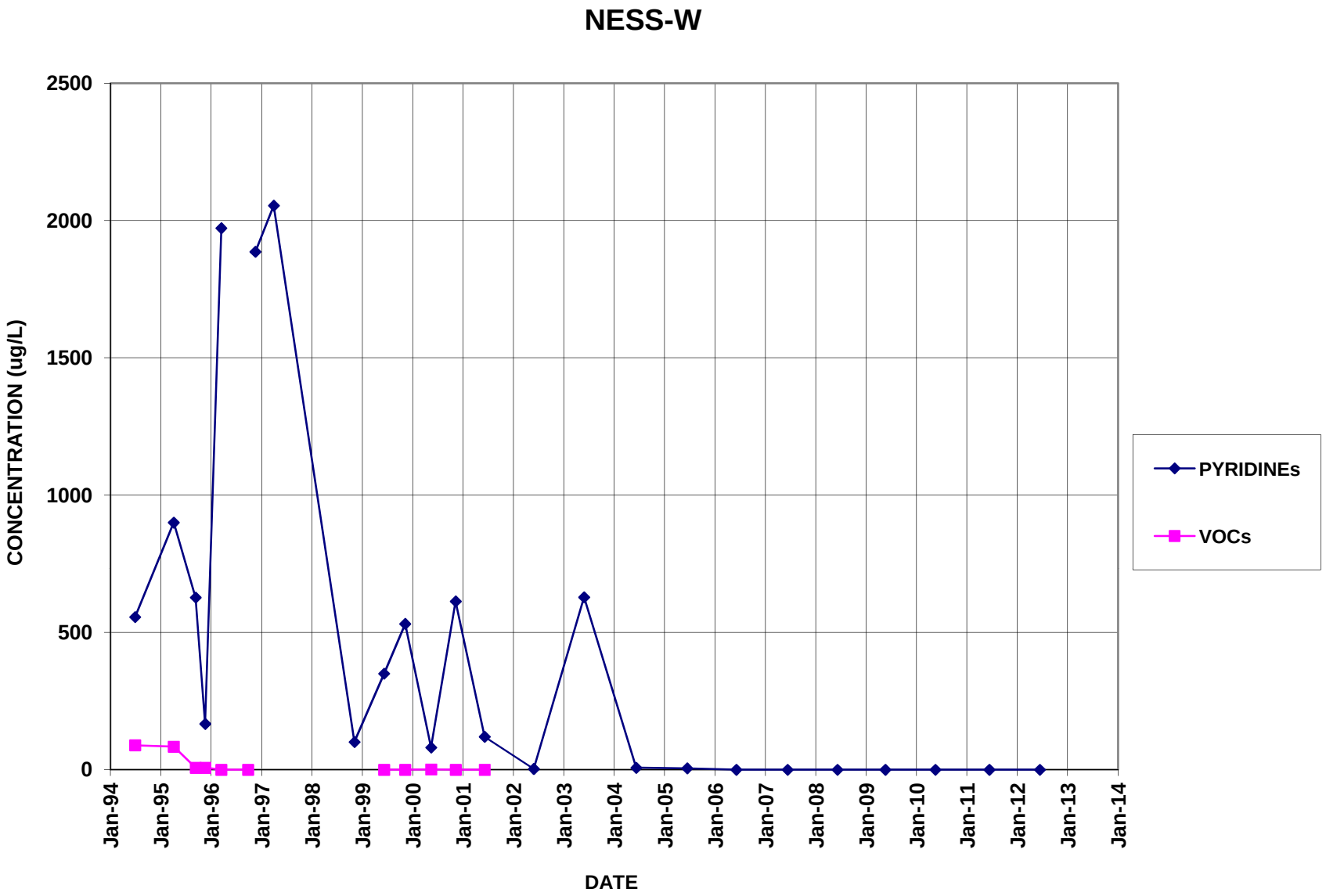


Prepared by: nmb
Reviewed by: jeb

NESS-E

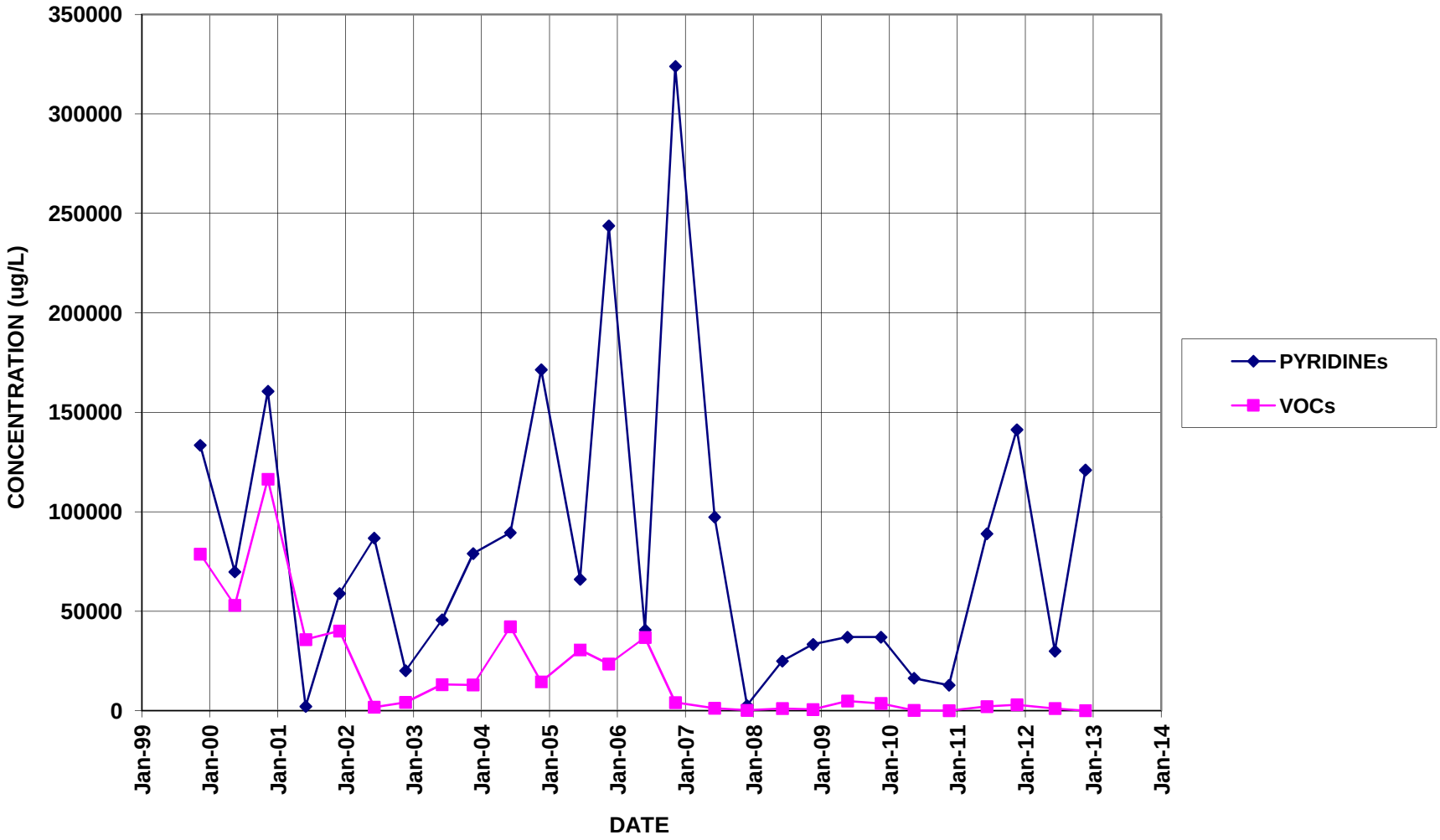


Prepared by: nmb
Reviewed by: jeb



