SURFACE WATER AND GROUNDWATER MONITORING PROGRAM
FALL 2009 MONITORING REPORT

ARCH CHEMICALS
ROCHESTER PLANT SITE
ROCHESTER, NEW YORK

ARCH CHEMICALS, INC.
CHARLESTON, TENNESSEE

MARCH 2010

SURFACE WATER AND GROUNDWATER MONITORING PROGRAM
FALL 2009 MONITORING REPORT

ARCH CHEMICALS
ROCHESTER PLANT SITE
ROCHESTER, NEW YORK

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March 2010

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TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

EXECUTIVE SUMMARY

This monitoring report presents the results of an on-going groundwater and surface water monitoring program being conducted by Arch Chemicals, Inc., at its Rochester, New York, manufacturing facility. Results in this report include surface and groundwater samples collected in November 2009.

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

As in prior reports, monitoring results were compared with previous average concentrations at each sampling location. Twenty-six of the 28 monitoring wells sampled for chloropyridines had contaminant concentrations that were at or below their respective 5-year prior averages. Twenty-three of the 27 monitoring wells sampled for volatile organic compounds had concentrations at or below their 5-year prior 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 observed to be slightly above the prior 5-year average for this location. Samples from the quarry ditch and the canal were also slightly above the prior 5-year averages for their respective locations.

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 2009 through November 2009, the on-site groundwater extraction system pumped approximately 8.1 million gallons of groundwater to the on-site treatment system, containing an estimated 480 pounds of chloropyridines and 56 pounds of target volatile organic compounds.

During the Fall of 2009, Arch undertook an assessment of operational and maintenance issues associated with the groundwater pumping system, and identified a number of actions designed to improve the capture of contaminated groundwater. These actions included inspection and cleaning of well pumps and discharge lines, and conversion of well BR-127 to an active pumping well. Observations from the Fall 2009 monitoring event indicate generally favorable impacts on groundwater levels and contaminant concentrations in the southeast portion of the property. An observed increase in volatile organic chemical concentrations in well PZ-107 is likely attributable to localized changes in the groundwater flow regime resulting from the added pumping stress imposed by the activation of BR-127.

The next regular monitoring event will occur in May 2010 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 2009 sampling event included the collection and analysis of a total of 32 groundwater, surface water, and seep samples from off-site and on-site locations. Samples were collected November 16 through 18, 2009, for analysis of selected chloropyridines and volatile organic compounds (VOCs).

This report presents the results of the Fall 2009 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 6, 2009. 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 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, 2009. All quarry-related samples were analyzed for the Arch suite of selected chloropyridines. The quarry locations sampled during the Fall 2009 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", October, 1999, 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. A subset of samples was extracted for pyridines (Method 8270C) outside the seven day holding time. The samples were initially extracted within the holding time; however, laboratory internal review indicated that the samples may have been incorrectly prepared for extraction. The following samples required re-extraction after expiration of the holding times: S-3, PZ-106, PW-15, PW-10, MW-106, PW-14, MW-127, E-1, PZ-103. Positive and non-detected results for all semi-volatile organic target compounds were qualified as estimated (J/UJ).

Miscellaneous. Samples PW-12, BR-6A, PZ-107, MW-106, QS-4, PW-14, PZ-106, PW-15, MW-127, E-1, PW-10, BR-5A, BR-127, BR-7A, PZ-103, PZ-102, PZ-104, BR-126, and BR-7A DUP were analyzed at dilutions due to concentrations of volatile organic 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 2009 groundwater monitoring event are provided in Tables 2 and 3. Table 4 provides a comparison of the Fall 2009 analytical results for selected chloropyridines and VOCs in representative wells to mean concentrations of the prior five years (Fall 2004 through Spring 2009). 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 18 on-site wells sampled in the Fall 2009 event. Concentrations of chloropyridines ranged from 24 micrograms per liter (µg/L) (sum of all chloropyridine and pyridine isomer concentrations) in monitoring well S-4 to 37,000 µg/L in monitoring well PW-10. Sixteen of the 18 on-site wells exhibited total chloropyridine concentrations that were well below their respective means from monitoring events over the previous five years, with the exceptions being wells BR-6A and PZ-107 (see Table 4).

Off-Site. Chloropyridines were detected above sample quantitation limits in all 10 of the off-site wells that were sampled. Concentrations of total selected chloropyridines ranged from an estimated 7.2 µg/L in well MW-16 (on the former General Circuits property) to approximately 4,000 µg/L in well MW-106 west of McKee Road. None of the off-site wells contained total chloropyridine concentrations above their respective 5-year prior means.

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 16 of the 18 on-site wells sampled in the Fall 2009 event. Total concentrations of selected VOCs ranged from not detected (in wells BR-7A and PW-11) 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). Three of the 18 on-site wells (BR-127, E-1, and PZ-107) contained concentrations of total VOCs above their 5-year prior means. The substantial increase observed in PZ-107 is likely attributable to localized changes in the groundwater flow regime as a result of the start-up of nearby BR-127 as a pumping well (see Section 4).

In addition to the selected VOCs, other notable constituents detected in on-site wells include chlorobenzene (in 12 out of 18 wells), benzene (12 of 18), toluene (12 of 18), carbon disulfide (12 of 18), vinyl chloride (9 of 18), 1,2-dichloroethene (9 of 18), total xylenes (7 of 18), ethylbenzene (5 of 18), acetone (5 of 18), 1,1-dichloroethane (5 of 18), bromoform (2 of 18), and 1,2-dichloroethane (2 of 18).

Off-Site. Selected VOCs were detected in just two of the 9 off-site wells sampled for VOCs in the Fall 2009 event. Total concentrations of selected VOCs ranged from not detected (in BR-106, BR-126, MW-106, PZ-101, PZ-102, PZ-103, and PZ-104) to 5.6 µg/L (in BR-105). One of the off-site wells (BR-105) had selected VOC concentrations slightly above its prior 5-year mean. In addition to the selected VOCs, other notable constituents detected in off-site wells include benzene (in 9 out of 9 wells), chlorobenzene (8 of 9), carbon disulfide (4 of 9), 1,2-dichloroethene (3 of 9), toluene (3 of 9), and 1,1-dichloroethane (3 of 9).

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 2009 canal and quarry monitoring event are presented in Table 5, and summarized below. In general, chloropyridine concentrations in the quarry and canal samples remain low, but were slightly elevated in comparison to the past few years.

3.2.1 Quarry

One quarry seep (QS-4) was sampled in the Fall 2009 monitoring event, and contained 210 µg/L total chloropyridines.

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. Total chloropyridines were detected in the sample from QD-1 at an estimated concentration of 6.0 µg/L. Chloropyridines were detected in the sample at QO-2 at an estimated concentration of 8.6 µg/L.

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 detected at an estimated concentration of 3.4 µg/L 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 2009 through November 2009. The total volume pumped during the six-month period was approximately 8.1 million gallons.

Table 7 provides a calculation of mass removal rates since the previous groundwater monitoring event (i.e., from June 2009 through November 2009). Arch estimates that approximately 56 pounds of target VOCs and 480 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.

During the Fall of 2009, Arch undertook an assessment of operational and maintenance issues associated with the groundwater pumping system, and identified a number of actions designed to increase groundwater extraction rates and improve plume containment. Specific actions included the following:

- A maintenance assessment of the wells and piping for the groundwater extraction system was conducted in September 2009 to determine potential problems and make recommendations for improvements. Pumps and controllers at all extraction wells were pulled and cleaned, and the condition of the wells and discharge lines were assessed. Scale and biofouling were observed in most wells, with the most significant issues noted in wells PW-13, PW-14, and PW-15. Samples of scale and water from the wells revealed that solids buildup consisted of primarily iron and calcium deposits. Recommended follow-up actions include physical and chemical cleaning of wells PW-13, PW-14, and PW-15, and chemical cleaning of the associated groundwater sewer lines.

- A new pump was installed in the groundwater collection pit in the south portion of the facility to improve reliability of the groundwater conveyance system. In addition, the main discharge line from the collection pit to the carbon treatment units was found to be nearly plugged with scale and was thoroughly cleaned.

- A temporary pump was installed in monitoring well BR-127 and connected to the existing groundwater collection system. The temporary system began operating on September 11, 2009, and has been consistently pumping in the range of 6 to 12 gallons per minute (gpm). During its first twelve weeks of operation, this well has resulted in the capture of an estimated 135 pounds of chloropyridines and two pounds of VOCs. The location of BR-127 is well-suited for improving groundwater capture in the southeast corner of the property, and its operation as a pumping well appears to be having an observable effect on the high groundwater levels observed in this portion of the site (as seen on Figures 3 and 4). Chloropyridine concentrations in several monitoring wells in this portion of the property have exhibited noticeable changes, with most showing significant declines (although well PZ-107 has exhibited a large increase in chloropyridine levels, probably as a result of changes in groundwater flow from the added pumping stress).

These actions have resulted in a significant improvement in capturing contaminated groundwater at the site. Based on the generally favorable observations in measured groundwater levels and contaminant levels, Arch has converted BR-127 into a permanent pumping well.

5.0 NEXT MONITORING EVENT

The next regular monitoring event will occur in May 2010 and will include groundwater, surface water, and seep sampling.

Table 8 shows the current monitoring program for the Arch Rochester site. Three overburden wells that had been included in the monitoring program were abandoned in December 2009 as part of an effort by Arch to eliminate wells that were non-functional or prone to accumulation of surface water in their well vaults. These three wells (E-1, S-3, and S-4) will be replaced in the monitoring program by nearby wells B-11 and B-16 to provide continued assessment of overburden groundwater quality in that portion of the 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 DBW | Checked by JEB

ERIE BARGE CANAL

I-390

FIRTH RIXSON

BUFFALO RD. BUSINESS CENTER

ARCH

AID TO HOSPITALS

ARM

MW-103/BR-103

MW-108/BR-108

PZ-102

BR-111/BR-111D

BR-106/MW-106

PZ-103

MW-16

BR-126

MW-105/BR-105

BR-112/BR-112D

MW-104/BR-104

MW-114/BR-114

BUFFALO ROAD

12-6

CUMBERLAND FARMS PETROLEUM TERMINAL

OW-105

8-8

7-6

11-8

BR-113/BR-113D

NESS-W

NESS-E

LEXINGTON

GENERAL RAIL SIGNAL CO.

DOLOMITE PRODUCTS QUARRY

9-6

10-6

RW-1

13-4

Morey

OW-102A

OW-103

BR-122D

PFAUDLER

BR-117/BR-117D

BR-121D (Abandoned)

BR-118/BR-118D

BR-120D (Abandoned)

BR-119D (Abandoned)

BR-123D

BR-116/BR-116D

BR-124D

LETTINGTON DRIVE

Figure 1
Off-Site Groundwater Monitoring Well Locations

Arch Chemicals
Rochester, NY
MACTEC, Inc.

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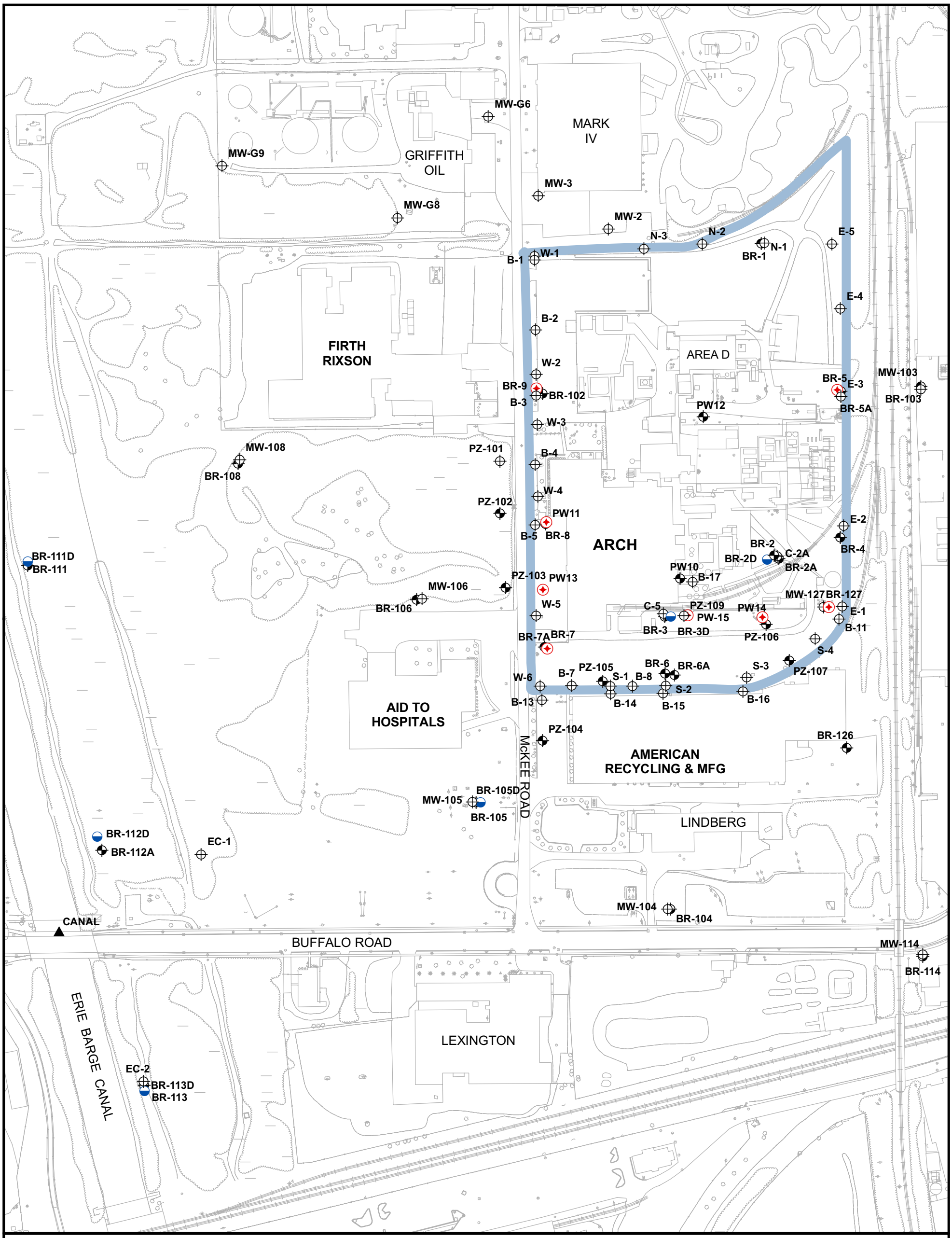


NOTES:

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

Legend

- Outline of Arch Property Boundary
- Overburden Monitoring Well
- Bedrock Monitoring Well
- Deep Bedrock Monitoring Well
- Active Pumping Well
- Surface Water Measurement Point

N

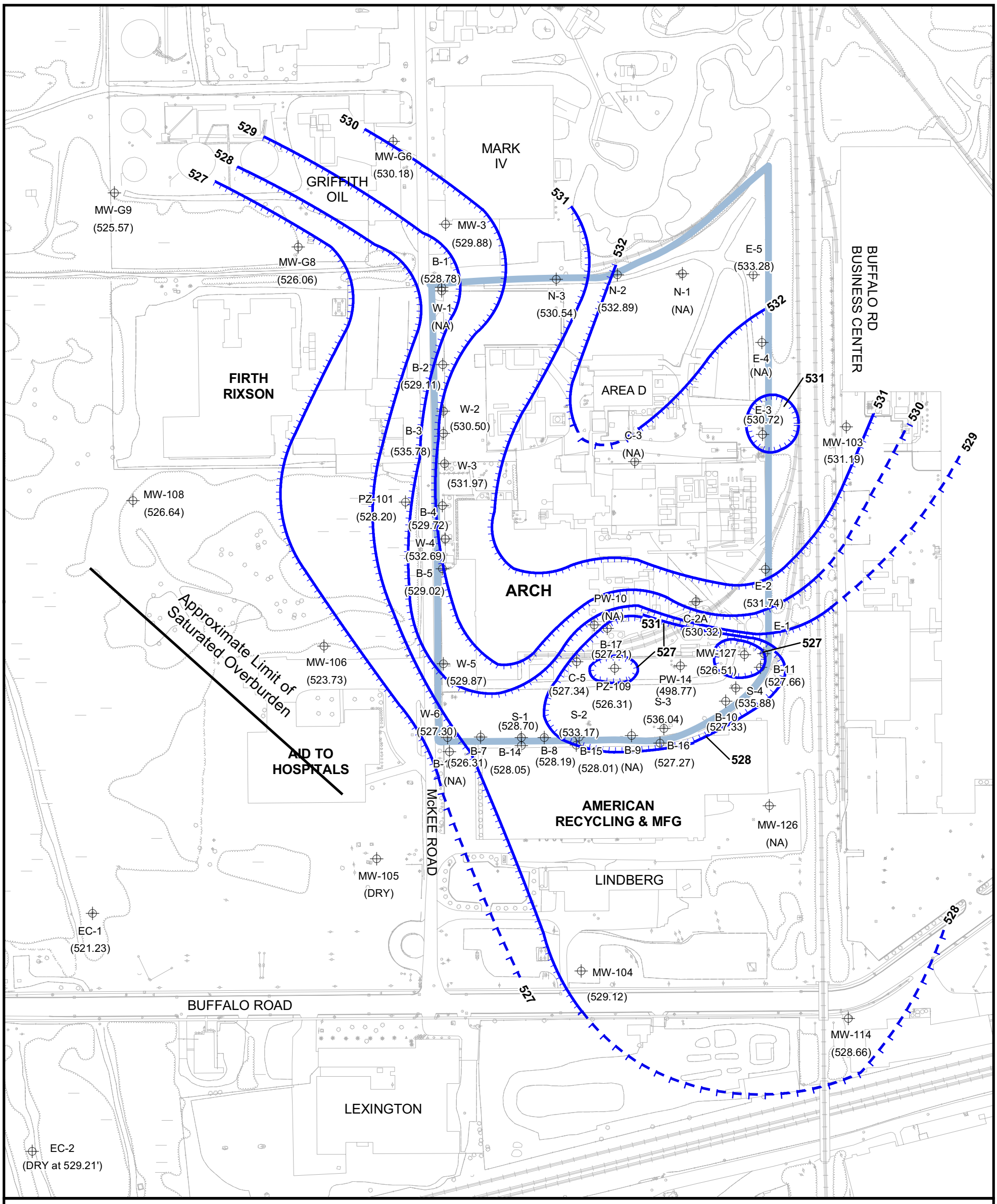
0 100 200 400 Feet

Prepared by DBW | Checked by JEB

Figure 2
Onsite Monitoring Well Locations

Arch Chemicals
Rochester, NY
MACTEC, Inc.

Document: P:\Projects\Arch\Rochester\GIS\MapDocuments\Fall 2009\OnsiteWells_Fig2.mxd PDF: P:\Projects\Arch\Rochester\GIS\Figures\Monitoring_Fall2009\Figure 2.pdf



Legend

- Outline of Arch Property Boundary
- Overburden Piezometric Elevation Contour (MSL)
- 528 — Interpreted Groundwater Flow Direction
- MW-114 (528.76) — Piezometric Elevation at Well or Piezometer

N

NOTES:

1. Water Levels Measured on November 6, 2009
2. NA = Not Available
3. Dashed Contours Reflect Uncertainty
4. Water levels in the following wells were interpreted to be anomalous and not used in contouring: W-3, W-4, W-5, W-6, S-1, S-2, S-3, S-4, E-1, B-3

0 100 200 400 Feet

Prepared by DBW | Checked by NMB

Figure 3
Fall 2009
Overburden Groundwater
Interpreted Piezometric Contours

Arch Chemicals
Rochester, NY
MACTEC, Inc.

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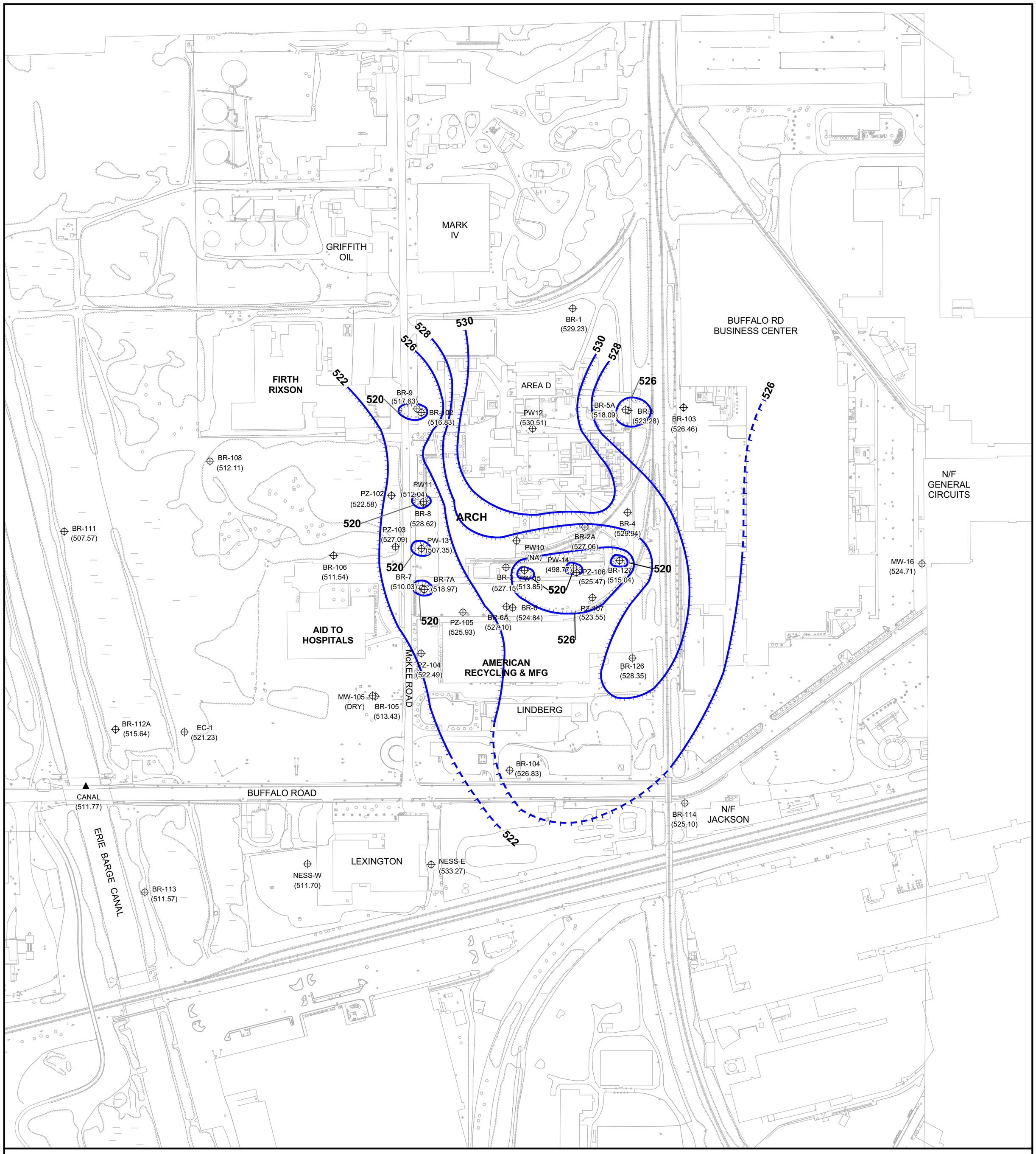

NOTES:

1. Water Levels Measured on November 6, 2009
2. Dashed Contours Reflect Uncertainty

NA = Not Available

Legend

BR-112A (520.18) ▲ — Piezometric Elevation at Surface Water Measuring Point

CANAL (507.69) ⊕ — Piezometric Elevation at Well or Piezometer (Feet MSL)

530 — Interpreted Groundwater Flow Direction

— Bedrock Piezometric Elevation Contour (MSL)

N

0 100 200 400 Feet

Prepared by DBW | Checked by NMB

Figure 4
Fall 2009
Bedrock Groundwater
Interpreted Piezometric Contours

Arch Chemicals
Rochester, NY
MACTEC, Inc.

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Legend

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

NOTES
1. Water Levels Measured on November 6, 2009
2. Dashed Contours Reflect Uncertainty

N

0 250 500 1,000 Feet

Prepared by DBW | Checked by NMB

ERIE BARGE CANAL
I-390
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 (511.37)
BR-111
BR-106
BR-3D (479.06)
BR-112D (511.50)
BR-112
BR-105
BR-105D (510.60)
BR-104
BR-114
BR-113
BR-113D (511.30)
BR-122D (507.10)
BR-117D (497.45)
BR-117
BR-118
BR-118D (499.10)
BR-123D (508.13)
BR-116D (509.47)
BR-116
BR-124D (505.82)

498 500 502 504 506 508 510

Figure 5
Fall 2009
Deep Bedrock Groundwater
Interpreted Piezometric Contours

Arch Chemicals
Rochester, NY
MACTEC, Inc.

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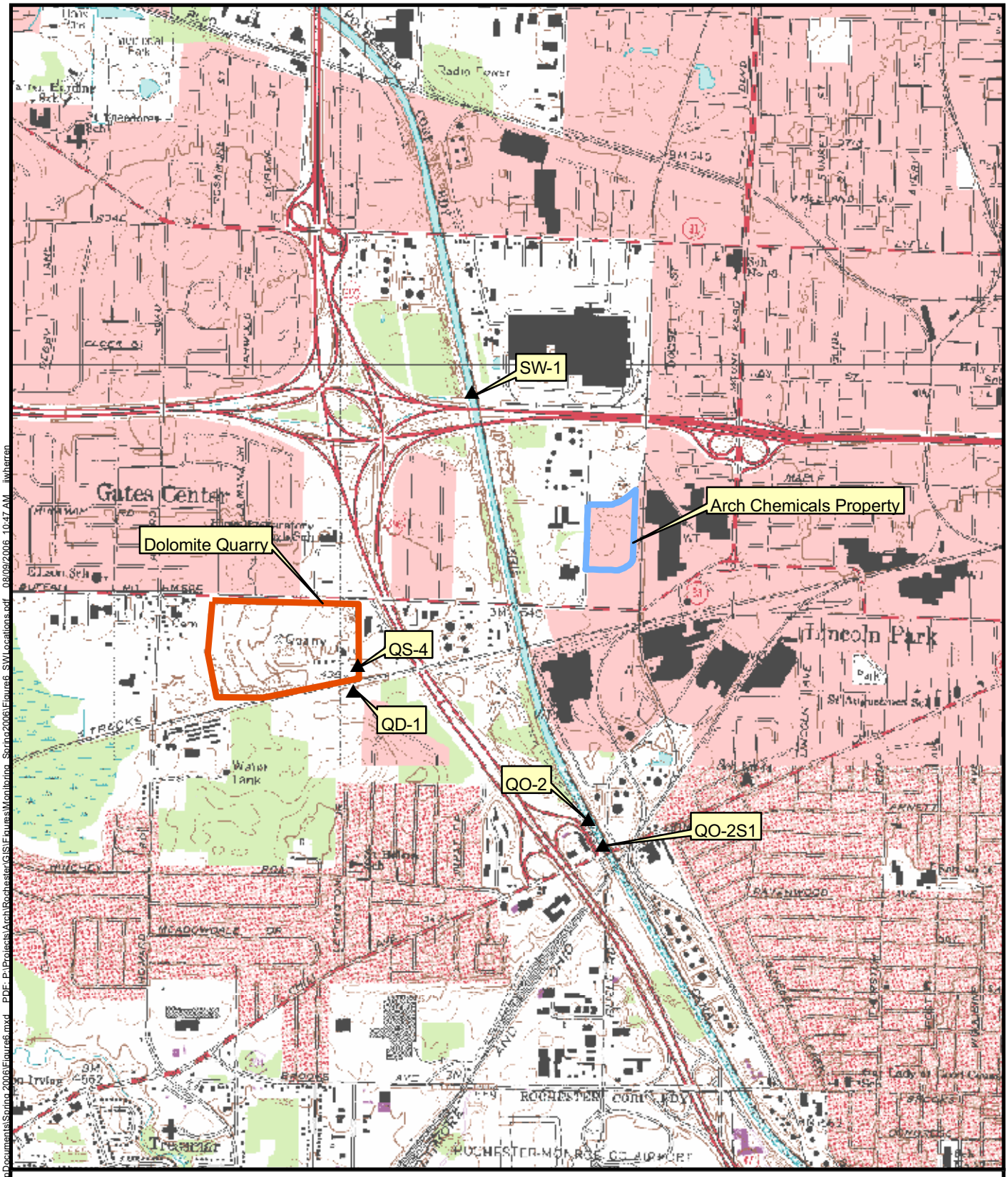

Source:
1:24,000 scale digital topographic map
obtained from New York State GIS
Clearinghouse at: www.nysgis.state.ny.us

N

0 0.25 0.5 Miles

Legend

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

Figure 6
Sample Locations
Erie Barge Canal

Arch Chemicals
Rochester, New York
MACTEC, Inc.

Prepared by DBW | Checked by JEB

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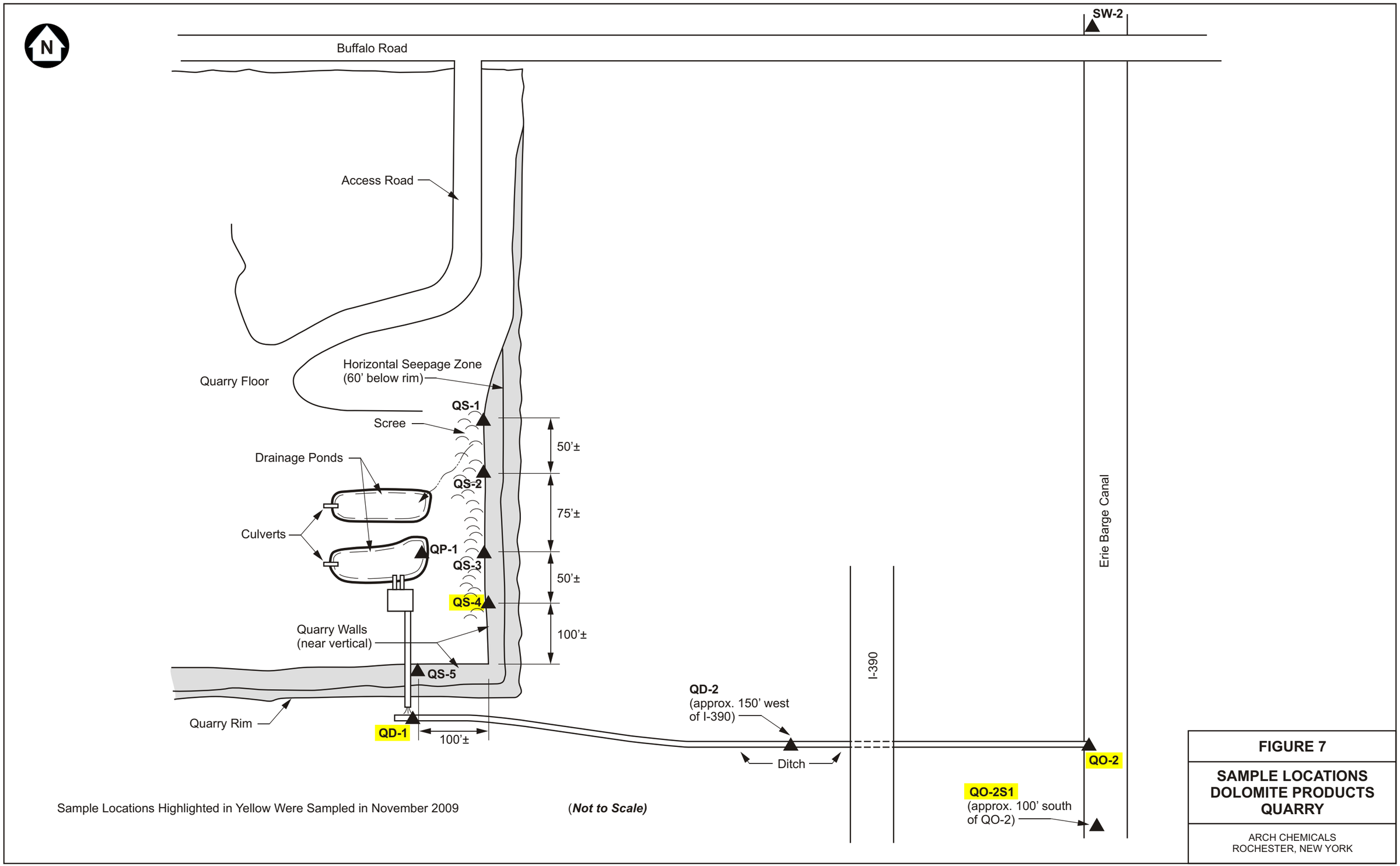


Sample Locations Highlighted in Yellow Were Sampled in November 2009

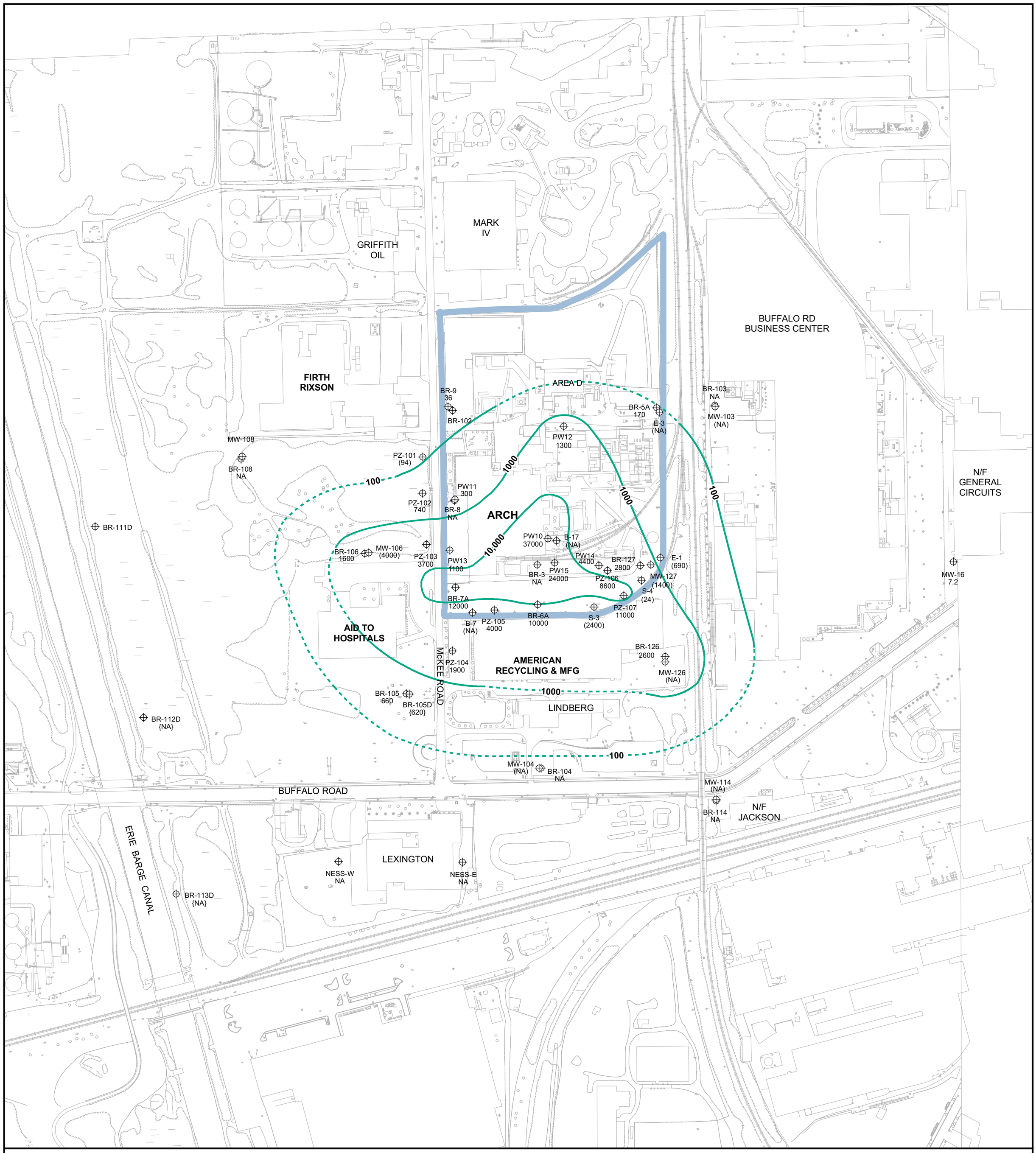
(***Not to Scale)***

FIGURE 7

SAMPLE LOCATIONS
DOLOMITE PRODUCTS QUARRY

ARCH CHEMICALS
ROCHESTER, NEW YORK

W2004030a.cdr



Legend

Outline of Arch Property Boundary

100 Chloropyridine Concentration Contour

BR-105 700 — 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, 2009
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.

Figure 8
Fall 2009
Selected Chloropyridine Concentration Contours

Arch Chemicals
Rochester, NY
MACTEC, Inc.

