SURFACE WATER AND GROUNDWATER MONITORING PROGRAM
FALL 2011 MONITORING REPORT

ARCH CHEMICALS
ROCHESTER PLANT SITE
ROCHESTER, NEW YORK

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

FEBRUARY 2012

SURFACE WATER AND GROUNDWATER MONITORING PROGRAM
FALL 2011 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 2012

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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 2011, samples from a total of 27 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. Nineteen of the 27 monitoring wells sampled for chloropyridines had contaminant concentrations that were at or below their respective 5-year prior averages. Twenty-two of the 25 monitoring wells sampled for volatile organic compounds had concentrations at or below their 5-year prior average. 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 in the two ditch samples at concentrations slightly above the prior 5-year averages for those locations, but 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 2011 through November 2011, the on-site groundwater extraction system pumped approximately 7.8 million gallons of groundwater to the on-site treatment system, containing an estimated 712 pounds of chloropyridines and 24 pounds of target volatile organic compounds. In general, system operation was quite stable throughout the monitoring period.

The next regular monitoring event will occur in May 2012 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 2011 sampling event included the collection and analysis of a total of 31 groundwater, surface water, and seep samples from off-site and on-site locations. Samples were collected November 17 through 22, 2011, for analysis of selected chloropyridines and volatile organic compounds (VOCs).

This report presents the results of the Fall 2011 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 17, 2011. 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 17, 2011. All quarry-related samples were analyzed for the Arch suite of selected chloropyridines. The quarry locations sampled during the Fall 2011 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 Organic 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.

Holding Times. Samples BR-6A and PZ-106 were initially analyzed for volatile organics within the holding times; however, the samples were analyzed at unnecessarily high dilutions that effectively diluted out reportable compounds. The samples were reanalyzed at lower dilutions 11 days after collection. Since all containers of both samples were found to be unpreserved upon receipt by the laboratory, a 7 day holding time was required. The reanalyses at proper dilutions occurred 4 days after expiration of the 7 day holding time for unpreserved samples. Positive and non-detected results for BR-6A and PZ-106 were qualified as estimated (J/UJ).

Miscellaneous. Samples from 24 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 2011 groundwater monitoring event are provided in Tables 2 and 3. Table 4 provides a comparison of the Fall 2011 analytical results for selected chloropyridines and VOCs in representative wells to mean concentrations of the prior five years (Fall 2006 through Spring 2011). 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 16 on-site wells sampled in the Fall 2011 event. Concentrations of chloropyridines ranged from 44 micrograms per liter (µg/L) (sum of all chloropyridine and pyridine isomer concentrations) in pumping well BR-9, to 140,000 µg/L in well PW-10. Five of the 16 on-site wells exhibited total chloropyridine concentrations that were above their respective means from monitoring events over the previous five years (BR-6A, PW-10, PW-13, PW-16, and PZ-105).

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 10 µg/L in well MW-16 on the former General Circuits property, to 15,000 µg/L in well PZ-103 located on the west side of McKee Road opposite pumping well PW-13. Three of the 11 off-site wells contained total chloropyridine concentrations above their respective 5-year prior means (MW-16, 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 data from previous sampling rounds.

3.1.2 Selected VOCs.

On-Site. Selected VOCs were detected in 13 of the 16 on-site wells sampled in the Fall 2011 event. Total concentrations of selected VOCs ranged from not detected (in wells MW-127, PW-13, and PW-16) to 170,000 µg/L in PZ-106 for the sum of the principal site-related contaminants (carbon tetrachloride, chloroform, methylene chloride, tetrachloroethene, and trichloroethene). Two of the 16 on-site wells (PW-10 and PW-12) contained concentrations of total VOCs above their 5-year prior means. At well PZ-107, the pronounced spike in VOC concentrations observed in late 2009 and early 2010 appears to be resolving, as concentrations have now declined significantly in the past three sampling events. A similar spike is now being observed in VOC concentrations at PW-12, and is believed to be caused by shifts in groundwater flow patterns as a result of the activation of new pumping well PW-16 in September 2010. Continued monitoring of PW-12 will confirm whether this increase is also transient in nature.

In addition to the selected VOCs, other notable constituents detected in on-site wells include toluene (in 12 out of 16 wells), chlorobenzene (11 of 16), benzene (11 of 16), carbon disulfide (11 of 16), 1,2-dichloroethene (9 of 16), vinyl chloride (6 of 16), total xylenes (4 of 16), ethylbenzene (3 of 16), bromoform (3 of 16), 1,1-dichloroethane (3 of 16), and acetone (2 of 16).

Off-Site. Selected VOCs were detected in three of the 10 off-site wells sampled for VOCs in the Fall 2011 event. Total concentrations of selected VOCs ranged from not detected (in BR-105, BR-106, BR-126, MW-106, PZ-102, PZ-103, and PZ-104) to 3 µg/L (in PZ-101). Only one of the 10 off-site wells (PZ-101) had selected VOC concentrations above its prior 5-year mean. In addition to the selected VOCs, other notable constituents detected in off-site wells include chlorobenzene (in all 10 wells), benzene (9 of 10), 1,1-dichloroethane (3 of 10), 1,2-dichloroethene (2 of 10), vinyl chloride (2 of 10), and carbon disulfide (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 data from previous sampling rounds.

3.2 SURFACE WATER

Results from the Fall 2011 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 2011 monitoring event. The sample contained 120 µg/L total chloropyridines, which is below its prior 5-year mean.

3.2.2 Quarry Discharge Ditch

Two locations within the quarry discharge ditch were sampled and analyzed for chloropyridines: QD-1, at the point where the quarry's dewatering discharge enters the ditch; and QO-2, at the location where the ditch discharges to the canal. Chloropyridine-related compounds were detected in the two samples at 7.7 µg/L and 7.2 µg/L, respectively. These results are slightly above the prior 5-year means for those two locations.

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 2011 through November 2011. The total volume pumped during the six-month period was approximately 7.8 million gallons. In general, system operation was quite stable throughout the monitoring period.

Table 7 provides a calculation of mass removal rates since the previous groundwater monitoring event (i.e., from June 2011 through November 2011). Arch estimates that approximately 24 pounds of target VOCs and 712 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.

Maintenance activity during this reporting period included pump and/or meter repairs at wells BR-7A, BR-9, PW-16 and BR-127.

5.0 NEXT MONITORING EVENT

The next regular monitoring event will occur in May 2012 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

amec

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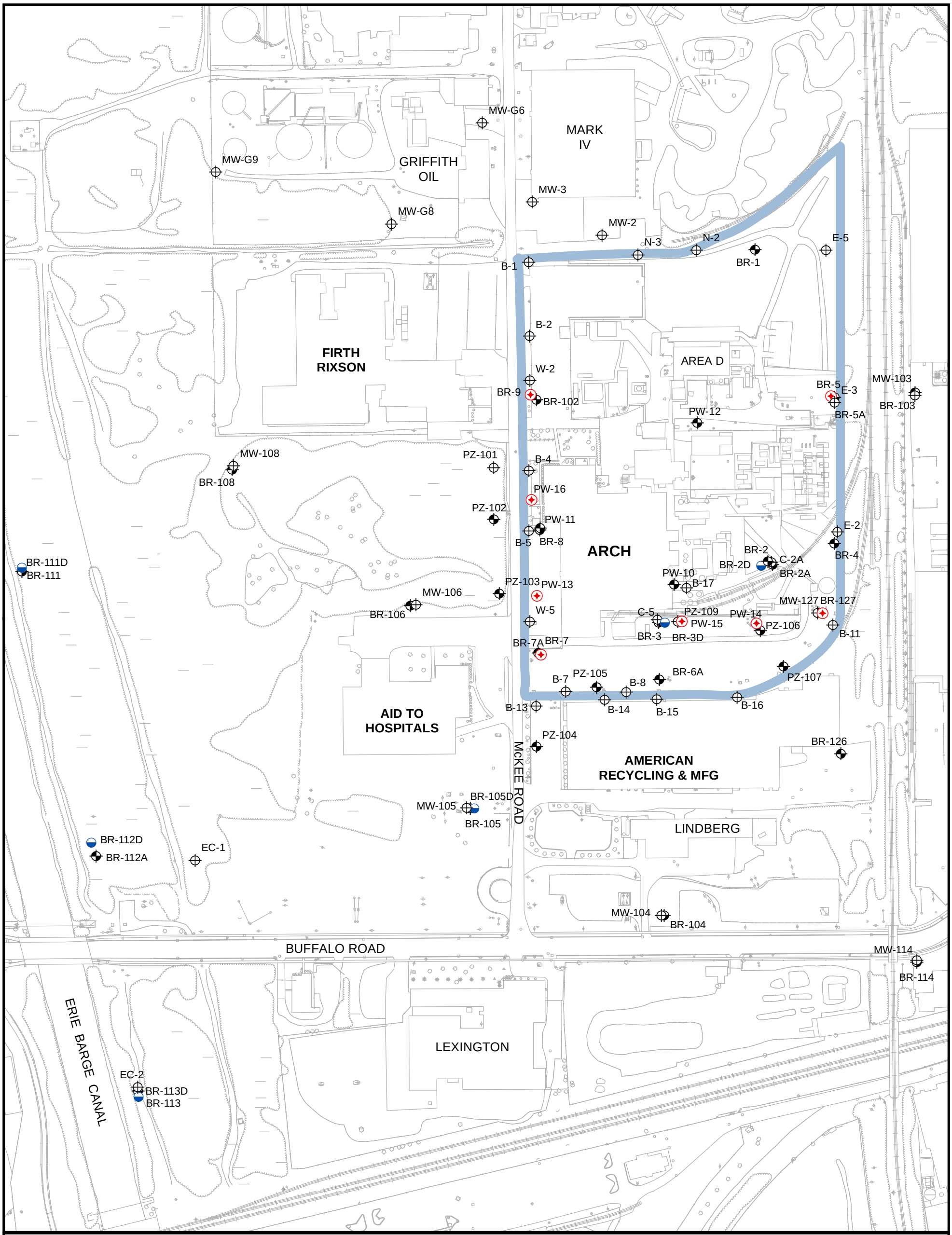

NOTES:

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

N

0 100 200 400 Feet

Legend

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

Figure 2
Onsite Monitoring Well Locations

Arch Chemicals
Rochester, NY

Prepared by JEB	Checked by NMB

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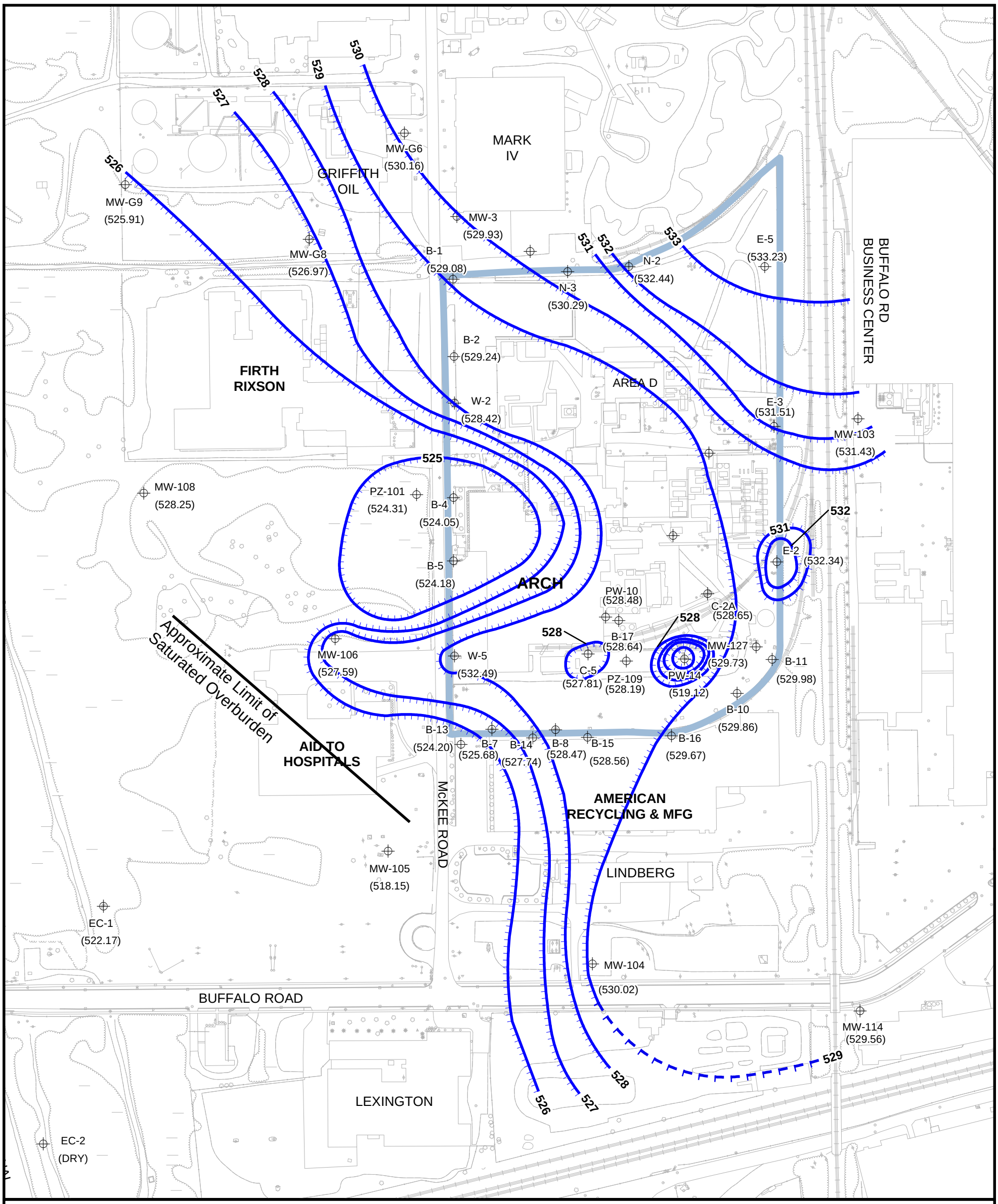

Legend

- Outline of Arch Property Boundary
- 528 — Overburden Piezometric Elevation Contour (MSL)
- Interpreted Groundwater Flow Direction
- MW-114 (529.56) — Piezometric Elevation at Well or Piezometer

N

0 100 200 400 Feet

NOTES:

1. Water Levels Measured on November 17, 2011
2. NA = Not Available
3. Dashed Contours Reflect Uncertainty

Figure 3
Fall 2011
Overburden Groundwater
Interpreted Piezometric Contours

Arch Chemicals
Rochester, NY

Prepared/Date: MJW 01/10/12 | Checked/Date: NMB 01/10/12

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MARK IV

GRIFFITH OIL

BUFFALO RD BUSINESS CENTER

FIRTH RIXSON

AREA D

ARCH

AID TO HOSPITALS

AMERICAN RECYCLING & MFG

LINDBERG

LEXINGTON

N/F GENERAL CIRCUITS

N/F JACKSON

McKEE ROAD

BUFFALO ROAD

ERIE BARGE CANAL

BR-1 (529.86)

BR-9 (518.03)

BR-102 (516.64)

BR-108 (512.47)

PW16 (524.14)

PZ-102 (523.22)

BR-8 (524.36)

PZ-103 (524.31)

PW-13 (513.83)

BR-111 (511.39)

BR-106 (514.39)

BR-7 (516.14)

BR-7A (520.15)

PZ-105 (525.72)

BR-6A (527.94)

PZ-104 (522.41)

BR-105 (514.56)

BR-112A (520.01)

EC-1 (522.17)

CANAL (512.14)

BR-113 (511.94)

NESS-W (511.79)

NESS-E (516.33)

PW12 (531.04)

PW10 (528.48)

BR-3 (528.14)

PW-14 (519.12)

PW-15 (519.81)

BR-2A (529.58)

PZ-106 (526.35)

BR-4 (532.00)

BR-127 (526.68)

PZ-107 (528.20)

BR-126 (529.27)

BR-104 (526.47)

BR-5A (518.44)

BR-5 (524.50)

BR-103 (527.99)

BR-114 (525.66)

MW-16 (524.93)

520

524

526

528

530

512

516

N

0 100 200 400 Feet

NOTES:

1. Water Levels Measured on November 17, 2011
2. Dashed Contours Reflect Uncertainty
3. NA = Not Available

Legend

BR-112A (520.01) — Piezometric Elevation at Well or Piezometer (Feet MSL)

CANAL (512.14) — Piezometric Elevation at Surface Water Measuring Point

Interpreted Groundwater Flow Direction

530 — Bedrock Piezometric Elevation Contour (MSL)

Figure 4
Fall 2011
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 (509.99) — Piezometric Elevation at Deep Bedrock Well

NOTES
1. Water Levels Measured on November 17, 2011
2. Dashed Contours Reflect Uncertainty

N

0 250 500 1,000 Feet

Prepared/Date: MJW 01/11/12 | Checked/Date: NMB 01/11/12

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

BR-9
BR-103
BR-108
BR-111D (511.69)
BR-111
BR-106
BR-3D (481.02)
BR-112D (511.87)
BR-112
BR-105
BR-105D (511.26)
BR-104
BR-114
BR-113
BR-113D (511.89)
BR-122D (507.40)
BR-117D (497.74)
BR-117
BR-118
BR-118D (499.59)
BR-116D (509.99)
BR-116
BR-123D (508.47)
BR-124D (506.12)

496 498 500 502 504 506 508 510

Figure 5
Fall 2011
Deep Bedrock Groundwater
Interpreted Piezometric Contours

Arch Chemicals
Rochester, NY

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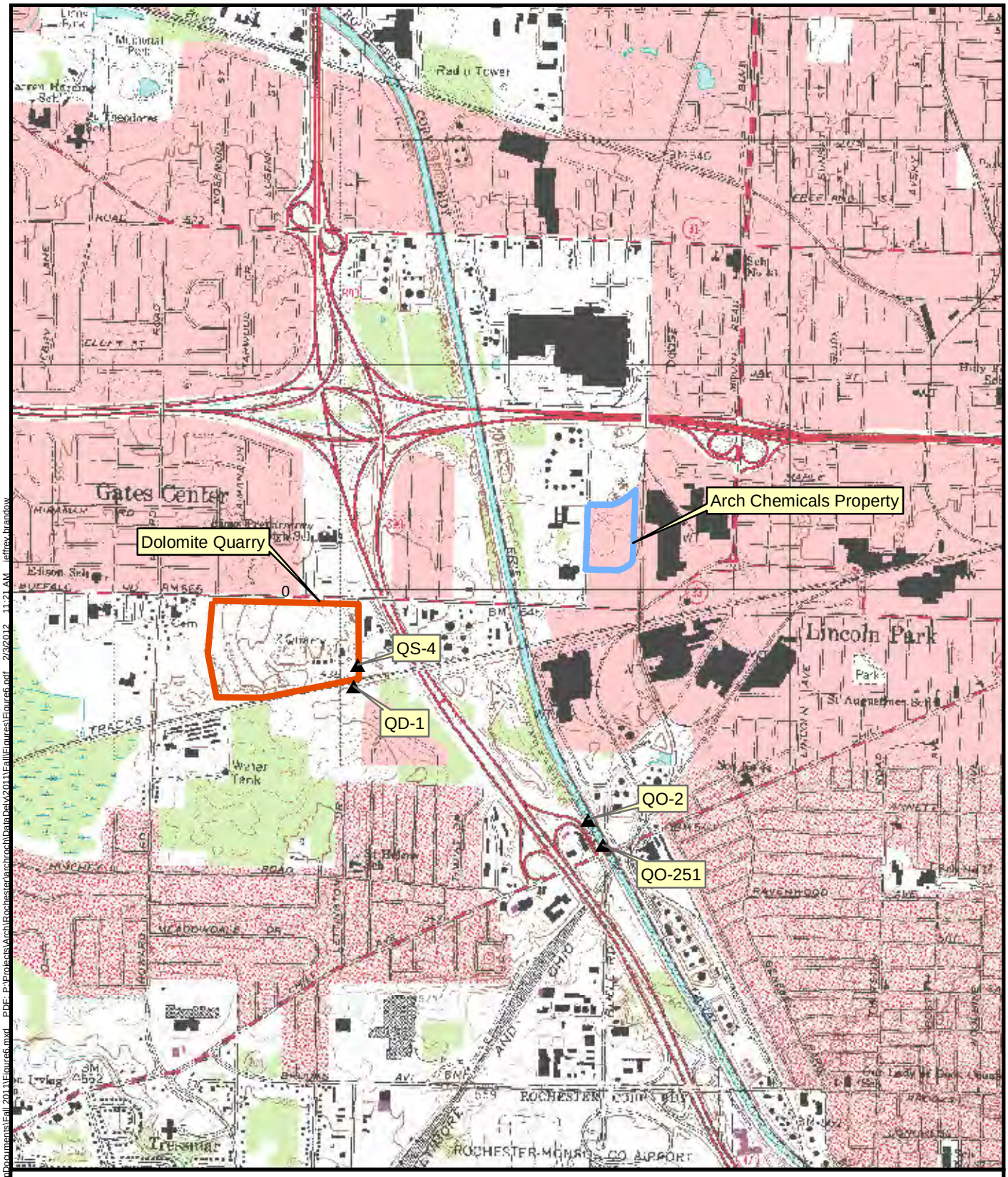

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1:24,000 scale digital topographic map
obtained from New York State GIS
Clearinghouse at: www.nysgis.state.ny.us

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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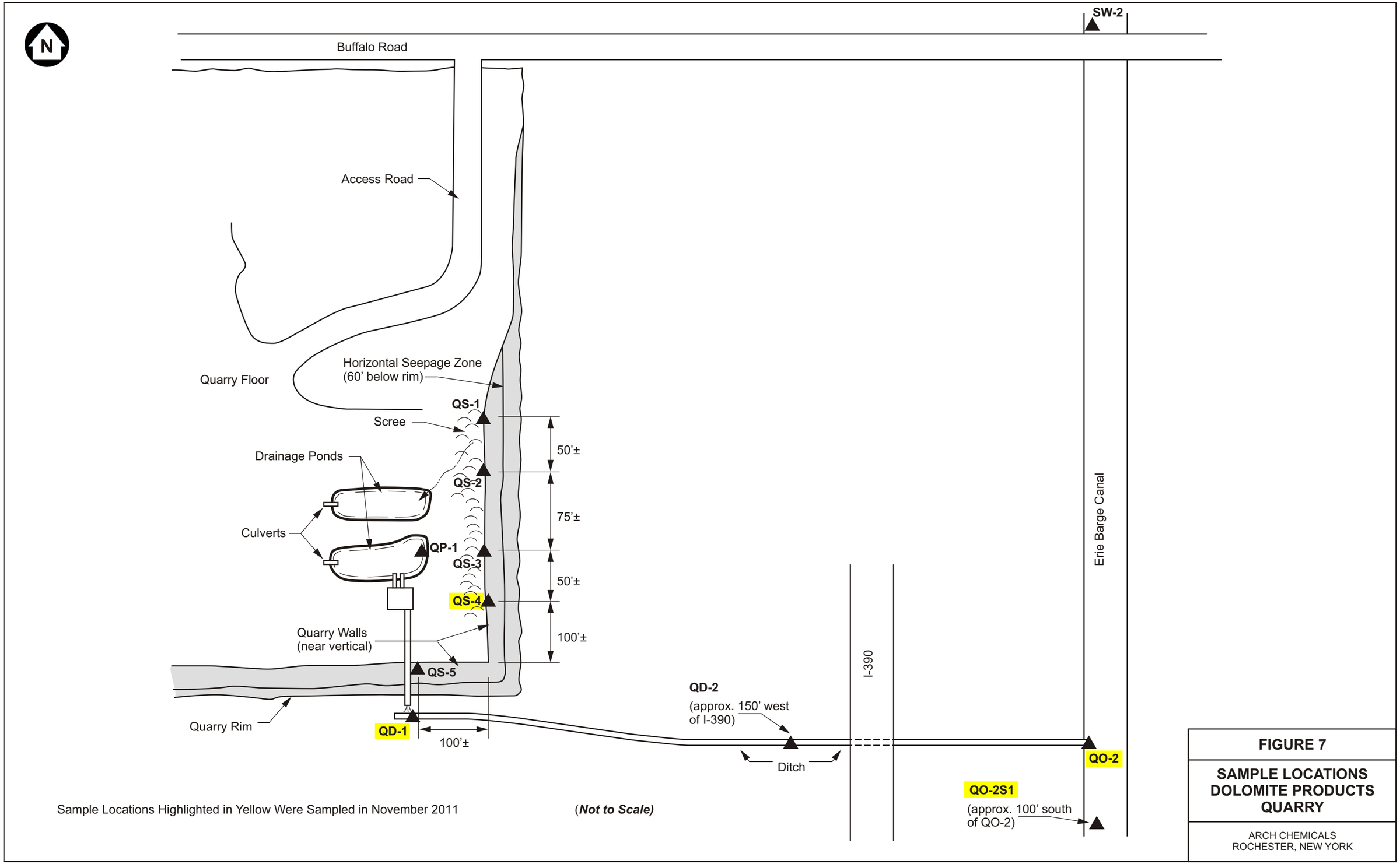

FIGURE 7

SAMPLE LOCATIONS
DOLOMITE PRODUCTS QUARRY

ARCH CHEMICALS
ROCHESTER, NEW YORK

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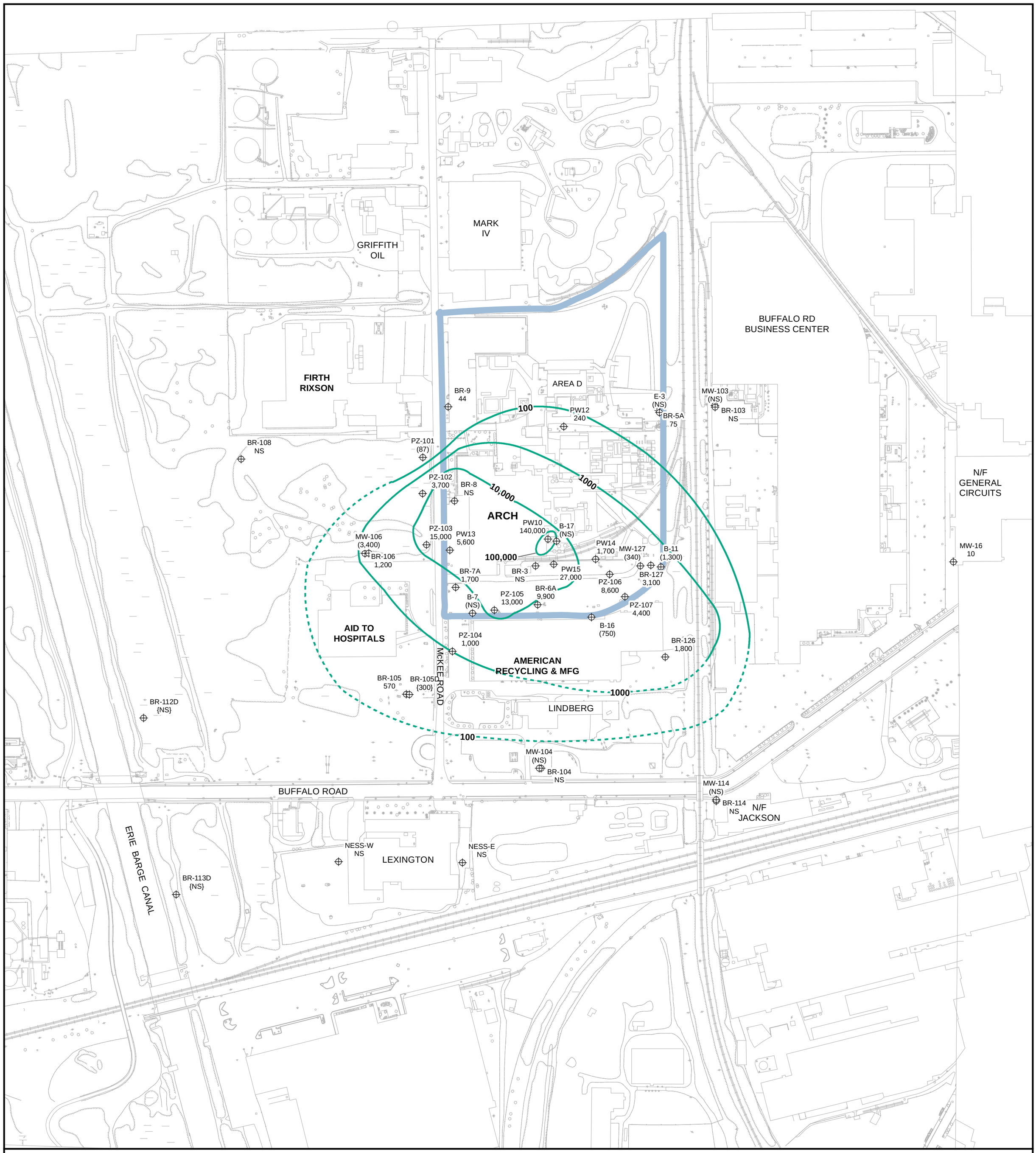

Legend

- 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

Prepared by DBW | Checked by NMB

NOTES:

1. Samples Collected November, 2011
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 2011
Selected Chloropyridine Concentration Contours

Arch Chemicals
Rochester, NY

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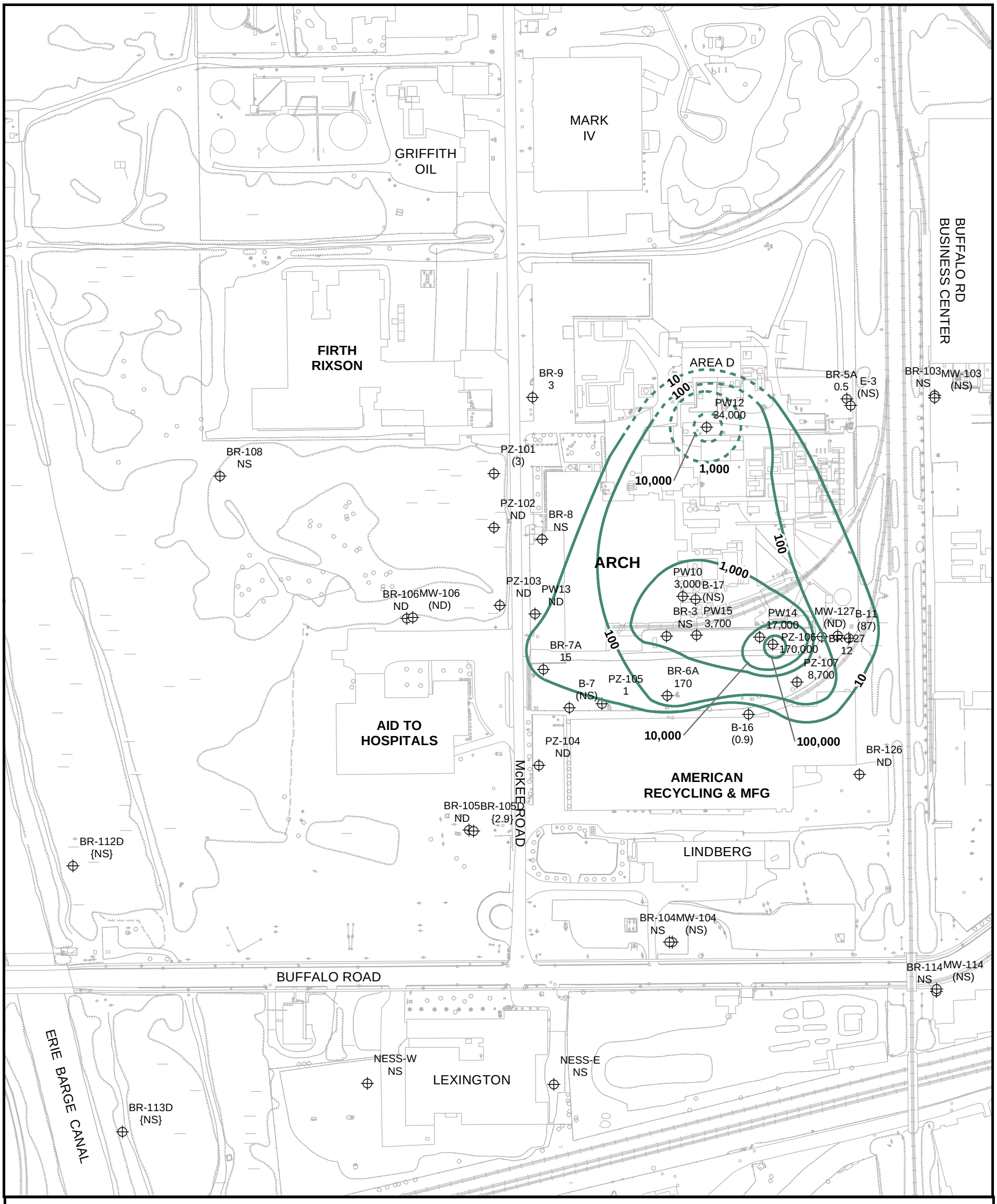

Legend

- 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 by DBW | Checked by NMB

NOTES:

1. Samples Collected in November, 2011
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 2011
Selected Volatile Organic Compound Concentration Contours

Arch Chemicals
Rochester, NY

amec

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Tables

TABLE 1
FALL 2011 GROUNDWATER SAMPLING AND ANALYTICAL PROGRAM

ARCH CHEMICALS, INC
ROCHESTER, NEW YORK

			ANALYSIS	Chloropyridines	Selected VOCs
SITE / AREA	**WELL / POINT**	**Sample Date**	**QC TYPE**	**Sampled**	**Sampled**
AID TO HOSPITALS	BR-106	11/18/2011	Sample	X	X
	MW-106	11/18/2011	Sample	X	X
	PZ-101	11/22/2011	Sample	X	X
	PZ-102	11/22/2011	Sample	X	X
	PZ-103	11/22/2011	Sample	X	X
AMERICAN RECYCLING & MANUF. (58 MCKEE ROAD)	B-16	11/22/2011	Sample	X	X
	BR-126	11/22/2011	Duplicate	X	X
	BR-126	11/22/2011	Sample	X	X
	PZ-104	11/18/2011	Sample	X	X
ARCH ROCHESTER	B-11	11/18/2011	Sample	X	X
	BR-127	11/21/2011	Sample	X	X
	BR-5A	11/21/2011	Sample	X	X
	BR-6A	11/18/2011	Sample	X	X
	BR-7A	11/21/2011	Sample	X	X
	BR-9	11/21/2011	Sample	X	X
	MW-127	11/21/2011	Sample	X	X
	MW-16	11/17/2011	Sample	X	
	PW10	11/18/2011	Sample	X	X
	PW12	11/21/2011	Sample	X	X
	PW13	11/21/2011	Sample	X	X
	PW14	11/21/2011	Sample	X	X
	PW15	11/21/2011	Sample	X	X
	PW16	11/21/2011	Sample	X	X
	PZ-105	11/18/2011	Sample	X	X
	PZ-106	11/18/2011	Sample	X	X
	PZ-107	11/18/2011	Sample	X	X
DOLOMITE PRODUCTS, INC.	QD-1	11/17/2011	Sample	X	
	QS-4	11/17/2011	Sample	X	
ERIE BARGE CANAL (Samples in canal or property along canal)	QO-2	11/17/2011	Sample	X	
	QO-2S1	11/17/2011	Sample	X	
RG & E RIGHT OF WAY	BR-105	11/18/2011	Sample	X	X
	BR-105D	11/18/2011	Sample	X	X