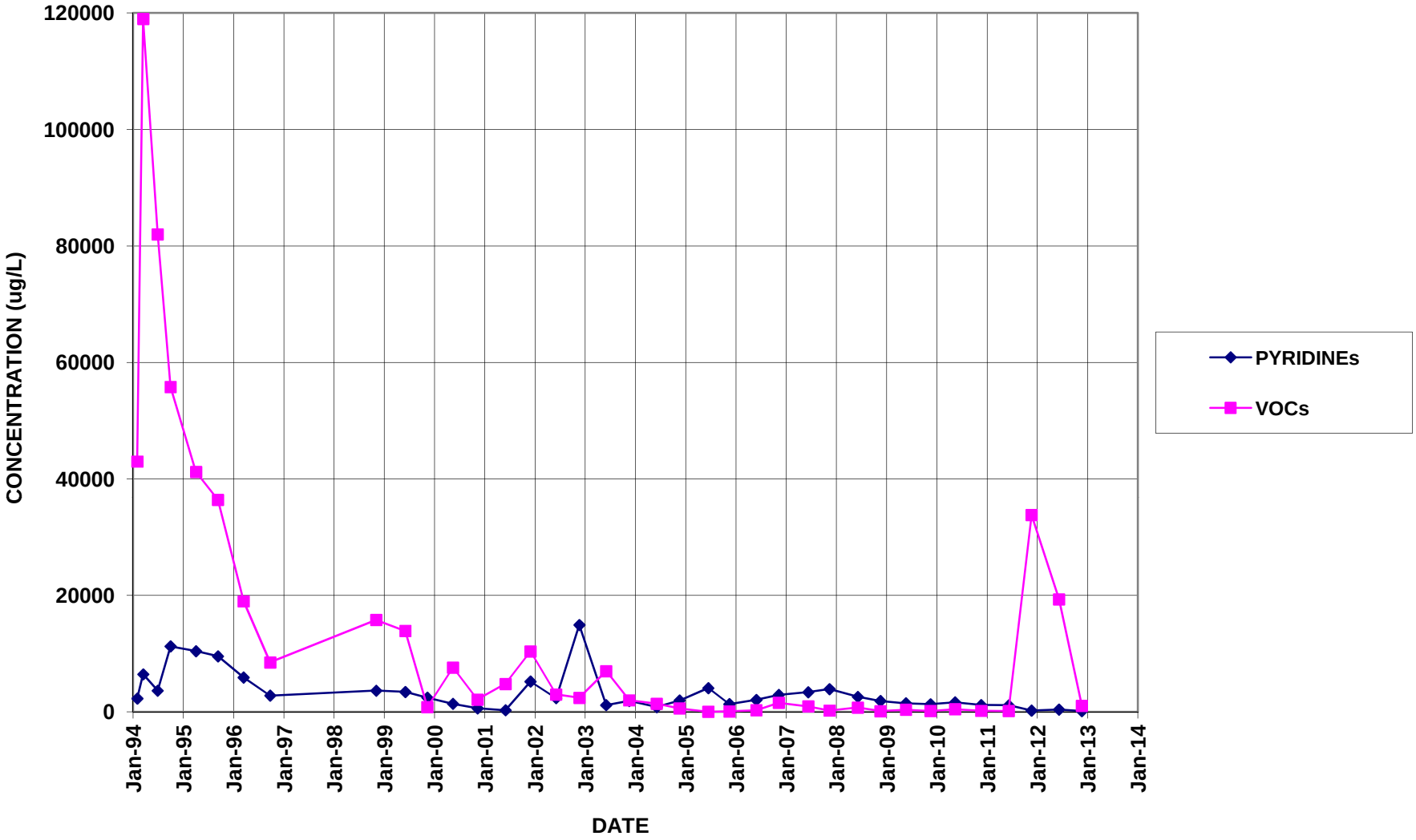
Prepared by: nmb
Reviewed by: jeb

PW10



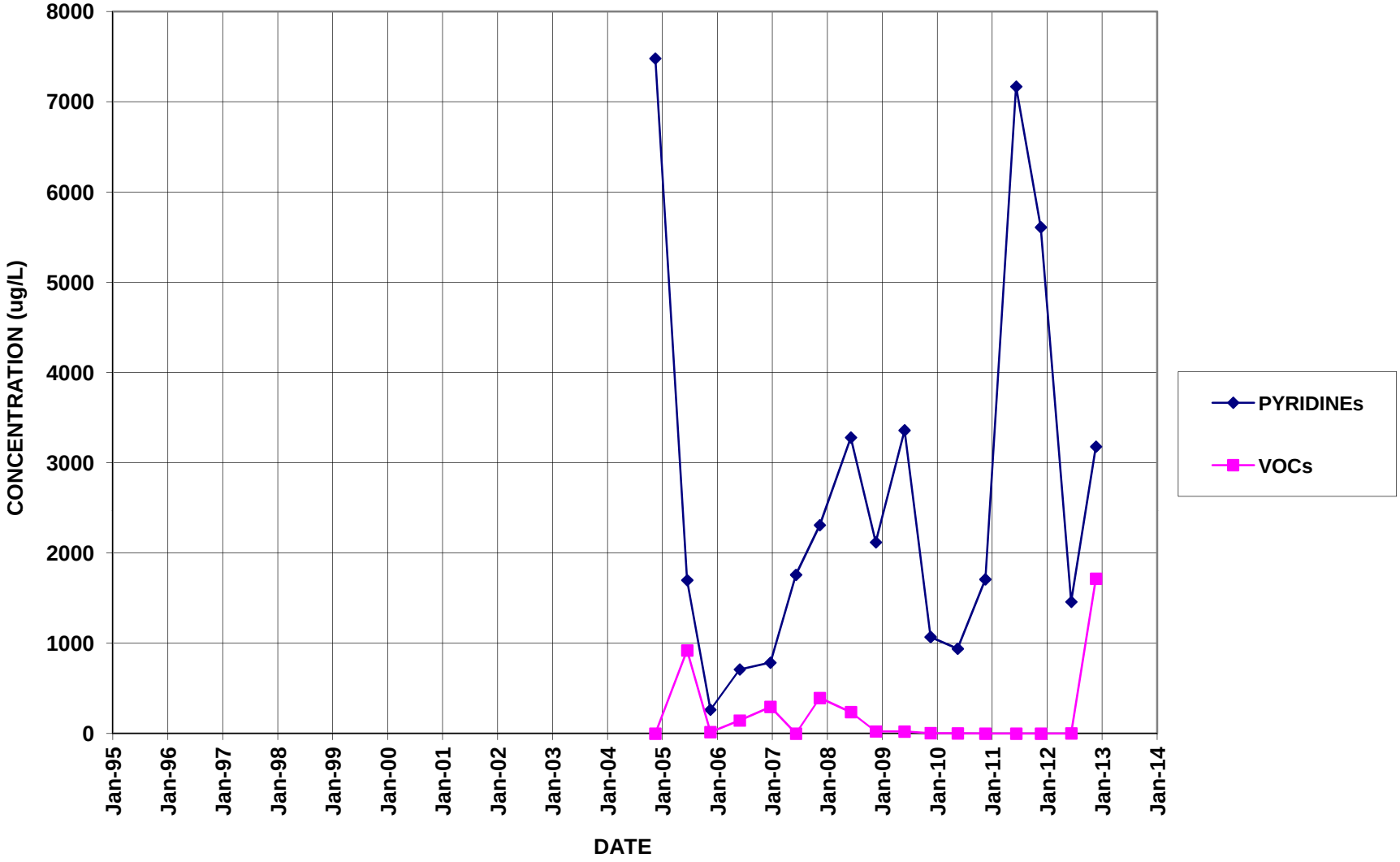
Prepared by: nmb
Reviewed by: jeb

PW12 (Formerly BR-101)