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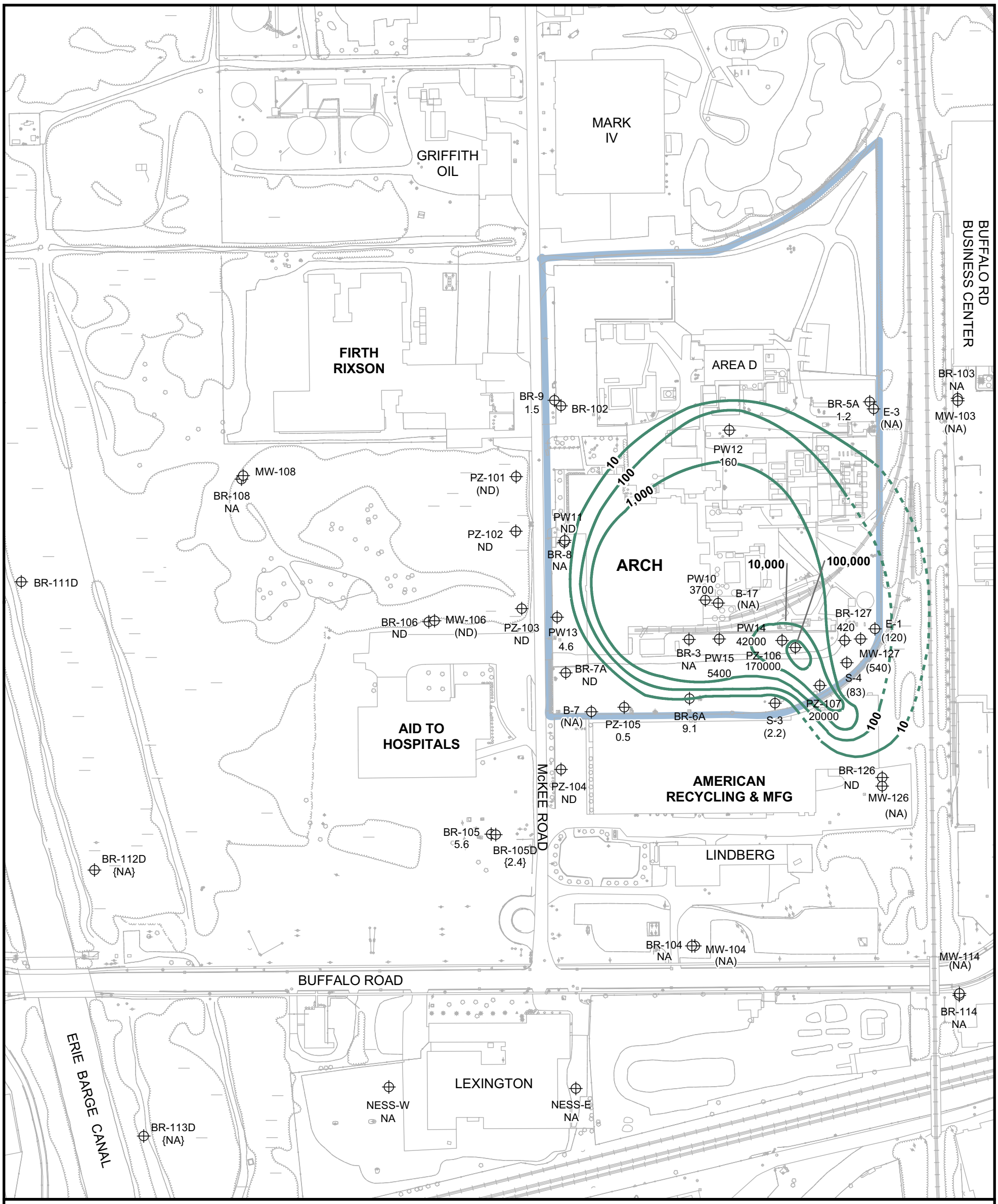

Legend

- Outline of Arch Property Boundary
- 100 — VOC Concentration Contour
- BR-113D {NS} — Monitoring Location with Concentration
- {1000} Deep Bedrock Well
- (1000) Overburden Well
- 1000 Bedrock Well
- NS Not Sampled
- ND Not Detected

NOTES:

1. Samples Collected in November, 2009
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.

0 100 200 Feet

N

Prepared by DBW | Checked by NMB

Figure 9
Fall 2009
Selected Volatile Organic Compound Concentration Contours

Arch Chemicals
Rochester, NY
MACTEC, Inc.

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Tables

TABLE 1
FALL 2009 SAMPLING AND ANALYTICAL PROGRAM

ARCH CHEMICALS, INC
ROCHESTER, NEW YORK

			ANALYSIS	PYRIDINES	VOCs
SITE / AREA	**WELL / POINT**	**DATE**	**QC TYPE**		
AID TO HOSPITALS	BR-106	11/17/2009	Sample	X	X
	MW-106	11/17/2009	Sample	X	X
	PZ-101	11/18/2009	Sample	X	X
	PZ-102	11/18/2009	Sample	X	X
	PZ-103	11/18/2009	Sample	X	X
AMERICAN RECYCLING & MANUFACTURING (58 MCKEE ROAD)	BR-126	11/18/2009	Sample	X	X
	PZ-104	11/18/2009	Sample	X	X
ARCH ROCHESTER	BR-127	11/18/2009	Sample	X	X
	BR-5A	11/17/2009	Sample	X	X
	BR-6A	11/16/2009	Sample	X	X
	BR-7A	11/18/2009	Sample	X	X
	BR-7A	11/18/2009	Duplicate	X	X
	BR-9	11/18/2009	Sample	X	X
	E-1	11/17/2009	Sample	X	X
	MW-127	11/17/2009	Sample	X	X
	PW10	11/17/2009	Sample	X	X
	PW11	11/18/2009	Sample	X	X
	PW12	11/16/2009	Sample	X	X
	PW13	11/18/2009	Sample	X	X
	PW14	11/17/2009	Sample	X	X
	PW15	11/17/2009	Sample	X	X
	PZ-105	11/16/2009	Sample	X	X
	PZ-106	11/17/2009	Sample	X	X
	PZ-107	11/16/2009	Sample	X	X
	S-3	11/16/2009	Sample	X	X
	S-4	11/16/2009	Sample	X	X
DOLOMITE PRODUCTS, INC.	QD-1	11/17/2009	Sample	X	
	QS-4	11/17/2009	Sample	X	
FORMER GENERAL CIRCUITS(Corner of Buffalo and Mt Read Blvd.)	MW-16	11/17/2009	Sample	X	
ERIE BARGE CANAL(Samples in canal or property along canal)	QO-2	11/17/2009	Sample	X	
	QO-2S1	11/17/2009	Sample	X	
RG & E RIGHT OF WAY	BR-105	11/17/2009	Sample	X	X
	BR-105D	11/17/2009	Sample	X	X

TABLE 2
FALL 2009 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	BR-105		BR-105D		BR-106		BR-126		BR-127		BR-5A		BR-6A		BR-7A		BR-7A		BR-9		E-1	
SAMPLE DATE:	11/17/2009		11/17/2009		11/17/2009		11/18/2009		11/18/2009		11/17/2009		11/16/2009		11/18/2009		11/18/2009		11/18/2009		11/17/2009	
QC TYPE:	Sample		Sample		Sample		Sample		Sample		Sample		Sample		Duplicate		Sample		Sample		Sample	
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270C (µg/L)																						
2,6-Dichloropyridine	81	J	39	J	310		420		360		30		1000		1600	J	1100		7.5	J	530	J
2-Chloropyridine	580		560		1300		2200		2400		120		9200		16000		11000		28		160	J
3-Chloropyridine	100	U	16	J	100	U	200	U	51	J	19	U	1000	U	2000	U	1000	U	9.7	U	500	UJ
4-Chloropyridine	100	U	50	U	100	U	200	U	250	U	19	U	1000	U	2000	U	1000	U	9.7	U	500	UJ
p-Fluoroaniline	100	U	8.7	J	29	J	200	U	250	U	19		1000	U	2000	U	1000	U	0.98	J	500	UJ
Pyridine	250	U	120	U	250	U	500	U	620	U	3.9	J	2500	U	5000	U	2500	U	24	U	1200	UJ

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

TABLE 2
FALL 2009 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	MW-106		MW-127		MW-16		PW10		PW11		PW12		PW13		PW14		PW15		PZ-101		PZ-102	
SAMPLE DATE:	11/17/2009		11/17/2009		11/17/2009		11/17/2009		11/18/2009		11/16/2009		11/18/2009		11/17/2009		11/17/2009		11/18/2009		11/18/2009	
QC TYPE:	Sample		Sample		Sample		Sample		Sample		Sample		Sample		Sample		Sample		Sample		Sample	
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270C (µg/L)																						
2,6-Dichloropyridine	1100	J	290	J	4	J	21000	J	56		420		150		490	J	1400	J	26		170	
2-Chloropyridine	2800	J	1100	J	3.2	J	16000	J	230		820		910		3600	J	21000	J	67		550	
3-Chloropyridine	500	UJ	250	UJ	9.4	U	4000	UJ	50	U	100	U	100	U	130	J	5000	UJ	9.9	U	100	U
4-Chloropyridine	500	UJ	250	UJ	9.4	U	4000	UJ	50	U	100	U	100	U	500	UJ	5000	UJ	9.9	U	100	U
p-Fluoroaniline	86	J	250	UJ	9.4	U	4000	UJ	11	J	95	J	9.8	J	500	UJ	5000	UJ	1.2	J	23	J
Pyridine	1200	UJ	620	UJ	24	U	10000	UJ	120	U	250	U	250	U	140	J	1900	J	25	U	250	U

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

TABLE 2
FALL 2009 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	PZ-103		PZ-104		PZ-105		PZ-106		PZ-107		S-3		S-4	
SAMPLE DATE:	11/18/2009		11/18/2009		11/16/2009		11/17/2009		11/16/2009		11/16/2009		11/16/2009	
QC TYPE:	Sample		Sample		Sample		Sample		Sample		Sample		Sample	
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270C (µg/L)														
2,6-Dichloropyridine	810	J	280		410	J	1200	J	1200		220	J	12	
2-Chloropyridine	2700	J	1600		3600		6900	J	9400		2200	J	12	
3-Chloropyridine	43	J	200	U	500	U	140	J	200	J	250	UJ	9.4	U
4-Chloropyridine	250	UJ	200	U	500	U	1000	UJ	1000	U	250	UJ	9.4	U
p-Fluoroaniline	110	J	200	U	500	U	1000	UJ	1000	U	250	UJ	9.4	U
Pyridine	620	UJ	500	U	1200	U	330	J	2500	U	620	UJ	24	U

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

TABLE 3
FALL 2009 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	BR-105	BR-105D	BR-106	BR-126	BR-127	BR-5A	BR-6A	BR-7A	BR-7A	BR-9
SAMPLE DATE:	11/17/2009	11/17/2009	11/17/2009	11/18/2009	11/18/2009	11/17/2009	11/16/2009	11/18/2009	11/18/2009	11/18/2009
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Duplicate	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	1.3 J
1,1,2,2-Tetrachloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane	0.89 J	1.7 J	0.81 J	5 U	5 U	5 U	5 U	1 J	5 U	7.3
1,1-Dichloroethene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	1.3 J
1,2,4-Trimethylbenzene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	0.71 J
1,2-Dichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethene (total)	14	6.7 J	10 U	10 U	18	9.4 J	32	2.1 J	10 U	130
1,2-Dichloropropane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,3,5-Trimethylbenzene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
2-Hexanone	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
4-Methyl-2-pentanone	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Acetone	25 U	25 U	2.2 J	25 U	25 U	25 U	25 U	25 U	25 U	3.2 J
Benzene	1.2 J	4.2 J	6.6	3.1 J	3 J	7.2	2.1 J	11	11	55
Bromodichloromethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromoform	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromomethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon disulfide	5 U	1.7 J	0.72 J	5 U	56	0.93 J	5 U	9.9	9.9	5 U
Carbon tetrachloride	2.2 J	5 U	5 U	5 U	23	5 U	5 U	1.1 J	5 U	5 U
Chlorobenzene	3.8 J	5 U	70	2.2 J	2.8 J	13	27	290	280	4.8 J
Chlorodibromomethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	1.2 J	0.97 J	5 U	5 U	360	0.6 J	2.2 J	1 J	5 U	5 U
Chloromethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Ethyl benzene	5 U	5 U	5 U	5 U	5 U	5 U	1.1 J	0.66 J	5 U	2.4 J
Methylene chloride	0.45 J	1.4 J	5 U	5 U	12	5 U	5 U	5 U	5 U	5 U
Styrene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	1.7 J	5 U	5 U	5 U	14	5 U	3.7 J	5 U	5 U	5 U
Toluene	5 U	5 U	0.63 J	5 U	20	2.1 J	19	3.7 J	3.7 J	1.8 J
trans-1,3-Dichloropropene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene	5 U	5 U	5 U	5 U	7.3	0.57 J	3.2 J	0.51 J	5 U	1.5 J
Vinyl acetate	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U
Vinyl chloride	13	5 U	5 U	5 U	9	2.9 J	4.7 J	1 J	5 U	94
Xylenes, Total	15 U	15 U	15 U	15 U	15 U	0.87 J	5.1 J	2.2 J	15 U	2.1 J

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

TABLE 3
FALL 2009 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	E-1	MW-106	MW-127	PW10	PW11	PW12	PW13	PW14	PW15	PZ-101
SAMPLE DATE:	11/17/2009	11/17/2009	11/17/2009	11/17/2009	11/18/2009	11/16/2009	11/18/2009	11/17/2009	11/17/2009	11/18/2009
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	10 U	10 U	10 U	80 U	5 U	120 U	5 U	200 U	40 U	5 U
1,1,2,2-Tetrachloroethane	10 U	10 U	10 U	80 U	5 U	120 U	5 U	200 U	40 U	5 U
1,1,2-Trichloroethane	10 U	10 U	10 U	80 U	5 U	120 U	5 U	200 U	40 U	5 U
1,1-Dichloroethane	10 U	10 U	10 U	80 U	3.2 J	120 U	4.1 J	200 U	40 U	5 U
1,1-Dichloroethene	10 U	10 U	10 U	80 U	5 U	120 U	5 U	200 U	40 U	5 U
1,2,4-Trimethylbenzene	10 U	10 U	10 U	80 U	5 U	120 U	5 U	200 U	40 U	5 U
1,2-Dichloroethane	10 U	10 U	10 U	80 U	0.56 J	78 J	5 U	200 U	40 U	5 U
1,2-Dichloroethene (total)	20 U	20 U	20 U	160 U	23	250 U	17	400 U	80 U	0.87 J
1,2-Dichloropropane	10 U	10 U	10 U	80 U	5 U	120 U	5 U	200 U	40 U	5 U
1,3,5-Trimethylbenzene	10 U	10 U	10 U	80 U	5 U	120 U	5 U	200 U	40 U	5 U
2-Butanone	50 U	50 U	50 U	400 U	2 J	620 U	25 U	1000 U	200 U	25 U
2-Hexanone	50 U	50 U	50 U	400 U	25 U	620 U	25 U	1000 U	200 U	25 U
4-Methyl-2-pentanone	50 U	50 U	50 U	400 U	25 U	620 U	25 U	1000 U	200 U	25 U
Acetone	50 U	50 U	50 U	350	7.2 J	620 U	25 U	1000 U	160	25 U
Benzene	10 U	50	4.9 J	80 U	27	120 U	12	200 U	74	0.53 J
Bromodichloromethane	10 U	10 U	10 U	80 U	5 U	120 U	5 U	200 U	40 U	5 U
Bromoform	10 U	10 U	10 U	80 U	5 U	120 U	5 U	200 U	21	5 U
Bromomethane	10 U	10 U	10 U	80 U	5 U	120 U	5 U	200 U	40 U	5 U
Carbon disulfide	16	10 U	97	80 U	1.5 J	120 U	5 U	920	280	5 U
Carbon tetrachloride	8.5 J	10 U	50	54	5 U	120 U	5 U	1600	270	5 U
Chlorobenzene	10 U	530	10 U	80 U	69	5400	35	200 U	140	6.2
Chlorodibromomethane	10 U	10 U	10 U	80 U	5 U	120 U	5 U	200 U	40 U	5 U
Chloroethane	10 U	10 U	10 U	80 U	0.91 J	120 U	5 U	200 U	40 U	5 U
Chloroform	110	10 U	480	2500	5 U	90 J	1.5 J	35000	3300	5 U
Chloromethane	10 U	10 U	10 U	80 U	0.6 J	120 U	5 U	200 U	40 U	5 U
cis-1,3-Dichloropropene	10 U	10 U	10 U	80 U	5 U	120 U	5 U	200 U	40 U	5 U
Ethyl benzene	10 U	10 U	10 U	80 U	5 U	490	5 U	200 U	40 U	5 U
Methylene chloride	10 U	10 U	11	800	5 U	120 U	5 U	4700	980	5 U
Styrene	10 U	10 U	10 U	80 U	5 U	120 U	5 U	200 U	40 U	5 U
Tetrachloroethene	10 U	10 U	10 U	350	5 U	66 J	1.6 J	300	800	5 U
Toluene	10 U	10 U	10 U	80 U	0.69 J	9400	0.84 J	200 U	330	5 U
trans-1,3-Dichloropropene	10 U	10 U	10 U	80 U	5 U	120 U	5 U	200 U	40 U	5 U
Trichloroethene	10 U	10 U	10 U	80 U	5 U	120 U	1.5 J	200 U	54	5 U
Vinyl acetate	50 U	50 U	50 U	400 U	25 U	620 U	25 U	1000 U	200 U	25 U
Vinyl chloride	10 U	10 U	10 U	80 U	13	120 U	29	200 U	16	5 U
Xylenes, Total	30 U	30 U	30 U	240 U	15 U	2800	15 U	600 U	120 U	15 U

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

TABLE 3
FALL 2009 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	PZ-102	PZ-103	PZ-104	PZ-105	PZ-106	PZ-107	S-3	S-4
SAMPLE DATE:	11/18/2009	11/18/2009	11/18/2009	11/16/2009	11/17/2009	11/16/2009	11/16/2009	11/16/2009
QC TYPE:	Sample	Sample	Sample	Sample	Sample	Sample	Sample	Sample
VOCs BY SW-846 Method 8260/5ML (µg/L)								
1,1,1-Trichloroethane	5 U	20 U	5 U	5 U	2000 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	5 U	20 U	5 U	5 U	2000 U	5 U	5 U	5 U
1,1,2-Trichloroethane	5 U	20 U	5 U	5 U	2000 U	5 U	5 U	5 U
1,1-Dichloroethane	5 U	20 U	5 U	5 U	2000 U	0.8 J	3.2 J	5 U
1,1-Dichloroethene	5 U	20 U	5 U	5 U	2000 U	5 U	5 U	5 U
1,2,4-Trimethylbenzene	5 U	20 U	5 U	5 U	2000 U	5 U	5 U	5 U
1,2-Dichloroethane	5 U	20 U	5 U	5 U	2000 U	0.96 J	5 U	5 U
1,2-Dichloroethene (total)	10 U	40 U	10 U	0.74 J	4000 U	22	31	10 U
1,2-Dichloropropane	5 U	20 U	5 U	5 U	2000 U	5 U	5 U	5 U
1,3,5-Trimethylbenzene	5 U	20 U	5 U	5 U	2000 U	5 U	5 U	5 U
2-Butanone	25 U	100 U	25 U	25 U	10000 U	25 U	25 U	25 U
2-Hexanone	25 U	100 U	25 U	25 U	10000 U	25 U	25 U	25 U
4-Methyl-2-pentanone	25 U	100 U	25 U	25 U	10000 U	25 U	25 U	25 U
Acetone	25 U	100 U	25 U	25 U	10000 U	20 J	25 U	25 U
Benzene	11	75	2 J	4.6 J	2000 U	6.8	5 J	5 U
Bromodichloromethane	5 U	20 U	5 U	5 U	2000 U	0.63 J	5 U	5 U
Bromoform	5 U	20 U	5 U	5 U	2000 U	92	5 U	5 U
Bromomethane	5 U	20 U	5 U	5 U	2000 U	5 U	5 U	5 U
Carbon disulfide	1.4 J	19 J	5 U	0.98 J	30000	27	5 U	0.46 J
Carbon tetrachloride	5 U	20 U	5 U	5 U	22000	3300	5 U	15
Chlorobenzene	160	1400	8.2	66	2000 U	8	44	2.9 J
Chlorodibromomethane	5 U	20 U	5 U	5 U	2000 U	3.6 J	5 U	5 U
Chloroethane	5 U	20 U	5 U	5 U	2000 U	5 U	5 U	5 U
Chloroform	5 U	20 U	5 U	0.5 J	140000	14000	0.62 J	62
Chloromethane	5 U	20 U	5 U	5 U	2000 U	5 U	5 U	5 U
cis-1,3-Dichloropropene	5 U	20 U	5 U	5 U	2000 U	5 U	5 U	5 U
Ethyl benzene	5 U	20 U	5 U	1.4 J	2000 U	0.41 J	0.7 J	5 U
Methylene chloride	5 U	20 U	5 U	5 U	4100	2300	5 U	5 J
Styrene	5 U	20 U	5 U	5 U	2000 U	5 U	5 U	5 U
Tetrachloroethene	5 U	20 U	5 U	5 U	1600 J	550	0.74 J	1.4 J
Toluene	1.7 J	66	5 U	44	2000 U	39	8.6	4 J
trans-1,3-Dichloropropene	5 U	20 U	5 U	5 U	2000 U	5 U	5 U	5 U
Trichloroethene	5 U	20 U	5 U	5 U	2000 U	32	0.81 J	5 U
Vinyl acetate	25 U	100 U	25 U	25 U	10000 U	25 U	25 U	25 U
Vinyl chloride	5 U	20 U	5 U	5 U	2000 U	16	22	5 U
Xylenes, Total	15 U	60 U	15 U	8 J	6000 U	2.2 J	1.9 J	0.68 J

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

TABLE 4
COMPARISON OF FALL 2009
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-2009 RESULT	# EVENTS IN PRIOR 5 YRS	HISTORIC MAXIMUM	5-YEAR MEAN	NOV-2009 RESULT
ON-SITE WELLS/LOCATIONS								
B-17	5	28,000,000	470,000		5	345,000	15,000	
B-7	5	9,100	1,000		5	256	32	
BR-127	10	29,000	6,900	2,800	10	1,300	130	**420**
BR-3	5	6,500,000	70,000		5	920,000	180,000	
BR-5A	10	1,700	290	170	10	9,400	25	1.2
BR-6A	10	144,500	5,800	**10,000**	10	26,000	340	9.1
BR-7A	10	510,000	27,000	12,000	10	3,000	140	ND
BR-8	5	57,000	230		5	6,900	11	
BR-9	10	720	130	36	10	160	5.6	1.5
E-1	10	171,680	46,000	690	10	5,300	110	**120**
E-3	5	600	150		5	12,000	36	
MW-127	10	15,000	7,600	1,400	10	180	540	540
PW10	10	244,000	100,000	37,000	10	120,000	12,000	3,700
PW11	10	27,000	1,100	300	10	30,000	100	ND
PW12	10	15,000	2,600	1,300	10	120,000	510	160
PW13	10	7,500	2,400	1,100	10	920	210	4.6
PW14	9	29,000	24,000	4,400	9	160,000	31,000	42,000
PW15	5	729,000	300,000	24,000	5	8,200	6600	5,400
PZ-105	9	190,000	11,000	4,000	9	9,700	140	1
PZ-106	9	124,000	70,000	8,600	9	1,359,000	350,000	170,000
PZ-107	10	11,000	6,900	**11,000**	10	12,000	6.7	**20,000**
S-3	10	21,000	7,000	2,400	10	2,500	39	2.2
S-4	10	3,200	130	24	10	870	ND	83
OFF-SITE WELLS/LOCATIONS								
BR-103	5	400	11		5	38	7.6	
BR-104	5	3,100	4.8			9		
BR-105	10	24,000	960	660	10	310	4.6	**5.6**
BR-105D	10	10,000	900	620	10	230	4.5	2.4
BR-106	10	24,600	4,700	1,600	10	6,300	0.062	ND
BR-108	5	1,700	37			ND		
BR-112D	5	310	49			4.3		
BR-113D	5	490	28			2.8		
BR-114	5	520	190		5	12	0.24	
BR-116	5	12	ND			84		
BR-116D	5	710	22			120		
BR-117D	5	80	7.8			1.9		
BR-118D	5	330	63			6.6		
BR-122D	5	650	160			ND		
BR-123D	5	860	87			4		
BR-126	8	9,000	3,800	2,600	8	230	72	ND
MW-103	5	97	19		5	750	17	
MW-104	5	180	3.6			1		

TABLE 4
COMPARISON OF FALL 2009
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-2009 RESULT	# EVENTS IN PRIOR 5 YRS	HISTORIC MAXIMUM	5-YEAR MEAN	NOV-2009 RESULT
MW-106	10	130,000	7,000	4,000	10	453	0.29	ND
MW-114	5	18	ND		5	24	19	
MW-126	1	63	63		1	ND	ND	
MW-16	5	360	41	7	1	8	8	
NESS-E	5	5,000	150			700		
NESS-W	5	2,100	1.0			89		
PZ-101	10	27,000	330	94	10	6.1	0.25	ND
PZ-102	10	58,000	1,300	740	10	10,000	2.4	ND
PZ-103	10	73,000	8,600	3,700	10	44,300	4.8	ND
PZ-104	10	9,100	2,600	1,900	10	40	0.14	ND
QD-1	7	11	4.1	**6.0**	1	ND	ND	
QO-2	11	380	4.6	**8.6**	1	ND	ND	
QO-2S1	11	27	0.55	**3**	1	ND	ND	
QS-4	12	3,400	190	**210**	2	ND	ND	

Note:
1) Number of samples and mean reflect 5-year sampling period from November 2004 through May 2009. Historic maximum based on all available results from March 1990 through June 2009.
2) Chloropyridines represented by: 2-Chloropyridine, 2,6-Dichloropyridine, and 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 2009 exceeds 5-year mean.
5) ND = Not detected
BLANK = Not sampled

TABLE 5
FALL 2009 QUARRY SEEP AND OUTFALL WATER SAMPLE RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	QS-4		QD-1		QO-2		QO-2S1	
SAMPLE DATE:	11/17/2009		11/17/2009		11/17/2009		11/17/2009	
QC TYPE:	Sample		Sample		Sample		Sample	
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270C (µg/L)								
2,6-Dichloropyridine	37		2.5	J	3.3	J	9.4	U
2-Chloropyridine	170		3.5	J	5.3	J	3.4	J
3-Chloropyridine	19	U	9.4	U	9.6	U	9.4	U
4-Chloropyridine	19	U	9.4	U	9.6	U	9.4	U
p-Fluoroaniline	19	U	9.4	U	9.6	U	9.4	U
Pyridine	48	U	24	U	24	U	24	U

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

TABLE 6
EXTRACTION WELL WEEKLY FLOW MEASUREMENTS - JUNE 2009 THROUGH NOVEMBER 2009

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

Week Ending	BR-5A [Gal./Wk.]	BR-7A [Gal./Wk.]	BR-9 [Gal./Wk.]	PW-11 [Gal./Wk.]	PW-13 [Gal./Wk.]	PW-14 [Gal./Wk.]	PW-15 [Gal./Wk.]	BR-127 [Gal./Wk.]	Total [Gal.]
Jun '08									
06/07/08	47,820	43,633	126,952	0 **	105,431	6,507	20,460		350,803
06/14/08	40,791	39,756	48,016	0 **	70,260 **	4,668	9,551 *		213,042
06/21/08	11,536 **	21,519 **	10,464 **	1,112 **	82,728 **	6,108	15,196		148,663
06/28/08	5 **	36,274	27,577	3,279	138,007	5,633	13,685		224,460
						Total [Gal.]			936,968
Jul '09									
07/05/09	0 **	41,008	49,587	5,697	157,468	6,349	14,019		274,128
07/12/09	26 **	40,502	56,328	7,826	148,505	5,314	16,885		275,386
07/19/09	2 **	39,842	54,919	7,924	141,760	6,451	14,738		265,636
07/26/09	11,864 **	58,490	47,906	6,816	138,523	4,966	8,336 **		276,901
						Total [Gal.]			1,092,051
Aug '09									
08/02/09	7,408 **	54,729	41,443	2,216 **	124,668	3,085	4,581 **		238,130
08/09/09	17,405 **	47,789	42,189	3,850	116,722	2,266	140 **		230,361
08/16/09	38,947	53,352	47,220	2,134	110,240	2,345	9,964 **		264,202
08/23/09	36,336	57,849	50,722	2,501	58,716 **	1,754 **	29,559		237,437
08/30/09	43,303	50,035	60,272	6,180	0 **	1,917	50,274		211,981
						Total [Gal.]			1,182,111
Sep '09									
09/06/09	43,458	53,026	41,933 **	1,878 **	38,311 **	2,147	40,651		221,404
09/13/09	36,376	51,597	55,539	3,794	77,079	1,557 **	27,371 **	33,486	286,799
09/20/09	39,117	72,676	57,805	3,750	77,219	1,665	13,806 **	81,428	347,466
09/27/09	44,971	73,177	51,293	5,412	72,191	1,954	50,622	88,942	388,562
						Total [Gal.]			1,244,231
Oct '09									
10/04/09	45,058	58,006	53,747	2,822	85,057	2,211	41,344	92,054	380,299
10/11/09	46,739	56,814	78,457	4,237	97,103	2,304	45,827	125,401	456,882
10/18/09	46,058	58,081	76,488	4,537	103,768	2,285	43,162	112,563	446,942
10/25/09	40,045	57,992	68,509	4,536	98,828	2,500	39,806	95,007	407,223
						Total [Gal.]			1,691,346
Nov '09									
11/01/09	41,838	55,367	72,431	4,333	103,284	2,455	33,778 **	93,240	406,726
11/08/09	44,015	46,683	93,947	2,444	109,802	1,640	37,257	59,197	394,985
11/15/09	41,876	35,243	95,977	3,053	116,180	2,378	37,127	86,307	418,141
11/22/09	38,730	55,824	98,870	1,476 **	98,380	2,136	34,688	63,815	393,919
11/29/09	37,515	87,586	50,964	2,062	17,041	1,913	32,402	80,993	310,476
						Total [Gal.]			1,924,247
Total 6 Mo. Removal (Gal.)	801,239	1,346,850	1,559,555	93,869	2,487,271	84,508	685,229	1,012,433	8,070,954

Notes:
1) * - Flow rate is estimated due to a meter failure or reading error
2) ** - Flow rate adversely affected by pump failure or pluggage in discharge line

TABLE 7

MASS REMOVAL SUMMARY
PERIOD: JUNE 2009 - NOVEMBER 2009

ARCH ROCHESTER
FALL 2009 GROUNDWATER MONITORING REPORT

Well	Total Vol. Pumped (gallons)	Avg. VOC Conc. (ppm)	Avg. PYR. Conc. (ppm)	VOCs Removed (pounds)	PYR. Removed (pounds)
BR-5A	801,000	0.002	0.19	0.01	1.3
BR-7A	1,347,000	0	13	0	149
BR-9	1,560,000	0	0.067	0.01	0.9
PW-11	94,000	0.009	0.76	0.01	0.6
PW-13	2,487,000	0.014	2.2	0.280	46
PW-14	85,000	34	7	24	5
PW-15	685,000	5	25	30	140
BR-127	1,012,000	0.209	16	1.8	135
Totals:	8,071,000			56	478

Note: VOC and pyridine concentrations used in this table are an average of the analytical results from the Spring 2009 and Fall 2009 sampling events for each well

TABLE 8
2010 SAMPLING SCHEDULE
ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

ARCH ROCHESTER						**2010**					
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	ALH	semi-annual monitoring, VOCs & PYR	perimeter sentinel/trend monitoring	1	1	1	1	2	2
	BR-126	BR	ALH	semi-annual monitoring, VOCs & PYR	trend monitoring	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
	B-16	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
	PW11	pumping well	ON-SITE	semi-annual monitoring, VOCs & PYR	mass removal/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
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: 12/29/09

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 2009 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: 1-08-10

1.0 INTRODUCTION

This report describes the sampling of the following points:

- Twenty-eight (28) groundwater samples (MW-126 not located)
- 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 6-18, 2009 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, one (1) 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.

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

SAMPLE POINT	DATE	DEPTH TO WATER	CASING ELEVATION	GW ELEVATION	TIME	Comments
B-1	11/06/09	8.97		-8.97	1130	NO L-NAPL ; NO D-NAPL
B-10		11.47		-11.47	1257	NO L-NAPL ; NO D-NAPL
B-11		8.34		-8.34	1255	NO L-NAPL
B-13		DRY		#VALUE!	1258	
B-14		9.90		-9.90	1103	
B-15		7.28		-7.28	1105	
B-16		8.94		-8.94	1107	
B-17		11.53		-11.53	1308	NO L-NAPL ; NO D-NAPL
B-2		9.91		-9.91	1133	NO L-NAPL ; NO D-NAPL
B-3		6.03		-6.03	1135	NO L-NAPL ; NO D-NAPL
B-4		13.15		-13.15	1213	NO L-NAPL ; NO D-NAPL
B-5		11.19		-11.19	1208	NO L-NAPL ; NO D-NAPL
B-7		14.80		-14.80	1331	NO L-NAPL ; NO D-NAPL
B-8		10.69		-10.69	1245	NO L-NAPL ; NO D-NAPL
BR-1		8.05		-8.05	1225	NO L-NAPL ; NO D-NAPL
BR-102		22.60		-22.60	1339	
BR-103		6.73		-6.73	1135	
MW-103		2.06		-2.06	1137	
BR-104		10.73		-10.73	1145	
MW-104		8.42		-8.42	1146	
BR-105		23.47		-23.47	1240	
BR-105D		25.89		-25.89	1241	
MW-105		DRY		#VALUE!	1243	
BR-106		24.20		-24.20	1247	
MW-106		11.71		-11.71	1248	
BR-108		28.47		-28.47	1310	
MW-108		14.05		-14.05	1311	
BR-111		32.85		-32.85	1233	
BR-111D		28.97		-28.97	1235	
BR-112A		32.08		-32.08	1222	
BR-112D		36.41		-36.41	1225	
BR-113		31.45		-31.45	1156	

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

SAMPLE POINT	DATE	DEPTH TO WATER	CASING ELEVATION	GW ELEVATION	TIME	Comments
BR-113D	11/06/09	31.63		-31.63	1157	
BR-114		14.67		-14.67	1140	
MW-114		11.03		-11.03	1142	
BR-116		29.83		-29.83	1120	
BR-116D		35.75		-35.75	1122	
BR-117		24.00		-24.00	1050	CASCADING WELL
BR-117D		49.71		-49.71	1052	
BR-118		36.05		-36.05	1059	
BR-118D		48.83		-48.83	1100	
BR-122D		45.24		-45.24	1115	
BR-123D		45.49		-45.49	1110	
BR-124D		31.63		-31.63	1105	
BR-126		9.55		-9.55	1053	
MW-126						NOT LOCATED
BR-127		19.76			1300	NO L-NAPL ; NO D-NAPL
MW-127		10.36			1259	NO L-NAPL ; NO D-NAPL
BR-2		15.55		-15.55	1307	NO L-NAPL ; NO D-NAPL
BR-2A		13.30		-13.30	1305	NO L-NAPL ; NO D-NAPL
BR-2D		0.05		-0.05	1306	NO L-NAPL ; NO D-NAPL
BR-3		11.05		-11.05	1314	NO L-NAPL
BR-3D		58.61		-58.61	1313	NO L-NAPL ; NO D-NAPL
BR-4		9.09		-9.09	1301	NO L-NAPL
BR-5		13.02			1235	NO L-NAPL ; NO D-NAPL
BR-5A		18.26		-18.26	1236	0.00 GPM
BR-6		12.91		-12.91	1248	NO L-NAPL ; NO D-NAPL
BR-6A		13.80		-13.80	1247	
BR-7		29.07		-29.07	1328	
BR-7A		20.15		-20.15	1327	NO L-NAPL ; NO D-NAPL
BR-8		11.10		-11.10	1207	NO L-NAPL ; NO D-NAPL
BR-9		24.54		-24.54	1340	0.00 GPM
C-2A		9.34		-9.34	1304	NO L-NAPL ; NO D-NAPL
C-3				0.00	1236	BURIED

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

SAMPLE POINT	DATE	DEPTH TO WATER	CASING ELEVATION	GW ELEVATION	TIME	Comments
	11/06/09			0.00		
C-5		12.29		-12.29	1314	NO L-NAPL ; NO D-NAPL
E-1		1.71		-1.71	1256	NO L-NAPL
E-2		6.58		-6.58	1302	NO L-NAPL ; NO D-NAPL
E-3		5.87		-5.87	1234	NO L-NAPL ; NO D-NAPL
E-4				0.00	1230	OBSTRUCTED AT 2.60
E-5		6.03		-6.03	1227	NO L-NAPL ; NO D-NAPL
EC-1		18.76		-18.76	1215	
EC-2				0.00	1158	DRY AT 12.79 '
ERIE CANAL		33.02		-33.02	1210	
MW-16		12.08		-12.08	1130	
MW-3		6.01		-6.01	1302	
MW-G6		4.47		-4.47	1308	
MW-G7						NOT LOCATED
MW-G8		8.19		-8.19	1312	
MW-G9		11.03		-11.03	1315	
N-1				0.00	1226	OBSTRUCTED
N-2		4.44		-4.44	1222	NO L-NAPL ; NO D-NAPL
N-3		6.84		-6.84	1128	NO L-NAPL
NESS-E		7.04		-7.04	1151	
NESS-W		31.34		-31.34	1152	
PW-10				0.00	1309	UNDER TANK TOTE
PW-11		26.13		-26.13	1209	NO L-NAPL
PW-12		6.98		-6.98	1237	
PW-13		28.78		-28.78	1325	NO L-NAPL; NO D NAPL
PW-14		38.26		-38.26	1318	NO L-NAPL
PW-15		24.47		-24.47	1310	NO L-NAPL; NO D-NAPL
PZ-101		14.75		-14.75	1122	
PZ-102		18.31		-18.31	1120	
PZ-103		13.11		-13.11	1125	
PZ-104		14.36		-14.36	1100	
PZ-105		11.00		-11.00	1241	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
PZ-106	11/06/09	11.77		-11.77	1317	NO L-NAPL ; NO D-NAPL
PZ-107		14.84		-14.84	1251	NO L-NAPL ; NO D-NAPL
PZ-109		12.28		-12.28	1311	NO L-NAPL; NO D-NAPL
S-1		8.79		-8.79	1242	NO L-NAPL ; NO D-NAPL
S-2		3.98		-3.98	1246	NO L-NAPL
S-3		1.15		-1.15	1250	NO L-NAPL ; NO D-NAPL
S-4		0.90		-0.90	1253	
W-1				0.00	1129	OBSTRUCTED
W-2		9.82		-9.82	1134	NO L-NAPL ; NO D-NAPL
W-3		10.67		-10.67	1139	NO L-NAPL ; NO D-NAPL
W-4		8.41		-8.41	1211	NO L-NAPL ; NO D-NAPL
W-5		8.66		-8.66	1326	NO L-NAPL ; NO D-NAPL
W-6		11.69		-11.69	1330	NO L-NAPL ; NO D-NAPL

Sampling Summary Table
ARCH CHEMICAL
NOVEMBER 2008
RI SAMPLING/ROCHESTER NY FACILITY

