SURFACE WATER AND GROUNDWATER MONITORING PROGRAM
SPRING 2009 MONITORING REPORT

ARCH CHEMICALS
ROCHESTER PLANT SITE
ROCHESTER, NEW YORK

ARCH CHEMICALS, INC.
CHARLESTON, TENNESSEE

AUGUST 2009

SURFACE WATER AND GROUNDWATER MONITORING PROGRAM
SPRING 2009 MONITORING REPORT

ARCH CHEMICALS
ROCHESTER PLANT SITE
ROCHESTER, NEW YORK

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EXECUTIVE SUMMARY

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

During this monitoring event, samples from a total of 49 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. Thirty-eight of the 53 monitoring locations sampled for chloropyridines had contaminant concentrations that were at or below their respective 5-year prior averages. Twenty-nine of the 36 monitoring locations 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 remain below the historical average for this location. Sample locations QD-1 and QO-2 contained chloropyridines at estimated concentrations of 9 µg/L and 8 µg/L, respectively. Chloropyridines were not detected in the surface water sample collected at the canal location (QO-2S1).

During the period December 2008 through May 2009, the on-site groundwater extraction system pumped approximately five million gallons of groundwater to the on-site treatment system, containing an estimated 1,200 pounds of chloropyridines and 87 pounds of target volatile organic compounds.

Pump repairs and/or replacements were completed on wells BR-5A, PW-11, and PW-13. Meter repairs and/or replacements were completed on wells BR-5A and BR-9. Frozen and/or plugged discharge lines adversely affected flow rates at wells BR-5A and BR-9.

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. Arch has been tracking the presence of LNAPL in PW-13 since the well was installed in 2004. During this monitoring event, no LNAPL was observed in PW-13.

The next regular monitoring event will occur in November 2009 and will include groundwater, surface water, and seep sampling.

1.0 INTRODUCTION

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

The Spring 2009 sampling event included the collection and analysis of a total of 53 groundwater, surface water, and seep samples from off-site and on-site locations. Samples were collected May 19 through June 15, 2009, for analysis of selected chloropyridines and volatile organic compounds (VOCs).

This report presents the results of the Spring 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. Pumping well PW-11 was not operational at the time of sample collection, and was sampled using a peristaltic pump.

Groundwater piezometric elevations were measured on May 19, 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. It should be noted that pumping well BR-5A had been off-line for several days prior to the measurement of groundwater levels; therefore, the usual depression of groundwater levels observed in the vicinity of that well in past sampling events was minimal to absent during this event.

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. For the first time since 2004, no LNAPL was observed in pumping well PW-13. The LNAPL previously observed in this well had been analyzed as No. 2 fuel oil and there is no indication that it originated from the Arch facility.

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 May 19, 2009. All quarry-related samples were analyzed for the Arch suite of selected chloropyridines. The quarry locations sampled during the Spring 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.

Blank Contamination. Toluene (0.54 µg/L) and methylene chloride (0.89 µg/L) were reported in the method blanks associated with a subset of samples. Action limits were established at five times the reported toluene concentration (2.7 µg/L) and ten times the reported methylene chloride concentration (8.9 µg/L). Associated sample results for toluene are greater than the reporting limit, and no further action was required. The methylene chloride result in associated sample BR-9 is less than the reporting limit and

was qualified non-detect (U). The result for methylene chloride in associated samples BR-5A and BR-7A were qualified non-detect (U) at the reporting limit.

Duplicates. Sample BR-106 was submitted with a field duplicate. The relative percent difference (RPD) for 2,6-dichloropyridine (40) and 2-chloropyridine (46) exceeds the quality control (QC) limit of 30. The result for 2,6-dichloropyridine and 2-chloropyridine in samples BR-106 and FIELD DUP were qualified estimated (J).

Laboratory Control Samples. In a subset of samples, the percent recovery for 1,1,2-trichloroethane (57) is less than the laboratories lower QC limit of 60. The sample results for 1,1,2-trichloroethane in associated samples BR-8 and E-3 are non-detect and were qualified estimated (UJ) and are potentially biased low.

The percent recoveries for pyridine (45 and 45) are less than the lower laboratory QC limit of 53. Sample results for pyridine are non-detect and were qualified estimated (UJ), and are potentially biased low.

For a subset of samples, the LCS and/or LCSD percent recoveries for pyridine (49, 49, 49, 46, 45, and 46) are less than the laboratory's lower quality control (QC) limit of 53. The results for pyridine in associated samples were qualified estimated (J/UJ) and are potentially biased low.

Matrix Spike/Matrix Spike Duplicates. The MS/MSD relative percent difference (RPD) for bromomethane (35) exceeds the QC limit of 30. The result for bromomethane in the unspiked sample PZ-106 is non-detect and was qualified estimated (UJ).

Miscellaneous. Samples BR-122D, BR-116, BR-116D, BR-126, BR-127, BR-3, BR-6A, MW-127, PW-10, PW-12, PZ-105, PZ-106, and PZ-107 were analyzed at dilution due to concentrations of target analytes. Non-detects are reported at elevated reporting limits.

3.0 ANALYTICAL RESULTS

3.1 GROUNDWATER

The validated results from the Spring 2009 groundwater monitoring event are provided in Tables 2 and 3. Table 4 provides a comparison of the Spring 2009 analytical results for selected chloropyridines and VOCs in representative wells to mean concentrations of the prior five years (Spring 2004 through Fall 2008). 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 23 on-site wells sampled in the Spring 2009 event. Concentrations of chloropyridines ranged from 64 micrograms per liter (µg/L) (sum of all chloropyridine and pyridine isomer concentrations) in monitoring well S-4 to 530,000 µg/L in monitoring well B-17. Eight of the 23 on-site wells

exhibited total chloropyridine concentrations that were above their respective means from monitoring events over the previous five years (see Table 4).

Off-Site. Chloropyridines were detected above sample quantitation limits in 19 of the 26 off-site wells that were sampled. Concentrations of total selected chloropyridines ranged from non-detect (in wells BR-103, BR-104, BR-116, MW-103, MW-104, MW-114, and NESS-W) to 6,000 µg/L in well MW-106 west of McKee Road. Five of the 26 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 19 of the 23 on-site wells sampled in the Spring 2009 event. Total concentrations of selected VOCs ranged from not detected (in wells BR-7A, BR-9, MW-127, and S-4) to 180,000 µg/L in PZ-106 for the sum of the principal site-related contaminants (carbon tetrachloride, chloroform, methylene chloride, tetrachloroethene, and trichloroethene). Four of the 23 on-site wells contained concentrations of total VOCs above their 5-year prior means. In addition to the selected VOCs, other notable constituents detected in on-site wells include chlorobenzene (in 20 out of 23 wells), benzene (17 of 23), toluene (17 of 23), carbon disulfide (15 of 23), vinyl chloride (11 of 23), 1,2-dichloroethene (9 of 23), ethylbenzene (9 of 23), total xylenes (9 of 23), bromoform (8 of 23), acetone (7 of 23), 1,1-dichloroethane (4 of 23), chlorodibromomethane (4 of 23), and 1,2-dichloroethane (3 of 23).

Off-Site. Selected VOCs were detected in seven of the 13 off-site wells sampled for VOCs in the Spring 2009 event. Total concentrations of selected VOCs ranged from not detected (in BR-103, BR-106, BR-114, MW-103, PZ-101, and PZ-104) to 24 µg/L (in MW-114). Three of the off-site wells had selected VOC concentrations above their prior 5-year means. In addition to the selected VOCs, other notable constituents detected in off-site wells include benzene (in 9 out of 13 wells), chlorobenzene (8 of 13), 1,2-dichloroethene (5 of 13), total xylenes (3 of 13), toluene (3 of 13), vinyl chloride (3 of 13), 1,1-dichloroethane (2 of 13), and ethylbenzene (2 of 13).

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 Spring 2009 canal and quarry monitoring event are presented in Table 5, and summarized below.

3.2.1 Quarry

One quarry seep (QS-4) was sampled in the Spring 2009 monitoring event, and contained 43 µg/L total chloropyridines. The concentration at QS-4 remains below historical averages.

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 9 µg/L. Chloropyridines were detected in the sample at QO-2 at an estimated concentration of 8 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 not detected in this sample.

4.0 EXTRACTION SYSTEM PERFORMANCE AND MAINTENANCE

Table 6 is a summary of the system flow measurements for the on-site extraction wells from December 2008 through May 2009. The total volume pumped during the six-month period was approximately five million gallons.

Pump repairs and/or replacements were completed on wells BR-5A, PW-11, and PW-13. Meter repairs and/or replacements were completed on wells BR-5A and BR-9. Frozen and/or plugged discharge lines adversely affected flow rates at wells BR-5A and BR-9.

Table 7 provides a calculation of mass removal rates since the previous groundwater monitoring event (i.e., from December 2008 through May 2009). Arch estimates that approximately 87 pounds of target VOCs and 1,200 pounds of chloropyridine compounds were removed by the groundwater extraction system and treated by the plant's activated carbon adsorption units over that time period.

5.0 NEXT MONITORING EVENT

The next regular monitoring event will occur in November 2009 and will include groundwater, surface water, and seep sampling.

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

Figures

Legend

Outline of Arch Property Boundary

Monitoring Well

NOTES

1. Source - Topographic Quadrangle 7.5-Minute Series

N

0 250 500 1,000 Feet

Prepared by JJW | Checked by NMB

ERIE BARGE CANAL

I-390

FIRTH RIXSON

BUFFALO RD. BUSINESS CENTER

ARCH

MW-103/BR-103

MW-108/BR-108

PZ-102

BR-111/BR-111D

BR-106/MW-106

PZ-103

MW-16

AID TO HOSPITALS

ARM

MW-126/BR-126

MW-105/BR-105

BR-112/BR-112D

MW-104/BR-104

BUFFALO ROAD

12-6

MW-114/BR-114

CUMBERLAND FARMS PETROLEUM TERMINAL

NESS-W

NESS-E

OW-105

8-8

7-6

BR-113/BR-113D

LEXINGTON

11-8

GENERAL RAIL SIGNAL CO.

DOLOMITE PRODUCTS QUARRY

9-6

10-6

RW-1

13-4

Morey

OW-102A

OW-103

BR-122D

PFAUDLER

BR-117/BR-117D

BR-121D (Abandoned)

BR-118/BR-118D

BR-123D

BR-116/BR-116D

BR-120D (Abandoned)

BR-119D (Abandoned)

LETTINGTON DRIVE

BR-124D

Figure 1
Off-Site Groundwater Monitoring Well Locations

Arch Chemicals
Rochester, NY
MACTEC, Inc.

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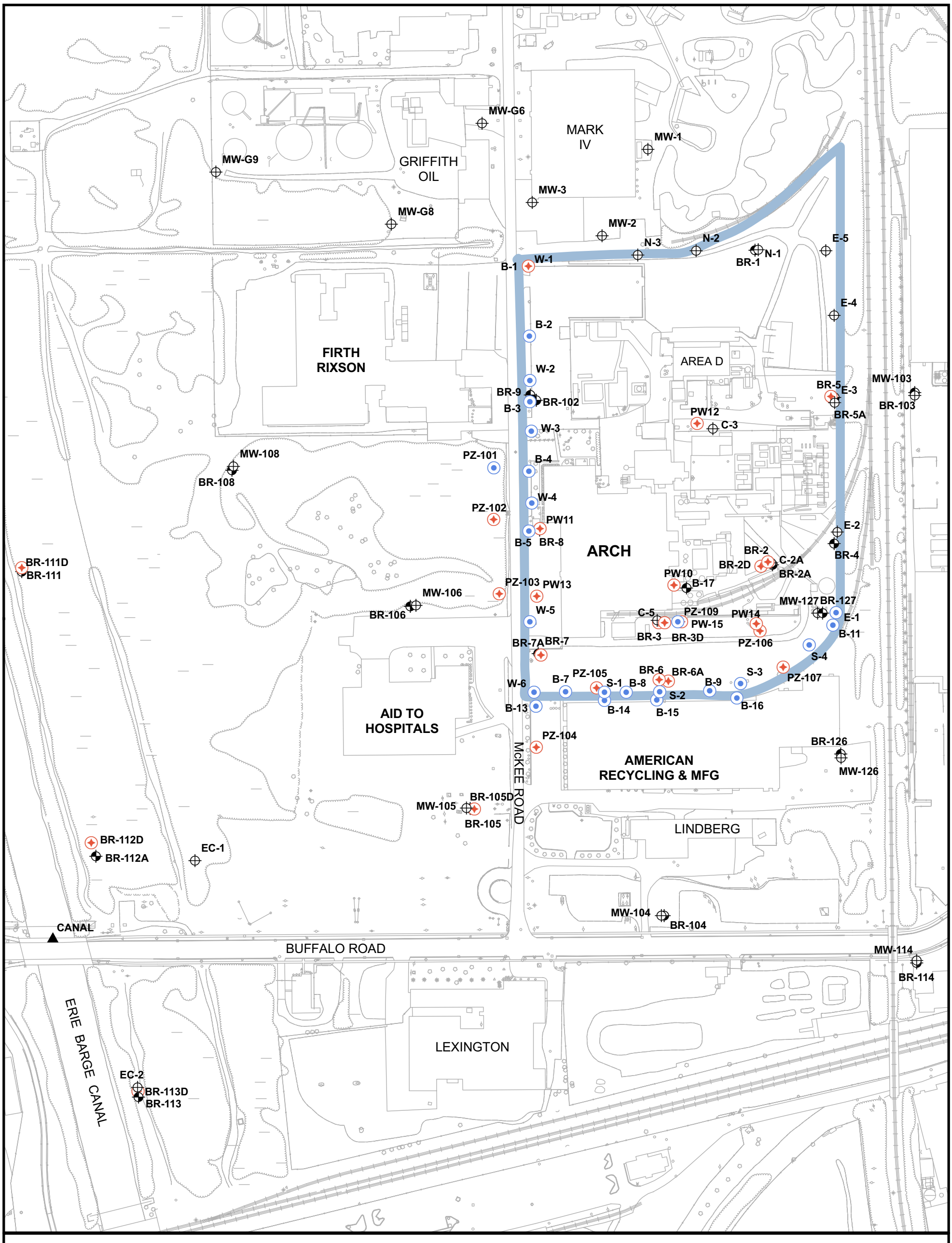


NOTES:

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

N

0 100 200 400 Feet

Legend

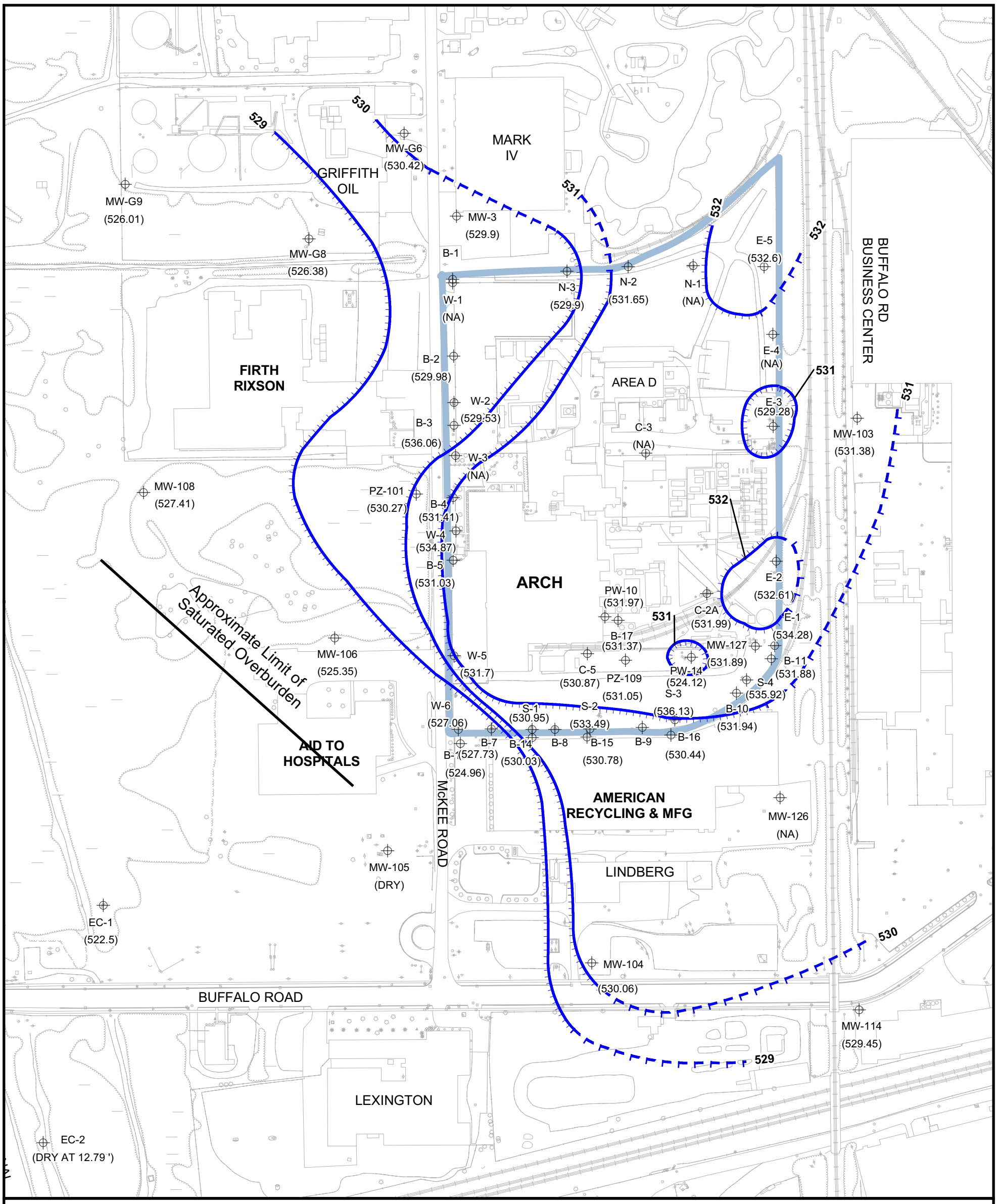
- Outline of Arch Property Boundary
- Overburden Piezometer / Pumping Well
- Bedrock Piezometer / Pumping Well / Deep Bedrock Monitoring Well
- Overburden Monitoring Well
- Bedrock Monitoring Well
- Surface Water Measurement Point

Prepared by DBW | Checked by NMB

Figure 2
Onsite Monitoring Well Locations

Arch Chemicals
Rochester, NY
MACTEC, Inc.

Document: P:\Projects\Arch\Rochester\GIS\MapDocuments\Fall 2008\OnsiteWells_Fig2.mxd PDF: P:\Projects\Arch\Rochester\GIS\Figures\Monitoring_Fall2008\Figure 2.pdf 02/24/2009 10:03 AM dbwildes



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 May 19, 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
Spring 2009
Overburden Groundwater
Interpreted Piezometric Contours

Arch Chemicals
Rochester, NY
MACTEC, Inc.

Document: P:\Projects\Arch\Rochester\GIS\MapDocuments\Spring 2009\OverburdenGW_Fig3.mxd PDF: P:\Projects\Arch\Rochester\GIS\Figures\Monitoring_Spring2009\Figure 3.pdf 08/10/2009 3:49 PM dbwildes

MARK IV

GRIFFITH OIL

BUFFALO RD BUSINESS CENTER

FIRTH RIXSON

AREA D

ARCH

AID TO HOSPITALS

AMERICAN RECYCLING & MFG

LINDBERG

LEXINGTON

N/F GENERAL CIRCUITS

N/F JACKSON

McKEE ROAD

BUFFALO ROAD

ERIE BARGE CANAL

BR-1 (529.04)

BR-9 (514.29)

BR-102 (517.64)

BR-108 (512.34)

PW12 (531.50)

BR-5A (506.21)

BR-5 (521.43)

BR-103 (526.52)

PZ-102 (524.94)

PW11 (512.29)

BR-8 (530.64)

BR-111 (511.79)

PZ-103 (528.61)

PW-13 (515.81)

BR-106 (511.72)

BR-7 (519.26)

BR-7A (519.14)

PW10 (531.97)

BR-2A (531.86)

BR-4 (531.00)

PW-14 (524.12)

BR-3 (530.57)

PW-15 (528.68)

PZ-106 (525.97)

BR-127 (530.46)

MW-16 (525.38)

BR-6 (525.54)

BR-6A (530.01)

PZ-105 (527.49)

PZ-107 (531.66)

PZ-104 (523.37)

BR-126 (530.12)

MW-105

BR-105 (513.94)

BR-112A (520.40)

EC-1 (522.50)

BR-104 (528.67)

CANAL (512.01)

BR-114 (525.98)

NESS-W (511.89)

NESS-E (532.66)

BR-113 (511.82)

515 520 525 530 531

NOTES:

1. Water Levels Measured on May 19, 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
Spring 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 May 19, 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
FIRTH RIXSON
BUFFALO RD. BUSINESS CENTER
ARCH
AID TO HOSPITALS
ARM
CUMBERLAND FARMS PETROLEUM TERMINAL
LEXINGTON
GENERAL RAIL SIGNAL CO.
PFAUDLER
DOLOMITE PRODUCTS QUARRY

BR-9
BR-103
BR-108
BR-111D (511.48)
BR-111
BR-106
BR-3D (478.45)
BR-112D (511.73)
BR-112
BR-105
BR-105D (510.86)
BR-104
BR-114
BR-113
BR-113D (511.67)
BR-122D (507.15)
BR-117D (497.63)
BR-117
BR-118
BR-118D (499.34)
BR-123D (508.14)
BR-116D (509.47)
BR-116
BR-124D (506.17)

511 509 507 505 503 501 499

Figure 5
Spring 2009
Deep Bedrock Groundwater
Interpreted Piezometric Contours

Arch Chemicals
Rochester, NY
MACTEC, Inc.

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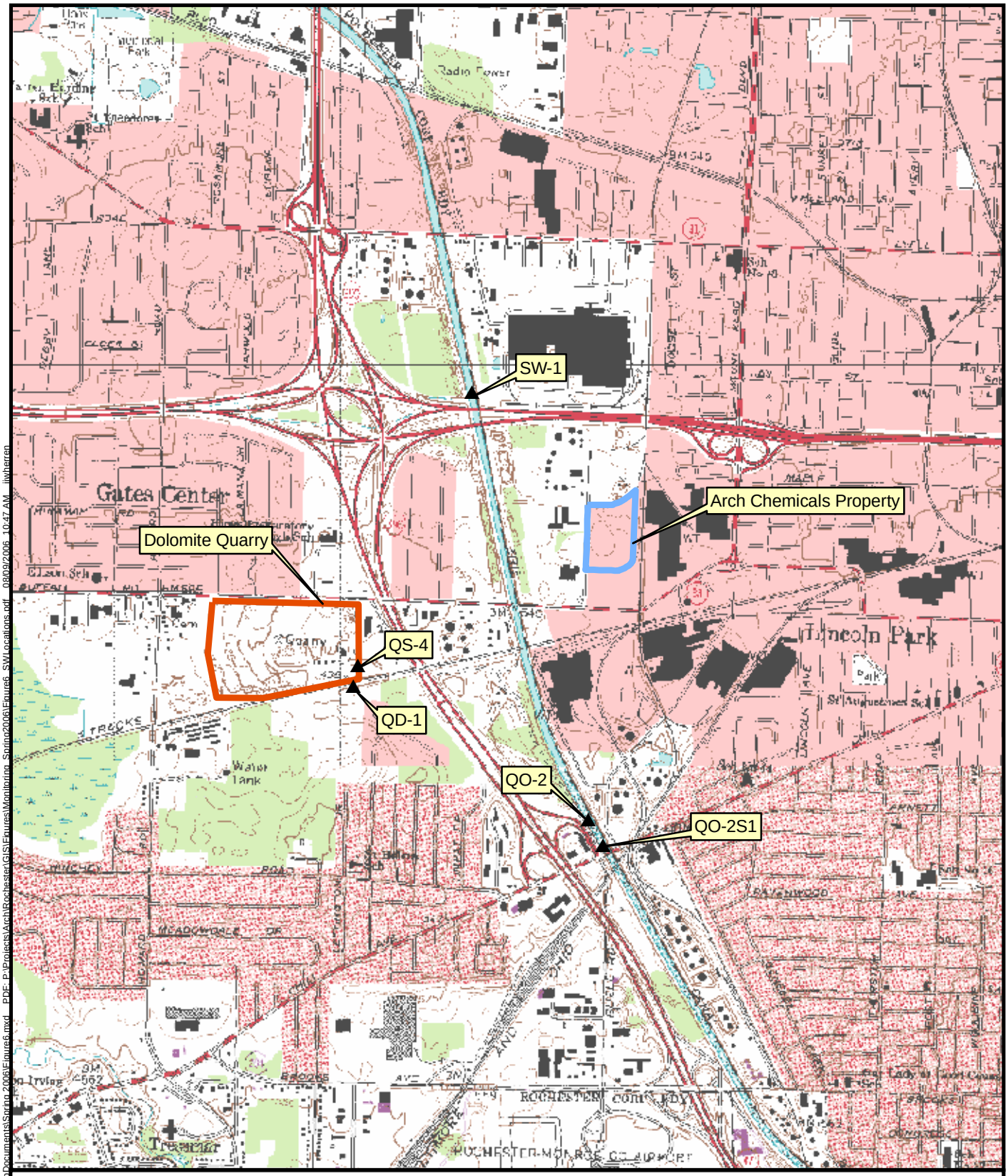


Source:
1:24,000 scale digital topographic map
obtained from New York State GIS
Clearinghouse at: www.nysgis.state.ny.us

N

0 0.25 0.5 Miles

Legend

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

Prepared by JJW | Checked by JEB

Figure 6
Sample Locations
Erie Barge Canal

Arch Chemicals
Rochester, New York
MACTEC, Inc.

Document: P:\Projects\Arch\Rochester\GIS\MapDocuments\Spring 2006\Figure6.mxd PDF: P:\Projects\Arch\Rochester\GIS\Figures\Monitoring Spring2006\Figure6_SWLocations.pdf 08/09/2006 10:47 AM jjwherren

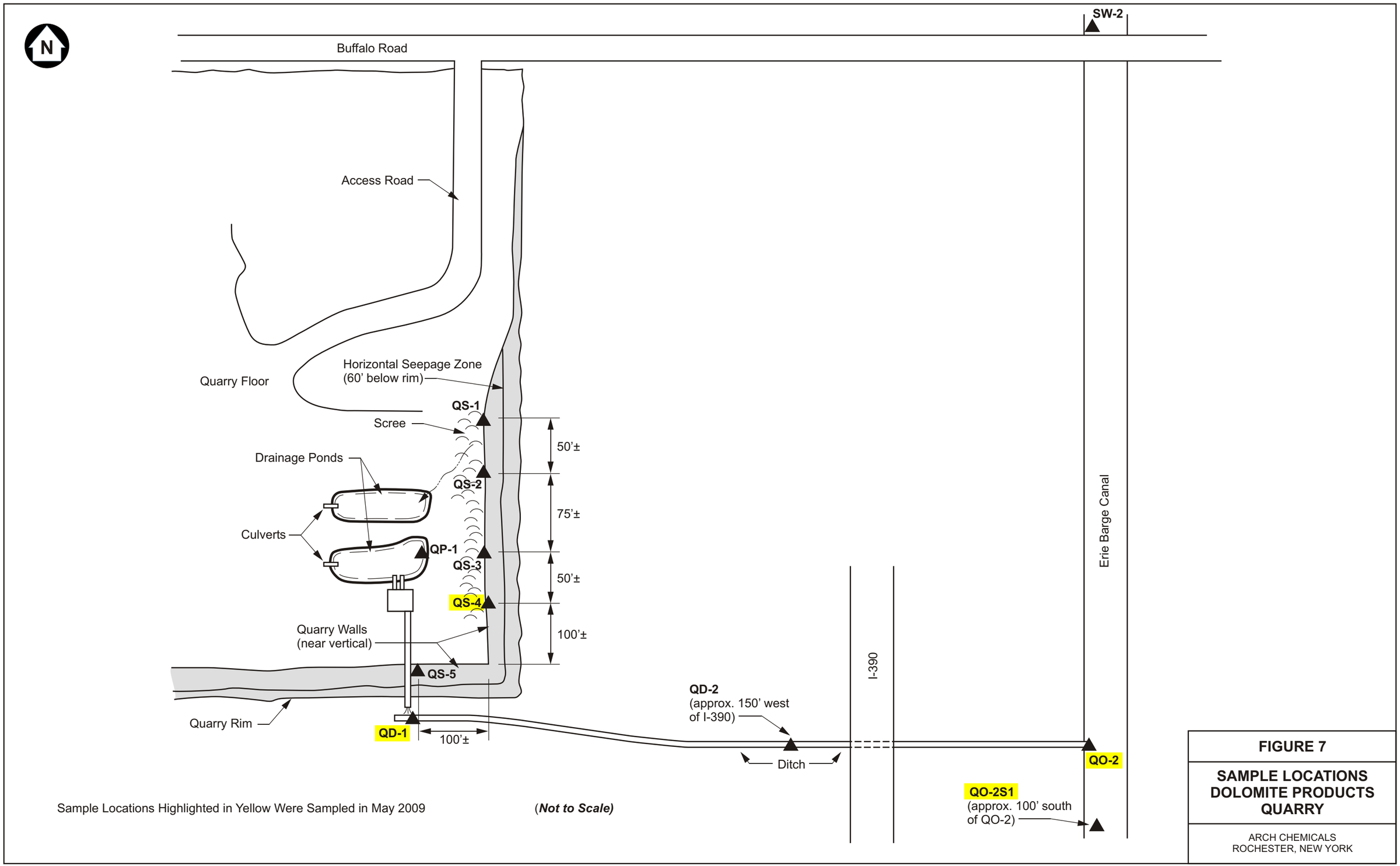
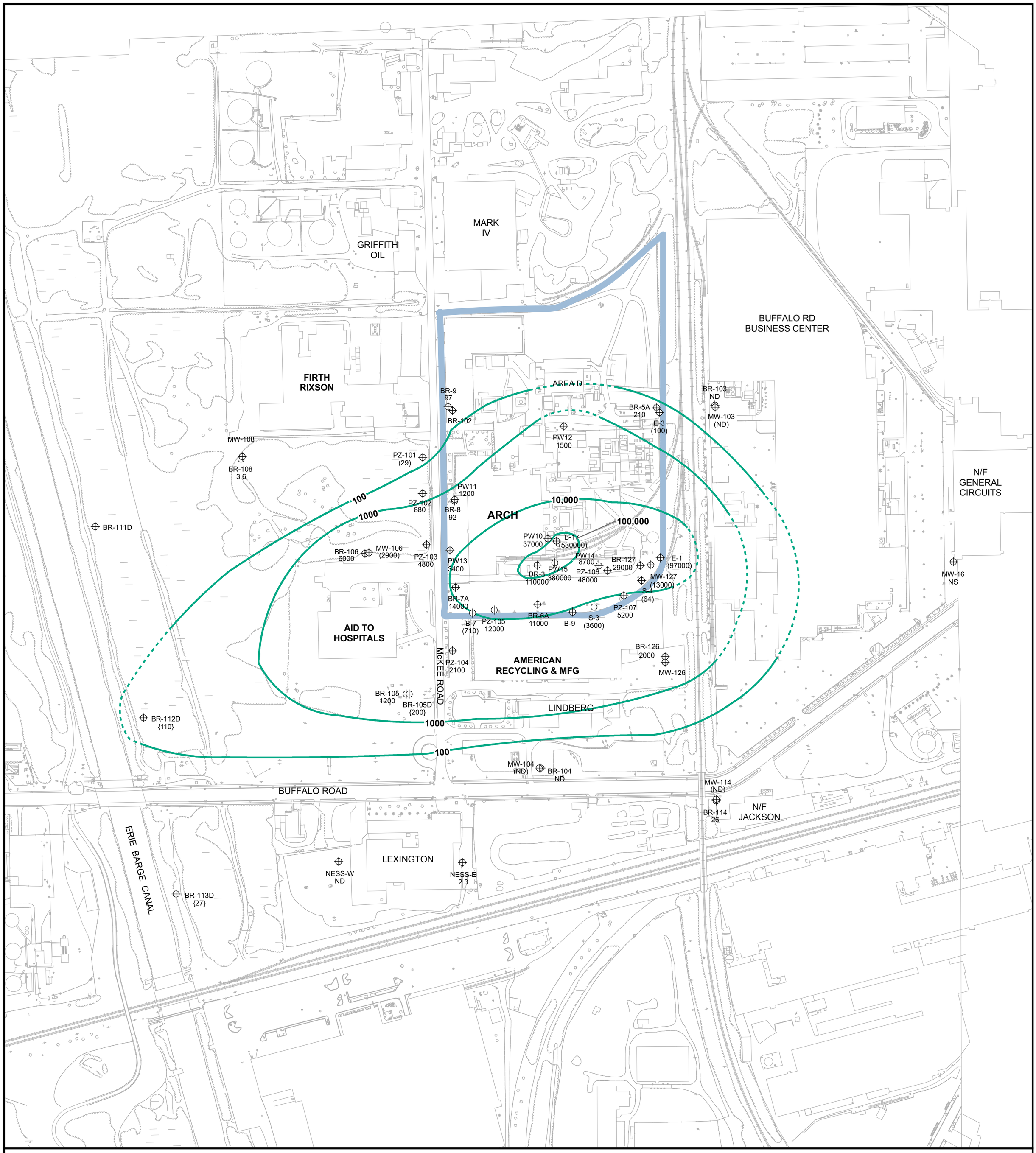


FIGURE 7

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 May, 2009
2. Selected Chloropyridines consist of 2,6-Dichloropyridine, 3-Chloropyridine, and 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
Spring 2009
Selected Chloropyridine Concentration Contours

Arch Chemicals
Rochester, NY
MACTEC, Inc.