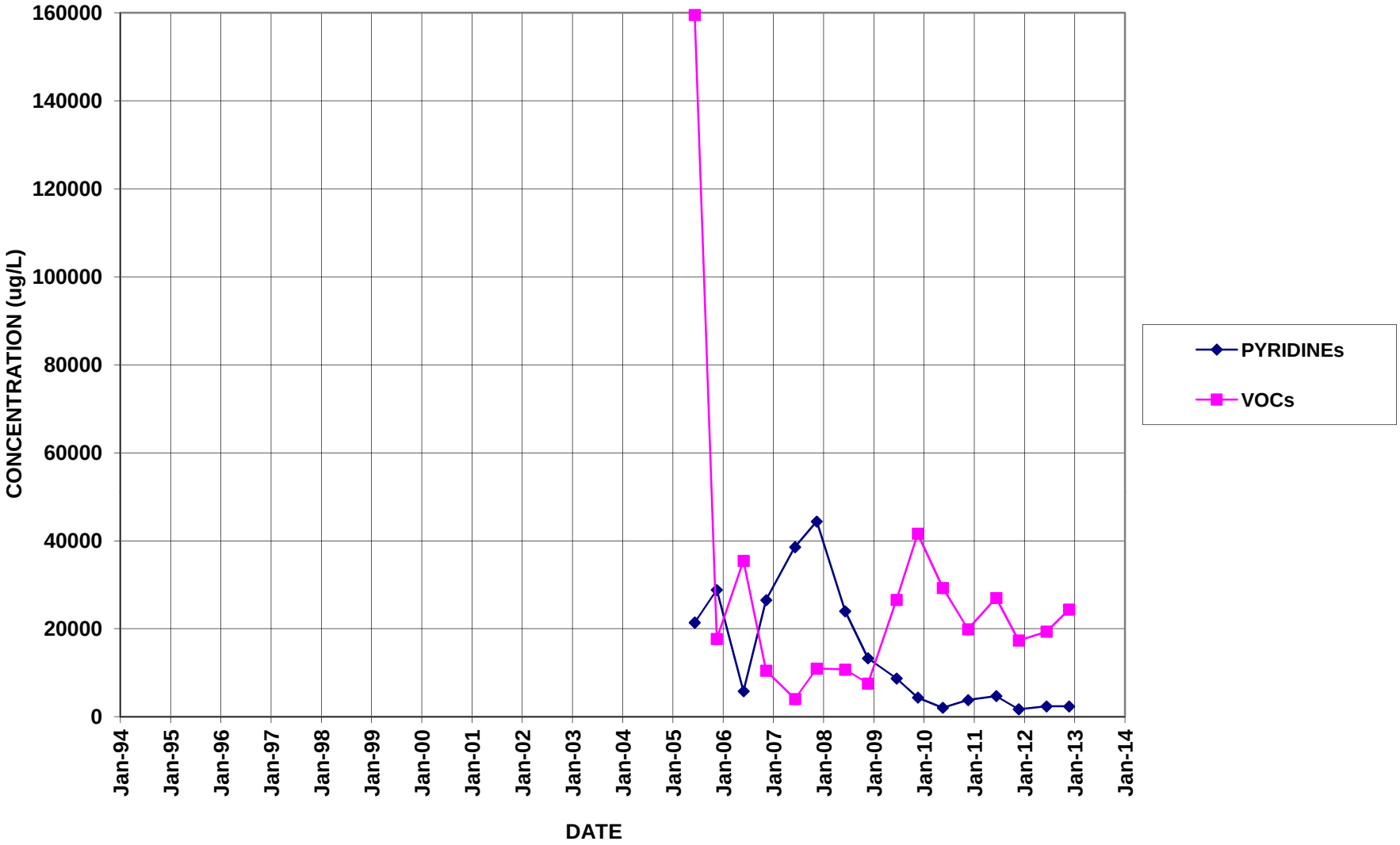
Prepared by: nmb
Reviewed by: jeb

PW13



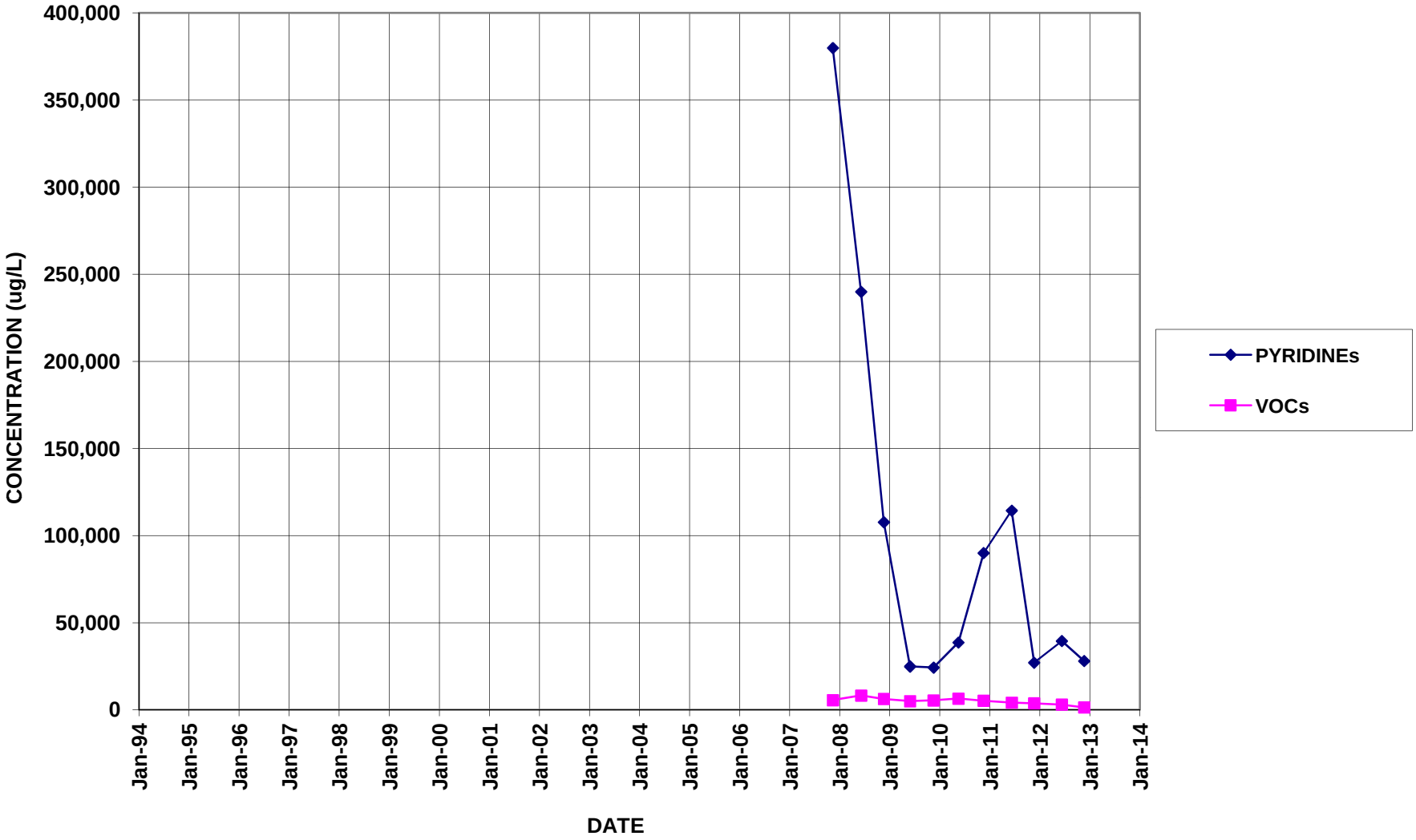
Prepared by: nmb
Reviewed by: jeb

PW14



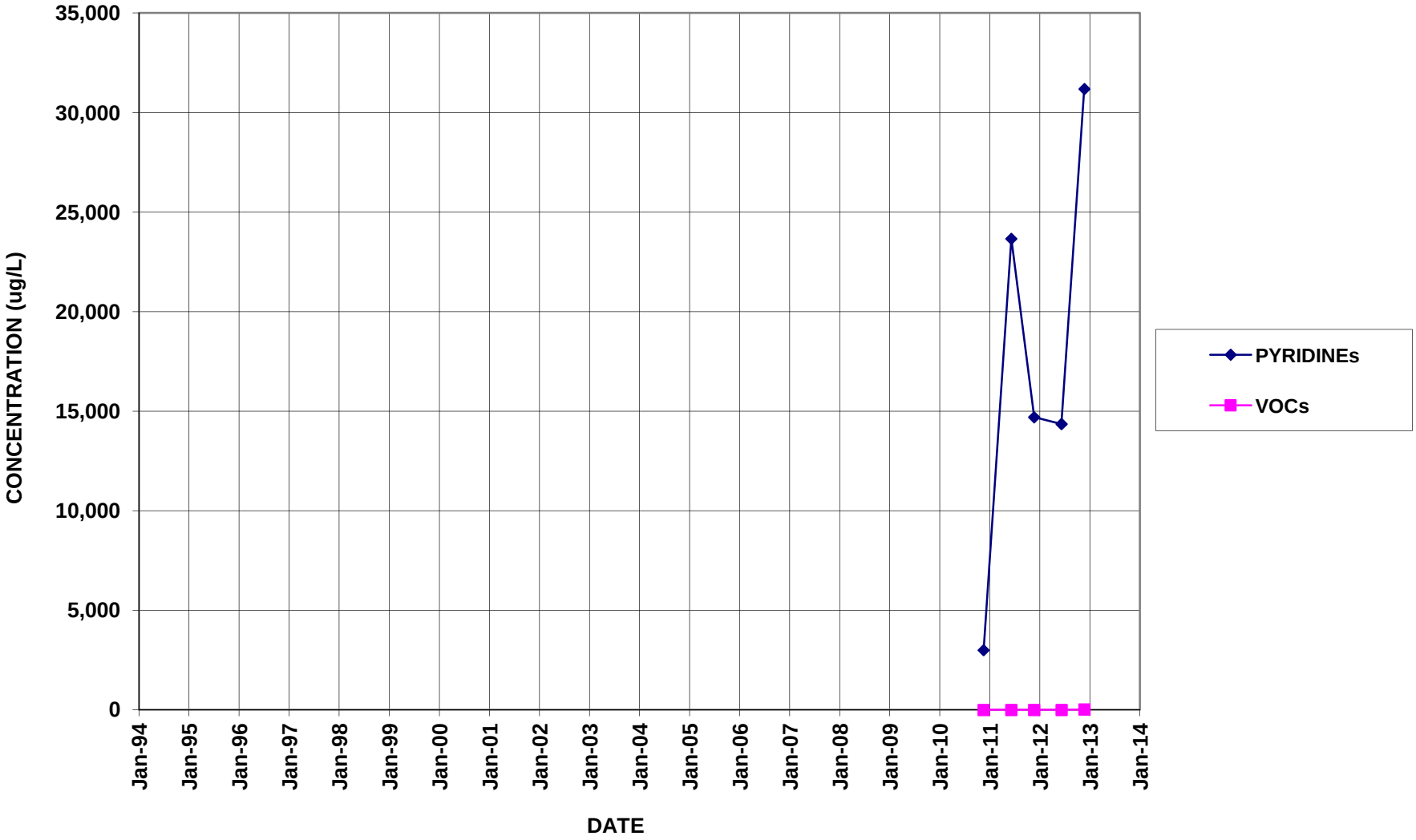