Sample Point	Water Level Date	Water Level Time	Water Level (ft)*	Water Elevation (ft)**	Bottom Of Well (ft)*	Field Measurements Date	Field Measurements Time	pH (STD) (Units)	Spec. Cond. (umhos)	Temp (°C)	Turb. (NTU)	Other Field Measurements
BR-105	11/17/2009	1112	23.22	N/A	N/A	11/17/2009	1225	6.97	1778	13.5	0.87	EH(mv)= -247 DO(ppm)= 0.75
	Comments: CLEAR											
BR-105D	11/17/2009	1110	25.50	N/A	N/A	11/17/2009	1145	6.87	26670	13.0	1.85	EH(mv)= -320 DO(ppm)= 0.60
	Comments: CLEAR											
BR-106	11/17/2009	1310	24.08	N/A	N/A	11/17/2009	1340	6.87	3387	12.4	9.80	EH(mv)= -222 DO(ppm)= 0.48
	Comments: CLEAR											
BR-126	11/18/2009	1309	9.85	N/A	N/A	11/18/2009	1345	7.25	720	15.3	21.90	EH(mv)= -111 DO(ppm)= 0.97
	Comments: CLEAR											
BR-127	11/18/2009	1200	18.42	N/A	N/A	11/18/2009	1203	7.97	2578	15.8	10.01	EH(mv)= 10
	Comments: CLEAR											
BR-5A	11/17/2009	1420	21.19	N/A	N/A	11/17/2009	1425	7.39	1484	13.4	15.25	EH(mv)= -93
	Comments: CLEAR											
BR-6A	11/16/2009	1216	14.21	N/A	N/A	11/16/2009	1240	8.88	1111	15.1	7.60	EH(mv)= -72 DO(ppm)= 1.53
	Comments: CLEAR/BLACK SPECKS											
BR-7A	11/18/2009	1225	29.74	N/A	N/A	11/18/2009	1227	8.21	2431	15.7	16.85	EH(mv)= -101
	Comments: CLEAR GREY											
BR-7A	11/18/2009	1225	29.74	N/A	N/A	11/18/2009	1228	8.20	2431	15.7	16.80	EH(mv)= -103
	Comments: CLEAR GREY/DUP											
BR-9	11/18/2009	1125	32.07	N/A	N/A	11/18/2009	1127	6.92	2268	15.0	141.00	EH(mv)= -10
	Comments: GREY TURBID											
E-1	11/17/2009	1234	1.78	N/A	N/A	11/17/2009	1255	9.09	12750	9.5	22.10	EH(mv)= -96 DO(ppm)= 0.74
	Comments: CLEAR/ ODER											
MW-106	11/17/2009	1237	11.73	N/A	N/A	11/17/2009	1305	6.96	5844	12.6	1.89	EH(mv)= -268 DO(ppm)= 0.95
	Comments: CLEAR											
MW-127	11/17/2009	1200	10.23	N/A	N/A	11/17/2009	1220	7.49	4090	13.9	2.11	EH(mv)= -138 DO(ppm)= 0.86
	Comments: CLEAR/SAMPLED BEFORE WELL WENT DRY											
MW-16	11/17/2009	1355	12.40	N/A	N/A	11/17/2009	1425	7.21	3061	13.9	28.90	EH(mv)= -161 DO(ppm)= 0.91
	Comments: CLEAR/ORANGE TINT											
PW-10	11/17/2009	1309	11.39	N/A	N/A	11/17/2009	1400	9.80	9181	13.4	124.00	EH(mv)= -84 DO(ppm)= 0.80
	Comments: TURBID AMBER											
PW-11	11/18/2009	1030	23.72	N/A	N/A	11/18/2009	1040	6.88	3229	14.4	168.00	EH(mv)= -44
	Comments: TURBID RED TINT/LIMITED RECHARGE											

SG - Specific Gravity
EH - Redox
DO - Dissolved Oxygen

* From Top of Riser
** Elevation Above Sea Level

Sampling Summary Table
ARCH CHEMICAL
NOVEMBER 2008
RI SAMPLING/ROCHESTER NY FACILITY

Sample Point	Water Level Date	Water Level Time	Water Level (ft)*	Water Elevation (ft)**	Bottom Of Well (ft)*	Field Measurements Date	Field Measurements Time	pH (STD) (Units)	Spec. Cond. (umhos)	Temp (°C)	Turb. (NTU)	Other Field Measurements
PW-12(BR-101)	11/16/2009	1045	7.47	N/A	N/A	11/16/2009	1110	6.80	2710	14.0	6.41	EH(mv)= -38 DO(ppm)= 0.91
	Comments: CLEAR/BLACK SPECKS											
PW-13	11/18/2009	1245	27.91	N/A	N/A	11/18/2009	1249	8.10	2407	16.8	17.34	EH(mv)= -85
	Comments: CLEAR											
PW-14	11/17/2009	1120	38.20	N/A	N/A	11/17/2009	1123	6.85	3937	15.4	35.80	EH(mv)= -175
	Comments: SL.TURBID YELLOW TINT											
PW-15	11/17/2009	1150	26.08	N/A	N/A	11/17/2009	1153	9.49	7401	15.5	18.70	EH(mv)= -204
	Comments: AMBER CLEAR											
PZ-101	11/18/2009	1146	15.06	N/A	N/A	11/18/2009	1215	6.74	7462	13.4	2.69	EH(mv)= -16 DO(ppm)= 0.96
	Comments: CLEAR											
PZ-102	11/18/2009	1059	18.71	N/A	N/A	11/18/2009	1125	6.86	6938	12.0	2.19	EH(mv)= -138 DO(ppm)= 0.82
	Comments: CLEAR											
PZ-103	11/18/2009	1010	13.43	N/A	N/A	11/18/2009	1045	6.62	5790	12.6	1.58	EH(mv)= -201 DO(ppm)= 0.96
	Comments: CLEAR											
PZ-104	11/18/2009	1226	14.66	N/A	N/A	11/18/2009	1250	7.08	1489	15.8	4.86	EH(mv)= -146 DO(ppm)= 0.84
	Comments: CLEAR											
PZ-105	11/16/2009	1130	11.34	N/A	N/A	11/16/2009	1155	7.50	1306	14.5	128.00	EH(mv)= -12 DO(ppm)= 0.96
	Comments: TURBID GREY											
PZ-106	11/17/2009	1100	12.14	N/A	N/A	11/17/2009	1125	6.80	4920	13.4	6.00	EH(mv)= -140 DO(ppm)= 0.85
	Comments: CLEAR YELLOW TINT											
PZ-107	11/16/2009	1321	12.26	N/A	N/A	11/16/2009	1350	7.27	3788	12.9	4.84	EH(mv)= -78 DO(ppm)= 0.81
	Comments: CLEAR											
QD-1	11/17/2009	1510	0.00	N/A	N/A	11/17/2009	1515	7.93	1775	8.9	N/A	EH(mv)= -132
	Comments: CLEAR											
QO-2	11/17/2009	1535	0.00	N/A	N/A	11/17/2009	1540	8.07	1774	9.1	N/A	EH(mv)= -20
	Comments: CLEAR											
QO-2S1	11/17/2009	1555	0.00	N/A	N/A	11/17/2009	1605	7.98	771	8.3	N/A	EH(mv)= -98
	Comments: CLEAR											
QS-4	11/17/2009	1520	0.00	N/A	N/A	11/17/2009	1525	7.93	1682	8.9	N/A	EH(mv)= -159
	Comments: CLEAR											
S-3	11/16/2009	1253	0.95	N/A	N/A	11/16/2009	1315	7.19	2251	10.3	4.29	EH(mv)= 24 DO(ppm)= 0.93
	Comments: CLEAR BLACK SPECKS											

SG - Specific Gravity
EH - Redox
DO - Dissolved Oxygen

* From Top of Riser
** Elevation Above Sea Level

Sampling Summary Table
ARCH CHEMICAL
NOVEMBER 2008
RI SAMPLING/ROCHESTER NY FACILITY

Sample Point	Water Level Date	Water Level Time	Water Level (ft)*	Water Elevation (ft)**	Bottom Of Well (ft)*	Field Measurements Date	Field Measurements Time	pH (STD) (Units)	Spec. Cond. (umhos)	Temp (°C)	Turb. (NTU)	Other Field Measurements
S-4	11/16/2009	1333	1.01	N/A	N/A	11/16/2009	1430	8.37	788	11.5	5.61	EH(mv)= -43 DO(ppm)= 1.00
	Comments: CLEAR											

SG - Specific Gravity
EH - Redox
DO - Dissolved Oxygen

* From Top of Riser
** Elevation Above Sea Level

FIELD OBSERVATIONS

Facility: ARCH | Sample Point ID: BR-105

Field Personnel: R. Seve | Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 11-17-09 / 1112 | Cond of seal: XX Good ( ) Cracked ( ) None ( ) Buried ____ %

Prot. Casing/riser height: — | Cond of prot. Casing/riser: ( ) Unlocked ( ) Good ( ) Loose XX 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: 11-17-09 / 1155 | Date / Time Completed: 11-17-09 / 1225

Surf. Meas. Pt: ( ) Prot. Casing XX Riser | Riser Diameter, Inches: 4.0

Initial Water Level, Feet: 23.22 | Elevation. G/W MSL: ____

Well Total Depth, Feet: ____ | Method of Well Purge: BLADDER PUMP

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

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

Purge Observations: LO-FLOW | Start SC, TURB, O Finish CLEAR

PURGE DATA: (if applicable)

Time	Purge Rate (~~gpm~~ ml/min)		Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
1200	150	23.55		13.3	7.33	1824	2.52	-272	0.93
1205	150	23.55		13.4	7.13	1785	1.14	-249	0.80
1210	150	25.55		13.5	6.99	1780	0.85	-247	0.73
1225	150			13.5	6.97	1778	0.87	-247	0.75

SAMPLED AT 1230/11-17-09

BJ

FIELD OBSERVATIONS (continued)

SAMPLING INFORMATION:

POINT ID _____

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

Method of Sampling: _____ Dedicated: Y / N

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ( )	Other ( )

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: _____

COMMENTS AND OBSERVATIONS: _____

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

Date: / / By: _____ Company: _____

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: BR-105D

Field Personnel: R. STENF

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 11-17-09 1110

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: 11-17-09 1115

Date / Time Completed: 11-17-09 1145

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 25.50

Elevation. G/W MSL:

Well Total Depth, Feet:

Method of Well Purge: BLADDER PUMP

One (1) Riser Volume, Gal:

Dedicated: (Y) / N

Total Volume Purged, Gal:

Purged To Dryness Y / (N)

Purge Observations: LO-FLOW

Start BLACK TINT 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
1115	180 PMP MP	25.82		13.0	7.10	25,230	8.95	-321	0.69
1125	180	25.80		13.1	6.93	25,980	2.07	-323	0.63
1135	180	25.80		13.0	6.91	26,510	1.93	-321	0.59
1145	180	25.80		13.0	6.87	26,670	1.85	-320	0.60

SAMPLED AT 1150/11-17-09

BG

FIELD OBSERVATIONS (continued)

SAMPLING INFORMATION:

POINT ID _____

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

Method of Sampling: _____ Dedicated: Y / N

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ( )	Other ( )

INSTRUMENT CHECK DATA:

Turbidity Serial #: _____ NTU std. = ____ NTU 10 NTU std. = 10 NTU

Solutions: A9042

pH Serial #: M120 1201 4.0 std.= 4.00 7.0 std.= 7.00 10.0 std. = _____

Solutions: 4 NMO1 7-NMO1

Conductivity Serial #: 1258 1000 umhos/cm= 1000 _____ umhos/cm= _____

Solutions: 7643

GENERAL INFORMATION:

Weather conditions @ time of sampling: _____

Sample Characteristics: _____

COMMENTS AND OBSERVATIONS: _____

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

Date: / / By: _____ Company: _____

FIELD OBSERVATIONS

Facility: ARCO

Sample Point ID: BR-106

Field Personnel: R. SENF

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 11-17-09 1310

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: 11-17-09 / 1315

Date / Time Completed: 11-17-09 / 1340

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

Riser Diameter, Inches: 4.0

Initial Water Level, Feet: 24.08

Elevation. G/W MSL:

Well Total Depth, Feet:

Method of Well Purge: PERISTALTIC PUMP

One (1) Riser Volume, Gal:

Dedicated: (Y) / N

Total Volume Purged, Gal:

Purged To Dryness Y / (N)

Purge Observations: LO-FLOW

Start SL. TURBID Finish CLEAR

PURGE DATA: (if applicable)

Time	Purge Rate ~~(gpm/hlz)~~	WL	Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
1325	200 ml/mn	24.15		12.2	7.02	3376	23.9	-199	0.49
1330	200	24.15		12.4	6.93	3408	10.3	-223	0.51
1335	200	24.15		12.4	6.91	3396	11.1	-222	0.49
1340	200	24.15		12.4	6.87	3387	9.80	-222	0.48

SAMPLED AT 1340/11-17-09

BG

FIELD OBSERVATIONS (continued)

SAMPLING INFORMATION:

POINT ID _____

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

Method of Sampling: _____ Dedicated: Y / N

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ( )	Other ( )

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: _____

COMMENTS AND OBSERVATIONS: _____

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

Date: / / By: _____ Company: _____

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: BR-126

Field Personnel: PL, JS, RK

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-18-09 / 1309

Cond of seal: ( ) Good ( ) Cracked Buried under Stone fill %
( ) 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: 11-18-09 / 1314

Date / Time Completed: 11-18-09 / 1345

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

Riser Diameter, Inches: 4.0

Initial Water Level, Feet: 9.85

Elevation. G/W MSL:

Well Total Depth, Feet: 45.45

Method of Well Purge: Peristaltic Pump

One (1) Riser Volume, Gal:

Dedicated: (Y) / N

Total Volume Purged, Gal:

Purged To Dryness Y / (N)

Purge Observations:

Start Turbid 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
1319	ml/min 200	WL 9.89		~~15.5~~ 15.1	7.55	651	102	-118	1.22
1324				15.1	7.40	706	80.4	-116	1.14
1329				15.1	7.31	711	62.3	-115	1.10
1335				15.0	7.27	715	39.2	-113	1.01
1340				15.1	7.25	719	29.6	-113	0.99
1345				15.3	7.25	720	21.9	-111	0.97

Sample @ 1345 / 11-18-09

Pg 2

FIELD OBSERVATIONS (continued)

SAMPLING INFORMATION: POINT ID _____

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

Method of Sampling: _____ Dedicated: Y / N

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ( )	Other ( )

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: _____

COMMENTS AND OBSERVATIONS: _____

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

Date: / / By: _____ Company: _____

LeachField Form
Revision 0
March, 15 2002

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: BR127

Field Personnel: PL JS

Sample Matrix: GW

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-18-09 / 1200

Water Level @ Sampling, Feet: 18.42

Method of Sampling: In-situ 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 ( )
1203	15.8	7.97	2578	10.01	10	

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 51°

Sample Characteristics: Clear

COMMENTS AND OBSERVATIONS:

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

Date: 11/18/09 By: [signature] Company: TAL

LeachField Form
Revision 0
March, 15 2002

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: BR-5A

Field Personnel: PL JS

Sample Matrix: GW

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-17-09 / 1420

Water Level @ Sampling, Feet: 21.19

Method of Sampling: IN-SITU 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 ( )
1425	13.4	7.39	1484	15.25	-93	

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: Sunny 45°

Sample Characteristics: Clear

COMMENTS AND OBSERVATIONS: _____

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

Date: 11/17/09 By: _____ Company: TAL

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: BR-6A

Field Personnel: PL JS

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-16-09 / 1216

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

Former pumping well

Prot. Casing/riser height: ____

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

If prot.casing; depth to riser below: ____

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

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

PURGE INFORMATION:

Date / Time Initiated: 11-16-09 / 1220

Date / Time Completed: 11-16-09 / 1240

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

Riser Diameter, Inches: 6.0

Initial Water Level, Feet: 14.21

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 w/ Black specks Finish clear w/ Black specks

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							
1225	200	14.33		14.9	8.64	1122	9.02	-66	1.61
1230	↓	14.37		15.1	8.71	1115	8.97	-70	1.58
1235	↓	↓		15.1	8.81	1112	7.62	-71	1.56
1240	↓	↓		15.1	8.88	1118	7.60	-72	1.53

Pt Stabilized @ 1240 / 11-16-09

FIELD OBSERVATIONS (continued)

SAMPLING INFORMATION:

POINT ID _____

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

Method of Sampling: _____ Dedicated: Y / N

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ( )	Other ( )

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: _____

COMMENTS AND OBSERVATIONS: _____

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

Date: / / By: _____ Company: _____

LeachField Form
Revision 0
March, 15 2002

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: BR-7A

Field Personnel: PL JS

Sample Matrix: GW

(N) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-18-09 1225

Water Level @ Sampling, Feet: 29.74

Method of Sampling: IN-SITU 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 ( )
1227	15.7	8.21	2431	16.85	-101	
1228	15.7	8.20	2431	16.80	-103	

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 53°

Sample Characteristics: Clear Grey Turb

COMMENTS AND OBSERVATIONS: DUP

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

Date: 11/18/09 By: _____ Company: TAL

LeachField Form
Revision 0
March, 15 2002

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: BR-9

Field Personnel: PG JS

Sample Matrix: GW

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-18-09 / 1125

Water Level @ Sampling, Feet: 32.07

Method of Sampling: IN-SITU 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 ( )
1127	15.0	6.92	2268	141	-10	

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 51°

Sample Characteristics: GRAY TURBID

COMMENTS AND OBSERVATIONS: _____

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

Date: 11/18/09 By: _____ Company: TAL

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: E-1

Field Personnel: PL JS

Sample Matrix: GW

MONITORTING WELL INSPECTION:

VAULT

Date/Time 11-17-09 / 1234

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

Prot. Casing/riser height:

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

If prot.casing; depth to riser below:

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

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

PURGE INFORMATION:

Date / Time Initiated: 11-17-09 / 1235

Date / Time Completed: 11-17-09 / 1255

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

Riser Diameter, Inches: VAULT

Initial Water Level, Feet: 1.78

Elevation. G/W MSL:

Well Total Depth, Feet:

Method of Well Purge: PERISTALTIC

One (1) Riser Volume, Gal:

Dedicated: (Y) / N

Total Volume Purged, Gal:

Purged To Dryness Y / (N)

Purge Observations:

Start Clear Finish Clear

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
	WL	MW							
1240	1.78	200		9.6	9.20	12,770	24.2	-92	0.80
1245				9.4	9.15	12761	23.8	-95	0.77
1250				9.5	9.11	12755	23.6	-95	0.75
1255				9.5	9.09	12,750	22.1	-96	0.74

SAMPLE @ 1255 / 11-17-09

Rev 2

FIELD OBSERVATIONS (continued)

SAMPLING INFORMATION: POINT ID _____

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

Method of Sampling: _____ Dedicated: Y / N

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ( )	Other ( )

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: _____

COMMENTS AND OBSERVATIONS: _____

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

Date: / / By: _____ Company: _____

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: MW-106

Field Personnel: R. SEUK

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 11-17-09 / 1237

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

Prot. Casing/riser height: —

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

If prot.casing; depth to riser below: —

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

% LEL: — / —

Vol. Organic Meter (Calibration/Reading):

Volatiles (ppm) — / —

PURGE INFORMATION:

Date / Time Initiated: 11-17-09 / 1240

Date / Time Completed: 11-17-09 / 1305

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 11.73

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-FLOW

Start BLACK TINT 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
1245	ml/min 150	11.92		12.9	6.97	5728	3.97	-251	0.99
1250	150	11.90		12.9	6.88	5802	2.01	-260	1.05
1255	150	11.90		12.7	6.93	5833	1.93	-265	0.97
1305	150	11.90		12.6	6.96	5844	1.89	-268	0.95

SAMPLED AT 1305/11-17-09

BJ

FIELD OBSERVATIONS (continued)

SAMPLING INFORMATION:

POINT ID _____

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

Method of Sampling: _____ Dedicated: Y / N

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ( )	Other ( )

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: _____

COMMENTS AND OBSERVATIONS: _____

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

Date: / / By: _____ Company: _____

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: MW-127

Field Personnel: PL JS

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-17-09 / 1200

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: 11-17-09 / 1205

Date / Time Completed: 11-17-09 / 1210

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 10.23

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:

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
	meter WL							
1210	50 10.35		13.9	7.41	4112	12.39	-142	0.90
1215	10.43		13.9	7.47	4081	6.05	-139	0.88
1220	10.49		13.9	7.49	4090	2.11	-138	0.86
~~1225~~								

SAMPLED AT 1220 11-17-09

Below well sand Dry

PL 2

FIELD OBSERVATIONS (continued)

SAMPLING INFORMATION:

POINT ID _____

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

Method of Sampling: _____ Dedicated: Y / N

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ( )	Other ( )

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: _____

COMMENTS AND OBSERVATIONS: _____

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

Date: / / By: _____ Company: _____

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: MW-16

Field Personnel: R. SAUF

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 11-17-09 / 1355

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: 11-17-09 / 1400

Date / Time Completed: 11-17-09 / 1425

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

Riser Diameter, Inches: 4.0

Initial Water Level, Feet: 12.40

Elevation. G/W MSL:

Well Total Depth, Feet: 34.40

Method of Well Purge: PERISTALTIC PUMP

One (1) Riser Volume, Gal:

Dedicated: (Y) / N

Total Volume Purged, Gal:

Purged To Dryness Y / (N)

Purge Observations: CO-FCO

Start ORANGE TINT

Finish ORANGE 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
1410	150 ml/m	12.55		13.8	7.35	2987	25.8	-180	0.98
1415	150	12.55		13.9	7.25	3013	27.7	-160	0.93
1420	150	—		13.9	7.22	3063	28.5	-160	0.93
1425	↓	12.55		13.9	7.21	3061	28.9	-161	0.91

SAMPLED AT 1425/11-17-09

FIELD OBSERVATIONS (continued)

SAMPLING INFORMATION:

POINT ID _____

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

Method of Sampling: _____ Dedicated: Y / N

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ( )	Other ( )

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: _____

COMMENTS AND OBSERVATIONS: _____

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

Date: / / By: _____ Company: _____

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: PW-10

Field Personnel: PL JS

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-17-09 / 1309

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

Prot. Casing/riser height: ____

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

If prot.casing; depth to riser below: ____

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

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

PURGE INFORMATION:

Date / Time Initiated: 11-17-09 / 1315

Date / Time Completed: 11-17-09 /

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

Riser Diameter, Inches: ____

Initial Water Level, Feet: 11.39

Elevation. G/W MSL: ____

Well Total Depth, Feet: ____

Method of Well Purge: ____

One (1) Riser Volume, Gal: ____

Dedicated: (Y) / N

Total Volume Purged, Gal: ____

Purged To Dryness Y / (N) Turbid

Purge Observations: ____

Start Yellow Finish Amber Turbid

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz) WL	Purge Rate (gpm/htz) ml/m	Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
1320	11.45	200		13.9	9.16	1943	108	-59	0.98
1325	11.56			13.9	9.19	1927	102	-62	0.97
1330	11.60			13.8	9.22	1930	104	-63	0.95
1335				13.7	9.29	2025	100	-65	0.82
1340				13.5	9.51	1955	79	-67	0.90
1345				13.4	9.59	8111	109	-69	0.87
1350				13.4	9.64	9000	115	-80	0.85
1355				13.5	9.71	9162	119	-82	0.82
1400	↓	↓		13.4	9.80	9181	124	-84	0.80

SAMPLE @ 1400 11-17-09

FIELD OBSERVATIONS (continued)

SAMPLING INFORMATION: POINT ID _____

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

Method of Sampling: _____ Dedicated: Y / N

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ( )	Other ( )

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: _____

COMMENTS AND OBSERVATIONS: _____

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

Date: ___/___/___ By: _____ Company: _____

LeachField Form
Revision 0
March, 15 2002

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: PW-11

Field Personnel: PL JS

Sample Matrix: GW

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-18-09 1030

Water Level @ Sampling, Feet: 23.72

Method of Sampling: ~~TSP-5100 Pump~~ Peristaltic

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 ( )
1040	14.4	6.88	3229	168	-44	

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: Sunny 51°

Sample Characteristics: Turbid Red

COMMENTS AND OBSERVATIONS: Limited volume

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

Date: 11/18/09 By: _____ Company: TAL

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: PW-12

Field Personnel: PL JS

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-16-09 / 1045

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

Prot. Casing/riser height: —

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

If prot.casing; depth to riser below: —

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

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

PURGE INFORMATION:

Date / Time Initiated: 11-16-09 / 1030

Date / Time Completed: 11-16-09 / 1110

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

Riser Diameter, Inches: 6.0

Initial Water Level, Feet: 7.47

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 w Bubble Slick Finish Clear w Slight

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
	pump	WL							
1055	200	7.50		14.5	6.63	2745	9.99	-31	0.97
1100	↓	↓		14.4	6.65	2728	8.59	-35	0.95
1105				14.5	6.71	2711	6.58	-37	0.93
1110	↓	↓		14.0	6.80	2710	6.41	-38	0.91

Sample @ 1110 / 11-16-09

FIELD OBSERVATIONS (continued)

SAMPLING INFORMATION: POINT ID PW -12

Date/Time / Water Level @ Sampling, Feet:

Method of Sampling: Dedicated: Y / N

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ( )	Other ( )

INSTRUMENT CHECK DATA:

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

Solutions:

pH Serial #: 6203713 4.0 std.= 4.00 7.0 std.= 7.00 10.0 std. =

Solutions: NM01 NM10-1

Conductivity Serial #: 6203713 1000 umhos/cm= 1000 umhos/cm=

Solutions: 7643

GENERAL INFORMATION:

Weather conditions @ time of sampling: cloud 47°

Sample Characteristics: clear w specks

COMMENTS AND OBSERVATIONS:

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

Date: 11/16/09 By: Company: TAC

LeachField Form
Revision 0
March, 15 2002

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: MW-13

Field Personnel: MG JS

Sample Matrix: GW

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-18-09 / 1245

Water Level @ Sampling, Feet: 27.81

Method of Sampling: IN-SITU 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 ( )
1249	16.8	8.10	2407	17.34	-85	

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 55°

Sample Characteristics: Clear

COMMENTS AND OBSERVATIONS: _____

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

Date: 11/18/09 By: _____ Company: TAL

LeachField Form
Revision 0
March, 15 2002

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: MW-14

Field Personnel: AL JS

Sample Matrix: GW

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-17-09 / 1120

Water Level @ Sampling, Feet: 38.20

Method of Sampling: IN-SITU 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 ( )
1123	15.4	6.85	3937	35.8	-175	

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 50°

Sample Characteristics: SL TURBID YELLOW TINT

COMMENTS AND OBSERVATIONS:

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

Date: 11/17/09 By: _____ Company: TAL

LeachField Form
Revision 0
March, 15 2002

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: PW-15

Field Personnel: PL JS

Sample Matrix: GW
( ) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-17-09 / 1150

Water Level @ Sampling, Feet: 26.08

Method of Sampling: IN-SITU PUMP

Dedicated: (Y) / N

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

If YES: ( ) light ( ) heavy

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other (ORP)	Other ( )
1153	15.5	9.49	7401	18.70	-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: SUN 50°

Sample Characteristics: Clear Tubing Amber

COMMENTS AND OBSERVATIONS:

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

Date: 11/17/09 By: PL Company: TAL

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: PZ-101

Field Personnel: PL, JS, RK

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-18-09 / 1146

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

Prot. Casing/riser height: ____

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

If prot.casing; depth to riser below: ____

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

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

PURGE INFORMATION:

Date / Time Initiated: 11-18-09 / 1150

Date / Time Completed: 11-18-09 / 1215

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 15.06

Elevation. G/W MSL: ____

Well Total Depth, Feet: 21.69

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: ____

Start Clear w/ Specs 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
	ml/min | WL							
1155	150 | 15.59		13.1	7.00	7499	12.69	-33	1.02
1200	|		13.2	6.83	7464	6.14	-31	1.00
1205	|		13.2	6.78	7464	3.58	-15	0.98
1210	|		13.3	6.83	7468	3.18	-11	0.97
1215	|		13.4	6.74	7462	2.69	-16	0.96

Sampled at 1215 11-18-09

FIELD OBSERVATIONS (continued)

SAMPLING INFORMATION:

POINT ID _____

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

Method of Sampling: _____ Dedicated: Y / N

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ( )	Other ( )

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: _____

COMMENTS AND OBSERVATIONS: _____

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

)ate: ___/___/___ By: _____ Company: _____

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: PZ-102

Field Personnel: PL JS

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-18-09 / 1059

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: 11-18-09 / 1105

Date / Time Completed: 11-18-09 / 1125

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 18.71

Elevation. G/W MSL:

Well Total Depth, Feet: 32.60

Method of Well Purge: Peristaltic Pump

One (1) Riser Volume, Gal:

Dedicated: (Y) / N

Total Volume Purged, Gal:

Purged To Dryness Y / (N)

Purge Observations:

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 D.O.
	mL/min	WL							
1110	150	19.12		12.0	7.13	6968	2.11	-109	1.02
1115				12.1	7.02	6962	2.24	-119	0.96
1120				12.1	6.90	6948	2.28	-130	0.86
1125				12.0	6.86	6938	2.19	-138	0.82

Sampled at 1125 11-18-09

FIELD OBSERVATIONS (continued)

SAMPLING INFORMATION: POINT ID _____

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

Method of Sampling: _____ Dedicated: Y / N

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ( )	Other ( )

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: _____

COMMENTS AND OBSERVATIONS: _____

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

Date: / / By: _____ Company: _____

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: PZ-103

Field Personnel: PL, JS, RK

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-18-09 / 1010

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: 11-18-09 / 1015

Date / Time Completed: 11-18-09 / 1045

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 13.43

Elevation. G/W MSL:

Well Total Depth, Feet: 32.52

Method of Well Purge: Peristaltic Pump

One (1) Riser Volume, Gal:

Dedicated: (Y) / N

Total Volume Purged, Gal:

Purged To Dryness Y / (N)

Purge Observations:

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
	mL/min / WL							
1020	150 / 14.61		12.6	5.73	5547	1.77	-153	1.10
1025			12.6	6.03	5632	1.66	-173	0.98
1030			12.7	6.24	5688	1.62	-186	0.96
1035			12.6	6.53	5758	1.67	-194	0.97
1040			12.6	6.60	5778	1.55	-198	0.96
1045			12.6	6.62	5790	1.58	-201	0.96

Sampled at 1045

JL Stl

FIELD OBSERVATIONS (continued)

SAMPLING INFORMATION: POINT ID PZ-103

Date/Time / Water Level @ Sampling, Feet:

Method of Sampling: Dedicated: Y / N

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ( )	Other ( )

INSTRUMENT CHECK DATA:

Turbidity Serial #: 364075 NTU std. = 5.0 NTU ____NTU std. = ____NTU

Solutions:

pH Serial #: 6215171 4.0 std.= 4.00 7.0 std.= 7.00 10.0 std. = 10.0

Solutions: NH01 NH0-1

Conductivity Serial #: 6215171 1000 umhos/cm= 1000 ____umhos/cm=____

Solutions: 7643

GENERAL INFORMATION:

Weather conditions @ time of sampling:

Sample Characteristics:

COMMENTS AND OBSERVATIONS:

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

Date: / / By: Company:

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: PZ-104

Field Personnel: PG, JS, RK

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-18-09 / 1226

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: 11-18-09 / 1230

Date / Time Completed: 11-18-09 / 1250

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 14.66

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: ____

Start Clear Finish Clear

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/hr)	W.L	Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
	ml/min								
1235	200	14.74		15.5	7.37	1530	6.24	-143	0.87
1240				15.6	7.29	1506	5.92	-137	0.86
1245				15.7	7.16	1489	5.19	-142	0.85
1250				15.8	7.08	1489	4.86	-146	0.84

Sampled at 1250 11-18-09

JL Stff

FIELD OBSERVATIONS (continued)

SAMPLING INFORMATION: POINT ID _____

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

Method of Sampling: _____ Dedicated: Y / N

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ( )	Other ( )

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: _____

COMMENTS AND OBSERVATIONS: _____

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

Date: ___/___/___ By: _____ Company: _____

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: PZ-105

Field Personnel: PL, JS

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-16-09 / 1130

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: 11-16-09 / 1135

Date / Time Completed: 11-16-09 / 1155

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 11.34

Elevation. G/W MSL:

Well Total Depth, Feet: 32.86

Method of Well Purge: PC, STATIC

One (1) Riser Volume, Gal:

Dedicated: (Y) / N

Total Volume Purged, Gal:

Purged To Dryness Y (N)

Purge Observations:

Start 6-7 TURB

Finish 6-4 TURB

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							
1140	75	11.91		14.9	7.54	1353	131	-17	1.06
1145		12.22		14.5	7.54	1299	132	-15	1.00
1150		12.31		14.6	7.52	1300	130	-13	0.98
1155	↓	12.33		14.5	7.50	1306	138	-12	0.96

SAMPLE @ 1155 / 11-16-09

PL JS

FIELD OBSERVATIONS (continued)

SAMPLING INFORMATION:

POINT ID _____

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

Method of Sampling: _____ Dedicated: Y / N

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ( )	Other ( )

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: _____

COMMENTS AND OBSERVATIONS: _____

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

Date: / / By: _____ Company: _____

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: P2-106

Field Personnel: PL JS

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-17-09 / 1100

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

Prot. Casing/riser height: ____

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

If prot.casing; depth to riser below: ____

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

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

PURGE INFORMATION:

Date / Time Initiated: 11-17-09 / 1105

Date / Time Completed: 11-17-09 / 1125

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 12.14

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 SL Turbid Yellow Finish Clear 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
	ml/m	WL							
1110	100	12.22		14.2	6.90	5025	9.80	-136	0.92
1115	↓	12.25		13.9	6.87	5011	7.21	-137	0.90
1120	↓	↓		13.3	6.84	4925	6.41	-139	0.87
1125	↓	↓		13.4	6.80	4920	6.00	-140	0.85

SAMPLED @ 1125 / 11-17-09

Rev 2

FIELD OBSERVATIONS (continued)

SAMPLING INFORMATION: POINT ID _____

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

Method of Sampling: _____ Dedicated: Y / N

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ( )	Other ( )

INSTRUMENT CHECK DATA:

Turbidity Serial #: 364075 NTU std. = 5.0 NTU _____NTU std. = _____NTU

Solutions: _____

pH Serial #: 6215171 4.0 std.= 4.00 7.0 std.= 7.00 10.0 std. = _____

Solutions: NM01 NM01

Conductivity Serial #: 6215171 1000 umhos/cm= 1000 _____umhos/cm= _____

Solutions: 7643

GENERAL INFORMATION:

Weather conditions @ time of sampling: _____

Sample Characteristics: _____

COMMENTS AND OBSERVATIONS: _____

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

Date: / / By: _____ Company: _____

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: PZ-107

Field Personnel: PL JS

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-16-09 / 1321

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

Prot. Casing/riser height: ____

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

If prot.casing; depth to riser below: ____

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

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

PURGE INFORMATION:

Date / Time Initiated: 11-16-09 / 1330

Date / Time Completed: 11-16-09 / 1350

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 12.26

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
	WL	ml/m							
1335	12.31	200		13.0	7.11	3862	486	-87	0.88
1340	↓	↓		12.9	7.24	3798	4.91	-80	0.86
1345				12.9	7.25	3790	4.89	-78	0.84
1350	↓	↓		12.9	7.27	3788	4.84	-78	0.81

SAMPLE @ 1350 / 11-16-09

PL

FIELD OBSERVATIONS (continued)

SAMPLING INFORMATION: POINT ID _____

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

Method of Sampling: _____ Dedicated: Y / N

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ( )	Other ( )

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: _____

COMMENTS AND OBSERVATIONS: _____

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

Date: / / By: _____ Company: _____

LeachField Form
Revision 0
March, 15 2002

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: GD-1

Field Personnel: R. SENF

Sample Matrix: S/W

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-17-09 1510

Water Level @ Sampling, Feet: N/A

Method of Sampling: MANUAL GRAB

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 ( )
1515	8.9	7.93	1775		-132	

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: SUNNY, 50°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: 11/17/09 By: _____ Company: TAC

LeachField Form
Revision 0
March, 15 2002

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: GO-2

Field Personnel: R. SRUF

Sample Matrix: S/W

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-17-09 | 1535

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 (ORP)	Other ( )
1540	9.1	8.07	1774		-20	

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: SUNNY, 50°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: 11/17/09 By: _____ Company: TAL

LeachField Form
Revision 0
March, 15 2002

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: GO-251

Field Personnel: R. SRNC

Sample Matrix: CANAL

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-17-09 1555

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 (ORP)	Other ( )
1605	8.3	7.98	771		-98	

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: SUNNY, 45°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: 11/17/09 By: [signature] Company: TAL

LeachField Form
Revision 0
March, 15 2002

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: QS-4

Field Personnel: R. STANF

Sample Matrix: SEEP

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-17-09 1520

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 (ORP)	Other ( )
1525	8.9	7.93	1682		-159	

INSTRUMENT CHECK DATA:

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

Solutions: _____

pH Serial #: 6225177 4.0 std.= 4.00 7.0 std.= 7.00 10.0 std. = _____

Solutions: NM01 NM0-1

Conductivity Serial #: 6225177 1000 umhos/cm= 1000 _____ umhos/cm= _____

Solutions: 7643

GENERAL INFORMATION:

Weather conditions @ time of sampling: SUNNY, 50°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: 11/12/09 By: _____ Company: TAL

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: S-3

Field Personnel: PL JS

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-16-09 / 1253

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

Prot. Casing/riser height:

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

If prot.casing; depth to riser below:

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

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

PURGE INFORMATION:

Date / Time Initiated: 11-16-09 / 1255

Date / Time Completed: 11-16-09 / 1315

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

Riser Diameter, Inches: VAULT

Initial Water Level, Feet: 0.95

Elevation. G/W MSL:

Well Total Depth, Feet:

Method of Well Purge: Peristaltic

One (1) Riser Volume, Gal:

Dedicated: (Y) / N

Total Volume Purged, Gal:

Purged To Dryness Y / (N)

Purge Observations:

Start Clear Black Sheen Finish Clear Black Sheen

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
	MeW	WL							
1300	200	0.95		11.1	7.13	2245	5.07	26	0.97
1305	↓	↓		10.9	7.08	2248	5.37	24	0.96
1310				10.3	7.09	2250	4.32	24	0.94
1315	↓	↓		10.3	7.19	2251	4.29	24	0.93

SAMPLE @ 1315 / 11-16-09

PL 2

FIELD OBSERVATIONS (continued)

SAMPLING INFORMATION: POINT ID _____

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

Method of Sampling: _____ Dedicated: Y / N

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ( )	Other ( )

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: _____

COMMENTS AND OBSERVATIONS: _____

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

Date: / / By: _____ Company: _____

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: S-4

Field Personnel: PL JS

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 11-16-09 / 1333

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

Prot. Casing/riser height:

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

If prot.casing; depth to riser below:

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

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

PURGE INFORMATION:

Date / Time Initiated: 11-16-09 / 1410

Date / Time Completed: 11-16-09 / 1430

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

Riser Diameter, Inches: VAULT

Initial Water Level, Feet: 1.01

Elevation. G/W MSL:

Well Total Depth, Feet:

Method of Well Purge: PERISTALTIC

One (1) Riser Volume, Gal:

Dedicated: (Y) / N

Total Volume Purged, Gal:

Purged To Dryness Y / (N)

Purge Observations:

Start Clear Finish Clear

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/hr)		Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
1415	VL 1.01	ml/m 200		11.6	8.46	806	29.6	-48	1.11
1420	↓	↓		11.5	8.39	790	11.61	-46	1.06
1425	↓	↓		11.5	8.39	790	9.40	-44	1.04
1430	↓	↓		11.5	8.37	788	5.61	-43	1.00

SAMPLE @ 1430 / 11-16-09

PAGE 1 OF 2

FIELD OBSERVATIONS (continued)

SAMPLING INFORMATION: POINT ID _____

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

Method of Sampling: _____ Dedicated: Y / N

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ( )	Other ( )

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: _____

COMMENTS AND OBSERVATIONS: _____

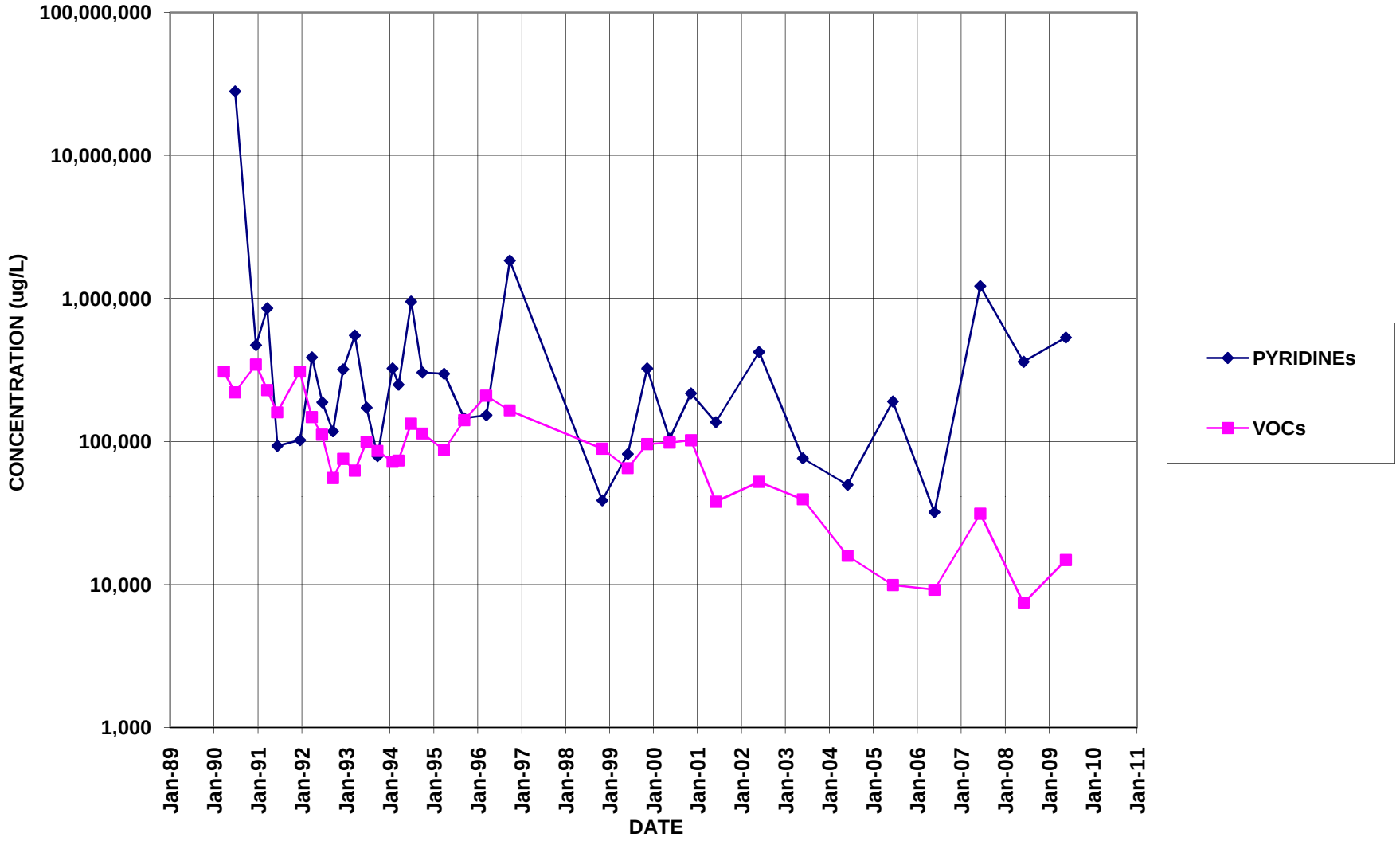
I certify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific protocals.