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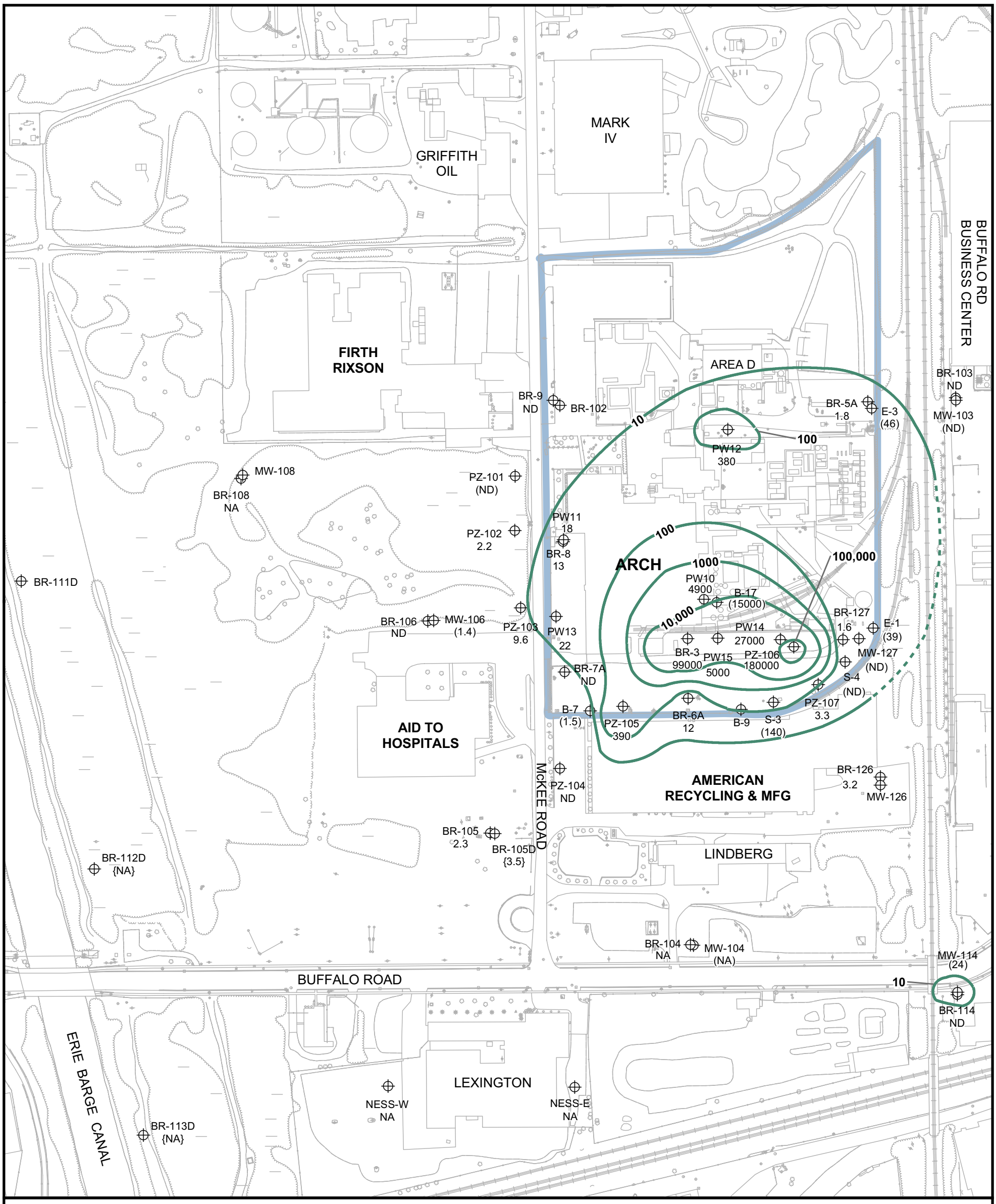

Legend

- 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

0 100 200 Feet

N

Prepared by DBW | Checked by NMB

NOTES:

1. Samples Collected in May, 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.

Figure 9
Spring 2009
Selected Volatile Organic Compound Concentration Contours

Arch Chemicals
Rochester, NY
MACTEC, Inc.

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Tables

TABLE 1
SPRING 2009 GROUNDWATER SAMPLING AND ANALYTICAL PROGRAM

ARCH CHEMICALS, INC
ROCHESTER, NEW YORK

			ANALYSIS	PYRIDINES	VOCs
SITE / AREA	WELL / POINT	DATE	QC TYPE		
AID TO HOSPITALS	BR-106	5/22/2009	Sample	1	1
	BR-106	5/22/2009	Duplicate	1	1
	BR-108	5/20/2009	Sample	1	
	MW-106	5/22/2009	Sample	1	1
	PZ-101	5/27/2009	Sample	1	1
	PZ-102	5/27/2009	Sample	1	1
	PZ-103	5/27/2009	Sample	1	1
AMERICAN RECYCLE MANUF. (58 MCKEE ROAD)	BR-126	5/21/2009	Sample	1	1
	PZ-104	5/27/2009	Sample	1	1
ARCH ROCHESTER	B-17	5/22/2009	Sample	1	1
	B-7	5/22/2009	Sample	1	1
	BR-127	5/20/2009	Sample	1	1
	BR-3	5/21/2009	Sample	1	1
	BR-5A	5/29/2009	Sample	1	1
	BR-6A	5/20/2009	Sample	1	1
	BR-7A	5/29/2009	Sample	1	1
	BR-8	5/21/2009	Sample	1	1
	BR-9	5/29/2009	Sample	1	1
	E-1	5/22/2009	Sample	1	1
	E-3	5/21/2009	Sample	1	1
	MW-127	5/20/2009	Sample	1	1
	PW10	5/21/2009	Sample	1	1
	PW11	5/21/2009	Sample		1
	PW11	6/15/2009	Sample	1	
	PW12	5/21/2009	Sample	1	1
	PW13	5/29/2009	Sample	1	1
	PW14	6/15/2009	Sample	1	1
	PW15	5/29/2009	Sample	1	1
	PZ-105	5/21/2009	Sample	1	1
	PZ-106	5/20/2009	Sample	1	1
	PZ-107	5/20/2009	Sample	1	1
	S-3	5/21/2009	Sample	1	1
	S-4	5/20/2009	Sample	1	1
DOLOMITE PRODUCTS, INC.	BR-117D	5/19/2009	Sample	1	
	BR-118D	5/19/2009	Sample	1	
	QD-1	5/19/2009	Sample	1	
	QS-4	5/19/2009	Sample	1	
BUFFALO RD BUSINESS CTR (formerly Gerber property, formerly Kodak property)	BR-103	5/26/2009	Sample	1	1
	MW-103	5/26/2009	Sample	1	1
ERIE BARGE CANAL(Samples in canal or property along canal)	BR-112D	5/21/2009	Sample	1	
	BR-113D	5/20/2009	Sample	1	
	BR-122D	5/19/2009	Sample	1	
	BR-123D	5/19/2009	Sample	1	
	QO-2	5/19/2009	Sample	1	
	QO-2S1	5/19/2009	Sample	1	
JACKSON WELDING	BR-114	5/26/2009	Sample	1	1
	MW-114	5/26/2009	Sample	1	1
LEXINGTON MACHINING	NESS-E	5/21/2009	Sample	1	
	NESS-W	5/21/2009	Sample	1	
PFAUDLER, INC.	BR-116	5/20/2009	Sample	1	
	BR-116D	5/20/2009	Sample	1	
RG & E RIGHT OF WAY	BR-104	5/21/2009	Sample	1	
	BR-105	5/22/2009	Sample	1	1
	BR-105D	5/22/2009	Sample	1	1
	MW-104	5/21/2009	Sample	1	

TABLE 2
SPRING 2009 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	B-17		B-7		BR-103		BR-104		BR-105		BR-105D		BR-106		BR-106		BR-108		BR-112D	
SAMPLE DATE:	05/22/09		05/22/09		05/26/09		05/21/09		05/22/09		05/22/09		05/22/09		05/22/09		05/20/09		05/21/09	
QC TYPE:	Sample		Sample		Sample		Sample		Sample		Sample		Duplicate		Sample		Sample		Sample	
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270C (µg/L)																				
2,6-Dichloropyridine	23000	J	250		9.4	U	9.4	U	140	J	25	J	730	J	1100	J	9.4	U	8.6	J
2-Chloropyridine	460000		460		9.4	U	9.4	U	1100		150		3000	J	4800	J	3.6	J	99	
3-Chloropyridine	50000	U	250	U	9.4	U	9.4	U	500	U	14	J	1000	U	1000	U	9.4	U	9.4	U
4-Chloropyridine	50000	U	250	U	9.4	U	9.4	U	500	U	50	U	1000	U	1000	U	9.4	U	9.4	U
p-Fluoroaniline	50000	U	250	U	9.4	U	9.4	U	500	U	7.7	J	1000	U	110	J	9.4	U	0.85	J
Pyridine	50000	J	620	U	24	UJ	24	U	1200	UJ	120	UJ	2500	UJ	2500	UJ	24	UJ	24	U

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

TABLE 2
SPRING 2009 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	BR-113D		BR-114		BR-116		BR-116D		BR-117D		BR-118D		BR-122D		BR-123D		BR-126		BR-127	
SAMPLE DATE:	05/20/09		05/26/09		05/20/09		05/20/09		05/19/09		05/19/09		05/19/09		05/19/09		05/21/09		05/20/09	
QC TYPE:	Sample		Sample		Sample		Sample		Sample		Sample		Sample		Sample		Sample		Sample	
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270C (µg/L)																				
2,6-Dichloropyridine	9.4	U	4.2	J	47	U	47	U	9.4	U	2.8	J	15	J	7.3	J	360	J	2400	
2-Chloropyridine	27		22		47	U	80		6	J	43		140		59		1600		26000	
3-Chloropyridine	9.4	U	9.4	U	47	U	47	U	9.4	U	9.4	U	47	U	9.4	U	500	U	790	J
4-Chloropyridine	9.4	U	9.4	U	47	U	47	U	9.4	U	9.4	U	47	U	9.4	U	500	U	1200	U
p-Fluoroaniline	9.4	U	9.4	U	47	U	47	U	9.4	U	9.4	U	47	U	9.4	U	500	U	1200	U
Pyridine	24	UJ	24	UJ	120	UJ	120	UJ	24	U	24	U	120	U	24	U	1200	U	3100	U

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

TABLE 2
SPRING 2009 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	BR-3		BR-5A		BR-6A		BR-7A		BR-8		BR-9		E-1		E-3		MW-103		MW-104	
SAMPLE DATE:	05/21/09		05/29/09		05/20/09		05/29/09		05/21/09		05/29/09		05/22/09		05/21/09		05/26/09		05/21/09	
QC TYPE:	Sample		Sample		Sample		Sample		Sample		Sample		Sample		Sample		Sample		Sample	
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270C (µg/L)																				
2,6-Dichloropyridine	11000		29	J	920		1400	J	44		13		26000		32		9.4	U	9.4	U
2-Chloropyridine	89000		160		9700		13000		44		82		64000		67		9.4	U	9.4	U
3-Chloropyridine	4000	J	47	U	120	J	5000	U	9.5	U	9.4	U	5500		9.4	U	9.4	U	9.4	U
4-Chloropyridine	10000	U	47	U	500	U	5000	U	9.5	U	9.4	U	1000		9.4	U	9.4	U	9.4	U
p-Fluoroaniline	10000	U	21	J	500	U	5000	U	4.2	J	1.9	J	1000	U	2.5	J	9.4	U	9.4	U
Pyridine	8200	J	120	UJ	1200	U	12000	UJ	24	U	24	UJ	790	J	24	U	24	UJ	24	U

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

TABLE 2
SPRING 2009 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	MW-106		MW-114		MW-127		NESS-E		NESS-W		PW10		PW11		PW12		PW13		PW14	
SAMPLE DATE:	05/22/09		05/26/09		05/20/09		05/21/09		05/21/09		05/21/09		06/15/09		05/21/09		05/29/09		06/15/09	
QC TYPE:	Sample		Sample		Sample		Sample		Sample		Sample		Sample		Sample		Sample		Sample	
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270C (µg/L)																				
2,6-Dichloropyridine	790		190	U	1200		9.4	U	9.8	U	12000		170		420	J	360	J	1100	
2-Chloropyridine	2100		190	U	12000		2.3	J	9.8	U	25000		1000		1000		3000		7400	
3-Chloropyridine	500	U	190	U	230	J	9.4	U	9.8	U	10000	U	13	J	500	U	500	U	220	J
4-Chloropyridine	500	U	190	U	1000	U	9.4	U	9.8	U	10000	U	50	U	500	U	500	U	500	U
p-Fluoroaniline	56	J	190	U	1000	U	9.4	U	9.8	U	10000	U	43	J	60	J	500	U	500	U
Pyridine	1200	UJ	470	UJ	2500	U	24	U	25	U	25000	U	120	UJ	1200	U	1200	UJ	1200	UJ

Notes:
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J = Estimated value

TABLE 2
SPRING 2009 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	PW15		PZ-101		PZ-102		PZ-103		PZ-104		PZ-105		PZ-106		PZ-107		S-3		S-4	
SAMPLE DATE:	05/29/09		05/27/09		05/27/09		05/27/09		05/27/09		05/21/09		05/20/09		05/20/09		05/21/09		05/20/09	
QC TYPE:	Sample		Sample		Sample		Sample		Sample		Sample		Sample		Sample		Sample		Sample	
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270C (µg/L)																				
2,6-Dichloropyridine	10000	U	16		240		1400		270	J	5000	U	4000	J	920		380	J	18	
2-Chloropyridine	23000		13		620		3300		1800		12000		41000		4300		3200		46	
3-Chloropyridine	10000	U	9.4	U	100	U	1200	U	500	U	5000	U	10000	U	500	U	500	U	9.4	U
4-Chloropyridine	10000	U	9.4	U	100	U	1200	U	500	U	5000	U	10000	U	500	U	500	U	9.4	U
p-Fluoroaniline	10000	U	9.4	U	21	J	130	J	500	U	5000	U	10000	U	500	U	500	U	9.4	U
Pyridine	1900	J	24	U	250	U	3100	U	1200	U	12000	U	2600	J	1200	U	1200	U	24	U

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

TABLE 3
SPRING 2009 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	B-17		B-7		BR-103		BR-105		BR-105D		BR-106		BR-106		BR-114		BR-126		BR-127	
SAMPLE DATE:	05/22/09		05/22/09		05/26/09		05/22/09		05/22/09		05/22/09		05/22/09		05/26/09		05/21/09		05/20/09	
QC TYPE:	Sample		Sample		Sample		Sample		Sample		Duplicate		Sample		Sample		Sample		Sample	
VOCs BY SW-846 Method 8260/5ML (µg/L)																				
1,1,1-Trichloroethane	20	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,1,2,2-Tetrachloroethane	20	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,1,2-Trichloroethane	20	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethane	20	U	5	U	5	U	0.75	J	2.3	J	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethene	7	J	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,2,4-Trimethylbenzene	20	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichloroethane	4.4	J	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichloroethene (total)	40	U	10	U	2.9	J	12		8.6	J	1.4	J	1.4	J	10	U	10	U	2.9	J
1,2-Dichloropropane	20	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,3,5-Trimethylbenzene	20	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
2-Butanone	100	U	25	U	6.4	J	25	U	25	U	25	U	25	U	25	U	25	U	25	U
2-Hexanone	100	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U
4-Methyl-2-pentanone	100	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U
Acetone	180		25	U	4.7	J	25	U	2.7	J	3.6	J	2.9	J	25	U	25	U	25	U
Benzene	250		0.78	J	5	U	2	J	4.9	J	32		31		5		1.6	J	4	J
Bromodichloromethane	20	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Bromoform	130		5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Bromomethane	20	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Carbon disulfide	42		0.27	J	5	U	5	U	5	U	5	U	5	U	5	U	5	U	1	J
Carbon tetrachloride	6700		0.44	J	5	U	0.56	J	5	U	5	U	5	U	5	U	1.9	J	5	U
Chlorobenzene	430		11		5	U	4.9	J	5	U	270		280		5	U	7.7		1.5	J
Chlorodibromomethane	7.6	J	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Chloroethane	20	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Chloroform	4000		5	U	5	U	1.7	J	3.5	J	5	U	5	U	5	U	0.82	J	5	U
Chloromethane	20	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
cis-1,3-Dichloropropene	20	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Ethyl benzene	7.4	J	5	U	5	U	5	U	5	U	0.55	J	0.54	J	5	U	0.44	J	1.4	J
Methylene chloride	1900		5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Styrene	20	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Tetrachloroethene	2200		1.1	J	5	U	5	U	5	U	5	U	5	U	5	U	0.49	J	5	U
Toluene	390		5	U	5	U	5	U	5	U	2.2	J	2.2	J	5	U	9.6		0.67	J
trans-1,3-Dichloropropene	20	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
Trichloroethene	24		5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	1.6	J
Vinyl acetate	100	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U	25	U
Vinyl chloride	20	U	0.36	J	7.4		6.3		0.74	J	5	U	5	U	5	U	5	U	3.2	J
Xylenes, Total	26	J	15	U	15	U	15	U	15	U	1.6	J	1.6	J	15	U	2.5	J	2.5	J

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

J = Estimated value.

Prepared/Date: BJS 07/31/09
Checked/Date: JEB 08/03/09

TABLE 3
SPRING 2009 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	BR-3		BR-5A		BR-6A		BR-7A		BR-8		BR-9		E-1		E-3		MW-103		MW-106	
SAMPLE DATE:	05/21/09		05/29/09		05/20/09		05/29/09		05/21/09		05/29/09		05/22/09		05/21/09		05/26/09		05/22/09	
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	400	U	5	U	5	U	5	U	5	U	2.6	J	20	U	5	U	5	U	5	U
1,1,2,2-Tetrachloroethane	400	U	5	U	5	U	5	U	5	U	5	U	20	U	5	U	5	U	5	U
1,1,2-Trichloroethane	400	U	5	U	5	U	5	U	5	UJ	5	U	20	U	5	UJ	5	U	5	U
1,1-Dichloroethane	400	U	5	U	5	U	5	U	5	U	14		20	U	5	U	5	U	5	U
1,1-Dichloroethene	400	U	5	U	5	U	5	U	5	U	8.2		20	U	5	U	5	U	5	U
1,2,4-Trimethylbenzene	400	U	5	U	5	U	5	U	5	U	5	U	20	U	5	U	5	U	5	U
1,2-Dichloroethane	400	U	5	U	5	U	5	U	2.9	J	5	U	20	U	5	U	5	U	5	U
1,2-Dichloroethene (total)	800	U	8.1	J	29		10	U	10	U	340		40	U	10	U	10	U	0.94	J
1,2-Dichloropropane	400	U	5	U	5	U	5	U	5	U	5	U	20	U	5	U	5	U	5	U
1,3,5-Trimethylbenzene	400	U	5	U	5	U	5	U	5	U	5	U	20	U	5	U	5	U	5	U
2-Butanone	2000	U	25	U	25	U	25	U	25	U	25	U	100	U	25	U	25	U	25	U
2-Hexanone	2000	U	25	U	25	U	25	U	25	U	25	U	100	U	25	U	25	U	25	U
4-Methyl-2-pentanone	2000	U	25	U	25	U	25	U	25	U	25	U	100	U	25	U	25	U	25	U
Acetone	800		25	U	25	U	25	U	25	U	15	J	80	J	25	U	25	U	25	U
Benzene	400	U	8.5		1.8	J	27		1.3	J	68		20	U	5	U	5	U	20	
Bromodichloromethane	400	U	5	U	5	U	5	U	5	U	5	U	20	U	5	U	5	U	5	U
Bromoform	1800		5	U	5	U	5	U	5	U	5	U	20	U	3.5	J	5	U	5	U
Bromomethane	400	U	5	U	5	U	5	U	5	U	5	U	20	U	5	U	5	U	5	U
Carbon disulfide	2200		1.3	J	5	U	22		5	U	5	U	15	J	0.58	J	5	U	5	U
Carbon tetrachloride	22000		5	U	5	U	5	U	6.1		5	U	20	U	11		5	U	5	U
Chlorobenzene	400	U	13		15		330		100		7.8		13	J	1.5	J	5	U	190	
Chlorodibromomethane	980		5	U	5	U	5	U	5	U	5	U	20	U	5	U	5	U	5	U
Chloroethane	400	U	5	U	5	U	5	U	5	U	5	U	20	U	5	U	5	U	5	U
Chloroform	65000		0.97	J	1.5	J	5	U	5.9		5	U	23		33		5	U	5	U
Chloromethane	390		5	U	5	U	5	U	5	U	5	U	20	U	5	U	5	U	5	U
cis-1,3-Dichloropropene	400	U	5	U	5	U	5	U	5	U	5	U	20	U	5	U	5	U	5	U
Ethyl benzene	400	U	5	U	0.51	J	5	U	1.5	J	4.8	J	20	U	5	U	5	U	5	U
Methylene chloride	10000		5	U	5	U	5	U	5	U	5.4	U	8.8	J	5	U	5	U	5	U
Styrene	400	U	5	U	5	U	5	U	5	U	5	U	20	U	5	U	5	U	5	U
Tetrachloroethene	1900		5	U	6		5	U	1.4	J	5	U	7.4	J	2	J	5	U	5	U
Toluene	2700		3.8	J	1.4	J	49		39		3.8	J	20	U	2.8	J	5	U	1.2	J
trans-1,3-Dichloropropene	400	U	5	U	5	U	5	U	5	U	5	U	20	U	5	U	5	U	5	U
Trichloroethene	400	U	0.87	J	4.6	J	5	U	5	U	5	U	20	U	5	U	5	U	1.4	J
Vinyl acetate	2000	U	25	U	25	U	25	U	25	U	25	U	100	U	25	U	25	U	25	U
Vinyl chloride	400	U	2.7	J	7.7		5	U	5	U	140		5	J	5	U	5	U	5	U
Xylenes, Total	1200	U	1	J	1.1	J	4.1	J	6.8	J	15	U	60	U	15	U	15	U	0.68	J

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

J = Estimated value.

Prepared/Date: BJS 07/31/09
Checked/Date: JEB 08/03/09

TABLE 3
SPRING 2009 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	MW-114		MW-127		PW10		PW11		PW12		PW13		PW14		PW15		PZ-101		PZ-102	
SAMPLE DATE:	05/26/09		05/20/09		05/21/09		05/21/09		05/21/09		05/29/09		06/15/09		05/29/09		05/27/09		05/27/09	
QC TYPE:	Sample		Sample		Sample		Sample		Sample		Sample		Sample		Sample		Sample		Sample	
VOCs BY SW-846 Method 8260/5ML (µg/L)																				
1,1,1-Trichloroethane	5	U	5	U	8	U	5	U	120	U	5	U	80	U	80	U	5	U	5	U
1,1,2,2-Tetrachloroethane	5	U	5	U	8	U	5	U	120	U	5	U	80	U	80	U	5	U	5	U
1,1,2-Trichloroethane	5	U	5	U	8	U	5	U	120	U	5	U	80	U	80	U	5	U	5	U
1,1-Dichloroethane	5	U	5	U	8	U	14		120	U	5.5		80	U	80	U	5	U	5	U
1,1-Dichloroethene	5	U	5	U	8	U	5	U	120	U	5	U	80	U	80	U	5	U	5	U
1,2,4-Trimethylbenzene	5	U	5	U	8	U	5	U	120	U	5	U	80	U	80	U	5	U	5	U
1,2-Dichloroethane	5	U	5	U	8	U	5	U	120	U	5	U	80	U	80	U	5	U	5	U
1,2-Dichloroethene (total)	10	U	10	U	16	U	190		250	U	9		160	U	160	U	10	U	10	U
1,2-Dichloropropane	5	U	5	U	8	U	5	U	58	J	5	U	80	U	80	U	5	U	5	U
1,3,5-Trimethylbenzene	5	U	5	U	8	U	5	U	120	U	5	U	80	U	80	U	5	U	5	U
2-Butanone	25	U	25	U	40	U	25	U	620	U	25	U	400	U	400	U	25	U	25	U
2-Hexanone	25	U	25	U	40	U	25	U	620	U	25	U	400	U	400	U	25	U	25	U
4-Methyl-2-pentanone	25	U	25	U	40	U	25	U	620	U	25	U	400	U	400	U	25	U	25	U
Acetone	25	U	25	U	48		15	J	620	U	25	U	400	U	400	U	25	U	25	U
Benzene	5	U	0.52	J	4		27		120	U	17		80	U	57		5	U	12	
Bromodichloromethane	5	U	5	U	4.3		5	U	120	U	5	U	80	U	80	U	5	U	5	U
Bromoform	5	U	5	U	480		5	U	120	U	5	U	280		80	U	5	U	5	U
Bromomethane	5	U	5	U	8	U	5	U	120	U	5	U	80	U	80	U	5	U	5	U
Carbon disulfide	5	U	5	U	4.5		1.8	J	120	U	5	U	100		320		5	U	0.84	J
Carbon tetrachloride	5	U	5	U	3100		1.9	J	120	U	5	U	2500		180		5	U	5	U
Chlorobenzene	5	U	0.46	J	58		65		5600		77		80	U	87		3.4	J	180	
Chlorodibromomethane	5	U	5	U	43		5	U	120	U	5	U	80	U	80	U	5	U	5	U
Chloroethane	5	U	5	U	8	U	5	U	120	U	5	U	80	U	80	U	5	U	5	U
Chloroform	14		5	U	890		11		120	J	7.9		22000		3100		5	U	5	U
Chloromethane	5	U	5	U	8	U	5	U	120	U	5	U	80	U	80	U	5	U	5	U
cis-1,3-Dichloropropene	5	U	5	U	8	U	5	U	120	U	5	U	80	U	80	U	5	U	5	U
Ethyl benzene	5	U	5	U	4.5		3.4	J	450		5	U	80	U	80	U	5	U	5	U
Methylene chloride	5	U	5	U	10		5	U	200		9.3		1900		1100		5	U	2.2	J
Styrene	5	U	5	U	8	U	5	U	120	U	5	U	80	U	80	U	5	U	5	U
Tetrachloroethene	3.4	J	5	U	890		1.8	J	59	J	3		160		560		5	U	5	U
Toluene	5	U	5	U	88		21		9300		4.9		80	U	240		5	U	5	U
trans-1,3-Dichloropropene	5	U	5	U	8	U	5	U	120	U	5	U	80	U	80	U	5	U	5	U
Trichloroethene	6.2		5	U	38		2.9	J	120	U	2.2		80	U	56		5	U	5	U
Vinyl acetate	25	U	25	U	40	U	25	U	620	U	25	U	400	U	400	U	25	U	25	U
Vinyl chloride	5	U	5	U	8	U	140		120	U	16		80	U	80	U	5	U	5	U
Xylenes, Total	15	U	15	U	19		6.5	J	2500		15	U	240	U	240	U	15	U	15	U

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

J = Estimated value.

Prepared/Date: BJS 07/31/09
Checked/Date: JEB 08/03/09

TABLE 3
SPRING 2009 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	PZ-103		PZ-104		PZ-105		PZ-106		PZ-107		S-3		S-4	
SAMPLE DATE:	05/27/09		05/27/09		05/21/09		05/20/09		05/20/09		05/21/09		05/20/09	
QC TYPE:	Sample		Sample		Sample		Sample		Sample		Sample		Sample	
VOCs BY SW-846 Method 8260/5ML (µg/L)														
1,1,1-Trichloroethane	20	U	5	U	5	U	6		5	U	5	U	5	U
1,1,2,2-Tetrachloroethane	20	U	5	U	5	U	10	U	5	U	5	U	5	U
1,1,2-Trichloroethane	20	U	5	U	5	U	10	U	5	U	5	U	5	U
1,1-Dichloroethane	20	U	5	U	5	U	10	U	5	U	6.6		5	U
1,1-Dichloroethene	20	U	5	U	5	U	10	U	5	U	5	U	5	U
1,2,4-Trimethylbenzene	20	U	5	U	5	U	10	U	5	U	5	U	5	U
1,2-Dichloroethane	20	U	5	U	5	U	4.1		5	U	5	U	5	U
1,2-Dichloroethene (total)	40	U	10	U	10	U	27		1.8	J	62		10	U
1,2-Dichloropropane	20	U	5	U	5	U	10	U	5	U	5	U	5	U
1,3,5-Trimethylbenzene	20	U	5	U	5	U	10	U	5	U	5	U	5	U
2-Butanone	100	U	25	U	25	U	50	U	25	U	25	U	25	U
2-Hexanone	100	U	25	U	25	U	50	U	25	U	25	U	25	U
4-Methyl-2-pentanone	100	U	25	U	25	U	50	U	25	U	25	U	25	U
Acetone	100	U	25	U	25	U	160		25	U	25	U	25	U
Benzene	52		1.4	J	3.2	J	43		2.7	J	23		5	U
Bromodichloromethane	20	U	5	U	5	U	18		5	U	5	U	5	U
Bromoform	20	U	5	U	15		9100		5	U	7		5	U
Bromomethane	20	U	5	U	5	U	10	UJ	5	U	5	U	5	U
Carbon disulfide	20	U	5	U	7.8		36000		5	U	3	J	5	U
Carbon tetrachloride	20	U	5	U	110		26000		5	U	42		5	U
Chlorobenzene	1100		3.8	J	55		23		1.1	J	77		5	U
Chlorodibromomethane	20	U	5	U	5	U	170		5	U	5	U	5	U
Chloroethane	20	U	5	U	5	U	10	U	5	U	5	U	5	U
Chloroform	20	U	5	U	260		150000		2.2	J	86		5	U
Chloromethane	20	U	5	U	5	U	10	U	5	U	5	U	5	U
cis-1,3-Dichloropropene	20	U	5	U	5	U	10	U	5	U	5	U	5	U
Ethyl benzene	20	U	5	U	5	U	10	U	5	U	1.3	J	5	U
Methylene chloride	9.6	J	5	U	9.1		6500		5	U	5	U	5	U
Styrene	20	U	5	U	5	U	10	U	5	U	5	U	5	U
Tetrachloroethene	20	U	5	U	12		1300		5	U	6.3		5	U
Toluene	20	U	5	U	20		240		5	U	15		5	U
trans-1,3-Dichloropropene	20	U	5	U	5	U	10	U	5	U	5	U	5	U
Trichloroethene	20	U	5	U	5	U	45		1.1	J	2.1	J	5	U
Vinyl acetate	100	U	25	U	25	U	50	U	25	U	25	U	25	U
Vinyl chloride	20	U	5	U	5	U	21		0.91	J	66		5	U
Xylenes, Total	60	U	15	U	15	U	30	U	15	U	15	U	15	U

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

J = Estimated value.