Prepared by: nmb
Reviewed by: jeb

PW15



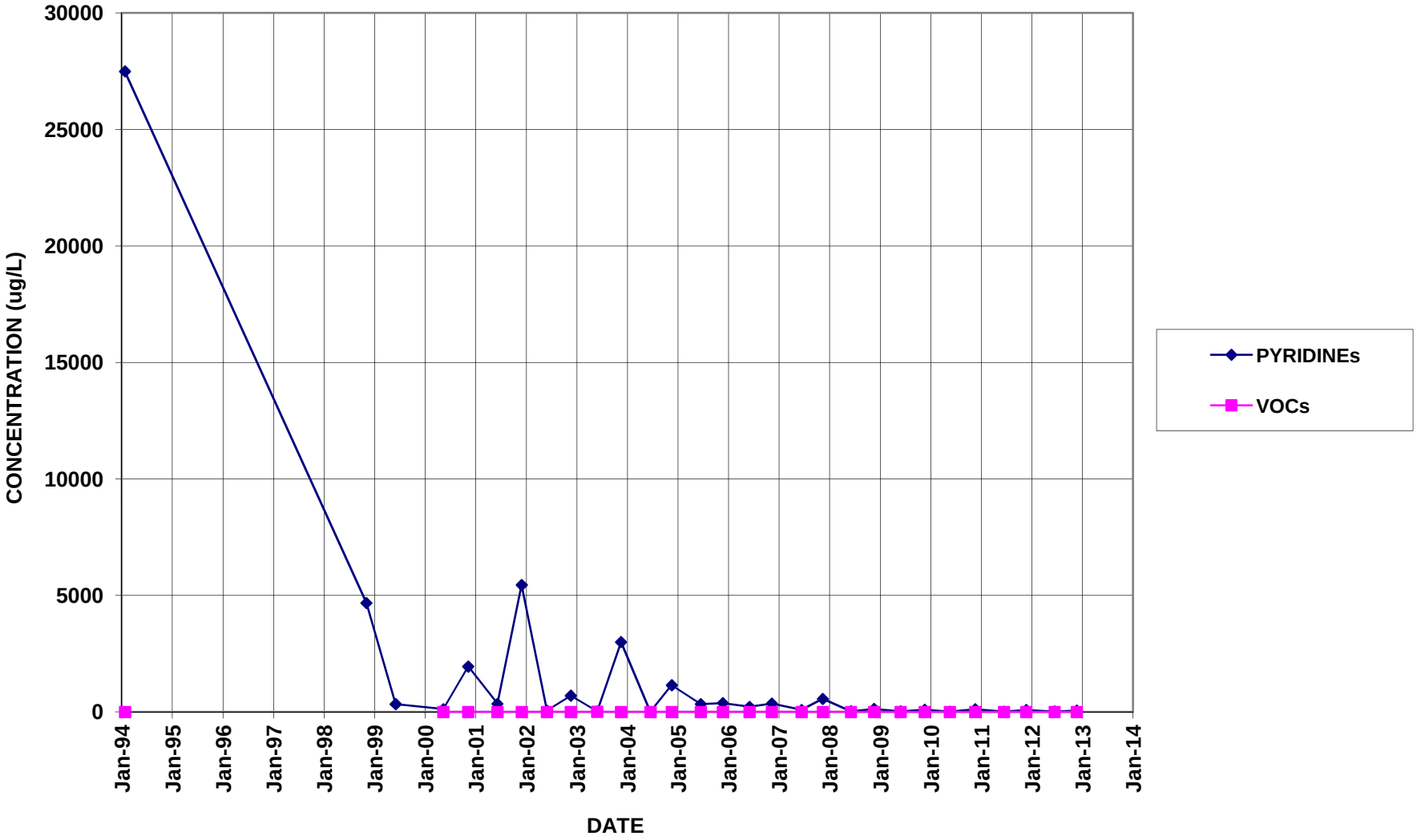
Prepared by: nmb
Reviewed by: jeb

PW16



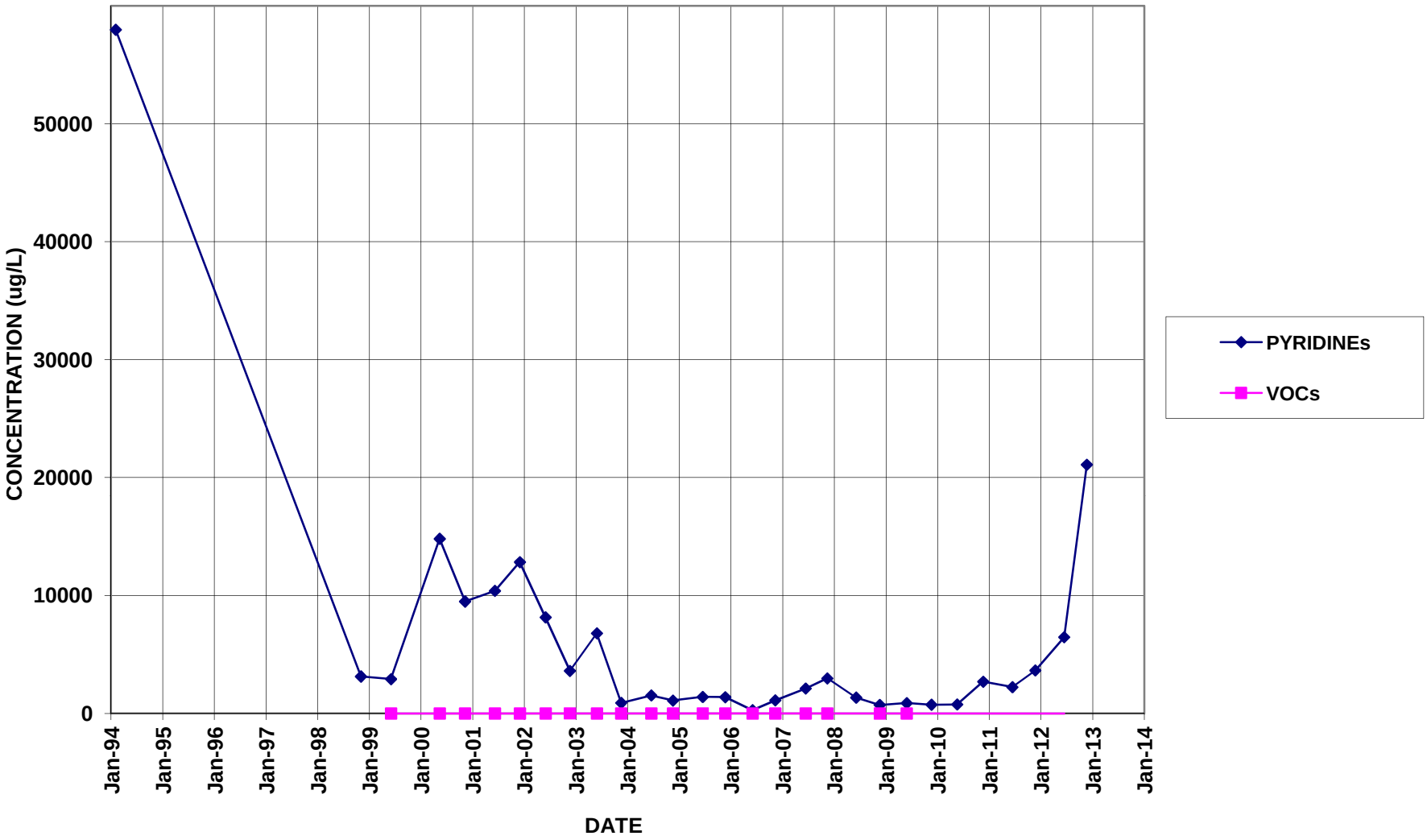
Prepared by: nmb