Date: _____ / _____ / _____ By: _____ Company: _____

Appendix B

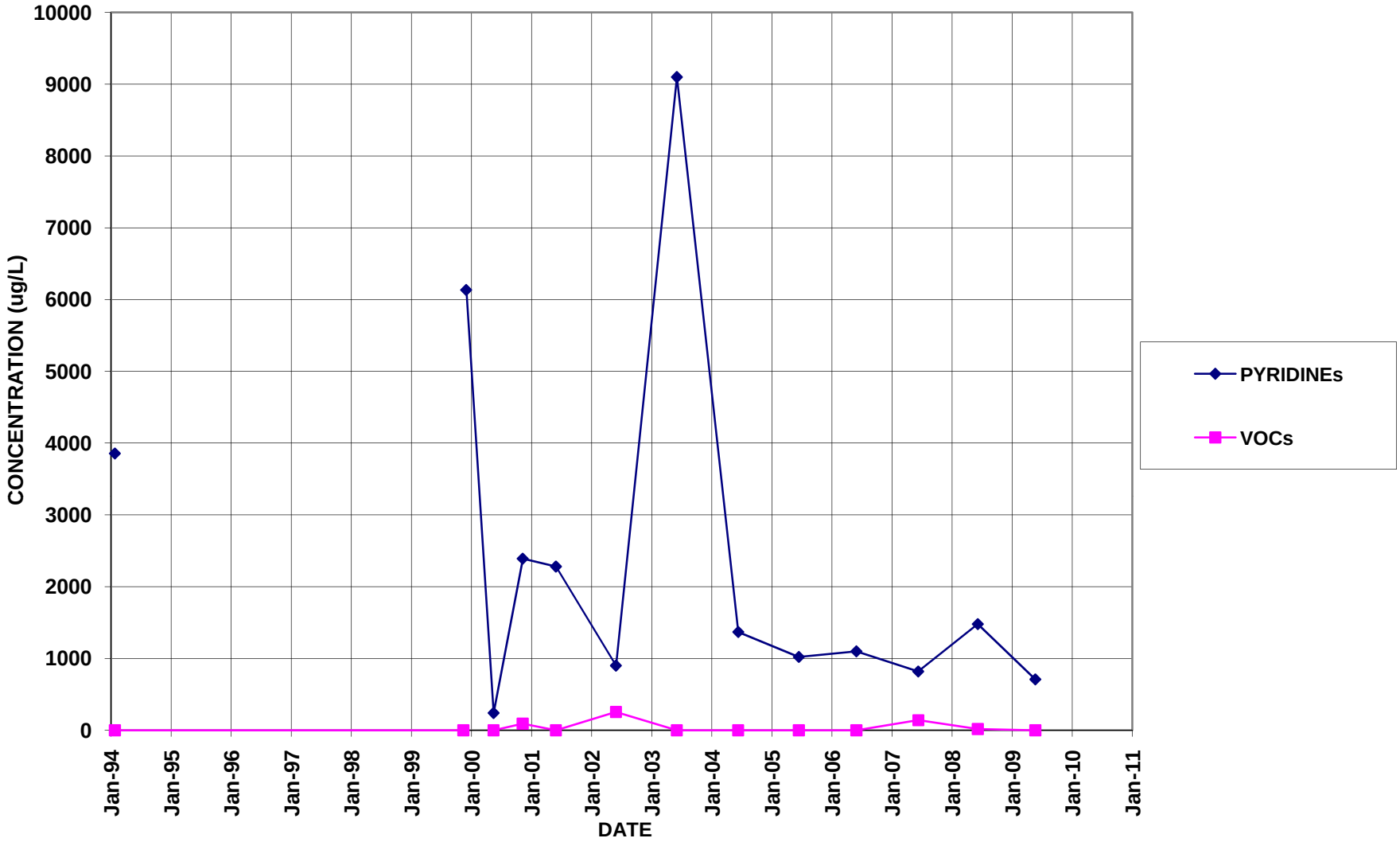
Well Trend Data

B-17



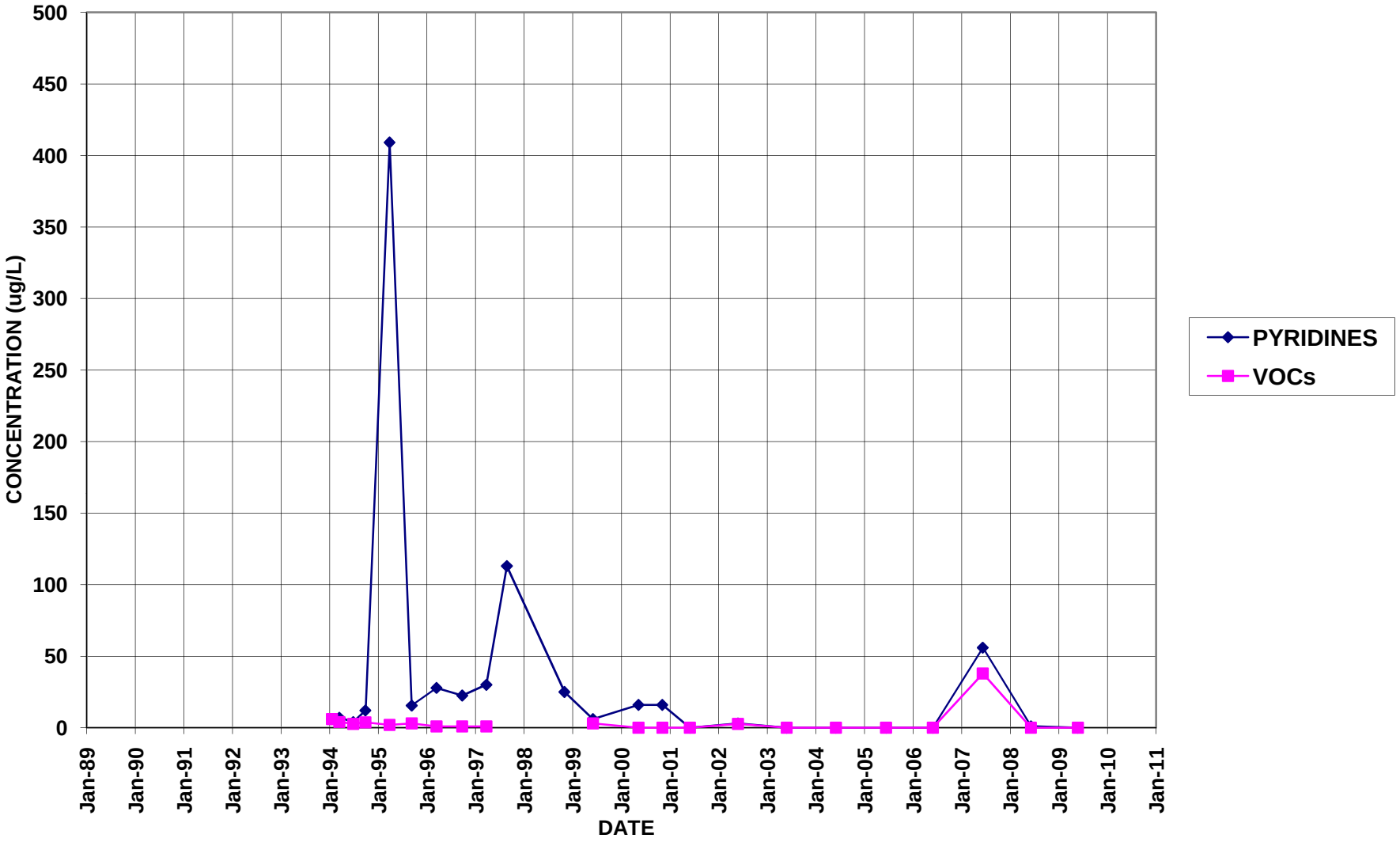
Prepared by: nmb
Reviewed by: jeb

B-7



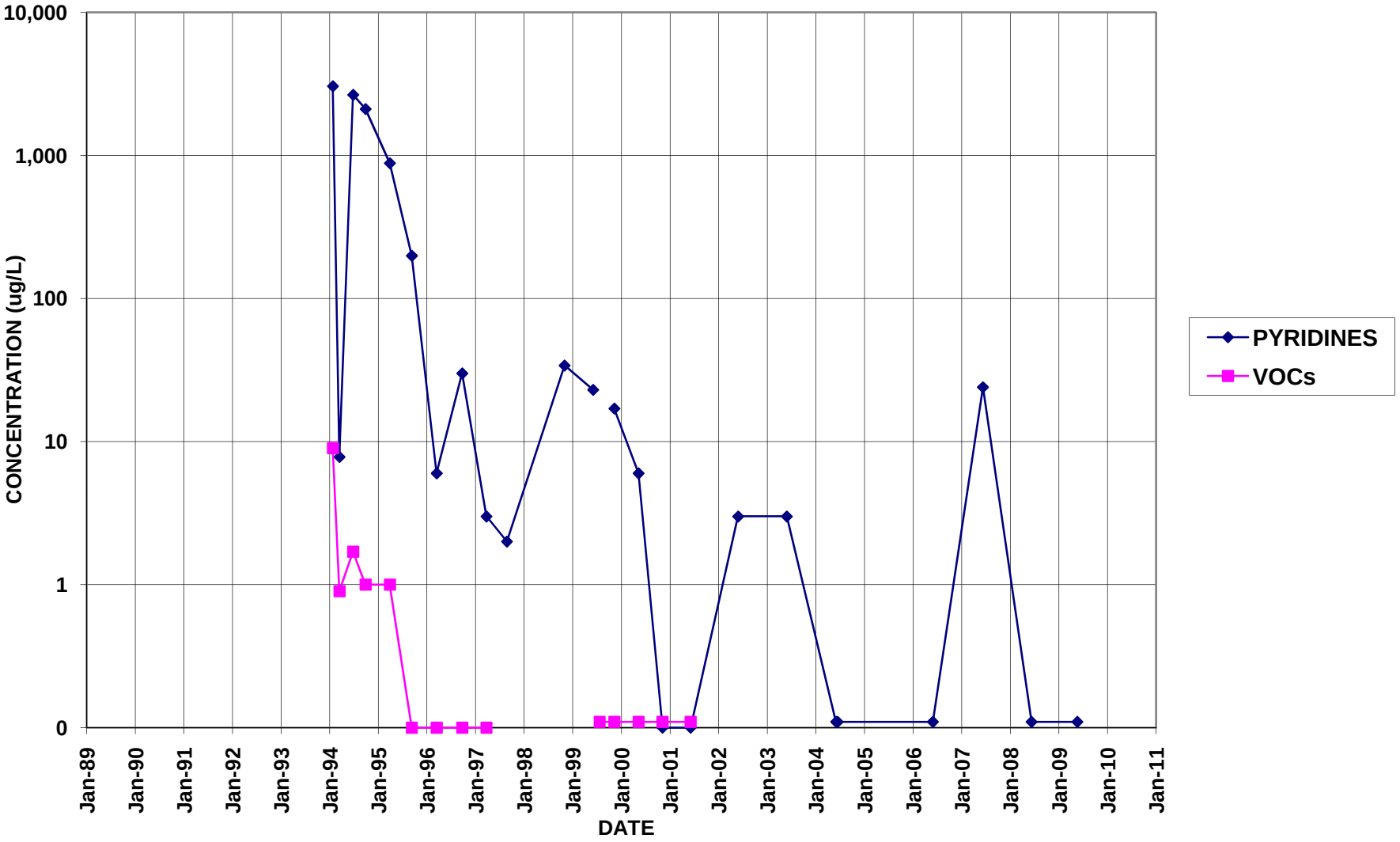
Prepared by: nmb
Reviewed by: jeb

BR-103

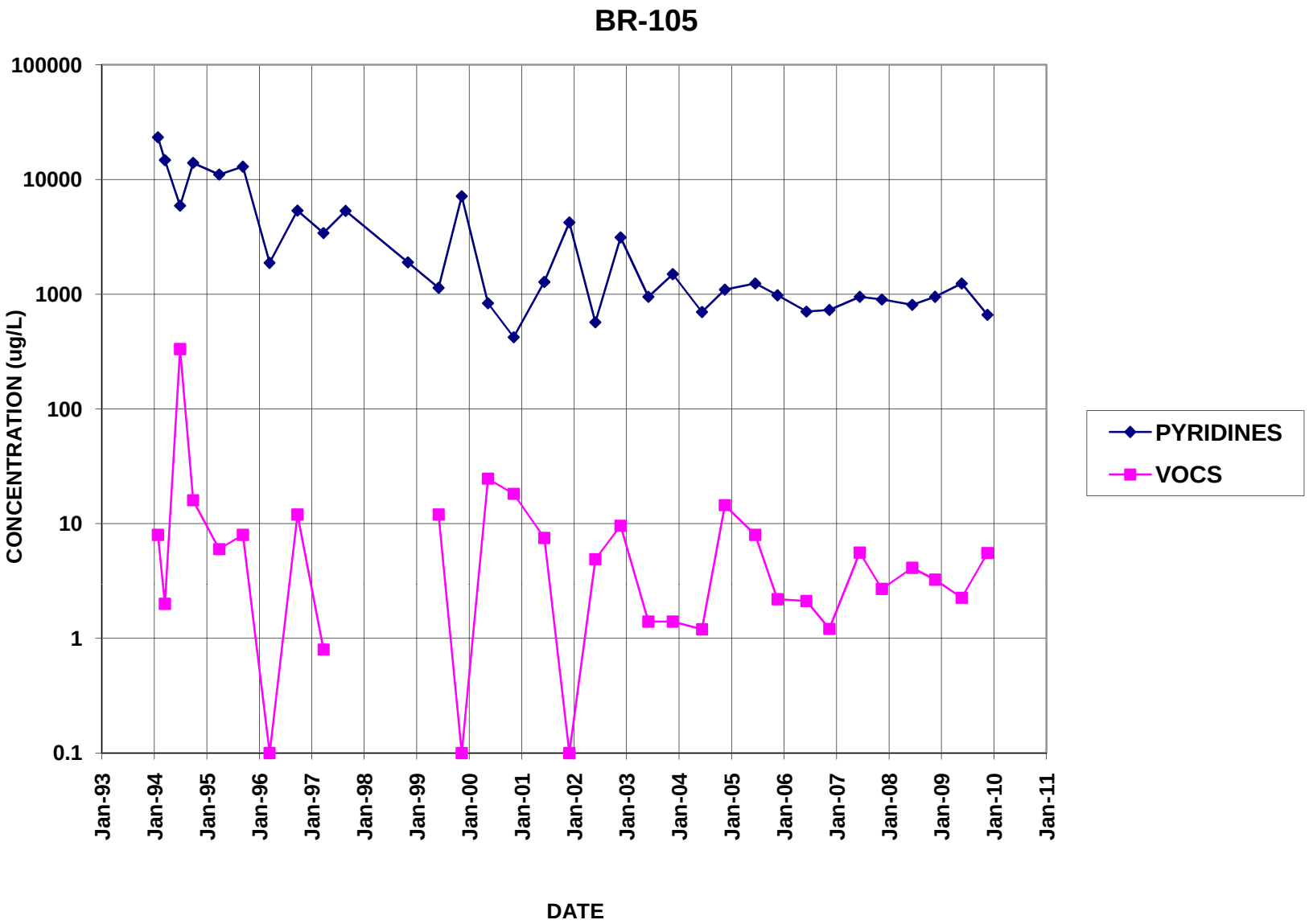


Prepared by: nmb
Reviewed by: jeb

BR-104

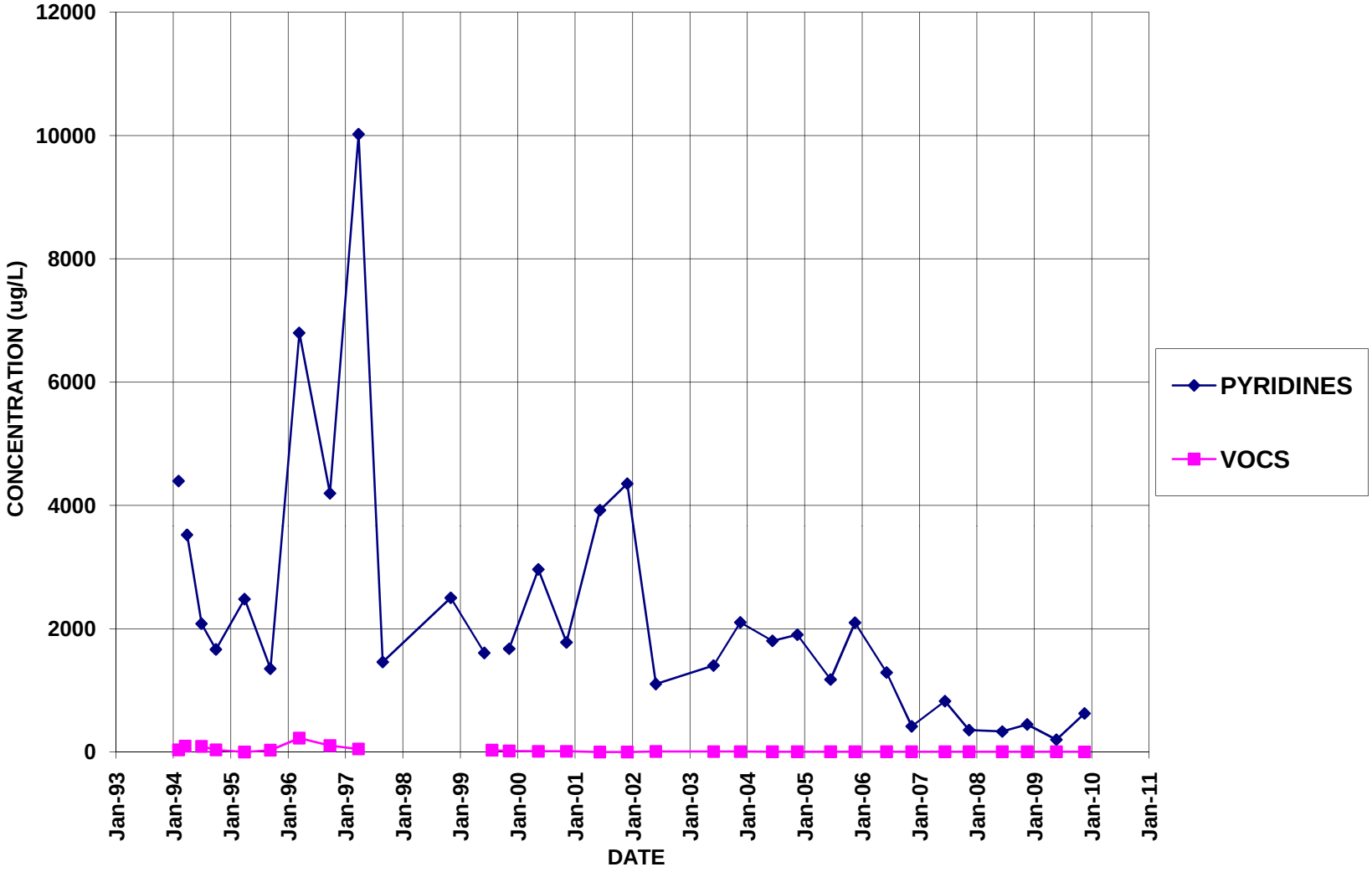


Prepared by: nmb
Reviewed by: jeb



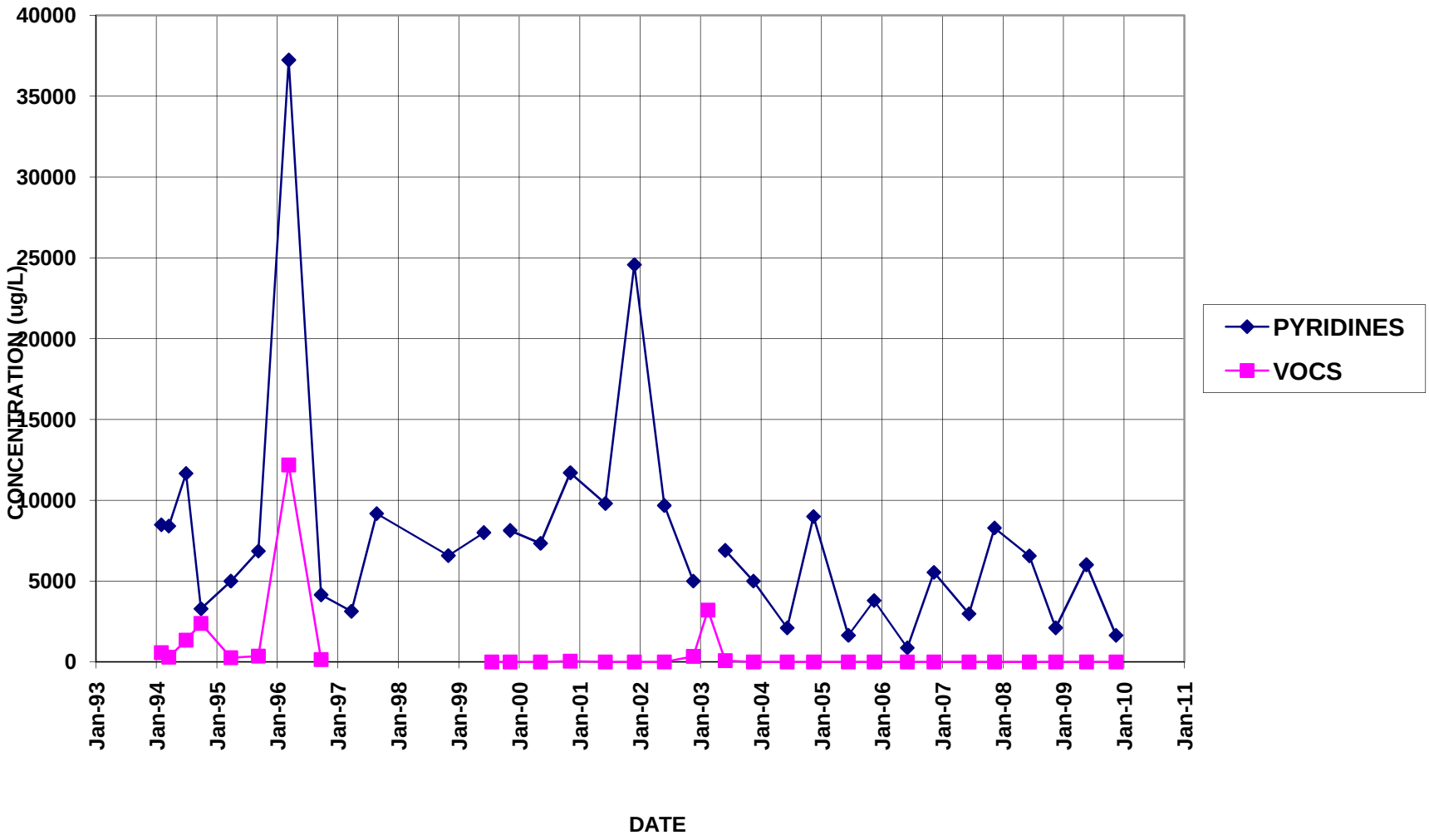
Prepared by: nmb
Reviewed by: jeb

BR-105D

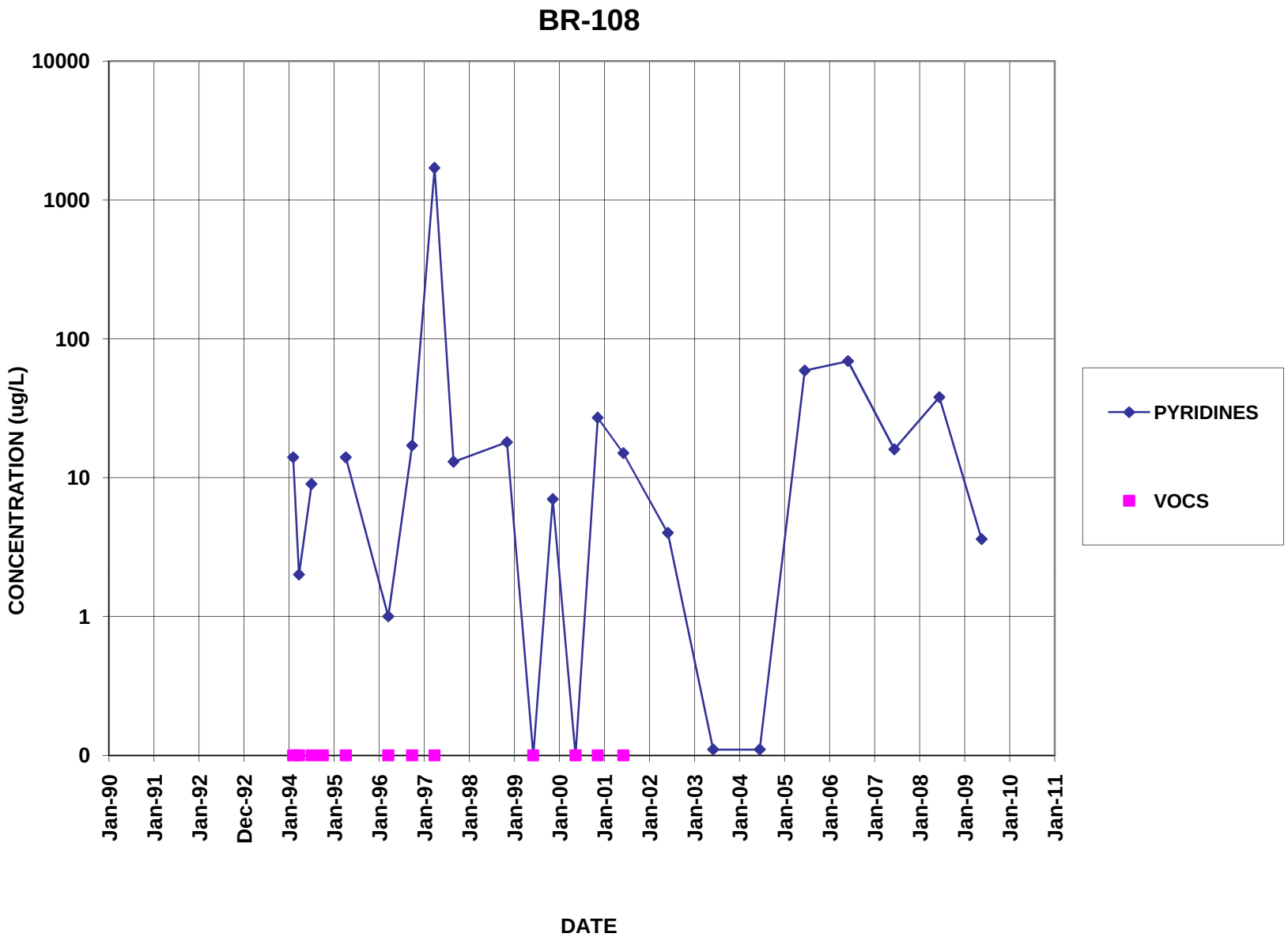


Prepared by: nmb
Reviewed by: jeb

BR-106

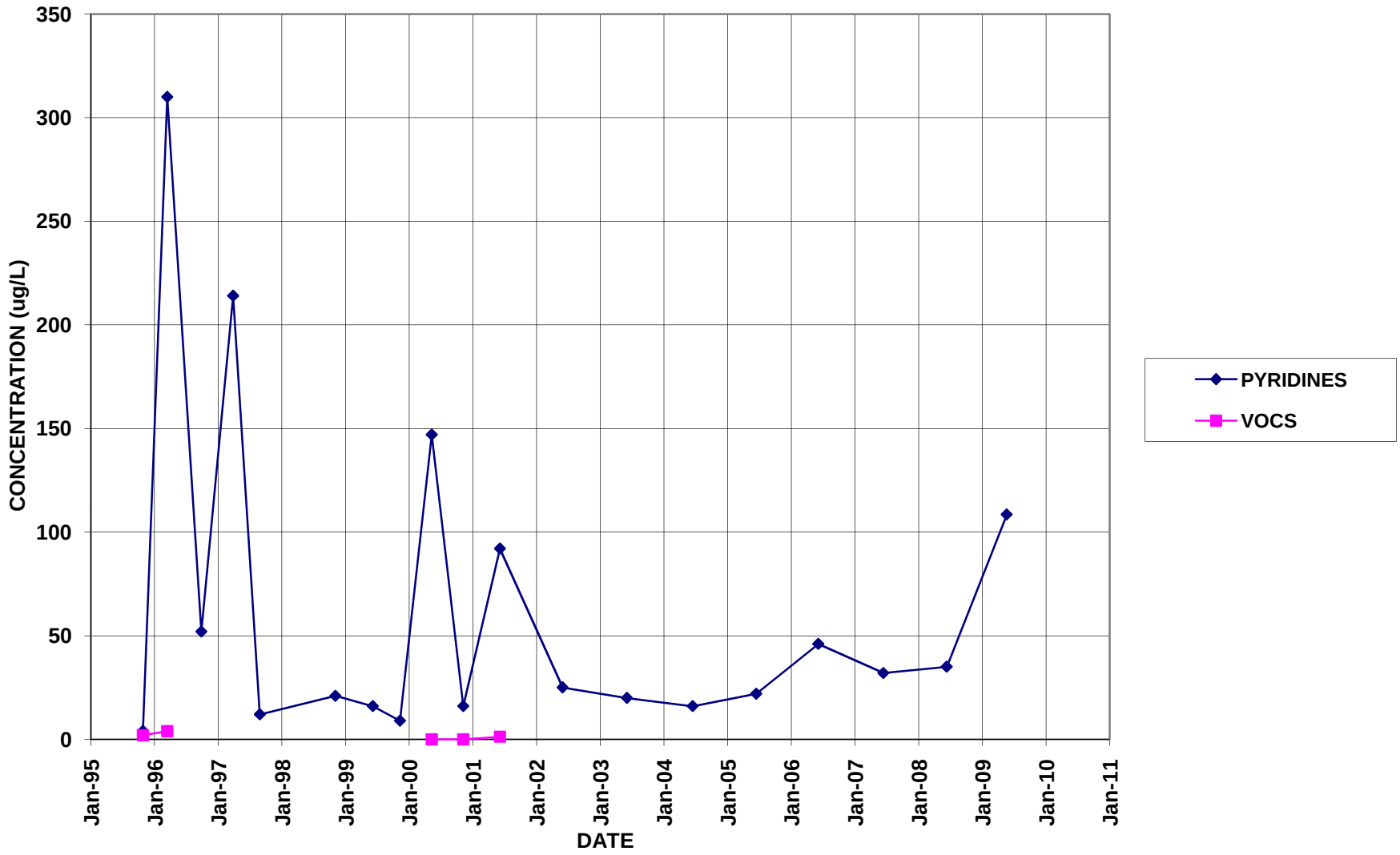


Prepared by: nmb
Reviewed by: jeb



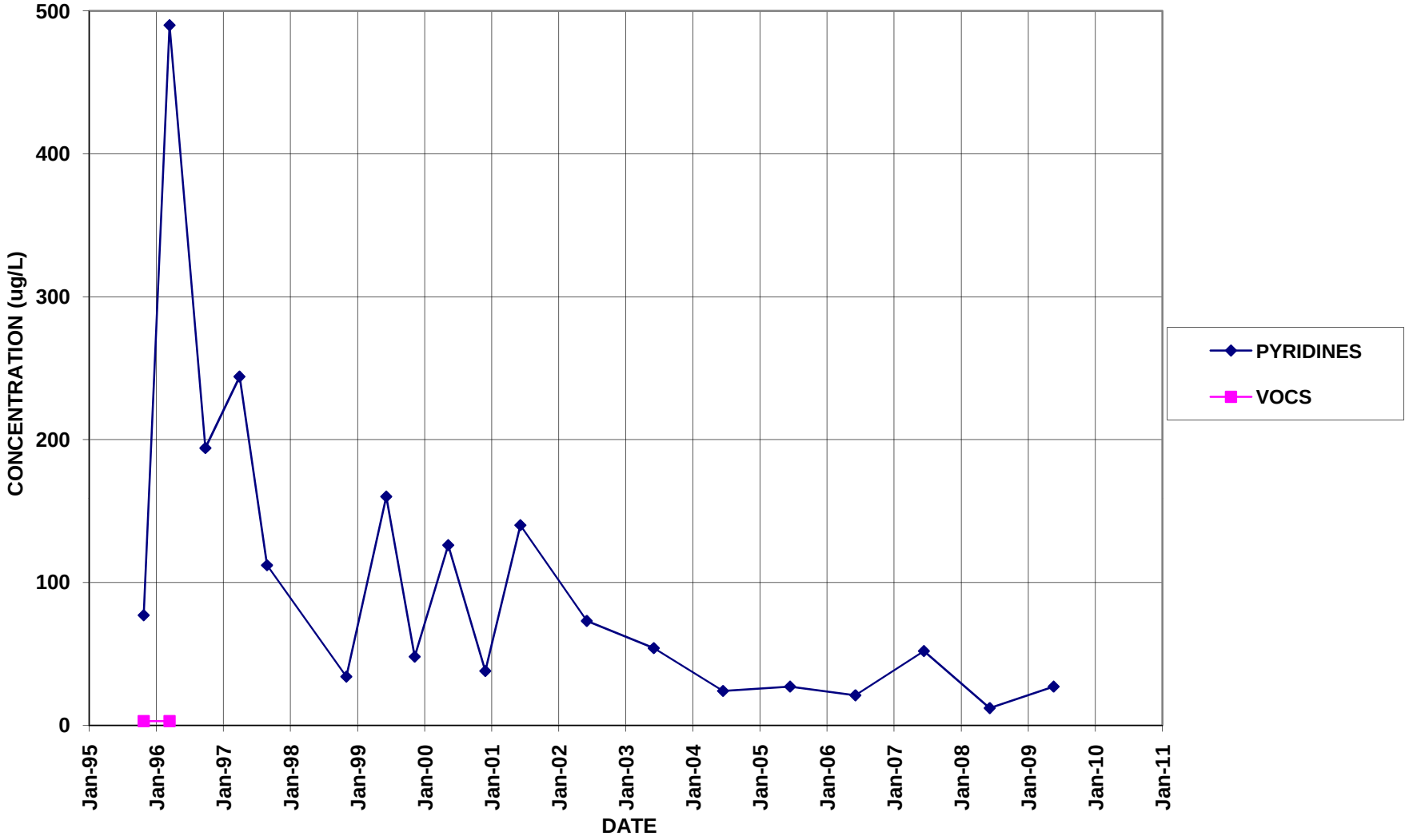
Prepared by: nmb
Reviewed by: jeb

BR-112D