Prepared/Date: BJS 07/31/09
Checked/Date: JEB 08/03/09

TABLE 4
COMPARISON OF SPRING 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	JUN-2009 RESULT	# EVENTS IN PRIOR 5 YRS	HISTORIC MAXIMUM	5-YEAR MEAN	JUN-2009 RESULT
ON-SITE WELLS/LOCATIONS								
B-17	5	28,000,000	370,000	**530,000**	5	345,000	15,000	15,000
B-7	5	9,100	1,200	710	5	256	32	1.5
BR-127	9	29,000	4,500	**29,000**	9	3	150	1.6
BR-3	5	6,500,000	70,000	**110,000**	5	920,000	280,000	99,000
BR-5A	10	1,700	330	210	10	9,400	39	1.8
BR-6A	10	144,500	6,300	**11,000**	10	26,000	960	12
BR-7A	10	510,000	26,000	14,000	10	3,000	150	ND
BR-8	5	57,000	280	92	5	6,900	8.2	**13**
BR-9	10	720	140	97	10	160	6	ND
E-1	10	171,680	43,000	**97,000**	10	5,300	110	39
E-3	5	600	130	100	5	12,000	27	**46**
MW-127	9	15,000	6,900	**13,000**	9	180	600	ND
PW10	10	244,000	110,000	37,000	10	120,000	16,000	4,900
PW11	10	27,000	1,400	1,200	10	30,000	110	18
PW12	10	15,000	2,500	1,500	10	120,000	610	380
PW13	9	7,500	2,300	**3,400**	9	920	230	22
PW14	8	29,000	25,000	8,700	8	160,000	32,000	27,000
PW15	4	729,000	360,000	25,000	4	8,200	7000	5,000
PZ-105	9	190,000	10,000	**12,000**	9	9,700	98	**390**
PZ-106	9	124,000	74,000	48,000	9	1,359,000	460,000	180,000
PZ-107	10	11,000	6,600	5,200	10	12,000	6.6	3.3
S-3	10	21,000	7,900	3,600	10	2,500	36	**140**
S-4	10	3,200	130	64	10	870	ND	ND
OFF-SITE WELLS/LOCATIONS								
BR-103	5	400	11	ND	5	38	7.6	ND
BR-104	5	3,100	4.8	ND		9		
BR-105	10	24,000	910	**1,200**	10	310	5	2.3
BR-105D	10	10,000	1,100	200	10	230	4.7	3.5
BR-106	10	24,600	4,300	**6,000**	10	6,300	0.062	ND
BR-108	5	1,700	36	3.6		ND		
BR-112D	5	310	30	**110**		4.3		
BR-113D	5	490	27	27		2.8		
BR-114	5	520	210	26	5	12	0.24	ND
BR-116	5	12	ND	ND		84		
BR-116D	5	710	6.4	**80**		120		
BR-117D	5	80	11	6		1.9		
BR-118D	5	330	74	46		6.6		
BR-122D	5	650	150	**160**		ND		
BR-123D	5	860	110	66		4		
BR-126	7	9,000	4,000	2,000	7	230	81	3.2
MW-103	5	97	19	ND	5	750	17	ND
MW-104	5	180	4	ND		1		

TABLE 4
COMPARISON OF SPRING 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	JUN-2009 RESULT	# EVENTS IN PRIOR 5 YRS	HISTORIC MAXIMUM	5-YEAR MEAN	JUN-2009 RESULT
MW-106	10	130,000	7,500	2,900	10	453	0.33	**1.4**
MW-114	5	18	ND	ND	5	24	17	**24**
MW-126	1	63	63		1	ND	ND	
MW-16	5	360	41		1	8	8	
NESS-E	5	5,000	210	2.3		700		
NESS-W	5	2,100	2.4	ND		89		
PZ-101	10	27,000	330	29	10	6.1	0.25	ND
PZ-102	10	58,000	1,400	880	10	10,000	2.2	2.2
PZ-103	10	73,000	8,400	4,800	10	44,300	4	**9.6**
PZ-104	10	9,100	2,600	2,100	10	40	0.14	ND
QD-1	8	11	4	**8.8**	2	ND	ND	
QO-2	11	380	3.9	**8.1**	2	ND	ND	
QO-2S1	11	27	0.55	ND	2	ND	ND	
QS-4	13	3,400	200	43	3	ND	ND	

Note:

1) Number of samples and mean reflect 5-year sampling period from May 2004 through November 2008. Historic maximum based on all available results from March 1990 through November 2008.
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** - June 2009 exceeds 5-year mean.
5) NA = Not analyzed or not applicable
   ND = Not detected
   BLANK = Not sampled

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

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	QD-1		QO-2		QO-2S1		QS-4	
SAMPLE DATE:	05/19/09		05/19/09		05/19/09		05/19/09	
QC TYPE:	Sample		Sample		Sample		Sample	
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270C (µg/L)								
2,6-Dichloropyridine	3.4	J	3.1	J	9.4	U	17	
2-Chloropyridine	5.4	J	5	J	9.4	U	26	
3-Chloropyridine	9.7	U	10	U	9.4	U	9.9	U
4-Chloropyridine	9.7	U	10	U	9.4	U	9.9	U
p-Fluoroaniline	9.7	U	10	U	9.4	U	9.9	U
Pyridine	24	U	26	U	24	U	25	U

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

TABLE 6
EXTRACTION WELL WEEKLY FLOW MEASUREMENTS - DECEMBER 2008 THROUGH MAY 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.]	Total [Gal.]
Dec '08								
12/07/08	0 **	22,947	39,345	5,102	8,295	9,084	65,324	150,097
12/14/08	18,175 **	61,439	21,970	3,060	6,610	9,064	46,309	166,627
12/21/08	52,449	64,630	21,679	4,392	4,410	8,626	53,143	209,329
12/28/08	72,143	68,659	18,752	4,734	3,988	10,498	60,896	239,670
						Total [Gal.]		765,723
Jan '09								
01/04/09	61,805	70,815	28,408	4,104	6,478	16,556	71,959	260,125
01/11/09	46,185	71,778	31,043	4,099	6,946	12,447	68,061	240,558
01/18/09	66,928	70,909	31,047	4,155	6,618	10,041	64,975	254,672
01/25/09	54,291	36,538	22,650 **	3,922	7,140	10,659	64,160	199,360
						Total [Gal.]		954,714
Feb '09								
02/01/09	58,353	13,173	26,971	5,420	11,573	14,362	69,717	199,569
02/08/09	55,588	18,735	31,556	5,303	8,944	13,821	66,702	200,649
02/15/09	54,387	39,834	33,949	5,072	9,208	13,909	55,728	212,087
02/22/09	49,597	48,820	10,284 **	4,848	10,561	15,229	45,266	184,605
						Total [Gal.]		796,910
Mar '09								
03/01/09	46,647	55,054	30,577	4,747	8,573	11,516	45,864	202,978
03/08/09	34,872 **	46,760	42,754	4,924	8,220	10,666	35,106	183,302
03/15/09	47,248	28,043	44,859	5,126	19,567	10,374	30,647	185,864
03/22/09	59,488	23,237	48,512	4,916	16,836	9,368	30,844	193,201
03/29/09	57,905	43,127	39,986	4,985	10,267	7,973	29,552	193,795
						Total [Gal.]		959,140
Apr '09								
04/05/09	48,390	34,668	50,204	1,642 **	13,602	8,690	39,189	196,385
04/12/09	49,258	53,394	44,280	5,126	3,791 *	8,520	19,119	183,488
04/19/09	45,854	56,174	37,205	5,057	6,150 *	7,221	16,172	173,833
04/26/09	42,788	40,402	40,618	5,265	13,934	6,414	18,273	167,694
						Total [Gal.]		721,400
May '09								
05/03/09	39,696	31,525	73,589	3,847	9,182	8,461	19,287	185,587
05/10/09	39,679	57,939	26,570	7,517	11,197	7,603	29,077	179,582
05/17/09	40,392	56,795	22,121	6,938	10,202	9,292	10,905	156,645
05/24/09	29,863	42,766	25,255	3,056 **	8,744	4,898	9,993	124,575
05/31/09	27,917	30,583	46,214	1,261 **	5,997	2,086	4,913	118,971
						Total [Gal.]		765,360
Total 6 Mo. Removal (Gal.)	1,199,897	1,188,743	890,397	118,618	237,033	257,378	1,071,181	4,963,247

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: DECEMBER 2008 - MAY 2009

ARCH ROCHESTER
SPRING 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	1,200,000	0.013	0.13	0.13	1.3
BR-7A	1,190,000	0	56	0	552
BR-9	890,000	0	0.081	0	0.6
PW-11	119,000	0.013	0.73	0.013	0.7
PW-13	237,000	0.023	2.7	0.046	5
PW-14	257,000	17	11	37	24
PW-15	1,070,000	5.6	66	50	592
Totals:	4,963,000			87	1,176

Note: VOC and pyridine concentrations used in this table are an average of the analytical results from the Fall 2008 and Spring 2009 sampling events for each well

TABLE 8
2009 SAMPLING SCHEDULE
ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

ARCH ROCHESTER						**2009**					
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
	S-3	OB	ON-SITE	semi-annual monitoring, VOCs & PYR	continue until replaced by trench	1	1	1	1	2	2
	S-4	OB	ON-SITE	semi-annual monitoring, VOCs & PYR	continue until replaced by trench	1	1	1	1	2	2
	E-1	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						53	36	32	27	85	63

Revised: 12/24/08

Prepared by: NMB Checked by: JEB

Appendix A

Groundwater Field Sampling Data Sheets

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

FIELD REPORT

REMEDIAL INVESTIGATION SAMPLING
ARCH CHEMICAL
ROCHESTER, NEW YORK

SPRING 2009 Event

Prepared For:

MacTec, Inc.
511 Congress Street
Portland, Maine 04101

Attention: Mr. Nelson Breton

Prepared By:

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

NY5A5762

Written By: Roger Senf

Reviewed By:

Date: 7/16/09

1.0 INTRODUCTION

This report describes the sampling of the following points:

- Fourty-nine (49) groundwater samples (MW-126 not located)
- One (1) barge canal sample
- Two (2) quarry outfall samples
- One (1) quarry seep sample

These activities were in support of the Phase II Remediation Investigation being conducted at the Arch Chemical facility in Rochester, New York. The samples were collected from May 19 – June 15, 2009 by TestAmerica Inc (TAL) Field personnel.

2.0 METHODOLOGIES

2.1 Water Level Measurements

Static water levels in all groundwater wells were measured from the top of the well casing/riser with an electronic water level indicator. All well bottoms were sounded with the weighted steel measuring tape. All measurements were recorded to the nearest hundredth of a foot (0.01 feet). The length of the measuring device which contacted the water was cleaned between wells with a deionized water rinse and paper towel wipe. These data are presented on Sampling Summary Table and Field Observation forms.

2.2 Well Purging

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

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

   Wells that were purged of three (3) standing volumes were mainly wells located on or very near the Erie Canal and historically purged with this method prior to sampling. The remaining wells were evacuated with a low flow/low stress purging technique. This technique involves the use of a variable flow rate bladder or peristaltic pump. The pumps were employed to purge the monitoring wells at a flow rate such that drawdown of the water column from static conditions is minimal. Field measurements of pH, specific conductance, temperature, ORP, dissolved oxygen and turbidity are monitored every 3-5

minutes until stabilization of parameters is realized. Once stabilization has occurred, sampling can be conducted. All purged water was collected into 55-gallon drums for disposal at the on-site wastewater treatment facility. Data pertaining to each evacuation are presented on the Sampling Summary Table and field Observation Forms.

2.3 Surface Water Samples

Surface water samples were collected from one (1) location on the Erie Barge Canal, two (2) outfall samples and one (1) seep location. Sample locations were noted on the Field Forms.

3.0 SAMPLING

3.1 Monitoring Wells

All groundwater wells were sampled using precleaned or dedicated 1.25" X 1.25" X 5' stainless steel bailers, perisaltic pumps or bladder (SamplePro) pumps when low flow purging techniques were used. Each bailer was constructed with teflon, bottom-filling check valve and was assembled without glues or welds. New ¼" poly rope was attached to each bailer. The bailer was slowly lowered into the water column, minimizing agitation and devolatilization. Low density polyethylene (LDPE) tubing was used with both the bladder (QED) and the peristaltic pumps. The bladder pumps were decontaminated between sample locations in accordance with the work plan. Personnel exercised care in all aspects of the sampling to ensure the collection of a representative sample An additional sample container was collected from each well in order to facilitate the measurement of field analytical parameters. Data pertaining to sampling are presented on the Sampling Summary Table and the Field Observation Forms.

3.2 Canal Sampling

When possible, samples were collected directly from the canal into appropriate sample containers. Otherwise, samples were collected with the use of a unique, laboratory-cleaned stainless steel bailer. The bailers were immersed just below the surface and removed. Sample was poured directly into the appropriate container. An additional container was collected to facilitate the measurement of field parameters. Additional data pertaining to these samples is presented in the Sampling Summary Table and Field Observation Forms.

3.3 Seep Sampling

Groundwater samples were collected from seeps at the quarry (QS4) located on Buffalo Road. The samples were collected with the use of a laboratory cleaned stainless steel bucket and was then poured directly into the appropriate containers. An additional container was

collected to facilitate the measurement of field parameters. Data pertaining to this sampling is presented in the Sampling Summary Table and Field Observation Forms.

4.0 SAMPLE CONTAINERS

Monitoring wells and surface water samples requiring analysis for volatile organics were collected into 40 ml glass vials with teflon septa. Samples for semi-volatile and Pyridine analysis were collected into one (1) liter amber glass bottles with teflon-lined caps. All bottles were purchased new and cleaned (Protocol A, 300 series) from Environmental Supply Services. Each container was labeled with the following information:

- Sample Identification (Well/Point I.D.)
- Date
- Project Number
- Sampler's Initials

5.0 FIELD MEASUREMENTS

On-site field measurements were made of each sample's pH, specific conductance and temperature. All measurements were made in accordance with protocols outlined in Methods for Chemical Analysis of Water and Wastes (EPA – 600/4-79-9020). These data were presented on the Sampling Summary Table and Field Observation Forms.

6.0 QUALITY ASSURANCE/QUALITY CONTROL (QA/QC)

6.1 Trip Blanks

Trip blanks were collected with each sample shipment requiring volatile organic analysis. Each trip blank consisted of two 40 ml glass vials with teflon septa which were filled with deionized water at the TAL laboratory. These blanks were transported to the site, stored with field collected samples and submitted to the TAL facility for analysis.

6.2 Equipment Rinse Blank

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

7.0 CHAIN OF CUSTODY

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

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

SAMPLE POINT	DATE	DEPTH TO WATER	CASING ELEVATION	GW ELEVATION	TIME	Comments
B-1	05/19/09	8.91		-8.91	1217	NO L-NAPL ; NO D-NAPL
B-10		6.86		-6.86	1145	NO L-NAPL ; NO D-NAPL
B-11		4.12		-4.12	1143	NO L-NAPL
B-13		12.11		-12.11	1301	
B-14		7.92		-7.92	1303	
B-15		4.51		-4.51	1305	
B-16		5.77		-5.77	1307	
B-17		7.37		-7.37	1212	NO L-NAPL ; NO D-NAPL
B-2		9.04		-9.04	1218	NO L-NAPL ; NO D-NAPL
B-3		5.75		-5.75	1225	NO L-NAPL ; NO D-NAPL
B-4		11.46		-11.46	1231	NO L-NAPL ; NO D-NAPL
B-5		9.18		-9.18	1235	NO L-NAPL ; NO D-NAPL
B-7		13.38		-13.38	1254	NO L-NAPL ; NO D-NAPL
B-8		8.10		-8.10	1151	NO L-NAPL ; NO D-NAPL
BR-1		8.24		-8.24	1116	NO L-NAPL ; NO D-NAPL
BR-102		21.79		-21.79	1226	
BR-103		6.67		-6.67	1133	
MW-103		1.87		-1.87	1134	
BR-104		8.89		-8.89	1145	
MW-104		7.48		-7.48	1143	
BR-105		22.96		-22.96	1114	
BR-105D		25.63		-25.63	1113	
MW-105		DRY		#VALUE!	1115	
BR-106		24.02		-24.02	1109	
MW-106		10.09		-10.09	1110	
BR-108		28.24		-28.24	1330	
MW-108		13.28		-13.28	1335	
BR-111		28.63		-28.63	1155	
BR-111D		28.86		-28.86	1154	
BR-112A		27.32		-27.32	1150	
BR-112D		36.18		-36.18	1149	
BR-113		31.20		-31.20	1211	

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

SAMPLE POINT	DATE	DEPTH TO WATER	CASING ELEVATION	GW ELEVATION	TIME	Comments
BR-113D	05/19/09	31.26		-31.26	1213	
BR-114		13.79		-13.79	1128	
MW-114		10.24		-10.24	1129	
BR-116		27.88		-27.88	1005	
BR-116D		35.75		-35.75	1006	
BR-117		24.00		-24.00	859	CASCADING WELL
BR-117D		49.53		-49.53	857	
BR-118		33.58		-33.58	807	
BR-118D		48.59		-48.59	809	
BR-122D		45.19		-45.19	1000	
BR-123D		45.48		-45.48	955	
BR-124D		31.28		-31.28	950	
BR-126		7.78		-7.78	1257	
MW-126						NOT LOCATED
BR-127		4.34			1141	NO L-NAPL ; NO D-NAPL
MW-127		4.98			1142	NO L-NAPL ; NO D-NAPL
BR-2		7.61		-7.61	1210	NO L-NAPL ; NO D-NAPL
BR-2A		8.50		-8.50	1209	NO L-NAPL ; NO D-NAPL
BR-2D		0.05		-0.05	1211	NO L-NAPL ; NO D-NAPL
BR-3		7.63		-7.63	1201	NO L-NAPL
BR-3D		59.22		-59.22	1203	NO L-NAPL ; NO D-NAPL
BR-4		8.03		-8.03	1139	NO L-NAPL
BR-5		14.87			1120	NO L-NAPL ; NO D-NAPL
BR-5A		30.14		-30.14	1123	0.00 GPM
BR-6		12.21		-12.21	1149	NO L-NAPL ; NO D-NAPL
BR-6A		10.89		-10.89	1150	
BR-7		19.84		-19.84	1243	
BR-7A		19.98		-19.98	1244	NO L-NAPL ; NO D-NAPL
BR-8		9.08		-9.08	1234	NO L-NAPL ; NO D-NAPL
BR-9		27.88		-27.88	1224	0.00 GPM
C-2A		7.67		-7.67	1210	NO L-NAPL ; NO D-NAPL
C-3				0.00	1130	BURIED

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

SAMPLE POINT	DATE	DEPTH TO WATER	CASING ELEVATION	GW ELEVATION	TIME	Comments
	05/19/09			0.00		
C-5		8.76		-8.76	1200	NO L-NAPL ; NO D-NAPL
E-1		0.73		-0.73	1102	NO L-NAPL
E-2		5.71		-5.71	1138	NO L-NAPL ; NO D-NAPL
E-3		7.31		-7.31	1121	NO L-NAPL ; NO D-NAPL
E-4				0.00	1110	OBSTRUCTED AT 2.60
E-5		6.71		-6.71	1117	NO L-NAPL ; NO D-NAPL
EC-1		17.49		-17.49	1202	
EC-2				0.00	1210	DRY AT 12.79 '
ERIE CANAL		32.78		-32.78	1206	
MW-16		11.41		-11.41	1139	
MW-3		5.99		-5.99	1020	
MW-G6		4.23		-4.23	1010	
MW-G7						NOT LOCATED
MW-G8		7.87		-7.87	1013	
MW-G9		10.59		-10.59	1017	
N-1				0.00	1115	OBSTRUCTED
N-2		5.68		-5.68	1112	NO L-NAPL ; NO D-NAPL
N-3		7.48		-7.48	1215	NO L-NAPL
NESS-E		7.65		-7.65	1124	
NESS-W		31.15		-31.15	1120	
PW-10		6.79		-6.79	1213	NO L-NAPL
PW-11		25.88		-25.88	1232	NO L-NAPL
PW-12		5.99		-5.99	1130	
PW-13		20.32		-20.32	1249	NO L-NAPL; NO D NAPL
PW-14		12.91		-12.91	1207	NO L-NAPL
PW-15		9.64		-9.64	1204	NO L-NAPL; NO D-NAPL
PZ-101		12.68		-12.68	1318	
PZ-102		15.95		-15.95	1315	
PZ-103		11.59		-11.59	1312	
PZ-104		13.48		-13.48	1300	
PZ-105		9.44		-9.44	1154	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	05/19/09	11.27		-11.27	1206	NO L-NAPL ; NO D-NAPL
PZ-107		6.73		-6.73	1146	NO L-NAPL ; NO D-NAPL
PZ-109		7.54		-7.54	1203	NO L-NAPL; NO D-NAPL
S-1		6.54		-6.54	1153	NO L-NAPL ; NO D-NAPL
S-2		3.66		-3.66	1151	NO L-NAPL
S-3		1.06		-1.06	1147	NO L-NAPL ; NO D-NAPL
S-4		0.86		-0.86	1144	
W-1				0.00	1218	OBSTRUCTED
W-2		10.79		-10.79	1222	NO L-NAPL ; NO D-NAPL
W-3		3.11		-3.11	1227	NO L-NAPL ; NO D-NAPL
W-4		6.23		-6.23	1233	NO L-NAPL ; NO D-NAPL
W-5		6.83		-6.83	1247	NO L-NAPL ; NO D-NAPL
W-6		11.93		-11.93	1253	NO L-NAPL ; NO D-NAPL

Sampling Summary Table
ARCH CHEMICAL
JUNE 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	
B-17	05/22/2009	845	6.82	N/A	N/A	05/22/2009	910	9.19	11590	14.1	4.52	EH(mv)= -80	DO(ppm)= 0.74
B-7	05/22/2009	1108	12.31	N/A	N/A	05/22/2009	1135	7.38	1597	15.4	8.32	EH(mv)= -7	DO(ppm)= 0.90
BR-103	05/26/2009	1148	6.67	N/A	N/A	05/26/2009	1225	7.68	615	15.8	5.85	EH(mv)= -131	DO(ppm)= 0.77
BR-104	05/21/2009	1230	8.85	N/A	N/A	05/21/2009	1300	7.11	420	13.4	22.80	EH(mv)= -103	DO(ppm)= 0.73
BR-105	05/22/2009	1120	22.73	N/A	N/A	05/22/2009	1155	7.42	2094	13.9	6.36	EH(mv)= -201	DO(ppm)= 0.55
BR-105D	05/22/2009	1020	25.45	N/A	N/A	05/22/2009	1045	6.98	33680	17.2	4.24	EH(mv)= -305	DO(ppm)= 0.44
BR-106	05/22/2009	1245	23.97	N/A	N/A	05/22/2009	1315	6.95	4607	13.9	29.40	EH(mv)= -174	DO(ppm)= 0.67
BR-108	05/19/2009	1430	28.24	N/A	29.75	05/20/2009	1505	6.83	1006	13.9	387.00	EH(mv)= -15	
BR-112D	05/21/2009	1340	36.15	N/A	72.26	05/21/2009	1410	6.79	1957	13.8	4.37	EH(mv)= -124	DO(ppm)= 0.67
BR-113D	05/20/2009	1310	31.26	N/A	79.25	05/20/2009	1345	7.21	2535	14.3	4.19	EH(mv)= -205	DO(ppm)= 0.31
BR-114	05/26/2009	1328	13.81	N/A	N/A	05/26/2009	1355	6.98	1996	16.3	1.05	EH(mv)= -149	DO(ppm)= 0.28
BR-116	05/20/2009	1150	27.88	N/A	N/A	05/20/2009	1240	7.19	2679	13.6	50.90	EH(mv)= -39	DO(ppm)= 0.57
BR-116D	05/20/2009	1130	35.61	N/A	N/A	05/20/2009	1205	9.09	1581	12.9	19.33	EH(mv)= -77	DO(ppm)= 0.27
BR-117D	05/19/2009	857	49.53	N/A	N/A	05/19/2009	935	7.71	793	12.0	35.70	EH(mv)= -141	DO(ppm)= 0.21
BR-118D	05/19/2009	809	48.59	N/A	N/A	05/19/2009	845	7.11	1885	12.2	18.90	EH(mv)= -225	DO(ppm)= 0.17
BR-122D	05/19/2009	1215	45.19	N/A	N/A	05/19/2009	1250	6.58	2144	12.6	6.46	EH(mv)= -151	DO(ppm)= 0.25
BR-123D	05/19/2009	1315	45.48	N/A	N/A	05/19/2009	1345	7.54	2042	12.7	7.49	EH(mv)= -133	DO(ppm)= 0.37
BR-126	05/21/2009	1345	7.74	N/A	N/A	05/21/2009	1415	7.44	796	18.6	16.90	EH(mv)= 8	DO(ppm)= 0.37
BR-127	05/20/2009	1240	4.28	N/A	N/A	05/20/2009	1305	8.34	6130	14.4	2.84	EH(mv)= -368	DO(ppm)= 0.17
BR-3	05/21/2009	925	7.62	N/A	N/A	05/21/2009	955	7.06	11010	15.4	80.20	EH(mv)= -31	DO(ppm)= 0.87
BR-5A	05/29/2009	1425	15.06	N/A	N/A	05/29/2009	1427	7.62	1621	14.2	22.70	EH(mv)= -119	
BR-6A	05/20/2009	1055	10.59	N/A	N/A	05/20/2009	1115	9.41	1610	15.4	3.15	EH(mv)= -227	DO(ppm)= 0.64
BR-7A	05/29/2009	1455	28.79	N/A	N/A	05/29/2009	1457	7.36	3997	14.9	100.60	EH(mv)= -110	
BR-8	05/21/2009	1232	9.10	N/A	N/A	05/21/2009	1300	6.93	5861	17.6	20.20	EH(mv)= 20	DO(ppm)= 0.76
BR-9	05/29/2009	1440	35.70	N/A	N/A	05/29/2009	1441	7.62	1869	15.2	60.20	EH(mv)= -171	
E-1	05/22/2009	925	0.63	N/A	N/A	05/22/2009	950	9.90	22550	17.6	11.60	EH(mv)= -207	DO(ppm)= 0.70
E-3	05/20/2009	803	7.16	N/A	N/A	05/21/2009	1145	7.55	1982	16.2	18.60	EH(mv)= 200	DO(ppm)= 1.97
MW-103	05/26/2009	1105	1.89	N/A	N/A	05/26/2009	1140	7.54	693	17.4	1.05	EH(mv)= -23	DO(ppm)= 0.99
MW-104	05/21/2009	1310	7.45	N/A	N/A	05/21/2009	1345	7.59	1017	13.6	263.00	EH(mv)= -107	DO(ppm)= 0.86
MW-106	05/22/2009	1325	10.05	N/A	N/A	05/22/2009	1355	6.97	2092	13.9	47.60	EH(mv)= -102	DO(ppm)= 0.55
MW-114	05/26/2009	1245	10.25	N/A	N/A	05/26/2009	1315	7.29	1623	16.1	17.90	EH(mv)= 29	DO(ppm)= 1.01
MW-127	05/20/2009	1206	4.89	N/A	N/A	05/20/2009	1225	8.25	3800	15.5	2.97	EH(mv)= -242	DO(ppm)= 0.87

SG - Specific Gravity
EH - Redox
DO - Dissolved Oxygen

* From Top of Riser
** Elevation Above Sea Level

Sampling Summary Table
ARCH CHEMICAL
JUNE 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	
NESS-E	05/21/2009	1150	7.63	N/A	N/A	05/21/2009	1225	7.15	1345	24.7	19.89	EH(mv)= -59	DO(ppm)= 0.40
NESS-W	05/21/2009	1105	31.12	N/A	N/A	05/21/2009	1140	7.57	1945	14.8	6.41	EH(mv)= -159	DO(ppm)= 0.46
PW-10	05/21/2009	845	7.11	N/A	N/A	05/21/2009	915	8.06	3020	16.2	3.00	EH(mv)= 60	DO(ppm)= 0.87
PW-11	05/21/2009	1325	25.25	N/A	N/A	05/21/2009	1042	7.77	6968	14.7	29.60	EH(mv)= -21	
PW-12(BR-101)	05/21/2009	1147	5.62	N/A	N/A	05/21/2009	1210	7.18	3070	16.3	0.70	EH(mv)= -18	DO(ppm)= 0.87
PW-13	05/29/2009	1450	22.97	N/A	N/A	05/29/2009	1452	7.63	2561	14.7	15.70	EH(mv)= -201	
PW-14	06/15/2009	1125	21.92	N/A	N/A	06/15/2009	1127	7.83	7154	15.1	92.90	EH(mv)= -44	
PW-15	05/29/2009	1410	17.24	N/A	N/A	05/29/2009	1412	9.79	8792	14.6	5.19	EH(mv)= -211	
PZ-101	05/27/2009	1240	12.79	N/A	N/A	05/27/2009	1310	6.95	3940	14.5	3.82	EH(mv)= -62	DO(ppm)= 0.95
PZ-102	05/27/2009	1320	15.97	N/A	N/A	05/27/2009	1350	7.11	5897	15.1	1.08	EH(mv)= -103	DO(ppm)= 0.84
PZ-103	05/27/2009	1200	11.67	N/A	N/A	05/27/2009	1230	7.14	5713	14.7	4.55	EH(mv)= -173	DO(ppm)= 0.81
PZ-104	05/27/2009	1110	13.45	N/A	N/A	05/27/2009	1145	7.01	1528	14.1	10.41	EH(mv)= -129	DO(ppm)= 0.85
PZ-105	05/21/2009	1006	7.56	N/A	N/A	05/21/2009	1030	7.56	1996	16.4	382.00	EH(mv)= -7	DO(ppm)= 0.85
PZ-106	05/20/2009	958	10.29	N/A	N/A	05/20/2009	1030	6.79	6290	15.0	6.40	EH(mv)= -206	DO(ppm)= 0.30
PZ-107	05/20/2009	914	6.72	N/A	N/A	05/20/2009	945	7.34	2780	12.4	1.30	EH(mv)= -79	DO(ppm)= 0.93
QD-1	05/19/2009	940	0.00	N/A	N/A	05/19/2009	945	6.81	1841	16.9	N/A	EH(mv)= -21	
QO-2	05/19/2009	1405	0.00	N/A	N/A	05/19/2009	1407	7.18	1804	16.9	N/A	EH(mv)= 10	
QO-2S1	05/19/2009	1415	0.00	N/A	N/A	05/19/2009	1420	7.54	627	18.7	N/A	EH(mv)= -37	
QS-4	05/19/2009	1430	0.00	N/A	N/A	05/19/2009	1435	7.35	1706	16.9	N/A	EH(mv)= -20	
S-3	05/21/2009	1052	0.52	N/A	N/A	05/21/2009	1115	6.97	2779	17.2	12.30	EH(mv)= 40	DO(ppm)= 0.87
S-4	05/20/2009	1127	0.82	N/A	N/A	05/20/2009	1150	8.65	3200	13.7	16.00	EH(mv)= -228	DO(ppm)= 0.70

SG - Specific Gravity
EH - Redox
DO - Dissolved Oxygen

* From Top of Riser
** Elevation Above Sea Level

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: B-17

Field Personnel: PL, DC, RS, JS

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 5-22-09 / 0845

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: 5-22-09 / 0850

Date / Time Completed: 5-22-09 / 0910

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 6.82

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 SC TURBO LT AMBER Finish Clear Amber

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz) MC/M	Purge Rate (gpm/htz) WL	Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
0855	120	6.93		14.8	8.58	11,480	5.69	-61	0.90
0900	↓	↓		14.2	8.71	11,500	5.02	-76	0.83
0905				14.3	9.11	11,590	5.00	-80	0.79
0910	↓	↓		14.1	9.19	11,590	4.52	-80	0.74

Stable @ 910

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: B-7

Field Personnel: PL, DC, RS, JS

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 5-22-09 / 1109

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: 5-22-09 / 1110

Date / Time Completed: 5-22-09 / 1135

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 12.31

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) SLOWLY

Purge Observations: ____

Start ORANGE 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	mL/m 100	mL 12.42		16.3	7.92	1643	58.4	-15	1.07
1120 ~~1120~~		12.50		15.4	7.56	1620	40.6	-10	1.00
1125		12.56		15.4	7.40	1600	26.7	-9	0.97
1130		1		15.2	7.38	1600	15.5	-9	0.95
1135	↓	↓		15.4	7.38	1597	8.32	-7	0.90

SAMPLED AT 1135

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: BR-103

Field Personnel: R. SANF

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 5-26-09 / 1148

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: 5-26-09 / 1150

Date / Time Completed: 5-26-09 / 1225

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

Riser Diameter, Inches: 4.0

Initial Water Level, Feet: 6.67

Elevation. G/W MSL: ____

Well Total Depth, Feet: ____

Method of Well Purge: PERISTALTIC PUMP

One (1) Riser Volume, Gal: ____

Dedicated: (Y) / N

Total Volume Purged, Gal: ____

Purged To Dryness Y / (N)

Purge Observations: CO-FLOW

Start CLEAR Finish CLEAR

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
1205	150 ml	6.70		15.9	7.73	588	10.7	-139	0.81
1215	|	6.70		16.1	7.77	607	5.80	-130	0.77
1220	|	6.70		16.0	7.69	611	5.82	-129	0.76
1225	↓	6.70		15.8	7.68	615	5.85	-131	0.77

SAMPLED AT 1230 / 5-26-09

Field Form
Revision 0
03/14/02

BJ

FIELD OBSERVATIONS

Facility: ARCA

Sample Point ID: BR-104

Field Personnel: RS

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 5-21-09 / 1230

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: 5-21-09 / 1235

Date / Time Completed: 5-21-09 / 1300

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

Riser Diameter, Inches: 4.0

Initial Water Level, Feet: 8.85

Elevation. G/W MSL:

Well Total Depth, Feet:

Method of Well Purge: PERISTALTIC PUMP

One (1) Riser Volume, Gal:

Dedicated: (Y) / N

Total Volume Purged, Gal:

Purged To Dryness Y / (N)

Purge Observations: LO-FLO

Start CLEAR Finish CLEAR

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
1245	ml/min 80	8.91		13.1	6.97	425	23.3	-83	1.02
1250	80	8.90		13.4	7.07	416	—	-99	0.80
1255	↓	8.90		13.1	7.05	420	—	-101	0.77
1300	↓	8.90		13.4	7.11	420	22.8	-103	0.73

SAMPLED AT 1300/5-21-09

Field Form
Revision 0
03/14/02

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: BR-105

Field Personnel: QS

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 5-22-09 / 11:20

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: 5-22-09 / 11:25

Date / Time Completed: 5-22-09 / 11:50

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

Riser Diameter, Inches: 4.0

Initial Water Level, Feet: 22.73

Elevation. G/W MSL:

Well Total Depth, Feet:

Method of Well Purge:

One (1) Riser Volume, Gal:

Dedicated: Y / (N)

Total Volume Purged, Gal:

Purged To Dryness Y / (N)

Purge Observations: Lo-Flo

Start ____ Finish ____

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)	Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other (ORP)	Other
11:35			15.4	7.91	2135	31.6	-125	0.71
11:40			14.1	7.76	2082	9.89	-226	0.70
11:45			14.0	7.80 / 62	2096	6.98	-209	0.60
11:50			13.9	7.45	2094	6.61	-208	0.57
11:55			13.9	7.42	2094	6.36	-201	0.55

SAMPLED AT 1200/5-22-09

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: BR-105D

Field Personnel: QS

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 5-22-09 / 10:20

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: 5-22-09 / 10:25

Date / Time Completed: 5-22-09 / 10:45

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 25.45

Elevation. G/W MSL:

Well Total Depth, Feet:

Method of Well Purge:

One (1) Riser Volume, Gal:

Dedicated: Y / (N)

Total Volume Purged, Gal:

Purged To Dryness Y / (N)

Purge Observations: Lo-Flo

Start Clear Finish Clear

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)	Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other
10:30			17.3	6.73	32,010	5.08	-250	0.63
10:35			17.2	6.93	32,950	4.63	-295	0.49
10:40			17.2	~~7.01~~ 6.98	33,500	4.26	-302	0.46
10:45			17.2	6.98	33,680	4.24	-305	0.44

Sampled AT 1050/5-22-09

Field Form
Revision 0
03/14/02

BJ

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: BR-106

Field Personnel: RS/JS

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 5-22-09 / 1245

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: 5-22-09 / 1250

Date / Time Completed: 5-22-09 / 1315

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

Riser Diameter, Inches: 4.0

Initial Water Level, Feet: 23.97

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/htz)		Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
1300	120 ml/min	24.13		13.4	7.10	4650	41.3	-183	0.77
1305	120	24.20		14.0	7.02	4609	35.7	-179	0.69
1310	120	24.20		14.1	6.98	4593	30.0	-177	0.67
1315	120	24.20		13.9	6.95	4607	29.4	-174	0.67

SAMPLED AT 1315/5-22-09

BJ

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: BR-108

Field Personnel: RS/JS

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 5-19-09 / 1430

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: 5-19-09 / 1435

Date / Time Completed: 5-19-09 / 1445

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

Riser Diameter, Inches: 4.0

Initial Water Level, Feet: 28.24

Elevation. G/W MSL:

Well Total Depth, Feet: 29.75

Method of Well Purge: S/S BAILER

One (1) Riser Volume, Gal: 0.98

Dedicated: (Y) / N

Total Volume Purged, Gal: 1.0 TOP

Purged To Dryness (Y) / N

Purge Observations:

Start TURBID ORANGE Finish TURBID ORANGE

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)	Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other	Other

MW 108 = 13.28

FIELD OBSERVATIONS (continued)

SAMPLING INFORMATION: POINT ID BR-108

Date/Time 5-20-09 1455 Water Level @ Sampling, Feet: 29.07

Method of Sampling: S/S BAILER 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 ( )
1505	13.9	6.83	1006	387	-15	

INSTRUMENT CHECK DATA:

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

Solutions: _____

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

Solutions: _____

Conductivity Serial #: ULTRA MATAL 1000 umhos/cm= 1000 _____ umhos/cm= _____

Solutions: _____

GENERAL INFORMATION:

Weather conditions @ time of sampling: Sunny, 75°F

Sample Characteristics: TURBID, ODORLESS

COMMENTS AND OBSERVATIONS: _____

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

Date: 5/20/09 By: [signature] Company: TAC

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: BR-112 D

Field Personnel: RS

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 5-21-09 / 1340

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

Prot. Casing/riser height: —

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

If prot.casing; depth to riser below: —

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

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

PURGE INFORMATION:

Date / Time Initiated: 5-21-09 / 1345

Date / Time Completed: 5-21-09 / 1410

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 36.15

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 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
1355	ml/min 100	36.25		13.9	7.01	2002	6.95	-142	0.71
1405	100	36.25		13.9	7.82	1965	4.66	-133	0.69
1410	100	36.25		13.8	6.79	1957	4.37	-124	0.67

SAMPLED AT 1410/5-21-09

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: BR-113D

Field Personnel: R.S./JS

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 5-20-09 / 1310

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

Prot. Casing/riser height: —

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

If prot.casing; depth to riser below: —

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

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

PURGE INFORMATION:

Date / Time Initiated: 5-20-09 / 1315

Date / Time Completed: 5-20-09 / 1345

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 31.26

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 CLEAR Finish CLEAR

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)	Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
1325	130 ml/min 31.40		14.2	7.22	2535	4.34	-198	0.23
1330	31.40		14.3	7.16	2531	4.22	-201	0.20
1340	31.40		14.3	7.18	2533	4.20	-203	0.19
1345	31.40		14.3	7.21	2535	4.19	-205	0.21

SAMPLED AT 1345/5-19-09

BG

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: BR-114

Field Personnel: R. SENF

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 5-26-09 / 1328

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: 5-26-09 / 1330

Date / Time Completed: 5-26-09 / 1355

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

Riser Diameter, Inches: 4.0

Initial Water Level, Feet: 13.81

Elevation. G/W MSL:

Well Total Depth, Feet:

Method of Well Purge: PERISTALTIC PUMP

One (1) Riser Volume, Gal:

Dedicated: (Y) / N

Total Volume Purged, Gal:

Purged To Dryness Y / (N)

Purge Observations: LO-FLOW

Start CLEAR Finish CLEAR

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
1340	180 ml	13.93		16.5	7.01	1975	2.93	-155	0.48
1345	|	13.83		16.3	7.03	1983	1.13	-150	0.31
1350	|	13.83		16.3	6.99	1992	1.09	-147	0.28
1355	↓			16.3	6.98	1996	1.05	-149	0.28

SAMPLED AT 1400/5-26-09

BG

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: BC-116

Field Personnel: RS/SS

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 5-20-09 / 1150

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: 5-20-09 / 1220

Date / Time Completed: 5-20-09 / 1240

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

Riser Diameter, Inches: 4.0

Initial Water Level, Feet: 27.88

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 ORANGE TINT

Finish SLIGHT 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
1225	150 mL/min	28.02		13.4	7.60	2797	50.1	-57	0.80
1230	150	28.05		13.6	7.25	2727	51.2	-47	0.65
1235	150	28.05		13.7	7.17	2694	51.0	-42	0.59
1240	150	28.05		13.6	7.19	2679	50.9	-39	0.57

SAMPLED AT 1240/5-20-09

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: BR-116 D

Field Personnel: RS/JS

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 5-20-09 / 1130

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: 5-20-09 / 1135

Date / Time Completed: 5-20-09 / 1210

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

Riser Diameter, Inches: 4.0

Initial Water Level, Feet: 35.61

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 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
1145	150 mL/min	35.65		12.6	8.64	1655	15.35	-34	0.42
1155		35.65		12.8	9.10	1588	19.06	-75	0.31
1200		35.66		12.8	9.09	1581	18.52	-72	0.29
1205	↓	35.65		12.9	9.09	1581	19.33	-77	0.27

SAMPLED AT 1210/5-19-09

RS JS

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: BG-117D

Field Personnel: R. SAWYER

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 5-19-09 / 0857

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: 5-19-09 / 0905

Date / Time Completed: 5-19-09 / 0935

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

Riser Diameter, Inches: 4.0

Initial Water Level, Feet: 49.53

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
0915	150 ml/min 49.95		12.3	7.49	803	48.9	-143	0.29
0925	150	50.01		12.1	7.63	811	40.2	-140	0.25
0930	150	50.00		12.1	7.68	801	37.1	-138	0.22
0935	150	50.00		12.0	7.71	793	35.7	-141	0.21

SAMPLED AT 0935/5-19-09

Field Form
Revision 0
03/14/02

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: BC 1180

Field Personnel: R. STENT

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 5-19-09 / 0809

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: 5-19-09 0815

Date / Time Completed: 5-19-09 / 0845

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

Riser Diameter, Inches: 4.0

Initial Water Level, Feet: 48.59

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 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
0825	150	49.03		12.5	7.25	1819	20.7	-207	0.20
0835	150	49.00		12.2	7.07	1865	18.0	-218	0.22
0840	↓	49.00		12.1	7.09	1877	18.2	-220	0.19
0845	↓	↓		12.2	7.11	1885	18.9	-225	0.17

SAMPLED AT 0845/5-19-09

Field Form
Revision 0
03/14/02

BJ

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: BR-122 D

Field Personnel: RS/DC

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time: 5-19-09 / 1215

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

Prot. Casing/riser height: —

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

If prot.casing; depth to riser below: —

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

% LEL: — / —

Vol. Organic Meter (Calibration/Reading):

Volatiles (ppm): — / —

PURGE INFORMATION:

Date / Time Initiated: 5-19-09 / 1220

Date / Time Completed: 5-19-09 / 1250

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

Riser Diameter, Inches: 4.0

Initial Water Level, Feet: 45.19

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: LOW FLOW

Start BLACK TINT Finish BLACK 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
1235	150 ml/min	45.49		12.4	6.38	2253	7.01	-138	0.31
1240	↓	45.57		12.6	6.59	2129	6.25	-149	0.24
1245	↓	45.55		12.8	6.62	2162		-151	0.25
1250	↓	45.55		12.6	6.58	2144	6.46	-151	0.25

SAMPLED AT 1250/5-19-09.

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: BR-123D

Field Personnel: RS/DC

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 5-19-09 1315

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: 5-19-09 / 1320

Date / Time Completed: 5-19-09 / 1345

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

Riser Diameter, Inches: 4.0

Initial Water Level, Feet: 45.48

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: LOW FLOW

Start CLEAR Finish CLEAR

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)	Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
1330	150 ml/min 45.55		12.7	7.68	2056	7.64	-136	0.41
1335	↓		12.6	7.57	2047	7.52	-133	0.39
1340			12.7	7.53	2044	7.54	-134	0.37
1345	↓ 45.55		12.7	7.54	2042	7.49	-133	0.37

SAMPLED AT 1345/5-19-09

BG

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: BA-126

Field Personnel: PL, DC, RS, JS

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 5-21-07 / 1345

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: 5-21-07 / 1350

Date / Time Completed: 5-21-07 / 1415

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

Riser Diameter, Inches: 4.0

Initial Water Level, Feet: 7.74

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 Se purge 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/m	wc							
1355	200	7.83		17.1	7.50	814	57.4	12	0.52
1400				17.9	7.48	800	36.4	10	0.47
1405				19.0	7.45	798	20.7	9	0.45
1410				18.7	7.44	798	18.2	8	0.40
1415				18.6	7.44	796	16.9	8	0.37

Start @ 1415

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: BR-127

Field Personnel: PL, DC, RS, JS

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 5-20-09 / 1240

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

Prot. Casing/riser height: ____

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

If prot.casing; depth to riser below: ____

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

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

PURGE INFORMATION:

Date / Time Initiated: 5-20-09 1245

Date / Time Completed: 5-20-09 1305

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

Riser Diameter, Inches: 6.0

Initial Water Level, Feet: 4.28

Elevation. G/W MSL: ____

Well Total Depth, Feet: ____

Method of Well Purge: Peristaltic

One (1) Riser Volume, Gal: ____

Dedicated: (Y) / N

Total Volume Purged, Gal: ____

Purged To Dryness Y / (N)

Purge Observations: ____

Start Clear 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/~	uC							
1250	200	4.51		14.5	8.33	6150	3.15	-361	0.28
1255	|	4.50		14.2	8.35	6130	3.00	-366	0.23
1300	|	4.50		14.4	8.34	6130	2.97	-367	0.20
1305	↓	4.50		14.4	8.34	6130	2.84	-368	0.17

SAMPLE AT 1305

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: BR-3

Field Personnel: PL, DC, RJ, JS

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 5-21-05 / 925

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

Prot. Casing/riser height: ____

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

If prot.casing; depth to riser below: ____

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

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

PURGE INFORMATION:

Date / Time Initiated: 521-05 / 930

Date / Time Completed: 52105 / 955

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

Riser Diameter, Inches: 4.0

Initial Water Level, Feet: 7.62

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) SL Turbid

Purge Observations: ____

Start Yellow Finish Yellow

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
	mL/min	WL							
935	100	7.80		15.6	7.09	10,920	107.2	96	1.09
940		7.87		15.5	7.05	11,000	92.5	-20	0.96
945		7.94		15.4	7.06	11,005	80.3	-27	0.80
950		7.99		15.5	7.06	11,005	79.6	-30	0.89
0955	↓	8.04		15.4	7.06	11,010	80.2	-31	0.87

Sample @ 955

LeachField Form
Revision 0
March, 15 2002

FIELD OBSERVATIONS

Facility: Arch

Sample Point ID: BR-5A

Field Personnel: PL, DC

Sample Matrix: GW

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 5-29-09 / 1425

Water Level @ Sampling, Feet: 15.06

Method of Sampling: Sample Pump

Dedicated: (Y) N

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other (ORP)	Other ( )
1427	14.2	7.62	1621	22.7	-119	

INSTRUMENT CHECK DATA:

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

Solutions: _____

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

Solutions: _____

Conductivity Serial #: ULTRA METER 1000 umhos/cm= 1000 _____ umhos/cm= _____

Solutions: _____

GENERAL INFORMATION:

Weather conditions @ time of sampling: Sun 90°

Sample Characteristics: Clear Gray Tint

COMMENTS AND OBSERVATIONS: _____

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

Date: 5/29/09 By: _____ Company: TAL

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: BR-6A

Field Personnel: PL, DC, RS, JS

Sample Matrix: GW

MONITORTING WELL INSPECTION:

* Former pumping well

Date/Time 5-20-09 / 1055

Cond of seal: ( ) Good ( ) Cracked ____ %
( ) None (X) 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: 5-20-09 / 1160

Date / Time Completed: 5-20-09 / 1115

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

Riser Diameter, Inches:

Initial Water Level, Feet: 10.59

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
	WELL	WL							
1105	200	10.65		15.1	9.33	1610	3.22	-221	0.70
1110	↓	↓		15.3	9.39	1610	3.19	-225	0.66
1115	↓	↓		15.4	9.41	1610	3.15	-227	0.64

SAMPLE @ 1115

LeachField Form
Revision 0
March, 15 2002

FIELD OBSERVATIONS

Facility: Arch

Sample Point ID: BR-7A

Field Personnel: PL, DC

Sample Matrix: GW

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 5-29-09 / 1455

Water Level @ Sampling, Feet: 26.79

Method of Sampling: SAMPLE PUMP

Dedicated: (Y) / N

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

If YES: ( ) light ( ) heavy

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other (ORP)	Other ( )
1457	14.9	7.36	3997	100.6	-110	

INSTRUMENT CHECK DATA:

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

Solutions: _____

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

Solutions: _____

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

Solutions: _____

GENERAL INFORMATION:

Weather conditions @ time of sampling: SUN 58°

Sample Characteristics: SL TURBID

COMMENTS AND OBSERVATIONS: _____

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

Date: 5/29/09 By: _____ Company: TAL

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: BR-9

Field Personnel: PL, DC, RS, JS

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 5-21-09 / 1232

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

Prot. Casing/riser height: ____

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

If prot.casing; depth to riser below: ____

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

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

PURGE INFORMATION:

Date / Time Initiated: 5-21-09 / 1235

Date / Time Completed: @ 5-21-09 / 1300

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

Riser Diameter, Inches: 4.0

Initial Water Level, Feet: 9.10

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: LO FLOW

Start SL Turbid Yellow Finish Clear Yellow

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
1240	ML/Min 150	9.13		17.2	7.04	5774	40.3	34	.82
1245		9.19		17.3	6.96	5801	40.1	28	0.80
1250				17.5	6.80	5850	38.9	25	0.85
1255				17.8	6.80	5858	23.7	23	0.80
1300				17.6	6.93	5861	20.2	20	0.76

Sample @ 1300

LeachField Form
Revision 0
March, 15 2002

FIELD OBSERVATIONS

Facility: Arch

Sample Point ID: BR-9

Field Personnel: PL, DC

Sample Matrix: GW

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 5-29-09 1440

Water Level @ Sampling, Feet: 35.70

Method of Sampling: SAMPLE PUMP

Dedicated: (Y) / N

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other (ORP)	Other ( )
1441	15.2	7.62	1869	60.2	-171	

INSTRUMENT CHECK DATA:

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

Solutions: _____

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

Solutions: _____

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

Solutions: _____

GENERAL INFORMATION:

Weather conditions @ time of sampling: cloud 58°

Sample Characteristics: SC TURB-D

COMMENTS AND OBSERVATIONS:

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

Date: 5/29/09 By: _____ Company: TAL

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: E-1

Field Personnel: PL, DC, RS, JS

Sample Matrix: GW

MONITORTING WELL INSPECTION:

VAULT

Date/Time 5-22-09 / 925

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: 5-22-09 / 930

Date / Time Completed: 5-22-09 / 950

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

Riser Diameter, Inches: VAULT

Initial Water Level, Feet: 0.63

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: LO FLO

Start Yellow Tint (SL TURB) 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							
935	200	0.63		17.8	10.23	22,450	13.7	-182	0.80
940	↓	↓		17.7	9.98	22,500	13.7	-200	0.77
945				17.4	9.90	22,500	12.2	-204	0.74
950	↓	↓		17.6	9.90	22,550	11.6	-207	0.70

Sampled @ 950

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: E3

Field Personnel: PL, DC, RS, JS

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 5-20-09 / 0803

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: 5-20-09 / 0805

Date / Time Completed: 5-20-09 / 0813

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 7.11

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: TO Dry

Start SC Turbs Finish SC Turbs

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
0810	60 ml/mn		14.7	7.06	2165	66.6	191	2.07
0813	Dry							

FIELD OBSERVATIONS (continued)

SAMPLING INFORMATION: POINT ID E3

Date/Time 5-21-09 1145 Water Level @ Sampling, Feet: 7.39

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

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other (ORP)	Other (DO)
1145	16.2	7.55	1982	18.6	200	1.97

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 80°

Sample Characteristics: clear

COMMENTS AND OBSERVATIONS:

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

Date: 5/21/09 By: _____ Company: TAL

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: MW-103

Field Personnel: RS

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 5-26-09 / 1105

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: 5-26-09 / 1110

Date / Time Completed: 5-26-09 / 1140

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 1.89

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: LO-FLOW

Start CLEAR Finish CLEAR

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
1120	100 ml/m	1.99		17.7	7.62	707	1.21	-21	1.23
1130		2.05		17.5	7.55	700	0.99	-23	1.01
1135		2.05		17.4	7.54	699	1.02	-25	0.98
1140	↓	2.05		17.4	7.54	693	1.05	-23	0.99

SAMPLED AT 1140/5-26-09

Field Form
Revision 0
03/14/02

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: MW-104

Field Personnel: RS

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 5-21-09 / 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: 5-21-09 / 1315

Date / Time Completed: 5-21-09 / 1345

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 7.45

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 TURBID BROWN Finish TURBID TAN

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)	Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
1325	ml/min 80	7.72	13.6	7.72	1053	—	-86	0.92
1335	↓	7.72	13.7	7.67	1053	—	-117	0.88
1340	↓	7.73	13.5	7.62	1039	—	-109	0.86
1345	↓	7.73	13.6	7.59	1017	263	-107	0.86

SAMPLED AT 1345/5-21-09

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: MW-106

Field Personnel: RS/JS

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 5-22-09 / 1325

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: 5-22-09 / 1330

Date / Time Completed: 5-22-09 / 1355

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 10.05

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 G. Tarr 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
1335	80 ml/min 10.10		14.3	7.62	1920	66.7	-105	0.98
1340	80	10.10	14.1	7.02	2014	62.6	-93	0.57
1350	80	10.11	14.0	6.98	2034	50.0	-100	0.55
1355	80	10.10	13.9	6.97	2092	47.6	-102	0.55

SAMPLED AT 1400 / 5-22-09

BJ

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: MW-114

Field Personnel: R. SENK

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 5-26-09 / 1245

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: 5-26-09 / 1250

Date / Time Completed: 5-26-09 / 1315

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 10.25

Elevation. G/W MSL:

Well Total Depth, Feet:

Method of Well Purge: PERISTALTIC

One (1) Riser Volume, Gal:

Dedicated: (Y) / N

Total Volume Purged, Gal:

Purged To Dryness Y / (N)

Purge Observations: LO-FLO

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
1300	80ml	10.37		15.8	7.19	1701	28.5	40	0.99
1305	80ml	10.39		15.9	7.31	1633	18.1	33	1.01
1310	↓	10.39		16.1	7.30	1620	17.9	31	1.03
1315	↓	10.39		16.1	7.29	1623	17.9	29	1.01

SAMPLED AT 1320/5-26-09

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: ~~SG~~ MW-127

Field Personnel: PL, DC, RS, JS

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 5-20-09 / 1206

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

Prot. Casing/riser height: —

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

If prot.casing; depth to riser below: —

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

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

PURGE INFORMATION:

Date / Time Initiated: 5-20-09 / 1210

Date / Time Completed: 5-20-09 / 1225

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 4.89

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: LO FLOW

Start Clear Finish Clear

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
	ml/m	mL							
1215	60	5.61		15.3	8.31	3780	4.45	-242	1.02
1220	↓	↓		15.4	8.27	3810	3.15	-241	0.91
1225	↓	↓		15.5	8.25	3800	2.97	-242	0.87
	↓								
	↓								
	↓								

SAMPLE @ 1225

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: NESS - E

Field Personnel: R. S.

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time: 5-21-09 / 1150

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: 5-21-09 / 1200

Date / Time Completed: 5-21-09 / 1225

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

Riser Diameter, Inches: 4.0

Initial Water Level, Feet: 7.63

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 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
1210	100 ML/MIN	7.82		24.9	6.93	1613	22.2	-67	0.38
1215	100	7.83		24.9	6.99	1492	20.1	-62	0.35
1220	100	7.82		24.8	7.10	1382	19.93	-60	0.41
1225	100	7.82		24.7	7.15	1345	19.89	-59	0.40

SAMPLED AT 1225/5-21-09

BS

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: NESS-W

Field Personnel: RS

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 5-21-09 / 1105

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: 5-21-09 / 1115

Date / Time Completed: 5-21-09 / 1140

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

Riser Diameter, Inches: 4.0

Initial Water Level, Feet: 31.12

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 CLEAR Finish CLEAR

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
1125	mL/min 150	31.25		15.3	7.49	1992	6.85	-177	0.52
1130	150	31.25		14.9	7.52	1980	—	-169	0.49
1135	150	31.25		14.9	7.55	1950	—	-158	0.45
1140	150	31.25		14.8	7.57	1945	6.41	~~-159~~	0.46
								-159	

SAMPLED AT 1145/5-21-09

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: PW-10

Field Personnel: PL, DC, RS, JS

Sample Matrix: GW

Former Pumping Well

MONITORTING WELL INSPECTION:

Date/Time 5-21-09 / 0845

Cond of seal: ( ) 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: 5-21-09 / 0850

Date / Time Completed: 5-21-09 / 0915

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

Riser Diameter, Inches: /

Initial Water Level, Feet: 7.11

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: LO FLOW

Start Yellow Tint Clear Finish Yellow Tint 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
	PUMP	WL							
0855	201	7.13		16.4	7.93	2888	4.41	71	1.06
0900				15.7	8.02	3001	3.40	69	0.97
0905				15.9	8.04	3010	3.07	66	0.95
0910				16.0	8.06	3018	3.02	64	0.90
0915	↓	↓		16.2	8.06	3020	3.00	60	0.87

Sample @ 915

LeachField Form
Revision 0
March, 15 2002

FIELD OBSERVATIONS

Facility: Arch

Sample Point ID: MW-11

Field Personnel: PL, DC

Sample Matrix: GW

(X) Grab ( ) Composite

SAMPLING INFORMATION: 6-15-09 1040 Purging

Date/Time 5-21-09 / 1325 VOA ONLY Water Level @ Sampling, Feet: 6-15- 25.25

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

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other (ORP)	Other ( )
1042	14.7	7.77	6968	29.6	0-21	

INSTRUMENT CHECK DATA:

Turbidity Serial #: 4424 NTU std. = ____ NTU 10 NTU std. = 10 NTU

Solutions: A9042

pH Serial #: 614162 4.0 std.= 4.00 7.0 std.= 7.00 10.0 std. = ____

Solutions: 4-LT2 2-LT 7-NW-1

Conductivity Serial #: 614162 1010 umhos/cm= 1010 ____ umhos/cm= ____

Solutions: 7264

GENERAL INFORMATION:

Weather conditions @ time of sampling: Sun 70°

Sample Characteristics: Clear

COMMENTS AND OBSERVATIONS:

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

Date: 6 15-09 ~~5 122 09~~ By: [signature] Company: TAL

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: PW-12

Field Personnel: PL, DC, RJ, JS

Sample Matrix: GW

MONITORTING WELL INSPECTION: Former Pumping well

Date/Time 5-21-09 / 1147

Cond of seal: ( ) Good ( ) Cracked ( ) None (X) 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: 5-21-09 / 1150

Date / Time Completed: 5-21-09 / 1210

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

Riser Diameter, Inches:

Initial Water Level, Feet: 5.62

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: LO FLOW

Start Clear Finish Clear

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
	mL/m	WL							
1155	200	5.69		15.6	7.30	3086	0.84	-11	0.99
1200				15.6	7.29	3074	0.80	-15	0.95
1205				16.1	7.20	3070	0.76	-17	0.90
1210				16.3	7.18	3070	0.70	-18	0.87

Sample @ 1210

Rev 2

LeachField Form
Revision 0
March, 15 2002

FIELD OBSERVATIONS

Facility: Arch

Sample Point ID: PW-13

Field Personnel: PL. DC

Sample Matrix: GW

~~(X)~~ Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 5-29-09 / 1450

Water Level @ Sampling, Feet: 22.97

Method of Sampling: SAMPLE PORT

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 ( )
1452	14.7	7.63	2561	15.7	-201	

INSTRUMENT CHECK DATA:

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

Solutions: _____

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

Solutions: _____

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

Solutions: _____

GENERAL INFORMATION:

Weather conditions @ time of sampling: Cloudy 60°

Sample Characteristics: Clear

COMMENTS AND OBSERVATIONS: _____

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

Date: 5/29/09 By: _____ Company: TAL

LeachField Form
Revision 0
March, 15 2002

FIELD OBSERVATIONS

Facility: Arch

Sample Point ID: PW-14

Field Personnel: PL, DC

Sample Matrix: GW

(A) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 6-15-09 / 1125

Water Level @ Sampling, Feet: 21.92

Method of Sampling: SAMPLE PUMP

Dedicated: (Y) / N

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other (ORP)	Other ( )
1127	15.1	7.83	7154	92.9	-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: Sun 78°

Sample Characteristics: SL Turbid Yellow

COMMENTS AND OBSERVATIONS: _____

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

Date: 6-15-09 ~~5-22-09~~ By: _____ Company: TAL

LeachField Form
Revision 0
March, 15 2002

FIELD OBSERVATIONS

Facility: Arch

Sample Point ID: DW-15

Field Personnel: PL, DC

Sample Matrix: GW

(K) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 5-29-09 / 1410

Water Level @ Sampling, Feet: 17.24

Method of Sampling: Sample Pump

Dedicated: (Y) / N

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other (ORP)	Other ( )
1412	14.6	9.79	8792	5.19	-211	

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: Clouds 50

Sample Characteristics: Amber

COMMENTS AND OBSERVATIONS:

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

Date: 5/29/09 By: _____ Company: TAL

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: PZ-101

Field Personnel: R. SRUR

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 5-27-09 1240

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

Prot. Casing/riser height: —

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

If prot.casing; depth to riser below: —

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

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

PURGE INFORMATION:

Date / Time Initiated: 5-27-09 1245

Date / Time Completed: 5-27-09 1310

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 12.79

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 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
1255	150	12,97		14.4	7.07	3919	5.39	-57	0.94
1300	150	13,05		14.5	7.03	3921	4.98	-59	0.95
1305	150	13,05		14.5	6.99	3938	4.01	-60	0.97
1310	150	13,05		14.5	6.95	3940	3.82	-62	0.95

SAMPLED AT 1310 / 5-27-09

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: PZ-102

Field Personnel: R. SENF

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 5-27-09 / 1320

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

Prot. Casing/riser height: —

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

If prot.casing; depth to riser below: —

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

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

PURGE INFORMATION:

Date / Time Initiated: 5-27-09 / 1325

Date / Time Completed: 5-27-09 / 1350

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 15.97

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-FCO

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
1335	100 mL	16.11		14.9	7.14	5973	3.71	-102	0.91
1340	100 mL	16.10		15.1	7.09	5972	1.39	-101	0.85
1345	↓	16.10		15.0	7.06	5929	1.13	-99	0.83
1350	↓	16.10		15.1	7.11	5897	1.08	-103	0.84

SAMPLED AT 1355/5-27-09

Field Form
Revision 0
03/14/02

BJ

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: PZ-103

Field Personnel: R. STAUF

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 5-27-09 / 1200

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

Prot. Casing/riser height: —

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

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: 5-27-09 / 1205

Date / Time Completed: 5-27-09 / 1230

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 11.67

Elevation. G/W MSL:

Well Total Depth, Feet:

Method of Well Purge: PERISTALTIC PUMP

One (1) Riser Volume, Gal:

Dedicated: (Y) N

Total Volume Purged, Gal:

Purged To Dryness Y / (N)

Purge Observations: LO-FLO

Start CLEAR Finish CLEAR

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
1215	150	11.85		14.6	7.11	5608	4.58	-167	0.97
1220	150	11.85		14.7	7.13	5682	4.55	-169	0.87
1225	150	11.85		14.7	7.14	5693	4.52	-169	0.85
1230	150	11.85		14.7	7.14	5713	4.55	-173	0.81

SAMPLED AT 1230 / 5-27-09

Field Form
Revision 0
03/14/02

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: PZ-104

Field Personnel: R.SENF

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 5-27-09 / 1110

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

Prot. Casing/riser height: 4'

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: 5-27-09 / 1118

Date / Time Completed: 5-27-09 / 1145

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 13.45

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 CLEAR Finish CLEAR

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
1125	ML/MN 150	13.53		14.0	7.07	1542	8.92	-127	0.95
1130		13.53		13.8	6.97	1539	9.03	-124	0.91
1135		13.53		13.9	6.94	1536	11.23	-128	0.87
1145	↓	↓		14.1	7.01	1528	10.41	-129	0.85

SAMPLED AT 1150 / 5-27-09

Field Form
Revision 0
03/14/02

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: PZ-105

Field Personnel: PL, DC, RS, JS

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 5-21-09 / 1006

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: 5-21-09 / 1010

Date / Time Completed: 5-21-09 / 1030

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 9.47

Elevation. G/W MSL:

Well Total Depth, Feet:

Method of Well Purge: Peristaltic

One (1) Riser Volume, Gal:

Dedicated: (Y) / N

Total Volume Purged, Gal:

Purged To Dryness Y / (N) (or Turbidity)

Purge Observations: CO FLOW

Start 6 - 7 Finish 6 - 8 (Turbidity)

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
1015	AC/M 150	WL 9.69		17.4	7.75	2134	429	-13	0.96
1020	↓	9.78		16.9	7.60	2011	424	-10	0.80
1025		9.91		16.3	7.57	2000	397	-9	0.88
1030	↓	10.02		16.4	7.56	1996	382	-7	0.85

SAMPLE @ 1030

PL

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: P2-10C

Field Personnel: PL, DC, RS, JS

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 5-20-09 / 958

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: 5-20-09 1005

Date / Time Completed: 5-20-09 1030

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 10.29

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: LO FLOW

Start SC Fusion Yellow Finish Clear Yellow

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
	M/m	WL							
1010	80	11.91		14.7	6.69	6400	12.9	-196	1.13
1015		12.07		14.7	6.74	6370	8.64	-200	0.51
1020		12.14		14.9	6.77	6300	6.51	-203	0.47
1025		12.19		14.7	6.77	6290	6.46	-205	0.35
1030				15.0	6.79	6280	6.40	-206	0.30

SAMPLE @ 1070

MS 2

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: P2-107

Field Personnel: PL, DC, RS, JS

Sample Matrix: GW

MONITORTING WELL INSPECTION:

Date/Time 5-20-09 / 914

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

Prot. Casing/riser height: —

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

If prot.casing; depth to riser below: —

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

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

PURGE INFORMATION:

Date / Time Initiated: 5-20-09 / 915

Date / Time Completed: 5-20-09 / 945

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 6.72

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: LO FLOW

Start Clear Finish clear

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
925	mL/m 200	wi 6.86		13.3	7.03	2760	3.08	-65	1.90
930				12.6	7.21	2770	2.14	-70	1.77
935				12.4	7.29	2780	1.74	-77	0.99
940				12.4	7.31	2780	1.42	-78	0.95
945				12.4	7.34	2780	1.30	-79	0.93

SAMPLE @ 945

PL

FIELD OBSERVATIONS (continued)

SAMPLING INFORMATION: POINT ID MW-107

Date/Time 5-20-09 1945 Water Level @ Sampling, Feet: 6.86

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

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other (ORP)	Other (DO)
945	12.4	7.34	2780	~~130~~	-79	0.93
				1.30		

INSTRUMENT CHECK DATA:

Turbidity Serial #: 4424 NTU std. = ____ NTU 10 NTU std. = 10 NTU

Solutions: _____

pH Serial #: MP20 1201 4.0 std.= 4.00 7.0 std.= 7.00 10.0 std. = _____

Solutions: _____

Conductivity Serial #: MP20 1201 1010 umhos/cm= 1010 _____ umhos/cm= _____

Solutions: _____

GENERAL INFORMATION:

Weather conditions @ time of sampling: SUN 65°

Sample Characteristics: clear

COMMENTS AND OBSERVATIONS:

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

Date: 5/20/09 By: [signature] Company: TAL

LeachField Form
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FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: GD-1

Field Personnel: R. SENF

Sample Matrix: S/W

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 5-19-09 / 0940

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 ( )
0945	16.9	6.81	1841		-21	

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: 5/19/09 By: [signature] Company: TAL

LeachField Form
Revision 0
March, 15 2002

FIELD OBSERVATIONS

Facility: ACCH

Sample Point ID: 90-2

Field Personnel: R. SENF

Sample Matrix: OUTFALL

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 5-19-09 1405

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 ( )
1407	16.9	7.18	1804		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: SUNNY, 70°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: 5/19/09 By: _____ Company: TAC

LeachField Form
Revision 0
March, 15 2002

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: GO-2S 1

Field Personnel: R. SRNF

Sample Matrix: GRAB

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 5-19-09 1415

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 ( )
1420	18.7	7.54	627		-37	

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, 70°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: 5/19/09 By: [signature] Company: ARCH

LeachField Form
Revision 0
March, 15 2002

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: GS-4

Field Personnel: R. SENF

Sample Matrix: SEEP

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 5-19-09 1430

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 ( )
1435	16.9	7.35	1706		-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, 70°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: 5/19/09 By: [signature] Company: TAC

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: S-3

Field Personnel: PL, DC, RJ, JS

Sample Matrix: GW

MONITORTING WELL INSPECTION:

VAULT

Date/Time 5-21-09 / 1052

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: 5-21-09 / 1055

Date / Time Completed: 5-21-09 / 1115

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

Riser Diameter, Inches: VAULT

Initial Water Level, Feet: 0.52

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: LO FLOW

Start Clear Bench Sheet Finish Clear Bench Sheet

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
	M/W	WL							
1100	200	0.52		15.7	7.05	2767	15.0	-45	1.03
1105	↓	↓		16.2	7.00	2770	11.6	43	0.95
1110				16.7	7.01	2780	10.7	41	0.90
1115	↓	↓		17.2	6.97	2779	123	40	0.87

SAMPLE @ 1115

FIELD OBSERVATIONS

Facility: ARCH

Sample Point ID: S-4

Field Personnel: PL, DC, RS, JS

Sample Matrix: GW

MONITORTING WELL INSPECTION:

X VAULT

Date/Time 5-20-09 / 1127

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: 5-20-09 / 1130

Date / Time Completed: 5-20-09 / 1150

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

Riser Diameter, Inches: ____

Initial Water Level, Feet: 0.82

Elevation. G/W MSL: ____

Well Total Depth, Feet: ____

Method of Well Purge: Peristaltic

One (1) Riser Volume, Gal: ____

Dedicated: (Y) / N

Total Volume Purged, Gal: ____

Purged To Dryness Y / (N)

Purge Observations: CO FLOW

Start SL 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
	MW	WL							
1135	200	0.93		13.6	8.63	3240	23.9	-221	0.87
1140	↓	↓		13.5	8.60	3210	17.7	-223	0.80
1145				13.7	8.63	3200	16.6	-226	0.76
1150				13.7	8.65	3200	16.0	-228	0.70