TABLE 2
FALL 2011 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	B-11	B-16	BR-105	BR-105D	BR-106	BR-126	BR-126	BR-127	BR-5A	BR-6A
SAMPLE DATE:	11/18/2011	11/22/2011	11/18/2011	11/18/2011	11/18/2011	11/22/2011	11/22/2011	11/21/2011	11/21/2011	11/18/2011
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Duplicate	Sample	Sample	Sample
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270C (µg/L)										
2,6-Dichloropyridine	450	390	96	34 J	240	440	410	390	22	1400
2-Chloropyridine	800	360	470	240	990	1400	1400	2600	53	8200
3-Chloropyridine	60 U	47 U	50 U	17 J	100 U	200 U	100 U	120 J	9.4 U	280
4-Chloropyridine	60 U	47 U	50 U	50 U	100 U	200 U	100 U	250 U	9.4 U	100 U
p-Fluoroaniline	60 U	47 U	50 U	13 J	15 J	200 U	100 U	250 U	9.4 U	14 J
Pyridine	150 U	120 U	130 U	130 U	250 U	500 U	250 U	630 U	24 U	10 J

Notes:

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

J = Estimated value

µg/L = micrograms per liter

TABLE 2
FALL 2011 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:	11/21/2011	11/21/2011	11/18/2011	11/21/2011	11/17/2011	11/18/2011	11/21/2011	11/21/2011	11/21/2011	11/21/2011
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270C (µg/L)										
2,6-Dichloropyridine	1000 U	11 J	1100	300	2.2 J	14000	110	610 J	330	1500 J
2-Chloropyridine	1700	33 J	2200	42 J	8.1 J	120000	130	5000	1300	24000
3-Chloropyridine	1000 U	47 U	24 J	100 U	9.4 U	5900 J	100 U	1000 U	38 J	5000 U
4-Chloropyridine	1000 U	47 U	100 U	100 U	9.4 U	10000 U	100 U	1000 U	100 U	5000 U
p-Fluoroaniline	1000 U	47 U	88 J	100 U	9.4 U	10000 U	100 U	1000 U	14 J	5000 U
Pyridine	2500 U	120 U	250 U	250 U	24 U	1400 J	250 U	2500 U	31 J	1600 J

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

TABLE 2
FALL 2011 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	PW16	PZ-101	PZ-102	PZ-103	PZ-104	PZ-105	PZ-106	PZ-107
SAMPLE DATE:	11/21/2011	11/22/2011	11/22/2011	11/22/2011	11/18/2011	11/18/2011	11/18/2011	11/18/2011
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270C (µg/L)								
2,6-Dichloropyridine	1700 J	32	450	1500 J	210	1900	1900	740
2-Chloropyridine	13000	54	3200	13000	810	11000	6600	3600
3-Chloropyridine	2500 U	9.5 U	250 U	2500 U	100 U	500 U	1000 U	59 J
4-Chloropyridine	2500 U	9.5 U	250 U	2500 U	100 U	500 U	1000 U	100 U
p-Fluoroaniline	2500 U	1.2 J	250 U	2500 U	100 U	86 J	1000 U	12 J
Pyridine	6300 U	24 U	630 U	6300 U	250 U	1300 U	110 J	20 J

Notes:

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

J = Estimated value

µg/L = micrograms per liter

TABLE 3
FALL 2011 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-126	BR-127	BR-5A	BR-6A
SAMPLE DATE:	11/18/2011	11/22/2011	11/18/2011	11/18/2011	11/18/2011	11/22/2011	11/22/2011	11/21/2011	11/21/2011	11/18/2011
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Duplicate	Sample	Sample	Sample	Sample
VOCs BY SW-846 Method 8260/5ML (µg/L)										
1,1,1-Trichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	2 UJ
1,1,2,2-Tetrachloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	2 UJ
1,1,2-Trichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	2 UJ
1,1-Dichloroethane	5 U	5 U	0.49 J	2.1 J	0.83 J	5 U	5 U	5 U	5 U	2 UJ
1,1-Dichloroethene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	2 UJ
1,2,4-Trimethylbenzene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	2 UJ
1,2-Dichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	2 UJ
1,2-Dichloroethene (total)	10 U	10 U	33	8 J	10 U	10 U	10 U	7.3 J	4.4 J	8.4 J
1,2-Dichloropropane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	2 UJ
1,3,5-Trimethylbenzene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	2 UJ
2-Butanone	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	20 UJ
2-Hexanone	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	10 UJ
4-Methyl-2-pentanone	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	10 UJ
Acetone	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	20 UJ
Benzene	5 U	0.47 J	1.4 J	4.8 J	4 J	2.7 J	2.4 J	2.4 J	4 J	2.5 J
Bromodichloromethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	2 UJ
Bromoform	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	2 UJ
Bromomethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	2 UJ
Carbon disulfide	5 U	5 U	5 U	0.54 J	5 U	5 U	5 U	1.6 J	1.2 J	2 UJ
Carbon tetrachloride	7	0.45 J	5 U	5 U	5 U	0.43 J	5 U	3.4 J	5 U	2 UJ
Chlorobenzene	5 U	5.6	4.2 J	1.5 J	43	6.8	6.4	3.7 J	14	6.4 J
Chlorodibromomethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	2 UJ
Chloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	2 UJ
Chloroform	66	5 U	5 U	1.8 J	5 U	5 U	5 U	3.1 J	5 U	140 J
Chloromethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	7.5 J
cis-1,3-Dichloropropene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	2 UJ
Ethyl benzene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	1.1 J	5 U	2 UJ
Methylene chloride	9.1	5 U	5 U	1.1 J	5 U	5 U	5 U	5 U	5 U	13 J
Styrene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	2 UJ
Tetrachloroethene	4.4 J	0.45 J	5 U	5 U	5 U	5 U	5 U	1.7 J	5 U	7.5 J
Toluene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	1.5 J	1.6 J	14 J
trans-1,3-Dichloropropene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	2 UJ
Trichloroethene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	3.3 J	0.53 J	14 J
Vinyl acetate	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	10 UJ
Vinyl chloride	5 U	5 U	17	5 U	2.2 J	5 U	5 U	5.7	5 U	13 J
Xylenes, Total	15 U	15 U	15 U	15 U	15 U	15 U	15 U	1.2 J	15 U	4 UJ

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

TABLE 3
FALL 2011 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:	11/21/2011	11/21/2011	11/18/2011	11/21/2011	11/18/2011	11/21/2011	11/21/2011	11/21/2011	11/21/2011	11/21/2011
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
VOCs BY SW-846 Method 8260/5ML (µg/L)										
1,1,1-Trichloroethane	5 U	2.2 J	5 U	5 U	20 U	500 U	2 U	8 U	50 U	5 U
1,1,2,2-Tetrachloroethane	5 U	5 U	5 U	5 U	20 U	500 U	2 U	8 U	50 U	5 U
1,1,2-Trichloroethane	5 U	5 U	5 U	5 U	20 U	500 U	2 U	8 U	50 U	5 U
1,1-Dichloroethane	2.4 J	12	5 U	5 U	20 U	500 U	2.1	8 U	50 U	5 U
1,1-Dichloroethene	5 U	2.7 J	5 U	5 U	20 U	500 U	2 U	8 U	50 U	5 U
1,2,4-Trimethylbenzene	5 U	5 U	5 U	5 U	20 U	500 U	2 U	8 U	50 U	0.86 J
1,2-Dichloroethane	5 U	5 U	5 U	5 U	20 U	500 U	2 U	8 U	50 U	4 J
1,2-Dichloroethene (total)	1.6 J	270	10 U	10 U	40 U	1000 U	4.1	20	100 U	0.92 J
1,2-Dichloropropane	5 U	5 U	5 U	5 U	20 U	500 U	2 U	8 U	50 U	5 U
1,3,5-Trimethylbenzene	5 U	5 U	5 U	5 U	20 U	500 U	2 U	8 U	50 U	5 U
2-Butanone	25 U	25 U	25 U	25 U	200 U	2500 U	20 U	80 U	500 U	25 U
2-Hexanone	25 U	25 U	25 U	25 U	100 U	2500 U	10 U	40 U	250 U	25 U
4-Methyl-2-pentanone	25 U	25 U	25 U	25 U	100 U	2500 U	10 U	40 U	250 U	25 U
Acetone	25 U	4.5 J	25 U	25 U	160 J	2500 U	20 U	80 U	500 U	25 U
Benzene	5	59	9.2	5 U	26	500 U	8.4	6.2 J	47 J	16
Bromodichloromethane	5 U	5 U	5 U	5 U	20 U	500 U	2 U	8 U	50 U	5 U
Bromoform	5 U	5 U	5 U	5 U	43	500 U	2 U	7.5 J	50 U	5 U
Bromomethane	5 U	5 U	5 U	5 U	20 U	500 U	2 U	8 U	50 U	5 U
Carbon disulfide	7.9	0.98 J	5 U	5 U	32	1900	2 U	1500	230	0.98 J
Carbon tetrachloride	3.2 J	5 U	5 U	5 U	20 U	14000	2 U	2600	140	5 U
Chlorobenzene	96	5.5	120	5 U	120	1400	170	8 U	77	890
Chlorodibromomethane	5 U	5 U	5 U	5 U	20 U	500 U	2 U	8 U	50 U	5 U
Chloroethane	5 U	5 U	5 U	5 U	20 U	500 U	2 U	8 U	50 U	5 U
Chloroform	5	5 U	5 U	5 U	1700	19000	2 U	13000	2900	5 U
Chloromethane	5 U	5 U	5 U	5 U	20 U	500 U	2 U	8 U	50 U	5 U
cis-1,3-Dichloropropene	5 U	5 U	5 U	5 U	20 U	500 U	2 U	8 U	50 U	5 U
Ethyl benzene	5 U	2.3 J	5 U	5 U	20 U	180 J	2 U	8 U	50 U	5 U
Methylene chloride	5.2	5 U	5 U	5 U	880	320 J	2 U	1600	140	5 U
Styrene	5 U	5 U	5 U	5 U	20 U	500 U	2 U	8 U	50 U	5 U
Tetrachloroethene	0.69 J	5 U	5 U	5 U	390	490 J	2 U	97	490	5 U
Toluene	0.69 J	2 J	5 U	5 U	170	1700	1.5 J	9.9	210	8.4
trans-1,3-Dichloropropene	5 U	5 U	5 U	5 U	20 U	500 U	2 U	8 U	50 U	5 U
Trichloroethene	0.74 J	2.6 J	5 U	5 U	24	500 U	2 U	31	47 J	5 U
Vinyl acetate	25 U	25 U	25 U	25 U	100 U	2500 U	10 U	40 U	250 U	25 U
Vinyl chloride	5.4	190	5 U	5 U	20 U	500 U	11	28	50 U	5 U
Xylenes, Total	15 U	2.3 J	15 U	15 U	40 U	1100 J	4 U	16 U	100 U	3.2 J

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

TABLE 3
FALL 2011 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	PZ-101	PZ-102	PZ-103	PZ-104	PZ-105	PZ-106	PZ-107
SAMPLE DATE:	11/22/2011	11/22/2011	11/22/2011	11/18/2011	11/18/2011	11/18/2011	11/18/2011
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample
VOCs BY SW-846 Method 8260/5ML (µg/L)							
1,1,1-Trichloroethane	5 U	25 U	50 U	5 U	5 U	2000 UJ	500 U
1,1,2,2-Tetrachloroethane	5 U	25 U	50 U	5 U	5 U	2000 UJ	500 U
1,1,2-Trichloroethane	5 U	25 U	50 U	5 U	5 U	2000 UJ	500 U
1,1-Dichloroethane	5 U	25 U	50 U	5 U	5 U	2000 UJ	500 U
1,1-Dichloroethene	5 U	25 U	50 U	5 U	5 U	2000 UJ	500 U
1,2,4-Trimethylbenzene	5 U	25 U	50 U	5 U	5 U	2000 UJ	500 U
1,2-Dichloroethane	5 U	25 U	50 U	5 U	5 U	2000 UJ	500 U
1,2-Dichloroethene (total)	10 U	50 U	100 U	10 U	1.1 J	4000 UJ	1000 U
1,2-Dichloropropane	5 U	25 U	50 U	5 U	5 U	2000 UJ	500 U
1,3,5-Trimethylbenzene	5 U	25 U	50 U	5 U	5 U	2000 UJ	500 U
2-Butanone	25 U	130 U	250 U	25 U	25 U	20000 UJ	2500 U
2-Hexanone	25 U	130 U	250 U	25 U	25 U	10000 UJ	2500 U
4-Methyl-2-pentanone	25 U	130 U	250 U	25 U	25 U	10000 UJ	2500 U
Acetone	4.2 J	130 U	250 U	25 U	25 U	20000 UJ	2500 U
Benzene	5 U	18 J	35 J	1.1 J	15	2000 UJ	500 U
Bromodichloromethane	5 U	25 U	50 U	5 U	5 U	2000 UJ	500 U
Bromoform	5 U	25 U	50 U	5 U	5 U	970 J	500 U
Bromomethane	5 U	25 U	50 U	5 U	5 U	2000 UJ	500 U
Carbon disulfide	5 U	25 U	5.2 J	5 U	2.2 J	39000 J	500 U
Carbon tetrachloride	1.6 J	25 U	50 U	5 U	5 U	21000 J	780
Chlorobenzene	2.1 J	310	1500	3.4 J	57	2000 UJ	500 U
Chlorodibromomethane	5 U	25 U	50 U	5 U	5 U	2000 UJ	500 U
Chloroethane	5 U	25 U	50 U	5 U	5 U	2000 UJ	500 U
Chloroform	0.88 J	25 U	50 U	5 U	0.65 J	140000 J	6400
Chloromethane	5 U	25 U	50 U	5 U	5 U	2000 UJ	500 U
cis-1,3-Dichloropropene	5 U	25 U	50 U	5 U	5 U	2000 UJ	500 U
Ethyl benzene	5 U	25 U	50 U	5 U	5 U	2000 UJ	500 U
Methylene chloride	5 U	25 U	50 U	5 U	5 U	5900 J	1200
Styrene	5 U	25 U	50 U	5 U	5 U	2000 UJ	500 U
Tetrachloroethene	5 U	25 U	50 U	5 U	5 U	1500 J	280 J
Toluene	0.75 J	25 U	50 U	5 U	1.8 J	2000 UJ	500 U
trans-1,3-Dichloropropene	5 U	25 U	50 U	5 U	5 U	2000 UJ	500 U
Trichloroethene	5 U	25 U	50 U	5 U	5 U	2000 UJ	500 U
Vinyl acetate	25 U	130 U	250 U	25 U	25 U	10000 UJ	2500 U
Vinyl chloride	5 U	25 U	50 U	5 U	5 U	2000 UJ	500 U
Xylenes, Total	15 U	75 U	150 U	15 U	15 U	4000 UJ	1500 U

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

TABLE 4
COMPARISON OF FALL 2011
CHLOROPYRIDINES AND VOLATILE ORGANICS CONCENTRATIONS
IN GROUNDWATER TO PREVIOUS RESULTS (ug/L)

ARCH ROCHESTER
SEMI-ANNUAL GROUNDWATER MONITORING REPORT

WELL	SELECTED CHLOROPYRIDINES				SELECTED VOCs			
	# EVENTS IN PRIOR 5 YRS	HISTORIC MAXIMUM	5-YEAR MEAN	NOV-2011 RESULT	# EVENTS IN PRIOR 5 YRS	HISTORIC MAXIMUM	5-YEAR MEAN	NOV-2011 RESULT
ON-SITE WELLS/LOCATIONS								
B-11	3	4,800	2,000	1,300	3	570	200	87
B-17	5	28,000,000	560,000		5	350,000	15,000	
B-7	5	9,100	820		5	260	36	
BR-127	10	29,000	8,400	3,100	10	1,300	230	12
BR-3	5	6,500,000	78,000		5	920,000	100,000	
BR-5A	10	1,700	230	75	10	9,400	8.3	0.5
BR-6A	10	140,000	8,000	**9,900**	10	26,000	240	170
BR-7A	10	510,000	29,000	1,700	10	3,000	81	15
BR-8	5	120,000	25,000		5	6,900	11	
BR-9	10	720	120	44	10	160	3.7	3
E-3	5	600	160		5	12,000	42	
MW-127	10	15,000	6,300	340	10	7,500	1,300	ND
PW10	10	240,000	67,000	**140,000**	10	120,000	1,800	**3,000**
PW12	10	15,000	2,200	240	10	120,000	500	**34,000**
PW13	10	7,500	2,500	**5,600**	10	920	98	ND
PW14	10	29,000	17,000	1,700	10	160,000	19,000	17,000
PW15	9	730,000	190,000	27,000	9	8,200	6,000	3,700
PW16	2	24,000	13,000	**15,000**	2	ND	ND	ND
PZ-105	10	190,000	12,000	**13,000**	10	9,700	67	1
PZ-106	10	120,000	66,000	8,600	10	1,400,000	370,000	170,000
PZ-107	10	11,000	9,100	4,400	10	89,000	19,000	8,700
OFF-SITE WELLS/LOCATIONS								
B-16	3	33,000	820	750	3	4,500	3	0.9
BR-103	5	400	11		5	38	7.6	
BR-104	5	3,100	6.4			9		
BR-105	10	24,000	830	570	10	310	2.9	ND
BR-105D	10	10,000	400	300	10	230	3.7	2.9
BR-106	10	25,000	4,000	1,200	10	6,300	0.062	ND
BR-108	5	1,700	19			ND		
BR-112D	5	310	47			4.3		
BR-113D	5	490	28			2.8		
BR-114	5	520	100		5	12	0.10	
BR-116	5	12	ND			84		
BR-116D	5	710	41			120		
BR-117D	5	80	5.3			1.9		
BR-118D	5	330	54			6.6		
BR-122D	5	650	150			ND		
BR-123D	5	860	58			4		
BR-126	9	12,000	3,400	1,800	9	230	25	ND
MW-103	5	97	20		5	750	17	
MW-104	5	180	4			1		

TABLE 4
COMPARISON OF FALL 2011
CHLOROPYRIDINES AND VOLATILE ORGANICS CONCENTRATIONS
IN GROUNDWATER TO PREVIOUS RESULTS (ug/L)

ARCH ROCHESTER
SEMI-ANNUAL GROUNDWATER MONITORING REPORT

WELL	SELECTED CHLOROPYRIDINES				SELECTED VOCs			
	# EVENTS IN PRIOR 5 YRS	HISTORIC MAXIMUM	5-YEAR MEAN	NOV-2011 RESULT	# EVENTS IN PRIOR 5 YRS	HISTORIC MAXIMUM	5-YEAR MEAN	NOV-2011 RESULT
MW-106	10	130,000	6,200	3,400	10	450	0.32	ND
MW-114	5	18	ND		5	27	23	
MW-16	5	360	7.6	**10**		8		
NESS-E	5	5,000	61			700		
NESS-W	5	2,100	ND			89		
PZ-101	10	27,000	140	87	10	6.1	0.32	**3**
PZ-102	10	58,000	1,600	**3,700**	10	10,000	2.4	ND
PZ-103	10	73,000	7,500	**15,000**	10	44,000	4.8	ND
PZ-104	10	9,100	2,000	1,000	10	40	0.14	ND
QD-1	8	11	4.7	**7.7**		ND		
QO-2	11	380	6.9	**7.2**		ND		
QO-2S1	11	27	2.4	ND		ND		
QS-4	11	3,400	170	120		ND		

Note:
1) Number of samples and mean reflect 5-year sampling period from November 2006 through June 2011. Historic maximum based on all available results from March 1990 through June 2011.
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 2011 exceeds 5-year mean.
5) ND = Not detected
6) BLANK = Not sampled

TABLE 5
FALL 2011 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:	11/17/2011	11/17/2011	11/17/2011	11/17/2011
QC TYPE:	Sample	Sample	Sample	Sample
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270C (µg/L)				
2,6-Dichloropyridine	31	3.2 J	9.4 U	3.4 J
2-Chloropyridine	86	4 J	9.4 U	4.3 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 2011 THROUGH NOVEMBER 2011

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 '11									
06/05/11	20,516	54,982	97,934	60,547	1,099	26,195	45,085	25,020	331,378
06/12/11	18,590	62,719	70,045	61,867	1,083	24,689	46,276	23,422	308,691
06/19/11	17,534	68,570	48,701 **	65,376	1,122	23,730	37,466 *	16,695 **	279,194
06/26/11	17,451	61,710	64,842	62,966	1,127	22,644	44,409	22,472	297,621
								Total [Gal.]	1,216,884
Jul '11									
07/03/11	17,699	63,927	61,035	59,981	1,159	21,059	41,785	24,099	290,744
07/10/11	15,843	67,909	62,967	65,247	1,144	22,381	44,602	25,301	305,394
07/17/11	15,365	68,255	62,431	66,312	1,162	21,711	45,673	24,850	305,759
07/24/11	15,105	67,806	60,151	64,203	1,136	20,333	44,100	23,197	296,031
07/31/11	15,364	62,497	62,855	60,954	1,012	18,194	41,370	23,048	285,294
								Total [Gal.]	1,483,222
Aug '11									
08/07/11	18,195	69,257	67,397	65,427	1,051	19,241	44,113	24,295	308,976
08/14/11	19,065	70,448	68,046	65,781	1,022	19,442	45,278	24,179	313,261
08/21/11	18,670	61,792	57,246	51,994	1,256	18,689	38,293	18,977	266,917
08/28/11	22,409	70,115	64,715	62,171	1,307	21,094	44,326	20,609	306,746
								Total [Gal.]	1,195,900
Sep '11									
09/04/11	19,133	69,668	65,217	63,704	1,296	20,936	44,960	20,936	305,850
09/11/11	26,611	67,835	65,042	64,325	1,261	21,443	45,176	21,095	312,788
09/18/11	22,850	68,435	64,680	65,033	1,248	21,339	45,130	20,663	309,378
09/25/11	23,081	67,683	64,618	65,409	1,225	20,491	44,885	20,021	307,413
								Total [Gal.]	1,235,429
Oct '11									
10/02/11	23,103	66,391	68,314	65,210	1,219	20,053	44,263	19,195	307,748
10/09/11	24,884	66,765	63,349	66,409	1,294	20,704	43,952	18,359	305,716
10/16/11	23,928	65,939	63,028	66,256	1,264	20,050	43,570	17,424	301,459
10/23/11	24,462	68,155	64,441	69,219	1,354	20,315	44,679	17,090	309,715
10/30/11	23,779	66,751	62,560	68,312	1,350	19,997	43,048	16,423	302,220
								Total [Gal.]	1,526,858
Nov '11									
11/06/11	22,279	63,729	61,378	67,270	1,297	19,931	43,432	17,847	297,163
11/13/11	19,831	65,116	62,609	68,808	1,289	20,271	43,752	17,900	299,576
11/20/11	15,844	58,184 **	62,398	66,650	1,474	17,673	42,366	21,875	286,464
11/27/11	13,846	66,912	63,321	67,999	1,212	16,641	45,004	22,433	297,368
								Total [Gal.]	1,180,571
Total 6 Mo. Removal (Gal.)	515,437	1,711,550	1,679,320	1,677,430	31,463	539,246	1,136,993	547,425	7,838,864

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 through 2010 - 2011. An attempt to rehab the well by physical and chemical cleaning in October 2010 failed to increase yield.

TABLE 7

MASS REMOVAL SUMMARY
PERIOD: JUNE 2011 - NOVEMBER 2011

ARCH ROCHESTER
FALL 2011 GROUNDWATER MONITORING REPORT

Well	Total Vol. Pumped (gallons)	Avg. VOC Conc. (ppm)	Avg. PYR. Conc. (ppm)	VOCs Removed (pounds)	PYR. Removed (pounds)
BR-5A	515,400	0.001	0.11	0.00	0.5
BR-7A	1,711,600	0.010	6.0	0.15	86
BR-9	1,679,300	0.003	0.10	0.04	1.3
PW-13	1,677,400	0	6.4	0	89
PW-14	31,500	22	3.3	5.8	0.9
PW-15	539,200	3.9	71	18	318
PW-16	1,137,000	0	19.2	0	182
BR-127	547,400	0.033	7.7	0.2	35
Totals:	7,838,800			24	712

Note: VOC and pyridine concentrations used in this table are an average of the analytical results from the Spring 2011 and Fall 2011 sampling events for each well

TABLE 8
2012 SAMPLING SCHEDULE
ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

ARCH ROCHESTER						**2012**					
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
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						52	35	31	26	83	61

Revised: 02/01/12

Prepared by: JEB Checked by: NMB

Appendix A

Groundwater Field Sampling Data Sheets

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

FIELD REPORT

TestAmerica Laboratories, Inc.

REMEDIAL INVESTIGATION SAMPLING
ARCH CHEMICAL
ROCHESTER, NEW YORK

FALL 2011 Event

Prepared For:

MacTec, Inc.
511 Congress Street
Portland, Maine 04101

Attention: Mr. Nelson Breton

Prepared By:

TEST AMERICA LABORATORIES, INC.
Audubon Business Center
10 Hazelwood Drive
Amherst, New York 14228-2298

NY5A5762

Written By: Roger Senf

Reviewed By: _____

Date: 12-30-11

1.0 INTRODUCTION

This report describes the sampling of the following points:

- Twenty-seven (27) groundwater samples
- One (1) barge canal sample
- One (2) quarry outfall samples
- One (1) quarry seep/pond sample

These activities were in support of the Phase II Remediation Investigation being conducted at the Arch Chemical facility in Rochester, New York. The samples were collected from November 17-22, 2011 by Test America Laboratories, Inc. (TAL) 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 sample 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 a seep 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.

Sampling Summary Table
ARCH CHEMICAL

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)	Comments
PZ-101	11/22/2011	1025	18.77		6.77	5544	9.3	7.07	-68	0.29	
PZ-102	11/22/2011	1105	17.95		7.07	6450	10.9	2.54	-82	0.73	
PZ-103	11/22/2011	1150	15.99		7.19	5080	11.1	2.48	-149	0.67	
PZ-104	11/18/2011	1210	14.48		7.21	2459	15.1	8.79	-98	0.74	
PZ-105	11/18/2011	1255	11.67		7.33	2048	12.6	10.92	-191	0.80	
PZ-106	11/18/2011	1135	10.81		6.20	5780	12.5	3.98	-112	0.73	
PZ-107	11/18/2011	1340	10.18		7.01	2150	12.1	2.81	-158	0.57	
BR-5A	11/21/2011	1207	17.91		7.54	1788	15.8	8.56	-56		
BR-6A	11/18/2011	1220	12.85		7.75	4760	13.5	13.96	-222	0.45	
BR-7A	11/21/2011	1222	18.97		7.20	2127	13.0	6.39	-111		
BR-9	11/21/2011	1217	24.14		7.09	2134	12.9	195	-65		
BR-105	11/18/2011	1320	22.67		7.14	2332	12.2	4.95	-218	0.72	
BR-105D	11/18/2011	1240	26.64		6.92	31150	12.1	3.69	-259	0.53	
BR-106	11/18/2011	1100	21.75		6.99	3270	11.4	3.63	-55	0.36	
BR-126	11/22/2011	1250	9.08		7.33	1027	12.1	9.82	-87	0.34	
BR-127	11/21/2011	1042	8.17		7.26	3681	16.2	2.5	-136		
MW-16	11/17/2011	1400	11.86		7.09	2615	12.2	17.3	-48	0.79	
MW-106	11/18/2011	1140	12.71		6.89	3622	12.5	4.95	-138	0.81	
MW-127	11/21/2011	1030	7.21		7.15	1381	11.5	5.17	42	0.46	
PW-10	11/18/2011	1055	10.28		10.01	15170	12.9	9.93	-228	0.53	
PW-12	11/21/2011	1140	6.83		6.84	6500	12.8	2.06	-118	0.58	
PW-13	11/21/2011	1232	22.30		6.95	3330	14.0	4.88	-126		
PW-14	11/21/2011	1102	22.68		6.97	3125	17.7	30.8	-208		
PW-15	11/21/2011	1113	16.69		7.97	5602	14.4	2.15	-192		
PW-16	11/21/2011	1247	16.68		7.06	4785	14.3	5.43	-90		
B-11	11/18/2011	1403	5.71		7.04	2110	11.2	14.61	-90		
B-16	11/22/2011	1335	6.78		7.30	1215	12.8	5.14	-50	0.78	
QD-1	11/17/2011	1050	NA		8.05	1829	8.8				
QO-2	11/17/2011	1435	NA		8.22	1822	8.3				
QO-2S1	11/17/2011	1450	NA		8.16	651	8.1				
QS-4	11/17/2011	1412	NA		8.07	2124	7.9				

SEMI-ANNUAL GROUNDWATER ELEVATION REPORT
ARCH CHEMICAL ROCHESTER, N.Y.

SAMPLE POINT	DATE	DEPTH TO WATER	CASING ELEVATION	GW ELEVATION	TIME	Comments
B-1	11/17/11	8.67		-8.67	1034	NO L-NAPL ; NO D-NAPL
B-10		8.94		-8.94	1003	NO L-NAPL ; NO D-NAPL
B-11		6.02		-6.02	1005	NO L-NAPL ;NO D-NAPL 11.55 BOT.
B-13		12.87		-12.87	1105	
B-14		10.21		-10.21	1110	
B-15		6.73		-6.73	1113	
B-16		6.54		-6.54	1116	NO L-NAPL ;NO D-NAPL 13.20 BOT.
B-17		10.10		-10.10	931	NO L-NAPL ; NO D-NAPL
B-2		9.78		-9.78	1033	NO L-NAPL ; NO D-NAPL
B-4		18.82		-18.82	910	NO L-NAPL ; NO D-NAPL
B-5		16.03		-16.03	907	NO L-NAPL ; NO D-NAPL
B-7		15.43		-15.43	1036	NO L-NAPL ; NO D-NAPL
B-8		10.41		-10.41	958	NO L-NAPL ; NO D-NAPL
BR-1		7.42		-7.42	915	NO L-NAPL ; NO D-NAPL
BR-102		22.79		-22.79	1030	
BR-103		5.20		-5.20	1150	
MW-103		1.82		-1.82	1152	
BR-104		11.09		-11.09	1206	
MW-104		7.52		-7.52	1207	
BR-105		22.34		-22.34	1200	
BR-105D		25.23		-25.23	1201	
MW-105		18.76		-18.76	1202	
BR-106		21.35		-21.35	1156	
MW-106		7.85		-7.85	1155	
BR-108		28.11		-28.11	1213	
MW-108		12.44		-12.44	1214	
BR-111		29.03		-29.03	1251	
BR-111D		28.65		-28.65	1252	
BR-112A		27.71		-27.71	1242	
BR-112D		36.04		-36.04	1244	
BR-113		31.08		-31.08	1236	

SEMI-ANNUAL GROUNDWATER ELEVATION REPORT
ARCH CHEMICAL ROCHESTER, N.Y.

SAMPLE POINT	DATE	DEPTH TO WATER	CASING ELEVATION	GW ELEVATION	TIME	Comments
BR-113D		31.04		-31.04	1237	
BR-114	11/17/11	14.11		-14.11	1202	
MW-114		10.13		-10.13	1200	
BR-116		29.14		-29.14	1120	
BR-116D		35.23		-35.23	1122	
BR-117		24.00		-24.00	1040	CASCADING WELL
BR-117D		49.42		-49.42	1042	
BR-118		23.68		-23.68	1030	
BR-118D		48.34		-48.34	1032	
BR-122D		44.94		-44.94	1057	
BR-123D		45.15		-45.15	1054	
BR-124D		31.33		-31.33	1050	
BR-126		8.63		-8.63	1102	
BR-127		8.12			943	NO L-NAPL
MW-127		7.14			944	NO L-NAPL ; NO D-NAPL
BR-2		9.82		-9.82	937	NO L-NAPL ; NO D-NAPL
BR-2A		10.78		-10.78	938	NO L-NAPL ; NO D-NAPL
BR-2D		0.05		-0.05	936	NO L-NAPL ; NO D-NAPL
BR-3		10.06		-10.06	954	NO L-NAPL
BR-3D		56.65		-56.65	952	NO L-NAPL ; NO D-NAPL
BR-4		7.03		-7.03	941	NO L-NAPL
BR-5		11.80		-13.82	920	NO L-NAPL ; NO D-NAPL
BR-5A		17.91		-17.91	922	
BR-6A		12.96		-12.96	957	
BR-7		22.96		-22.96	1038	
BR-7A		18.97		-18.97	1039	NO L-NAPL ; NO D-NAPL
BR-8		15.36		-15.36	908	NO L-NAPL ; NO D-NAPL
BR-9		24.14		-24.14	933	NO L-NAPL
C-2A		11.01		-11.01	932	NO L-NAPL ; NO D-NAPL
C-3						BURIED
C-5		11.82		-11.82	953	NO L-NAPL ; NO D-NAPL

SEMI-ANNUAL GROUNDWATER ELEVATION REPORT
ARCH CHEMICAL ROCHESTER, N.Y.

SAMPLE POINT	DATE	DEPTH TO WATER	CASING ELEVATION	GW ELEVATION	TIME	Comments
E-2		5.98		-5.98	940	NO L-NAPL ; NO D-NAPL
E-3		5.08		-5.08	921	NO L-NAPL ; NO D-NAPL
E-5	11/17/11	6.08		-6.08	925	NO L-NAPL ; NO D-NAPL
EC-1		17.82		-17.82	1258	
EC-2		DRY		#VALUE!	1238	DRY
ERIE CANAL		32.65		-32.65	1300	
MW-16		11.86		-11.86	1135	
MW-3		5.96		-5.96	1222	
MW-G6		4.49		-4.49	1225	
MW-G7						NOT LOCATED
MW-G8		7.28		-7.28	1227	
MW-G9		10.69		-10.69	1230	
N-2		4.89		-4.89	917	NO L-NAPL ; NO D-NAPL
N-3		7.09		-7.09	1035	NO L-NAPL
NESS-E		23.98		-23.98	1212	
NESS-W		31.25		-31.25	1217	
PW-10		10.28		-10.28	932	
PW-11		16.65		-16.65	909	NO L-NAPL
PW-12		6.45		-6.45	925	
PW-13		22.30		-22.30	1046	NO L-NAPL; NO D NAPL
PW-14		17.91		-17.91	947	NO L-NAPL
PW-15		18.51		-18.51	950	NO L-NAPL
PZ-101		18.64		-18.64	1055	
PZ-102		17.67		-17.67	1053	
PZ-103		15.89		-15.89	1050	
PZ-104		14.44		-14.44	1106	
PZ-105		11.21		-11.21	1000	NO L-NAPL ; NO D-NAPL
PZ-106		10.89		-10.89	946	NO L-NAPL ; NO D-NAPL
PZ-107		10.19		-10.19	1002	NO L-NAPL ; NO D-NAPL
PZ-109		10.40		-10.40	951	NO L-NAPL; NO D-NAPL
W-2		11.90		-11.90	1032	NO L-NAPL ; NO D-NAPL

SEMI-ANNUAL GROUNDWATER ELEVATION REPORT
ARCH CHEMICAL ROCHESTER, N.Y.