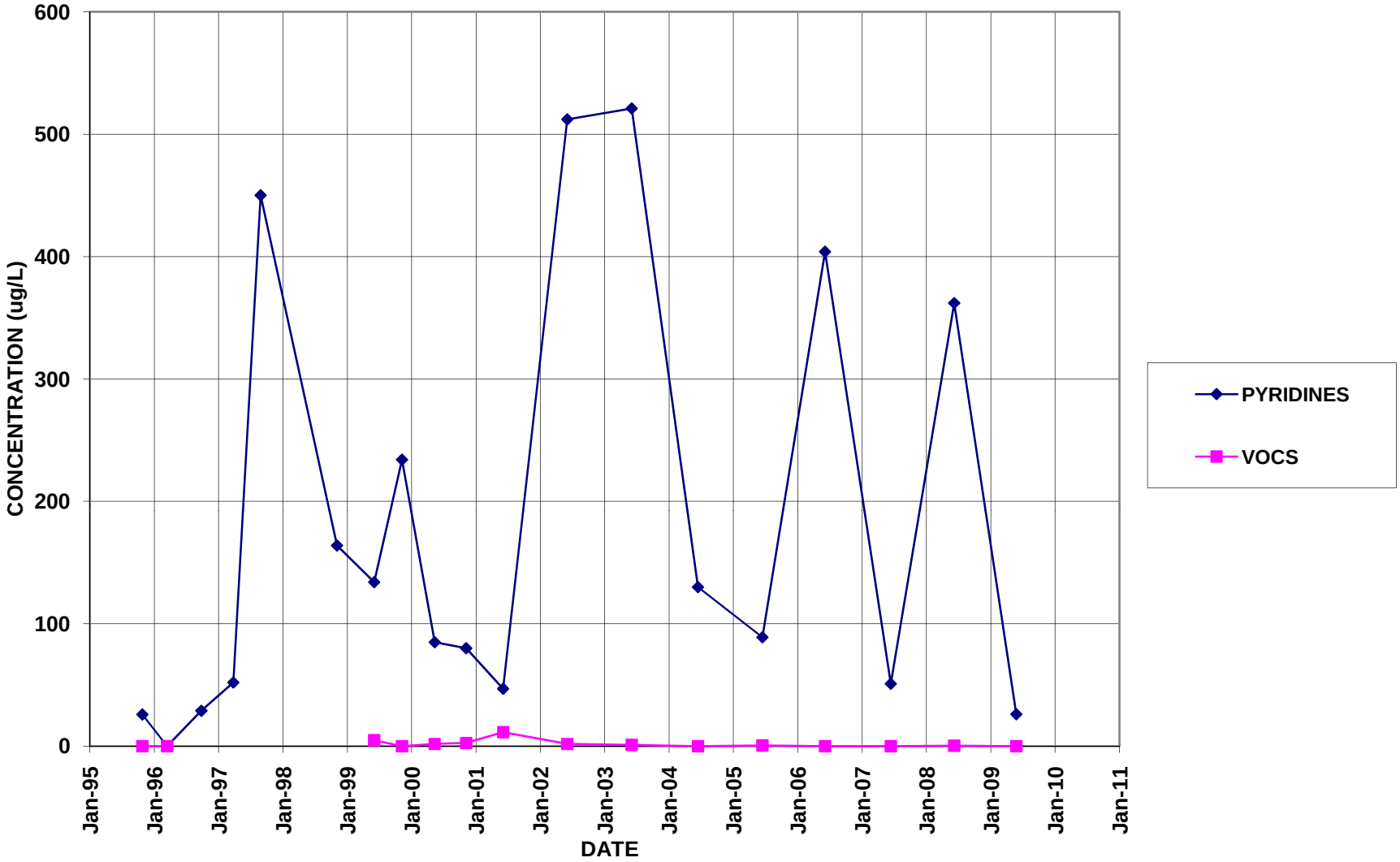
Prepared by: nmb
Reviewed by: jeb

BR-113D



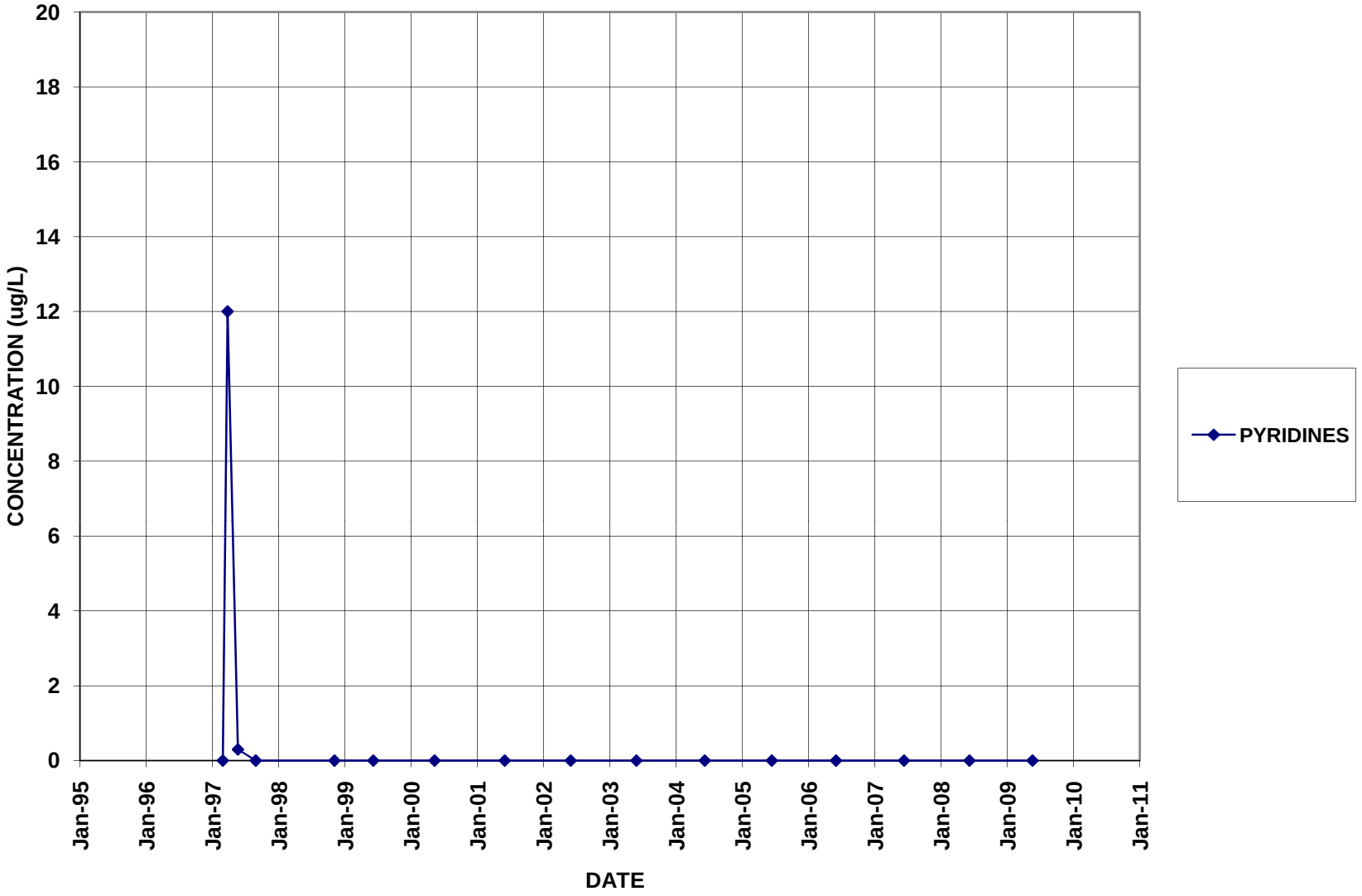
Prepared by: nmb
Reviewed by: jeb

BR-114



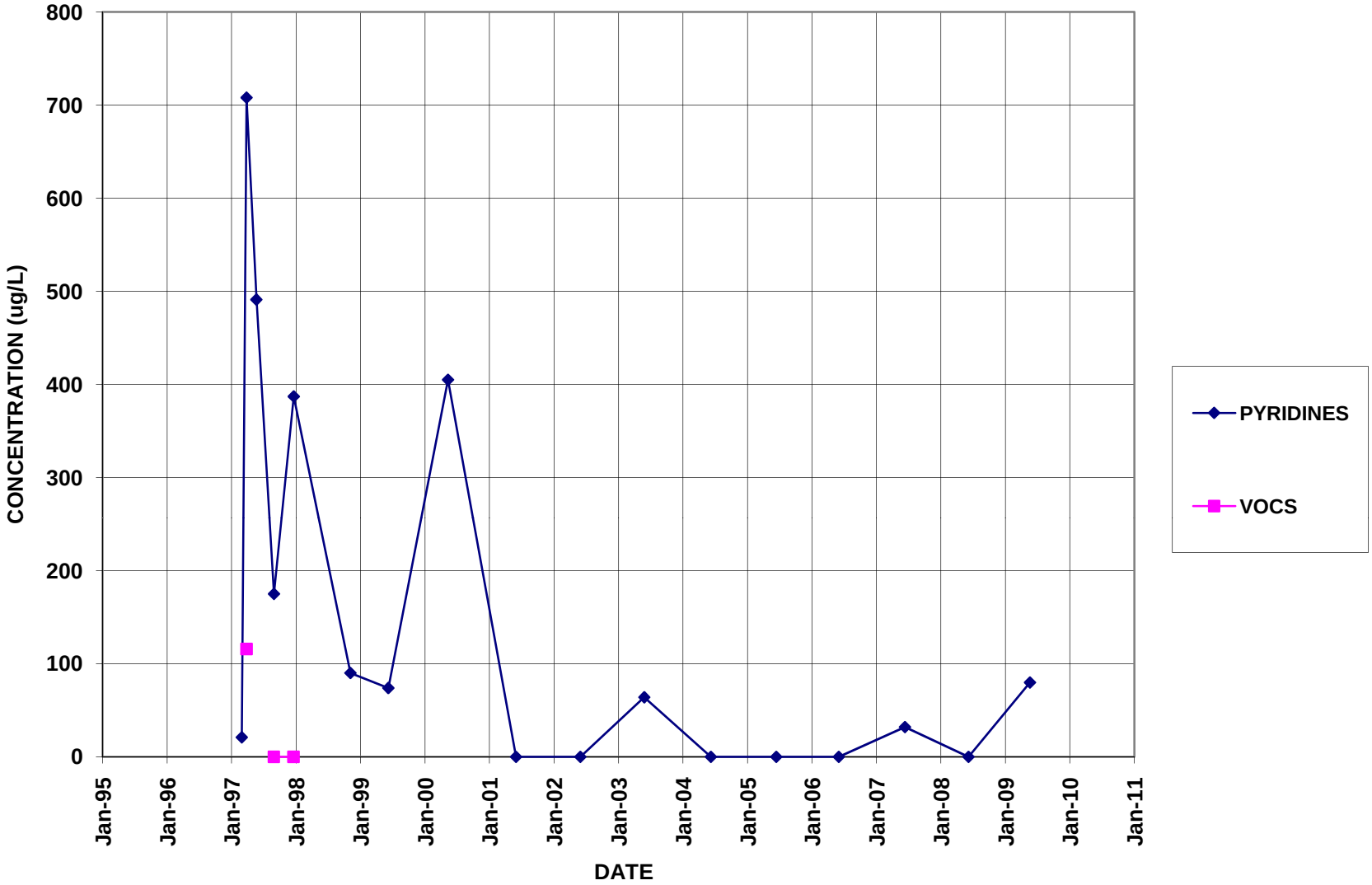
Prepared by: nmb
Reviewed by: jeb

BR-116



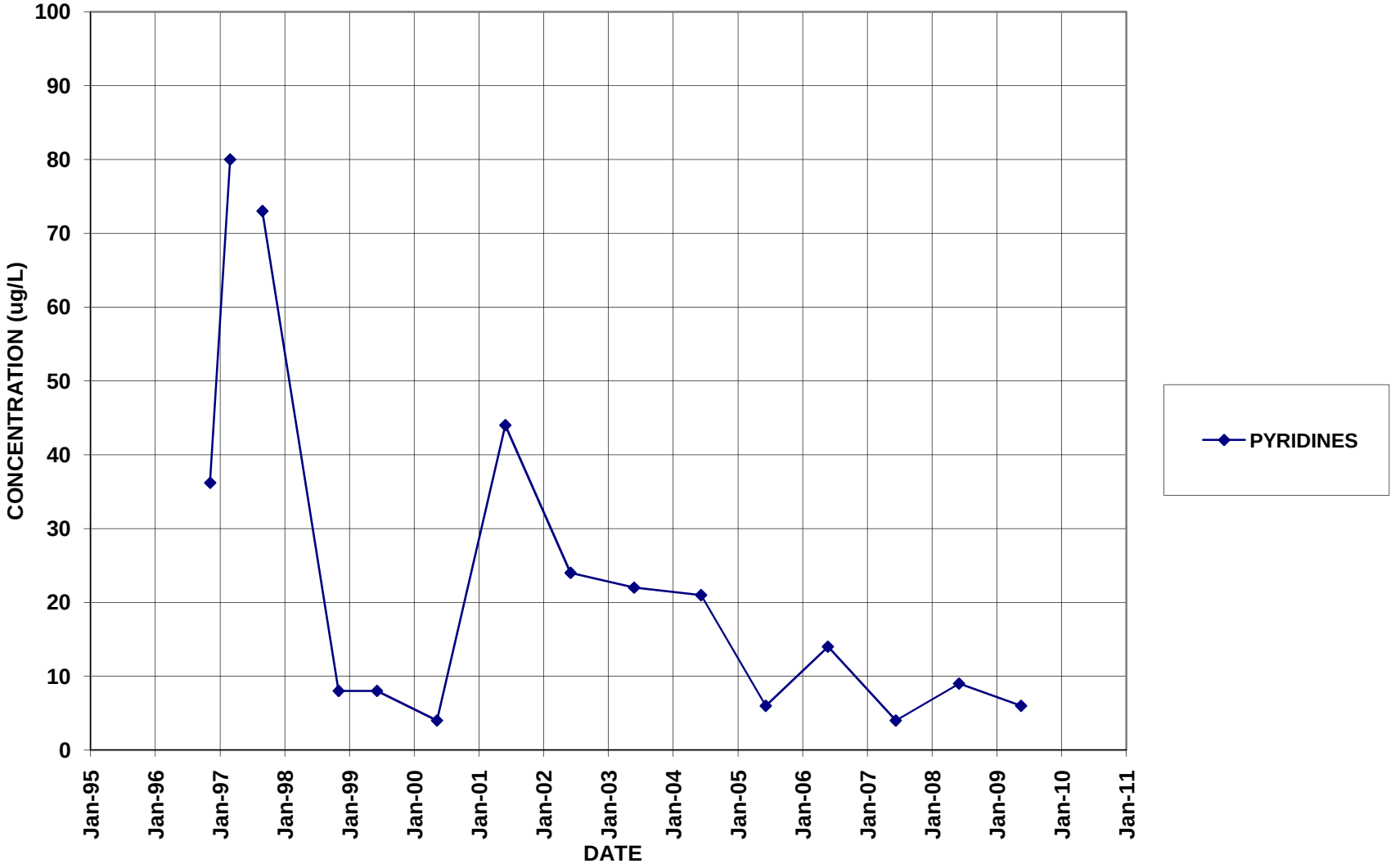
Prepared by: nmb
Reviewed by: jeb

BR-116D



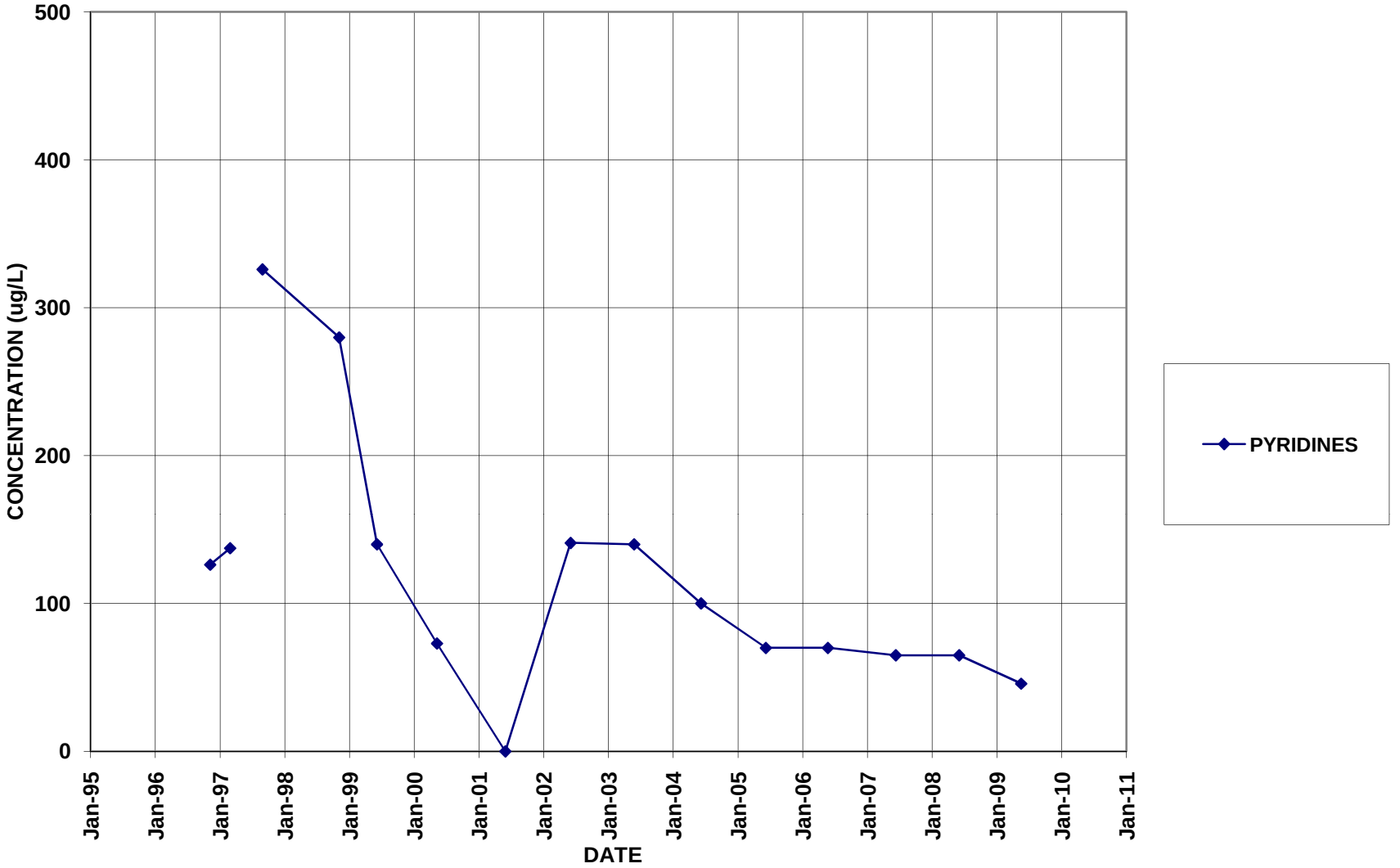
Prepared by: nmb
Reviewed by: jeb

BR-117D



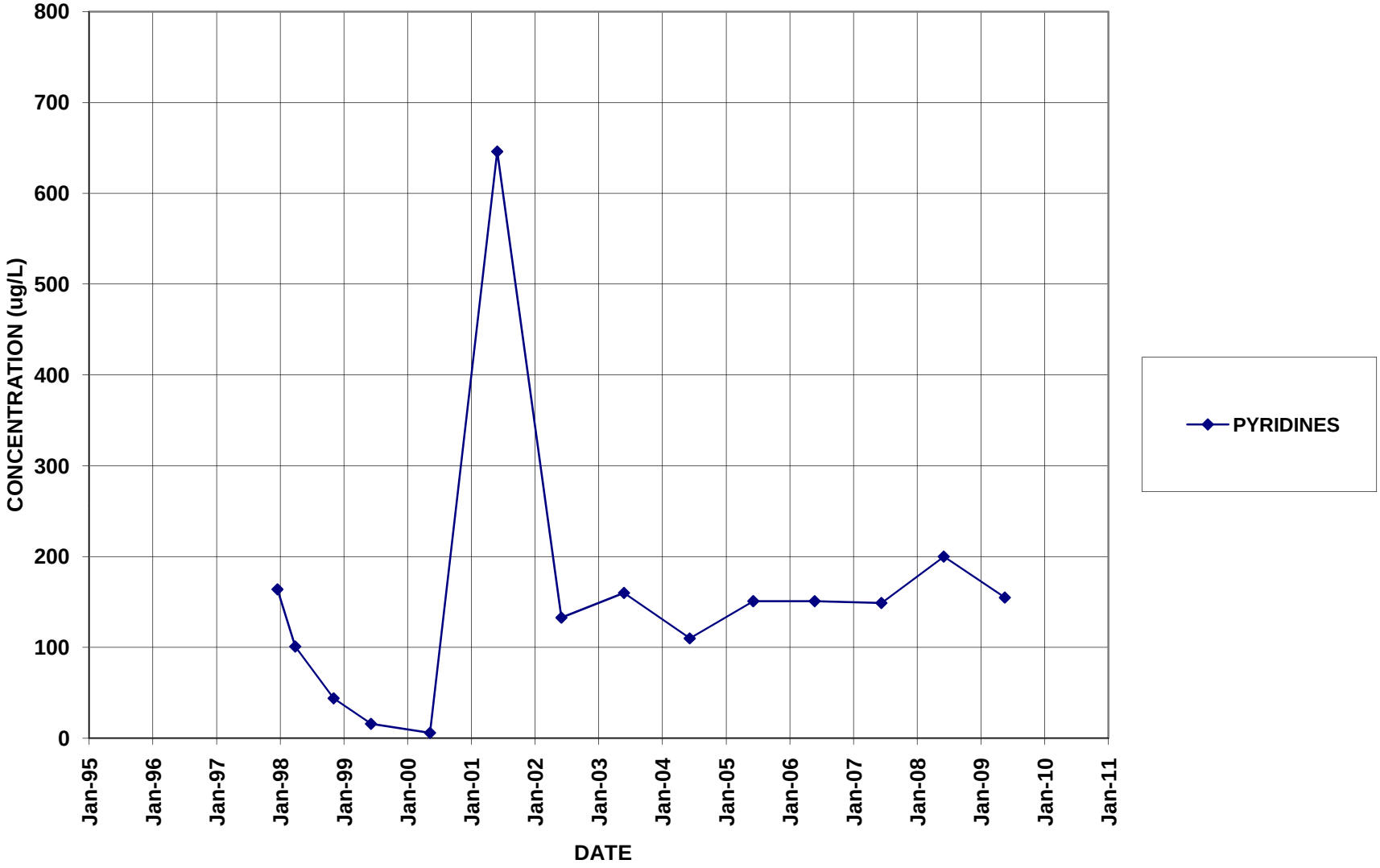
Prepared by: nmb
Reviewed by: jeb

BR-118D



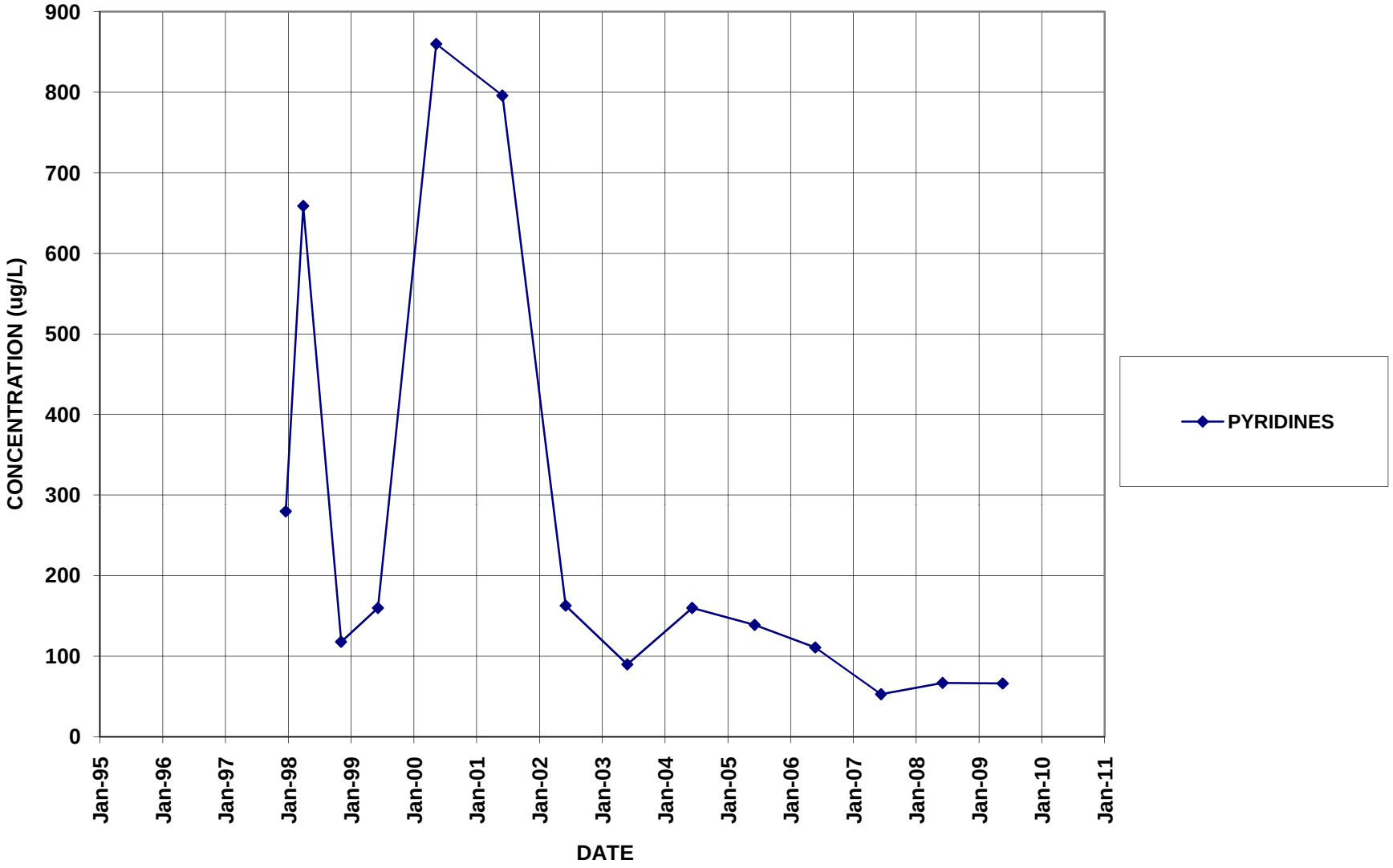
Prepared by: nmb
Reviewed by: jeb

BR-122D



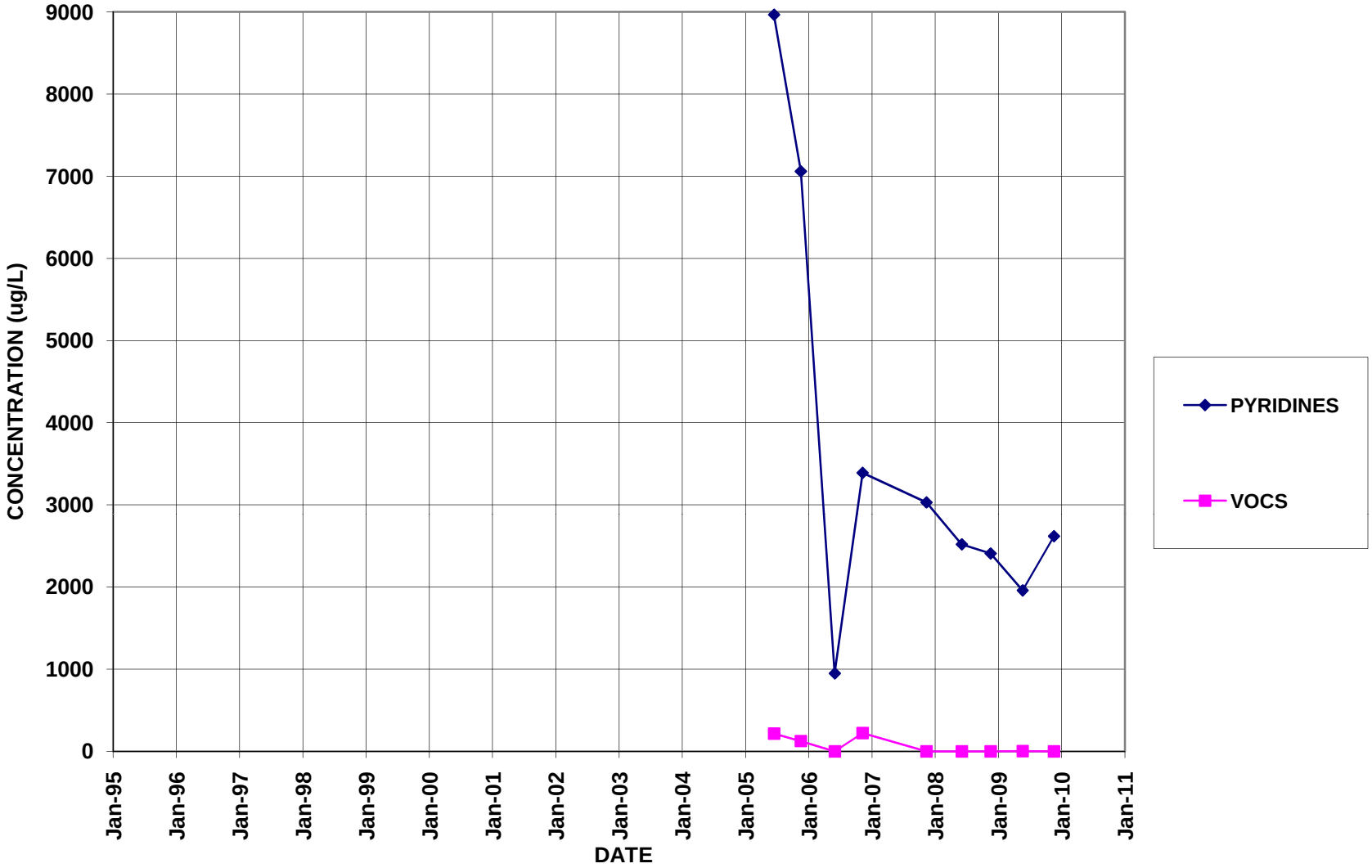
Prepared by: nmb
Reviewed by: jeb

BR-123D



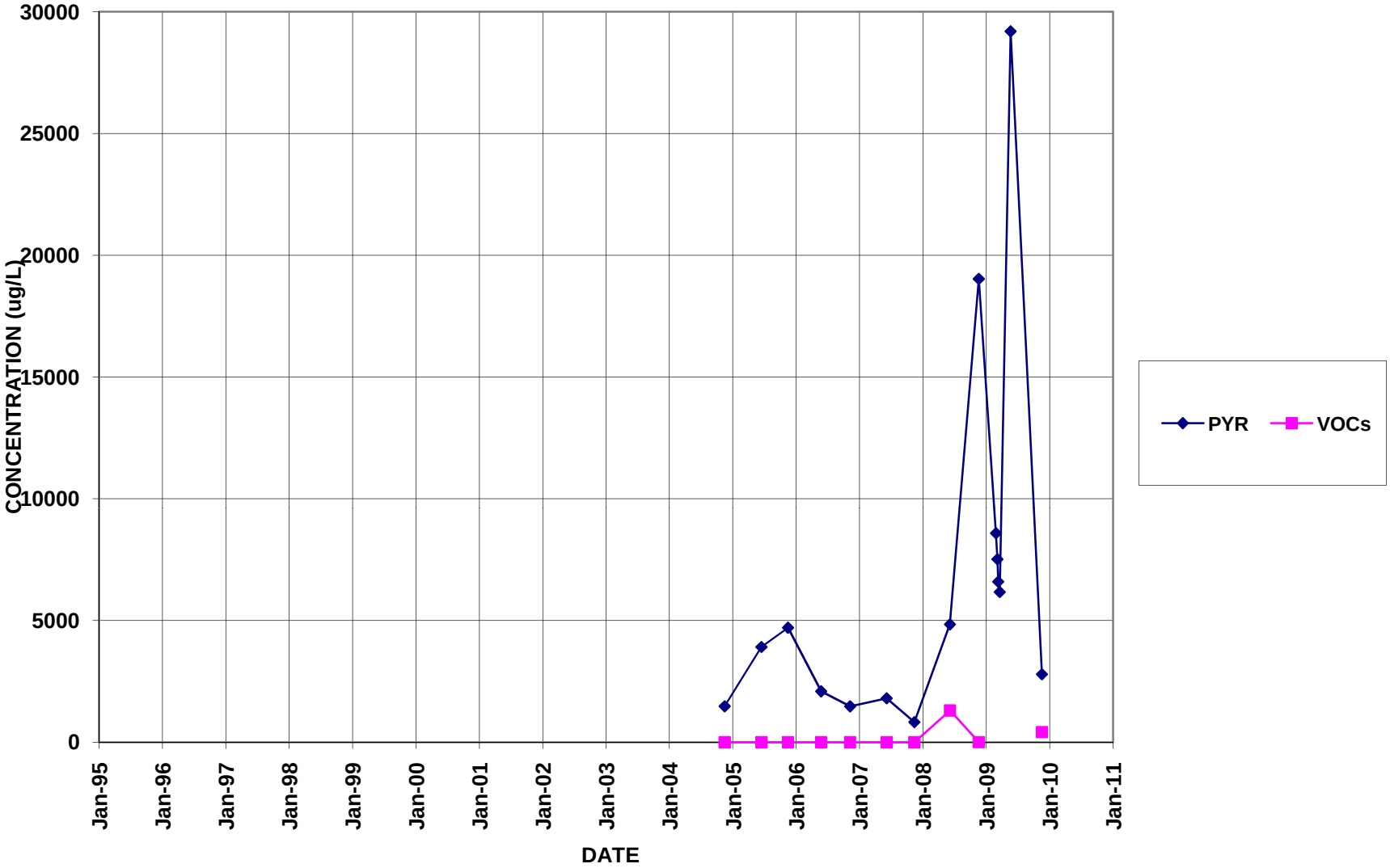
Prepared by: nmb
Reviewed by: jeb

BR-126

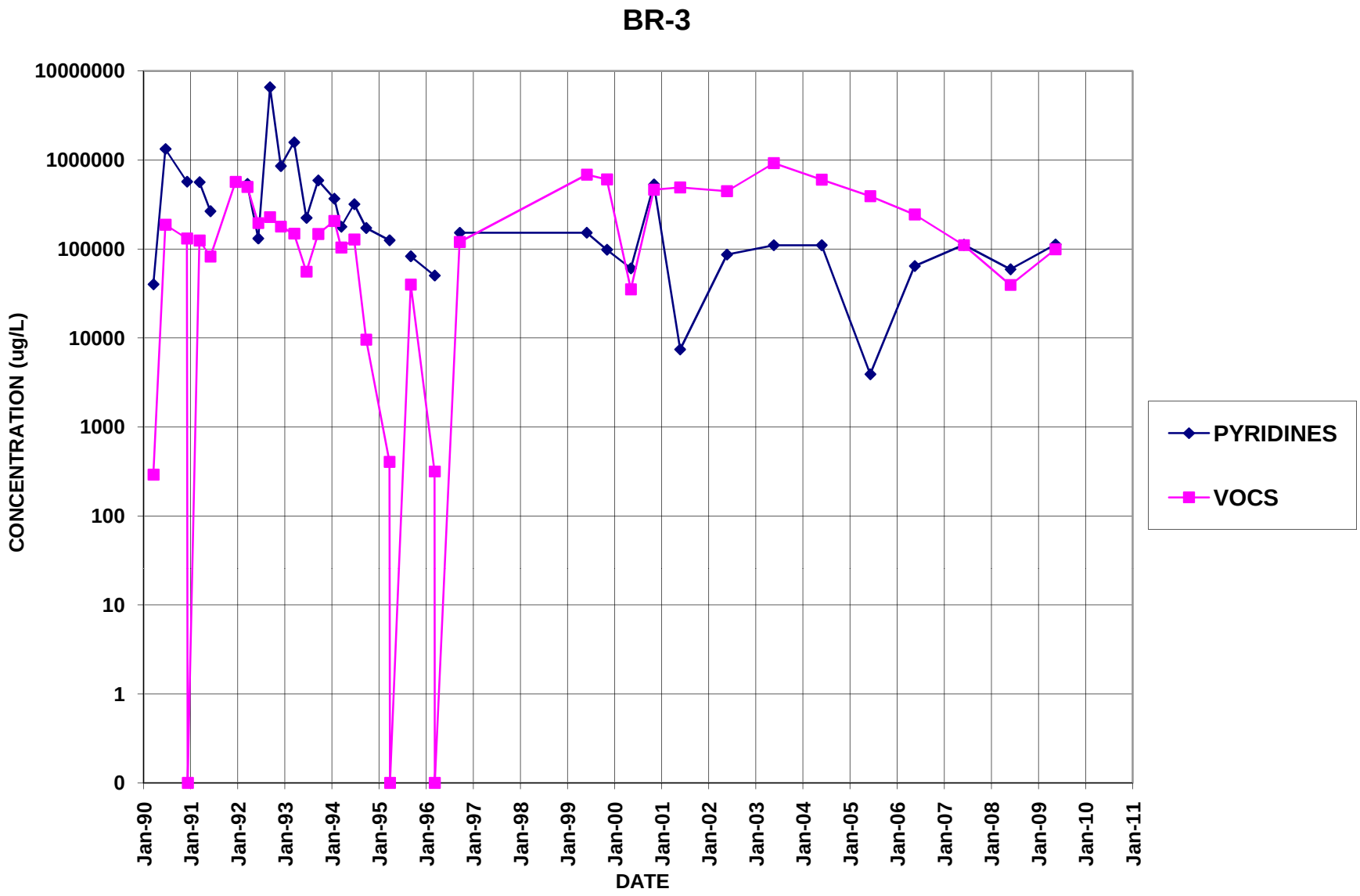