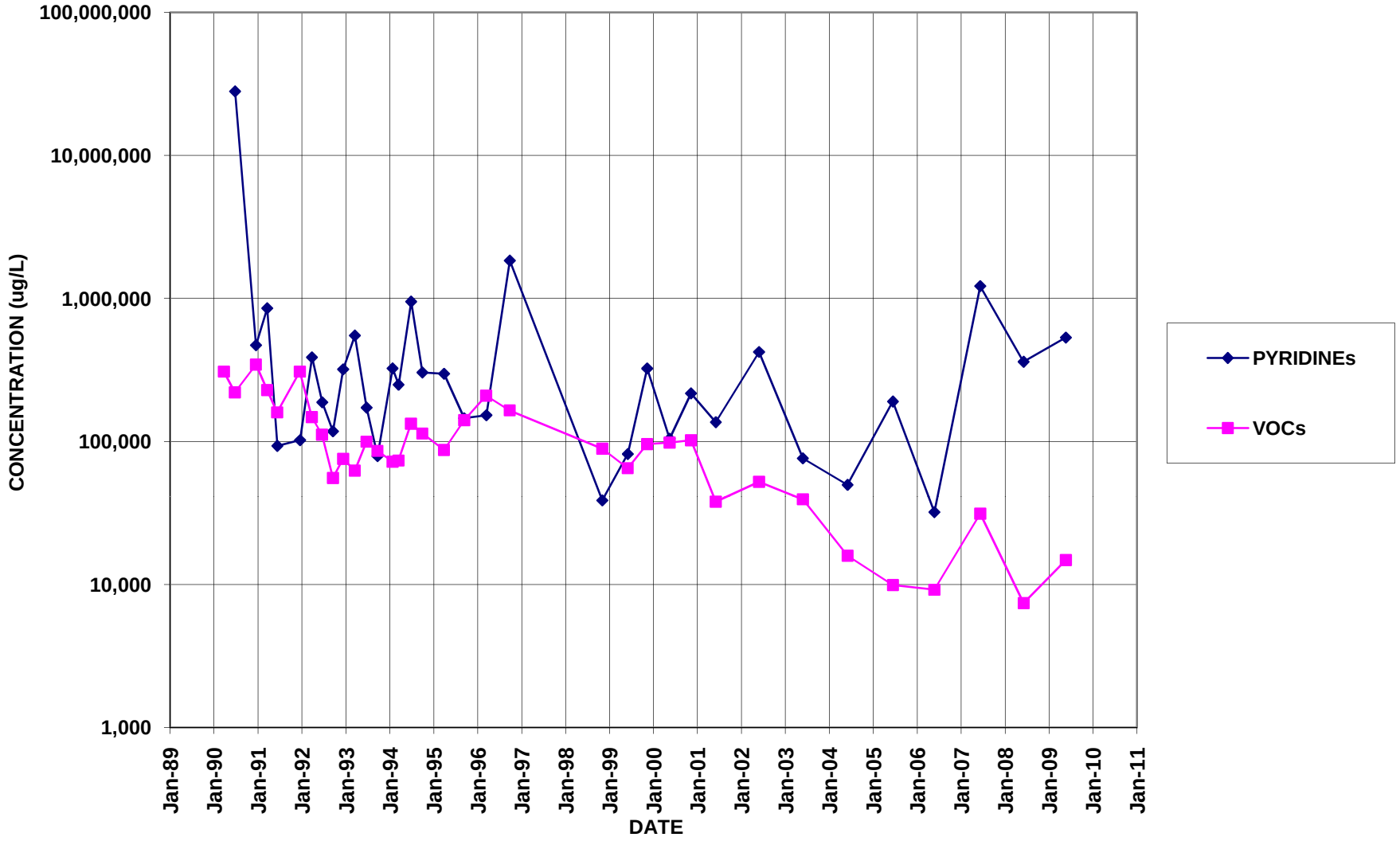
SAMPLE @ 1150

Anal 2

Appendix B

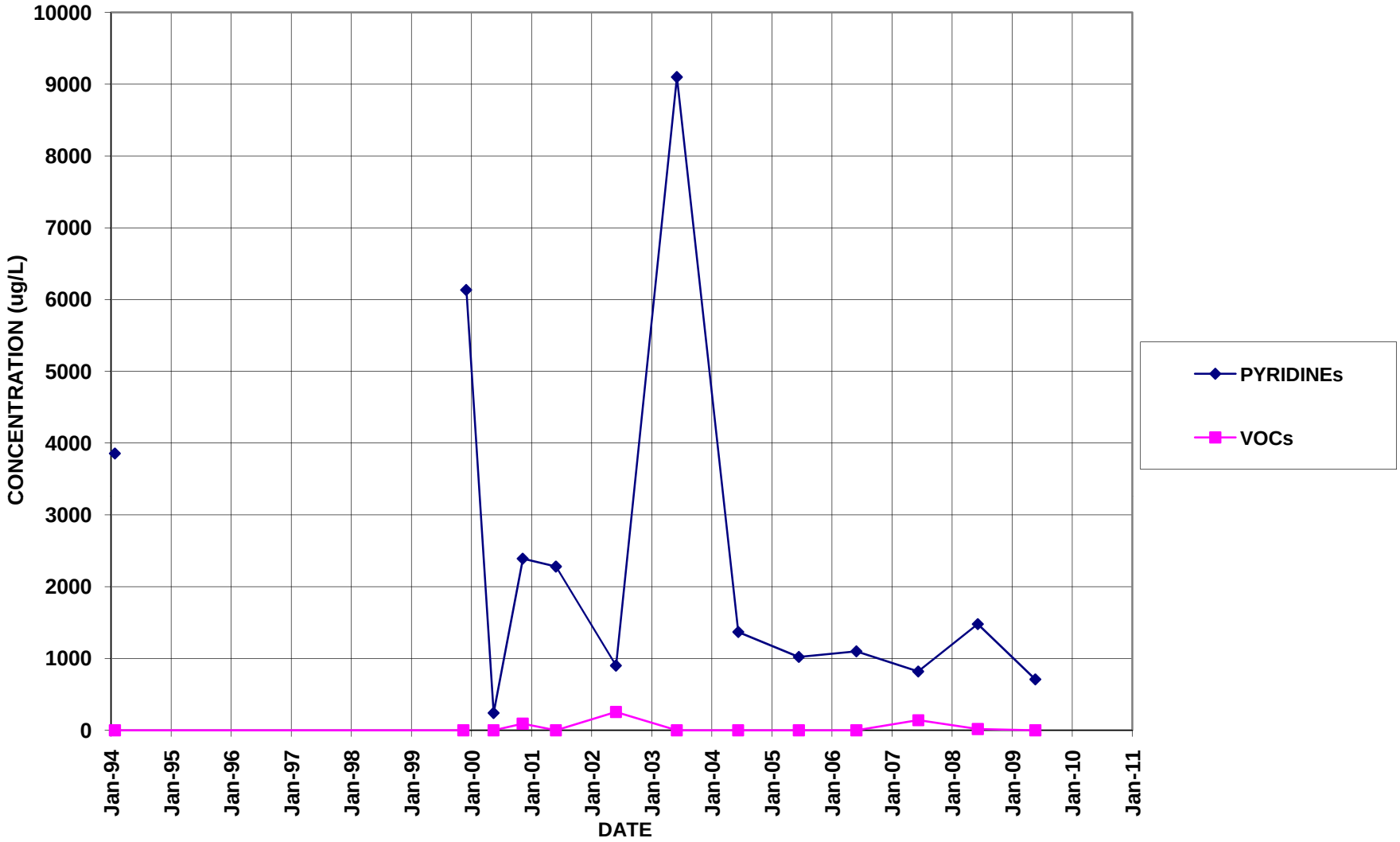
Well Trend Data

B-17



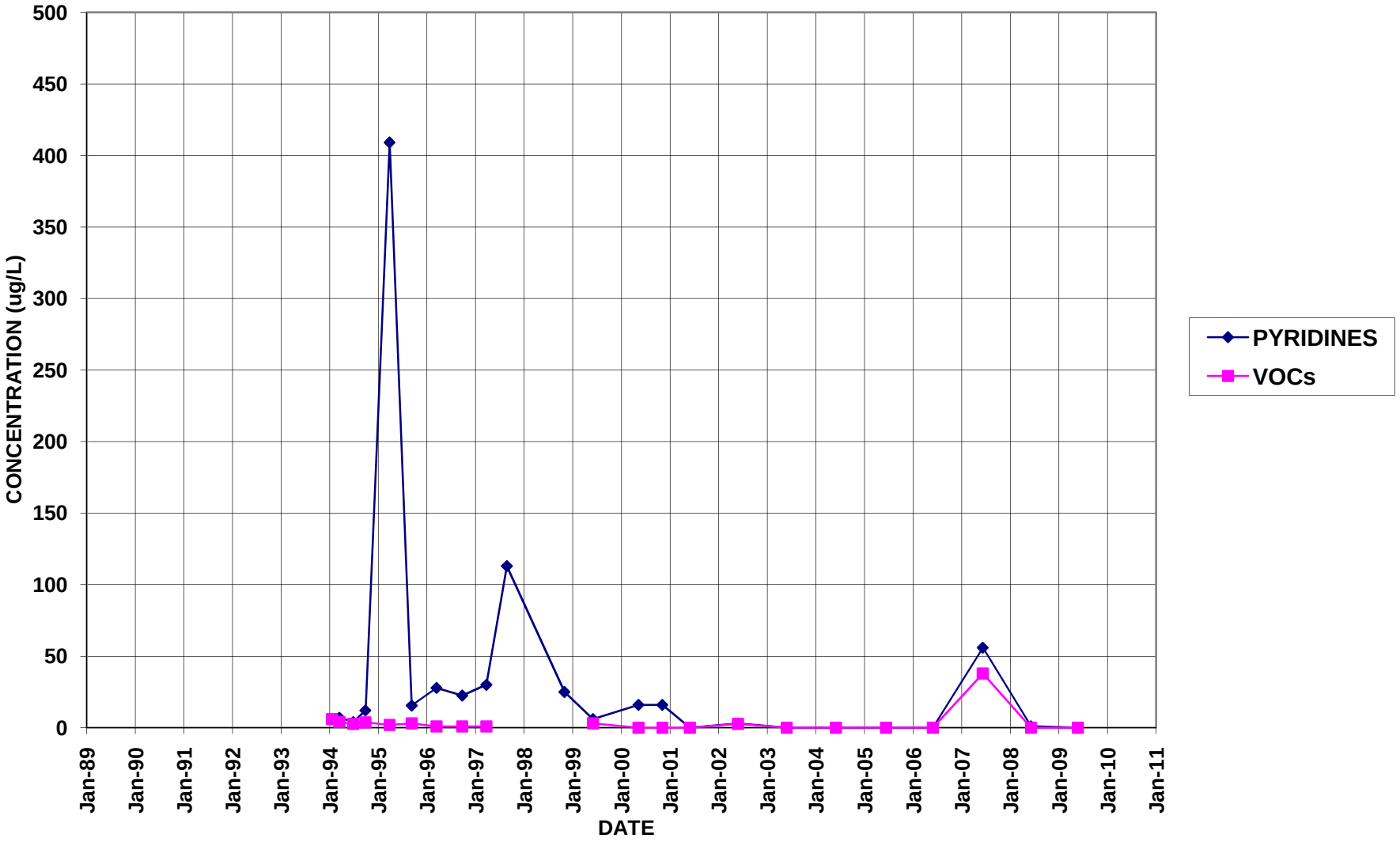
Prepared by: nmb
Reviewed by: jeb

B-7



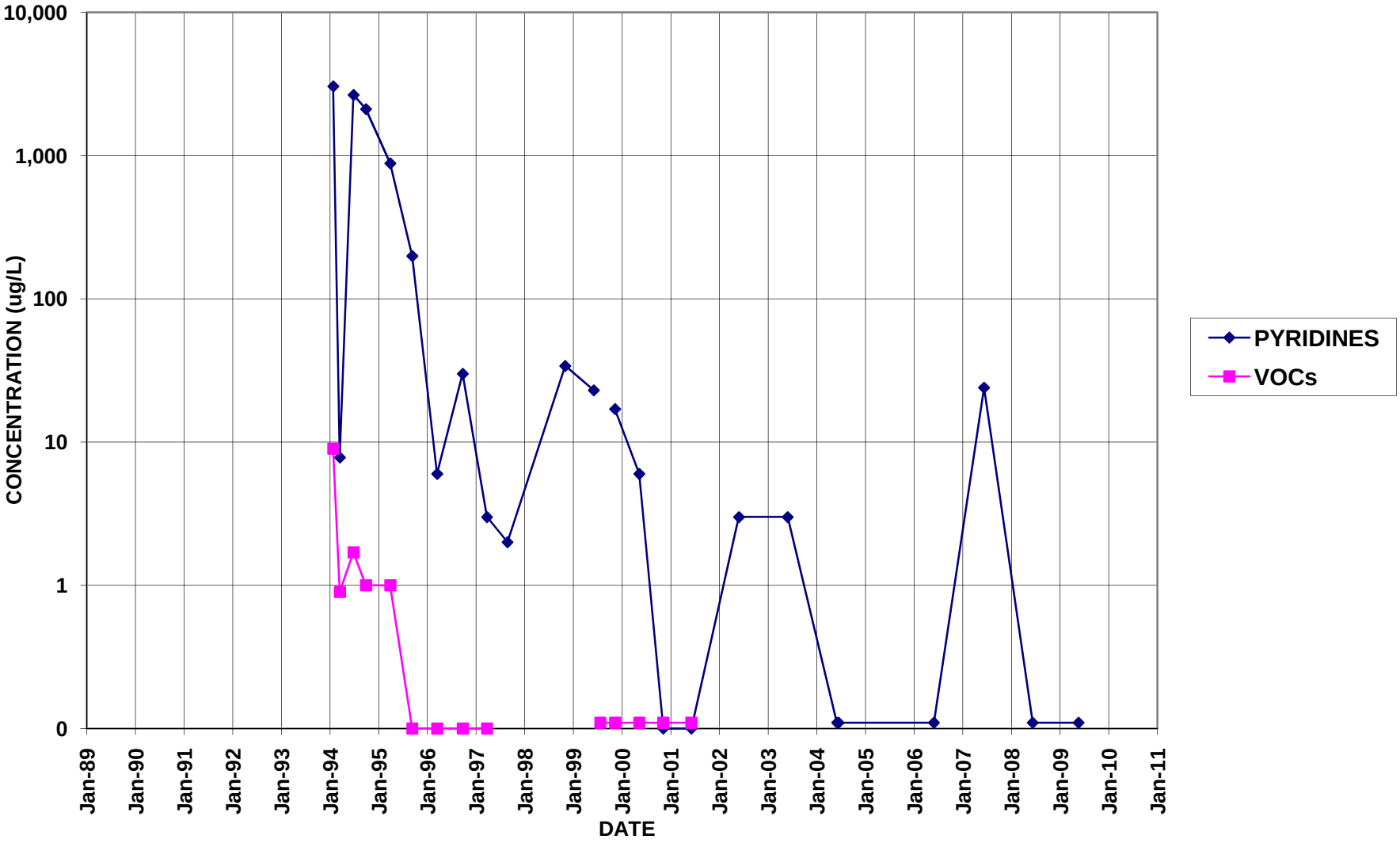
Prepared by: nmb
Reviewed by: jeb

BR-103

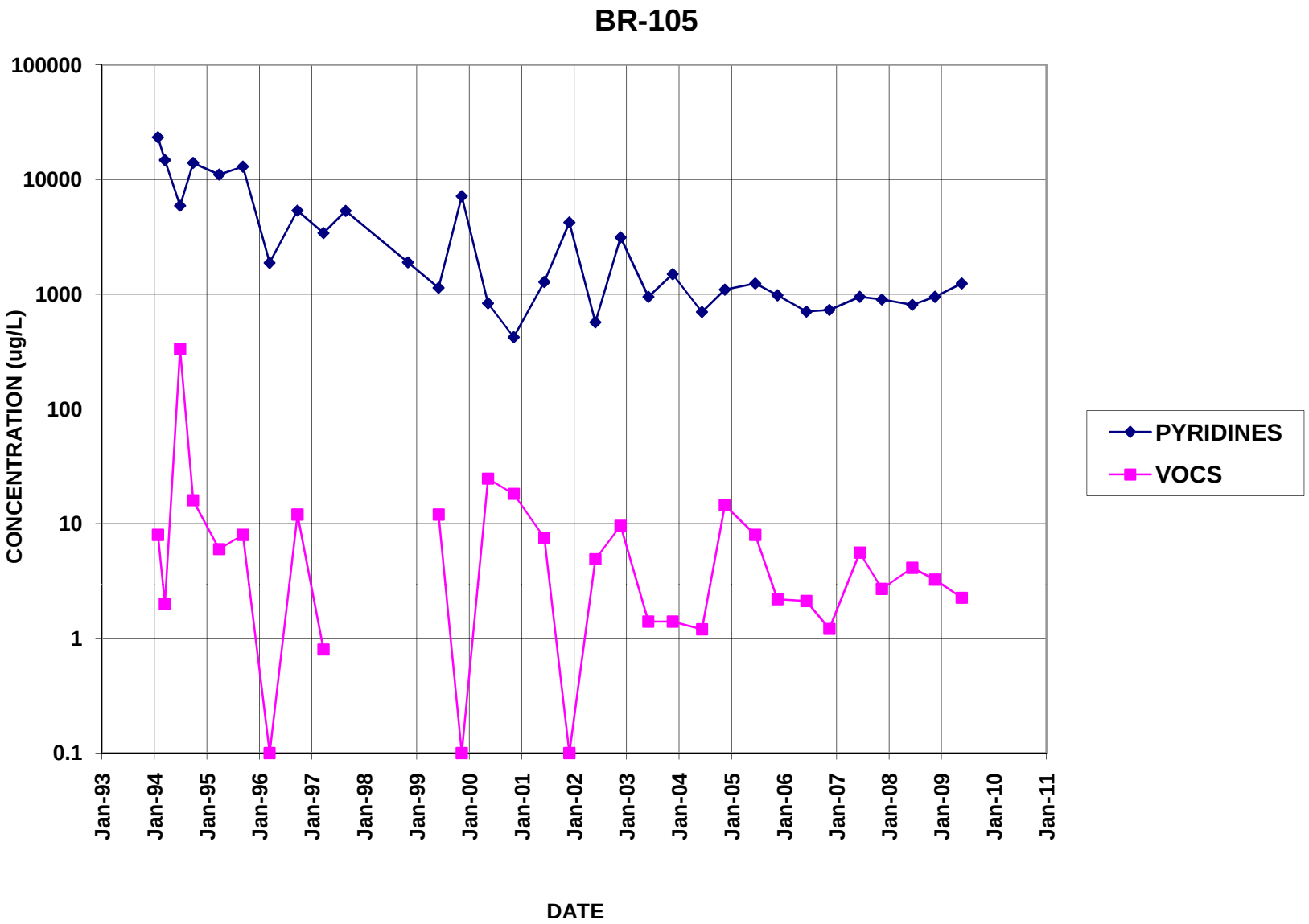


Prepared by: nmb
Reviewed by: jeb

BR-104

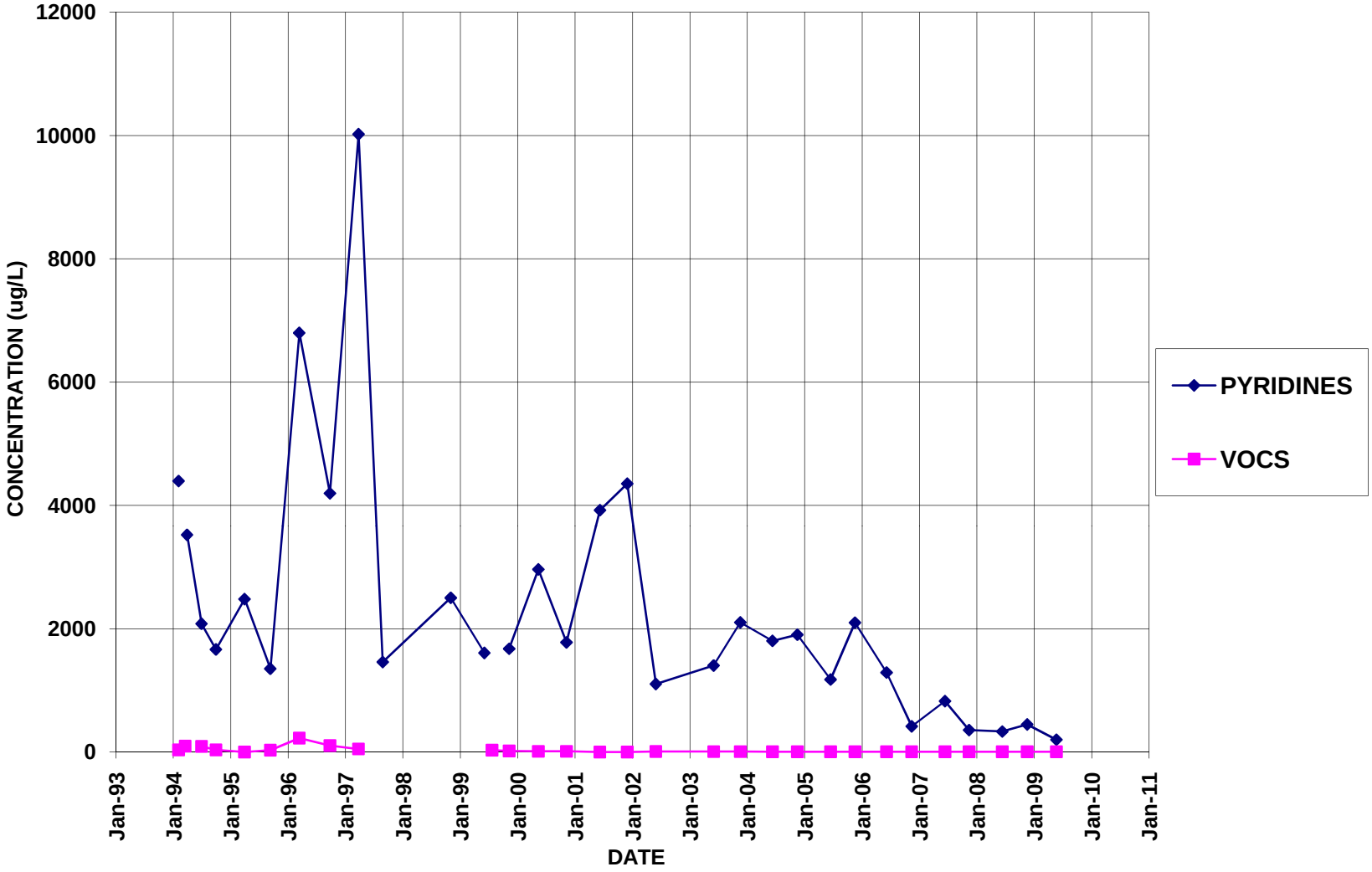


Prepared by: nmb
Reviewed by: jeb



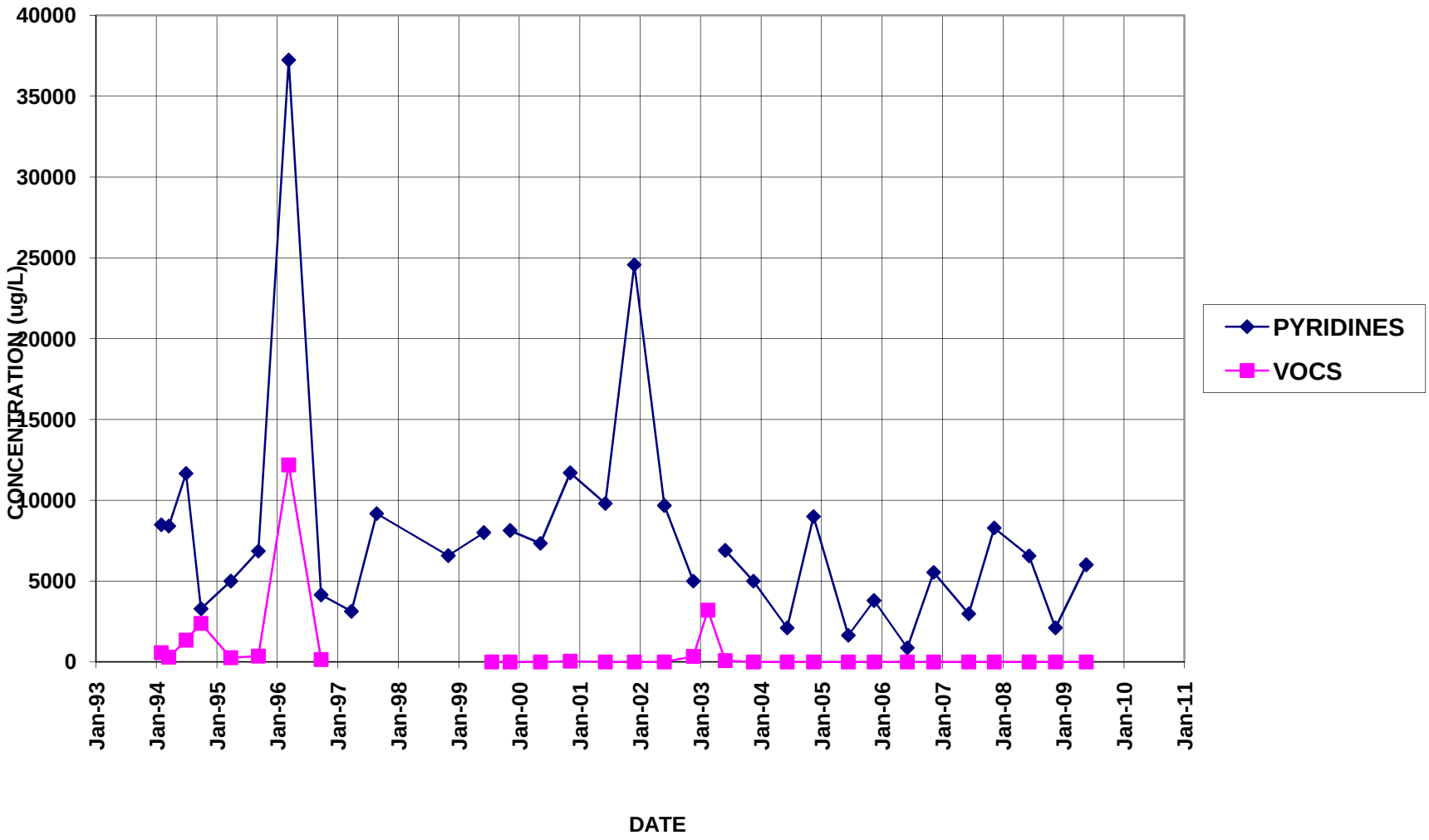
Prepared by: nmb
Reviewed by: jeb

BR-105D

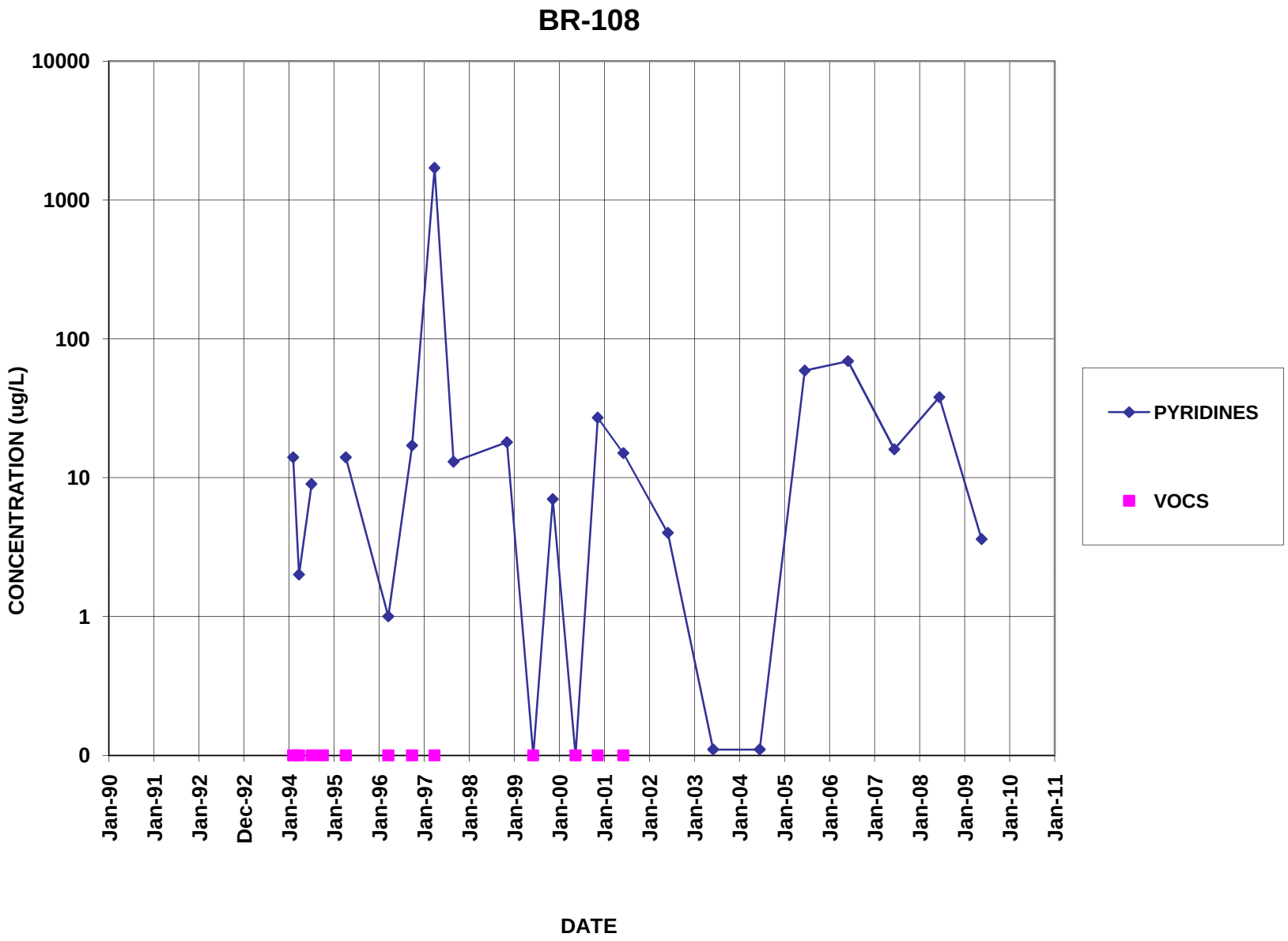


Prepared by: nmb
Reviewed by: jeb

BR-106

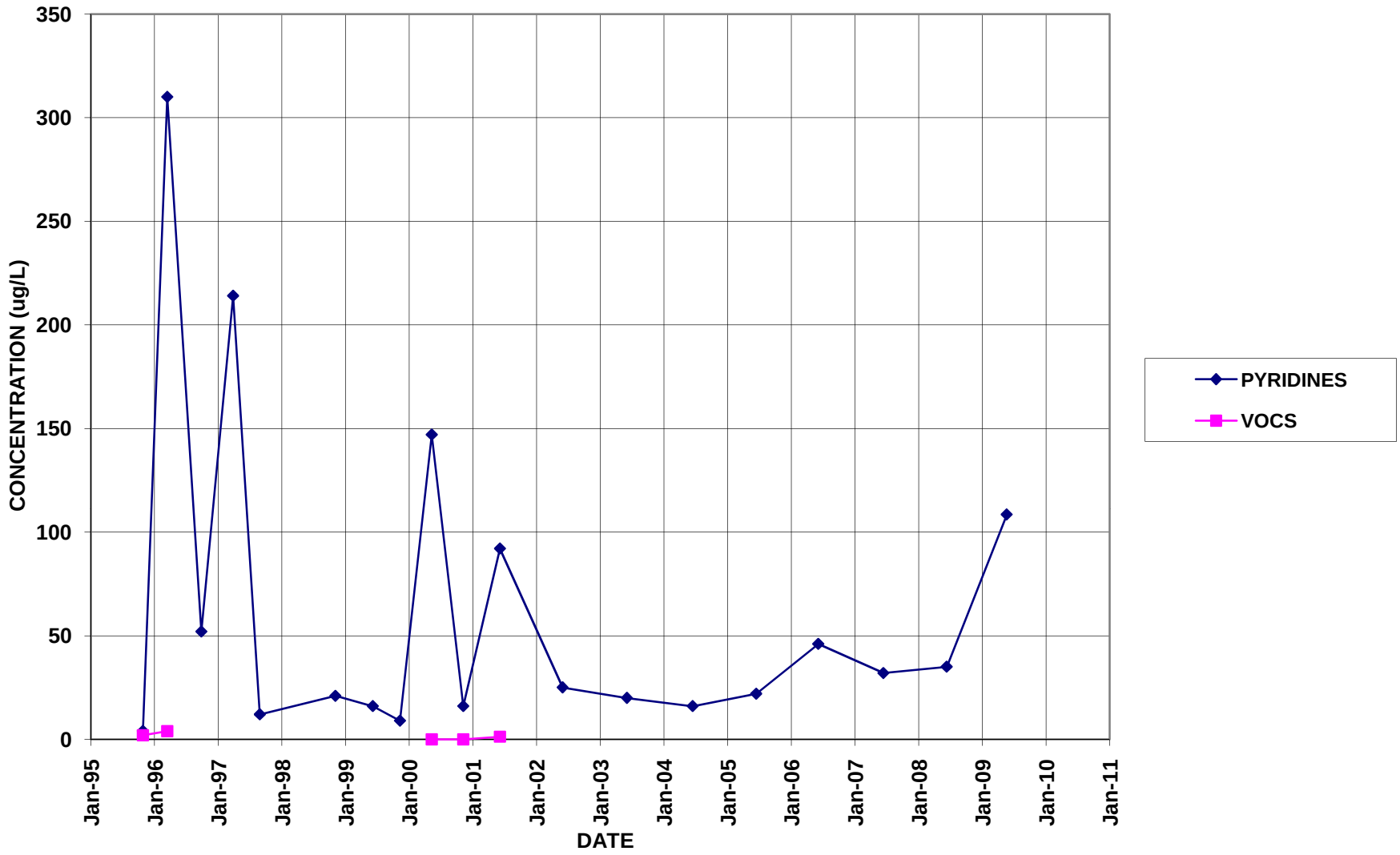


Prepared by: nmb
Reviewed by: jeb



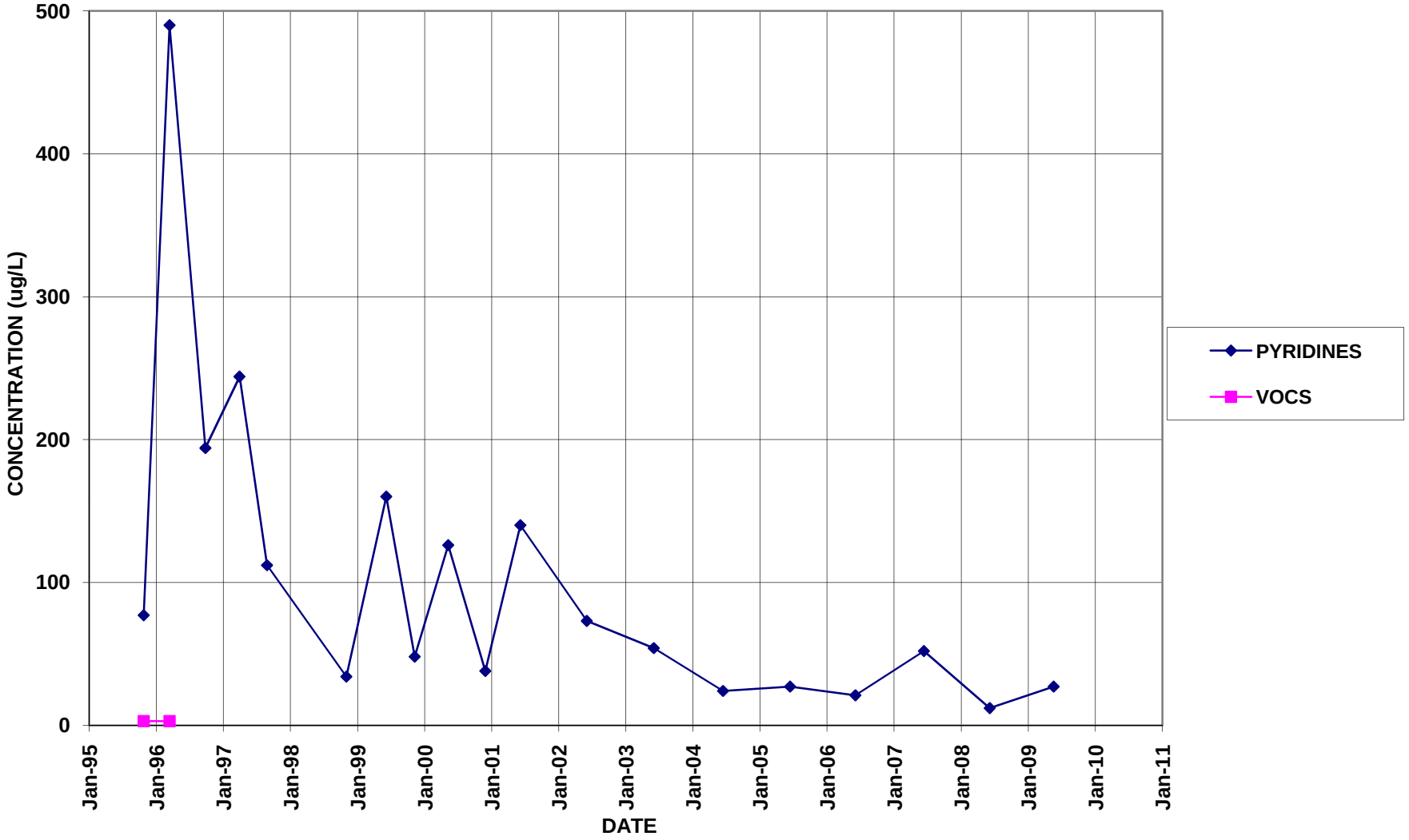