SAMPLE POINT	DATE	DEPTH TO WATER	CASING ELEVATION	GW ELEVATION	TIME	Comments
W-5		6.04		-6.04	1045	NO L-NAPL ; NO D-NAPL

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: P2-101

Field Personnel: PL, RS, CK

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-22-11 / 959

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: 11-22-11 / 1005

Date / Time Completed: 11-22-11 / 1025

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 18.77

Elevation. G/W MSL: ____

Well Total Depth, Feet: 21.69

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 (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
1010	mm/w 100	w 18.91		9.9	6.61	55-62	8.5-4	-72	0.33
1015		18.85		9.5	6.69	5550	8.64	-70	0.31
1020		18.90		9.4	6.75	5547	7.97	-68	0.30
1025		18.95		9.3	6.77	5544	7.07	-69	0.29

Sample @ 1025 / 11-22-11

PL 2

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: P2-102

Field Personnel: PL, RS, CK

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-22-11 / 1043

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: 11-22-11 / 1045

Date / Time Completed: 11-22-11 / 1105

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 17.95

Elevation. G/W MSL: ____

Well Total Depth, Feet: 32.60

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 (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
1050	MP/hr 150	WL 18.03		11.3	6.97	6443	2.82	-75	0.76
1055	↓	↓		10.9	7.09	6445	1.97	-80	0.75
1100	↓	↓		11.0	7.07	6447	2.79	-82	0.74
1105	↓	↓		10.9	7.07	6450	2.54	-82	0.73

SAMPLED @ 1105 / 11-21-11

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: PZ-103

Field Personnel: PL, RS, CK

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-22-11 / 1107

Cond of seal: ( ) Good ( ) Cracked ( ) None (X) 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: 11-22-11 / 1130

Date / Time Completed: 11-22-11 / 1150

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 15.99

Elevation. G/W MSL:

Well Total Depth, Feet: 32.52

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 Blank Spring Finish Blank Spring

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
1135	100	16.01		11.0	7.10	5079	2.46	-149	0.72
1140	↓	16.13		10.9	7.15	5080	2.50	-149	0.70
1145	↓	16.18		11.0	7.18	5081	2.51	-149	0.68
1150	↓	16.23		11.1	7.19	5090	2.48	-149	0.67

Sample @ 1150 / 11-22-11

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: PZ-104

Field Personnel: RL, RS, CK

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-18-11 / 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: 11-18-11 / 1147

Date / Time Completed: 11-18-11 / 1210

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 14.48

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: CO-FCO

Start SL. TINT Finish SL. TINT

PURGE DATA: (if applicable)

Time	Purge Rate ~~(gpm/htz)~~		Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
1155	180	14.56		15.4	7.44	2430	17.2	-119	0.79
1200	180	14.56		15.2	7.27	2452	9.32	-102	0.75
1205	180	14.55		15.1	7.22	2459	8.87	-100	0.75
1210	180	14.55		15.1	7.21	2459	8.79	-98	0.74

SAMPLED @ 1210 / 11-18-11

BJ

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: PZ-105

Field Personnel: PL, RS, CH

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-18-11 / 1234

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: 11-18-11 / 1235

Date / Time Completed: 11-18-11 / 1255

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 11.67

Elevation. G/W MSL: ____

Well Total Depth, Feet: 32.86

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 Gray Tint Clear Finish Gray Clear

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
1240	WL 10.74	ML/m 75		13.3	7.45	2051	13.0	-182	0.85
1245	↓	↓		12.9	7.39	2049	12.7	-190	0.84
1250				12.7	7.35	2048	11.64	-190	0.93
1255	↓	↓		12.6	7.33	2048	10.92	-191	0.80

SAMPLED @ 1255 / 11-18-11

RL

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: P2-106

Field Personnel: PL, RS, CK

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-18-11 / 1113

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: 11-18-11 / 1115

Date / Time Completed: 11-18-11 / 1135

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 10.81

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 Yellow Finish Clear - Yellow

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz) wl	Purge Rate (gpm/htz) m/m	Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
1120	10.44	100		13.1	6.15	5881	7.23	-106	0.77
1125	10.96	↓		13.1	6.21	5797	5.79	-110	0.75
1130	↓	↓		12.7	6.20	5783	4.32	-112	0.74
1135	↓	↓		12.5	6.20	5780	3.98	-112	0.73

SAMPLED @ 1135 / 11-18-11

PL 2

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: PZ-107

Field Personnel: RL, RS, CK

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-18-11 / 1317

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: 11-18-11 / 1320

Date / Time Completed: 11-18-11 / 1340

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 10.19

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 Clear Finish Clear

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
1325	WL 10.21	mL/m 200		11.8	6.94	2287	5.25	+60	0.62
1330	↓	↓		11.9	6.97	2190	4.91	-159	0.60
1335				12.0	7.01	2155	3.67	-158	0.58
1340	↓	↓		12.1	7.01	2150	2.81	-158	0.57

Sample @ 1340 / 11-18-11

RL

LeachField Form
Revision 0
March, 15 2002

FIELD OBSERVATIONS

Facility: ARCH Chemical Sample Point ID: BR-5A

Field Personnel: PL, CK Sample Matrix: GW

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-21-11 1205 Water Level @ Sampling, Feet: 17.91

Method of Sampling: SAMPLE PUMP Dedicated: (Y) N

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other (ORP)	Other ( )
1207	15.8	7.54	1788	8.56	-56	

INSTRUMENT CHECK DATA:

Turbidity Serial #: _____ NTU std. = _____ NTU _____ NTU std. = _____ NTU

Solutions: _____

pH Serial #: _____ 4.0 std.= _____ 7.0 std.= _____ 10.0 std. = _____

Solutions: _____

Conductivity Serial #: _____ _____ umhos/cm= _____ _____ umhos/cm= _____

Solutions: _____

GENERAL INFORMATION:

Weather conditions @ time of sampling: cloud 37

Sample Characteristics: clear

COMMENTS AND OBSERVATIONS:

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

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

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: BM-6A

Field Personnel: PL, RS, CK

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-18-11 / 1159

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: 11-18-11 / 1200

Date / Time Completed: 11-18-11 / 1220

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

Riser Diameter, Inches: ____

Initial Water Level, Feet: 12.85

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 (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
1205	WL 12.41	MW 200		12.7	7.60	4783	15.1	-226	0.51
1210	↓	↓		13.8	7.70	4776	16.7	-224	0.50
1215	↓	↓		13.6	7.75	4767	14.2	-224	0.47
1220	↓	↓		13.5	7.75	4760	13.96	-222	0.45

SAMPLED @ 1220 11-18-11

PL 2

LeachField Form
Revision 0
March, 15 2002

FIELD OBSERVATIONS

Facility: ARCH Chemical Sample Point ID: BR-7A

Field Personnel: PL, CK Sample Matrix: GW

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-21-11 / 1220 Water Level @ Sampling, Feet: 18.97

Method of Sampling: SAMPLE PUMP Dedicated: (Y) N

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other (ORP)	Other ( )
1222	13.0	7.20	2127	6.39	-111	

INSTRUMENT CHECK DATA:

Turbidity Serial #: _____ NTU std. = _____ NTU _____ NTU std. = _____ NTU

Solutions: _____

pH Serial #: _____ 4.0 std.= _____ 7.0 std.= _____ 10.0 std. = _____

Solutions: _____

Conductivity Serial #: _____ _____ umhos/cm= _____ _____ umhos/cm= _____

Solutions: _____

GENERAL INFORMATION:

Weather conditions @ time of sampling: clear 37°

Sample Characteristics: clear

COMMENTS AND OBSERVATIONS: _____

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

Date: 11/21/11 By: RJ Company: TAL

LeachField Form
Revision 0
March, 15 2002

FIELD OBSERVATIONS

Facility: ARCH Chemical

Sample Point ID: BR-9

Field Personnel: PL, CK

Sample Matrix: GW

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-21-11 / 1215

Water Level @ Sampling, Feet: 24.14

Method of Sampling: SAMPLE PUMP

Dedicated: (Y) N

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other (ORP)	Other ( )
1217	12.9	7.09	2134	195	-65	

INSTRUMENT CHECK DATA:

Turbidity Serial #: _____ NTU std. = _____ NTU _____ NTU std. = _____ NTU

Solutions: _____

pH Serial #: _____ 4.0 std.= _____ 7.0 std.= _____ 10.0 std. = _____

Solutions: _____

Conductivity Serial #: _____ _____ umhos/cm= _____ _____ umhos/cm= _____

Solutions: _____

GENERAL INFORMATION:

Weather conditions @ time of sampling: cloudy 37°

Sample Characteristics: SL TURBID ODOR

COMMENTS AND OBSERVATIONS: _____

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

Date: 11/21/11 By: _____ Company: TAL

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: BR-105

Field Personnel: RL, RS, CK

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-18-11 / 1250

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: 11-18-11 / 1253

Date / Time Completed: 11-18-11 / 1315

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

Riser Diameter, Inches: 4.0

Initial Water Level, Feet: 22.67

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 (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
1300	150	22.70		13.1	7.27	2325	6.76	-202	0.80
1305	150	22.75		13.2	7.15	2323	5.19	-225	0.72
1310	150	22.75		13.2	7.15	2329	4.97	-220	0.71
1315	150	22.75		13.2	7.14	2332	4.95	-218	0.72

SAMPLED @ 1320 / 11-18-11

BJ

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: BR-105 D

Field Personnel: RL, RS, CK

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-18-11 / 1215

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: 11-18-11 / 1218

Date / Time Completed: 11-18-11 / 1240

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 25.64

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/hr)~~ mL/min		Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
1225	80	25.75		12.2	6.83	30,020	CLEAR	-239	0.57
1230	80	25.75		12.1	6.89	31,220	↓	-248	0.56
1235	80	25.75		12.1	6.91	31,200	↓	-257	0.55
1240	80	25.75		12.1	6.92	31,150	3.69	-259	0.53

SAMPLED @ 1240 / 11-18-11

BJ

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: BR-106

Field Personnel: PL, RS, CK

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-18-11 / 1030

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: 11-18-11 / 1035

Date / Time Completed: 11-18-11 / 1100

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

Riser Diameter, Inches: 4.0

Initial Water Level, Feet: 21.75

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 (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
1045	ml/min 200	21.82		11.2	6.96	3279	4.77	-13	0.45
1050	200	21.80		11.4	6.98	3276	3.92	-47	0.33
1055	200	21.80		11.4	6.94	3274	3.85	-53	0.35
1100	200	21.90		11.4	6.99	3270	3.63	-55	0.36

SAMPLED @ 1100/11-18-11

BJ

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: BR-126

Field Personnel: RL, RS, CK

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-22-11 / 1217

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: 11-22-11 / 1220

Date / Time Completed: 11-22-11 / 1250

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

Riser Diameter, Inches: 4.0

Initial Water Level, Feet: 9.08

Elevation. G/W MSL:

Well Total Depth, Feet: 45.45

Method of Well Purge: Peristaltic

One (1) Riser Volume, Gal:

Dedicated: (Y) / N

Total Volume Purged, Gal:

Purged To Dryness Y / (N) SLOWED

Purge Observations: Low Flow

Start — Finish Clear

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
	MW	WL							
1230	200	9.15		12.1	7.43	1013	19.60	-85	0.40
1235				12.2	7.39	1020	12.48	-87	0.38
1240				12.2	7.37	1022	13.54	-86	0.37
1245				12.0	7.35	1024	10.97	-87	0.35
1250	↓	↓		12.1	7.33	1027	9.82	-87	0.34

SAMPLE @ 1250 / 11-22-11

DUP #2

LeachField Form
Revision 0
March, 15 2002

FIELD OBSERVATIONS

Facility: ARCH Chemical Sample Point ID: BR-127

Field Personnel: PL, CK Sample Matrix: GW

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-21-11 1040 Water Level @ Sampling, Feet: 8.17

Method of Sampling: SAMPLE PUMP Dedicated: (Y) N

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other (ORP)	Other ( )
1042	16.7	7.26	3681	2.50	-136	

INSTRUMENT CHECK DATA:

Turbidity Serial #: _____ NTU std. = _____ NTU _____ NTU std. = _____ NTU

Solutions: _____

pH Serial #: _____ 4.0 std.= _____ 7.0 std.= _____ 10.0 std. = _____

Solutions: _____

Conductivity Serial #: _____ _____ umhos/cm= _____ _____ umhos/cm= _____

Solutions: _____

GENERAL INFORMATION:

Weather conditions @ time of sampling: clear 37°

Sample Characteristics: clear

COMMENTS AND OBSERVATIONS: 2.21 GPM

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

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

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: MW-16

Field Personnel: R. SENF

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 11-17-11 / 1335

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: 11-17-11 / 1340

Date / Time Completed: 11-17-11 / 1359

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

Riser Diameter, Inches: 4.0

Initial Water Level, Feet: 11.86

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 YELLOW TINT Finish YELLOW TINT

PURGE DATA: (if applicable)

Time	Purge Rate ~~(gpm/htz)~~	Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
1345	120 ml/min	12.02		12.4	7.32	2590	20.2	-57	0.85
1350	120	12.07		12.2	7.13	2610	17.0	-50	0.78
1355	120	12.07		12.2	7.09	2615	17.3	-48	0.79

SAMPLED @ 1400/11-17-11

BJ

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: MW-106

Field Personnel: RL, RS, CH

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-18-11 / 1035

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: 11-18-11 / 1110

Date / Time Completed: 11-18-11 /

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 12.71

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/hlz)~~		Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
1120	150	12.89		12.2	6.95	3276	7.92	-129	0.91
1125	150	12.88		12.4	6.96	3592	5.13	-145	0.83
1130	150	13.01		12.4	6.92	3589	4.95	-139	0.79
1135	150	13.00		12.5	6.89	3622	4.95	-138	0.81

SAMPLED @ 1140/11-18-11

BJ

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: MW-127

Field Personnel: PL, RS, CK

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-21-11 / 1064

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: 11-21-11 / 1010

Date / Time Completed: 11-21-11 / 1030

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 7.21

Elevation. G/W MSL:

Well Total Depth, Feet: 11.25

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 (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
	WL	ml/m							
1015	7.27	100		12.7	7.02	1394	7.59	37	0.51
1020	7.33			11.9	7.10	1390	7.64	40	0.49
1025	7.36			11.7	7.12	1385	6.72	42	0.48
1030	7.40	↓		11.5	7.15	1381	5.17	42	0.46

Sample @ 1030 / 11-21-11

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: PW-10

Field Personnel: PL, RS, CK

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-18-11 / 1024

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: 11-18-11 1025

Date / Time Completed: 11-18-11 / 1055

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

Riser Diameter, Inches: ____

Initial Water Level, Feet: 10.28

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 Yellow Finish Clear Yellow

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
	WL	Mult							
1035	10.29	200		13.0	9.92	15,090	14.99	-238	0.65
1040	↓	↓		13.1	9.97	15,150	13.20	-235	0.60
1045				13.0	9.99	15,160	12.63	-230	0.57
1050				12.9	10.01	15,160	10.13	-228	0.55
1055	↓	↓		12.9	10.01	15,170	9.93	-228	0.53

SAMPLE @ 1055 / 11-18-11

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: PW-12

Field Personnel: PL, RS, CK

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-21-11 / 1115

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

Prot. Casing/riser height: —

Cond of prot. Casing/riser: ( ) Unlocked (A) 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: 11-21-11 / 1120

Date / Time Completed: 11-21-11 / 1140

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

Riser Diameter, Inches: 6.0

Initial Water Level, Feet: 6.83

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 (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
1125	WL 6.87	ml/m 200		12.5	6.76	6445	2.10	-127	0.63
1130	↓	↓		12.7	6.80	6470	2.37	-120	0.61
1135	↓	↓		12.7	6.81	6475	2.19	-118	0.60
1140	↓	↓		12.8	6.84	6500	2.06	-118	0.58

Sample @ 1140 / 11-21-11

LeachField Form
Revision 0
March, 15 2002

FIELD OBSERVATIONS

Facility: ARCH Chemical

Sample Point ID: PW-13

Field Personnel: PL, CK

Sample Matrix: GW

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-21-11 / 1230

Water Level @ Sampling, Feet: 22.30

Method of Sampling: SAMPLE PUMP

Dedicated: (Y) N

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other (ORP)	Other ( )
1232	14.0	6.95	3330	4.88	-126	

INSTRUMENT CHECK DATA:

Turbidity Serial #: _____ NTU std. = _____ NTU _____ NTU std. = _____ NTU

Solutions: _____

pH Serial #: _____ 4.0 std.= _____ 7.0 std.= _____ 10.0 std. = _____

Solutions: _____

Conductivity Serial #: _____ _____ umhos/cm= _____ _____ umhos/cm= _____

Solutions: _____

GENERAL INFORMATION:

Weather conditions @ time of sampling: SUN / CLOUDY 37°

Sample Characteristics: Clear

COMMENTS AND OBSERVATIONS: _____

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

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

LeachField Form
Revision 0
March, 15 2002

FIELD OBSERVATIONS

Facility: ARCH Chemical Sample Point ID: PW-14

Field Personnel: PL, CK Sample Matrix: GW

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-21-11 / 1100 Water Level @ Sampling, Feet: 22.69

Method of Sampling: SAMPLE PORT Dedicated: (Y) N

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other (ORP)	Other ( )
1102	17.7	6.97	3125	30.8	-209	

INSTRUMENT CHECK DATA:

Turbidity Serial #: _____ NTU std. = _____ NTU _____ NTU std. = _____ NTU

Solutions: _____

pH Serial #: _____ 4.0 std.= _____ 7.0 std.= _____ 10.0 std. = _____

Solutions: _____

Conductivity Serial #: _____ _____ umhos/cm= _____ _____ umhos/cm= _____

Solutions: _____

GENERAL INFORMATION:

Weather conditions @ time of sampling: CLOUDY 37°

Sample Characteristics: SL TURBID SL YELLOW TINT

COMMENTS AND OBSERVATIONS:

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

Date: 11/21/11 By: PL Company: TAL

LeachField Form
Revision 0
March, 15 2002

FIELD OBSERVATIONS

Facility: ARCH Chemical

Sample Point ID: PW-15

Field Personnel: PL, CK

Sample Matrix: GW

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-21-11 / 1110

Water Level @ Sampling, Feet: 16.69

Method of Sampling: SAMPLE PORT

Dedicated: (Y) / N

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other (ORP)	Other ( )
1113	14.4	7.97	5602	2.15	-192	

INSTRUMENT CHECK DATA:

Turbidity Serial #: _____ NTU std. = _____ NTU _____ NTU std. = _____ NTU

Solutions: _____

pH Serial #: _____ 4.0 std.= _____ 7.0 std.= _____ 10.0 std. = _____

Solutions: _____

Conductivity Serial #: _____ _____ umhos/cm= _____ _____ umhos/cm= _____

Solutions: _____

GENERAL INFORMATION:

Weather conditions @ time of sampling: Clear 37°

Sample Characteristics: Clear Amber

COMMENTS AND OBSERVATIONS: 1170 GPM

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

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

LeachField Form
Revision 0
March, 15 2002

FIELD OBSERVATIONS

Facility: ARCH Chemical

Sample Point ID: PW-16

Field Personnel: PL, CK

Sample Matrix: GW

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-21-11 / 1245

Water Level @ Sampling, Feet: 16.68

Method of Sampling: SAMPLE PUMP

Dedicated: (Y) / N

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other (ORP)	Other ( )
1247	14.3	7.06	4785	5.43	-90	

INSTRUMENT CHECK DATA:

Turbidity Serial #: _____ NTU std. = _____ NTU _____ NTU std. = _____ NTU

Solutions: _____

pH Serial #: _____ 4.0 std.= _____ 7.0 std.= _____ 10.0 std. = _____

Solutions: _____

Conductivity Serial #: _____ _____ umhos/cm= _____ _____ umhos/cm= _____

Solutions: _____

GENERAL INFORMATION:

Weather conditions @ time of sampling: SUN 38°

Sample Characteristics: Clear

COMMENTS AND OBSERVATIONS:

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

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

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: B-11

Field Personnel: PL, RS, CH

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-17-11 / 1005

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: — / —

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

PURGE INFORMATION:

Date / Time Initiated: 11-17-11 1007

Date / Time Completed: 11-17-11 / 1011

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 6.62

Elevation. G/W MSL: ____

Well Total Depth, Feet: 11.55

Method of Well Purge: Peristaltic

One (1) Riser Volume, Gal: .90

Dedicated: Y / (N)

Total Volume Purged, Gal: 1.00 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 (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
1011	TO DRY		11.1	6.98	1974	10.62	-57	
11-18 1403	WL=5.71		11.2	7.04	2110	14.61	-90	

SAMPLED @ 1400 / 11-18-11

BJ

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: B-16

Field Personnel: RL, RS, CK

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-22-11 / 1313

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: 11-22-11 / 1315

Date / Time Completed: 11-22-11 / 1335

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 6.78

Elevation. G/W MSL:

Well Total Depth, Feet: 13.20

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 (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
1320	ML/M 200	WL 6.84		12.6	7.30	1202	12.43	-52	0.83
1325	↓	↓		12.8	7.27	1210	6.22	-51	0.92
1330				12.7	7.28	1213	5.61	-50	0.00
1335	↓	↓		12.8	7.30	1215	5.14	-50	0.78

Sample @ 1335 / 11-22-11

LeachField Form
Revision 0
March, 15 2002

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: QD-1

Field Personnel: R. STANT

Sample Matrix: S/W

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-17-11 | 1045

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 (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ( )	Other ( )
1050	8.8	8.05	1829			

INSTRUMENT CHECK DATA:

Turbidity Serial #: _____ NTU std. = _____ NTU _____ NTU std. = _____ NTU

Solutions: _____

pH Serial #: _____ 4.0 std.= _____ 7.0 std.= _____ 10.0 std. = _____

Solutions: _____

Conductivity Serial #: _____ _____ umhos/cm= _____ _____ umhos/cm= _____

Solutions: _____

GENERAL INFORMATION:

Weather conditions @ time of sampling: CLOUDY, 35°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: 11/17/11 By: BJ Company: TAC

LeachField Form
Revision 0
March, 15 2002

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: GO - 2

Field Personnel: R. SHUT

Sample Matrix: S/W

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-17-11 1430

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 (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ( )	Other ( )
1435	8.3	8.22	1822			

INSTRUMENT CHECK DATA:

Turbidity Serial #: _____ NTU std. = _____ NTU _____ NTU std. = _____ NTU

Solutions: _____

pH Serial #: _____ 4.0 std.= _____ 7.0 std.= _____ 10.0 std. = _____

Solutions: _____

Conductivity Serial #: _____ _____ umhos/cm= _____ _____ umhos/cm= _____

Solutions: _____

GENERAL INFORMATION:

Weather conditions @ time of sampling: CLOUDY 35°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: 11/17/11 By: [signature] Company: TAC

LeachField Form
Revision 0
March, 15 2002

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: 90-251

Field Personnel: R. SENF

Sample Matrix: CANAL

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-17-11 1440

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 (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ( )	Other ( )
1450	8.1	8.16	651			

INSTRUMENT CHECK DATA:

Turbidity Serial #: _____ NTU std. = _____ NTU _____ NTU std. = _____ NTU

Solutions: _____

pH Serial #: _____ 4.0 std.= _____ 7.0 std.= _____ 10.0 std. = _____

Solutions: _____

Conductivity Serial #: _____ _____ umhos/cm= _____ _____ umhos/cm= _____

Solutions: _____

GENERAL INFORMATION:

Weather conditions @ time of sampling: _____

Sample Characteristics: CLEAR

COMMENTS AND OBSERVATIONS:

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

Date: 11/17/11 By: [signature] Company: TAC

LeachField Form
Revision 0
March, 15 2002

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: QS-4

Field Personnel: R. STANF

Sample Matrix: SLRY

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-17-11 1407

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 (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ( )	Other ( )
1412	7.9	8.07	2024			

INSTRUMENT CHECK DATA:

Turbidity Serial #: _____ NTU std. = _____ NTU _____ NTU std. = _____ NTU

Solutions: _____

pH Serial #: _____ 4.0 std.= _____ 7.0 std.= _____ 10.0 std. = _____

Solutions: _____

Conductivity Serial #: _____ _____ umhos/cm= _____ _____ umhos/cm= _____

Solutions: _____

GENERAL INFORMATION:

Weather conditions @ time of sampling: CLOUDY, 35°F

Sample Characteristics: CLEAR

COMMENTS AND OBSERVATIONS: _____

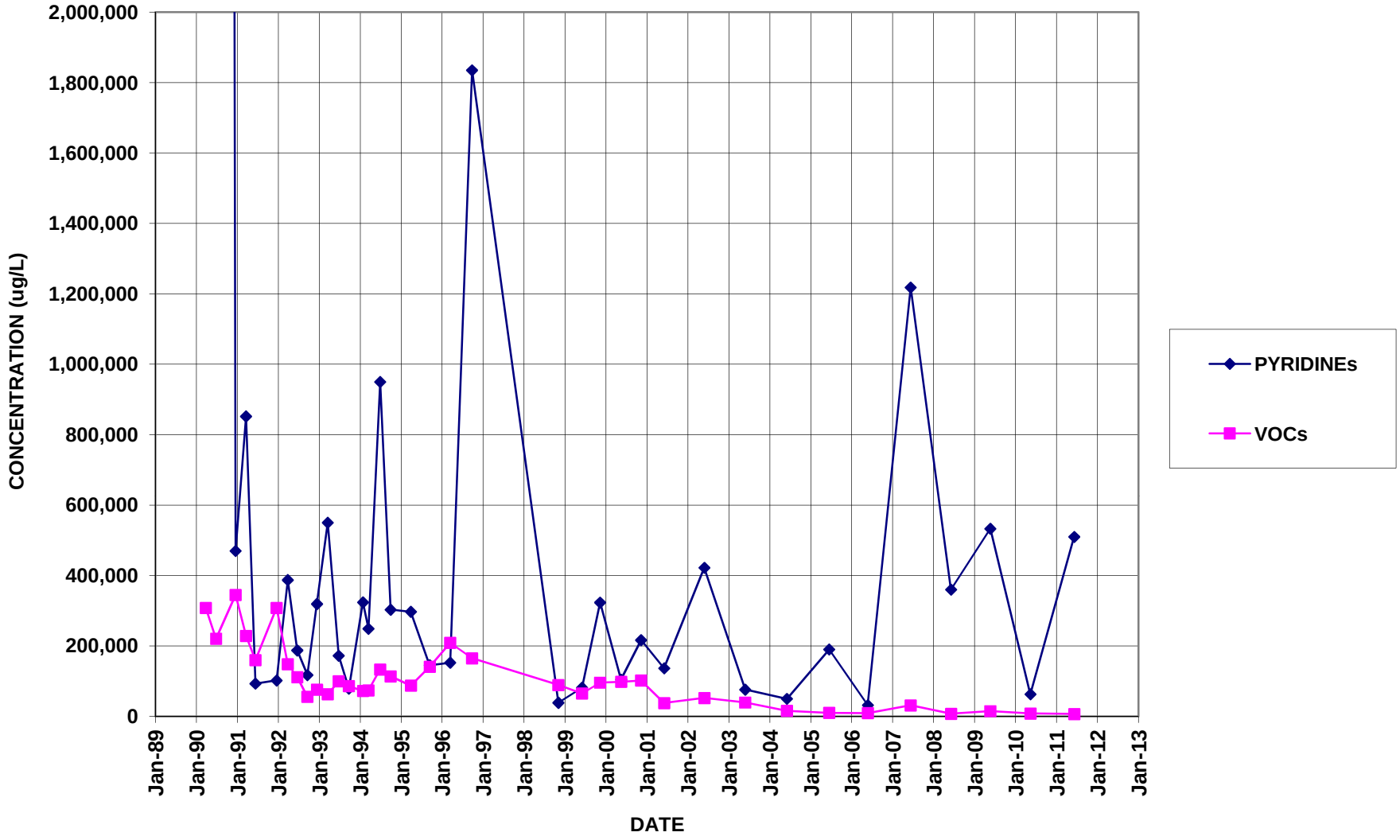
I certify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific protocals.