Prepared by: nmb
Reviewed by: jeb

BR-127

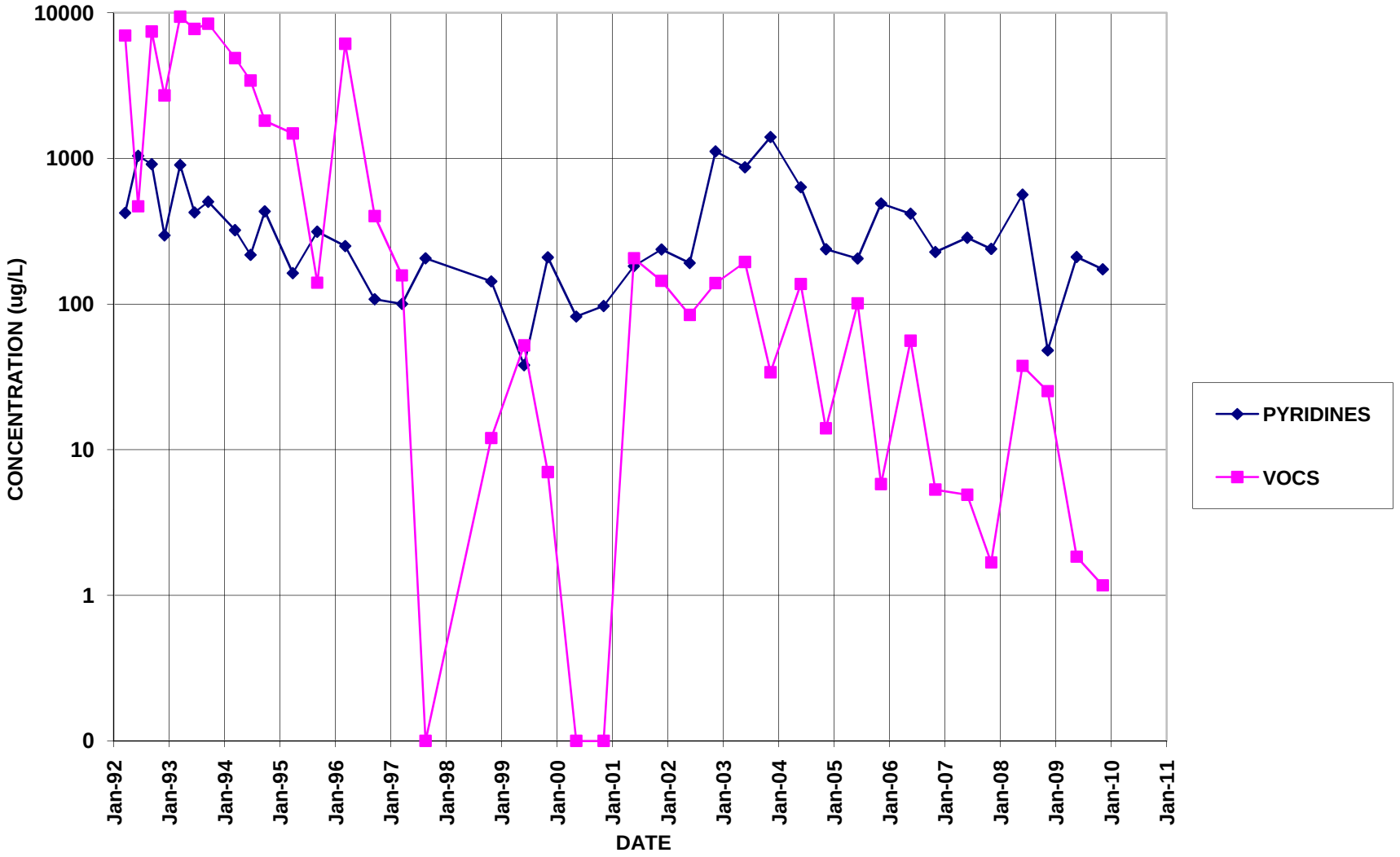


Prepared by: nmb
Reviewed by: jeb



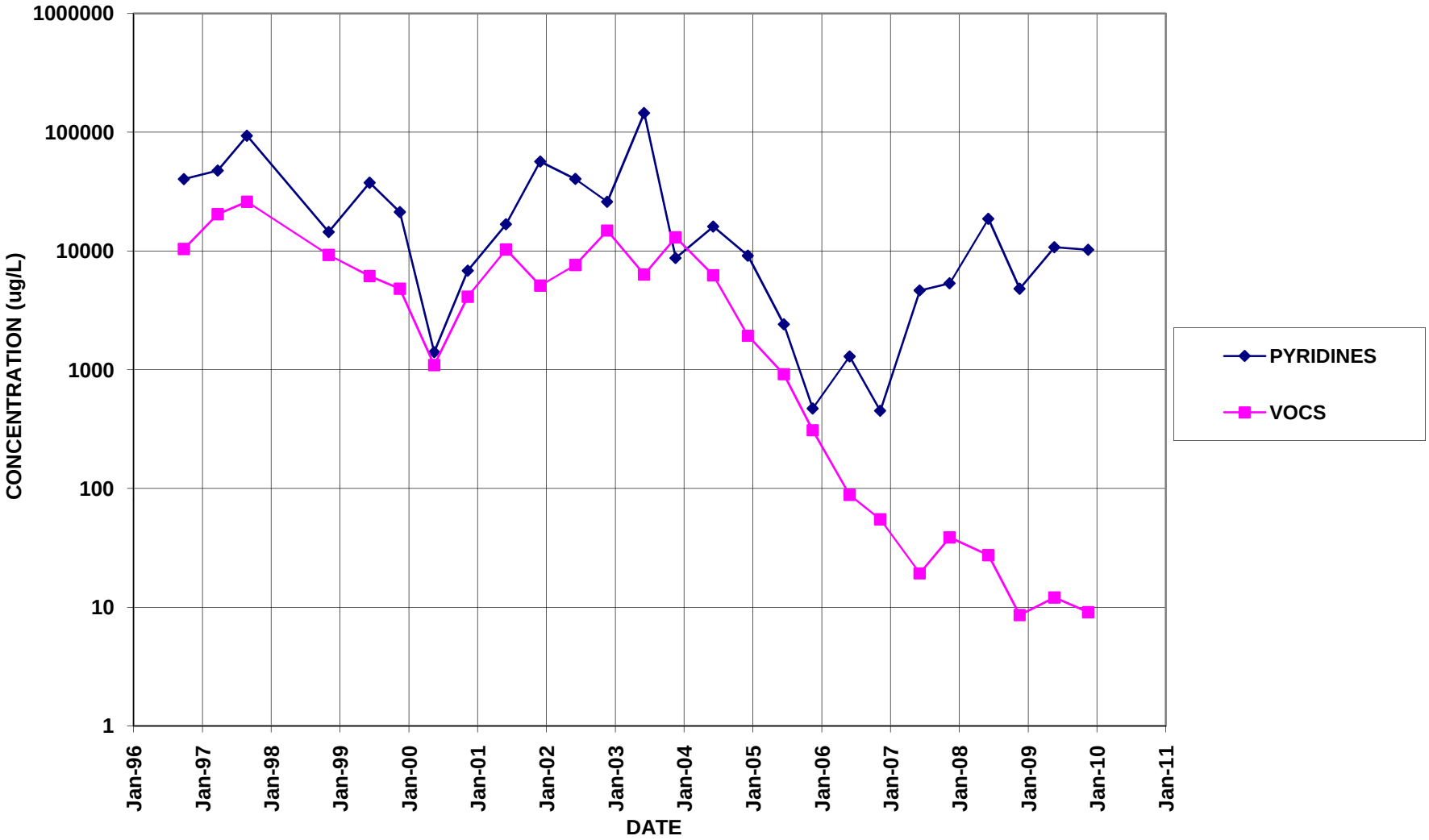
Prepared by: nmb
Reviewed by: jeb

BR-5A



Prepared by: nmb
Reviewed by: jeb

BR-6A



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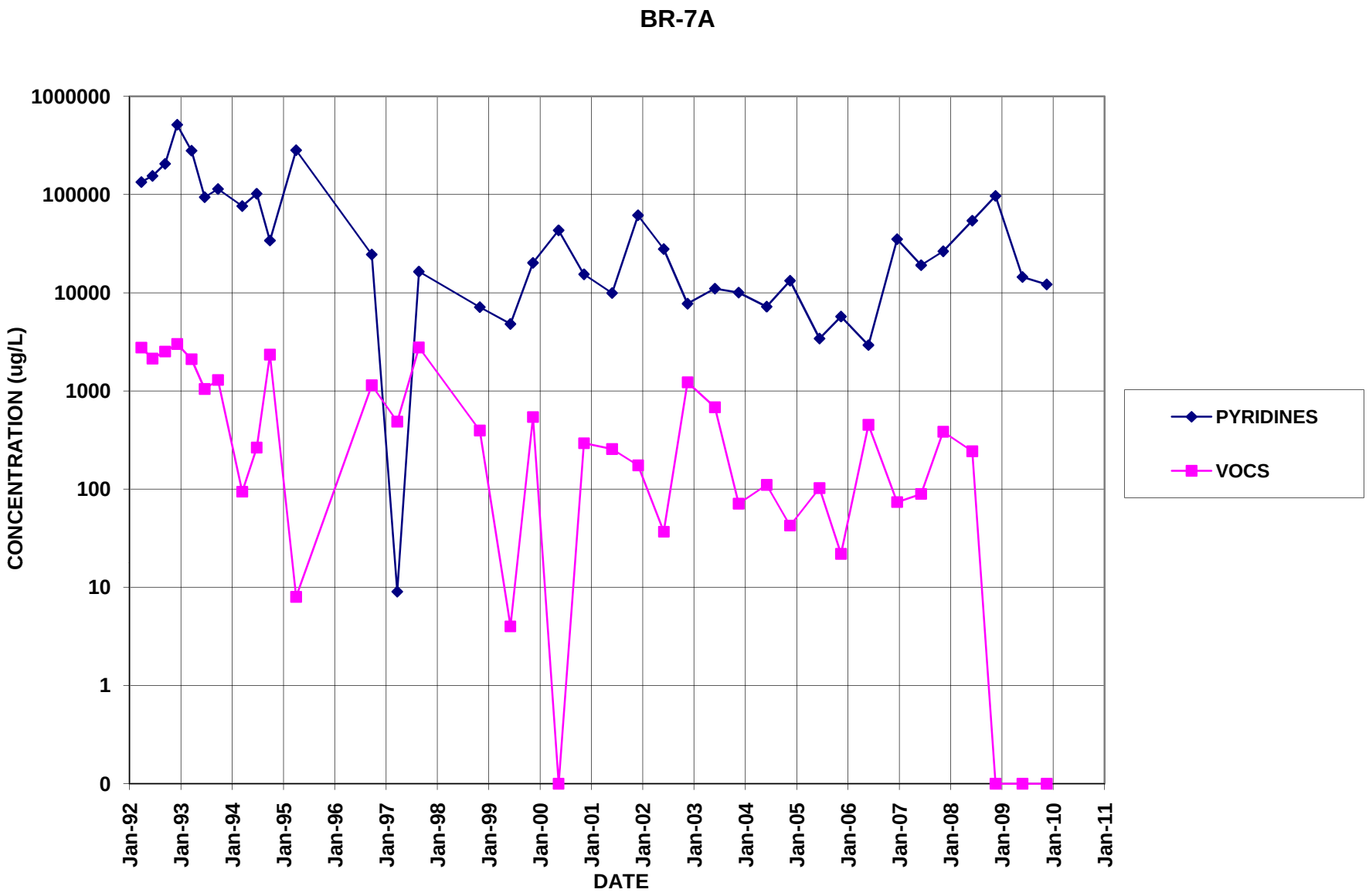
Reviewed by: jeb



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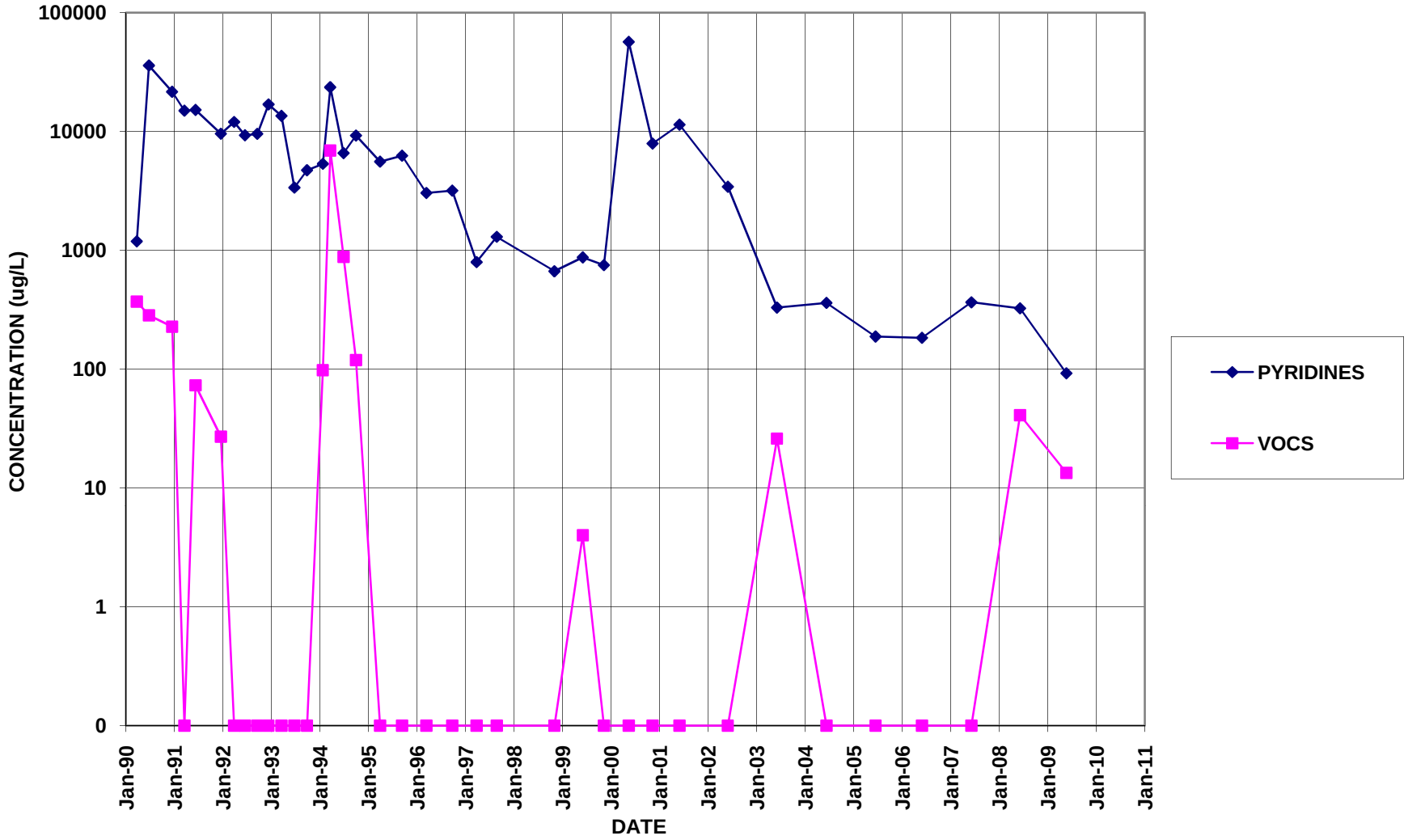
Reviewed by: jeb

BR-8



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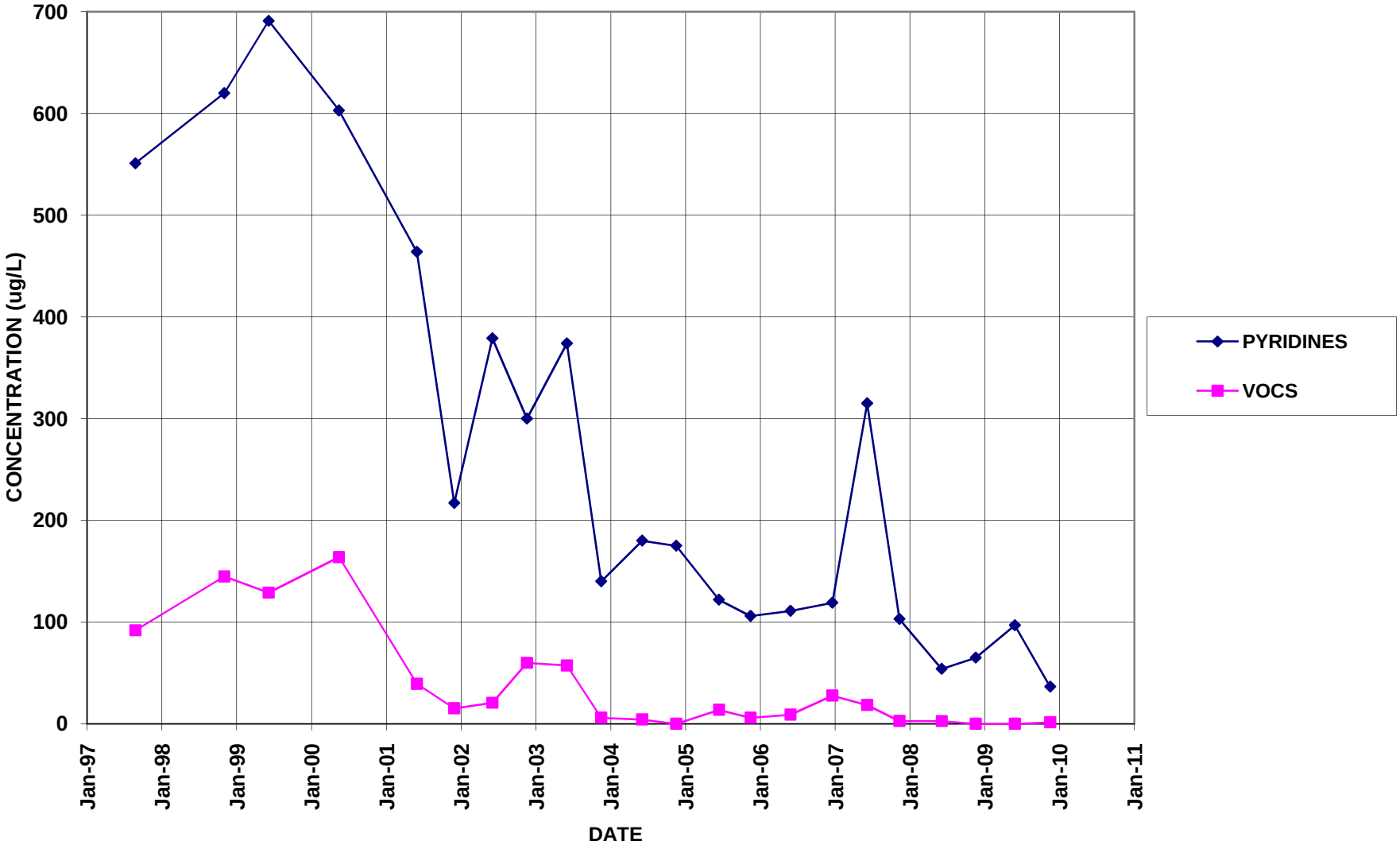
BR-9



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Reviewed by: jeb

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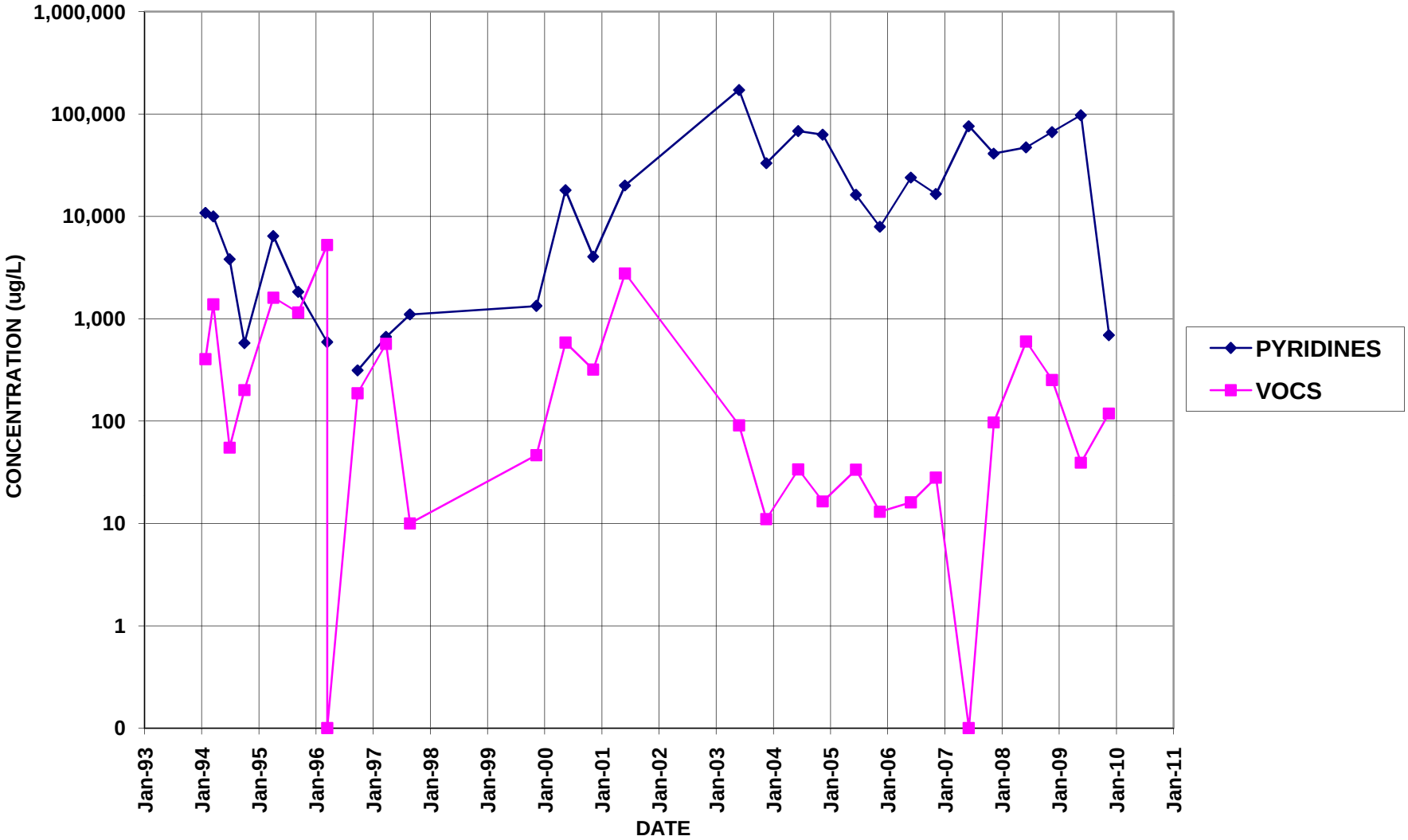
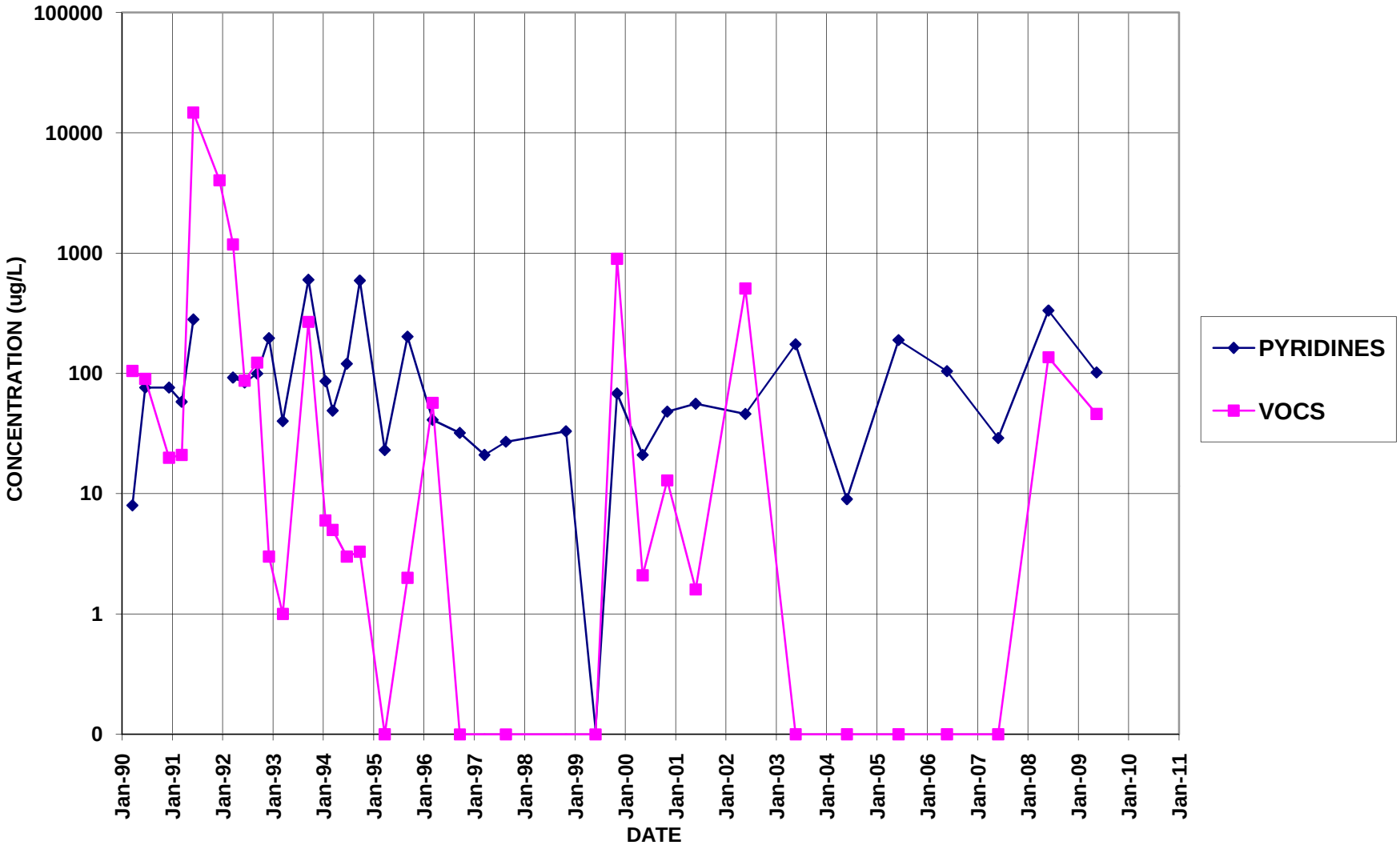