Reviewed by: jeb

PZ-101



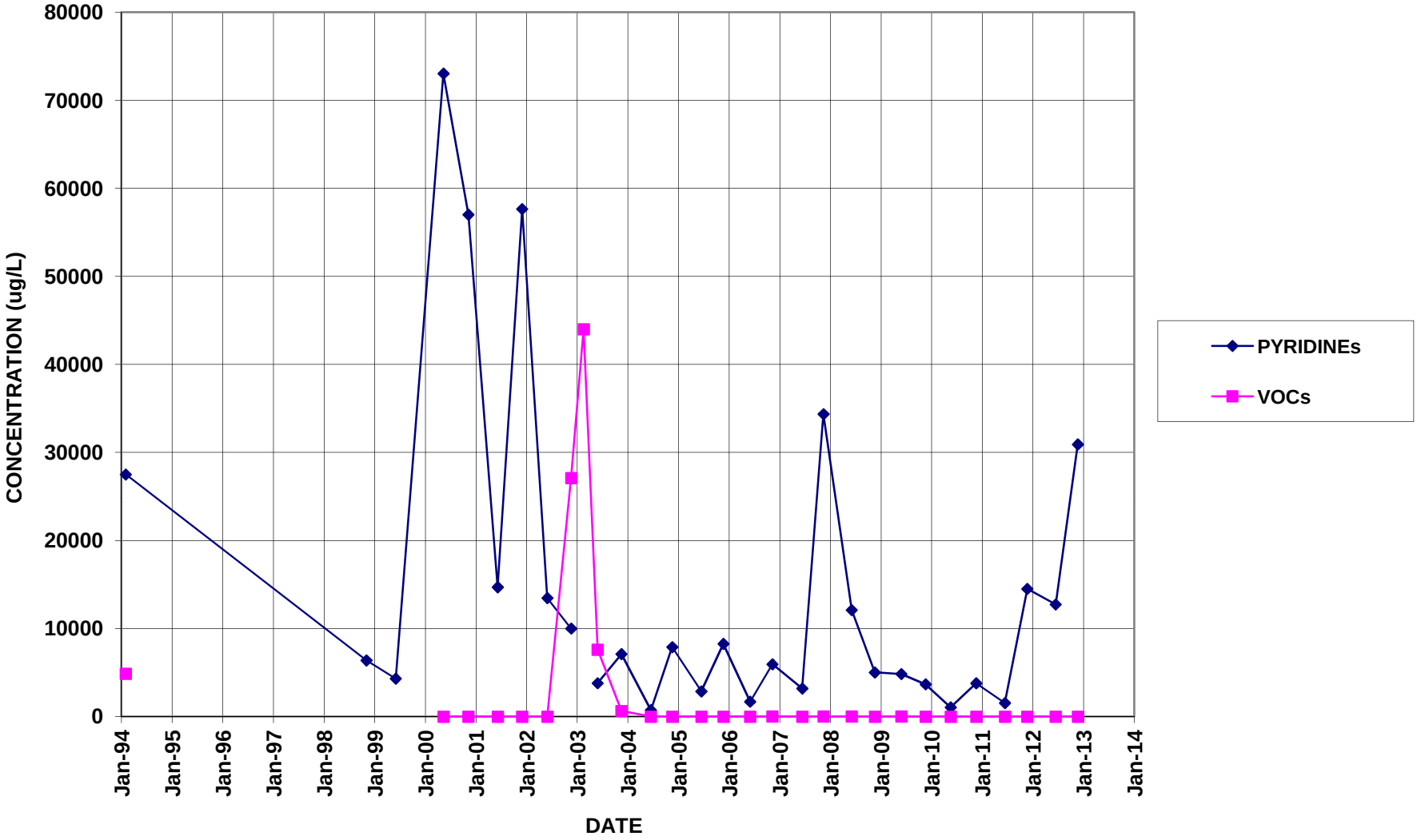
Prepared by: nmb
Reviewed by: jeb

PZ-102



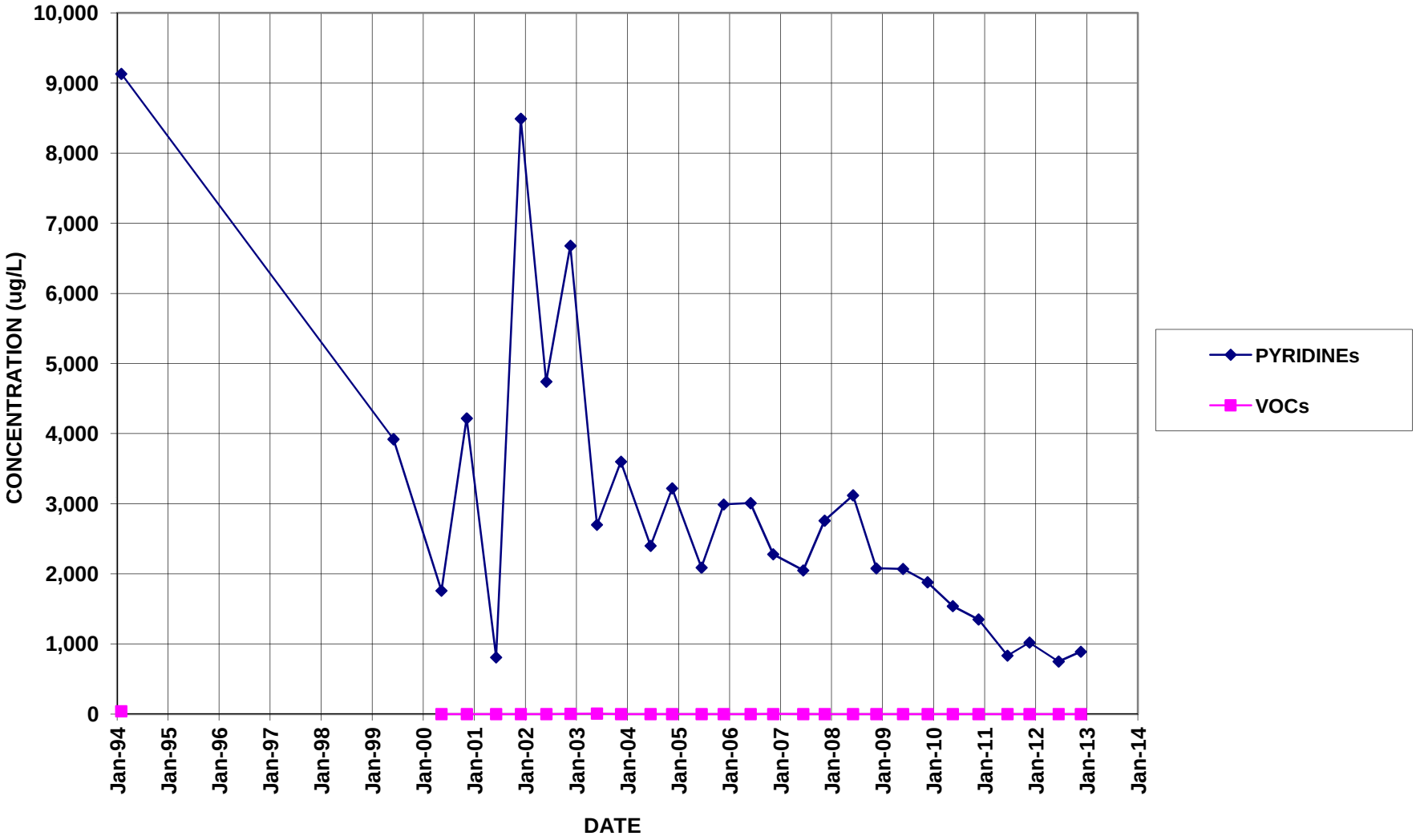
Prepared by: nmb
Reviewed by: jeb

PZ-103