Prepared by: nmb
Reviewed by: jeb

BR-112D



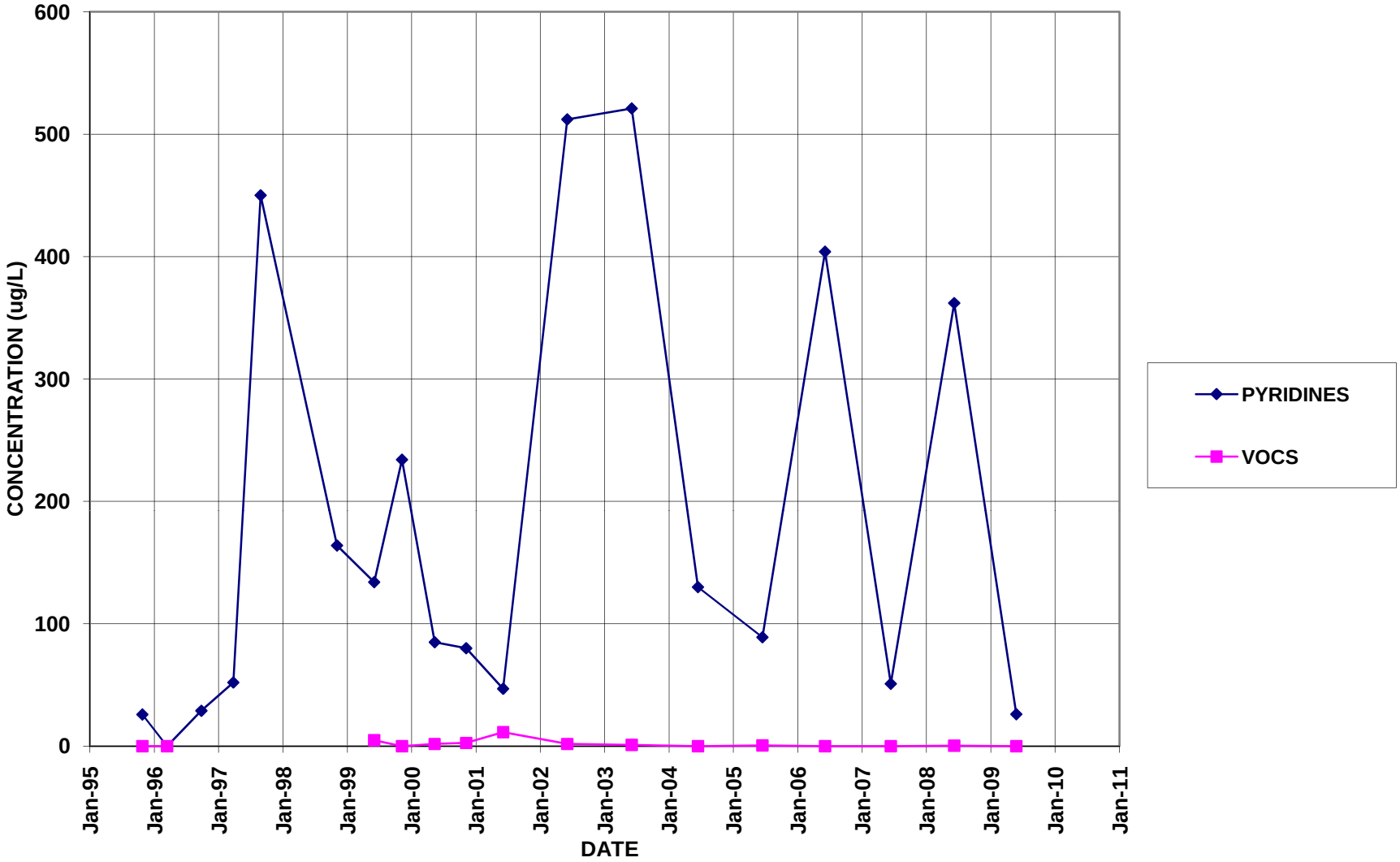
Prepared by: nmb
Reviewed by: jeb

BR-113D



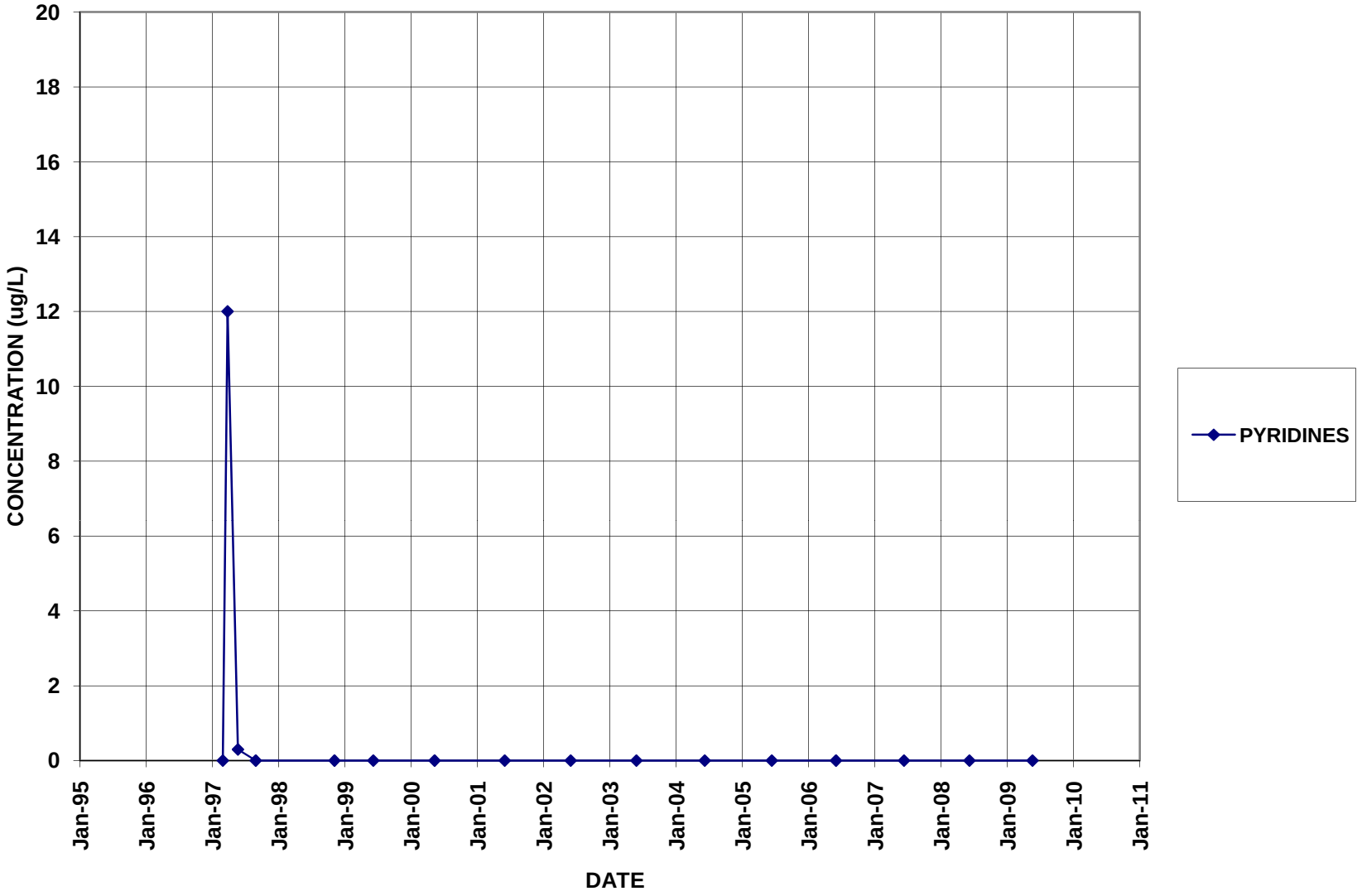
Prepared by: nmb
Reviewed by: jeb

BR-114



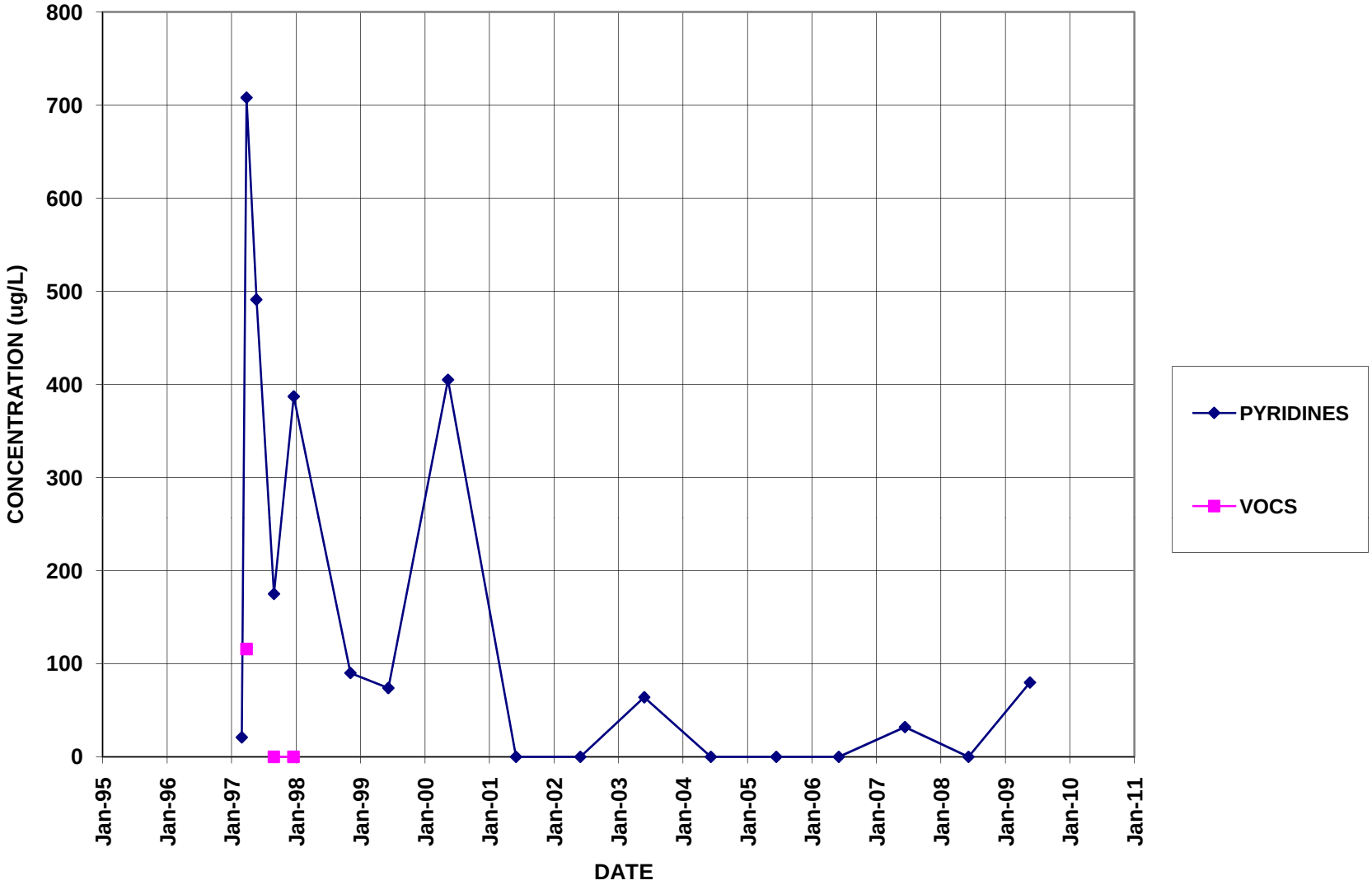
Prepared by: nmb
Reviewed by: jeb

BR-116



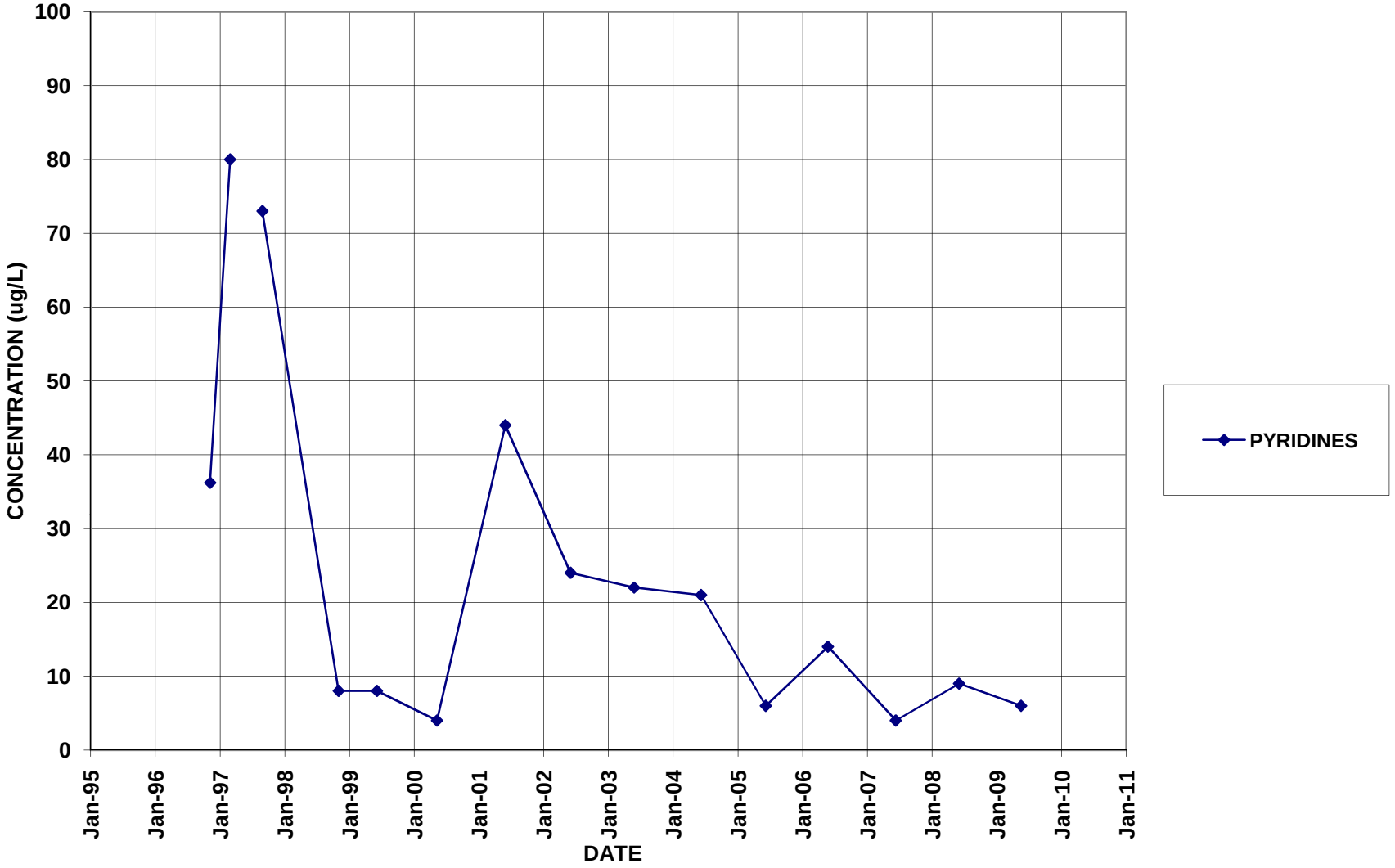
Prepared by: nmb
Reviewed by: jeb

BR-116D



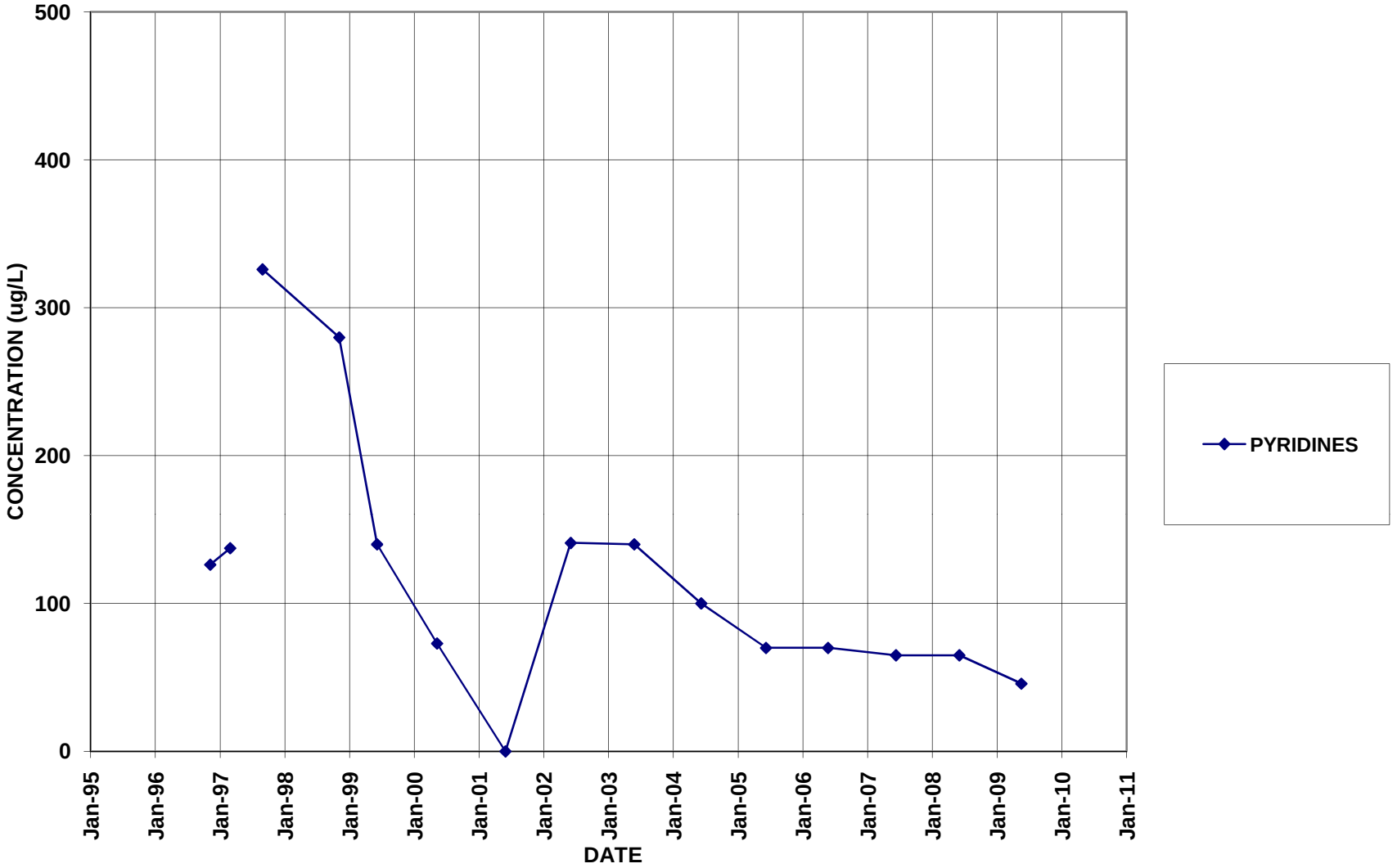
Prepared by: nmb
Reviewed by: jeb

BR-117D



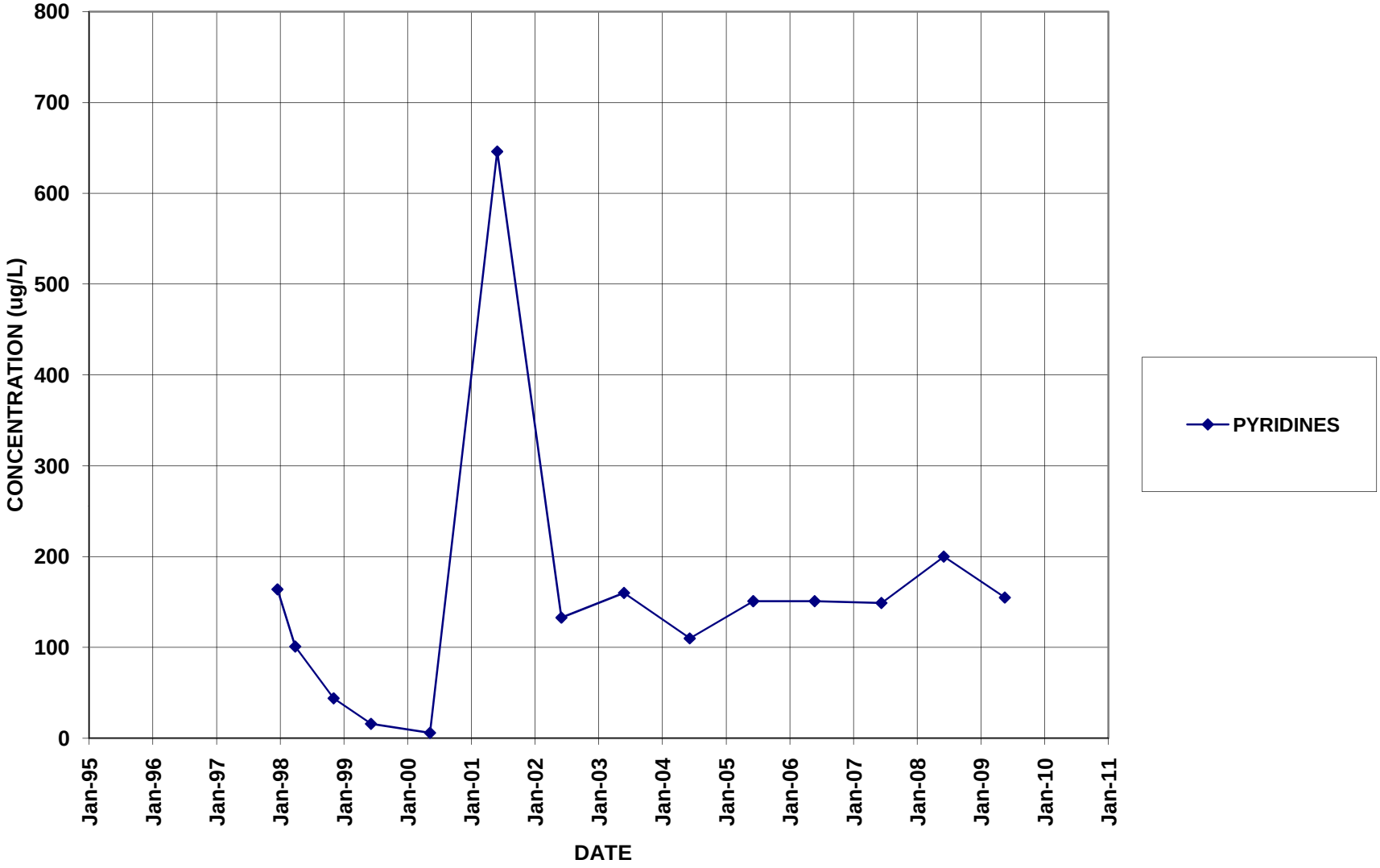
Prepared by: nmb
Reviewed by: jeb

BR-118D



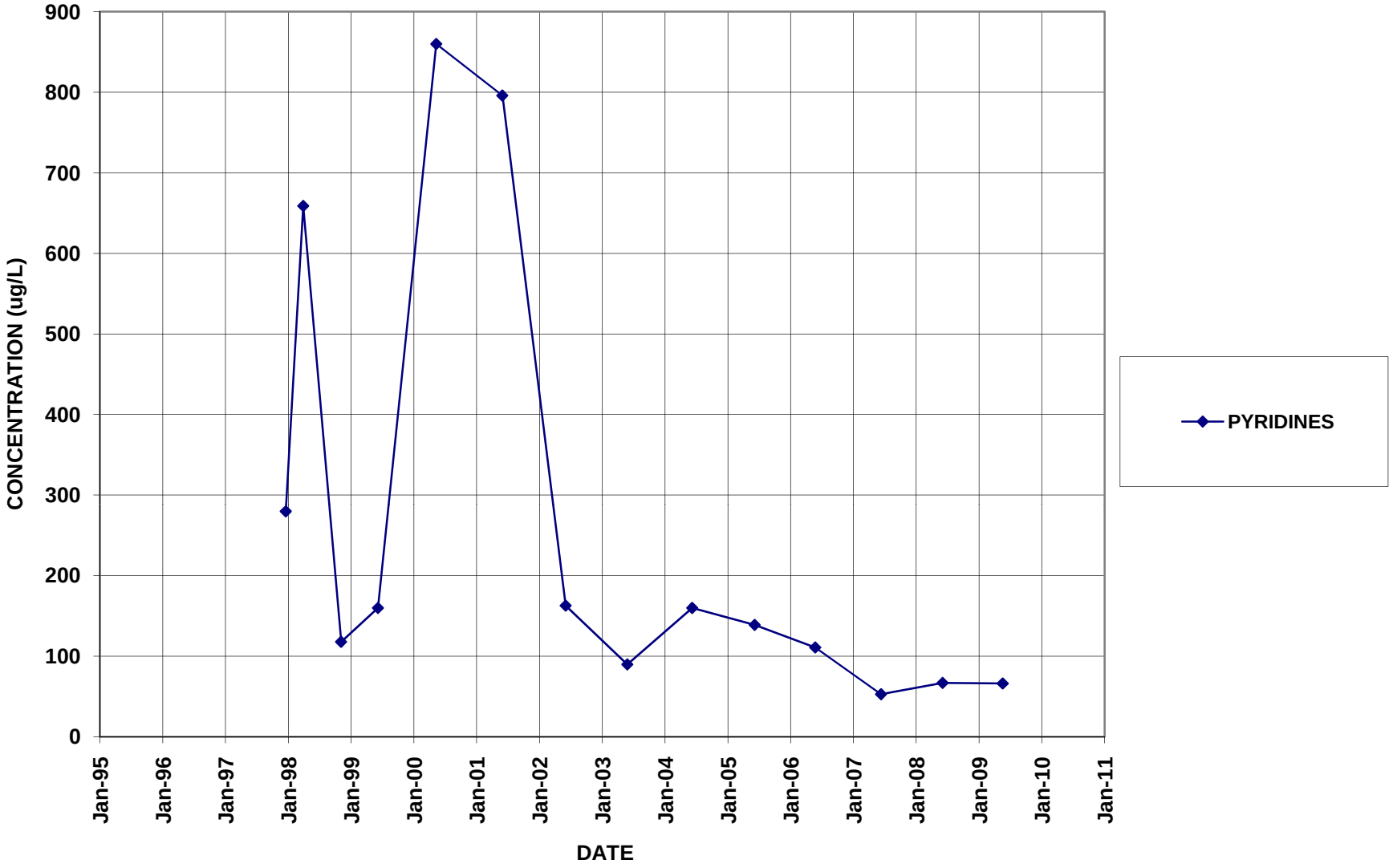
Prepared by: nmb
Reviewed by: jeb

BR-122D



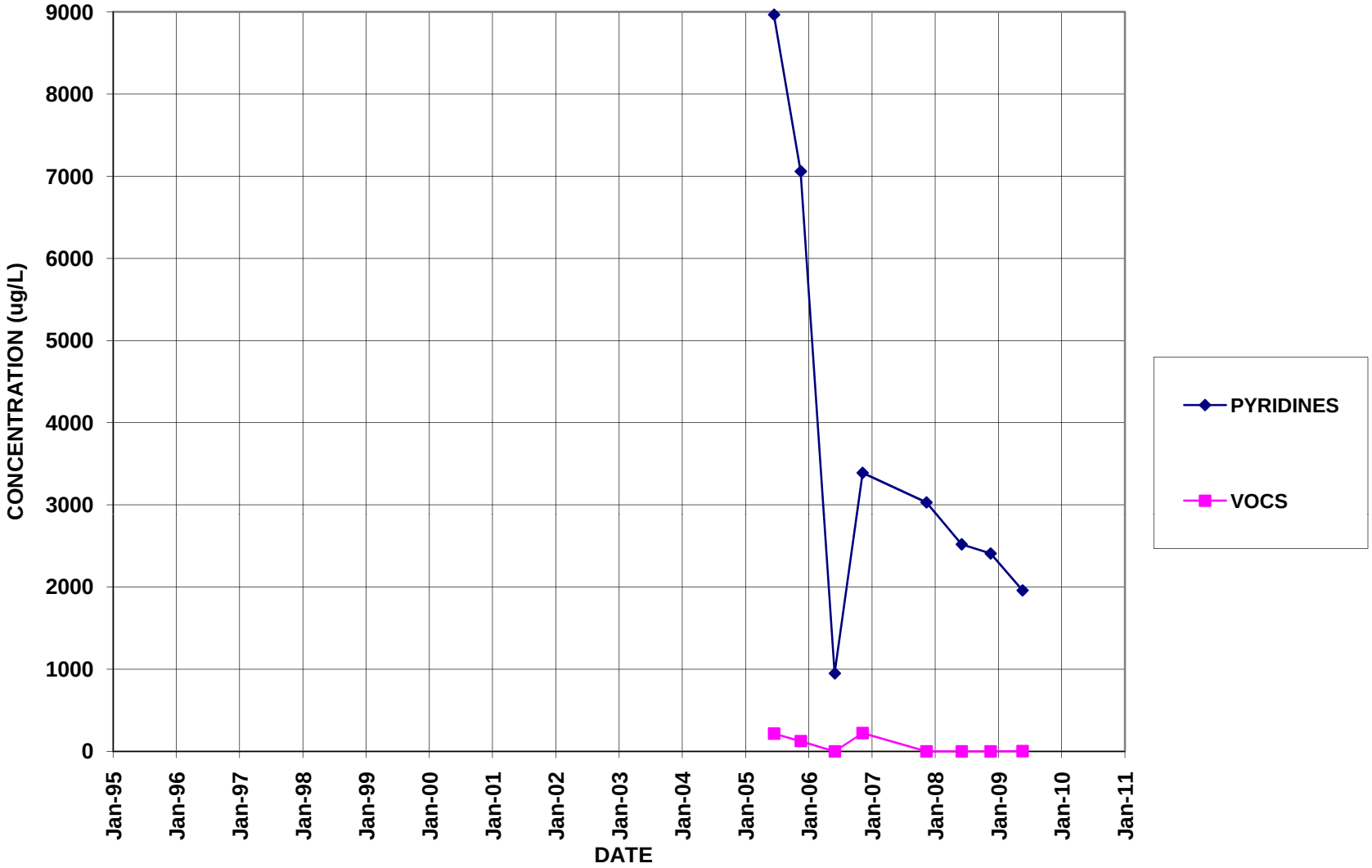
Prepared by: nmb
Reviewed by: jeb

BR-123D