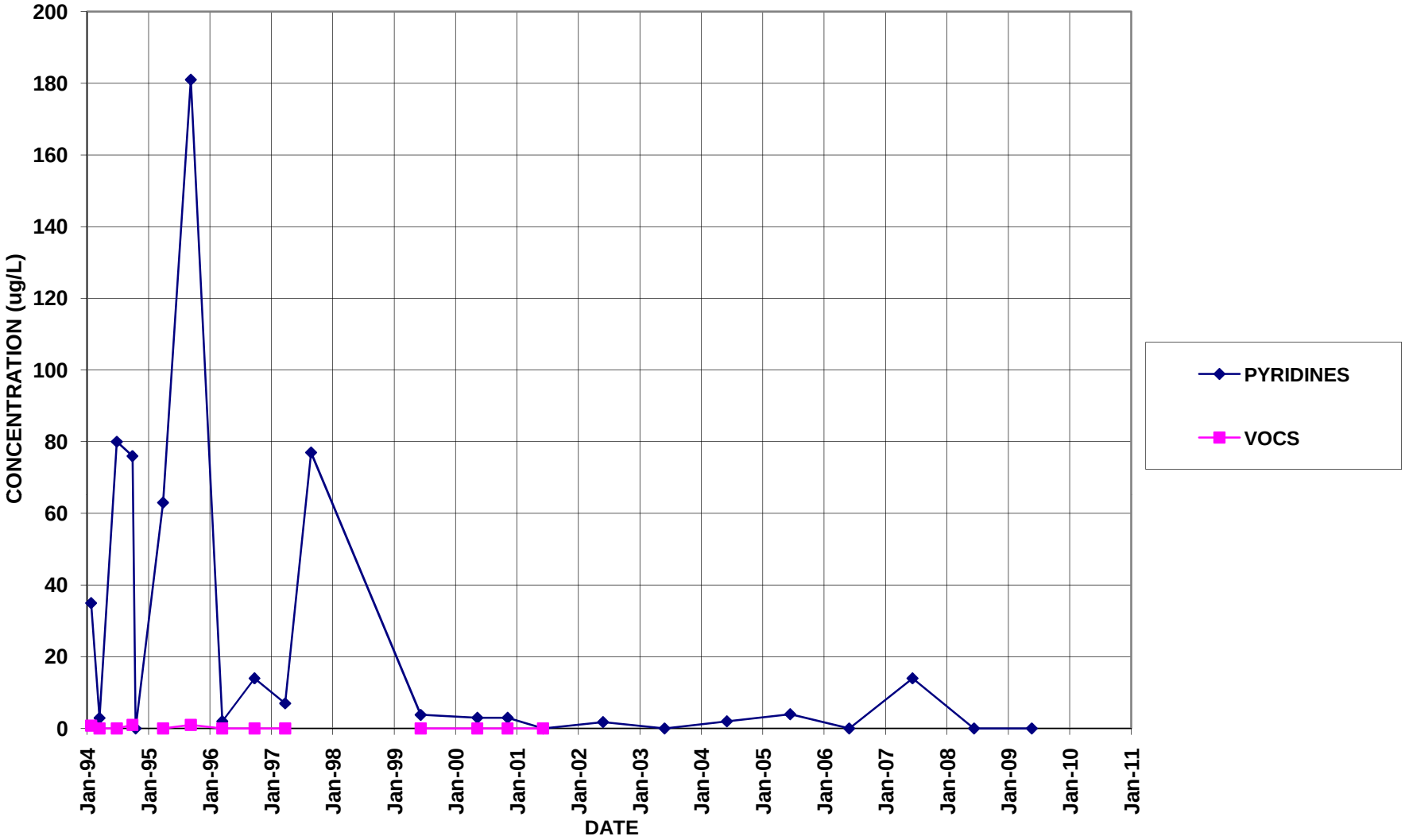
Prepared by: nmb
Reviewed by: jeb

E-3



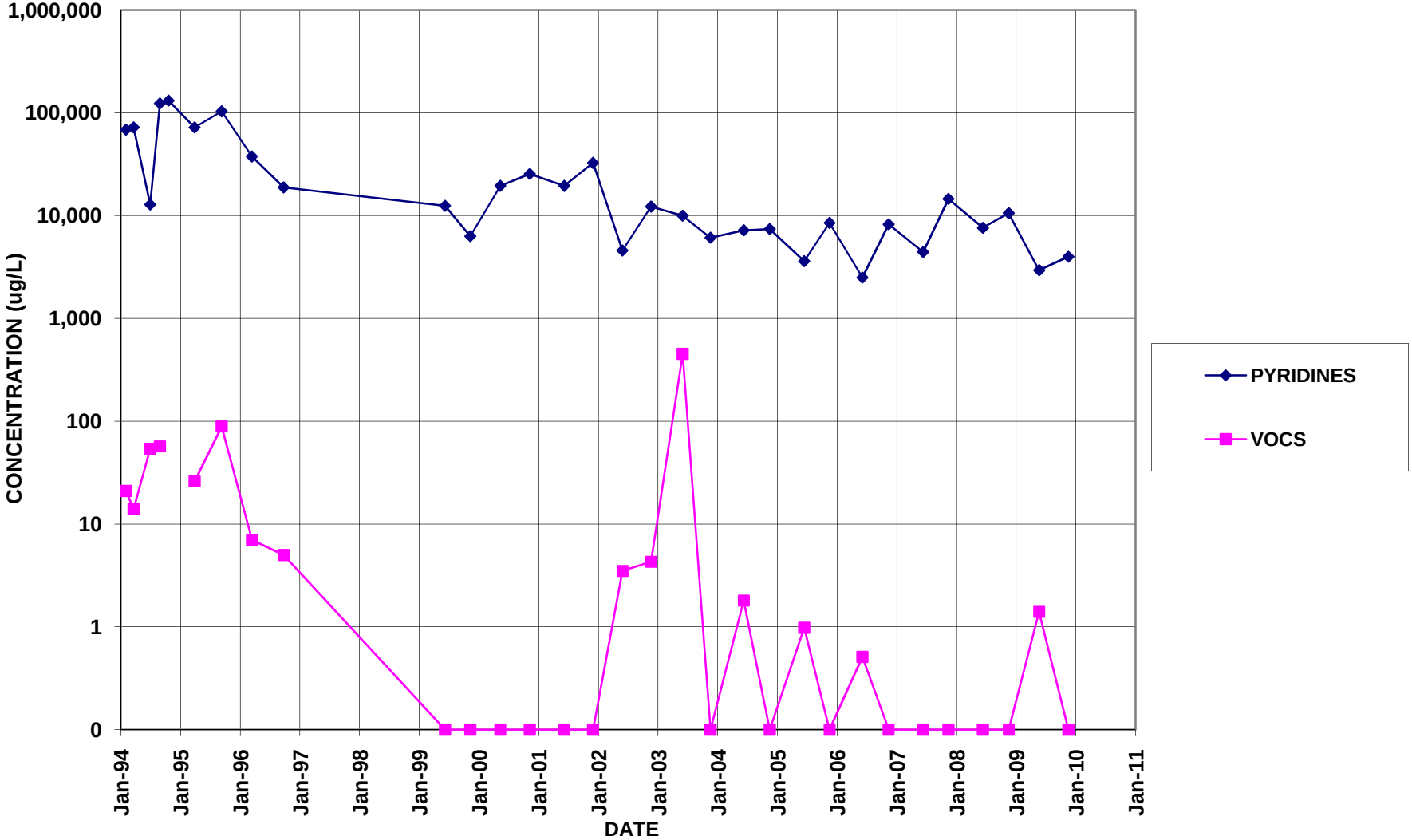
Prepared by: nmb
Reviewed by: jeb

MW-104



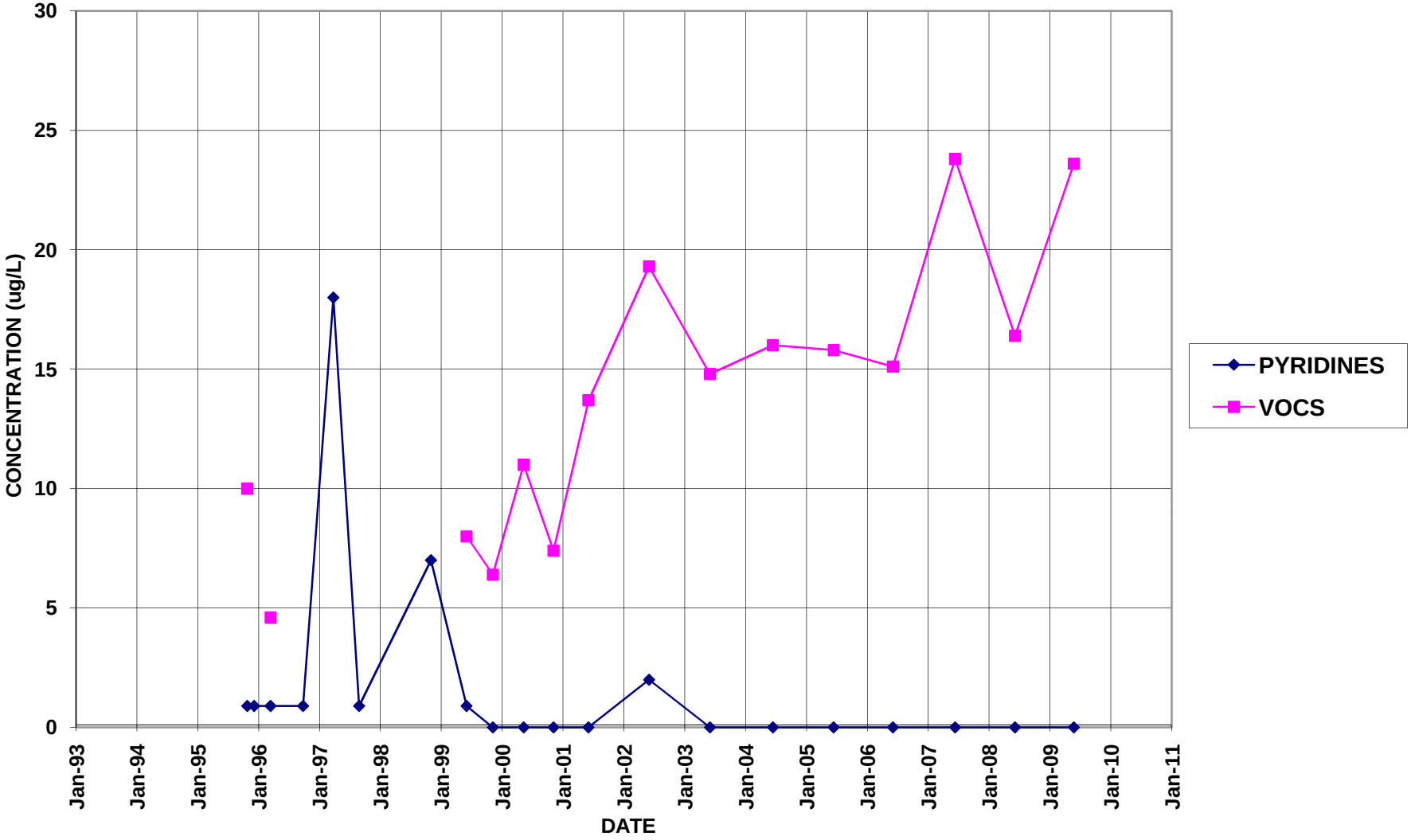
Prepared by: nmb
Reviewed by: jeb

MW-106



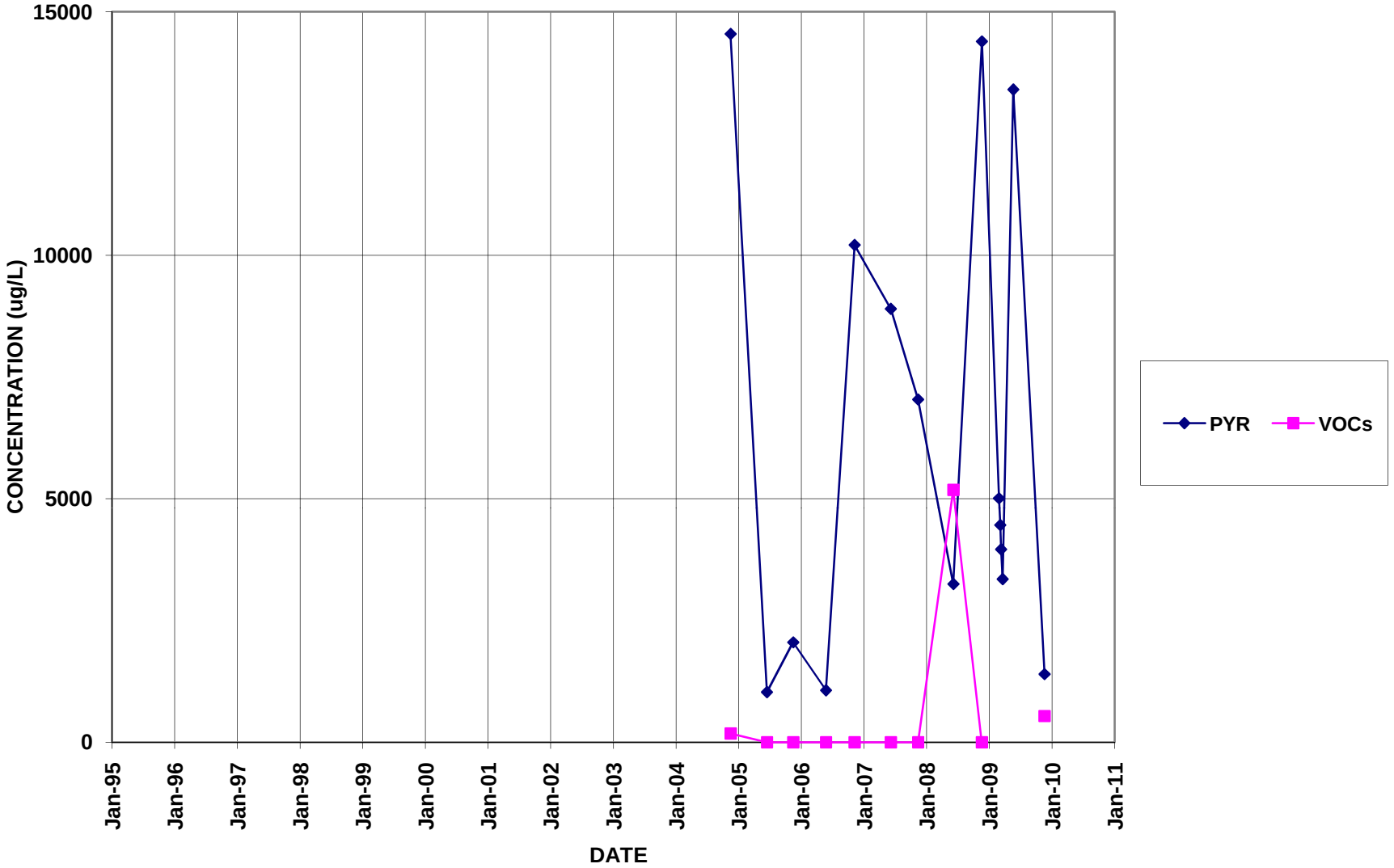
Prepared by: nmb
Reviewed by: jeb

MW-114



Prepared by: nmb
Reviewed by: jeb

MW-127



Prepared by: nmb
Reviewed by: jeb

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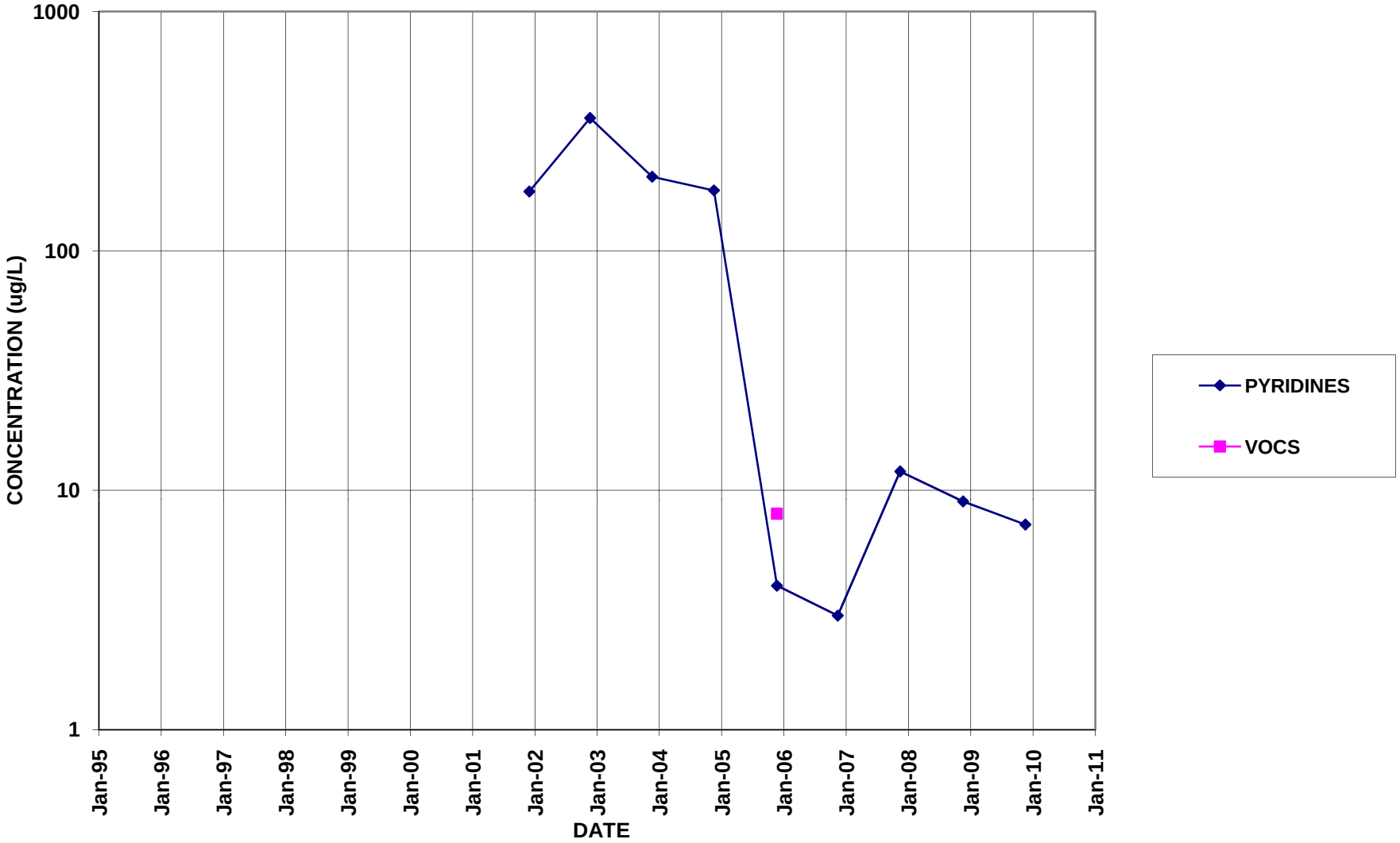
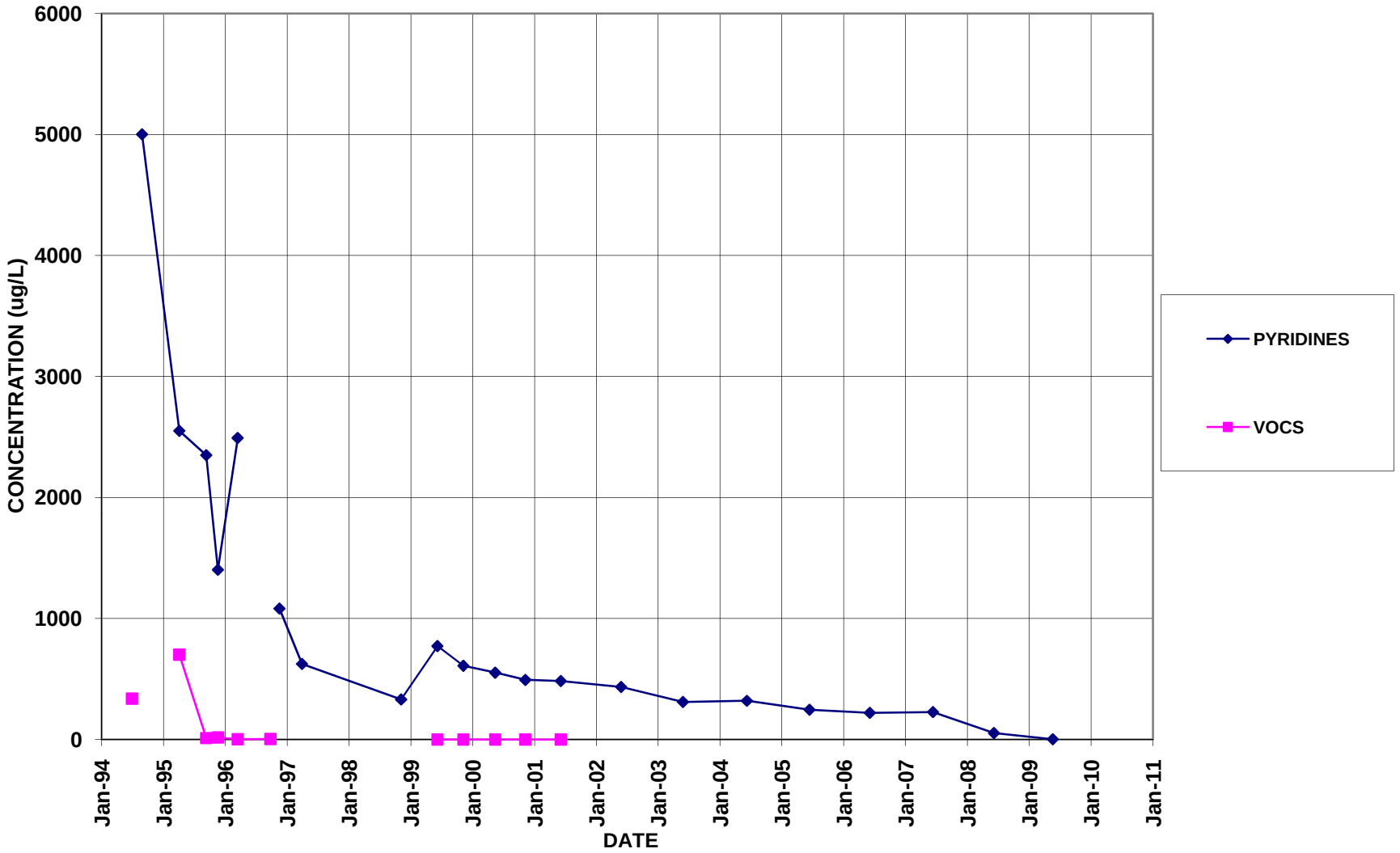


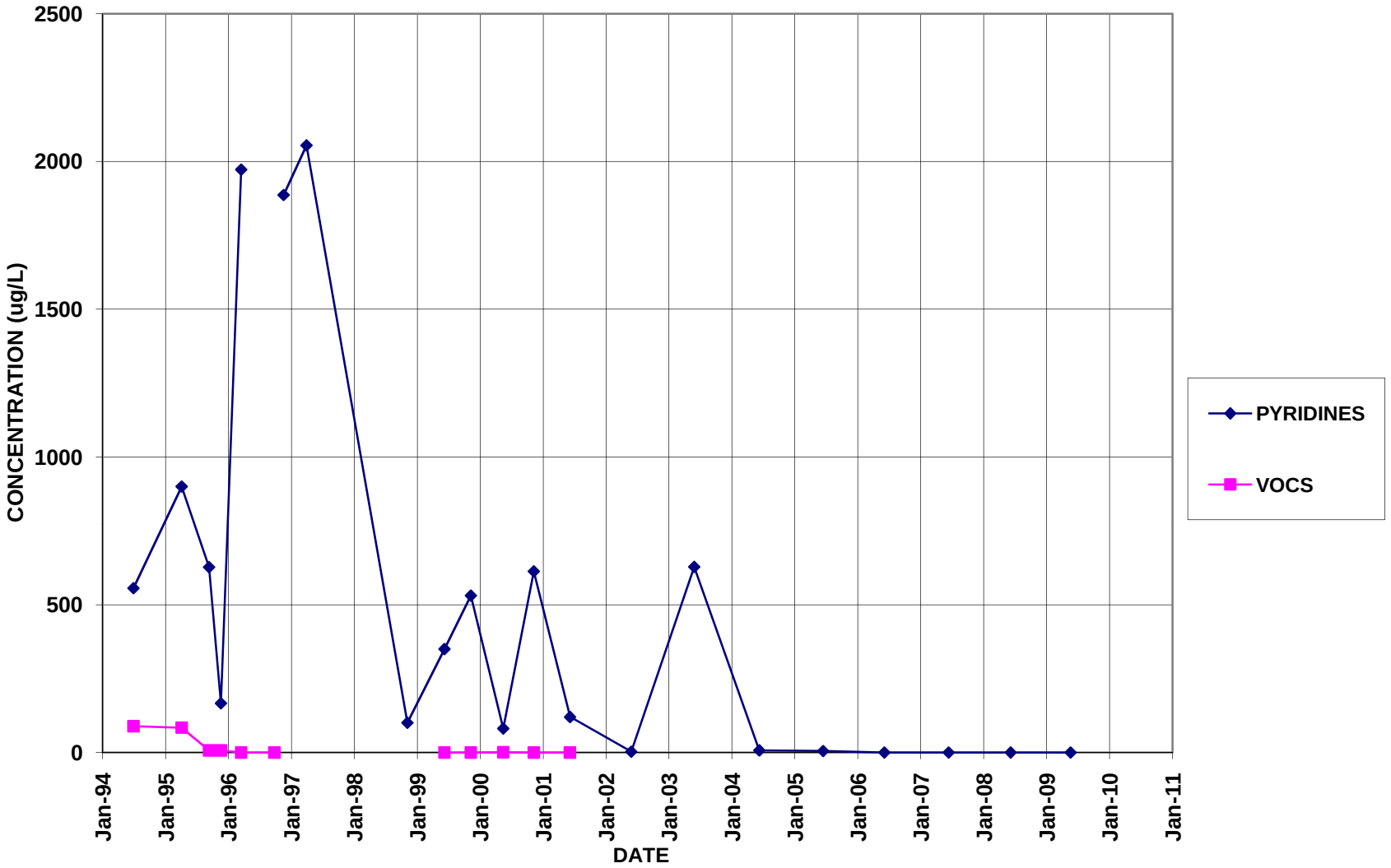
Prepared by: nmb
Reviewed by: jeb

NESS-E



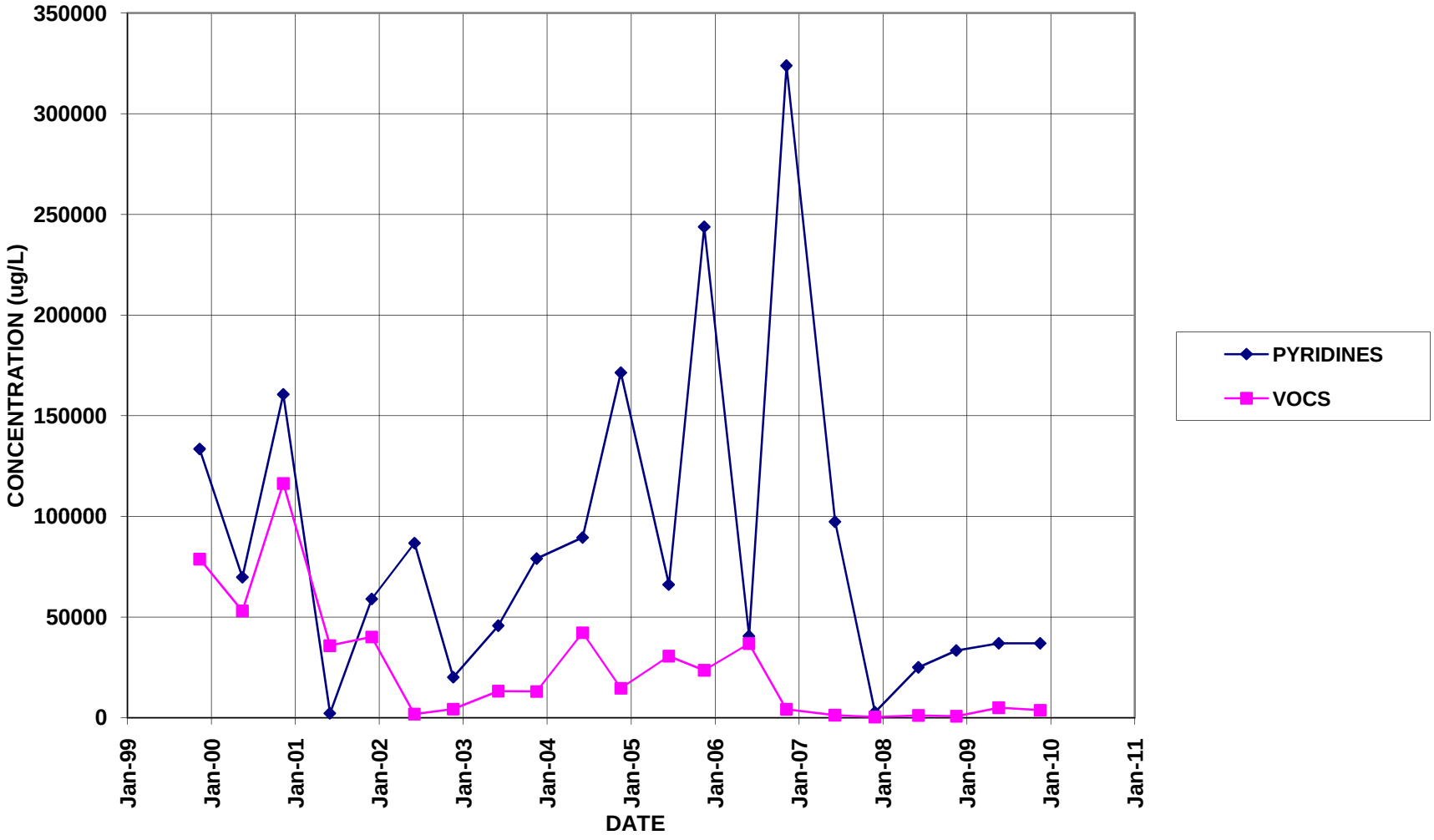
Prepared by: nmb
Reviewed by: jeb

NESS-W



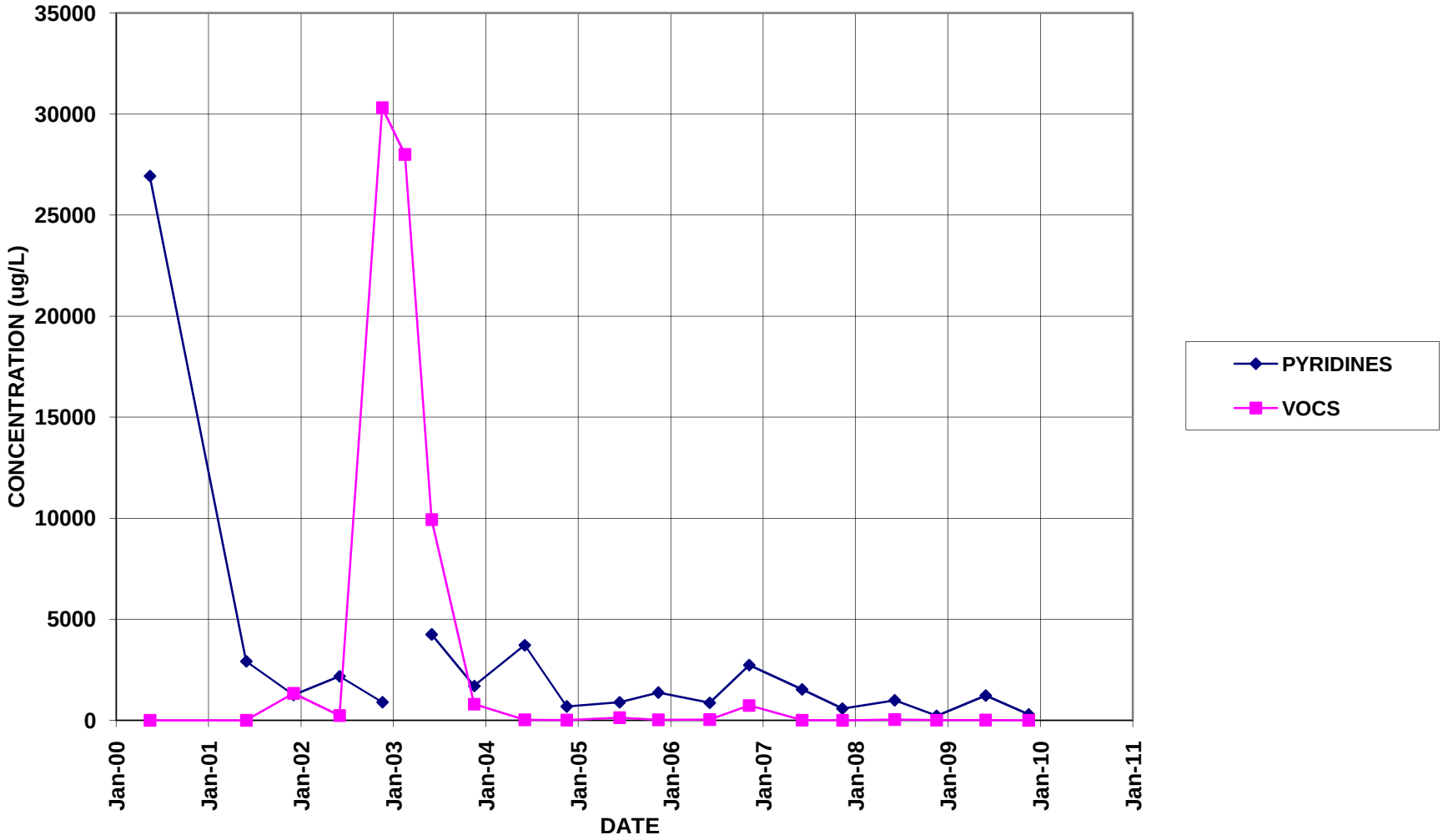
Prepared by: nmb
Reviewed by: jeb

PW10



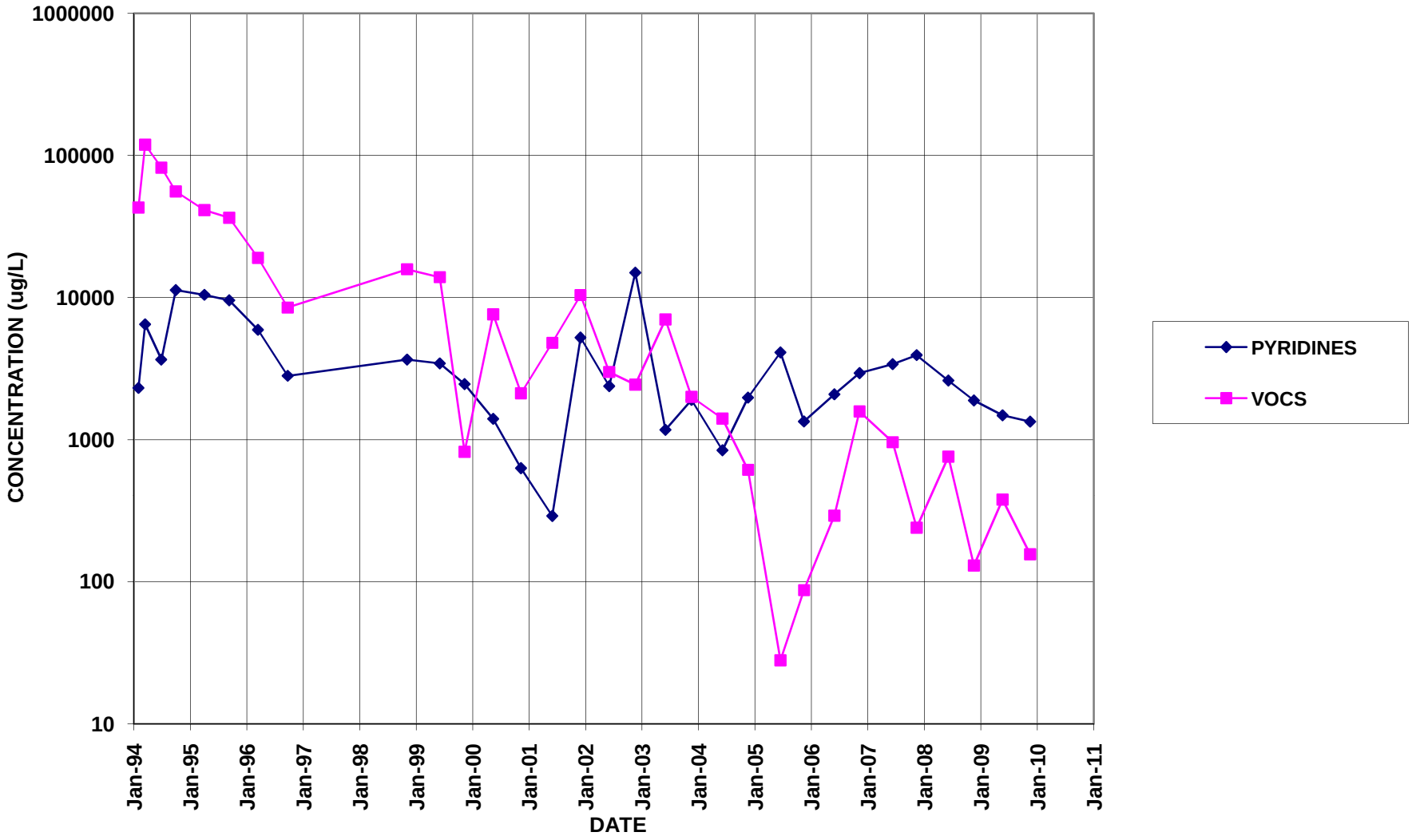
Prepared by: nmb
Reviewed by: jeb

PW11



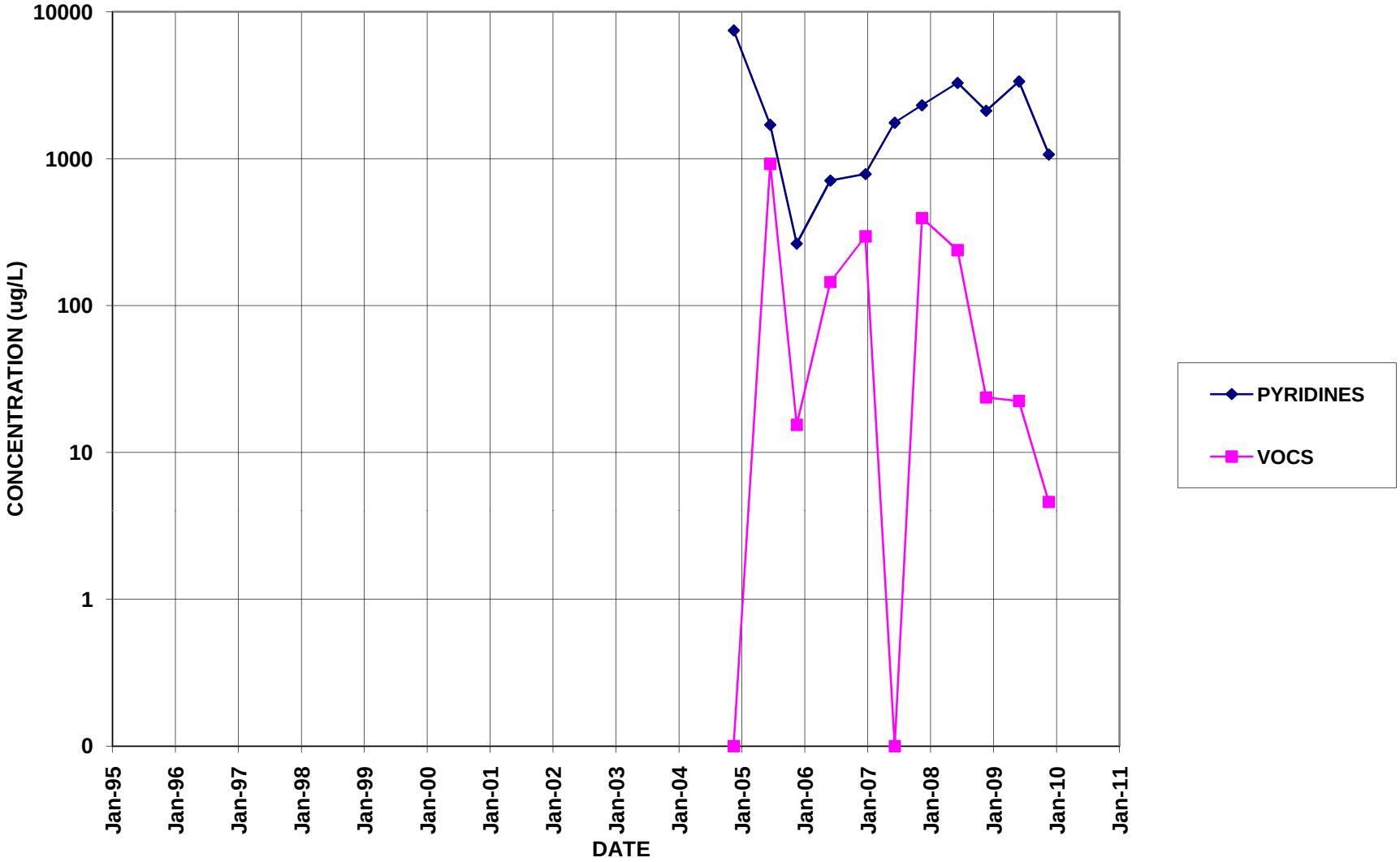
Prepared by: nmb
Reviewed by: jeb

PW12 (Formerly BR-101)