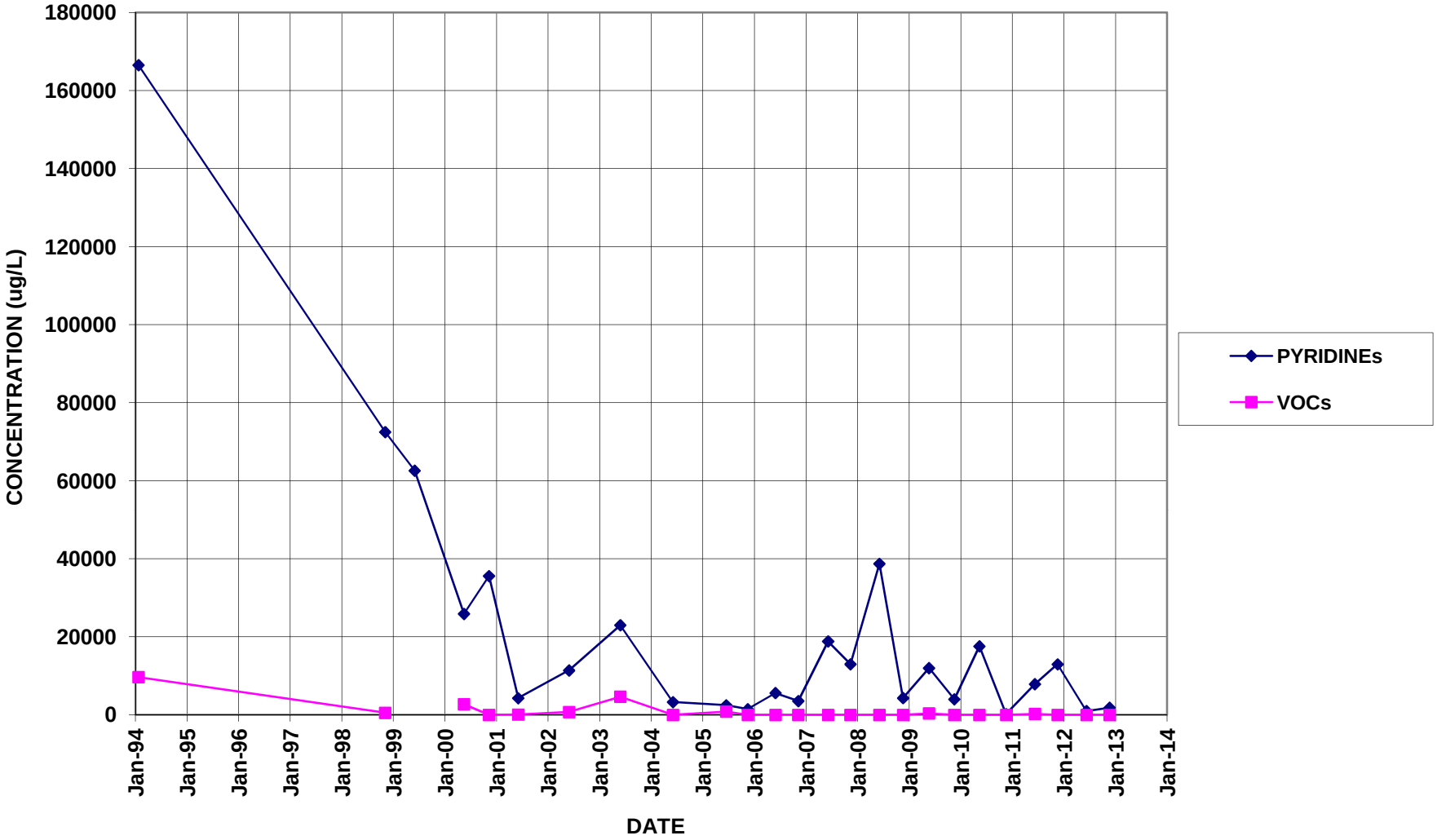
Prepared by: nmb
Reviewed by: jeb

PZ-104



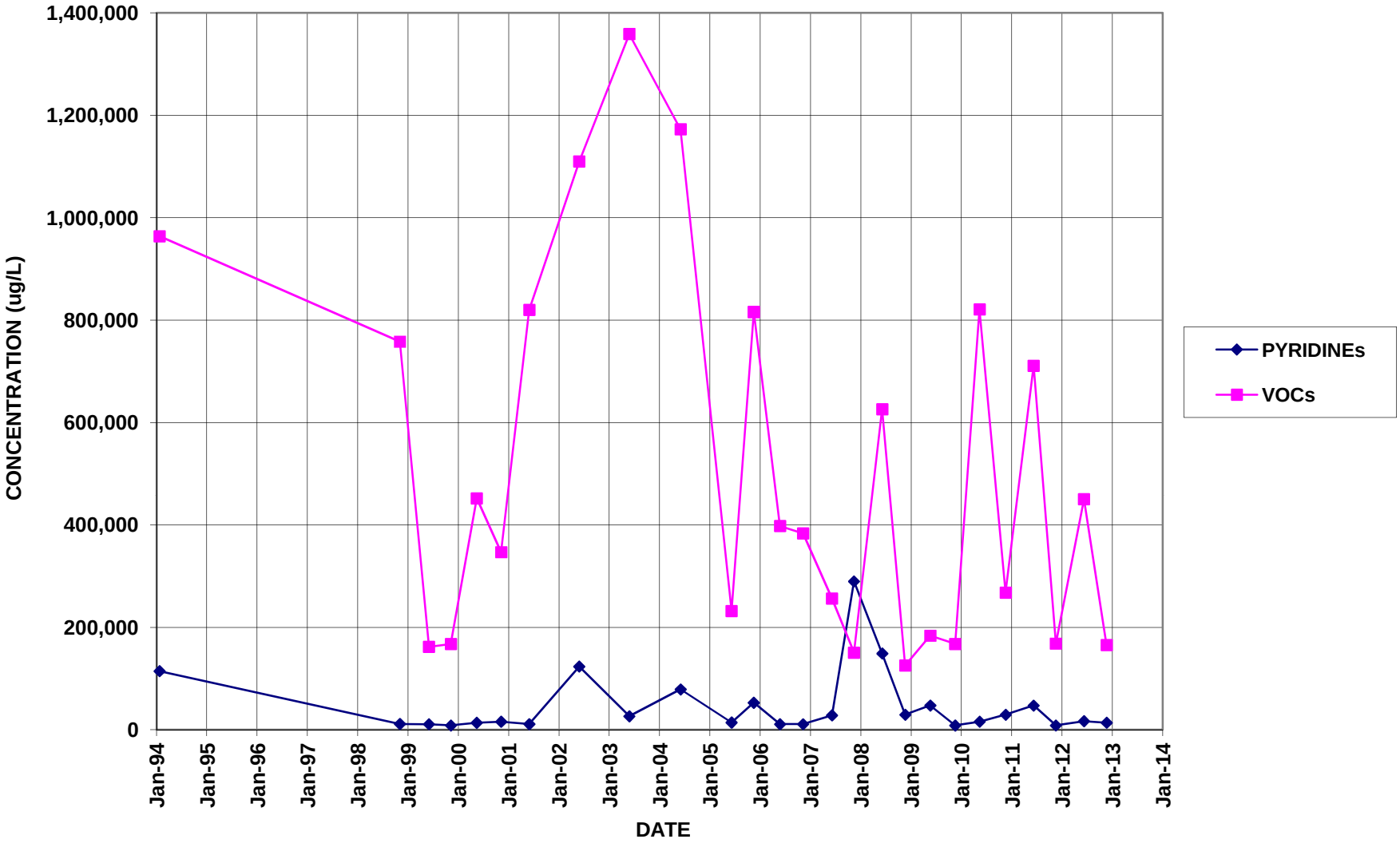
Prepared by: nmb
Reviewed by: jeb

PZ-105



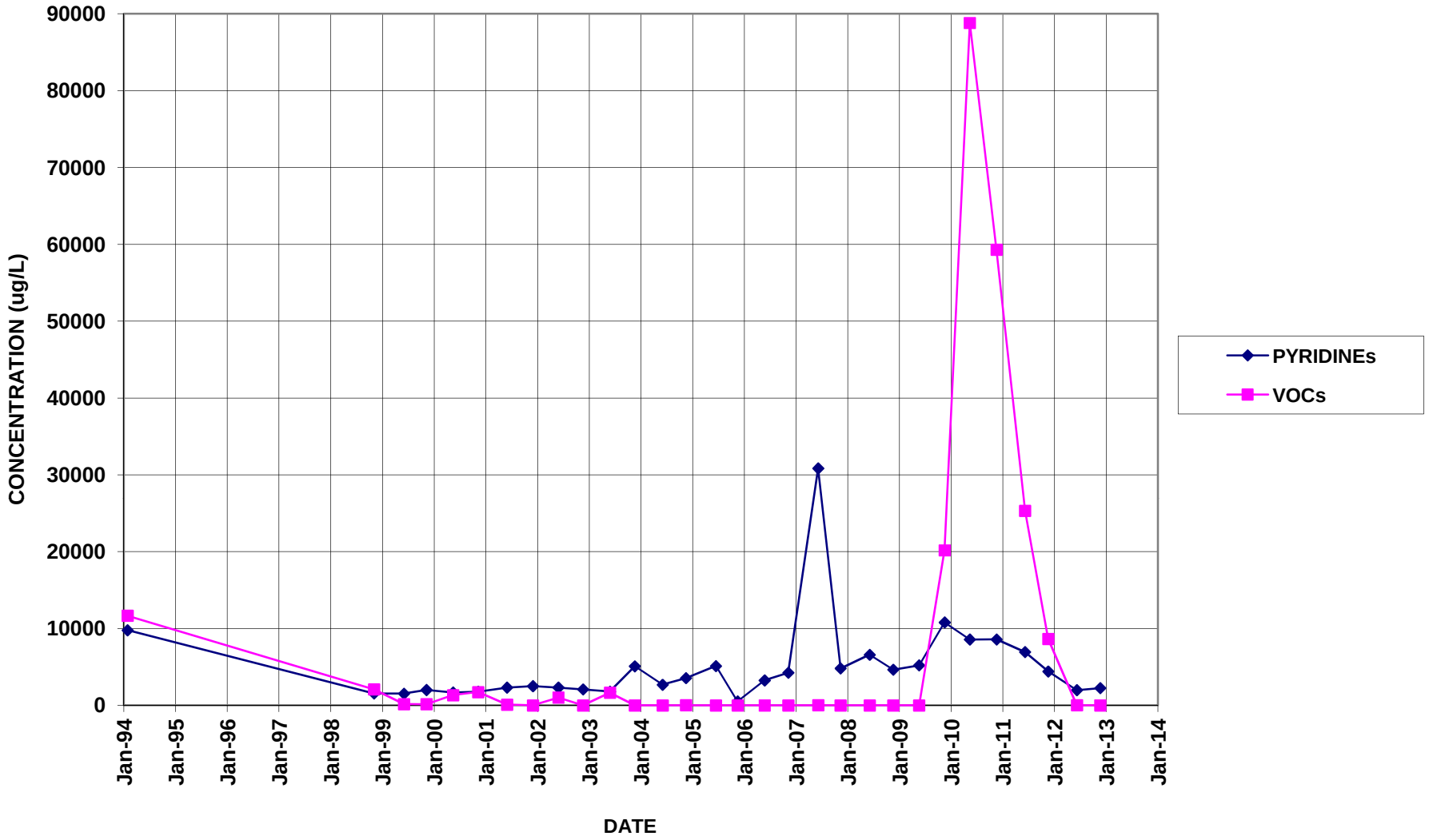