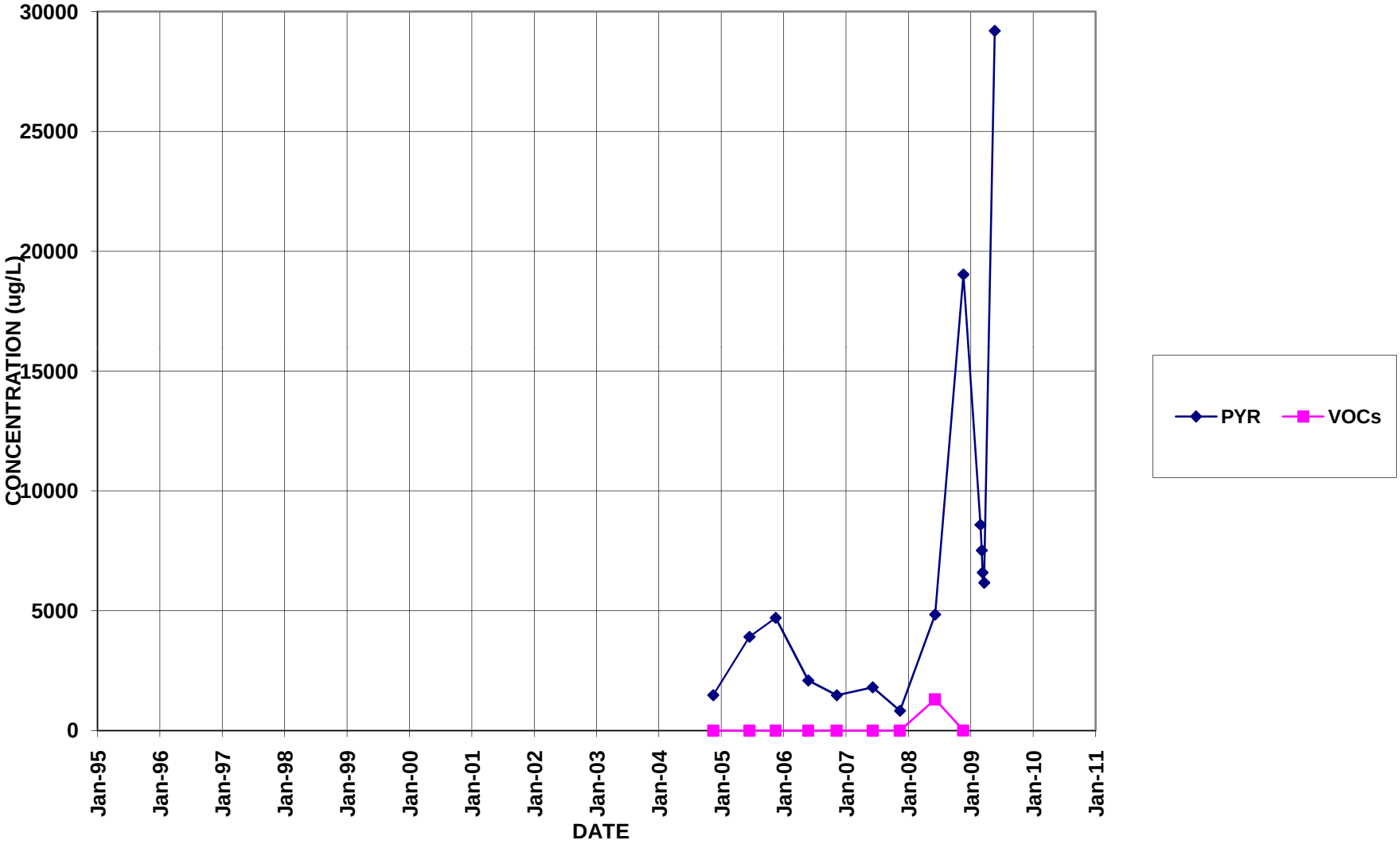
Prepared by: nmb
Reviewed by: jeb

BR-126

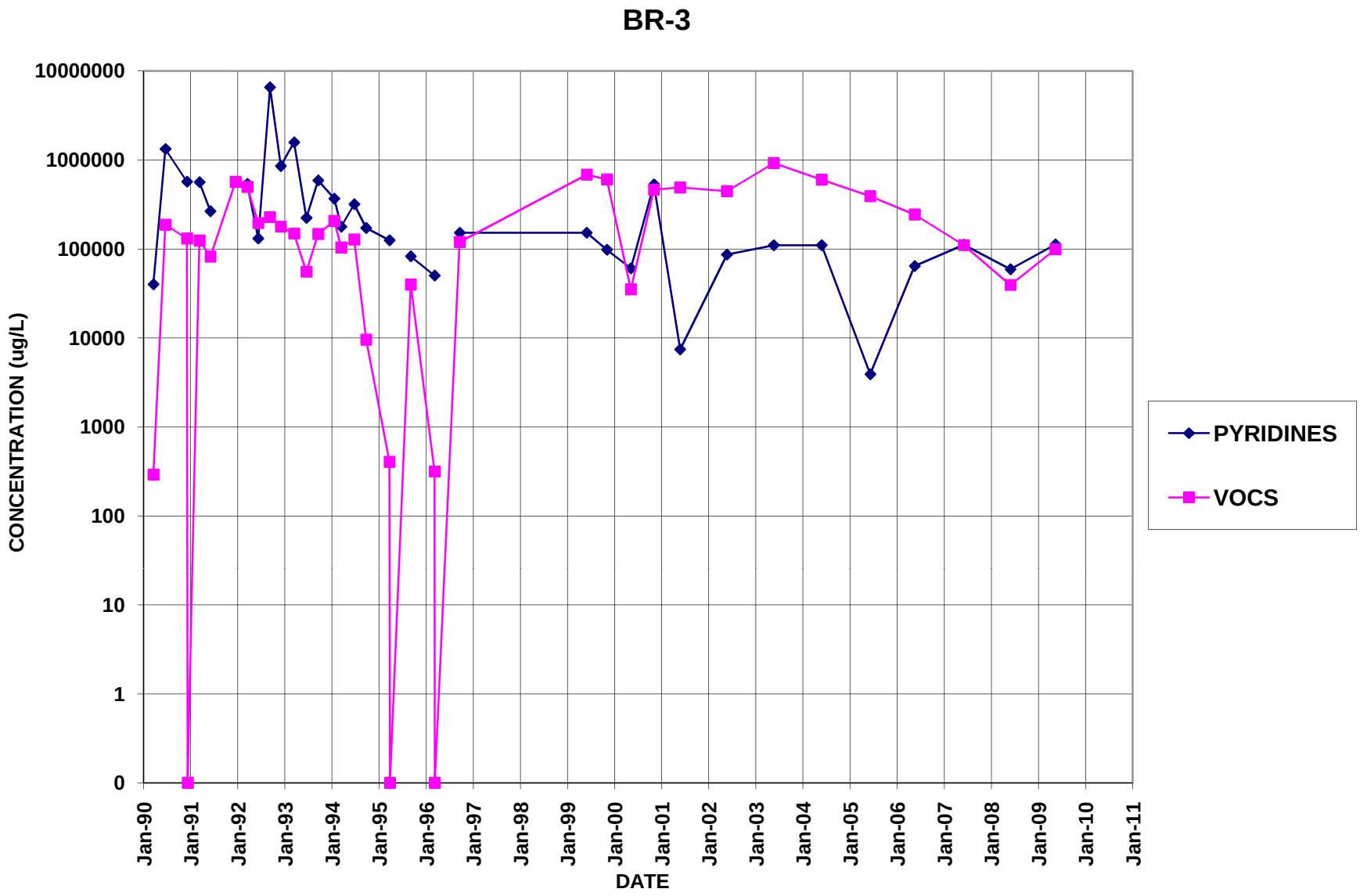


Prepared by: nmb
Reviewed by: jeb

BR-127

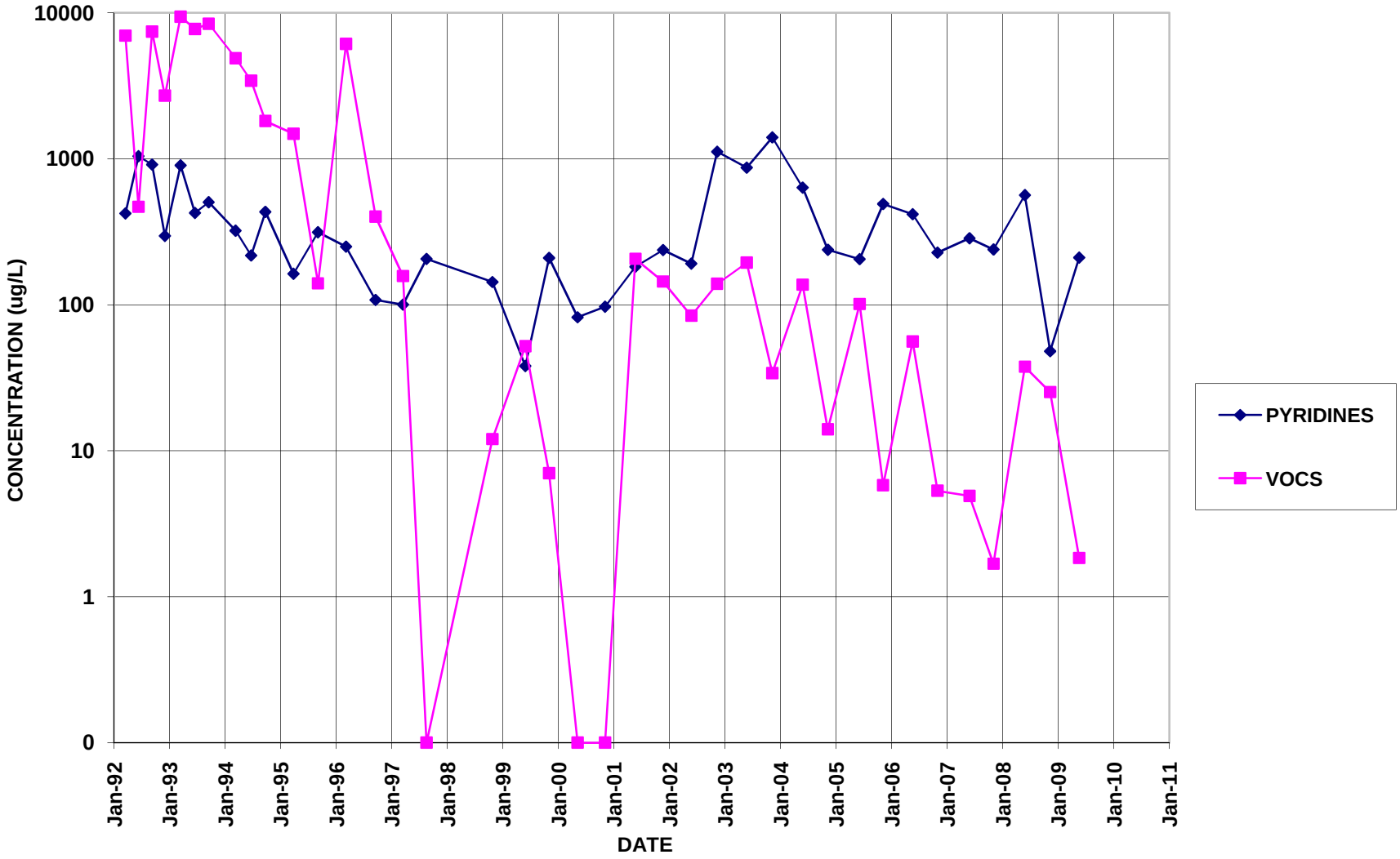


Prepared by: nmb
Reviewed by: jeb



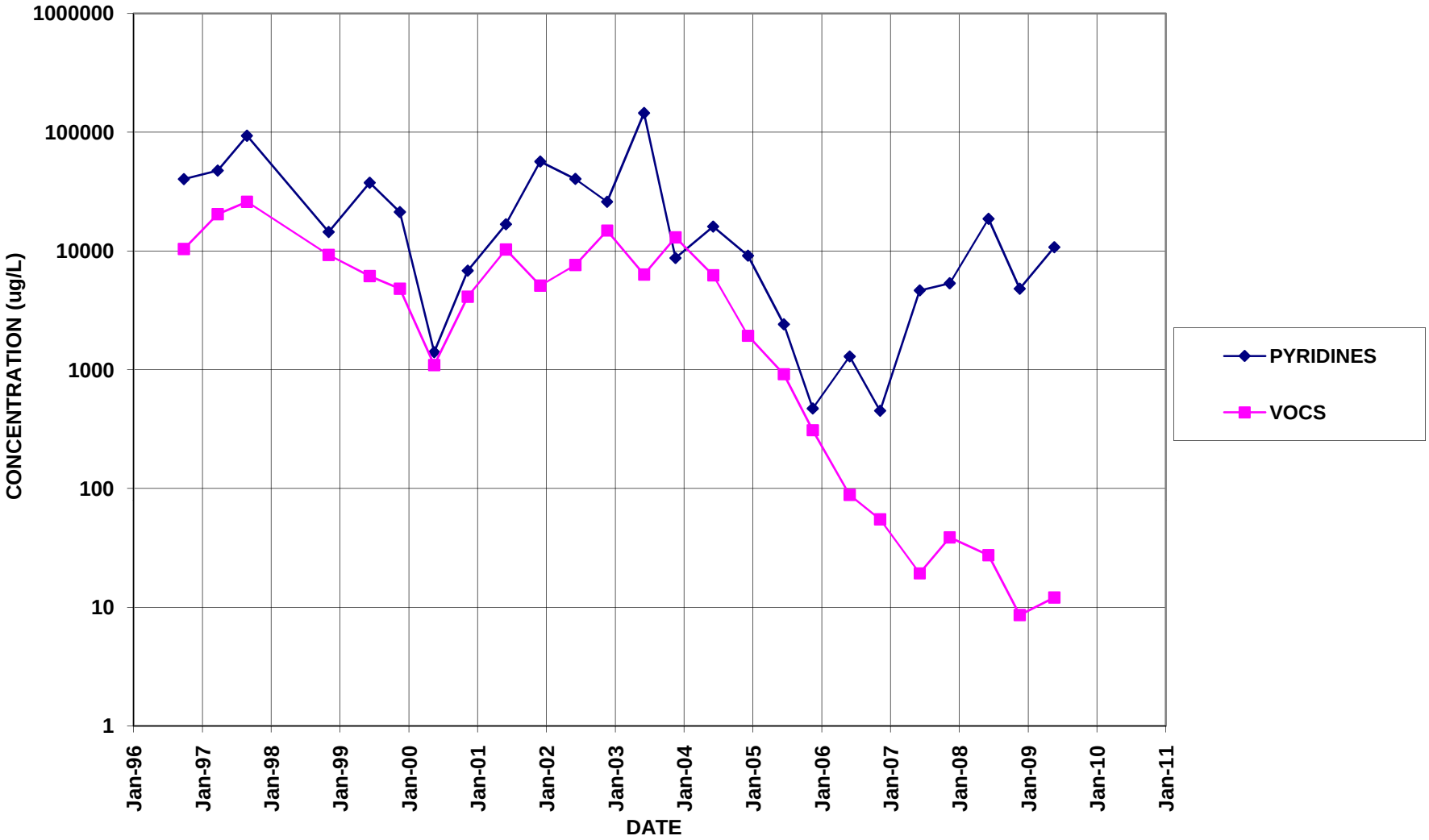
Prepared by: nmb
Reviewed by: jeb

BR-5A

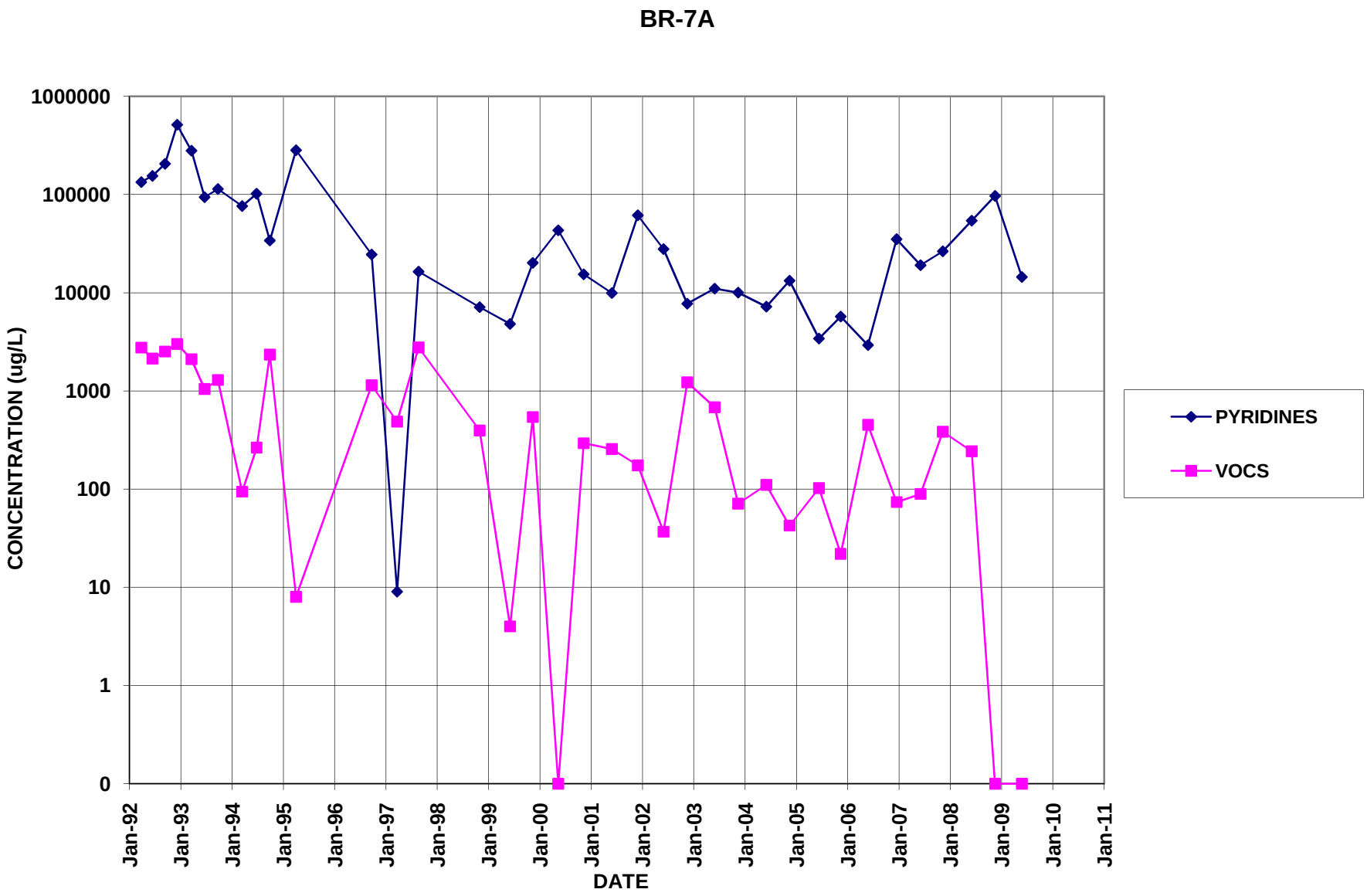


Prepared by: nmb
Reviewed by: jeb

BR-6A

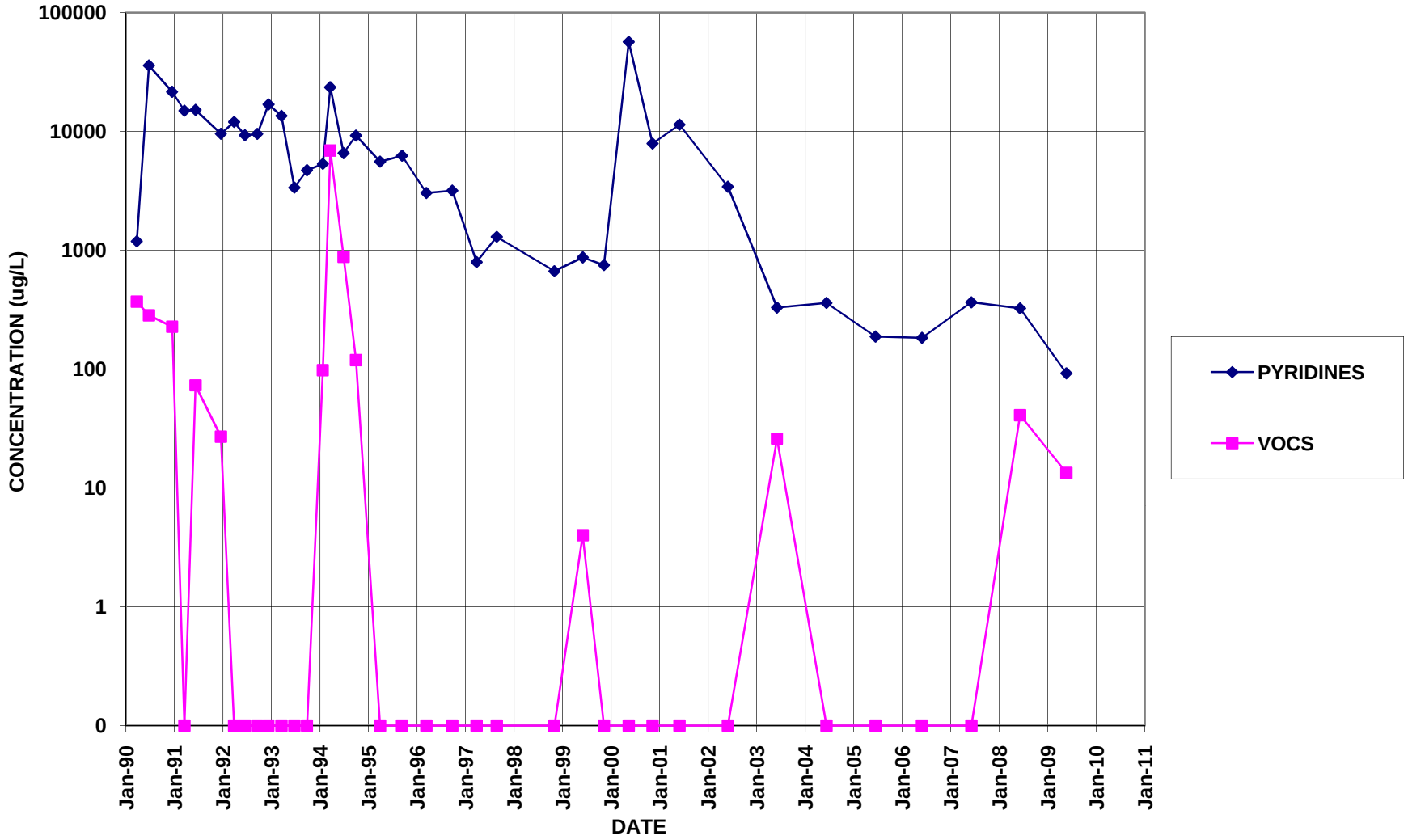


Prepared by: nmb
Reviewed by: jeb



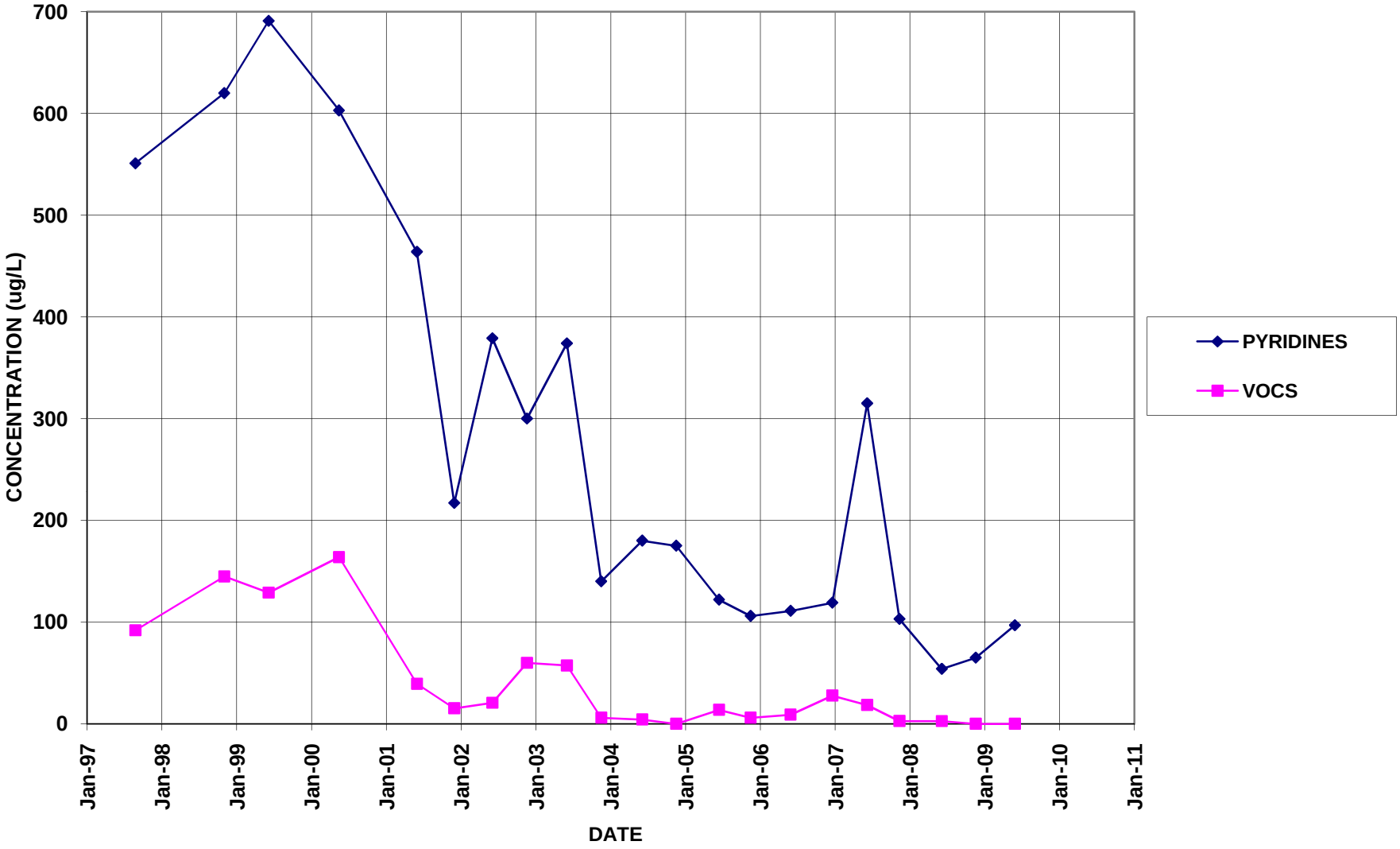
Prepared by: nmb
Reviewed by: jeb

BR-8



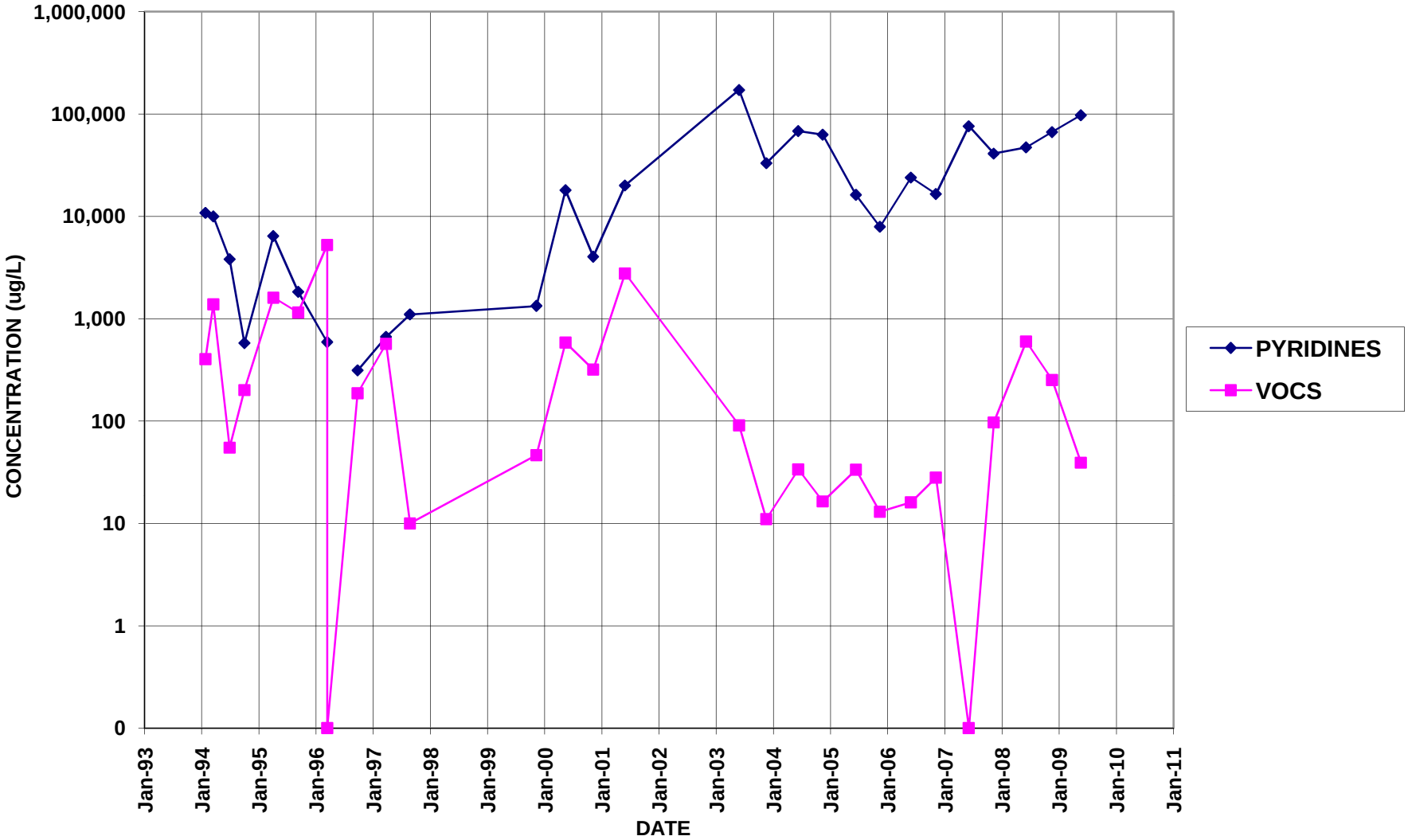
Prepared by: nmb
Reviewed by: jeb

BR-9



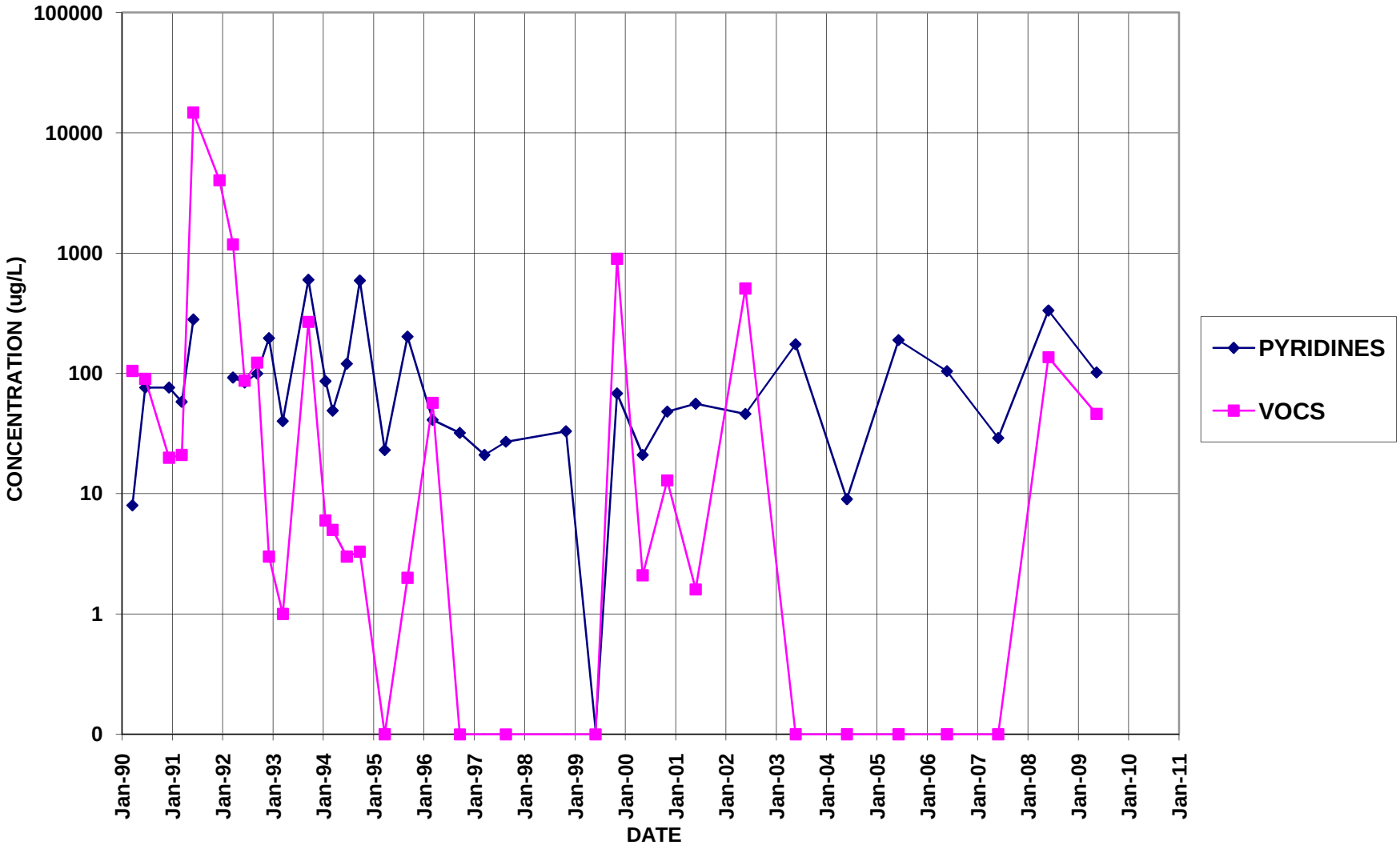
Prepared by: nmb
Reviewed by: jeb

E-1