Date: 11/17/11 By: [signature] Company: TAC

Appendix B

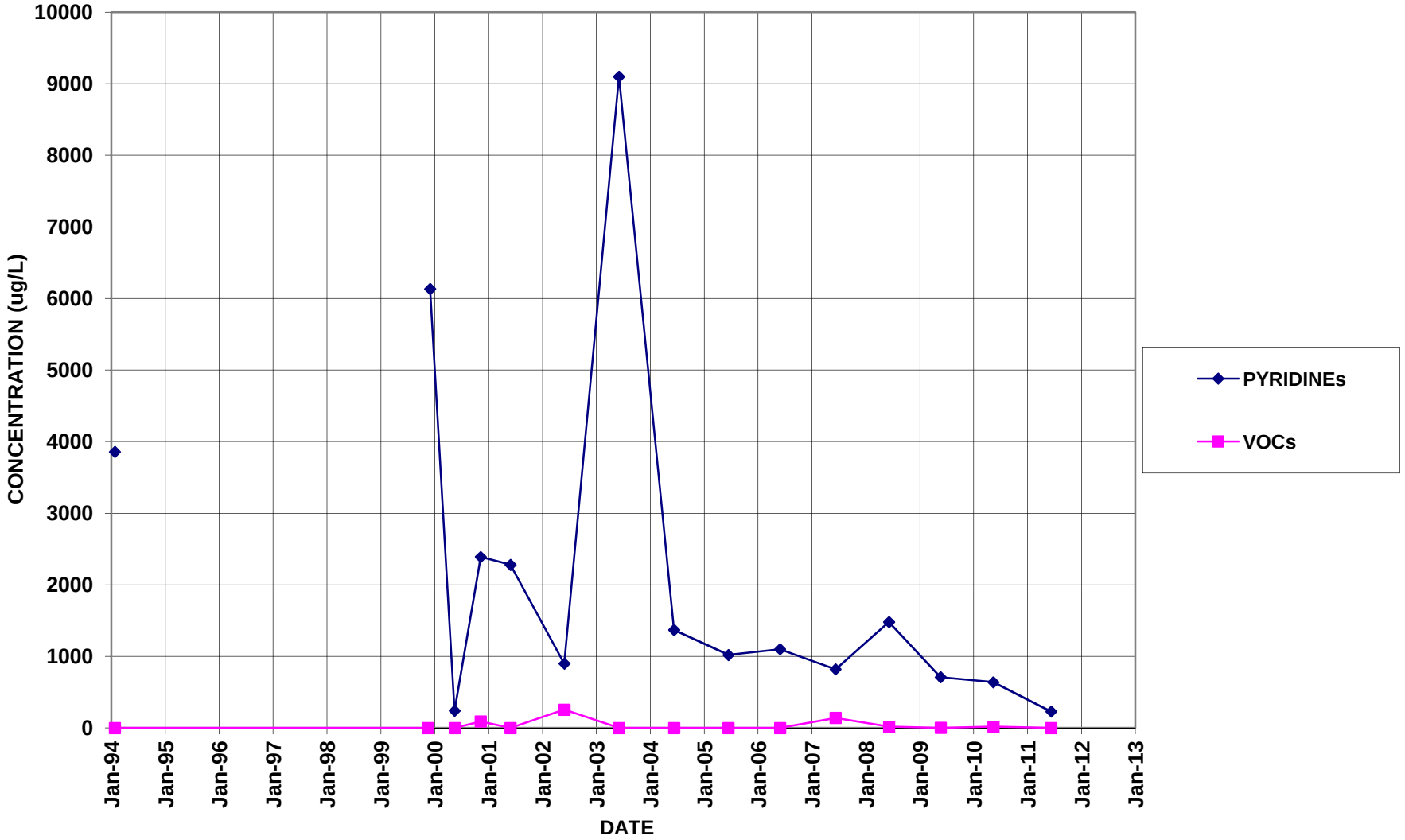
Well Trend Data

B-17



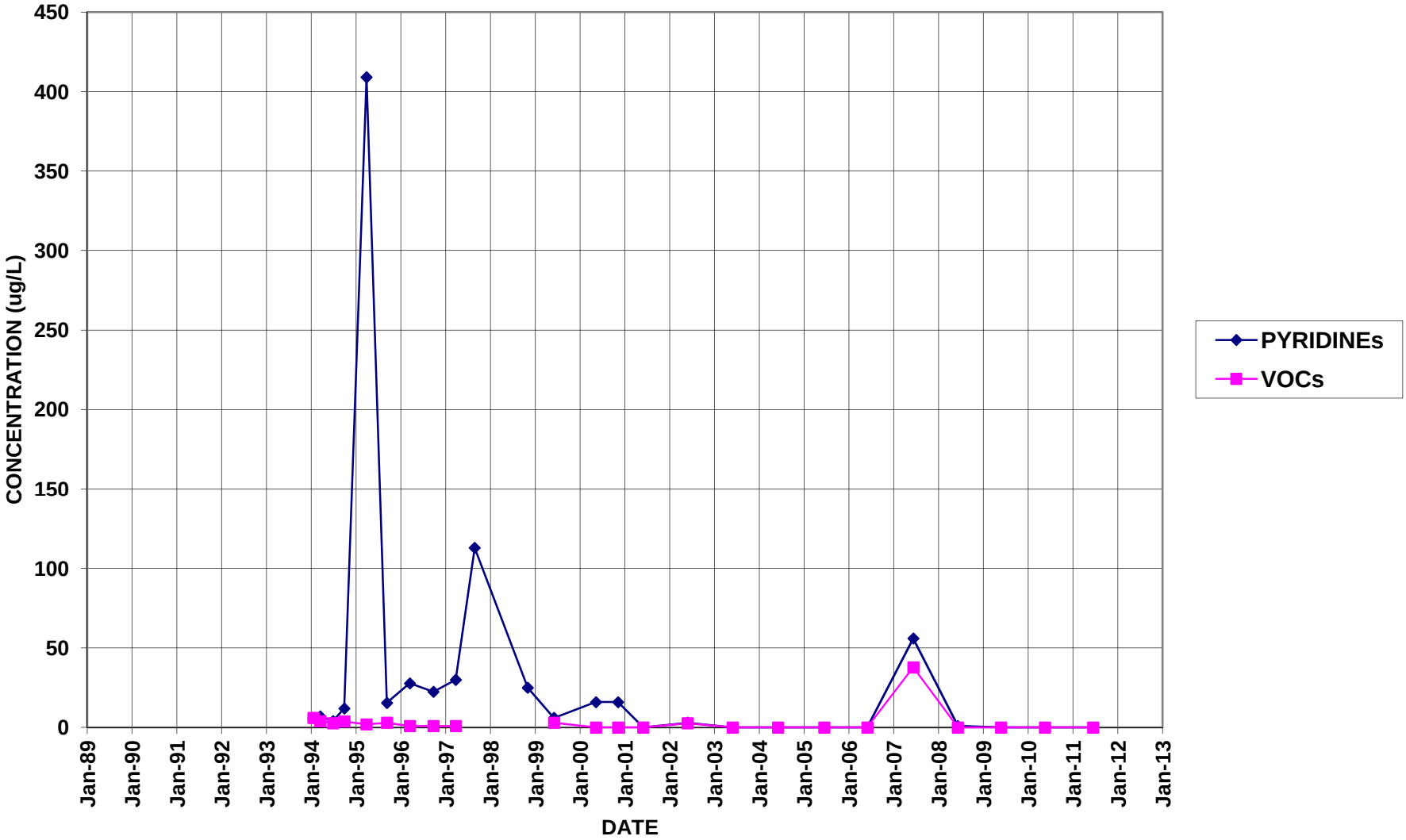
Prepared by: nmb
Reviewed by: jeb

B-7



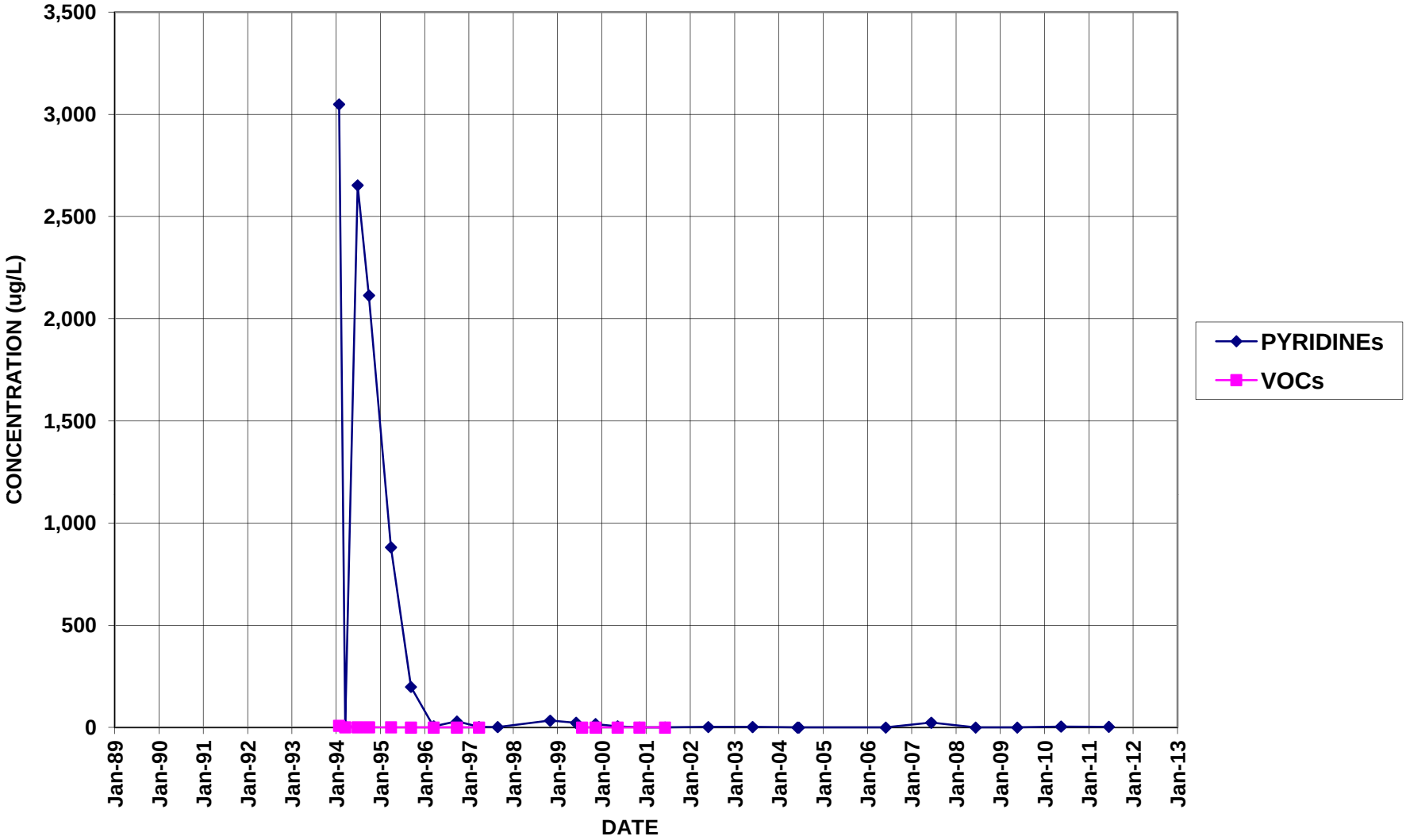
Prepared by: nmb
Reviewed by: jeb

BR-103

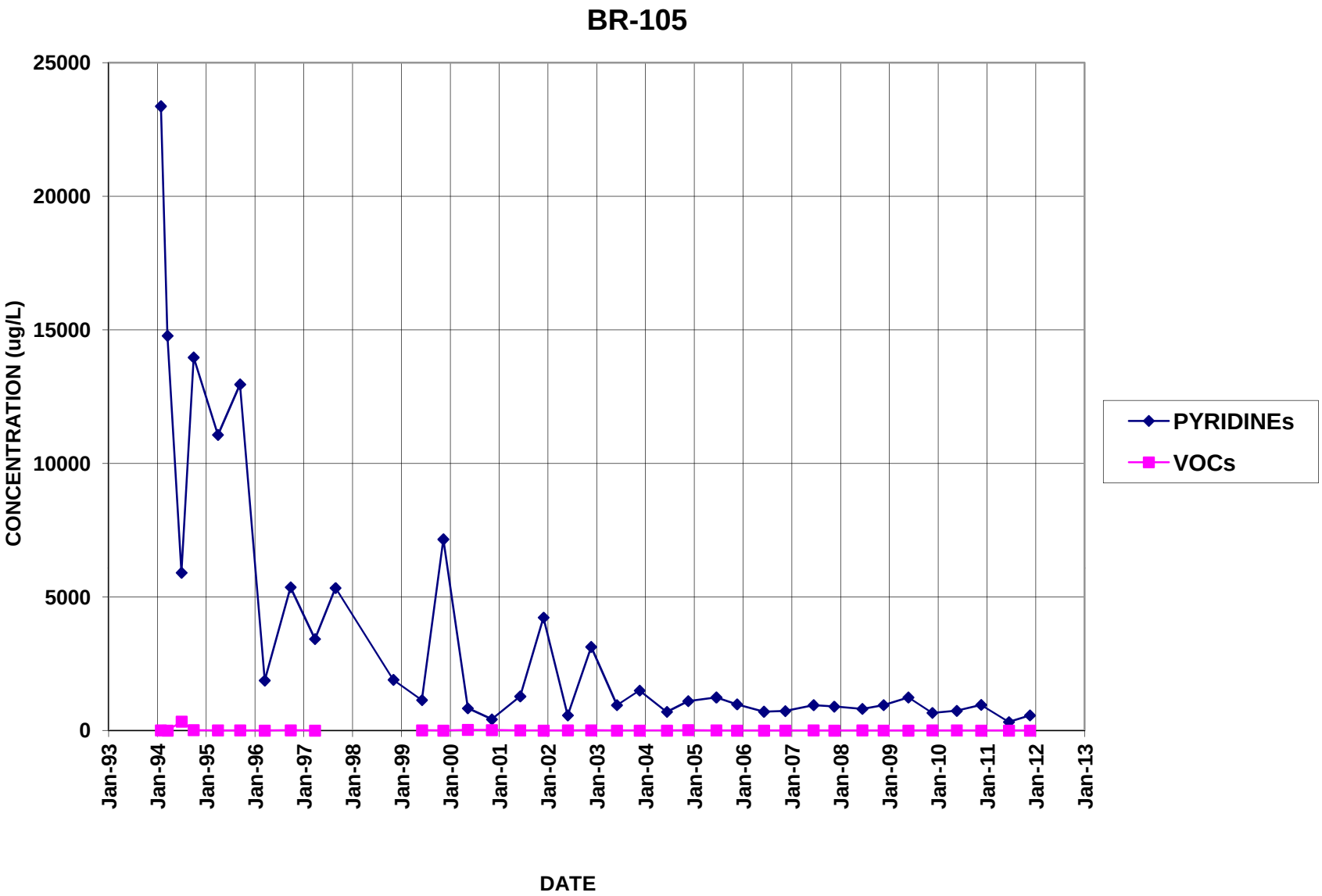


Prepared by: nmb
Reviewed by: jeb

BR-104

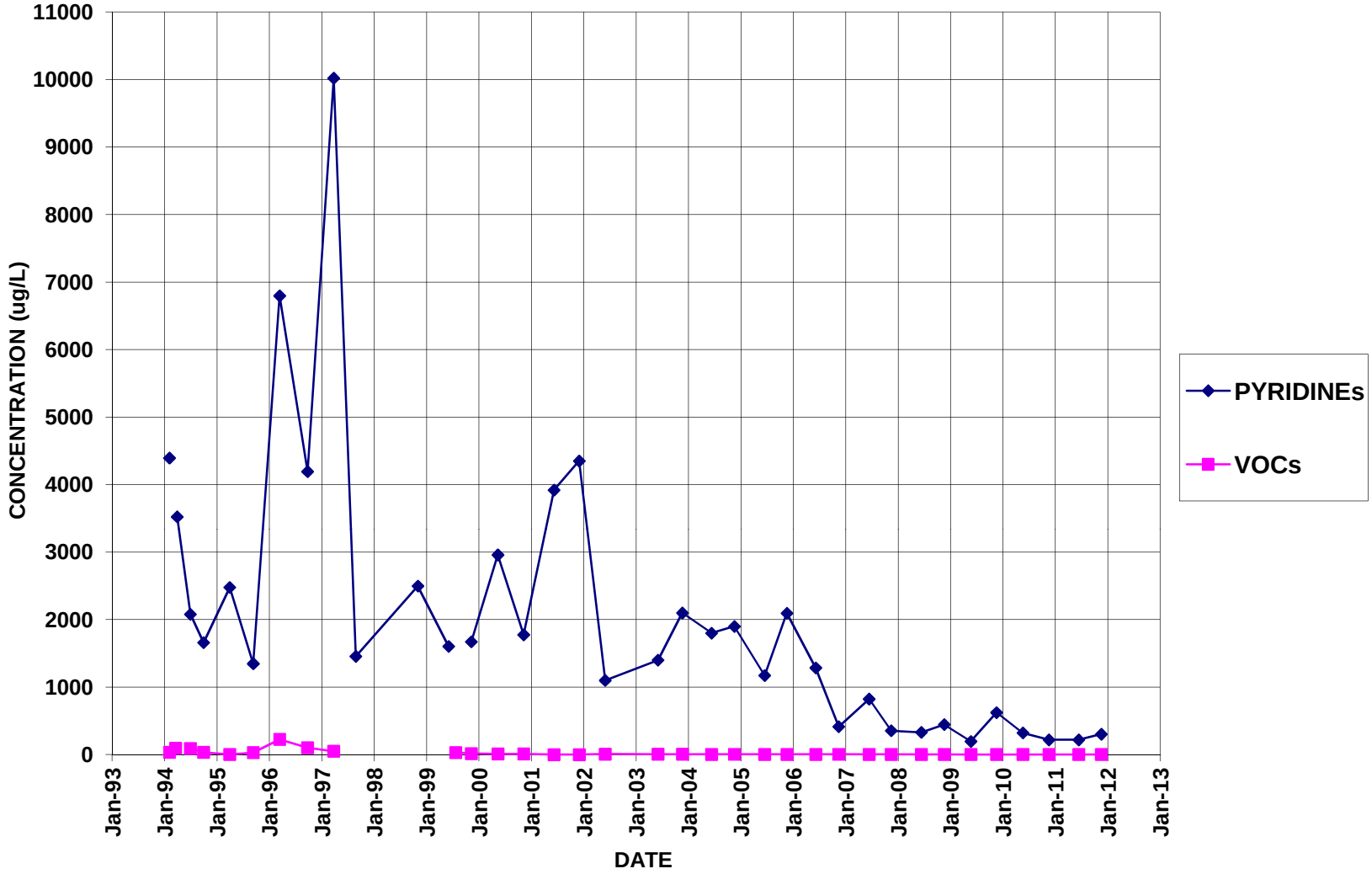


Prepared by: nmb
Reviewed by: jeb



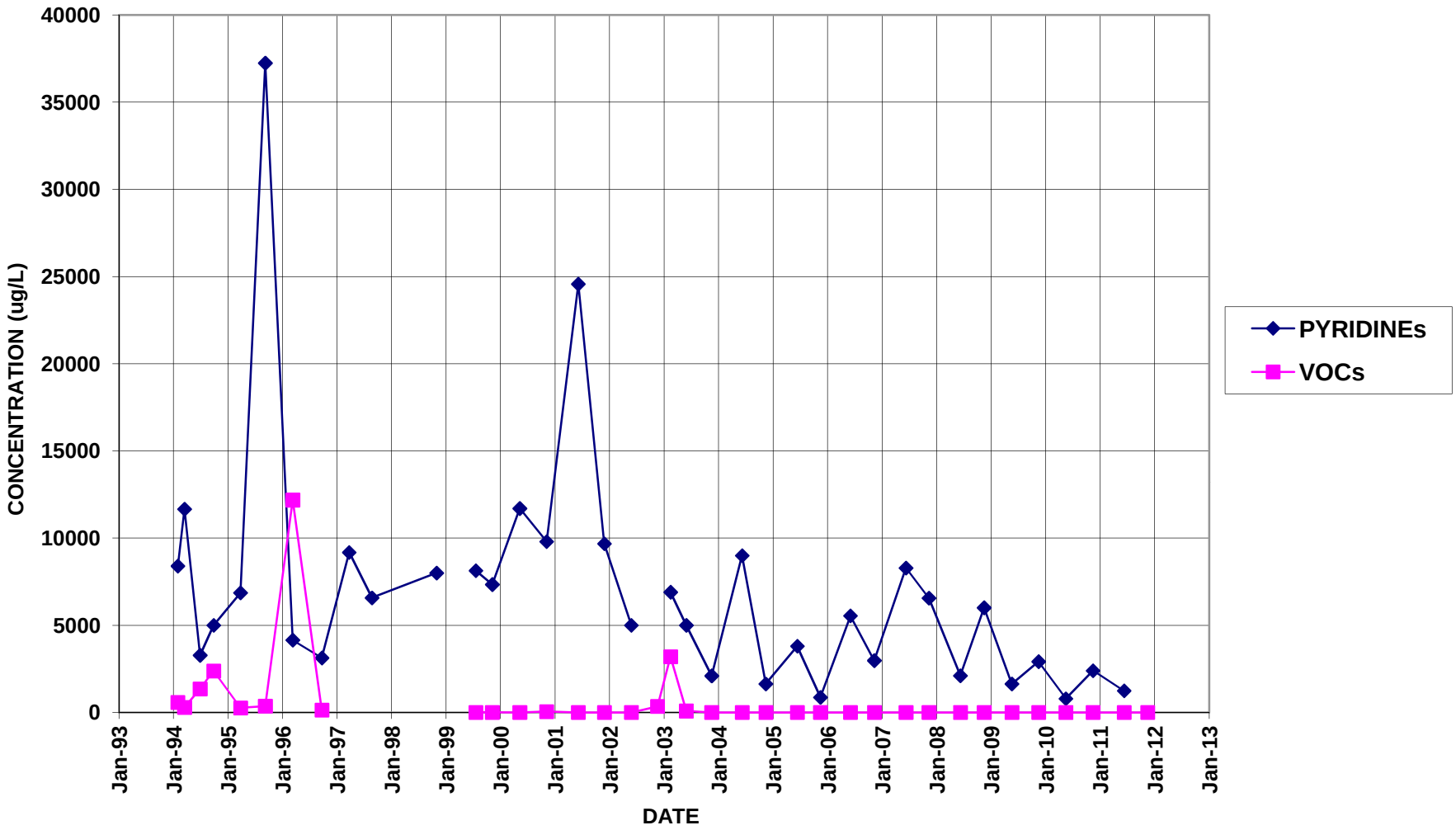
Prepared by: nmb
Reviewed by: jeb

BR-105D



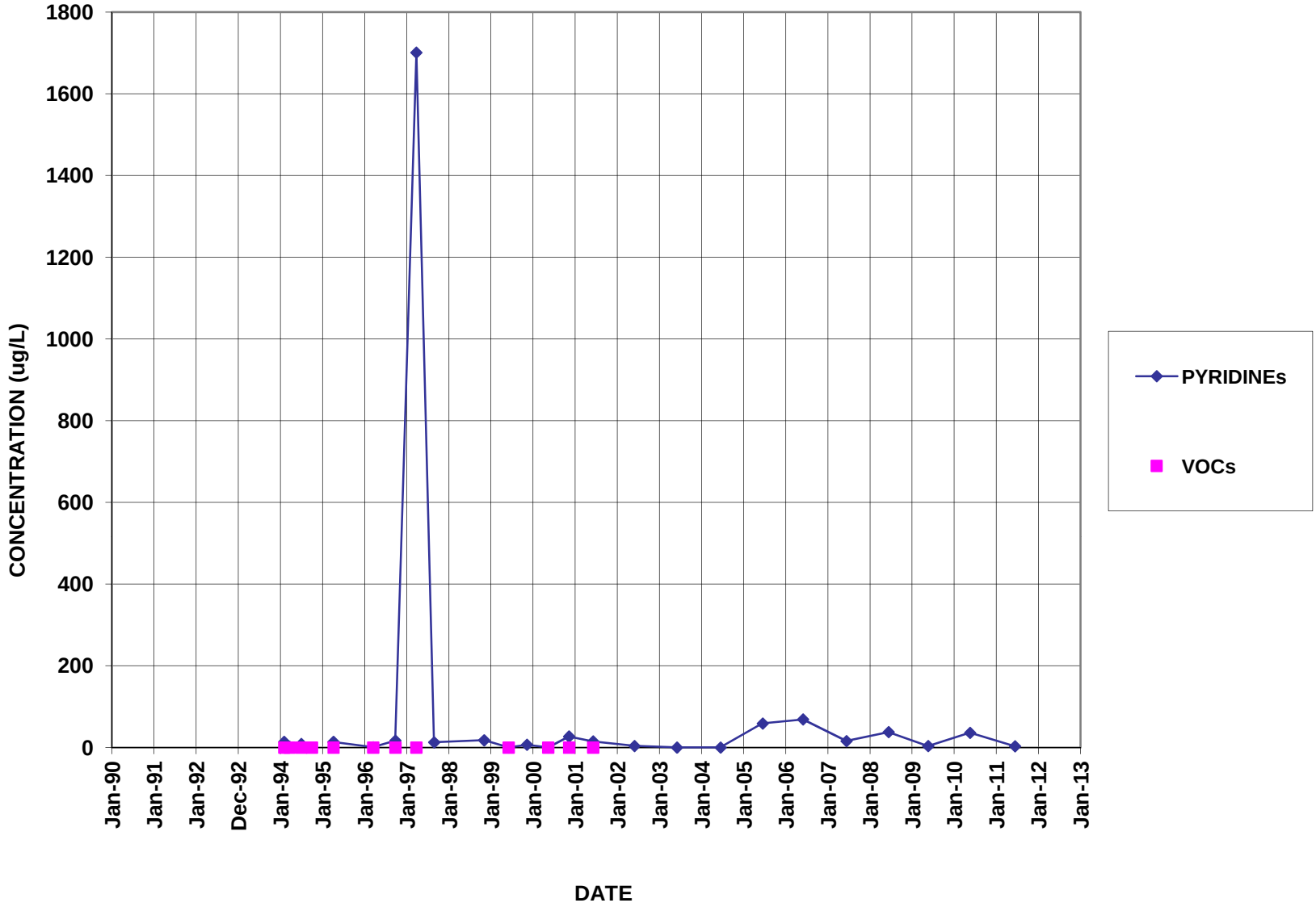
Prepared by: nmb
Reviewed by: jeb

BR-106



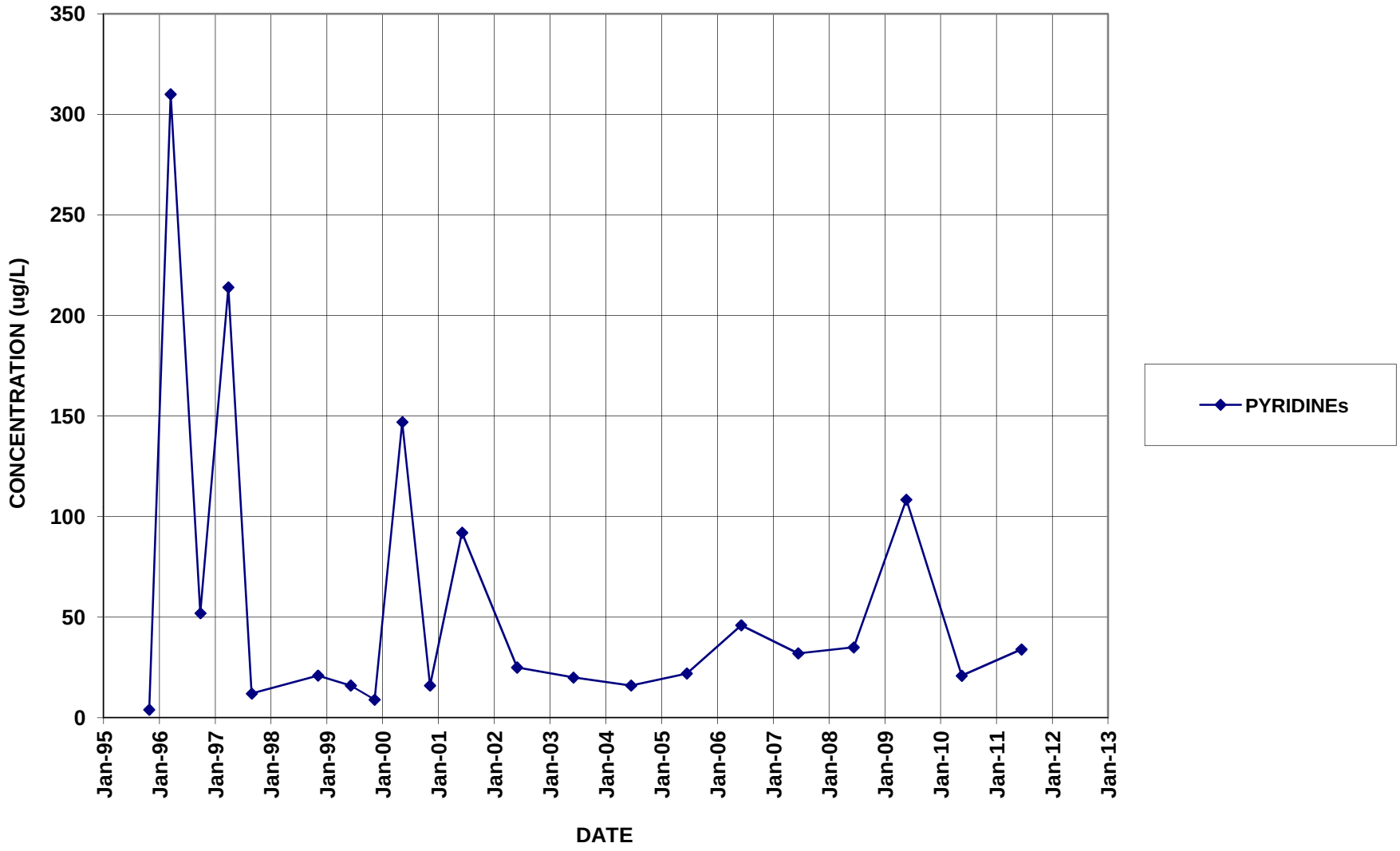
Prepared by: nmb
Reviewed by: jeb

BR-108



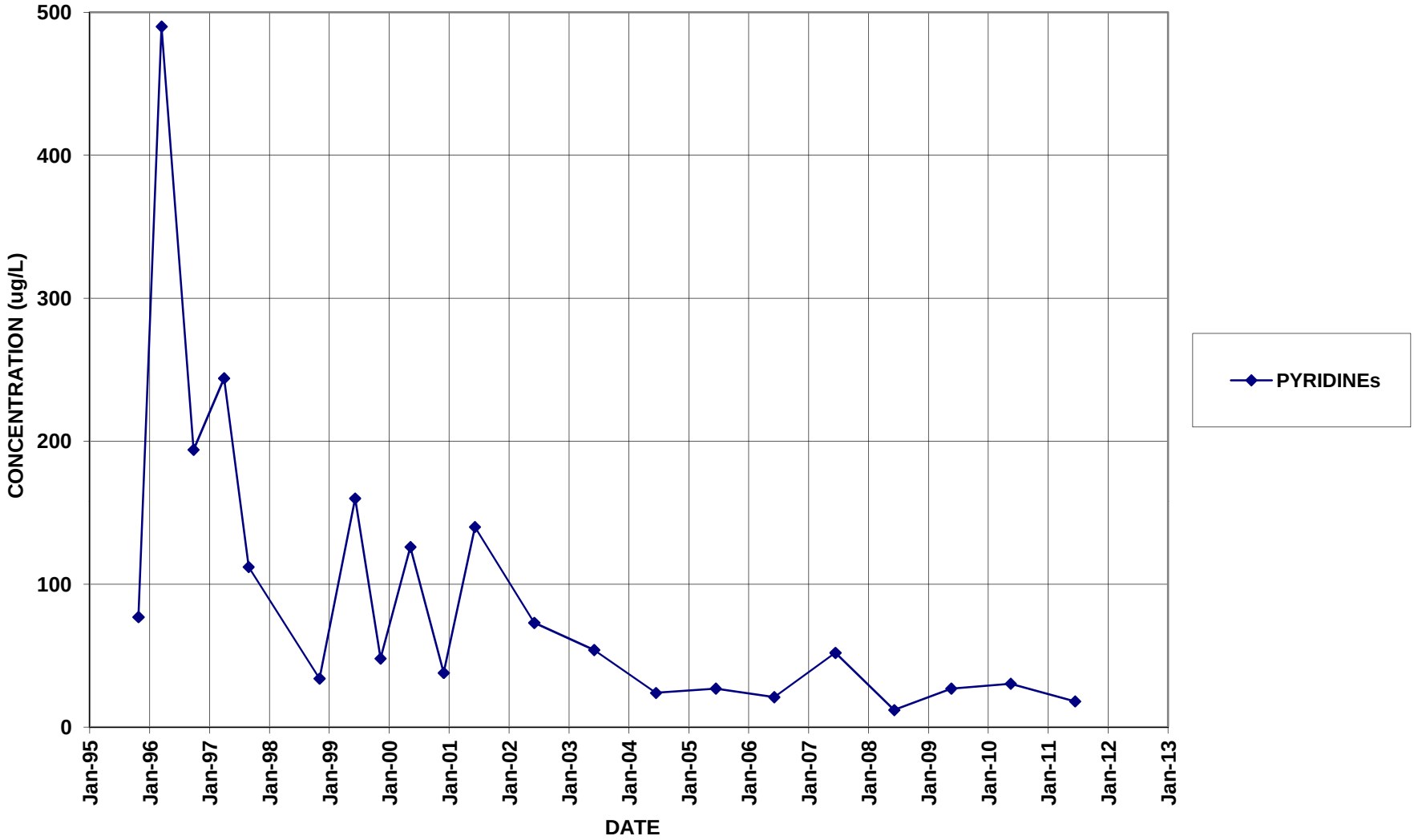
Prepared by: nmb