Prepared by: nmb
Reviewed by: jeb

PZ-106

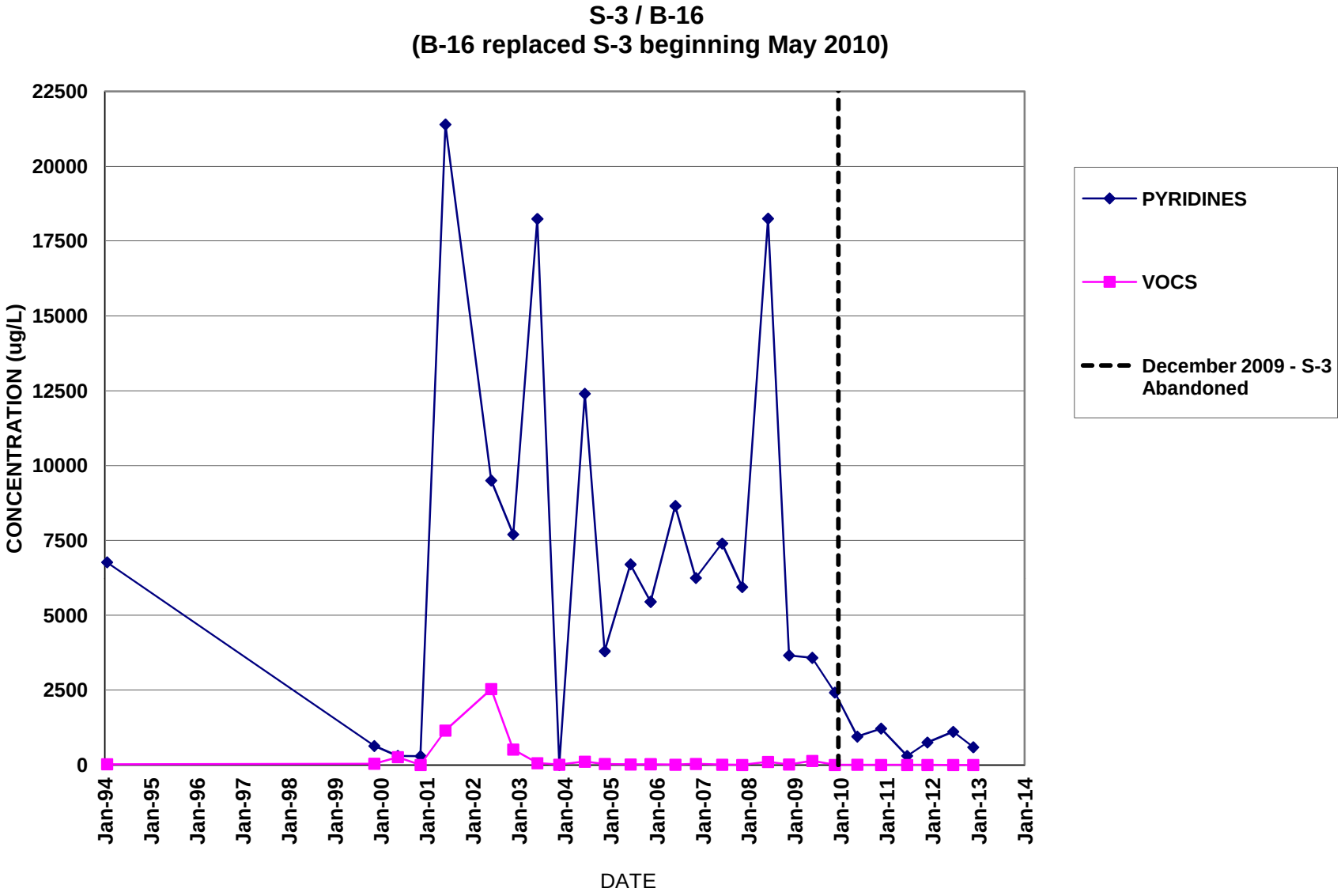


Prepared by: nmb
Reviewed by: jeb

PZ-107

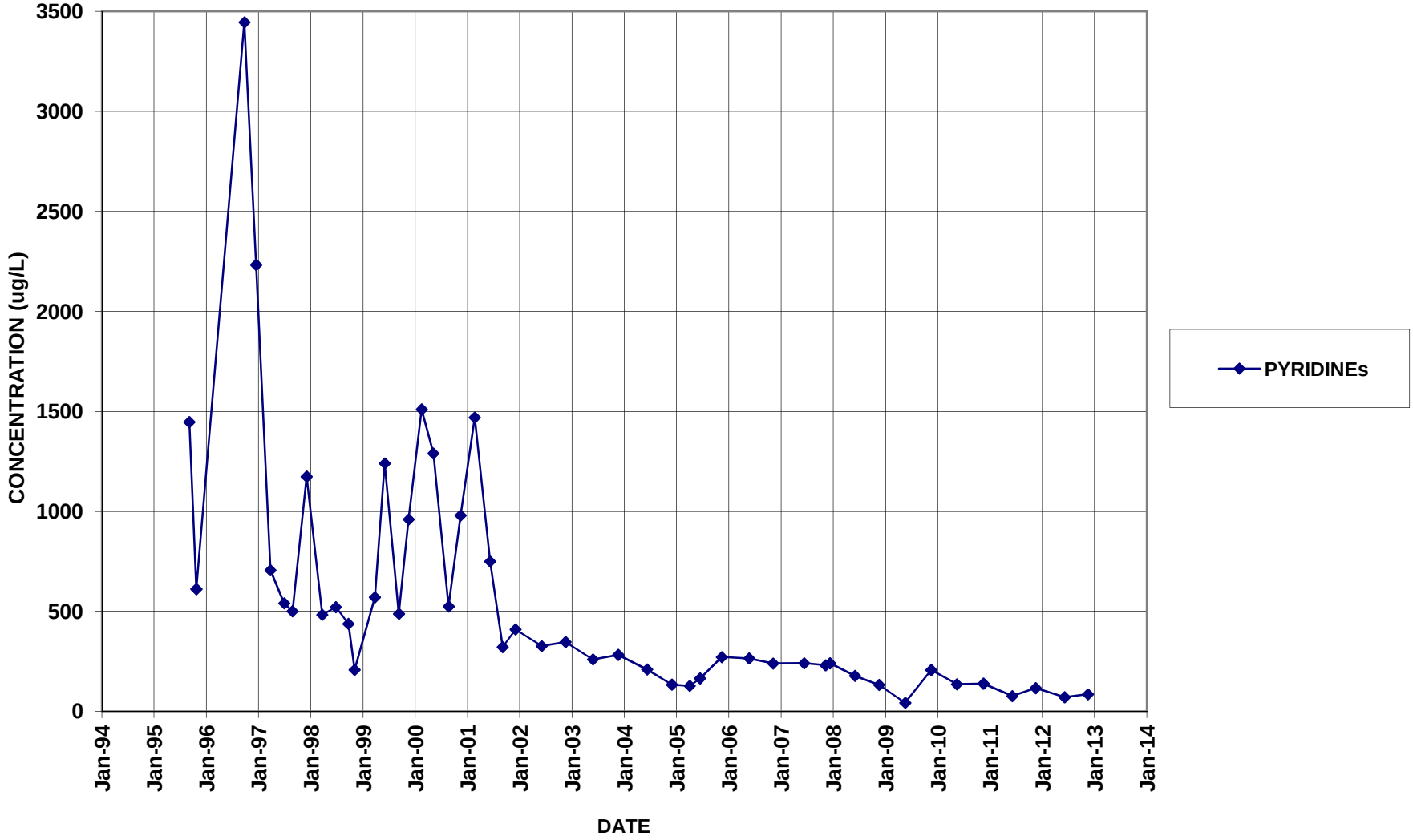


Prepared by: nmb