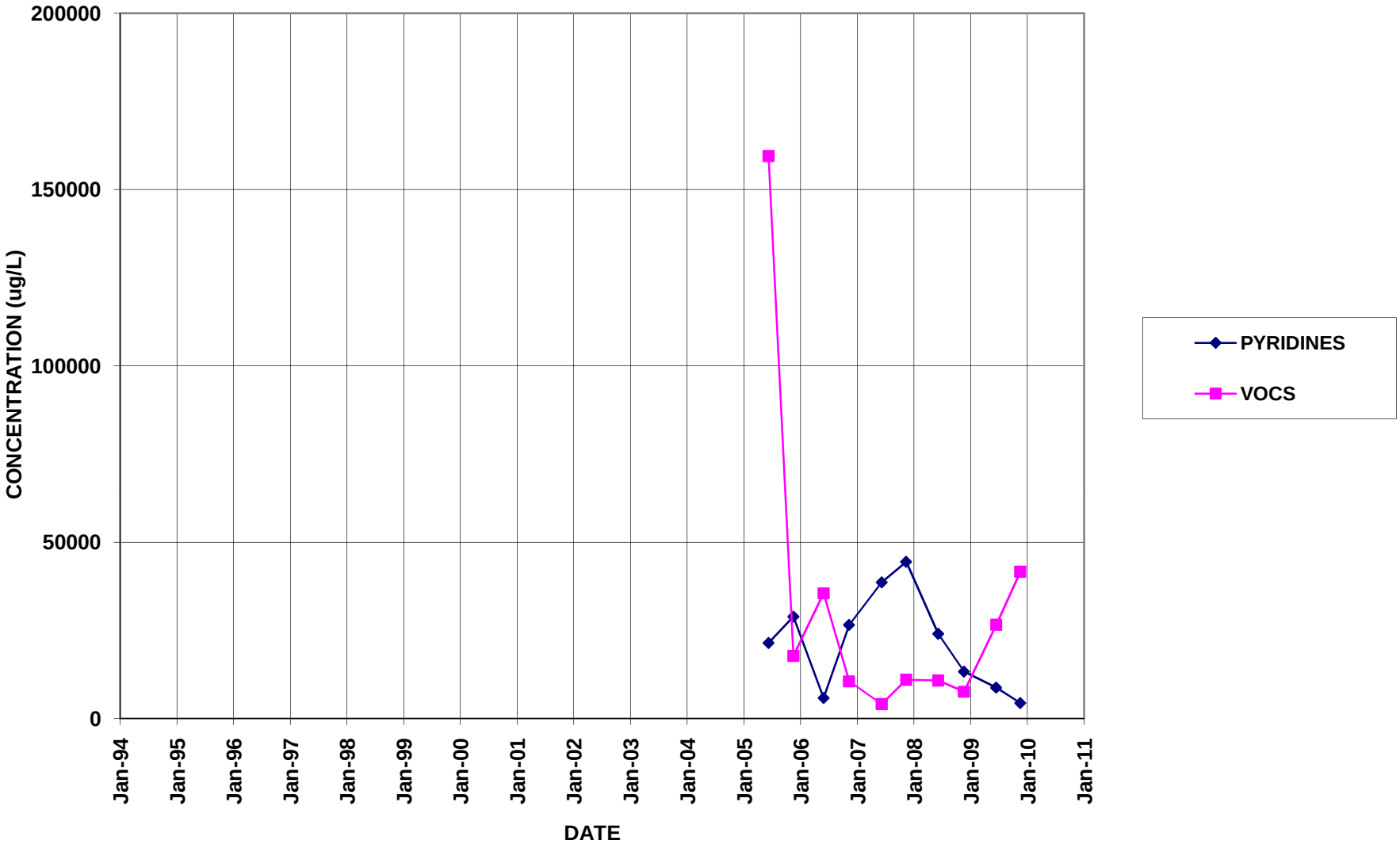
Prepared by: nmb
Reviewed by: jeb

PW13



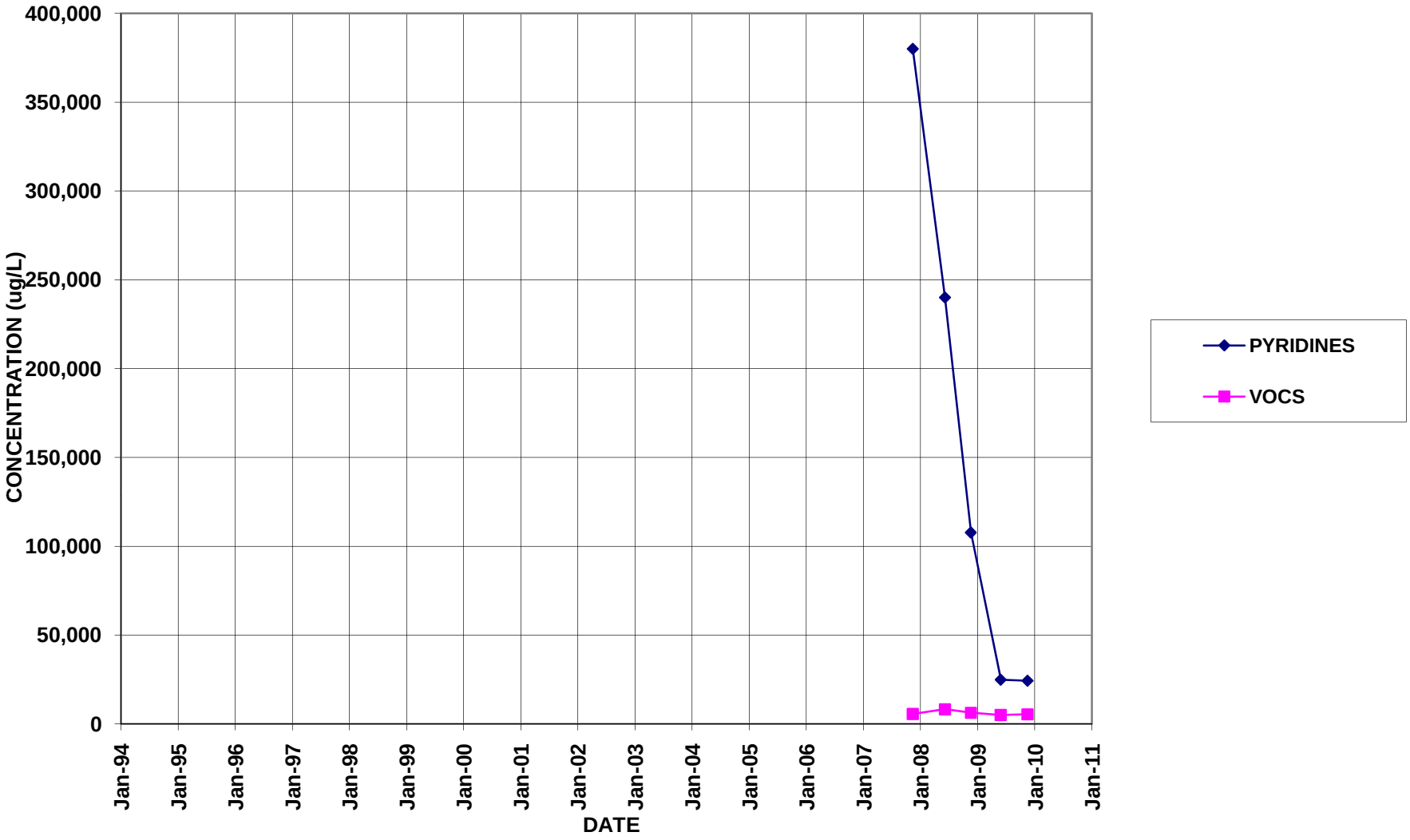
Prepared by: nmb
Reviewed by: jeb

PW14



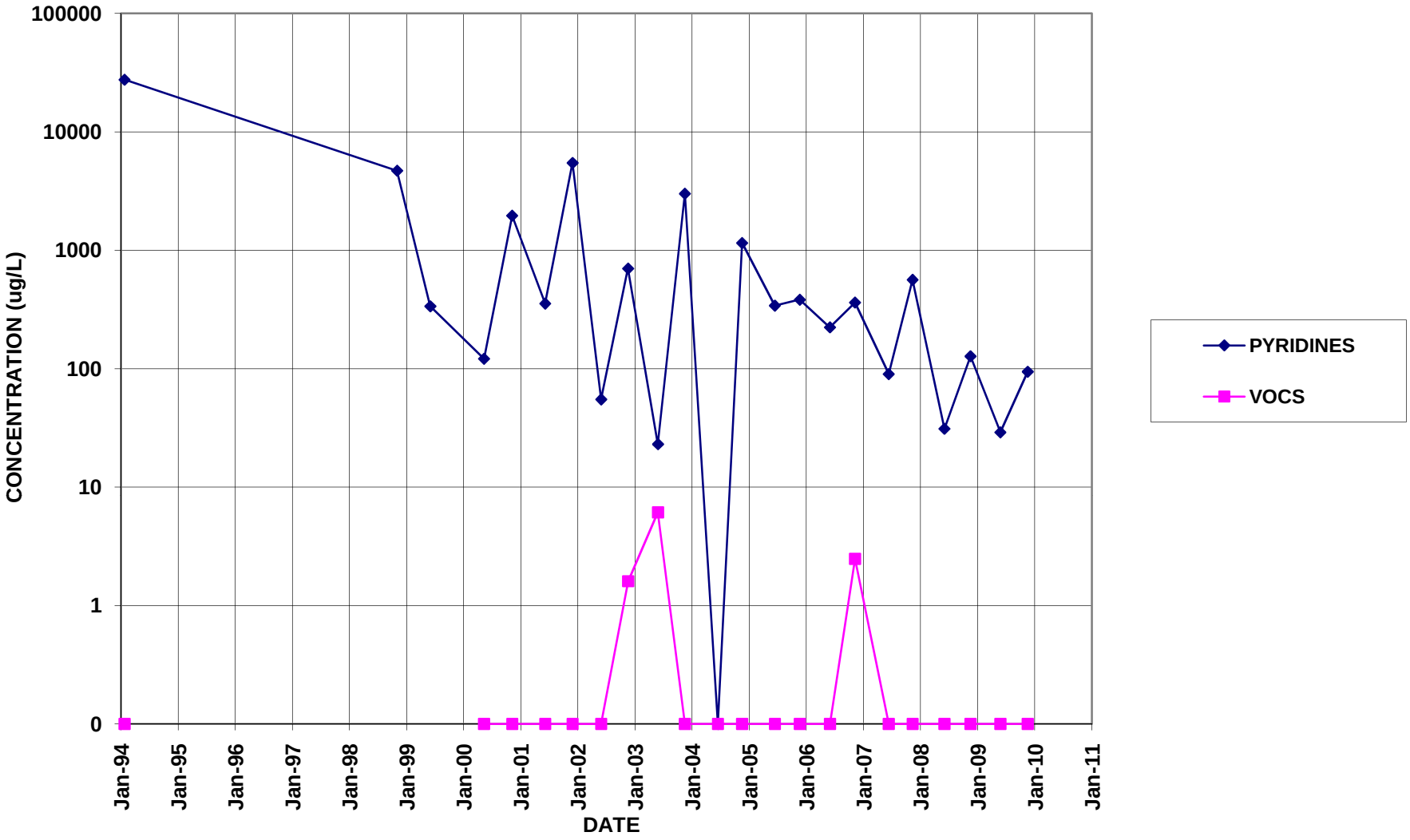
Prepared by: nmb
Reviewed by: jeb

PW15



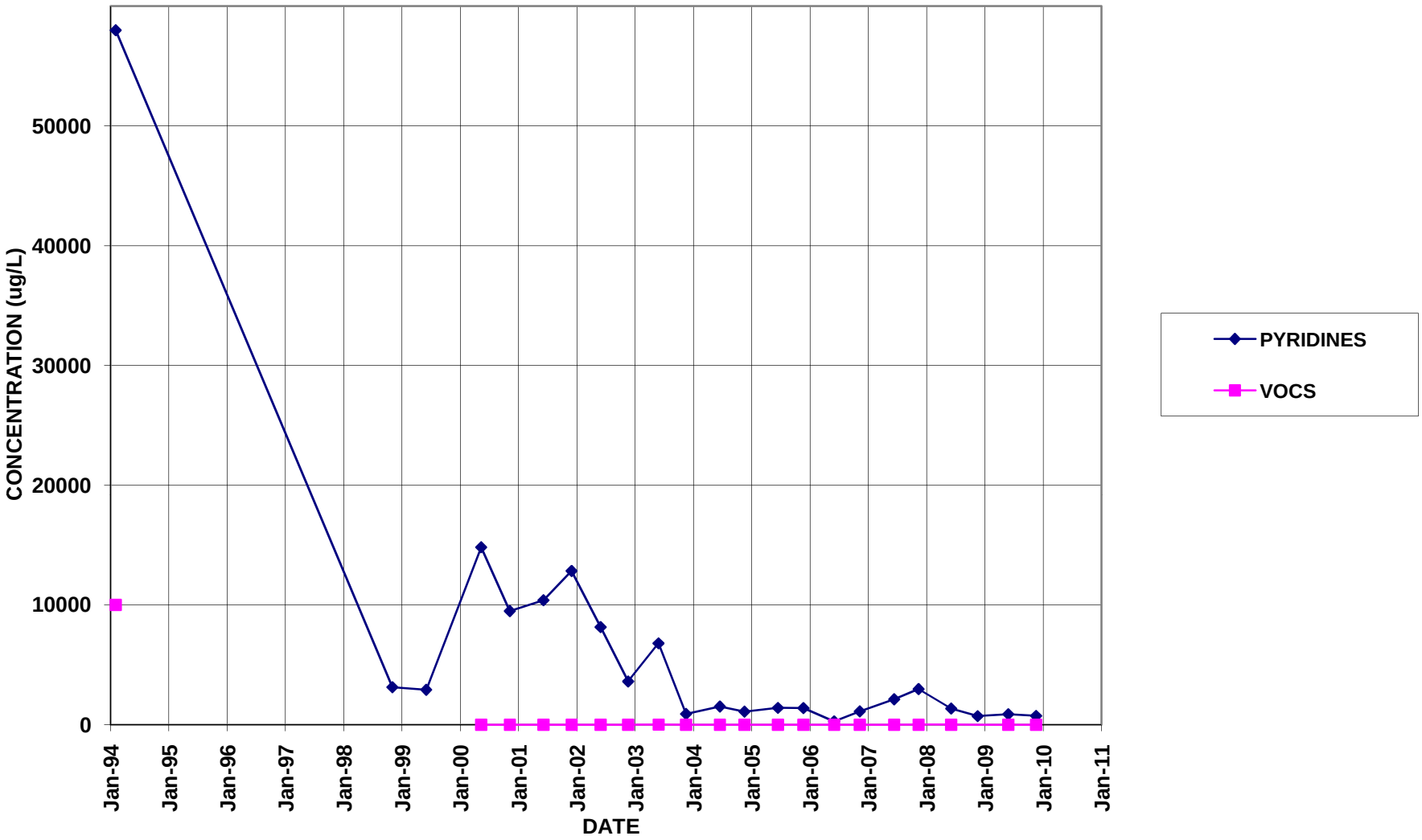
Prepared by: nmb
Reviewed by: jeb

PZ-101



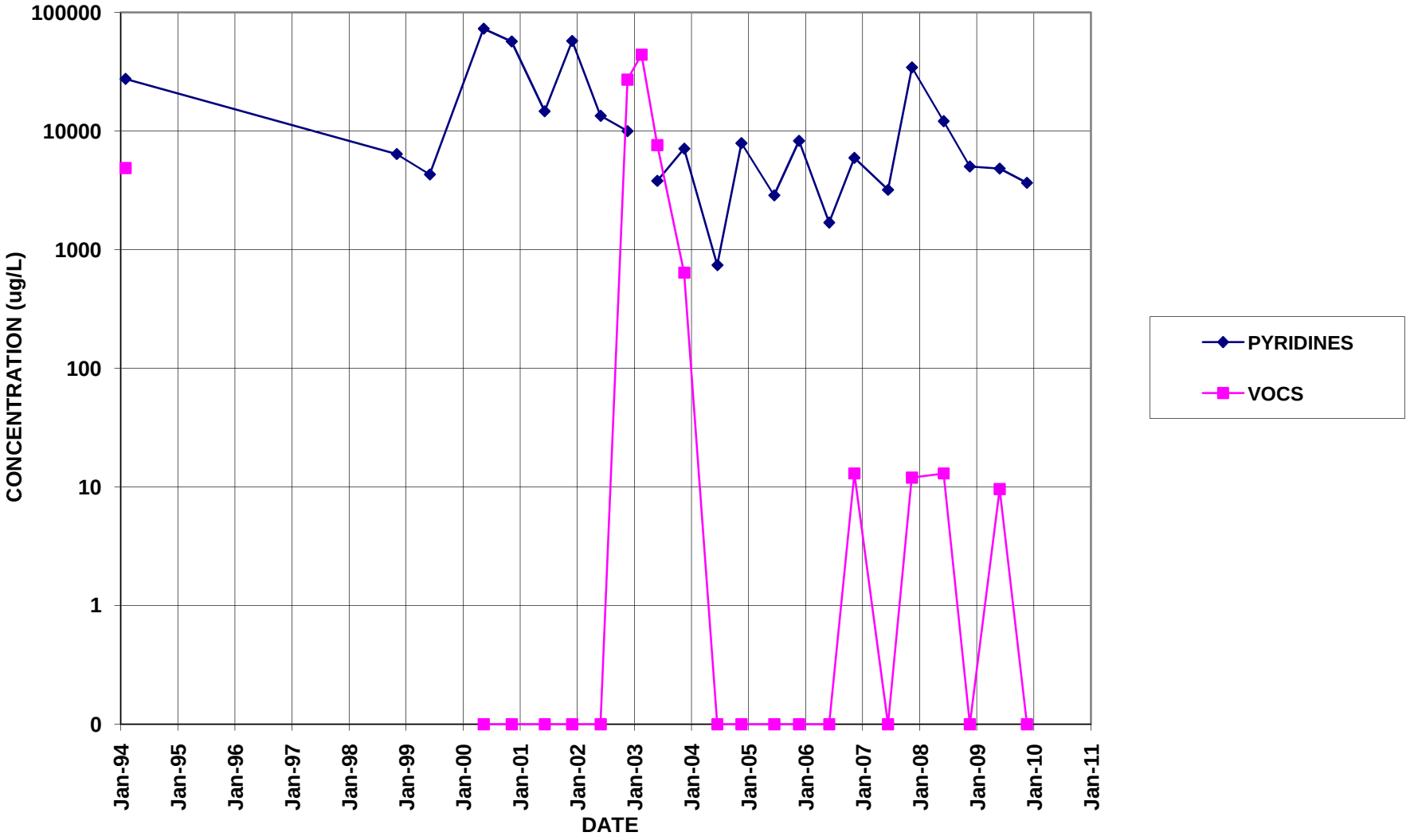
Prepared by: nmb
Reviewed by: jeb

PZ-102



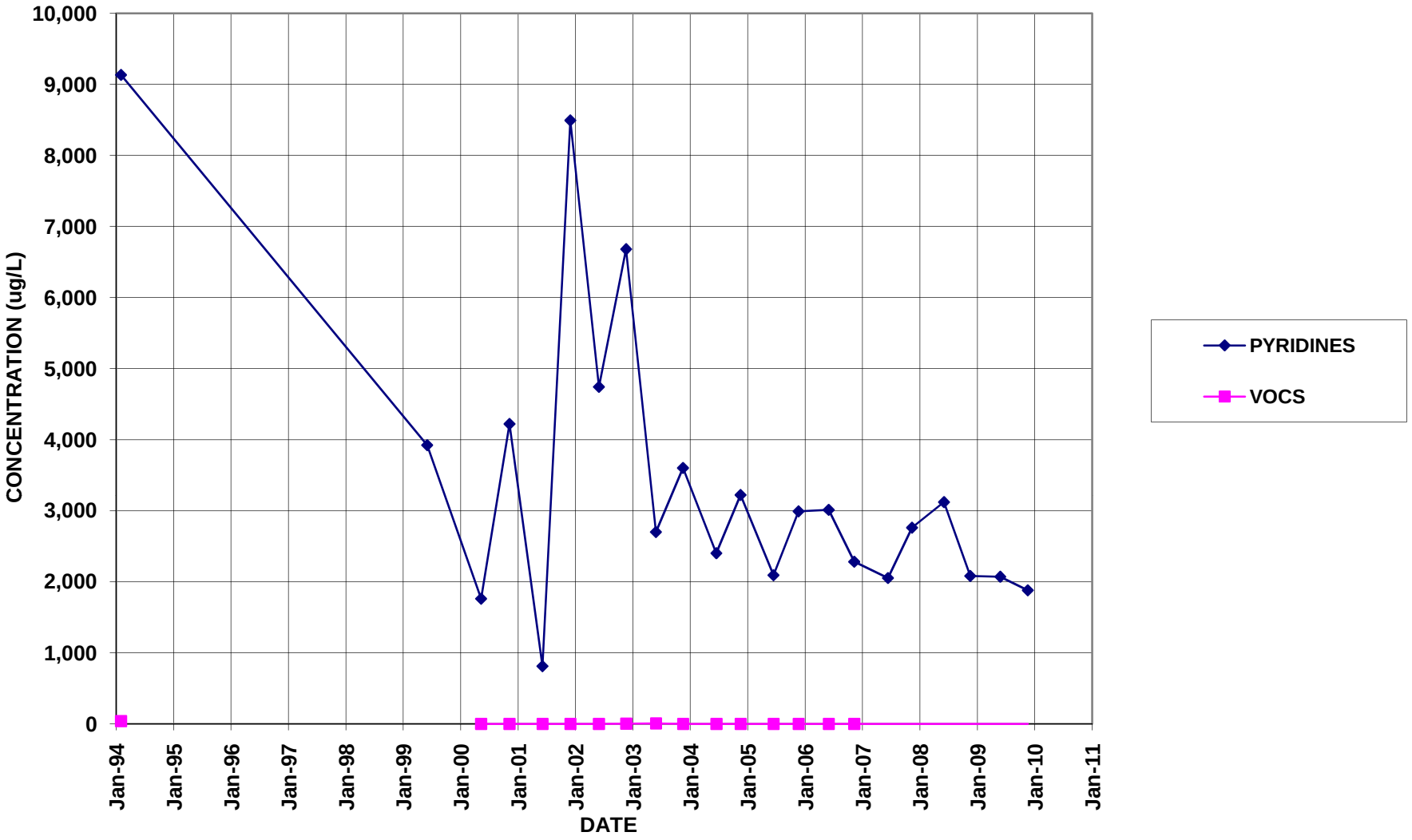
Prepared by: nmb
Reviewed by: jeb

PZ-103



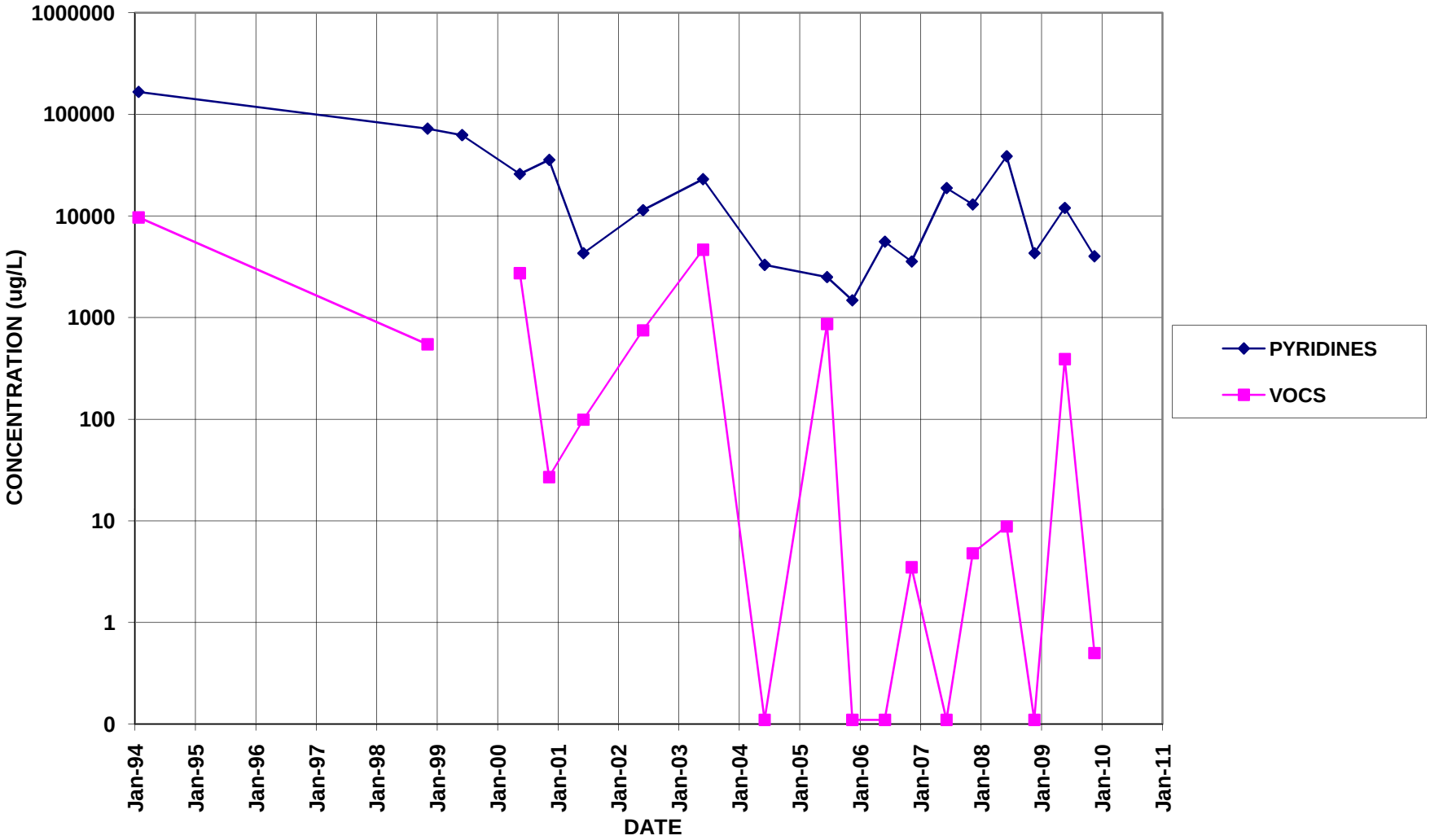
Prepared by: nmb
Reviewed by: jeb

PZ-104



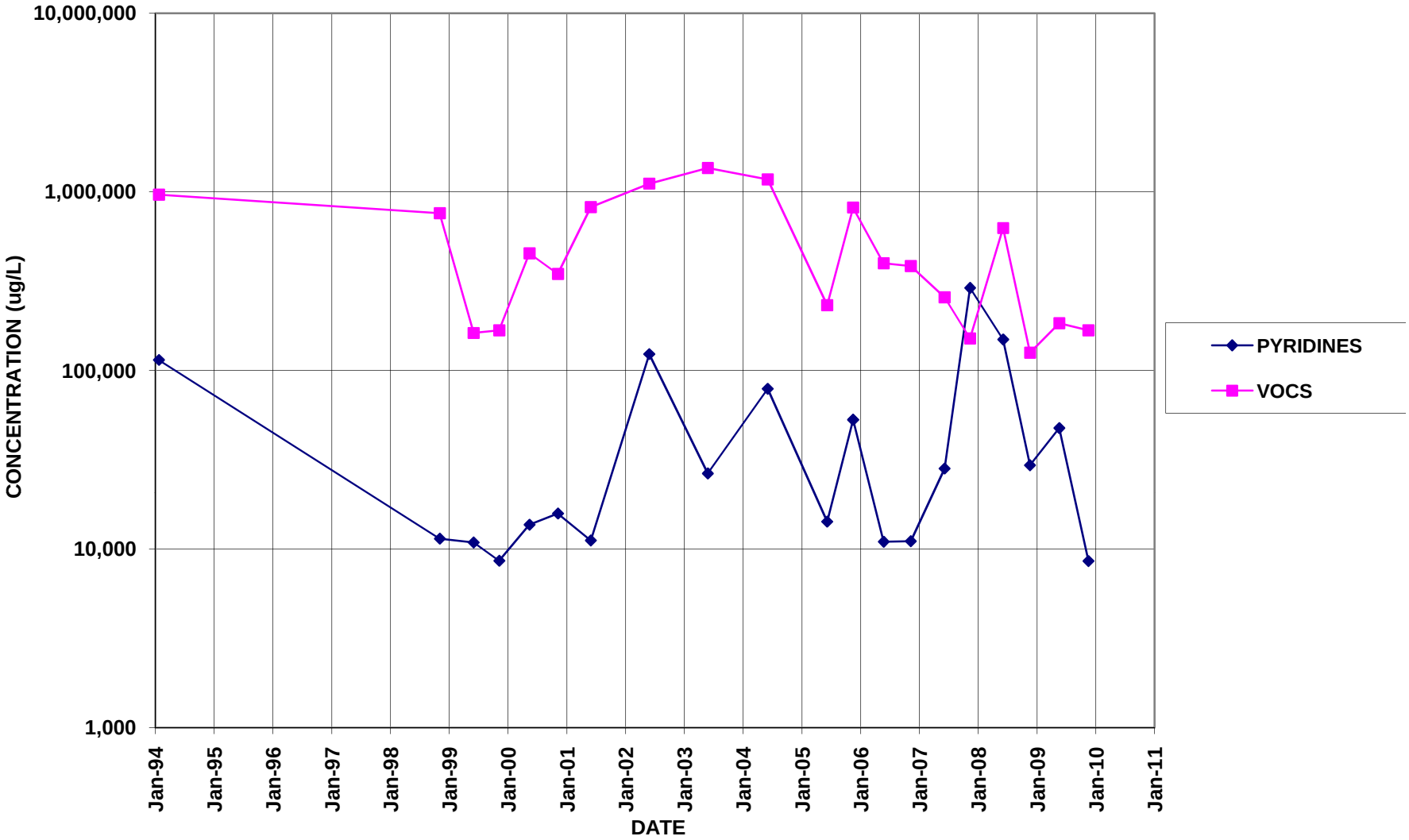
Prepared by: nmb
Reviewed by: jeb

PZ-105



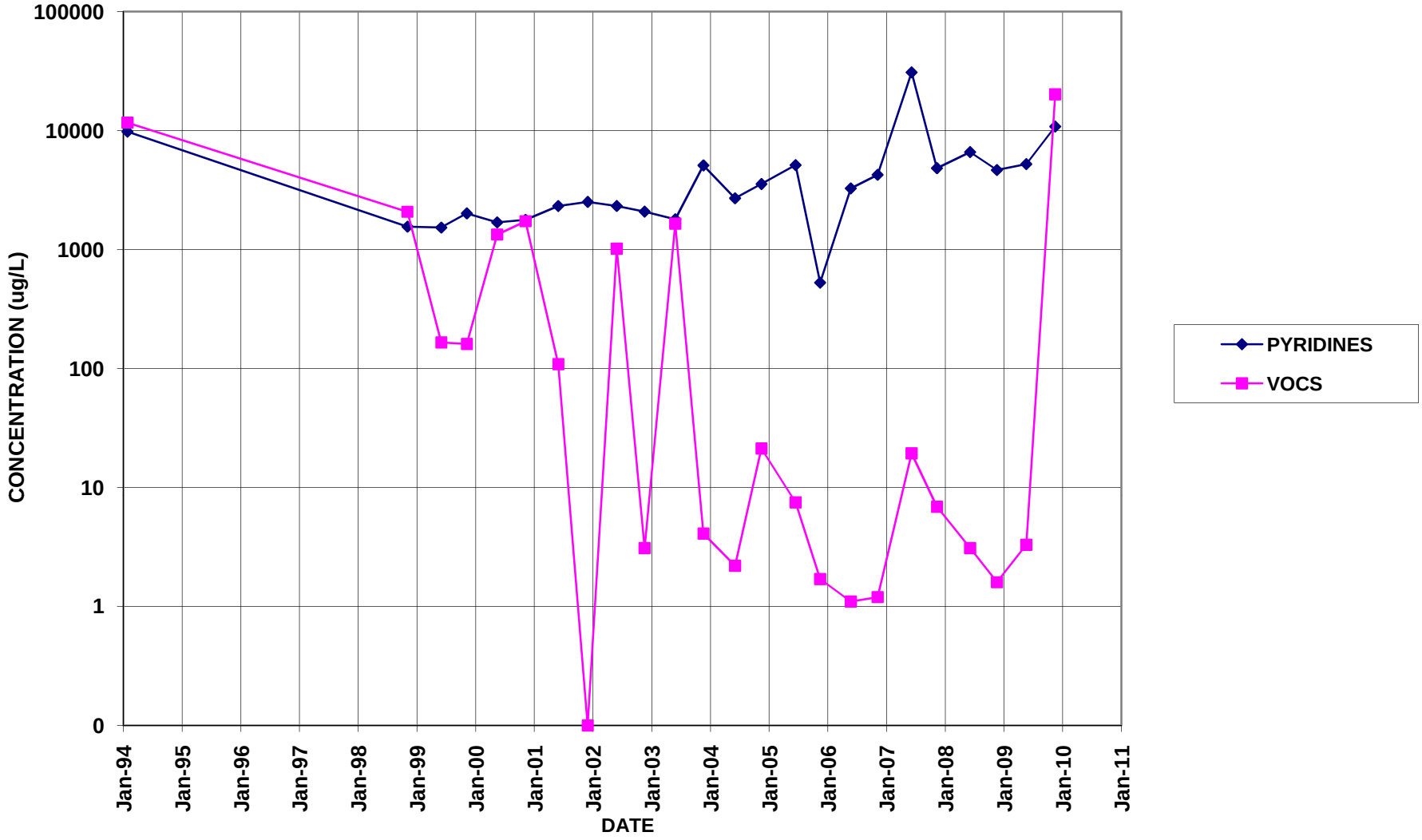
Prepared by: nmb
Reviewed by: jeb

PZ-106



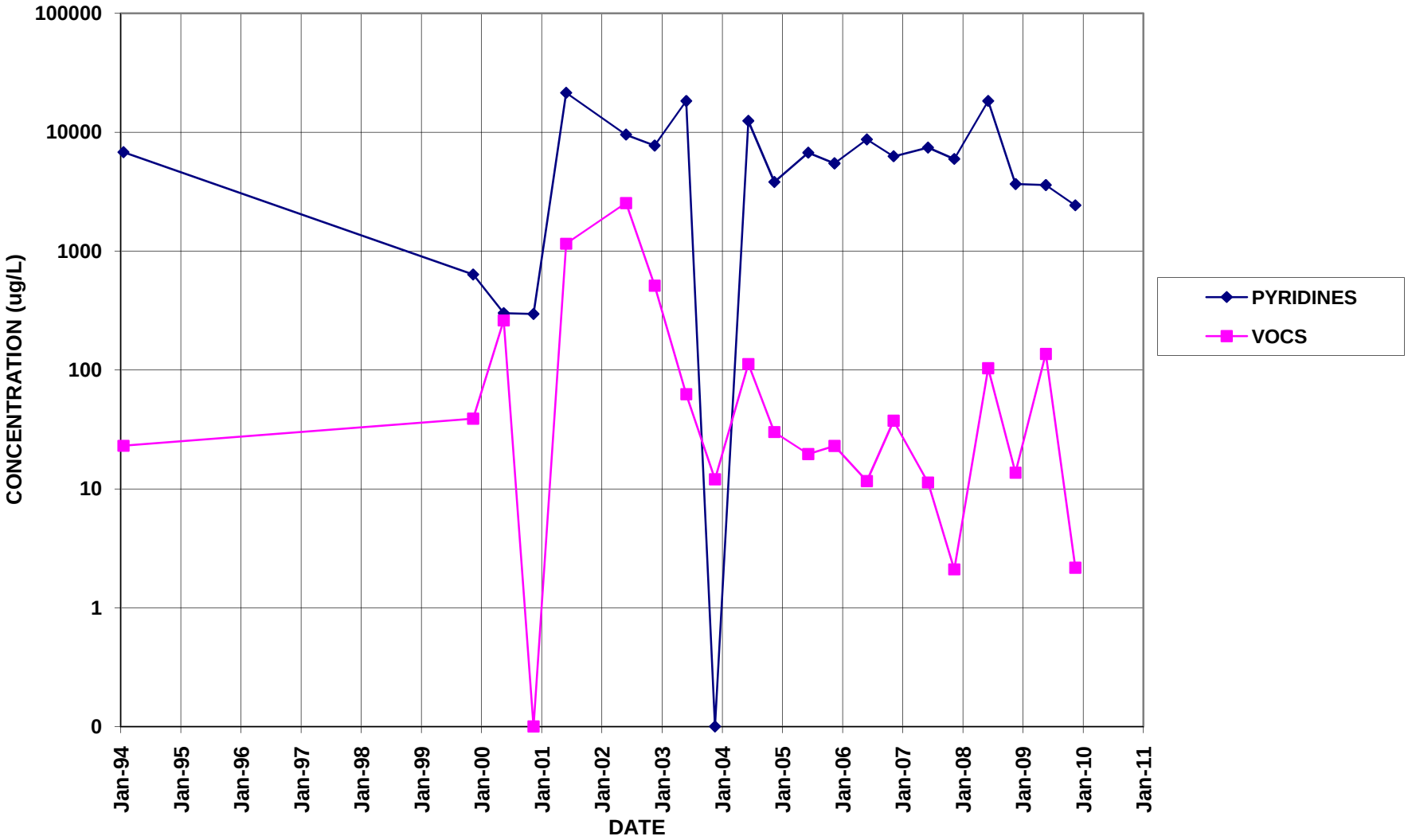
Prepared by: nmb
Reviewed by: jeb

PZ-107



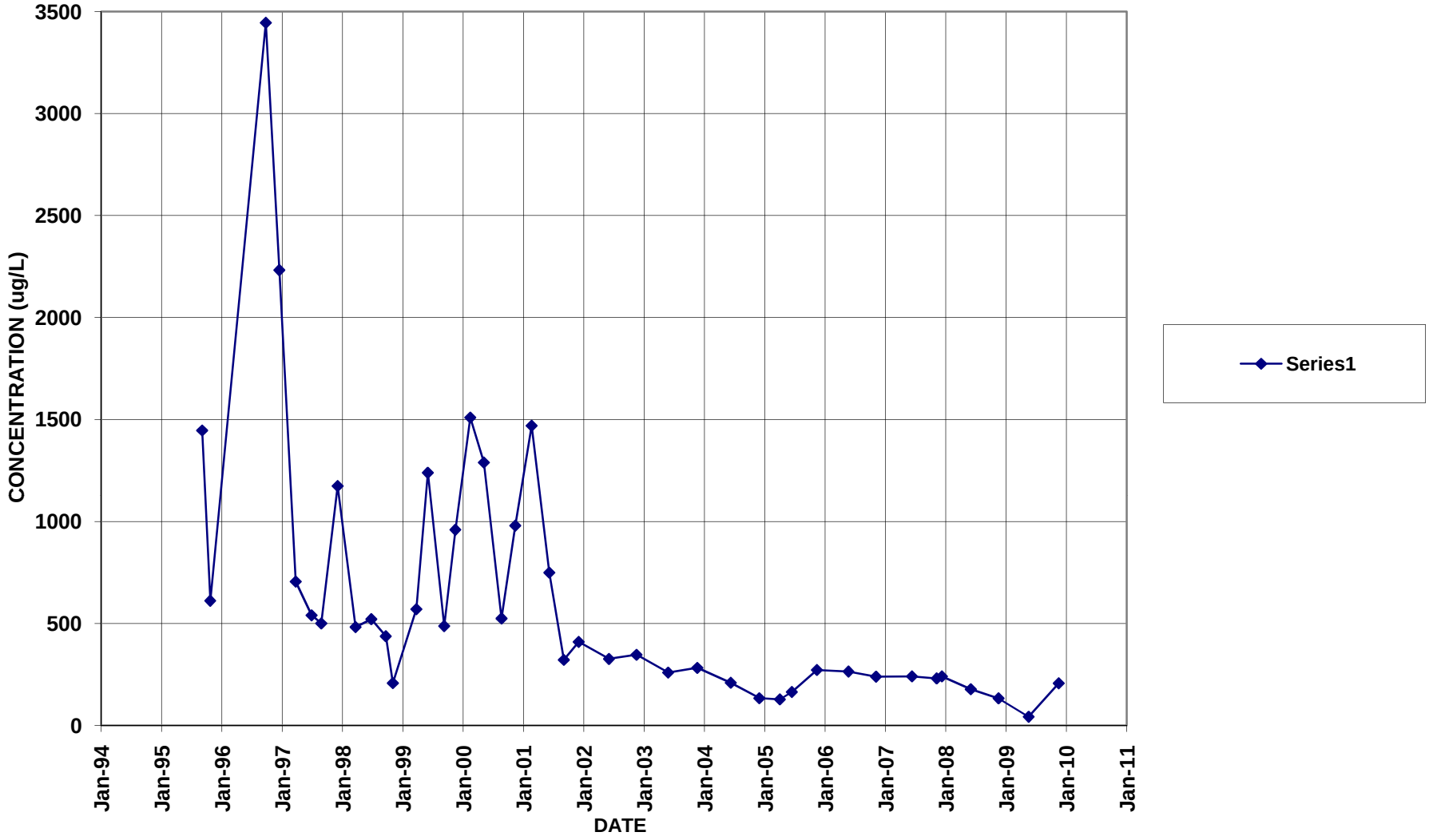
Prepared by: nmb
Reviewed by: jeb

S-3



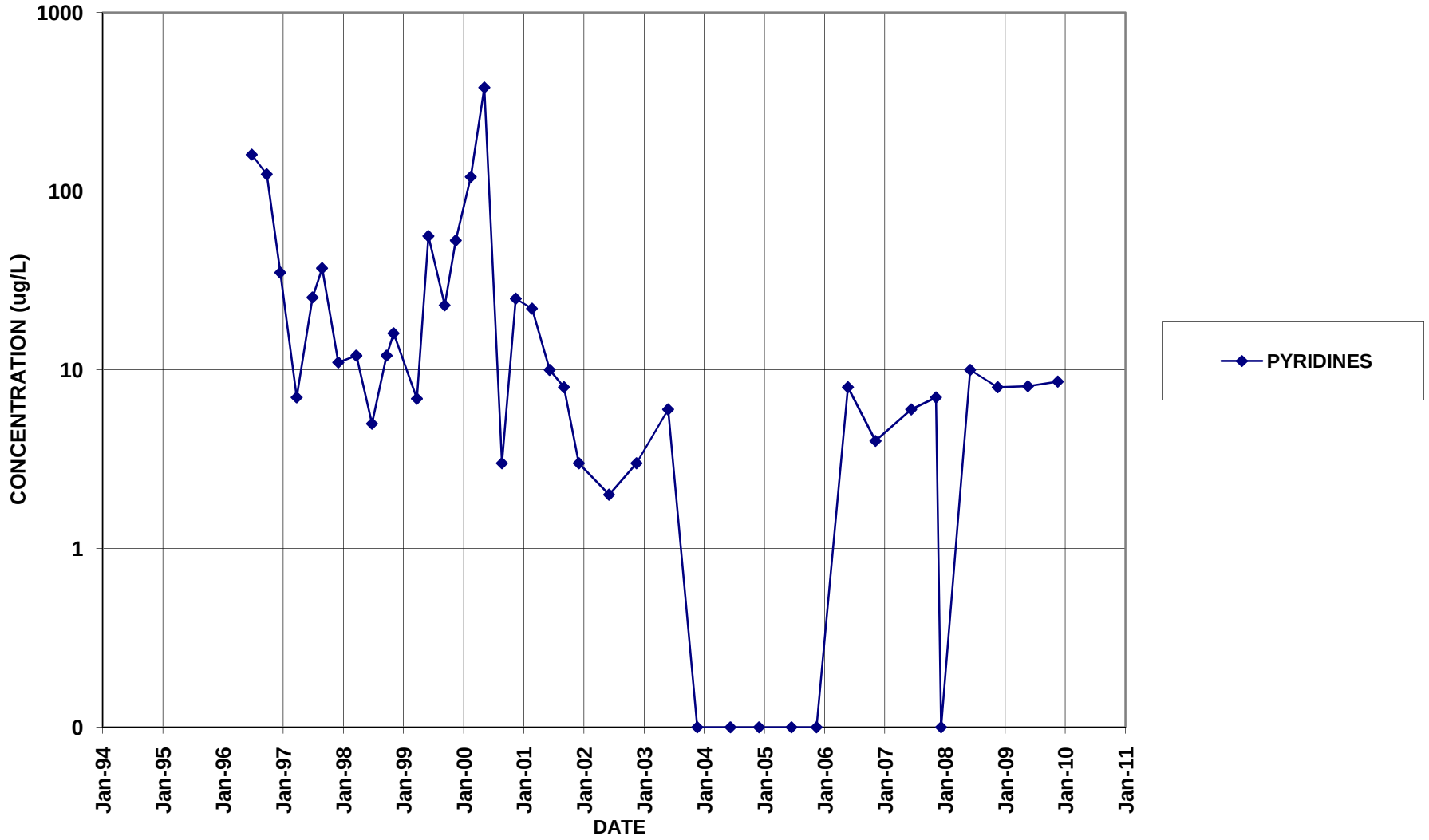
Prepared by: nmb
Reviewed by: jeb

QS-4 (QUARRY SEEP)



Prepared by: nmb
Reviewed by: jeb

QO-2 (QUARRY OUTFALL)



Prepared by: nmb
Reviewed by: jeb