Reviewed by: jeb

BR-112D



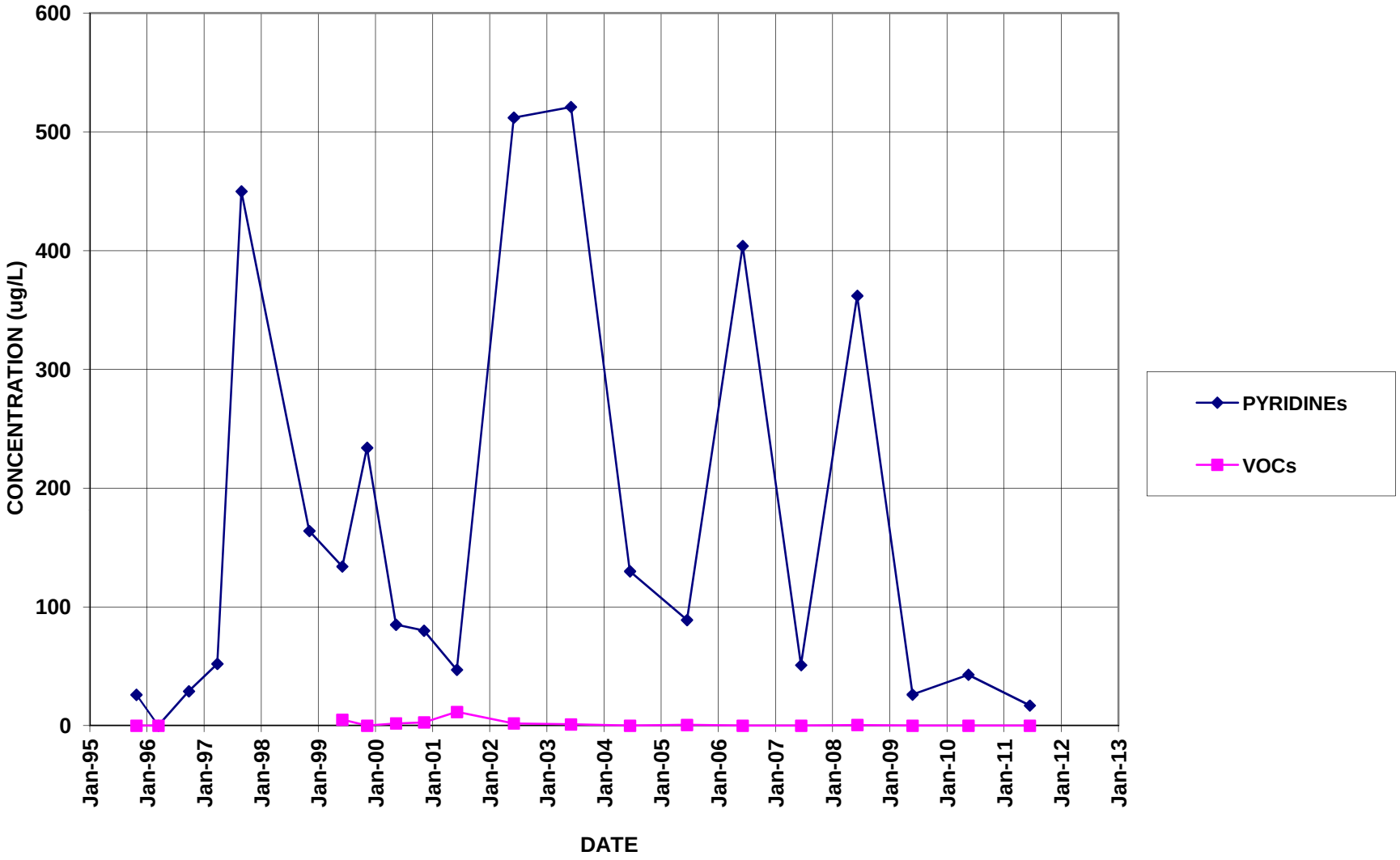
Prepared by: nmb
Reviewed by: jeb

BR-113D



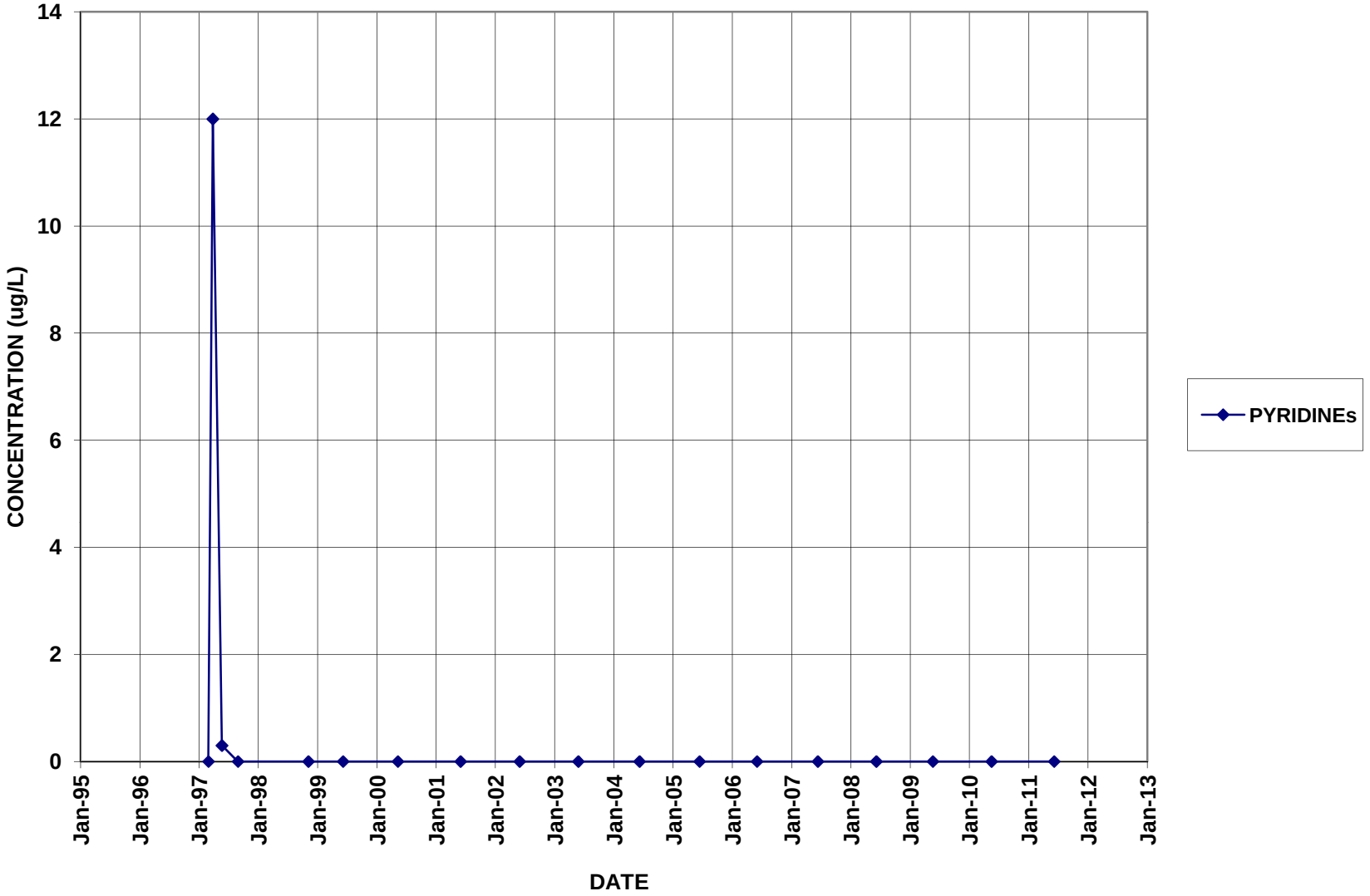
Prepared by: nmb
Reviewed by: jeb

BR-114



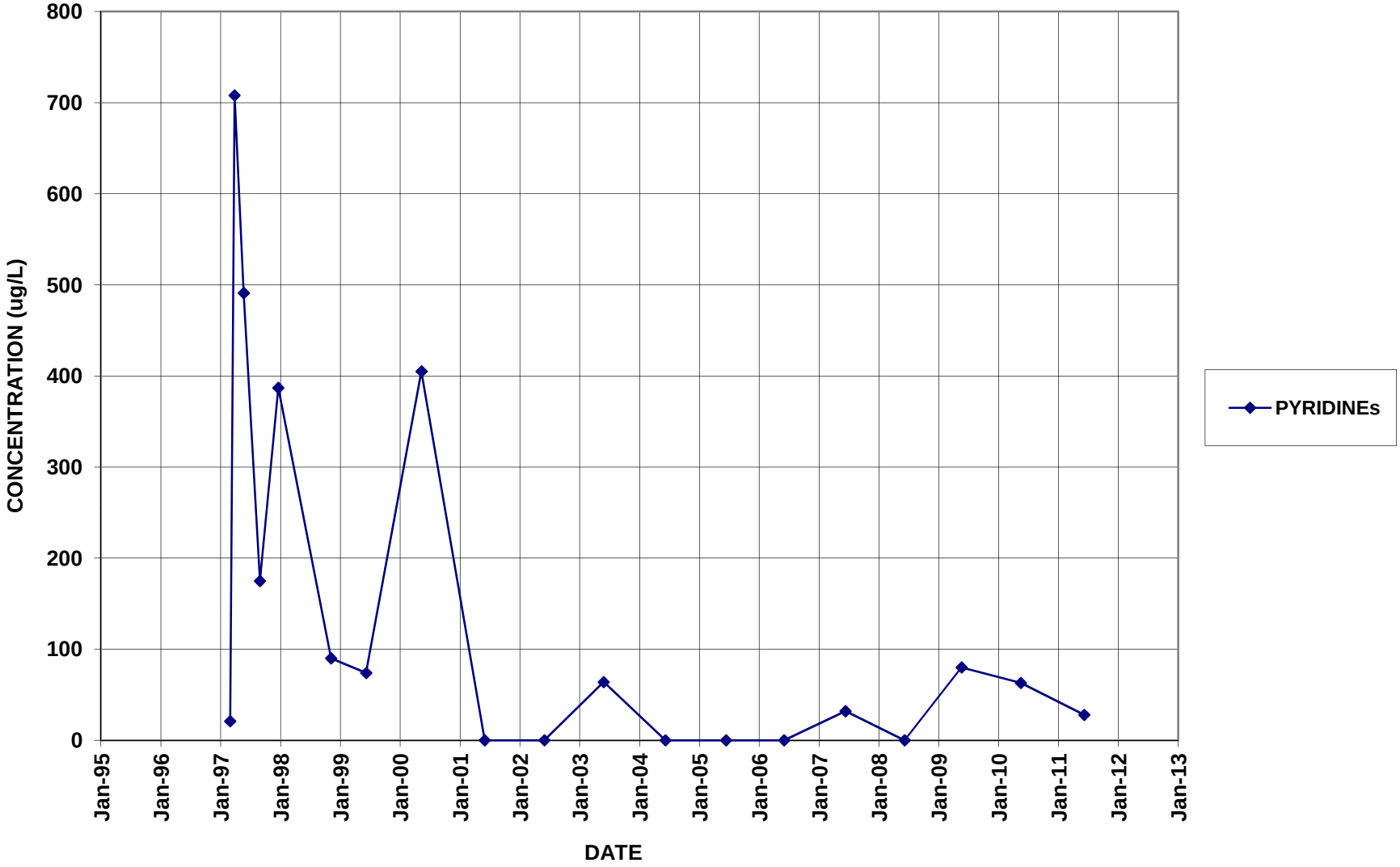
Prepared by: nmb
Reviewed by: jeb

BR-116



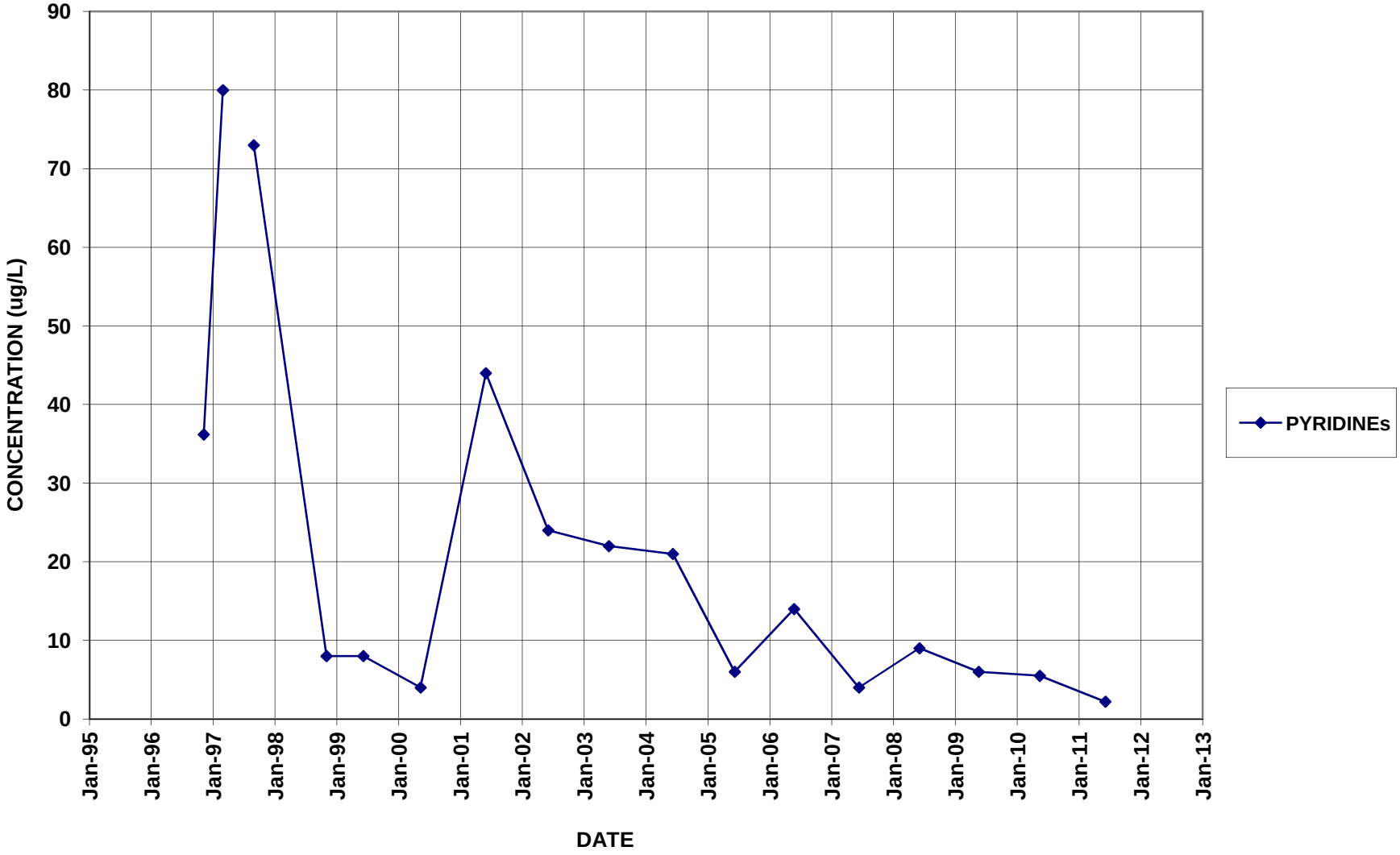
Prepared by: nmb
Reviewed by: jeb

BR-116D



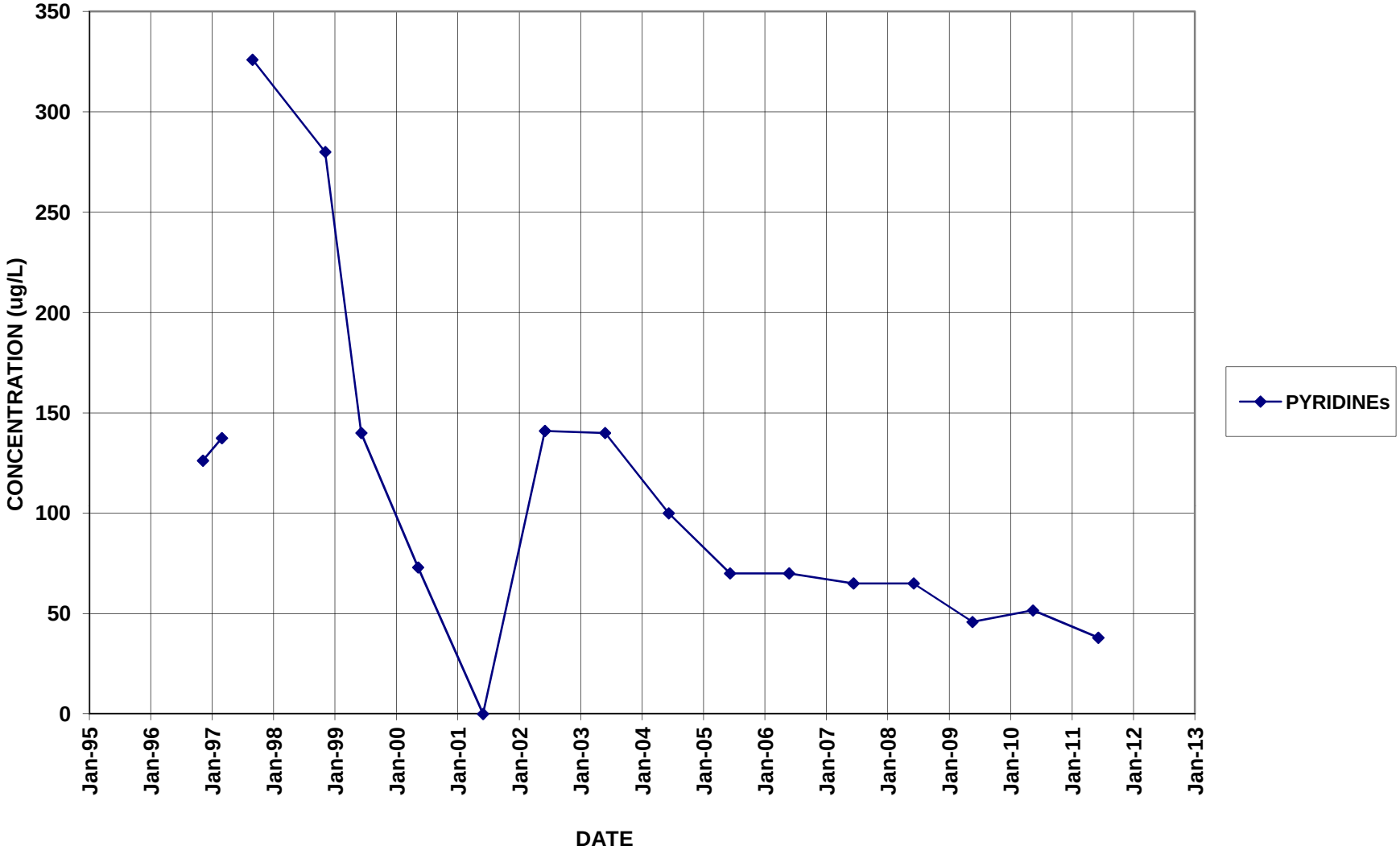
Prepared by: nmb
Reviewed by: jeb

BR-117D



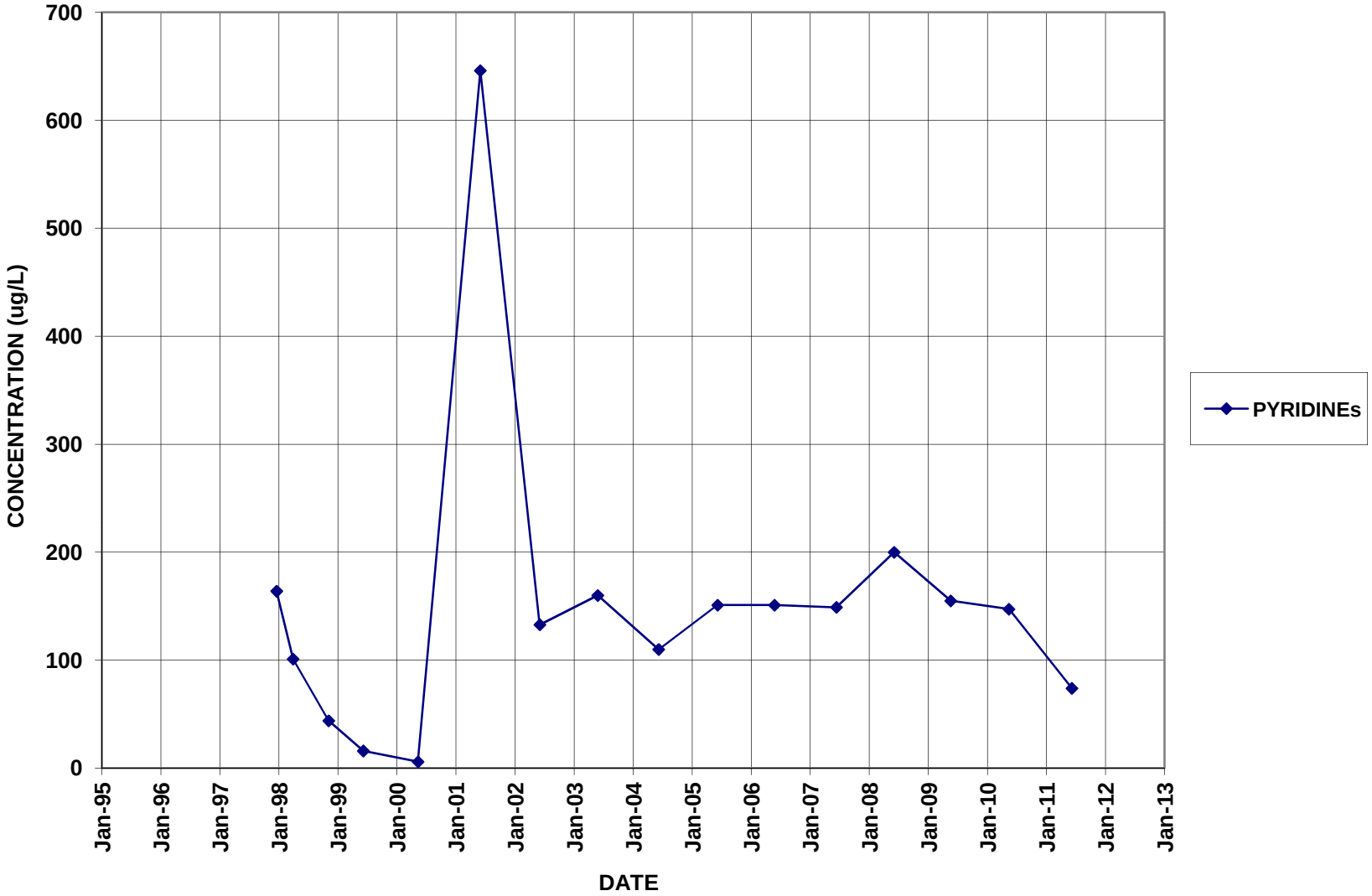
Prepared by: nmb
Reviewed by: jeb

BR-118D



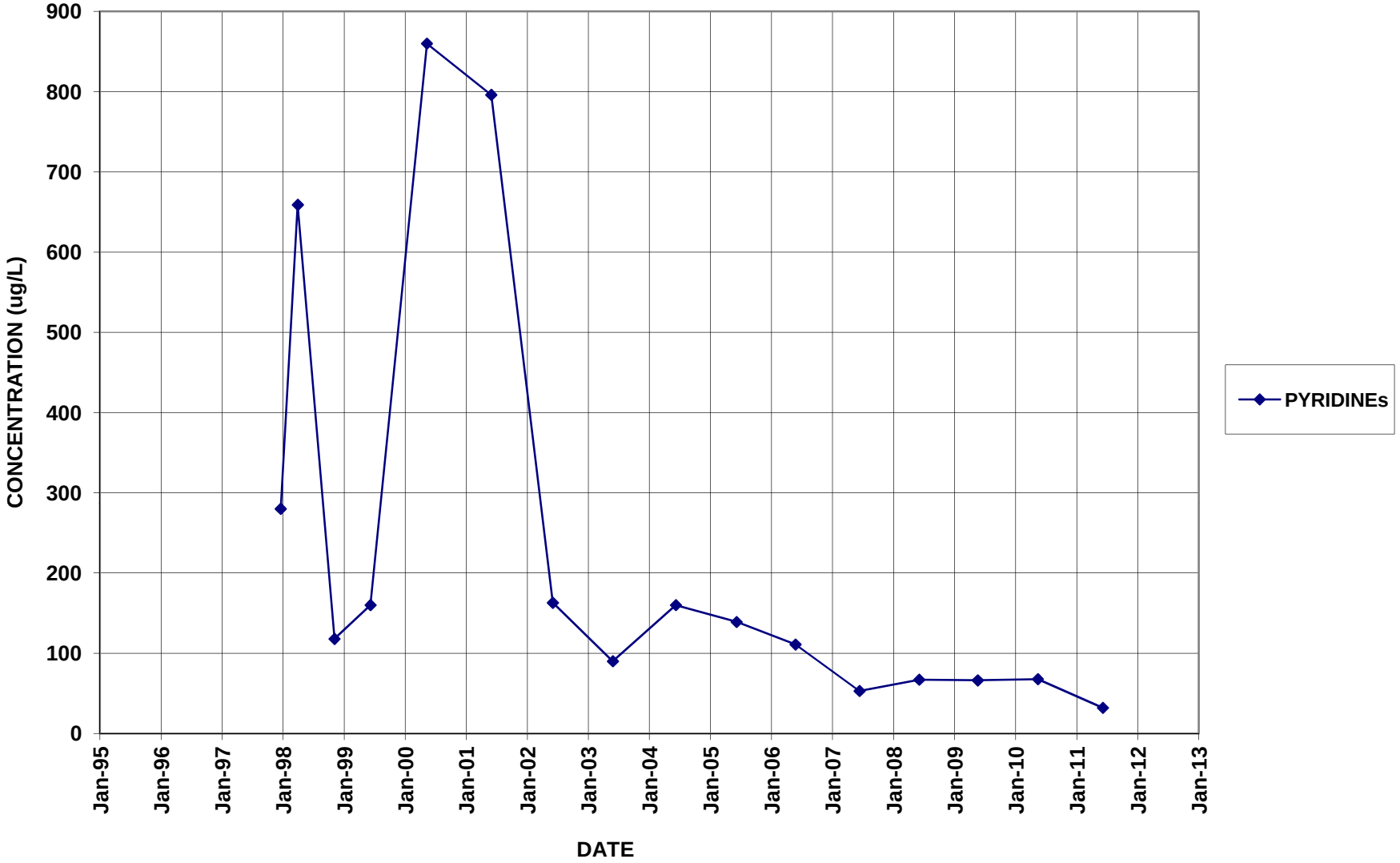
Prepared by: nmb
Reviewed by: jeb

BR-122D



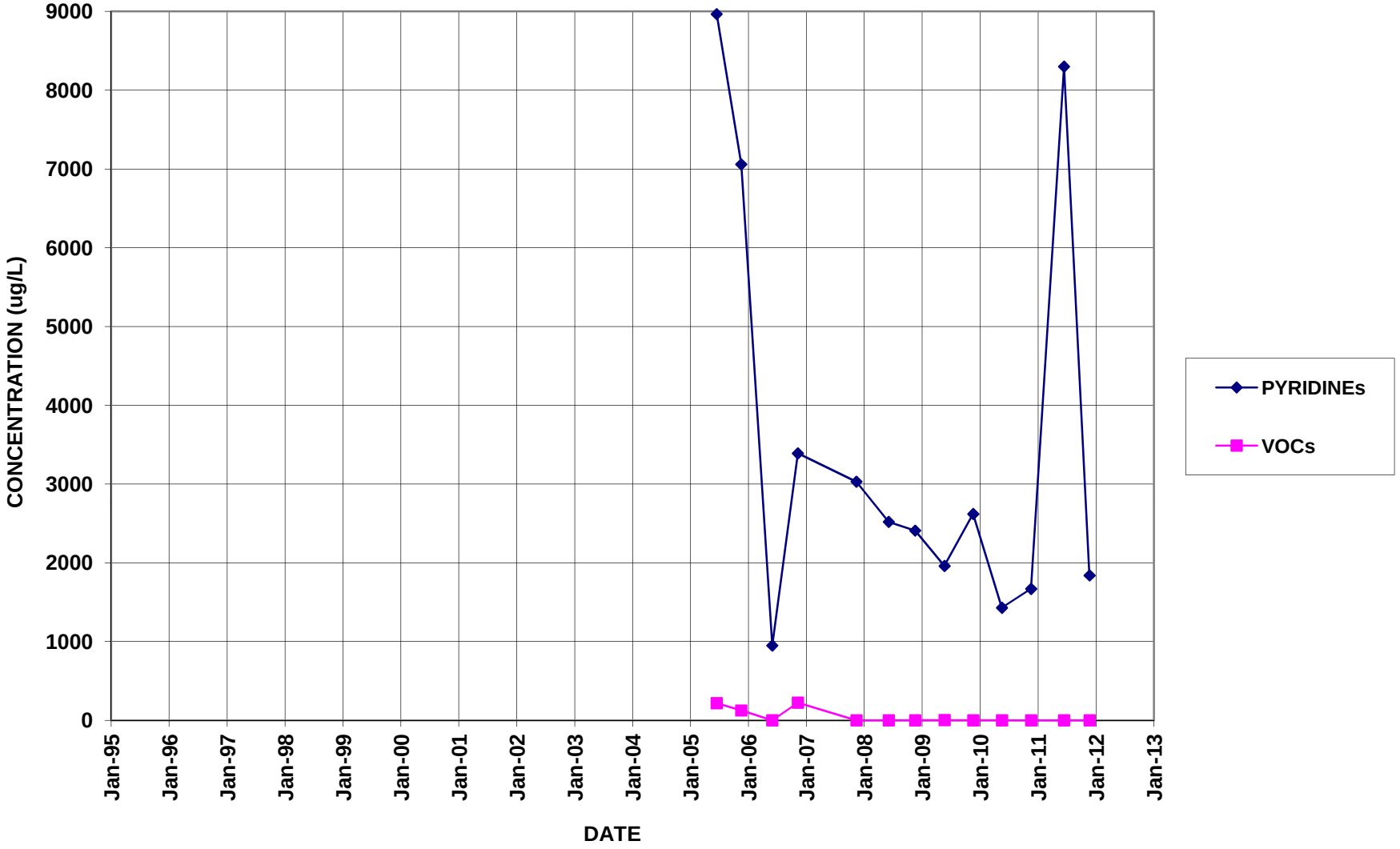
Prepared by: nmb
Reviewed by: jeb

BR-123D



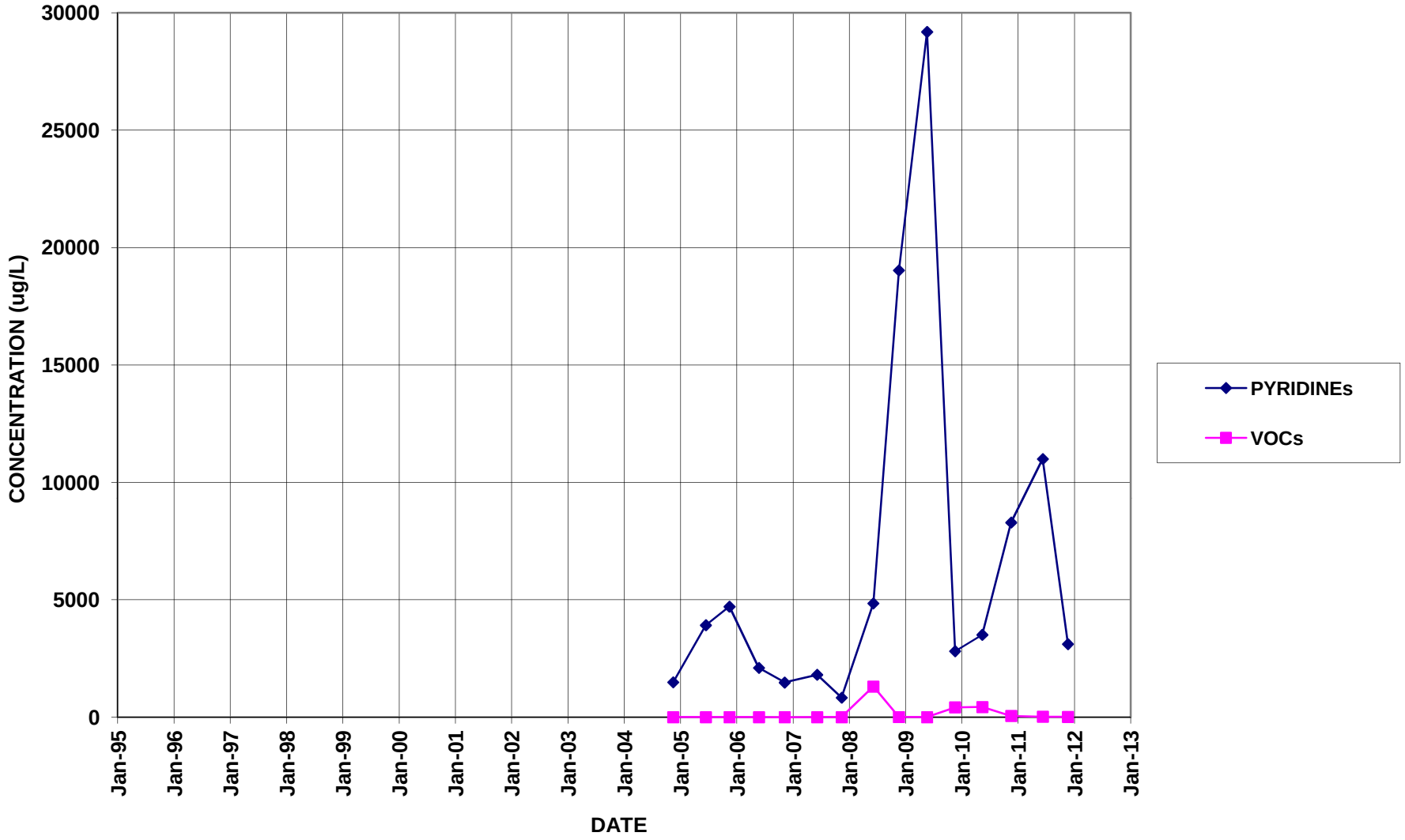
Prepared by: nmb