Reviewed by: jeb



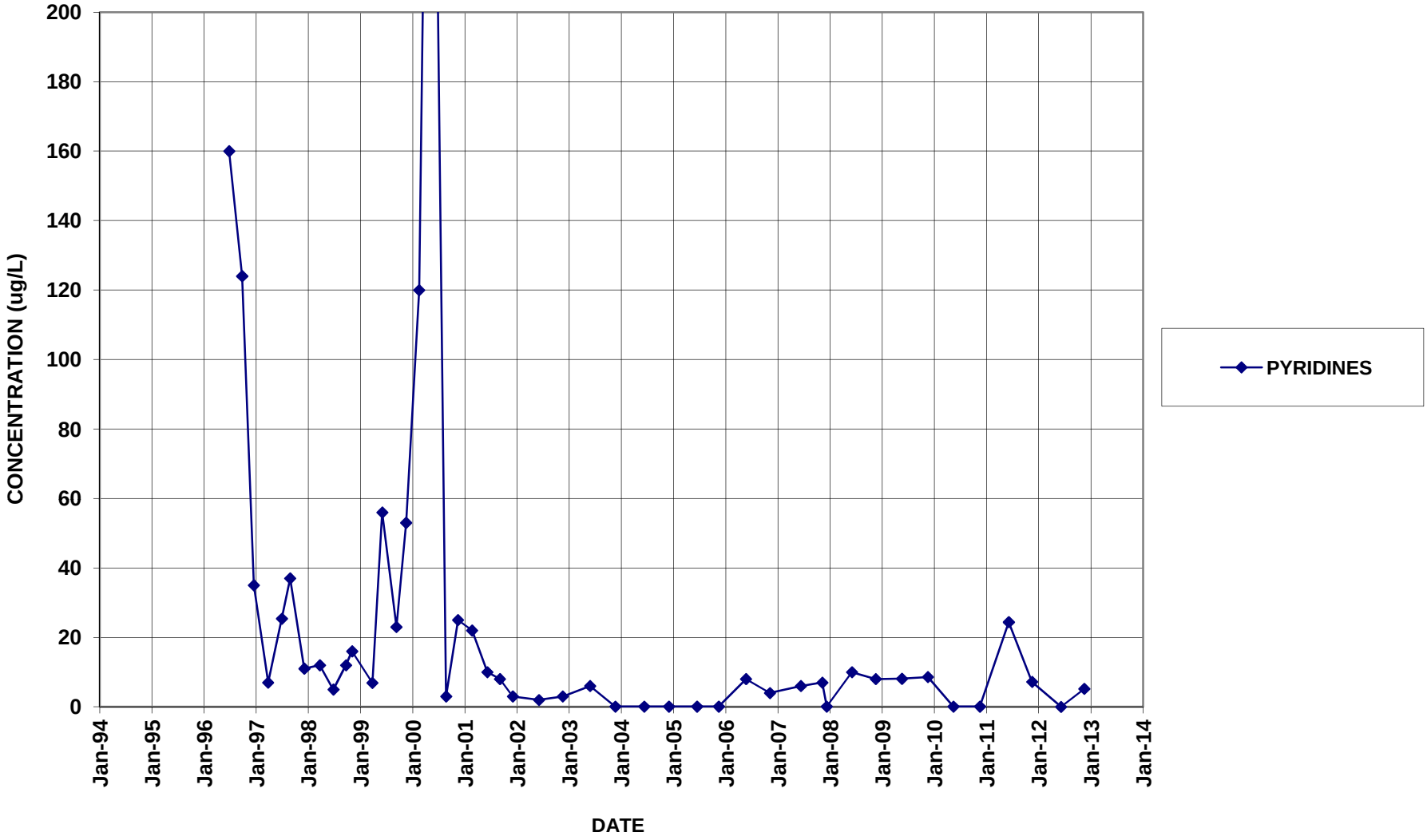
Prepared by: nmb
Reviewed by: jeb

QS-4 (QUARRY SEEP)



Prepared by: nmb
Reviewed by: jeb

QO-2 (QUARRY OUTFALL)



Prepared by: nmb
Reviewed by: jeb