Reviewed by: jeb

BR-126

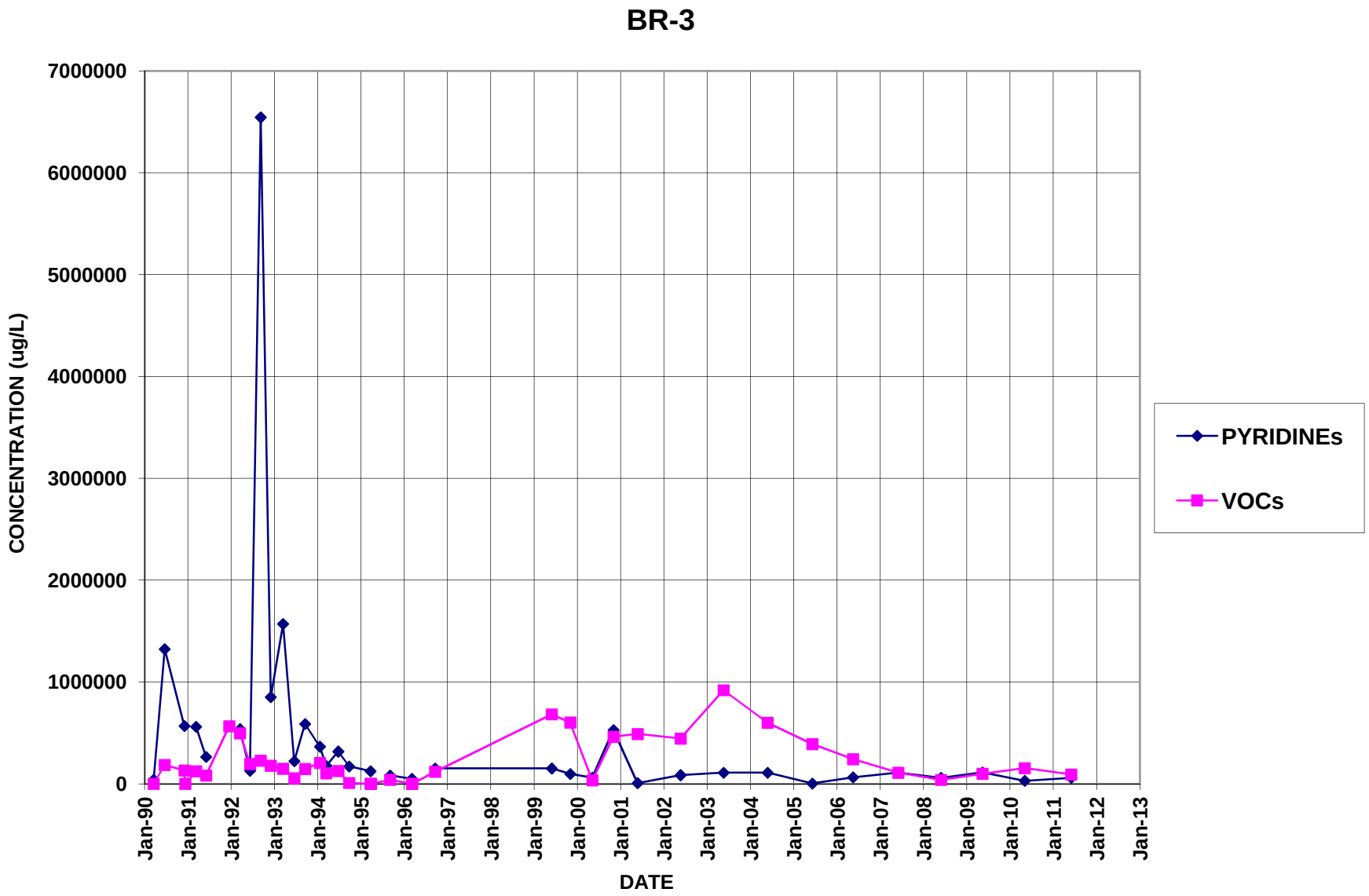


Prepared by: nmb
Reviewed by: jeb

BR-127

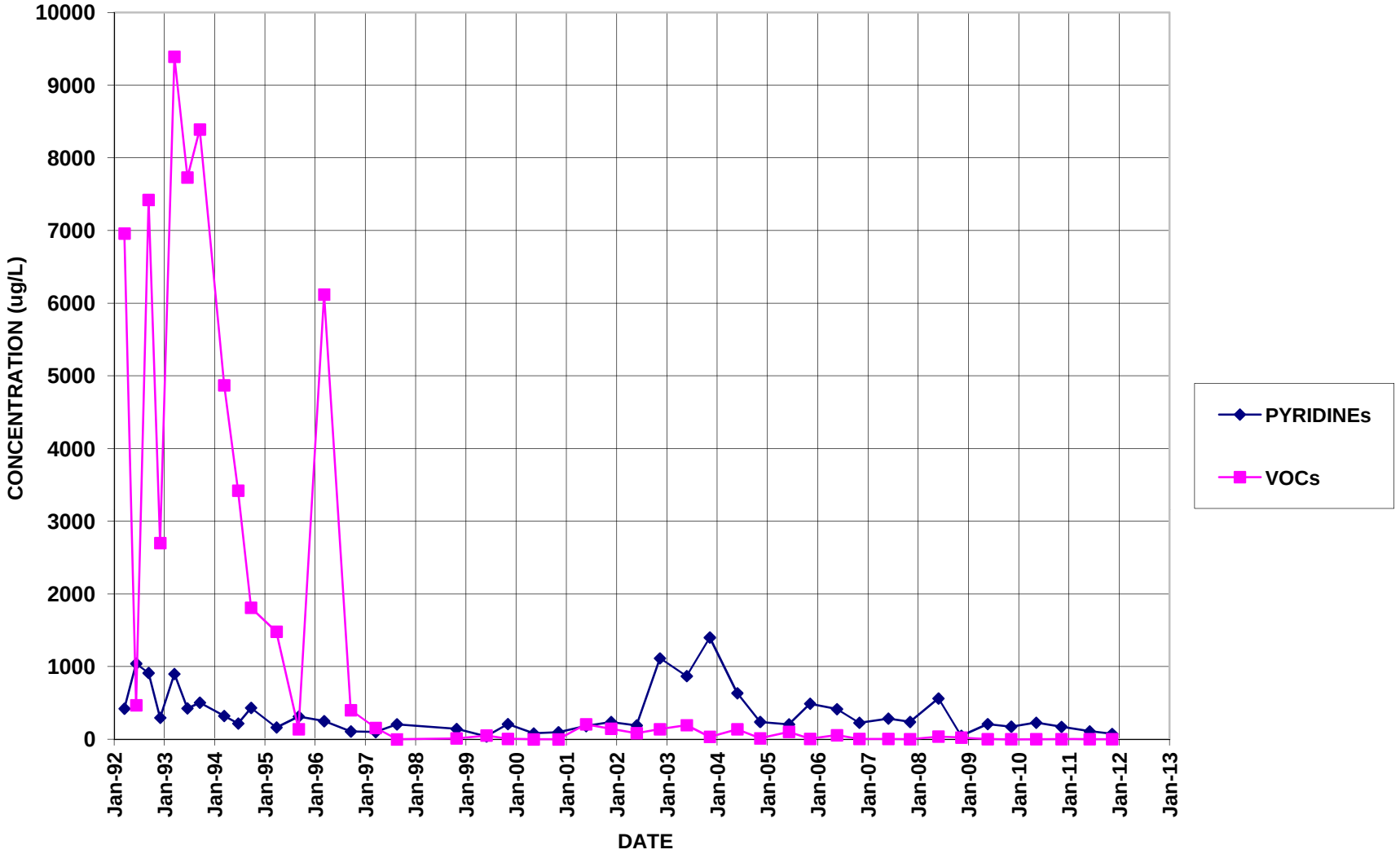


Prepared by: nmb
Reviewed by: jeb



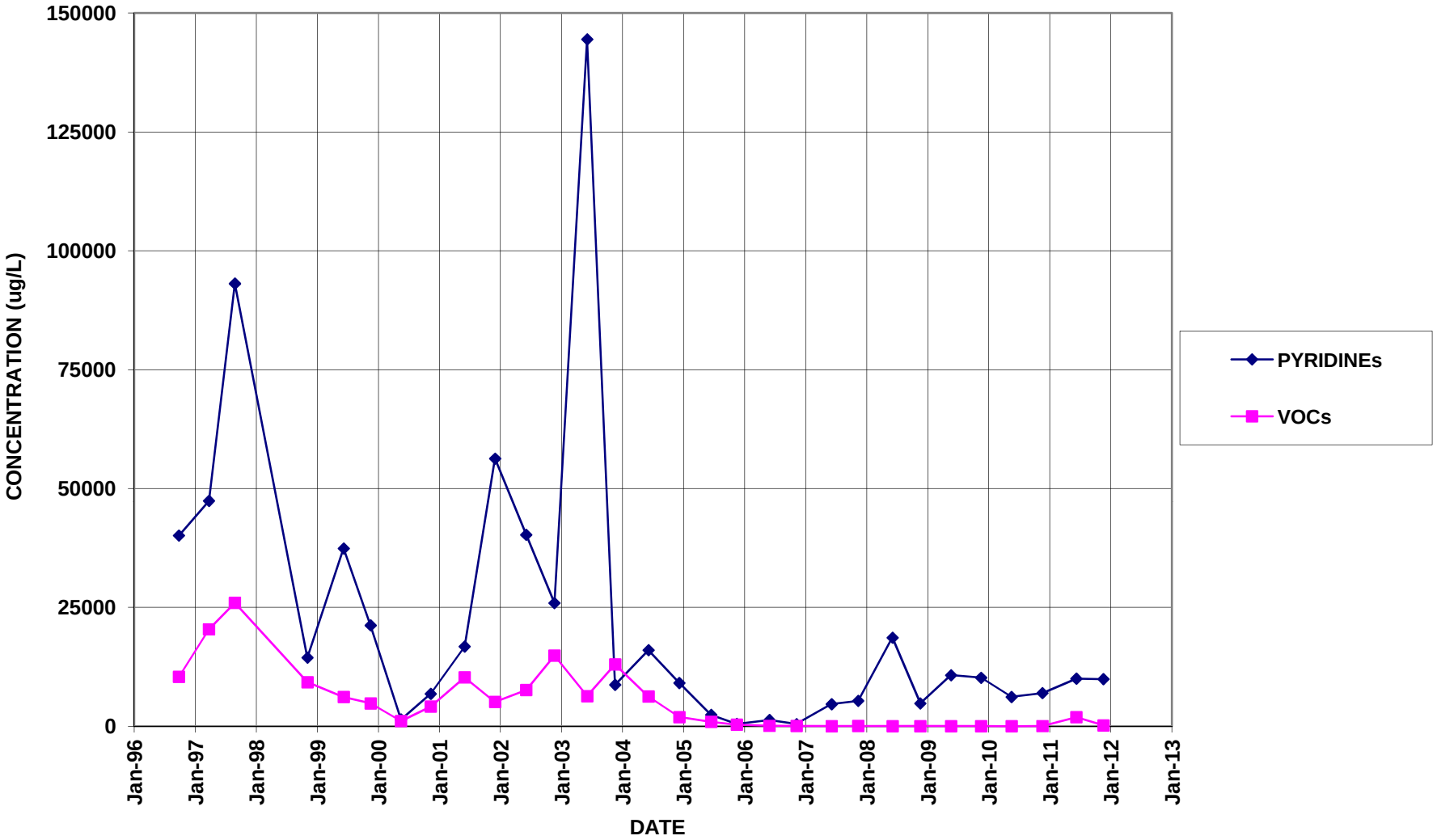
Prepared by: nmb
Reviewed by: jeb

BR-5A



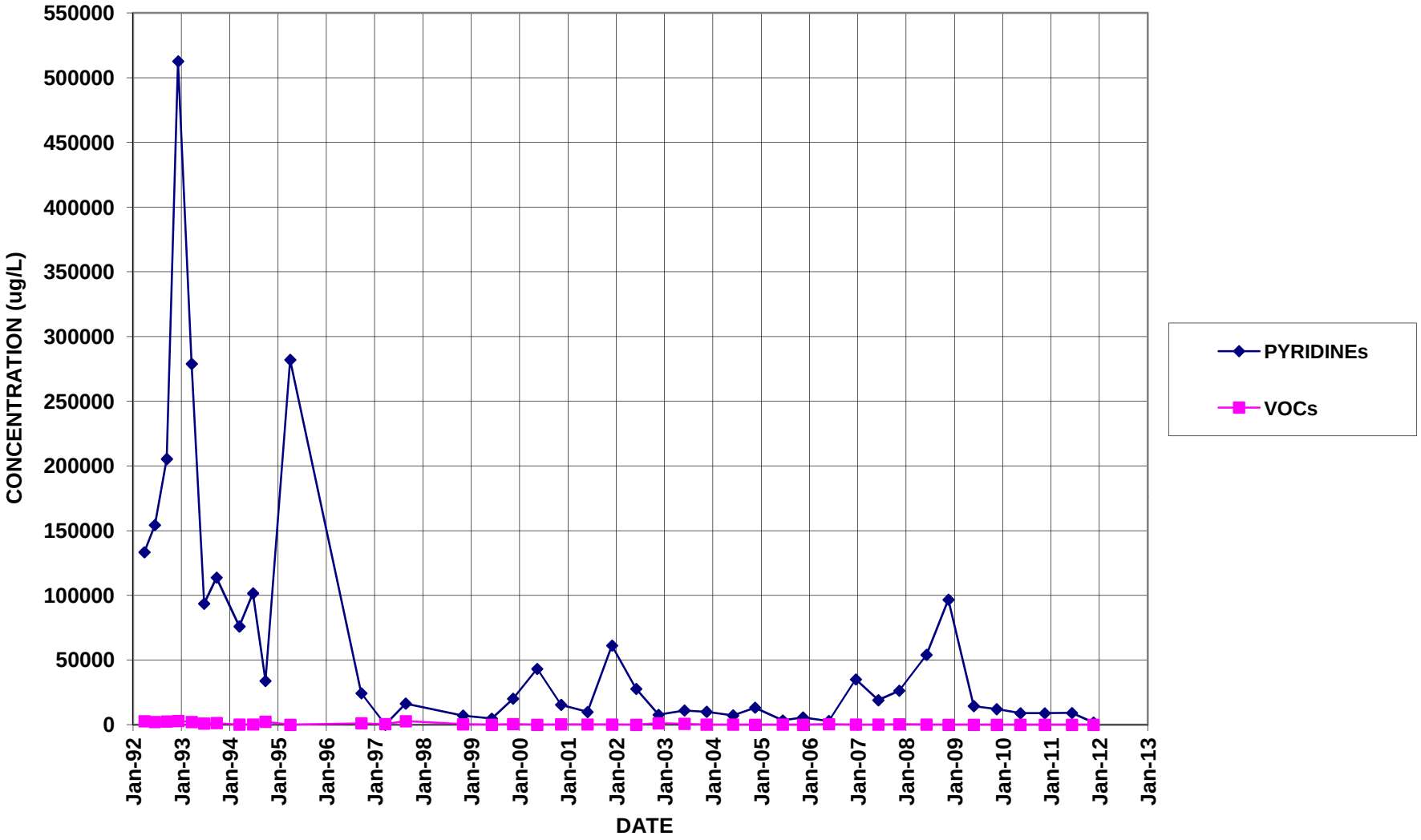
Prepared by: nmb
Reviewed by: jeb

BR-6A



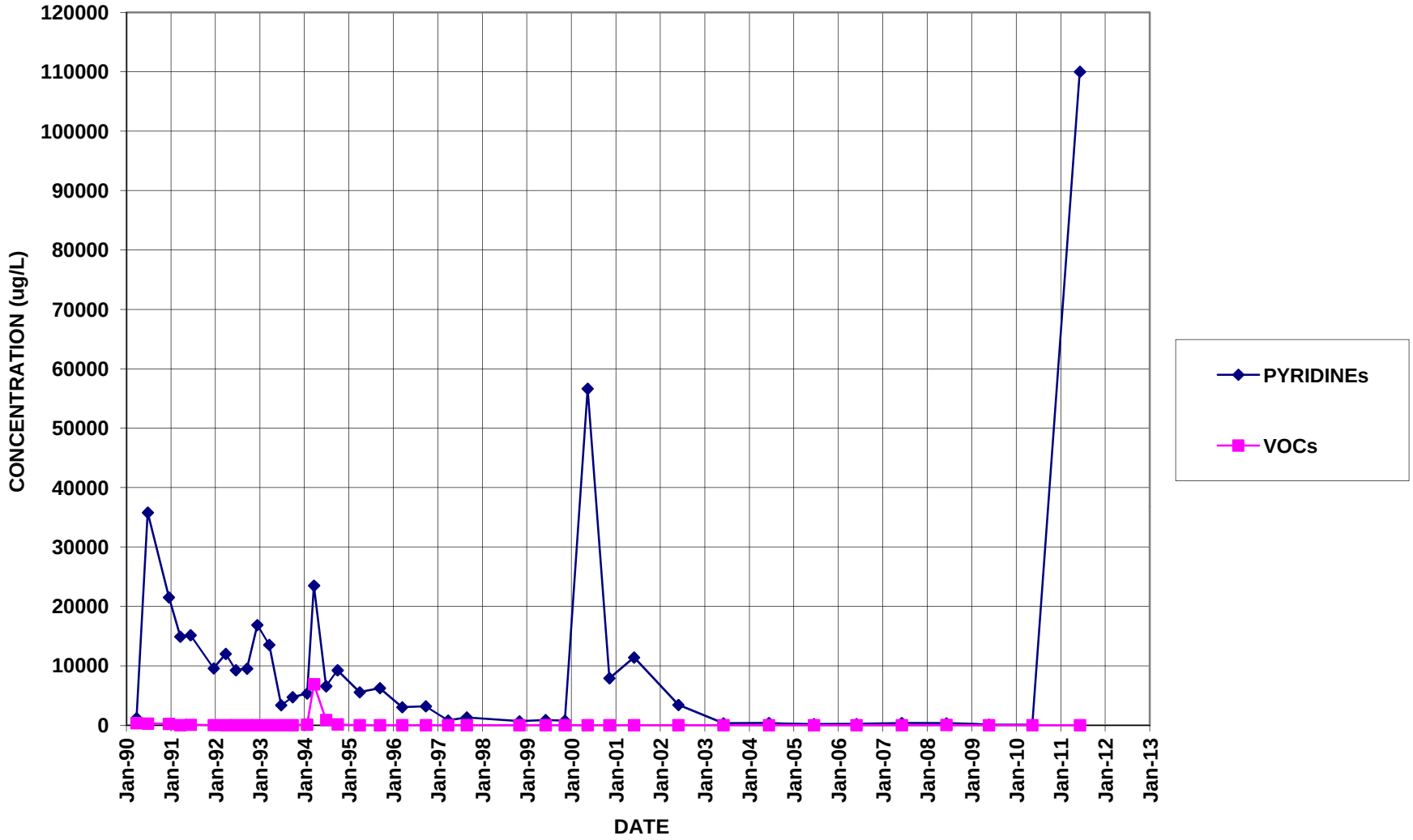
Prepared by: nmb
Reviewed by: jeb

BR-7A



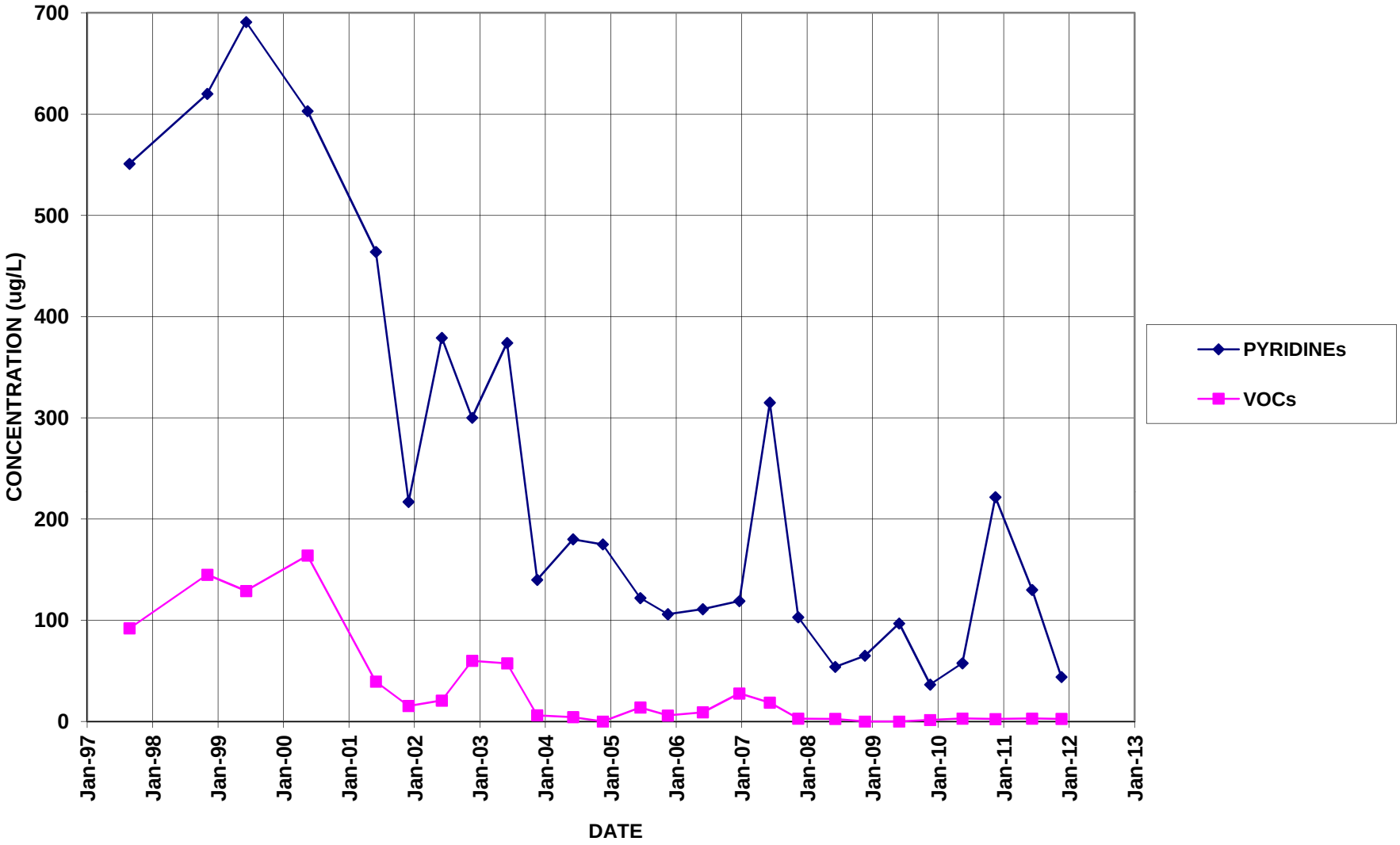
Prepared by: nmb
Reviewed by: jeb

BR-8

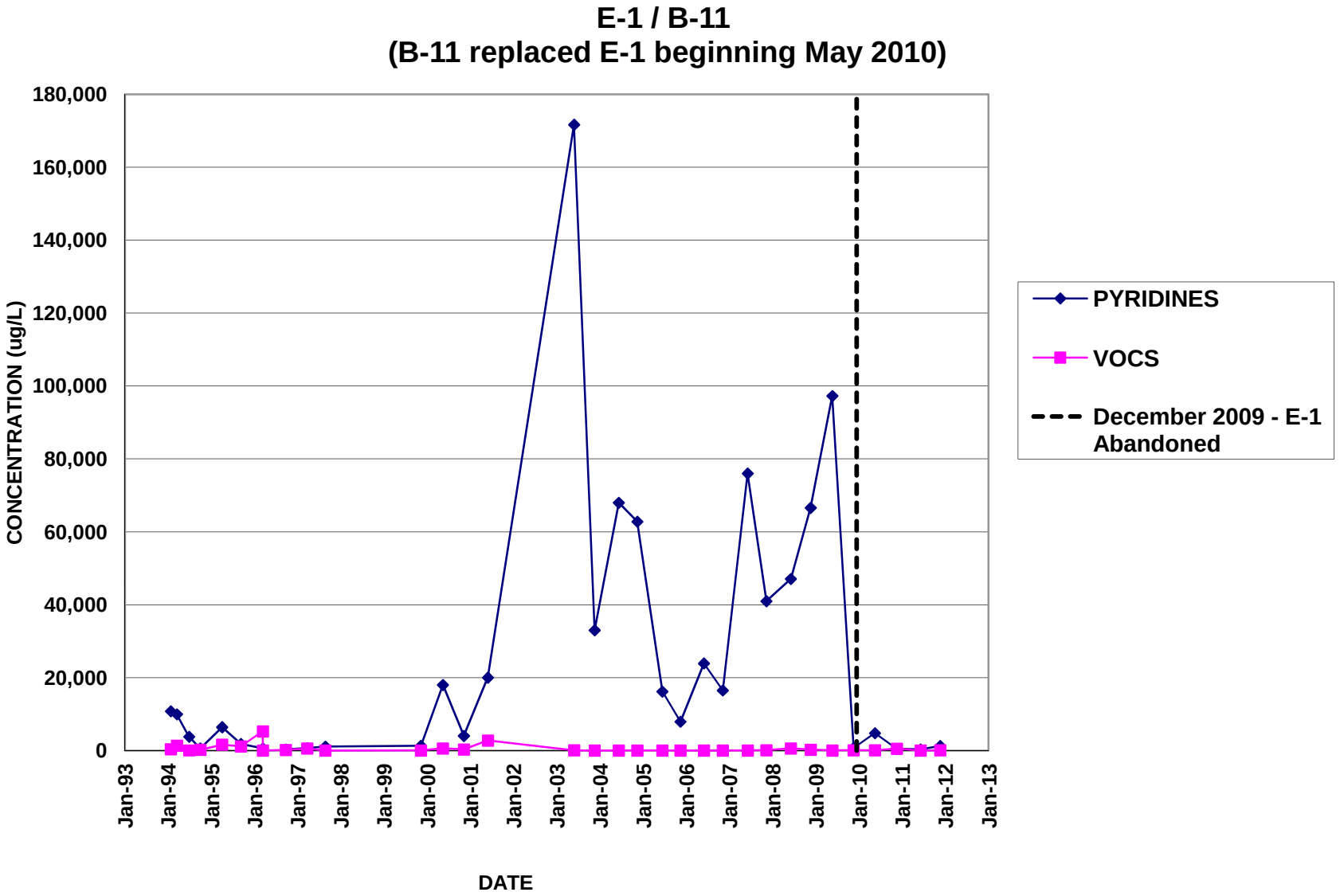


Prepared by: nmb
Reviewed by: jeb

BR-9

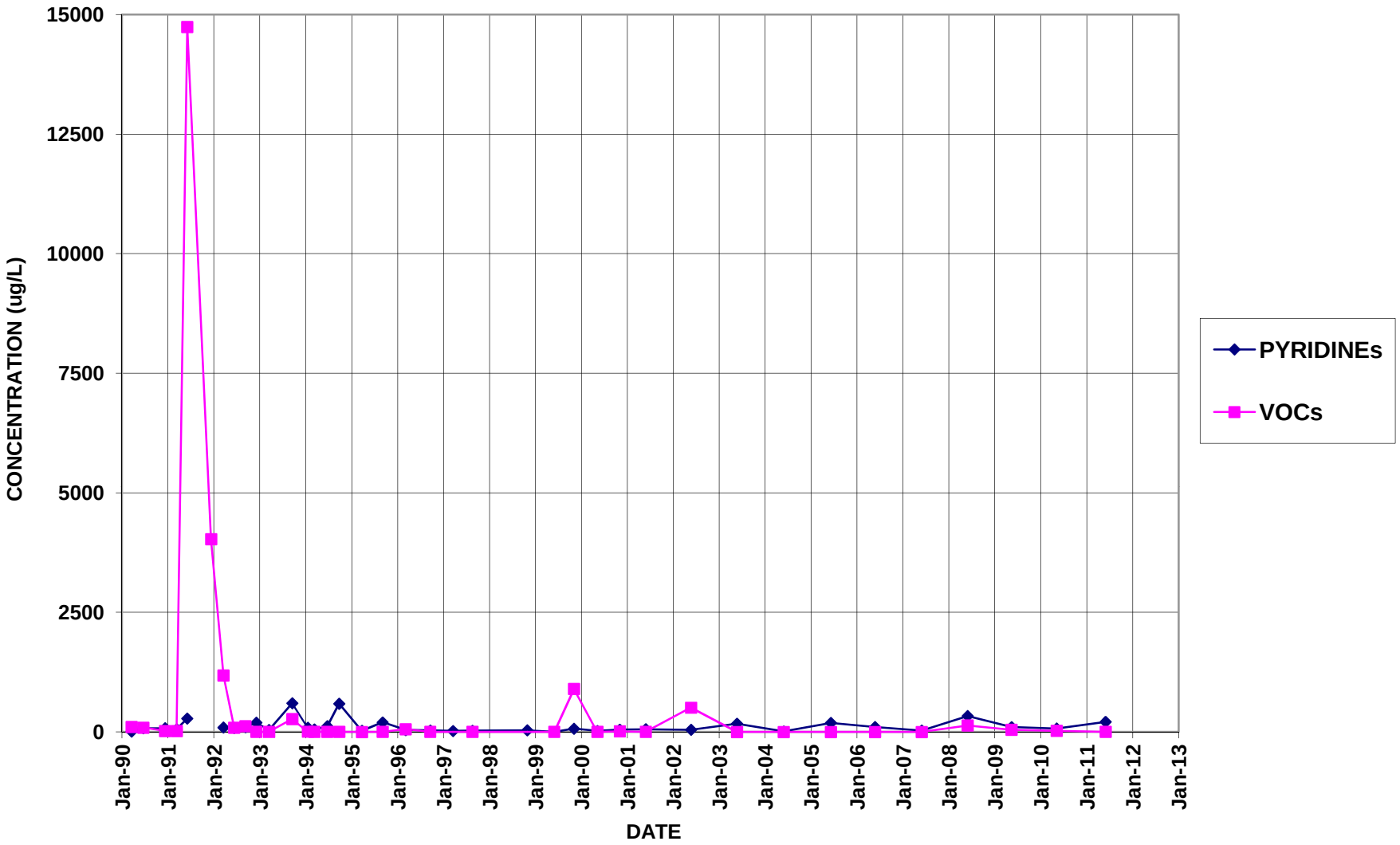


Prepared by: nmb
Reviewed by: jeb



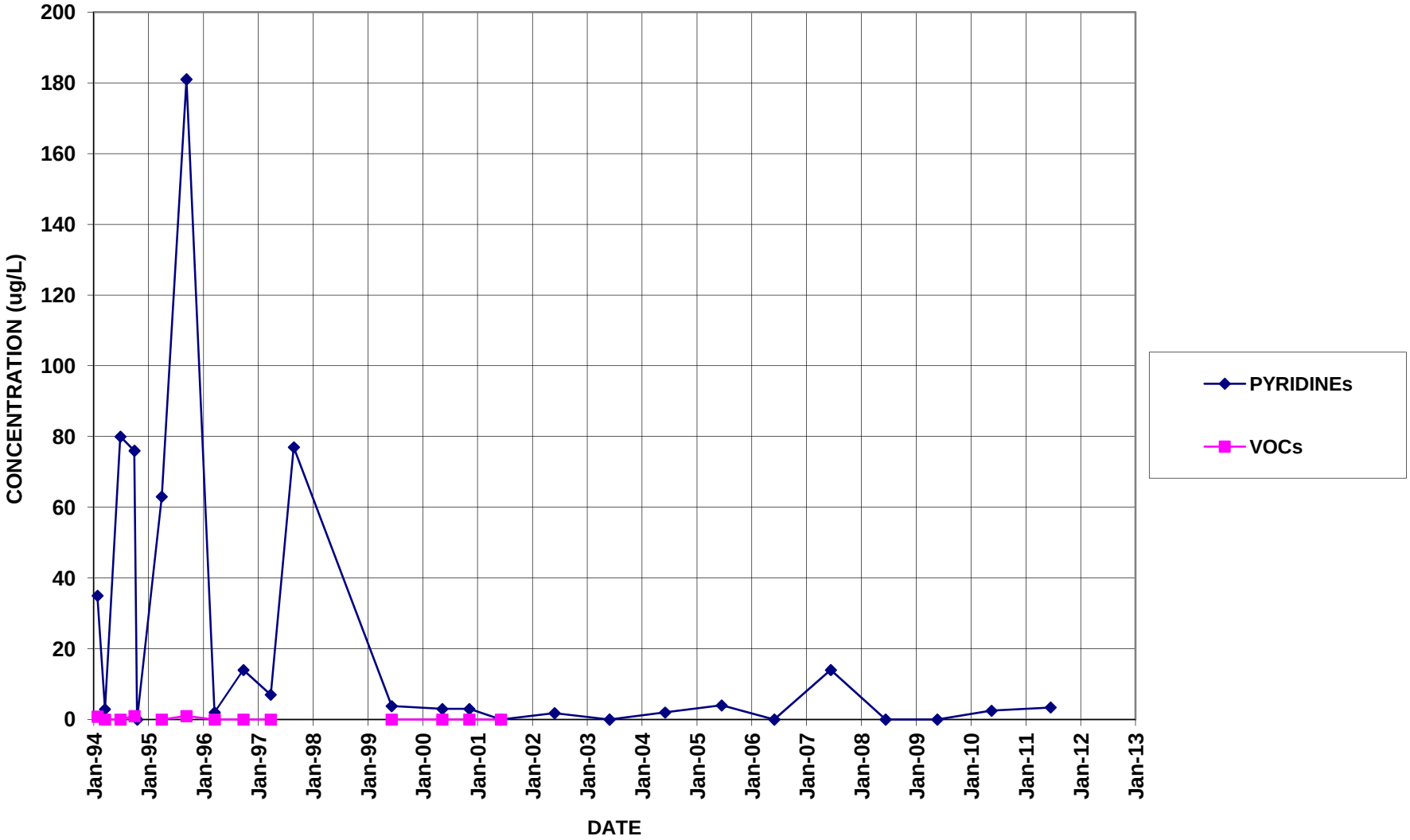
Prepared by: nmb
Reviewed by: jeb

E-3



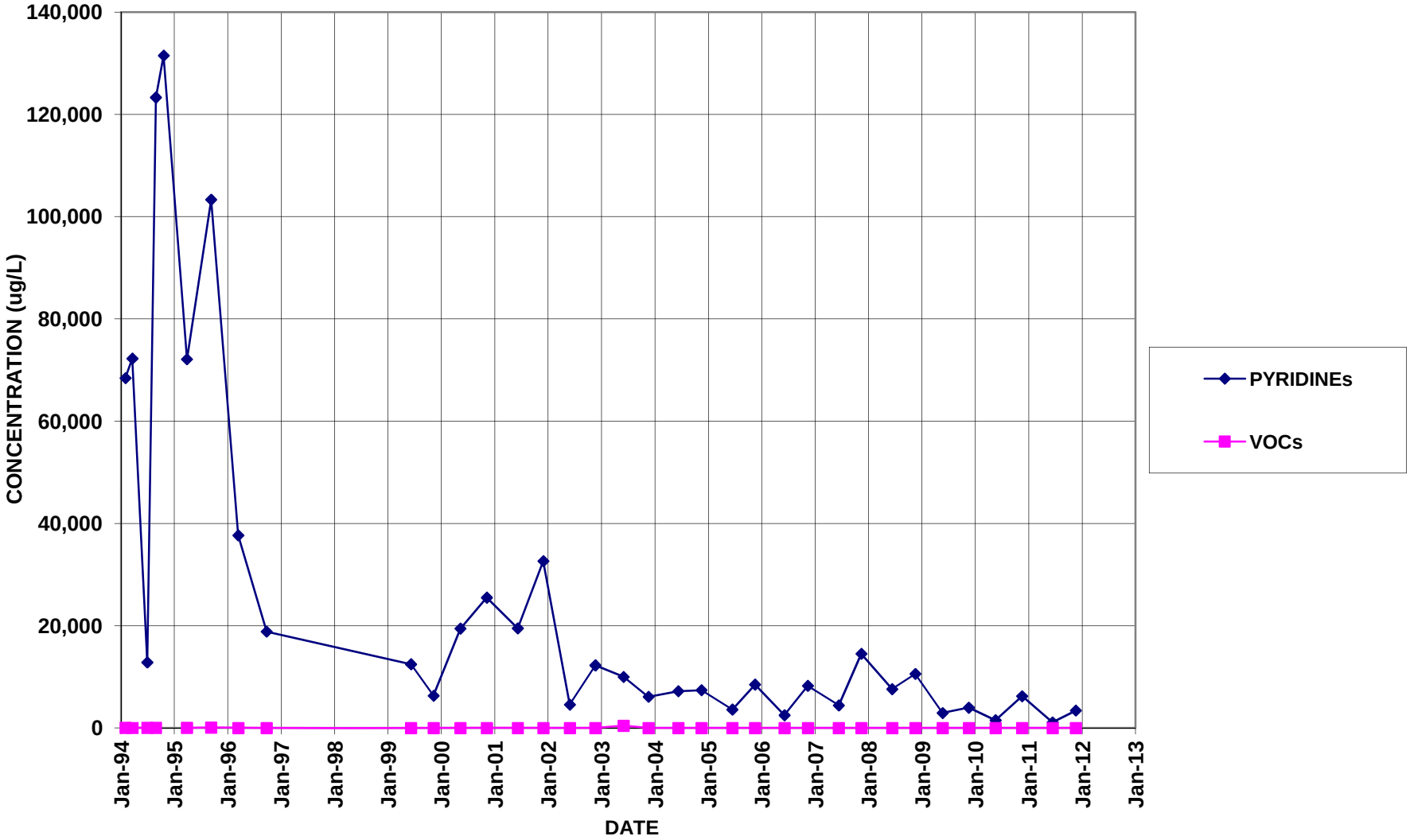
Prepared by: nmb
Reviewed by: jeb

MW-104



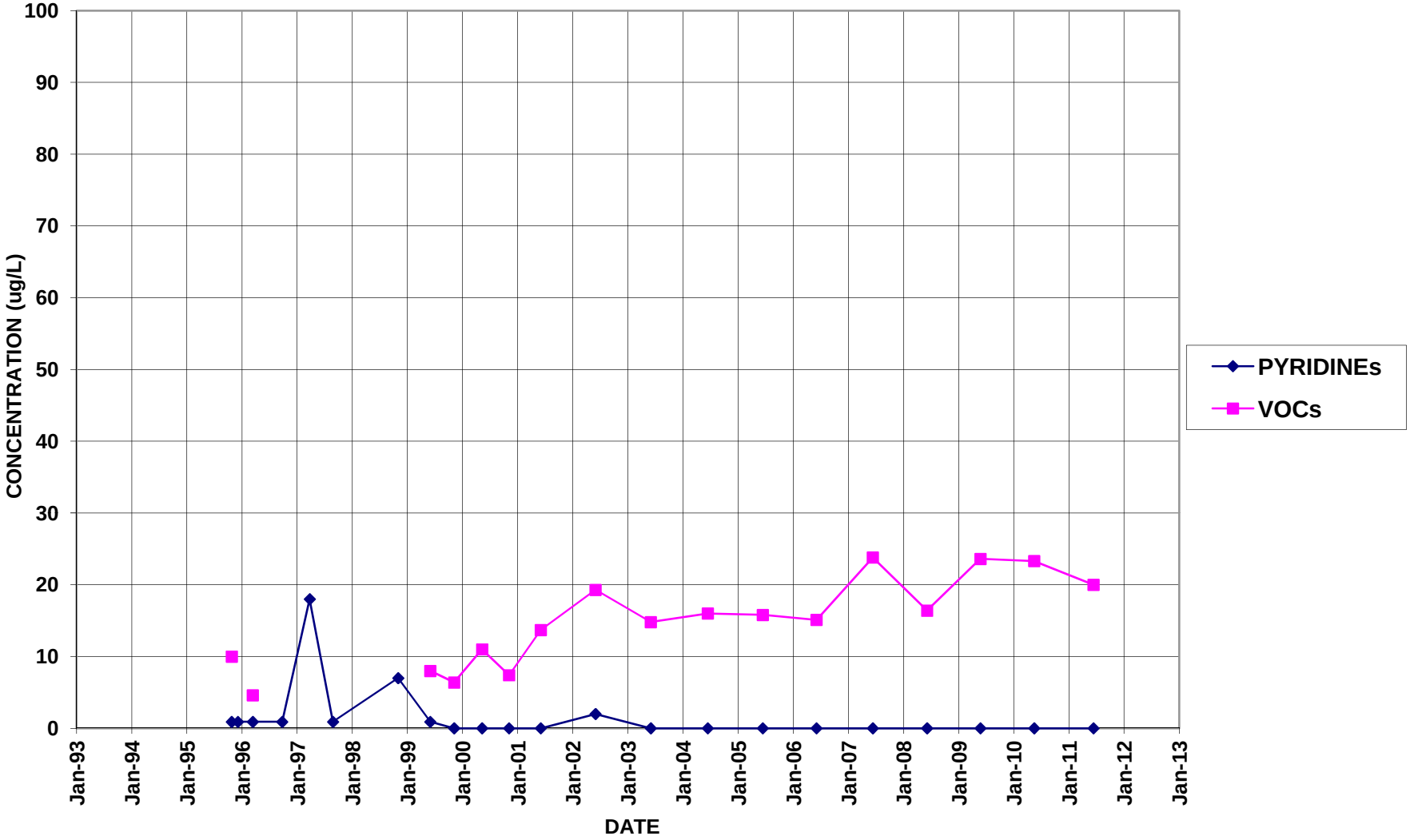
Prepared by: nmb
Reviewed by: jeb

MW-106



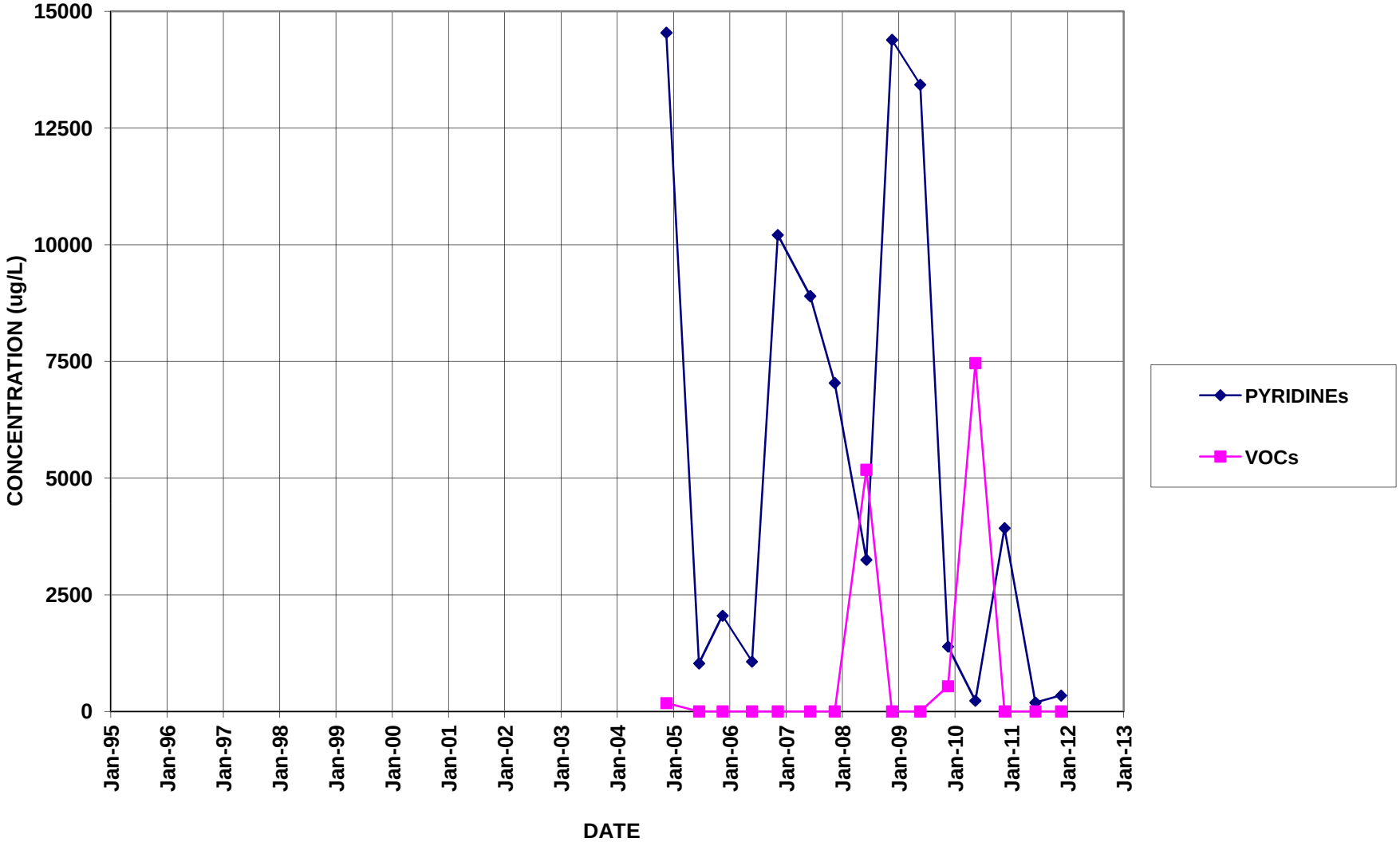
Prepared by: nmb
Reviewed by: jeb

MW-114



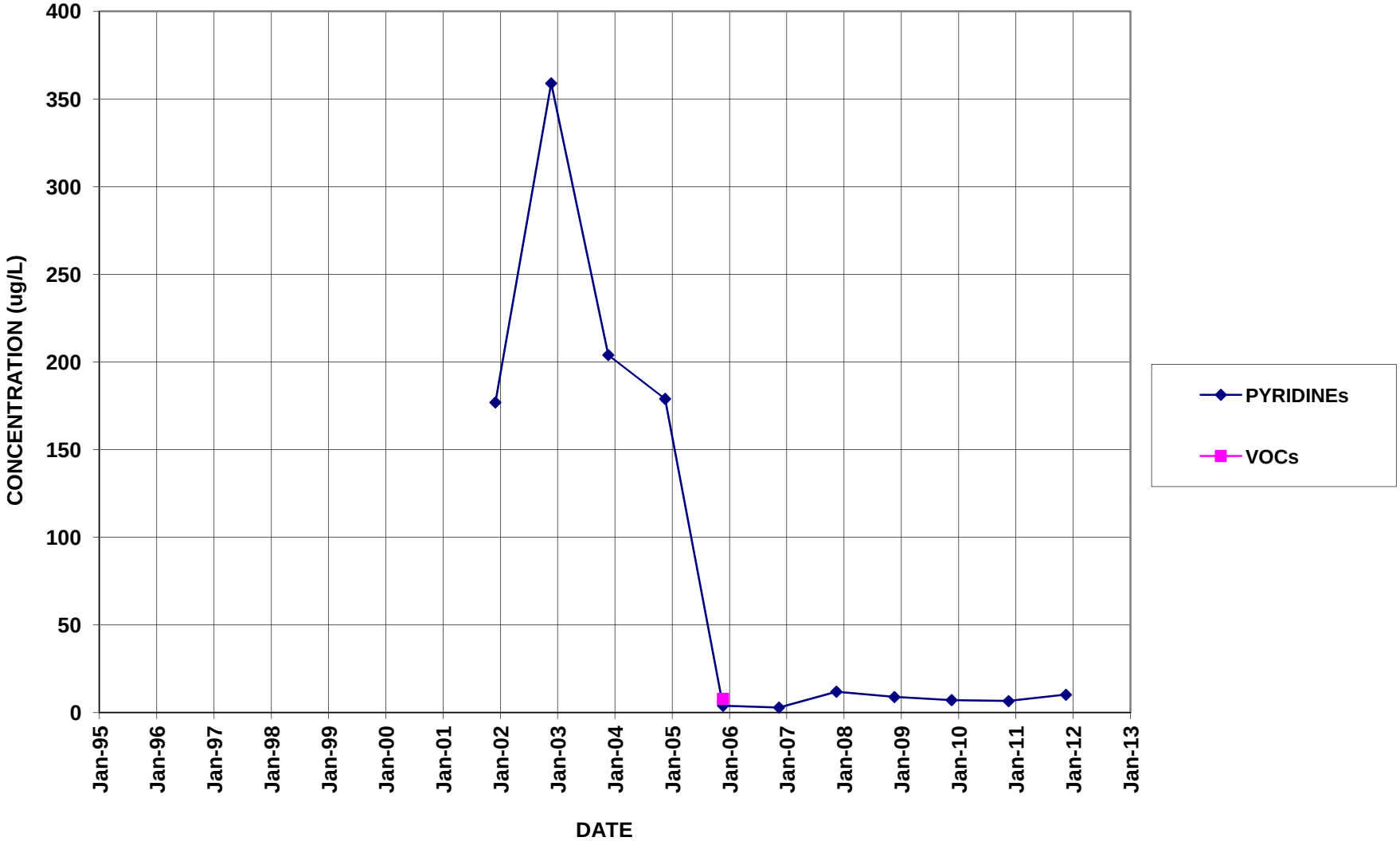
Prepared by: nmb
Reviewed by: jeb

MW-127



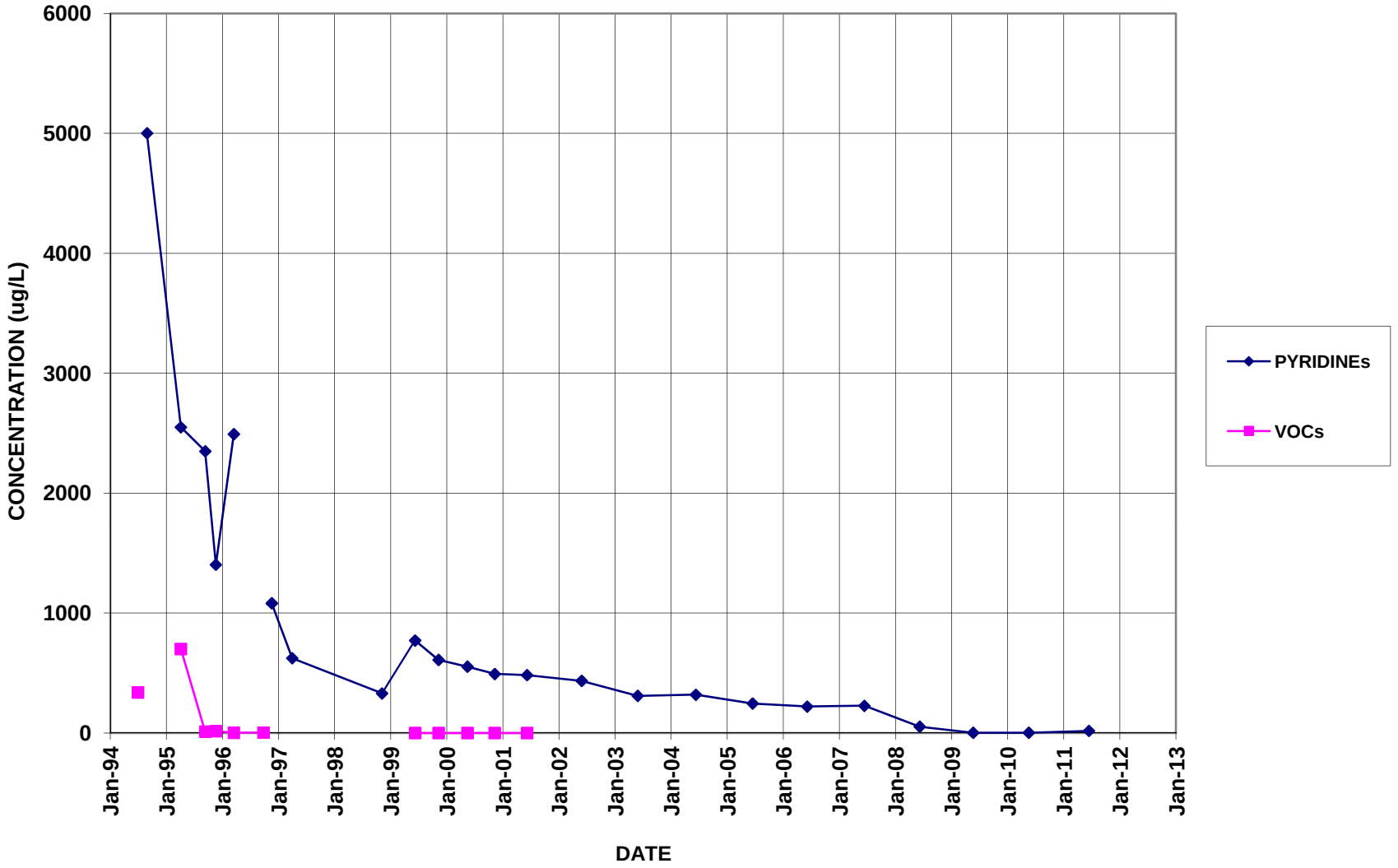
Prepared by: nmb
Reviewed by: jeb

MW-16

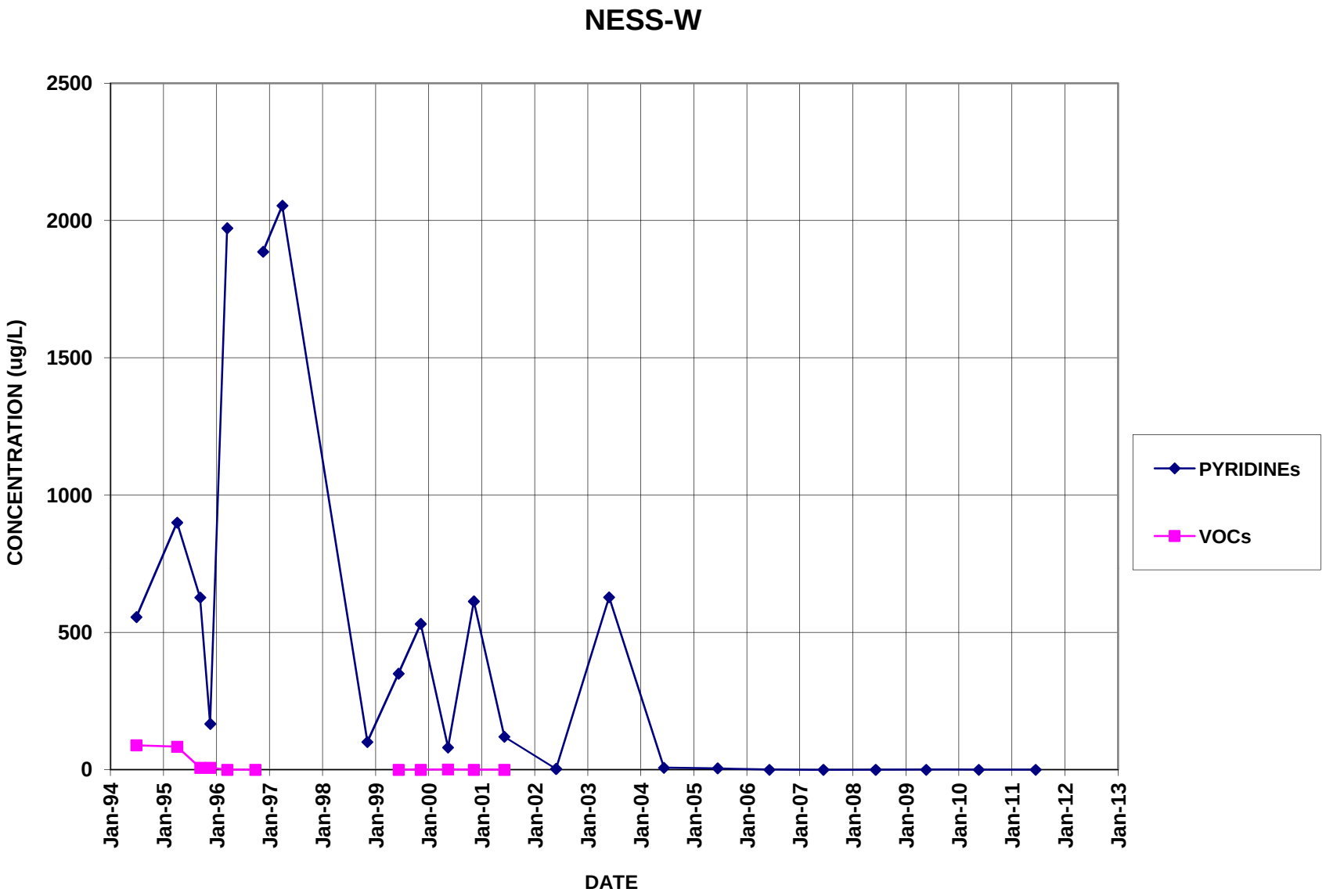


Prepared by: nmb
Reviewed by: jeb

NESS-E

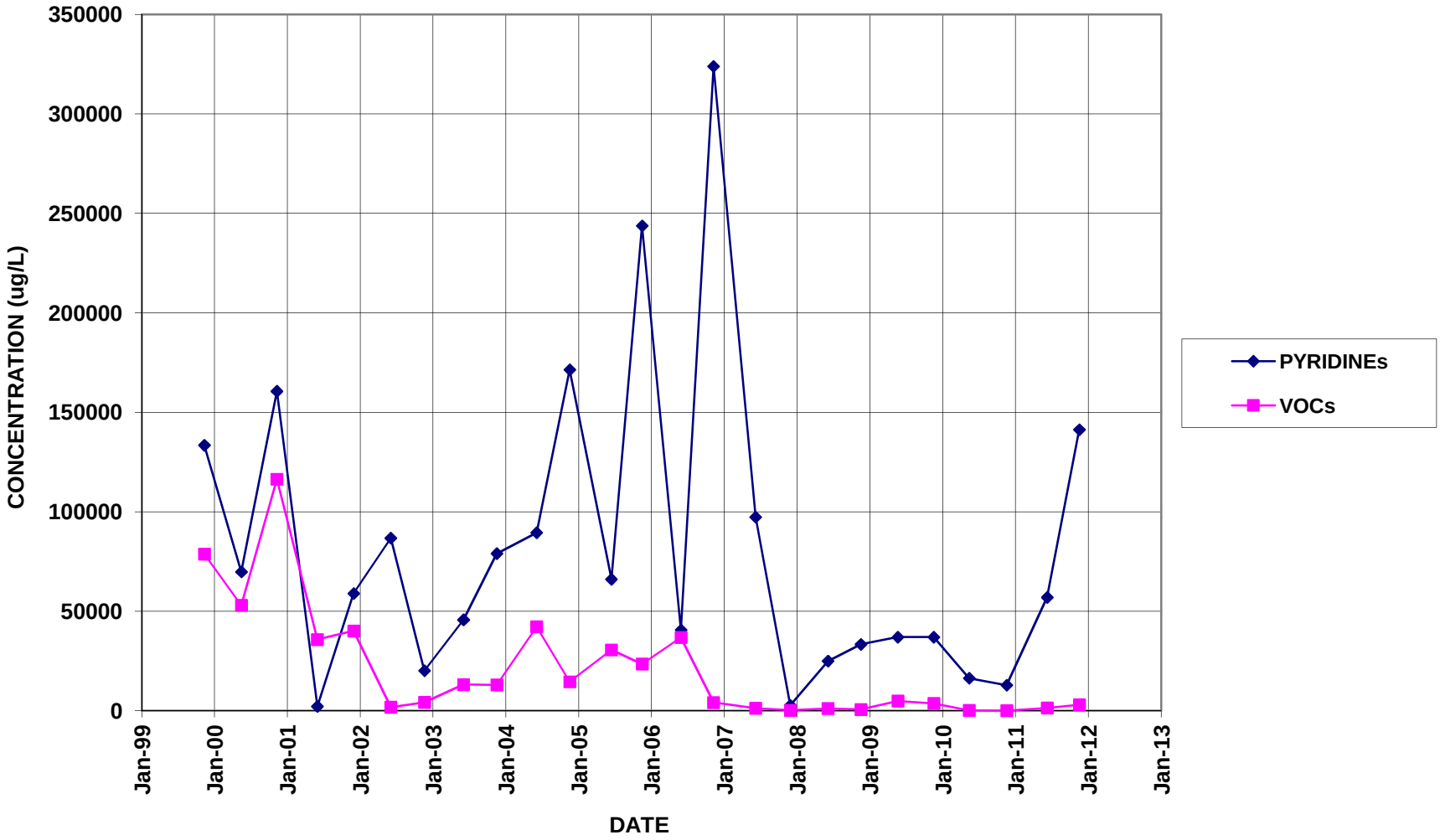


Prepared by: nmb
Reviewed by: jeb



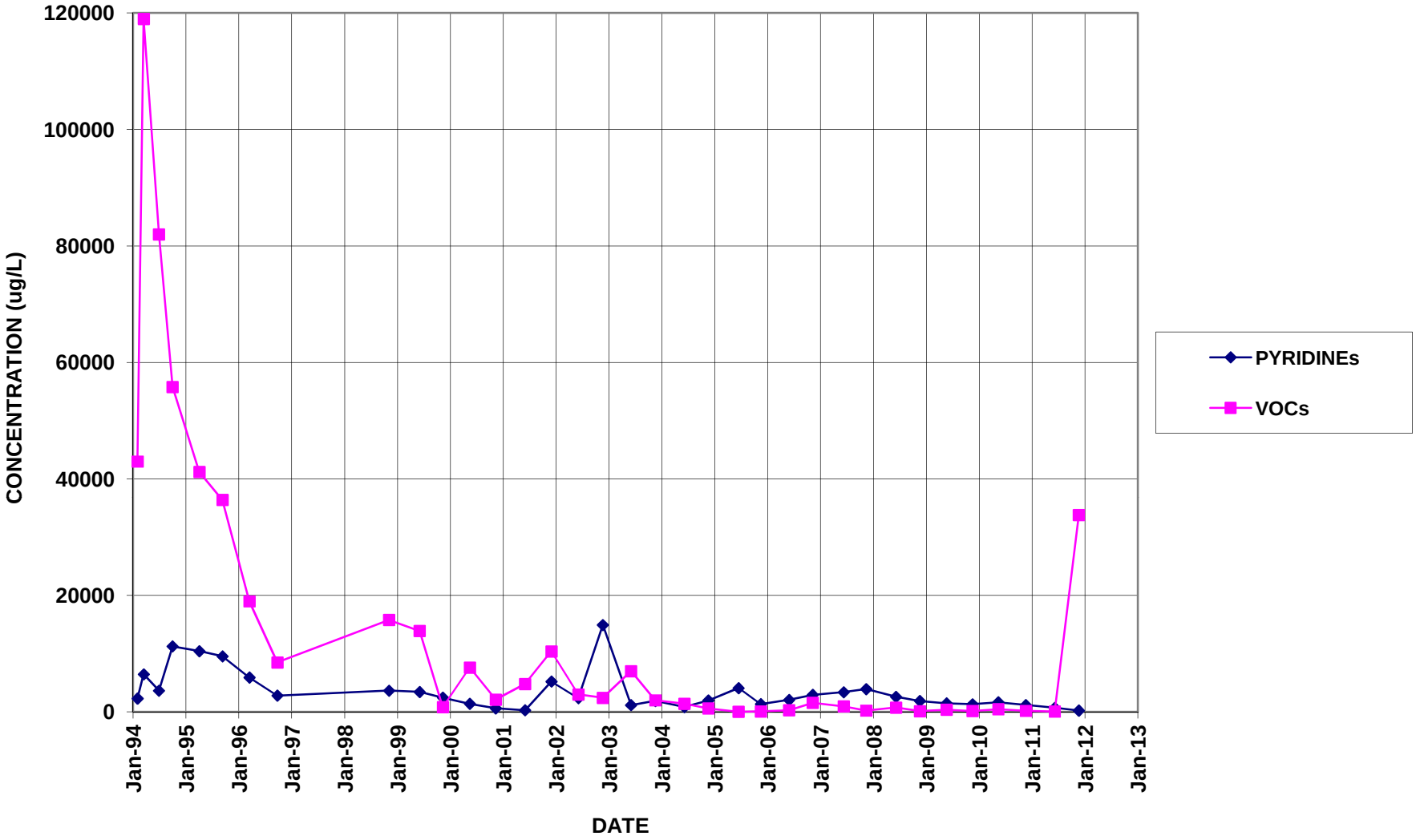
Prepared by: nmb
Reviewed by: jeb

PW10



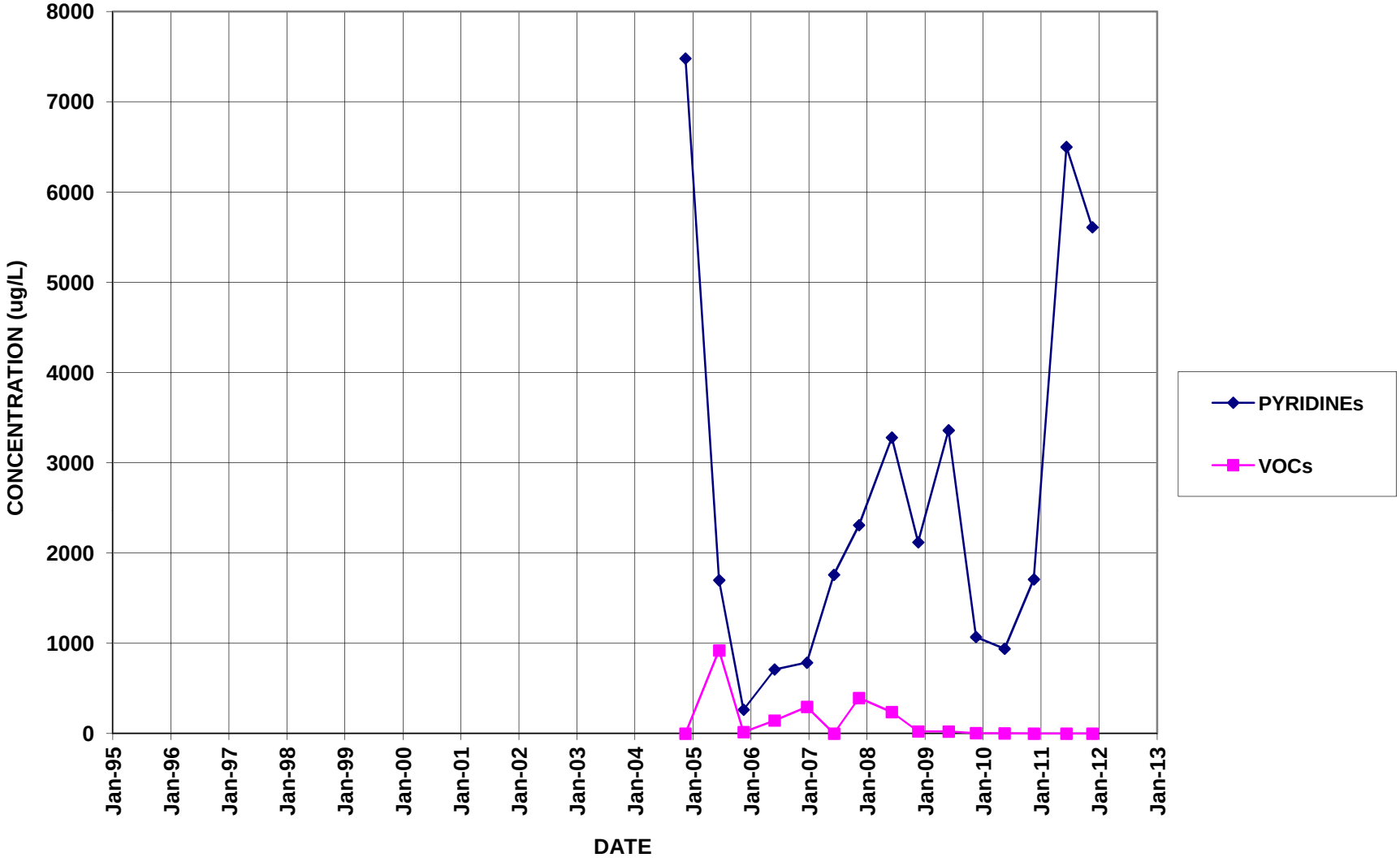
Prepared by: nmb
Reviewed by: jeb

PW12 (Formerly BR-101)



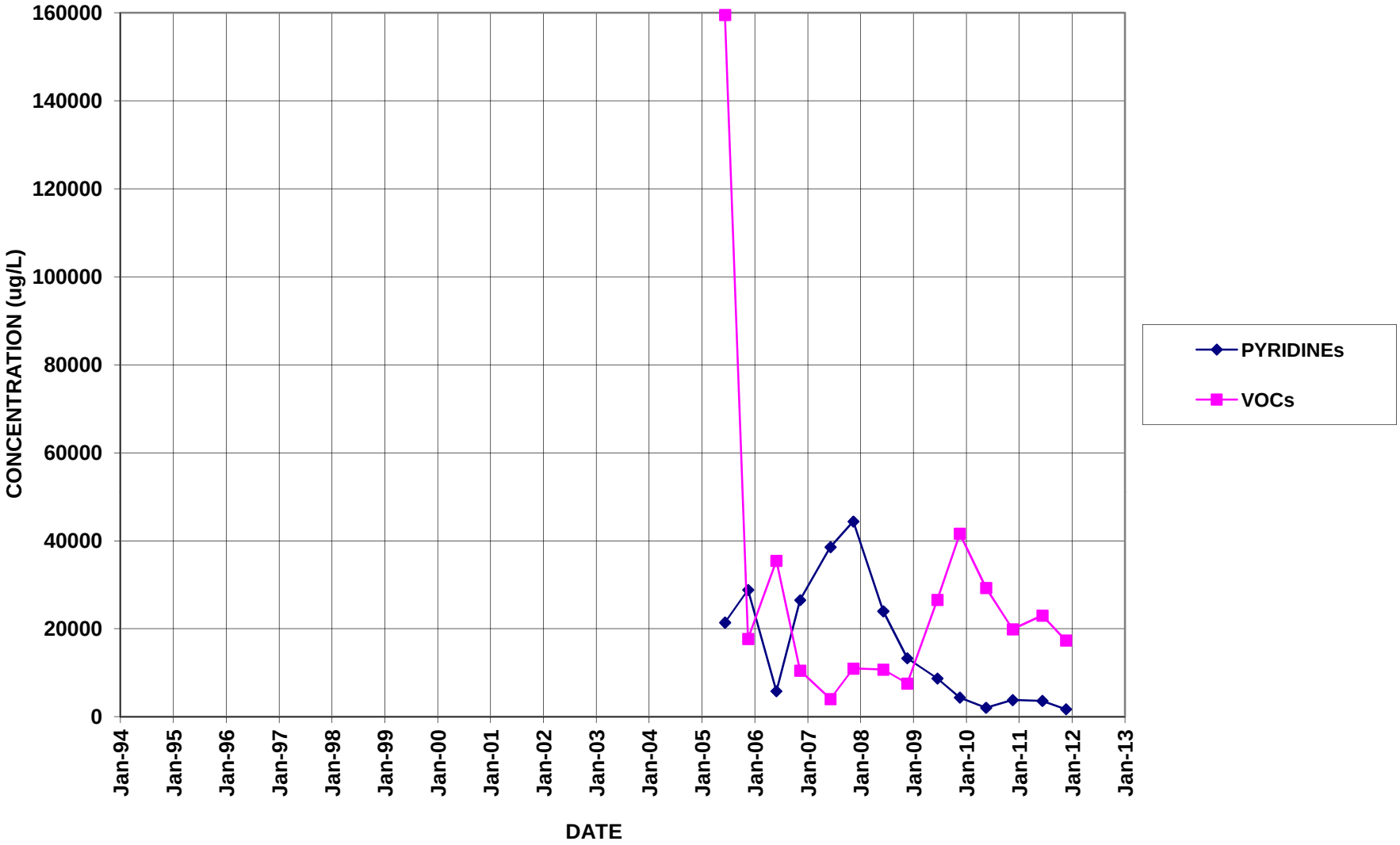
Prepared by: nmb
Reviewed by: jeb

PW13



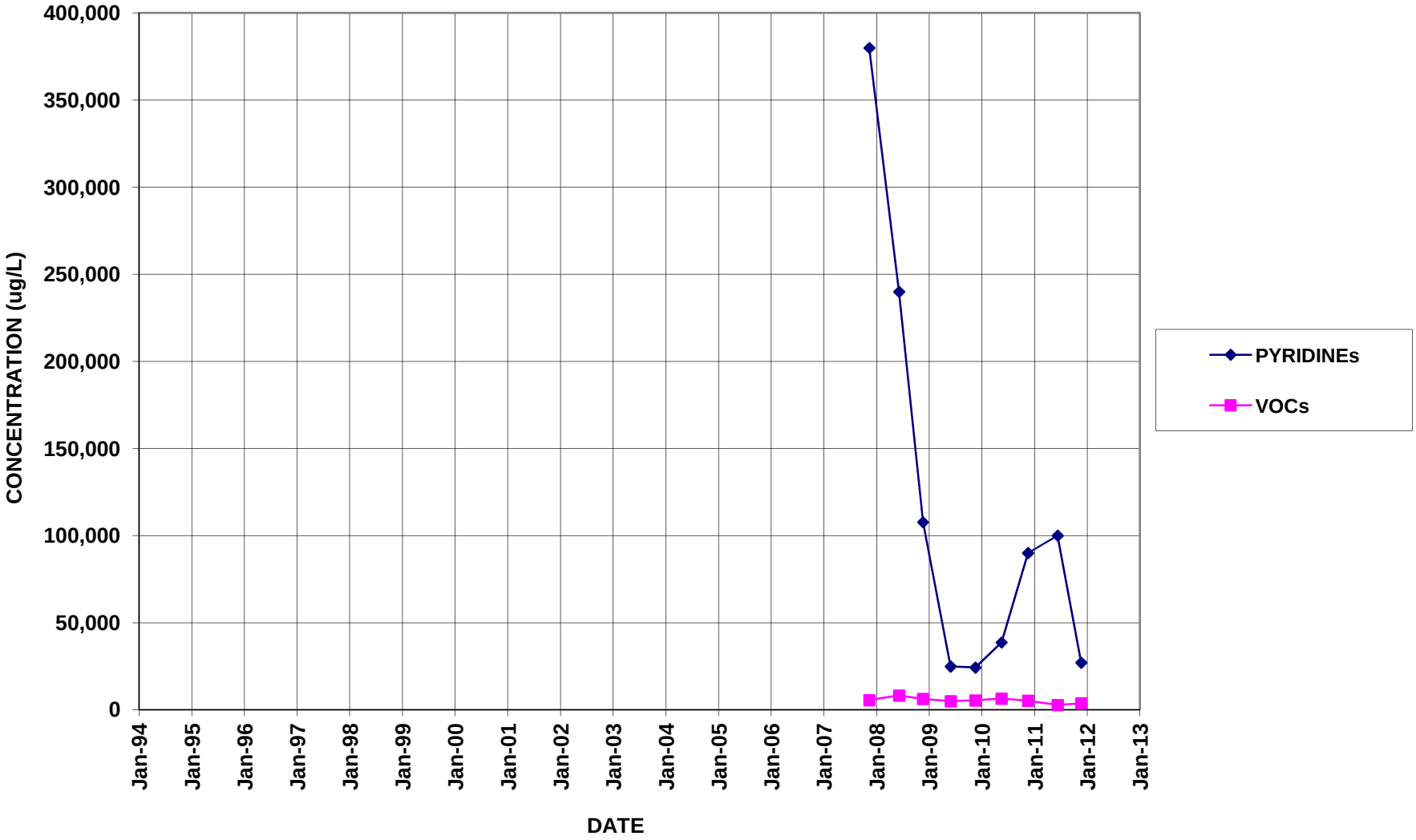
Prepared by: nmb
Reviewed by: jeb

PW14



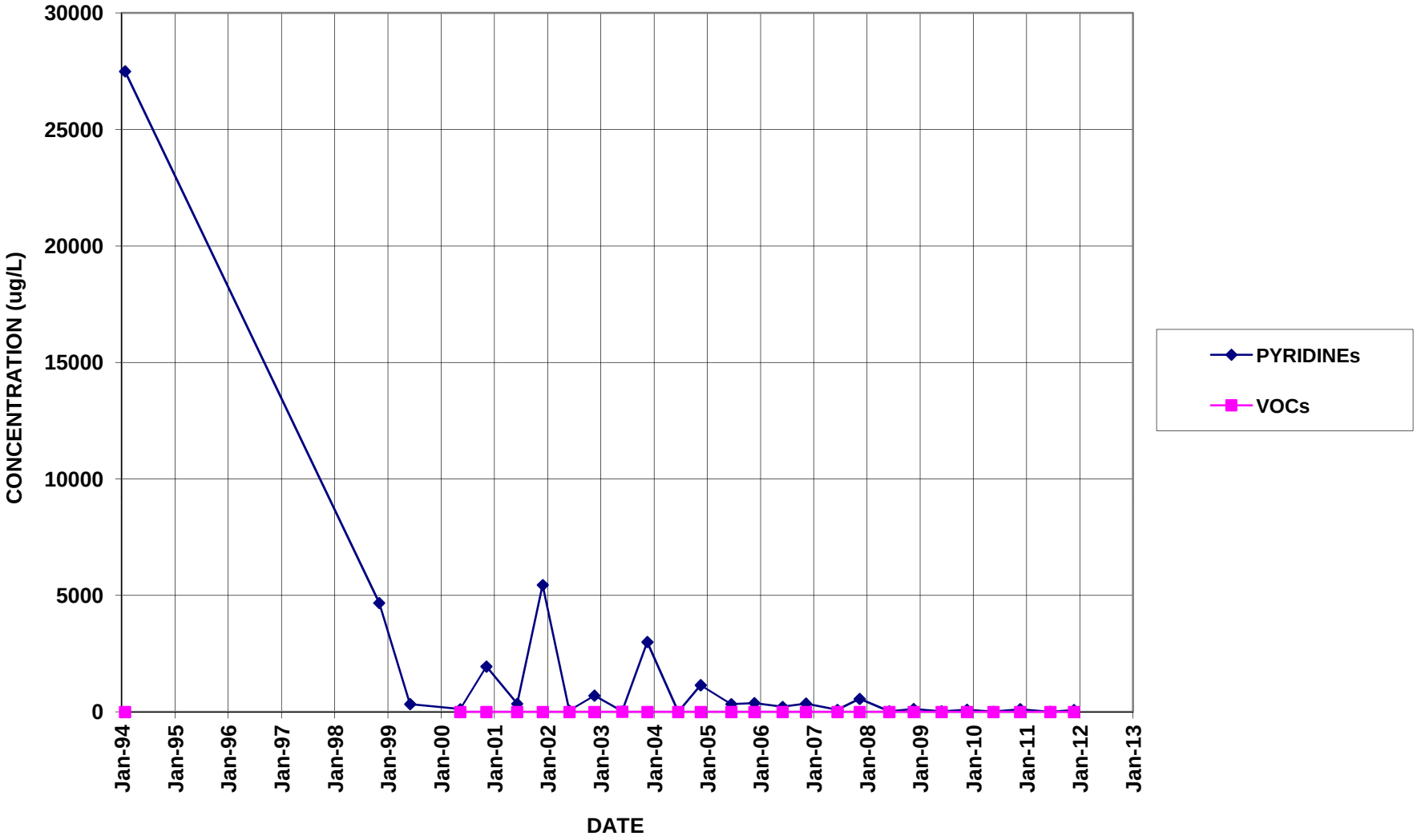
Prepared by: nmb
Reviewed by: jeb

PW15



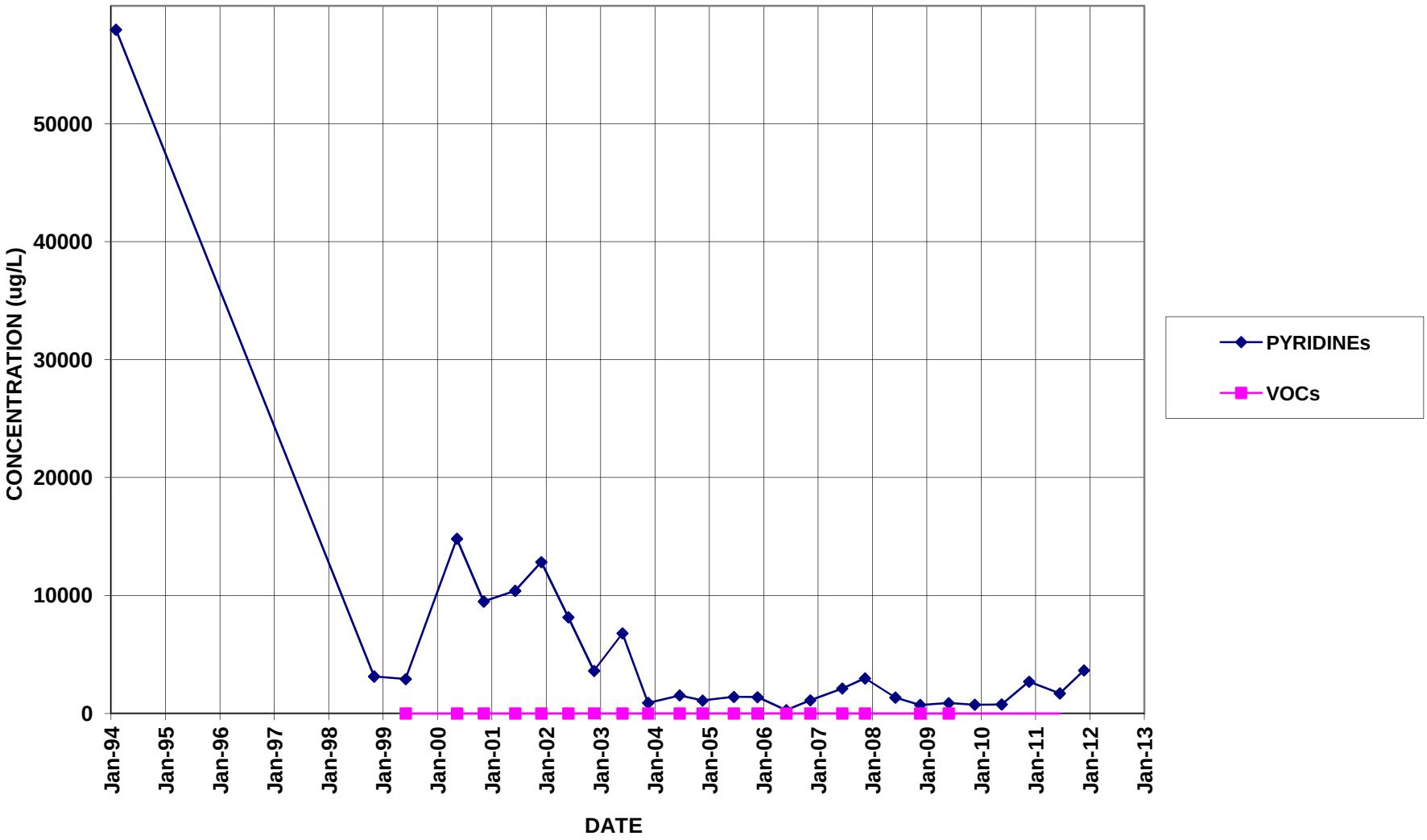
Prepared by: nmb
Reviewed by: jeb

PZ-101



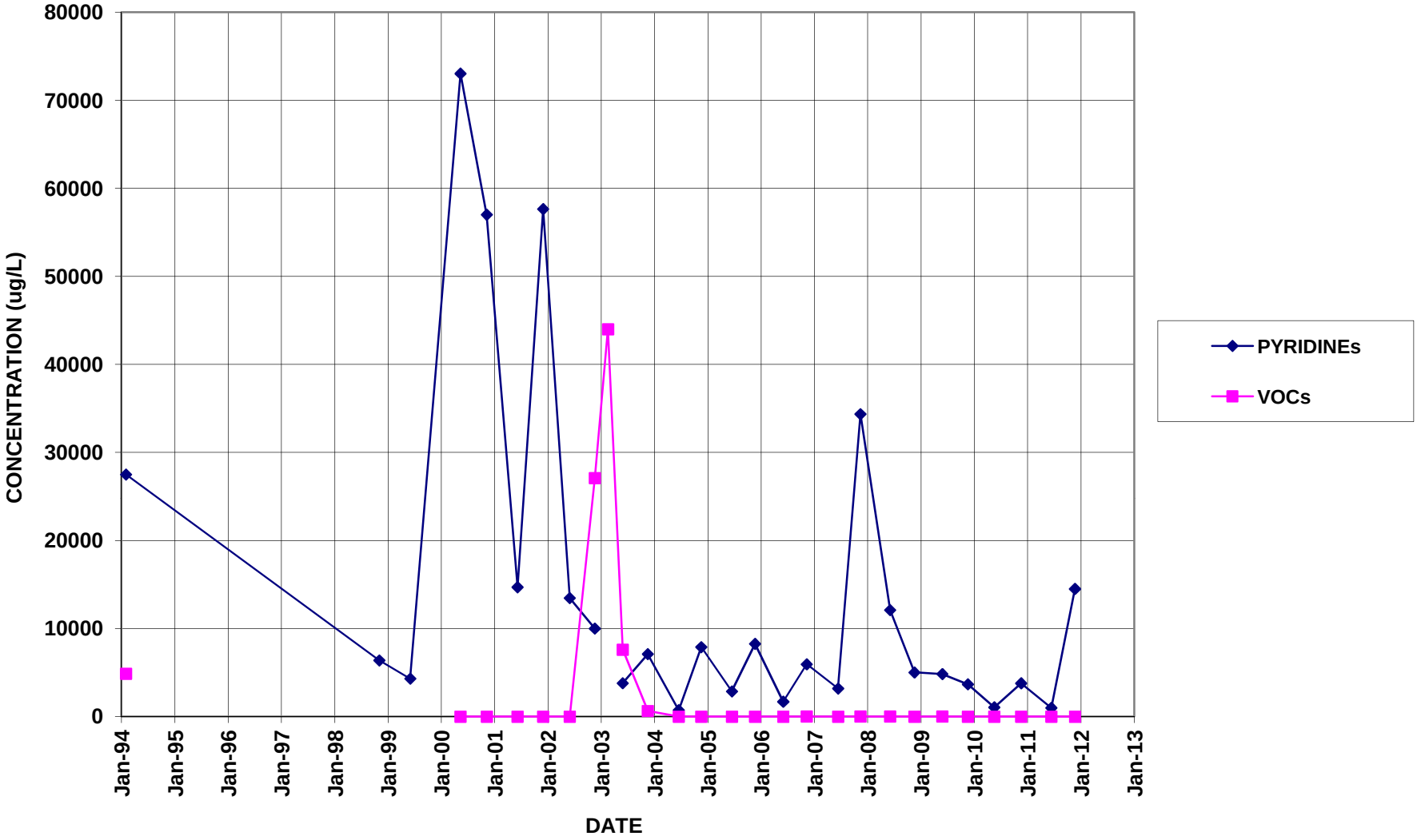
Prepared by: nmb
Reviewed by: jeb

PZ-102



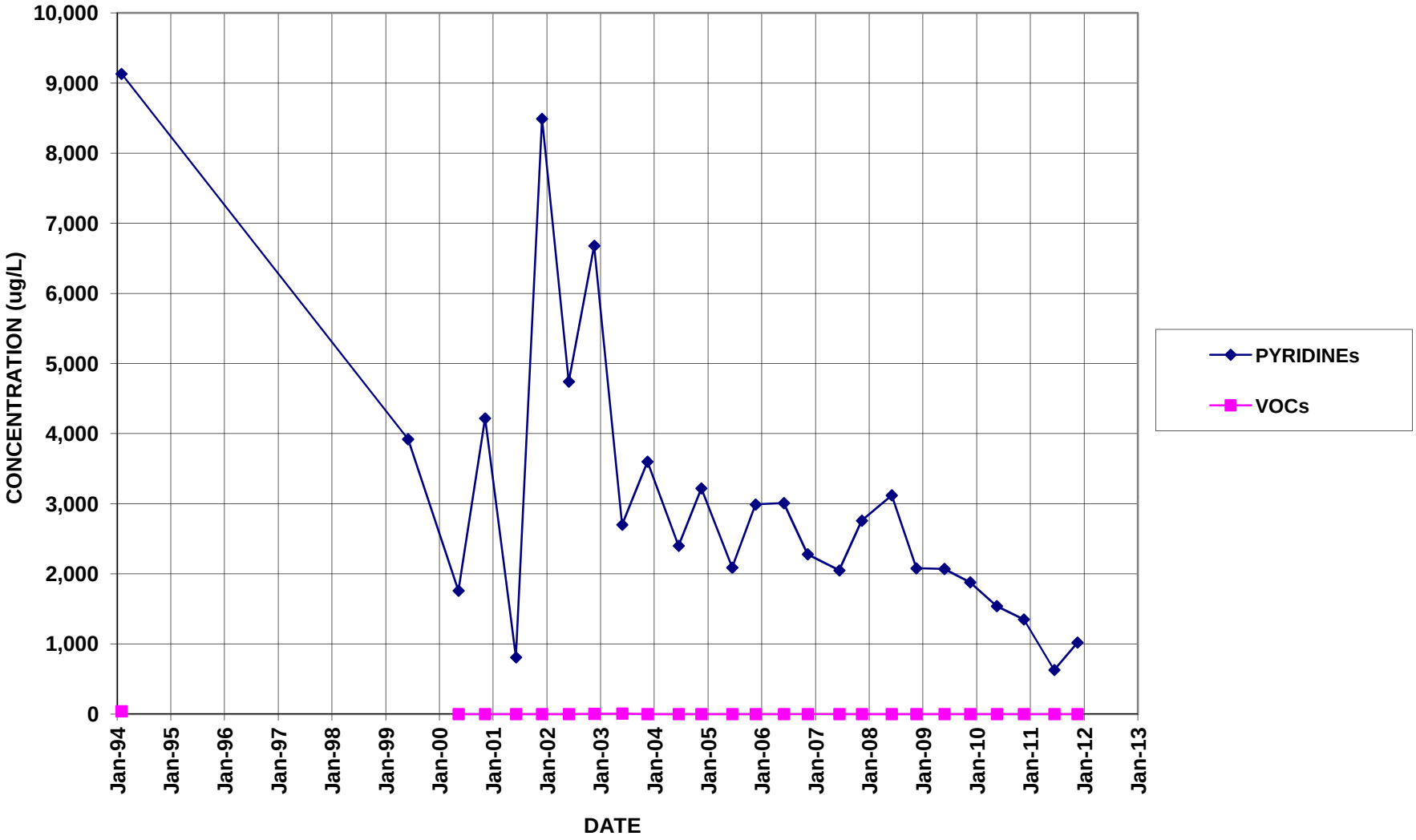
Prepared by: nmb
Reviewed by: jeb

PZ-103



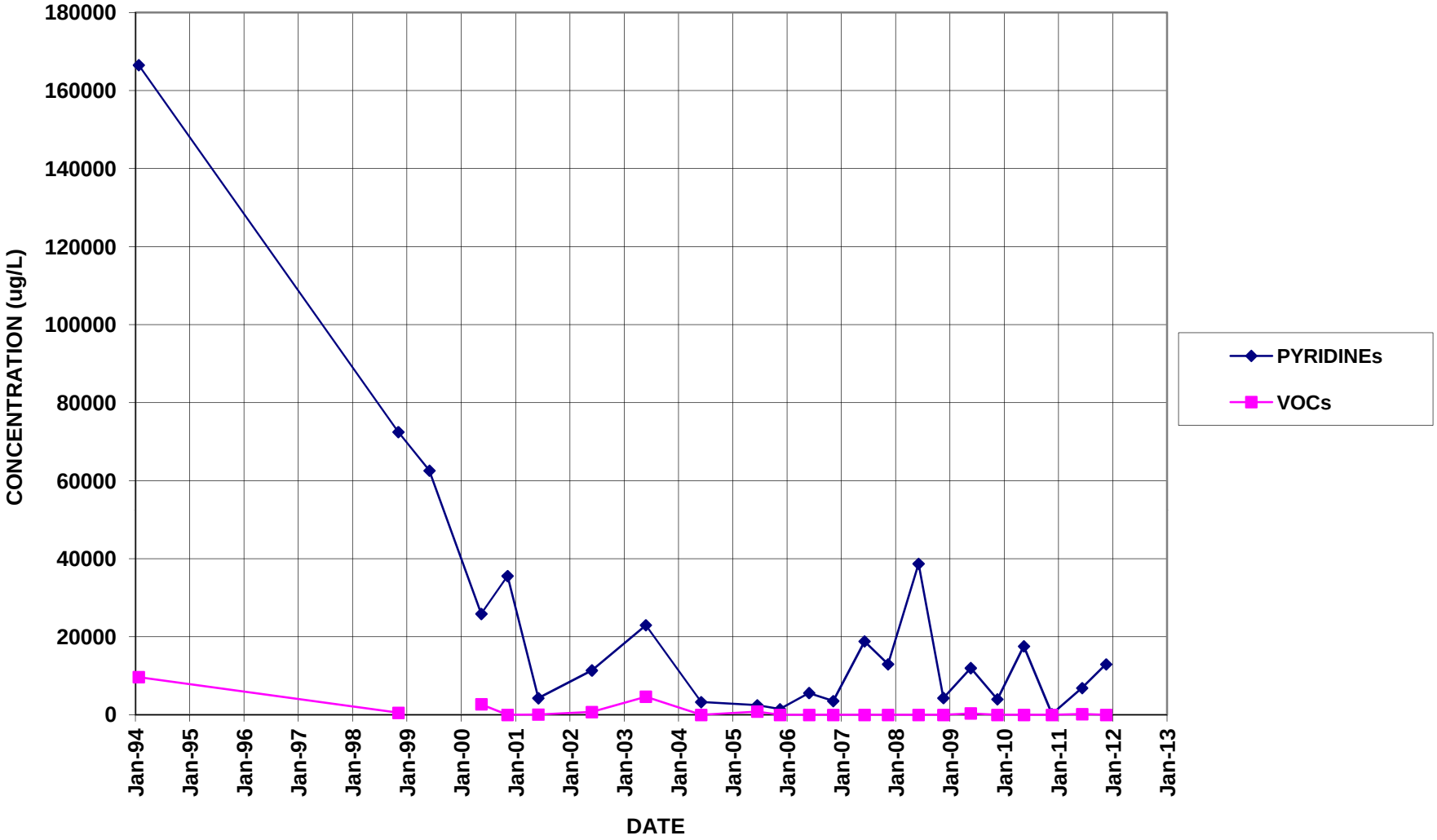
Prepared by: nmb
Reviewed by: jeb

PZ-104



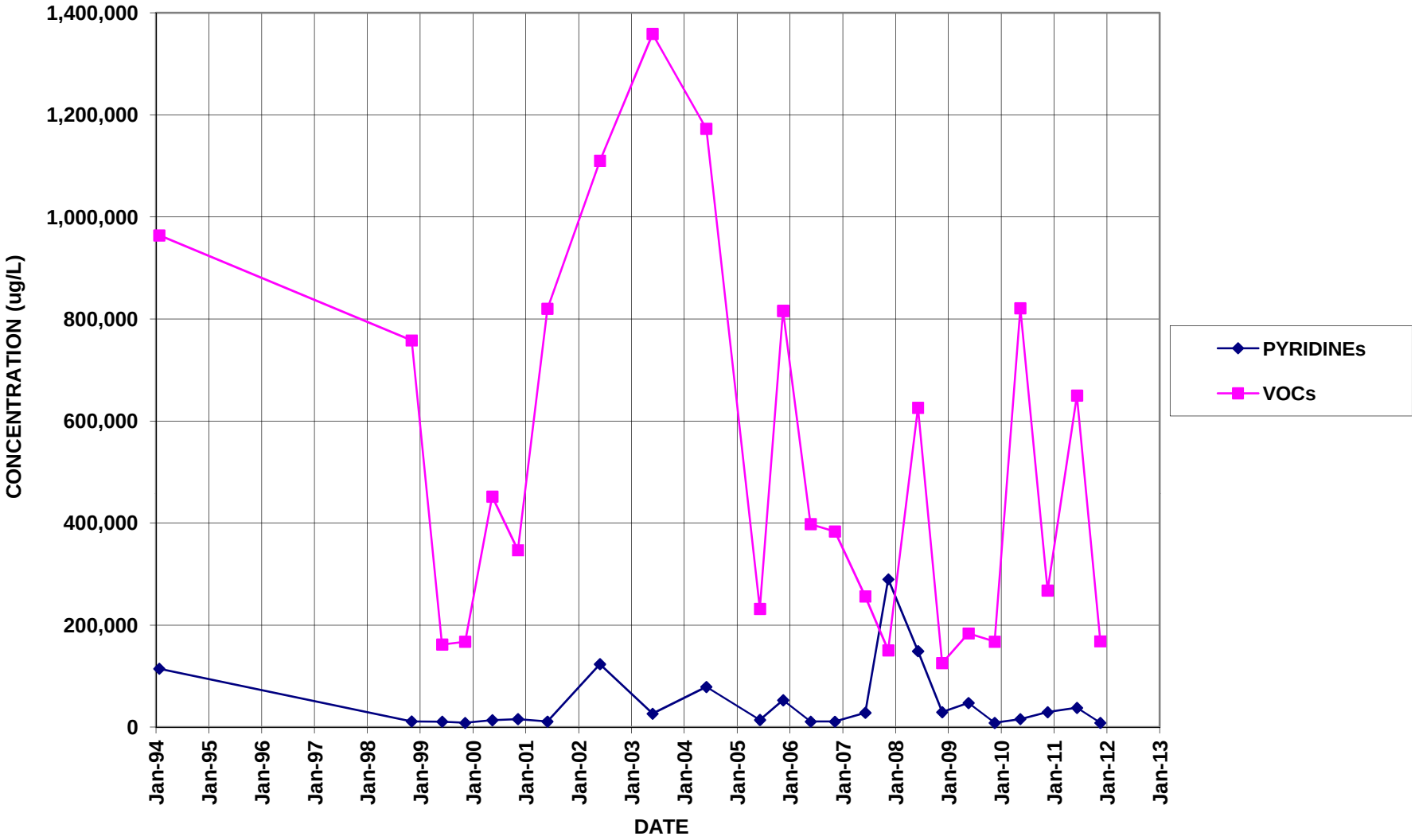
Prepared by: nmb
Reviewed by: jeb

PZ-105



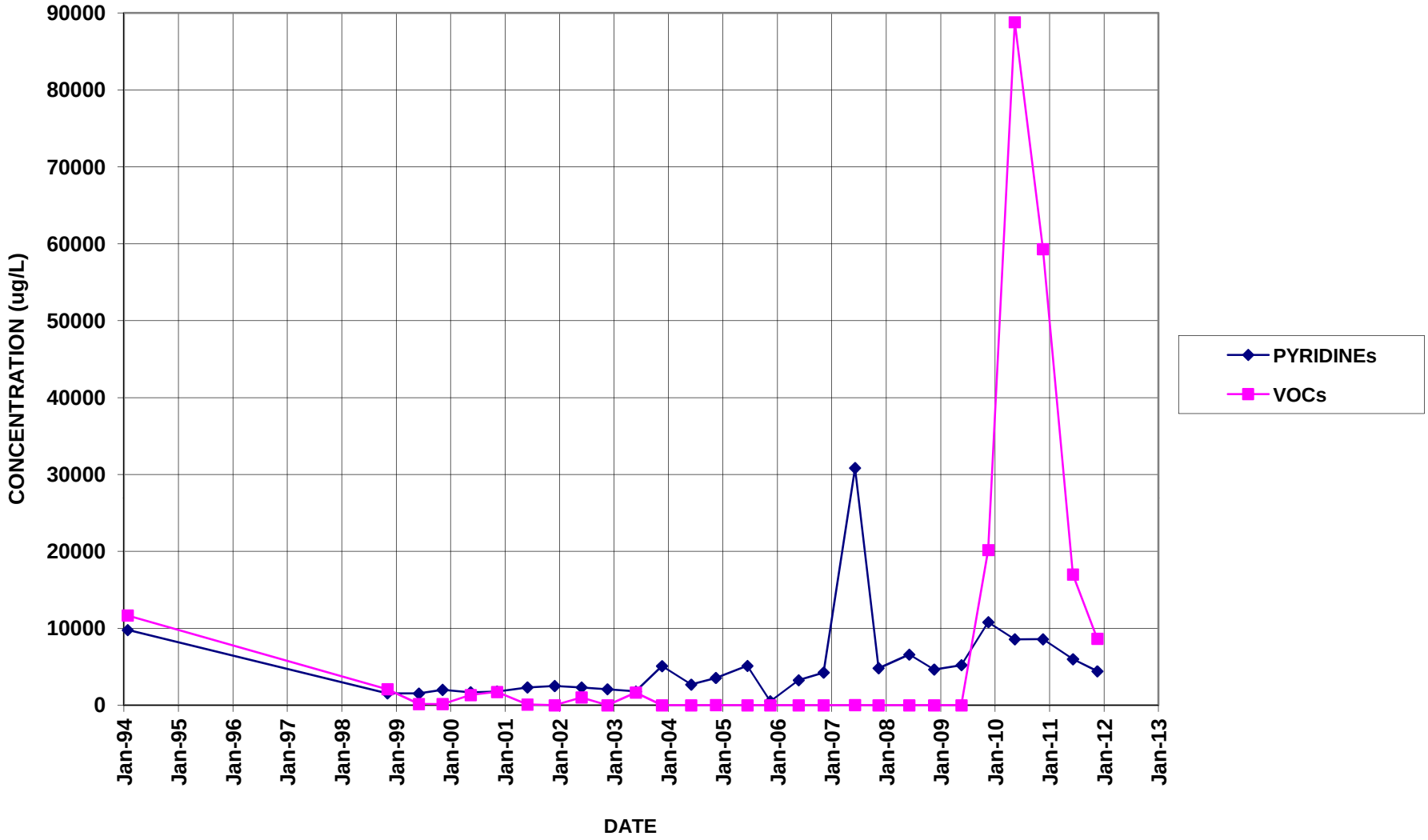
Prepared by: nmb
Reviewed by: jeb

PZ-106

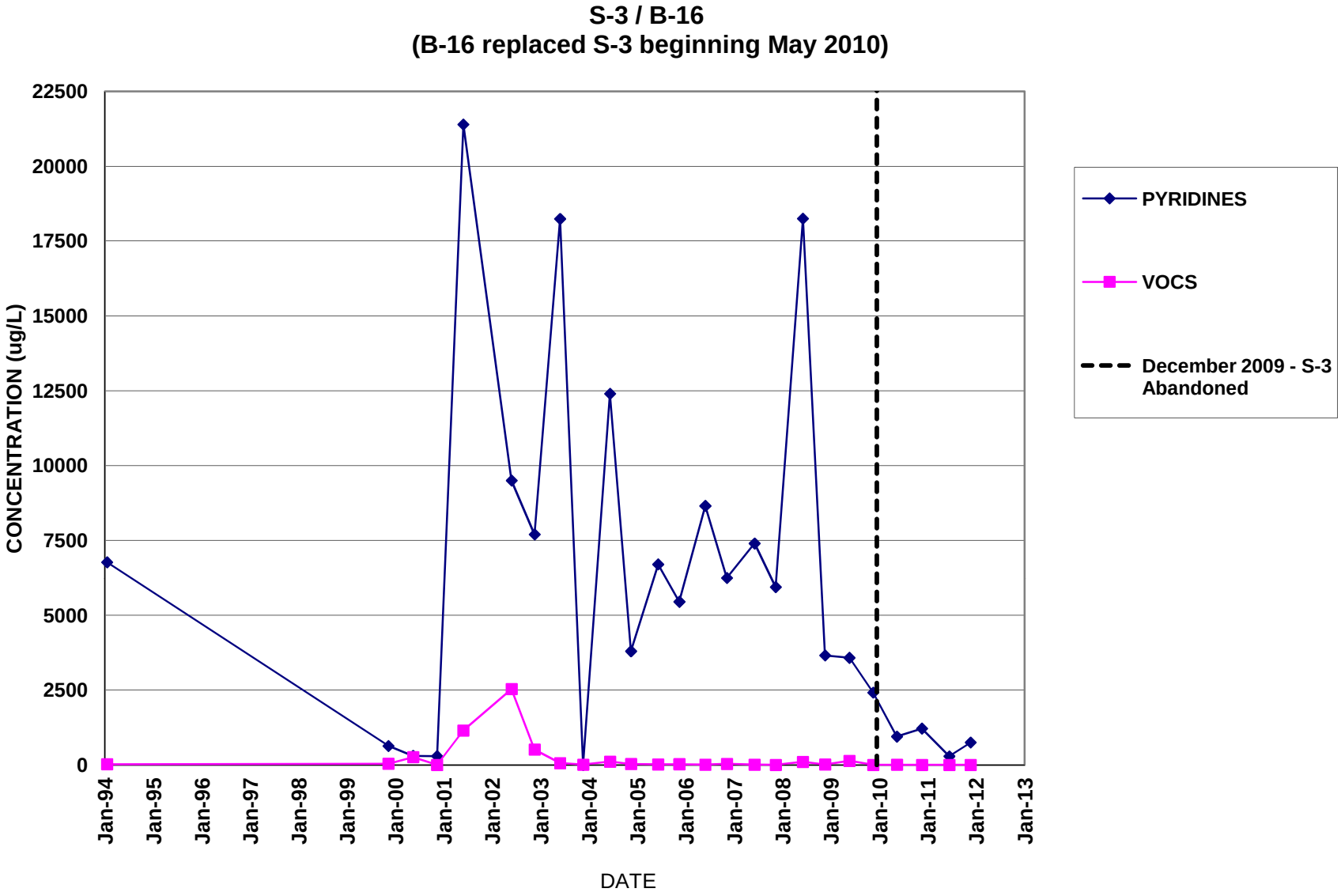


Prepared by: nmb
Reviewed by: jeb

PZ-107

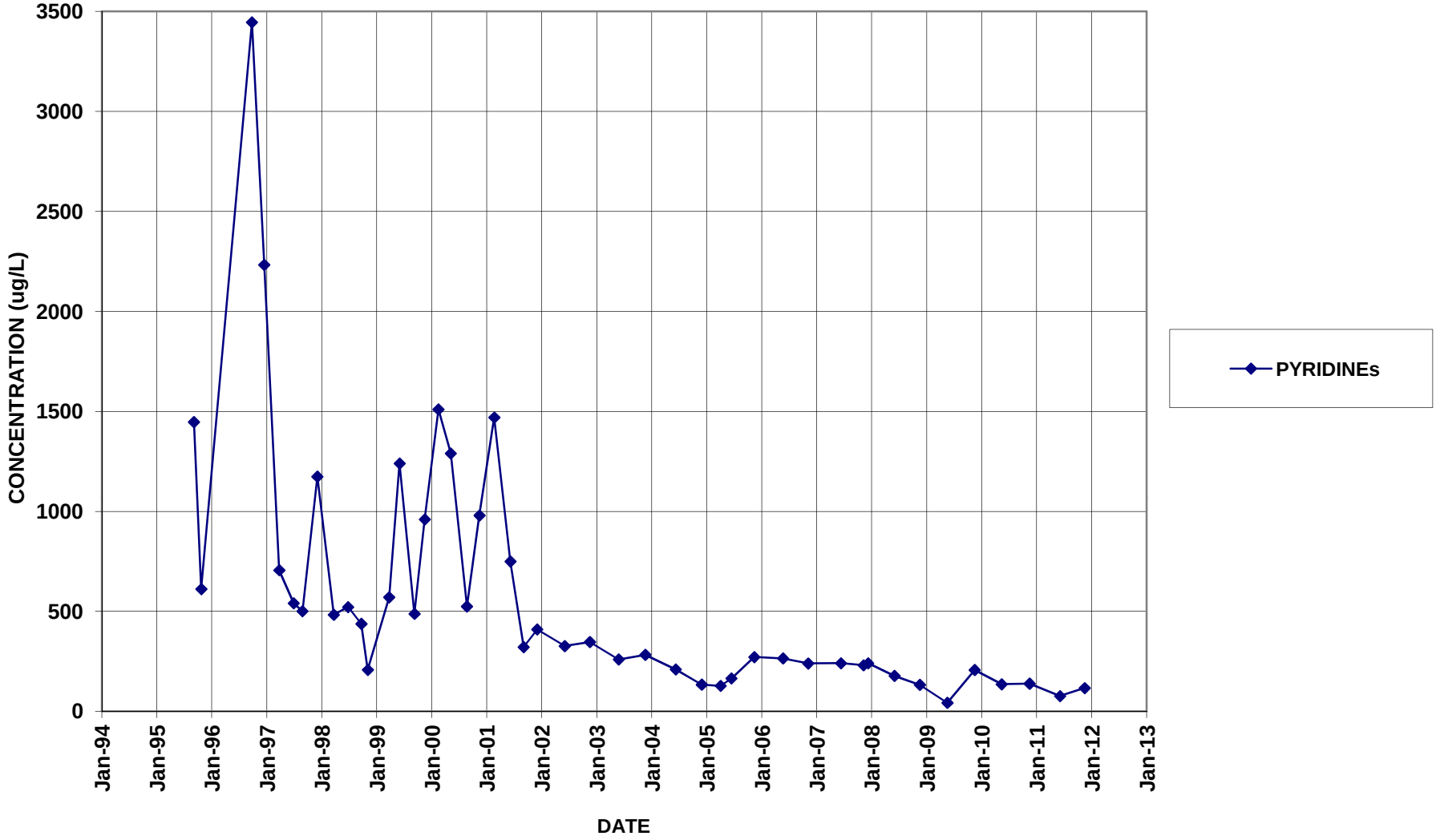


Prepared by: nmb
Reviewed by: jeb



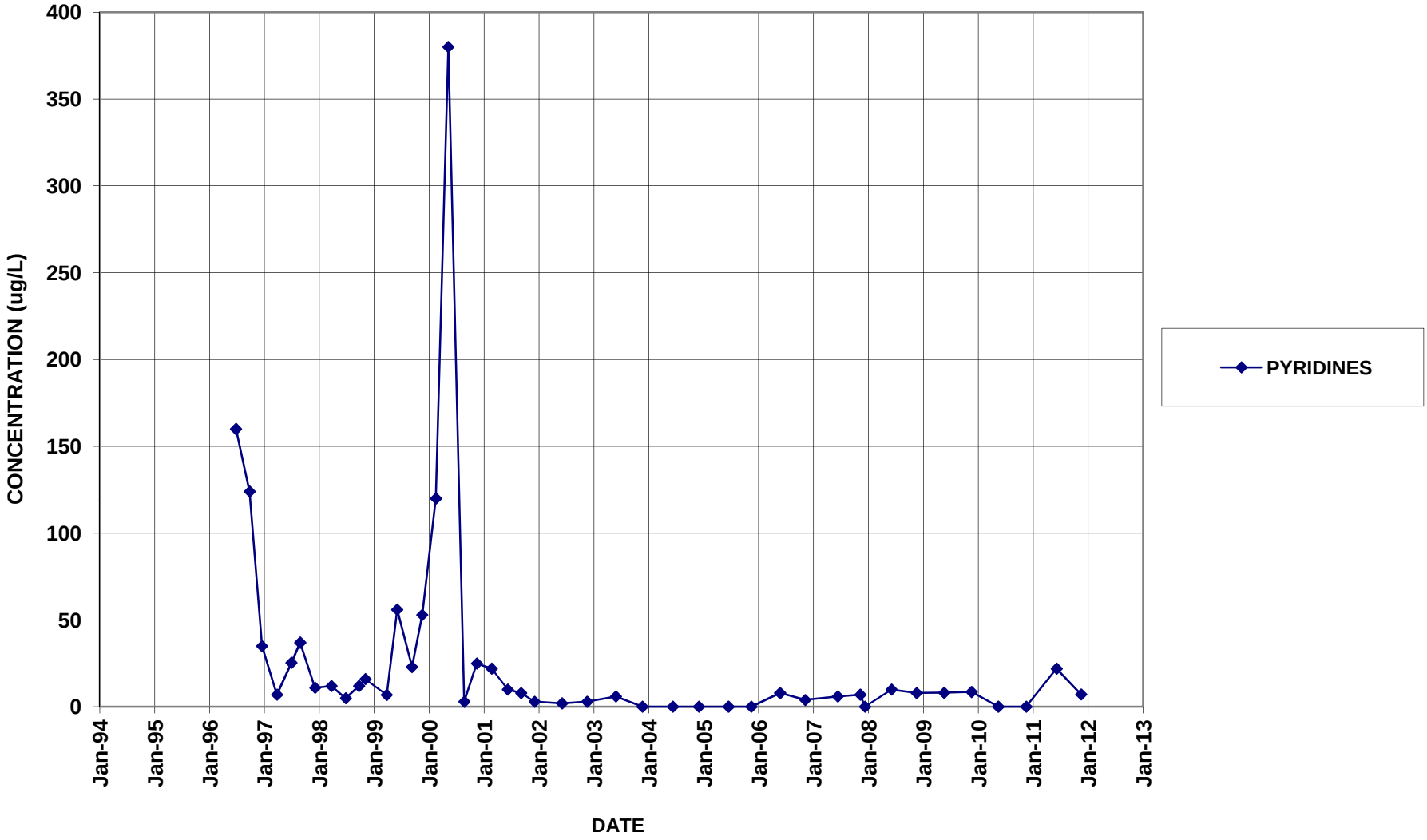
Prepared by: nmb
Reviewed by: jeb

QS-4 (QUARRY SEEP)



Prepared by: nmb
Reviewed by: jeb

QO-2 (QUARRY OUTFALL)



Prepared by: nmb
Reviewed by: jeb