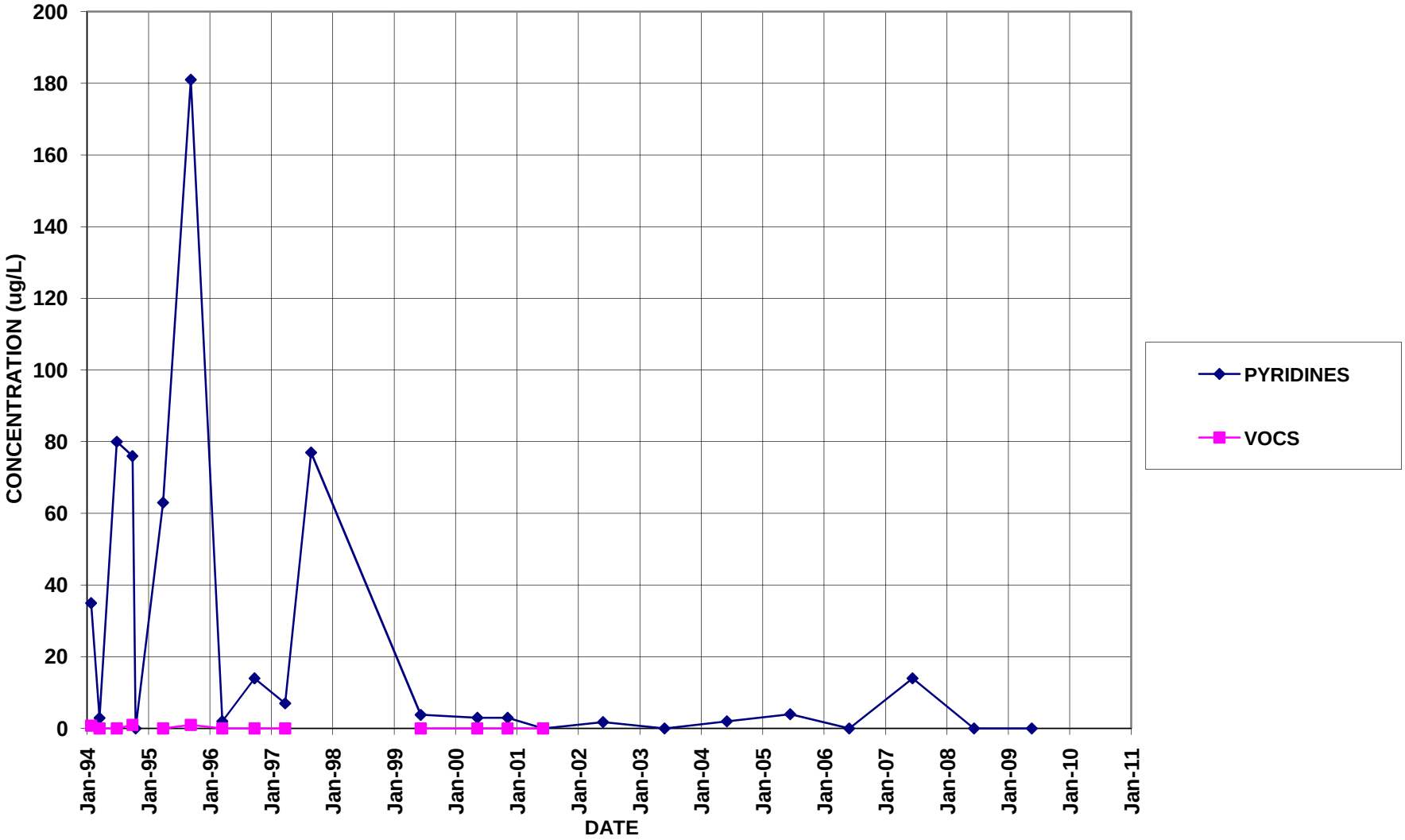
Prepared by: nmb
Reviewed by: jeb

E-3



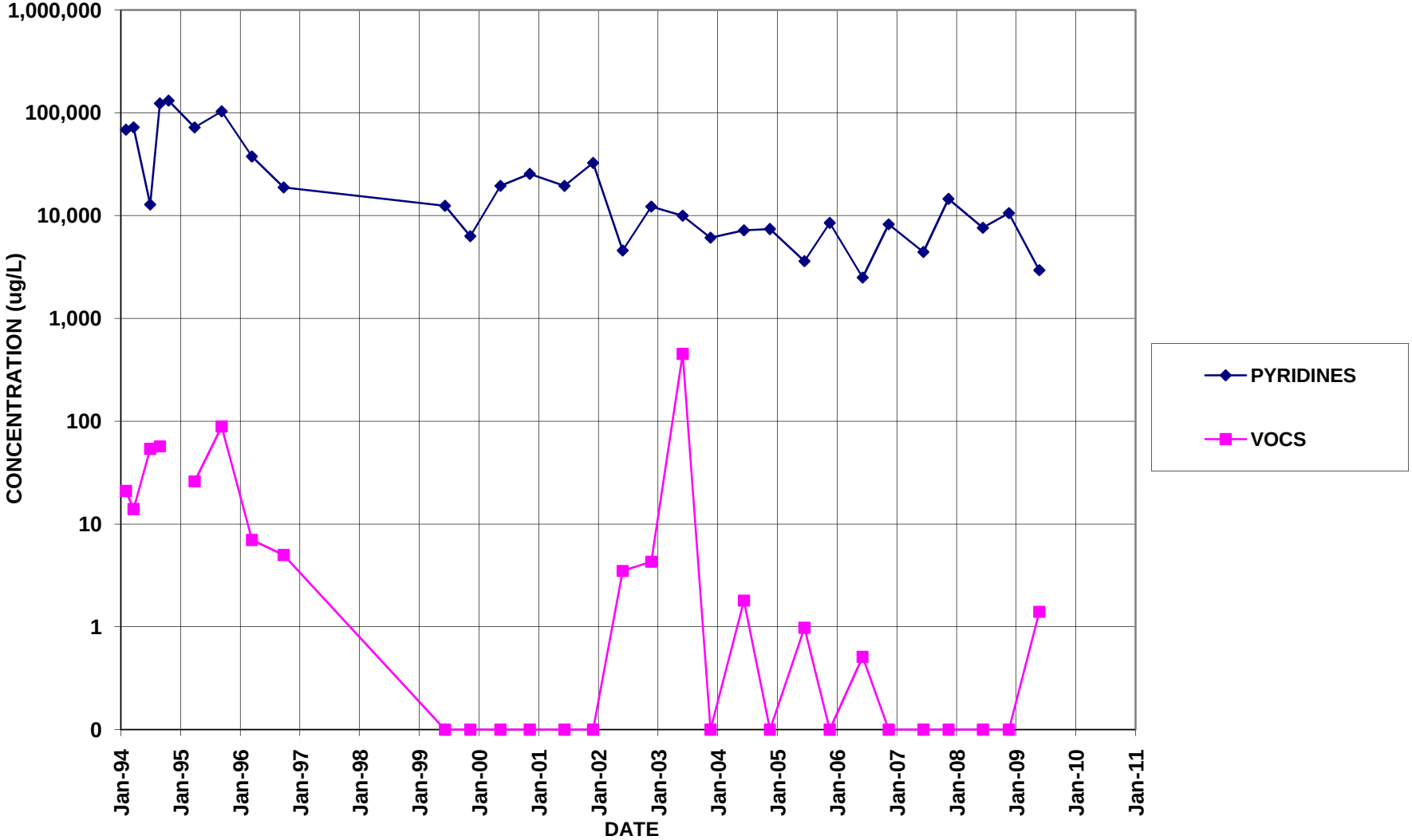
Prepared by: nmb
Reviewed by: jeb

MW-104



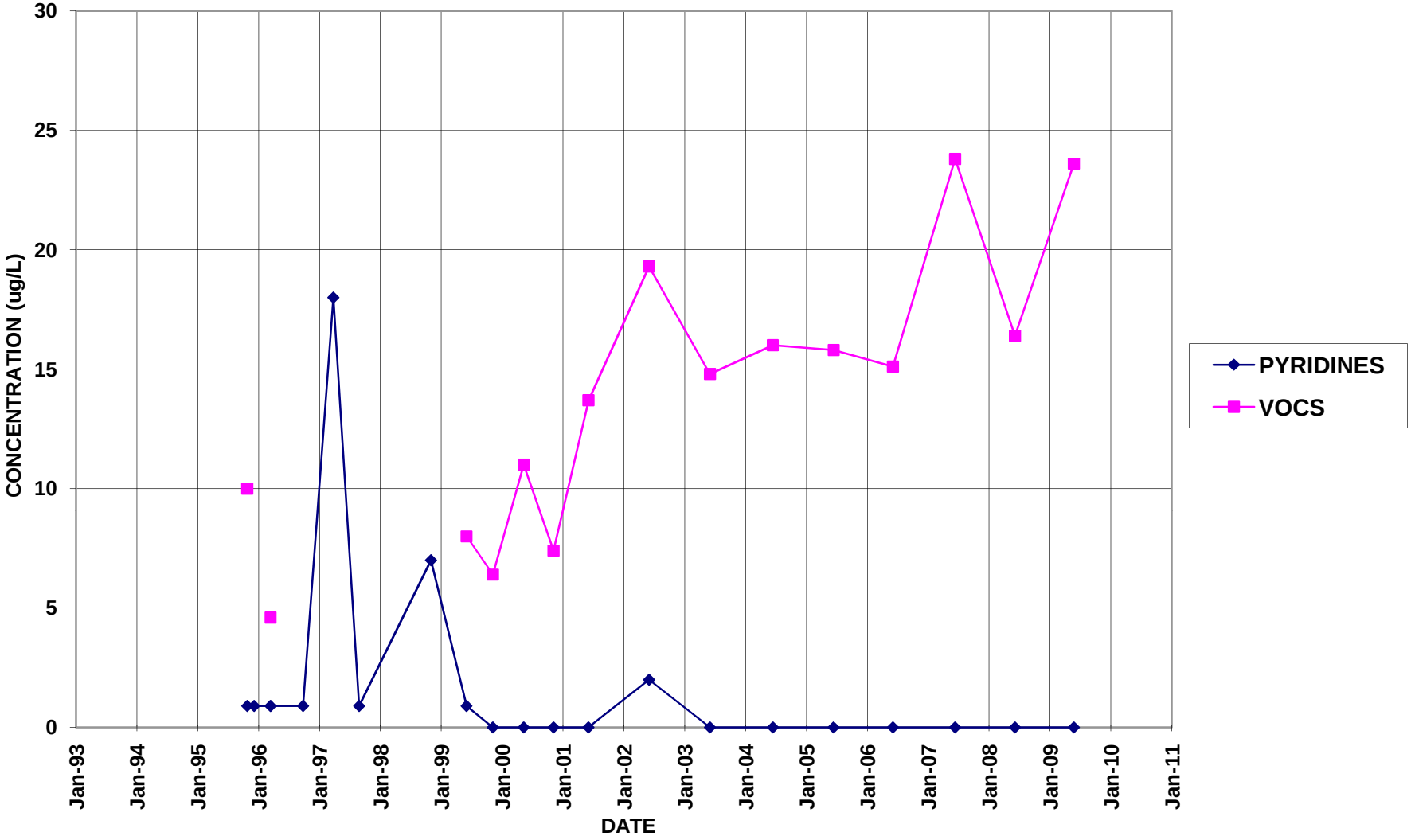
Prepared by: nmb
Reviewed by: jeb

MW-106



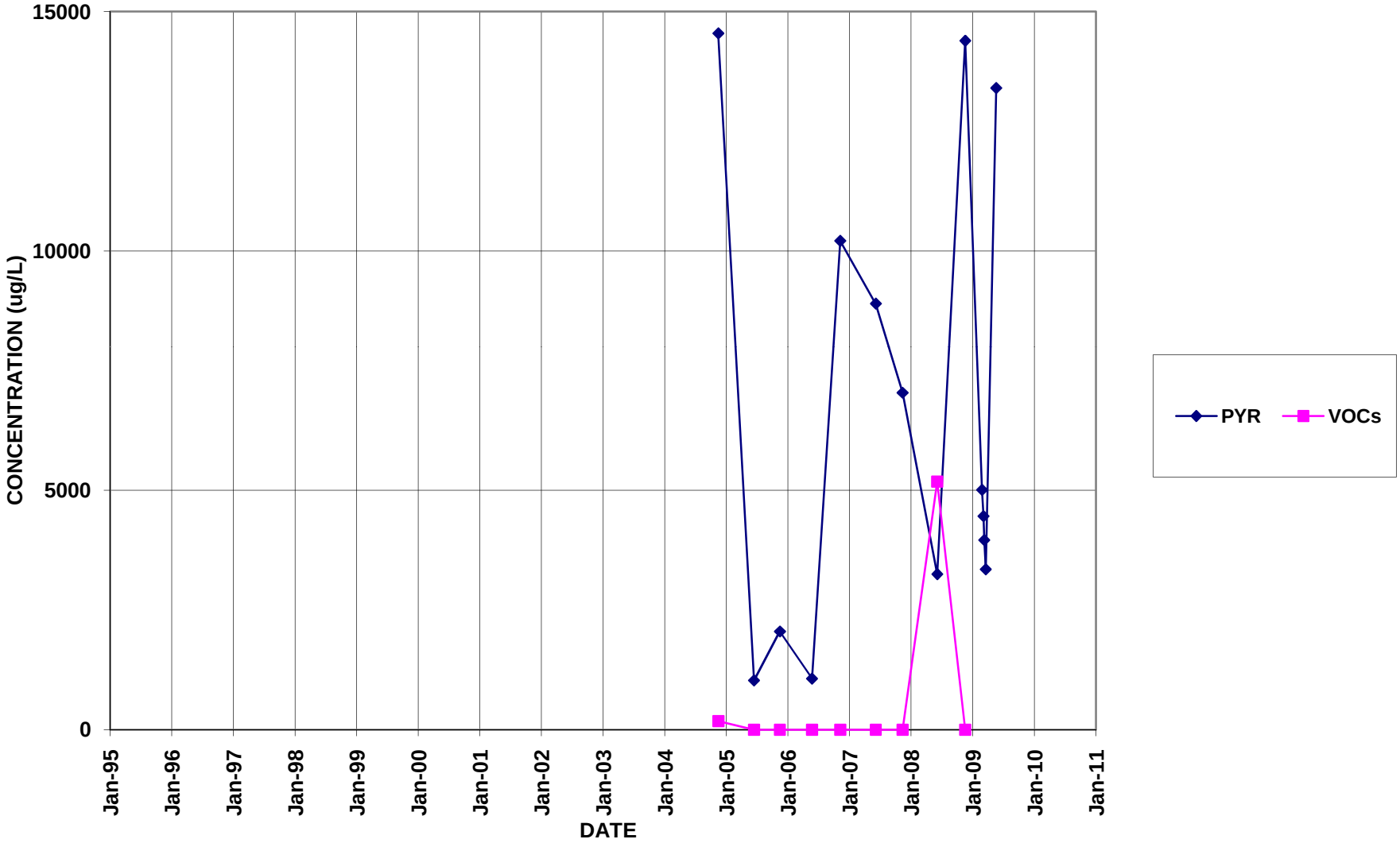
Prepared by: nmb
Reviewed by: jeb

MW-114



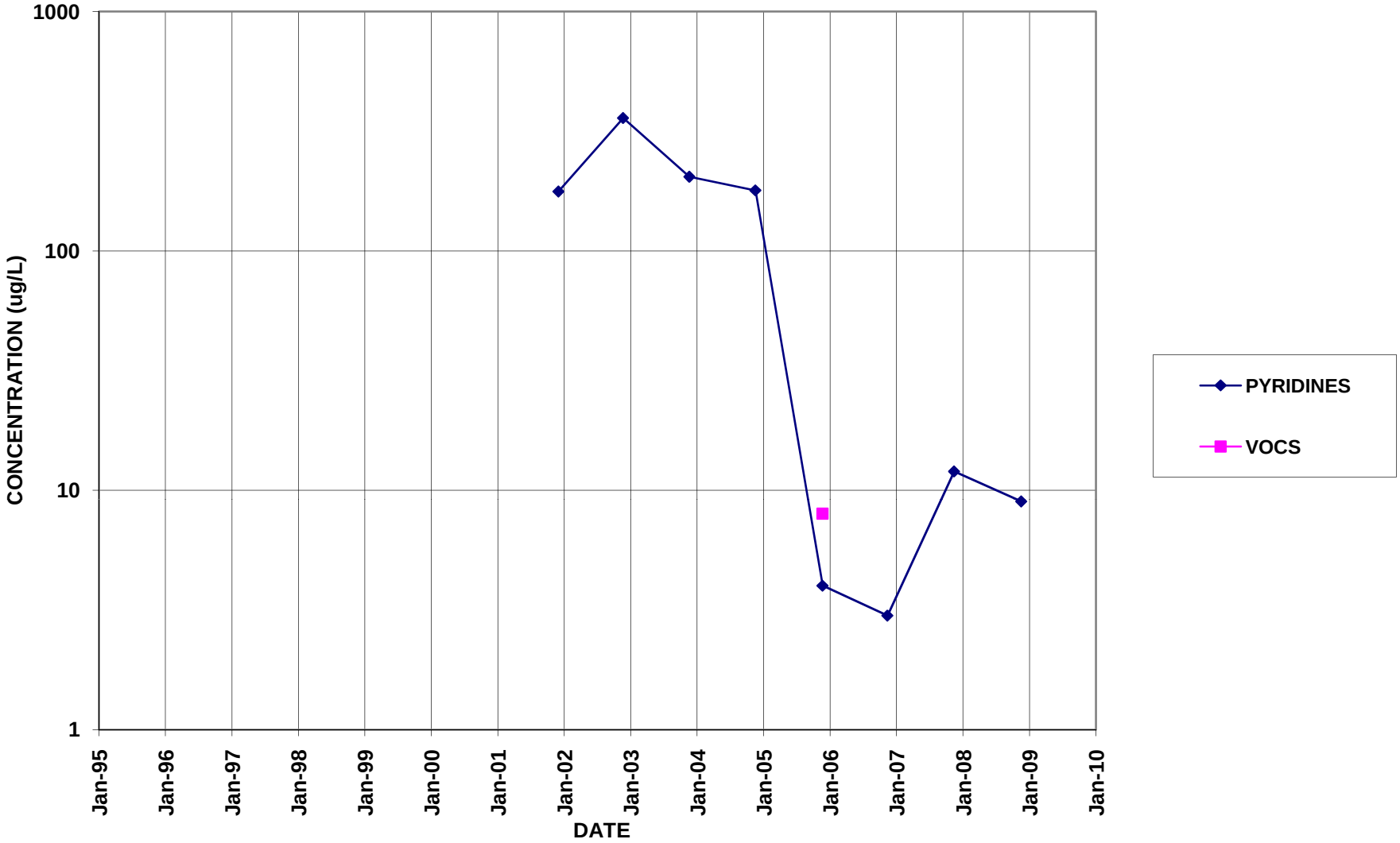
Prepared by: nmb
Reviewed by: jeb

MW-127



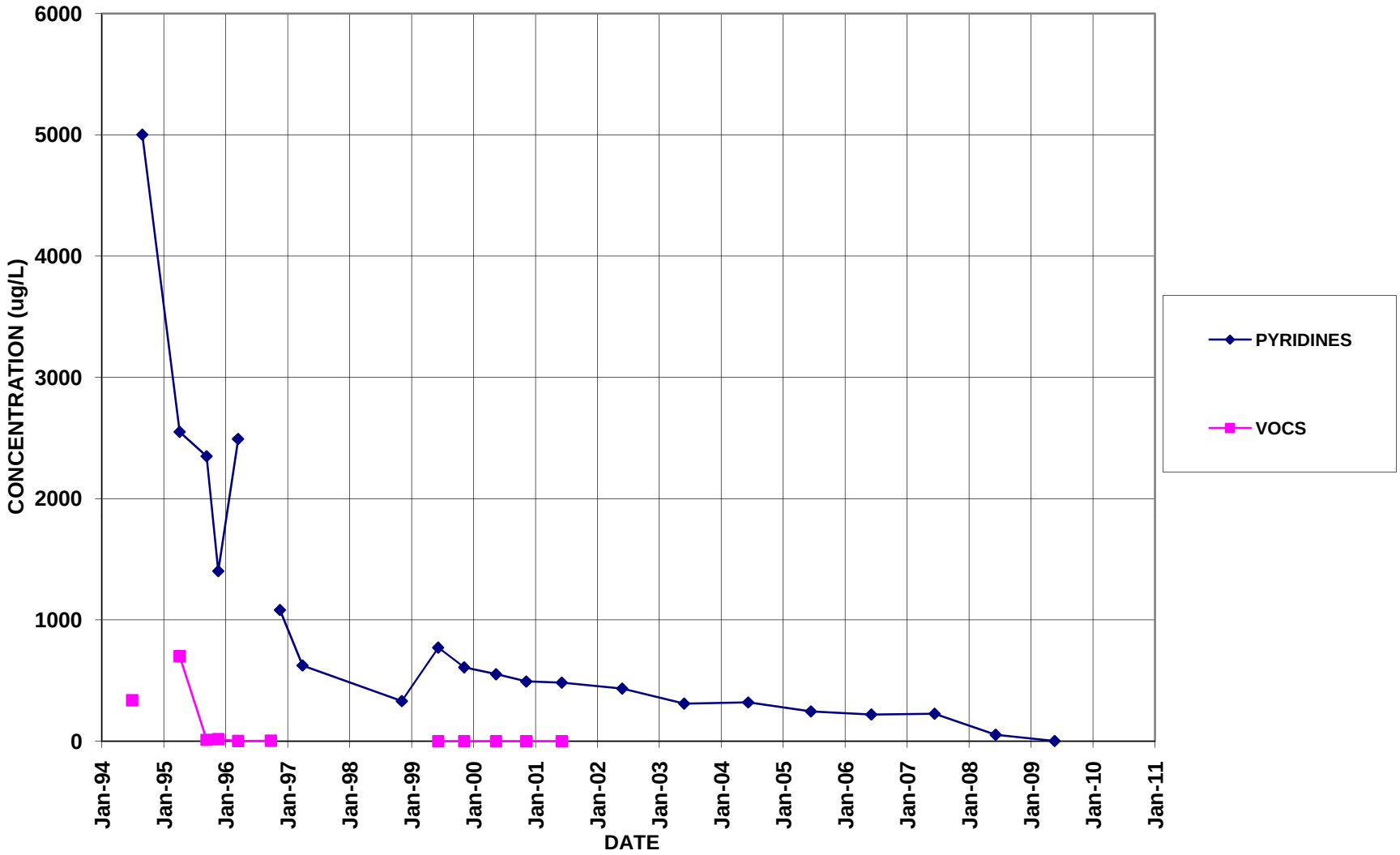
Prepared by: nmb
Reviewed by: jeb

MW-16



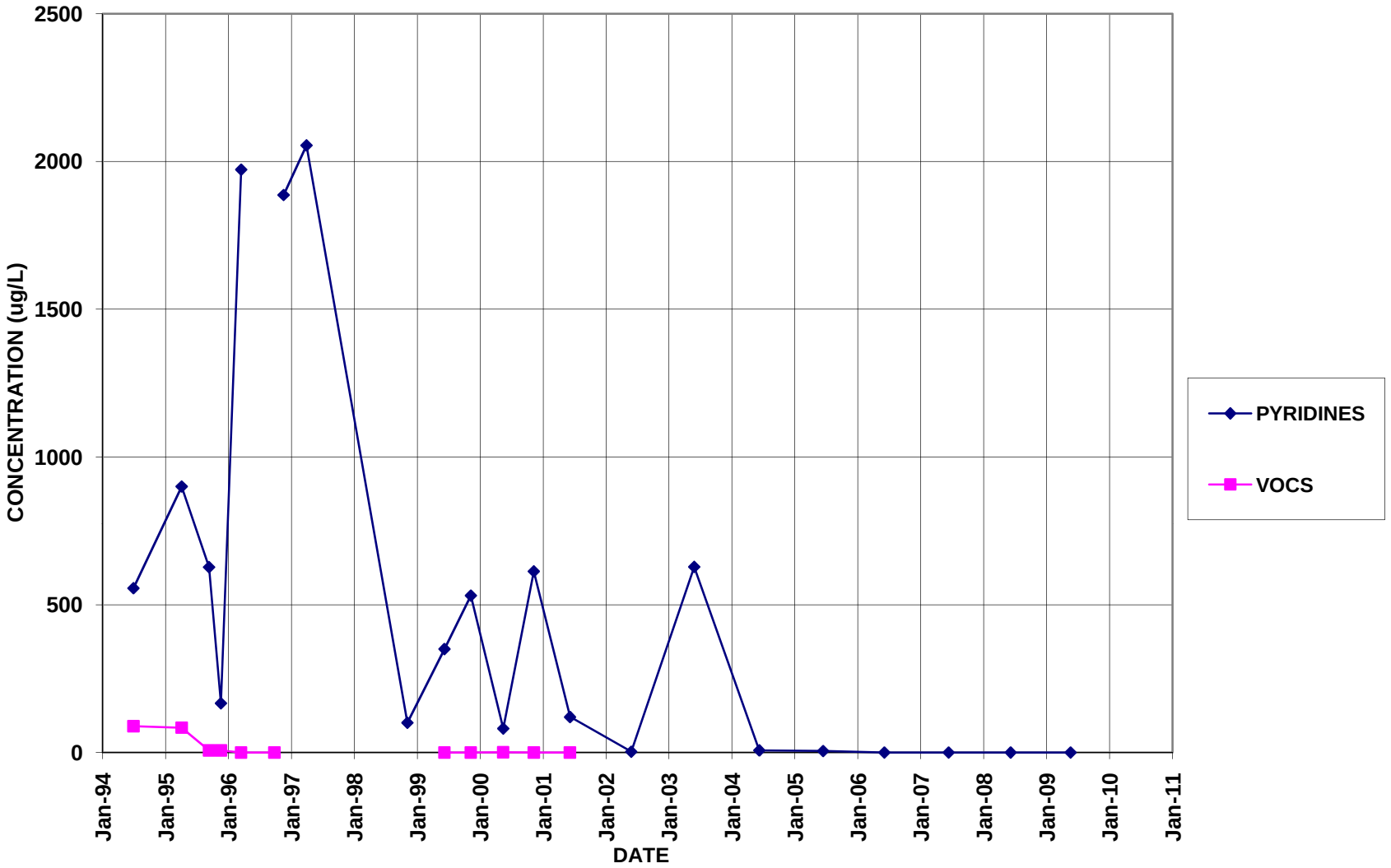
Prepared by: nmb
Reviewed by: jeb

NESS-E



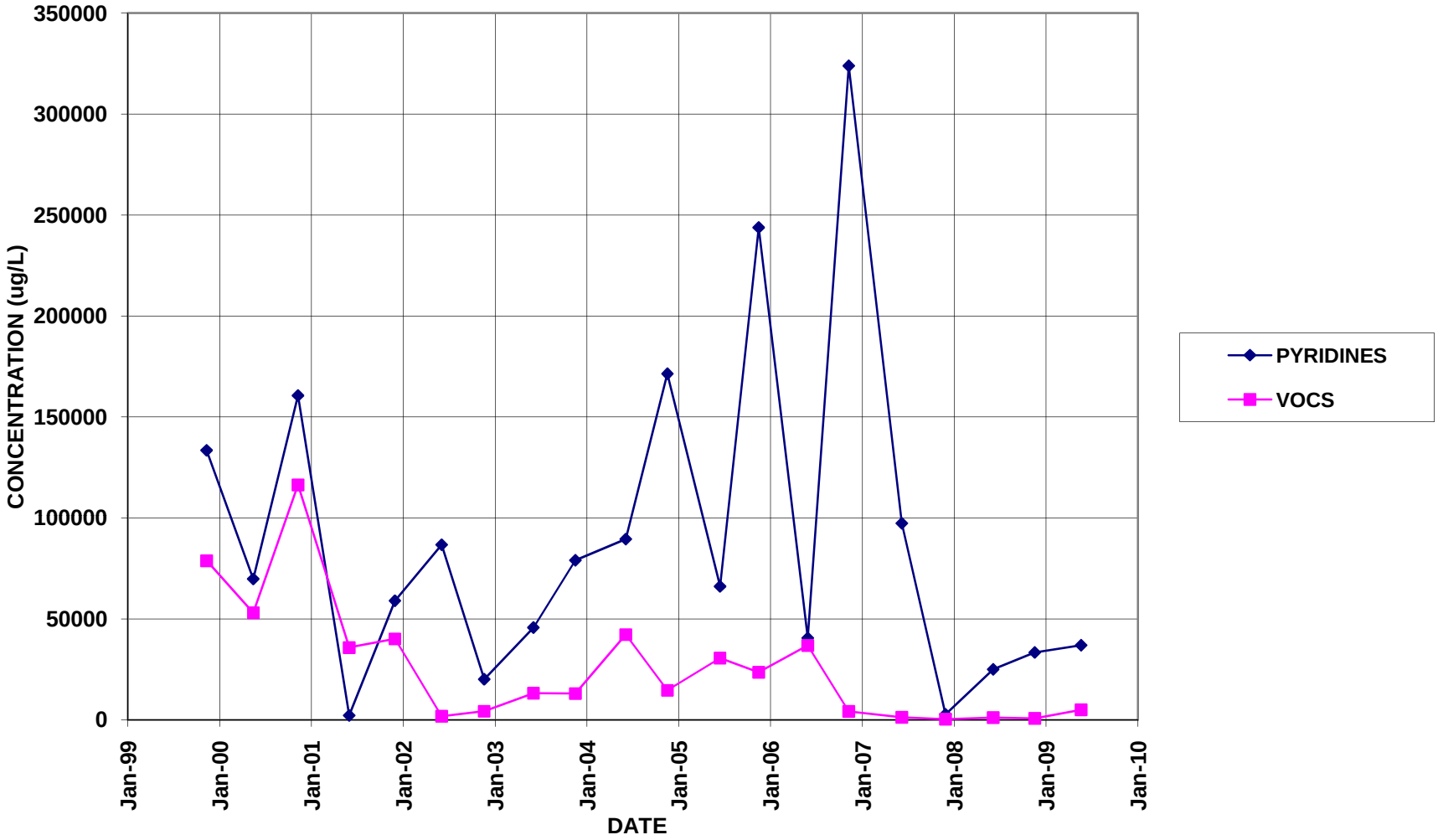
Prepared by: nmb
Reviewed by: jeb

NESS-W



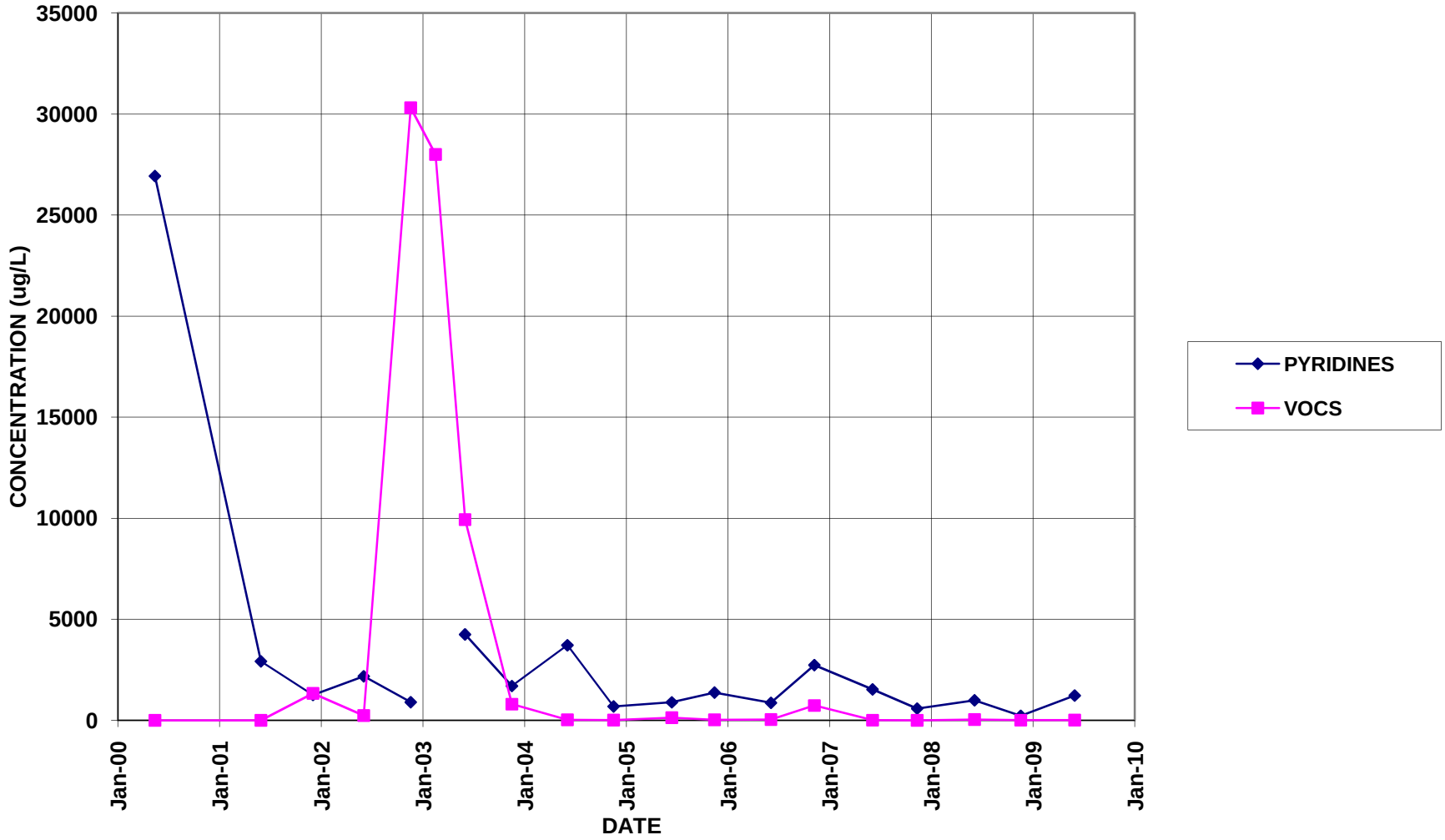
Prepared by: nmb
Reviewed by: jeb

PW10



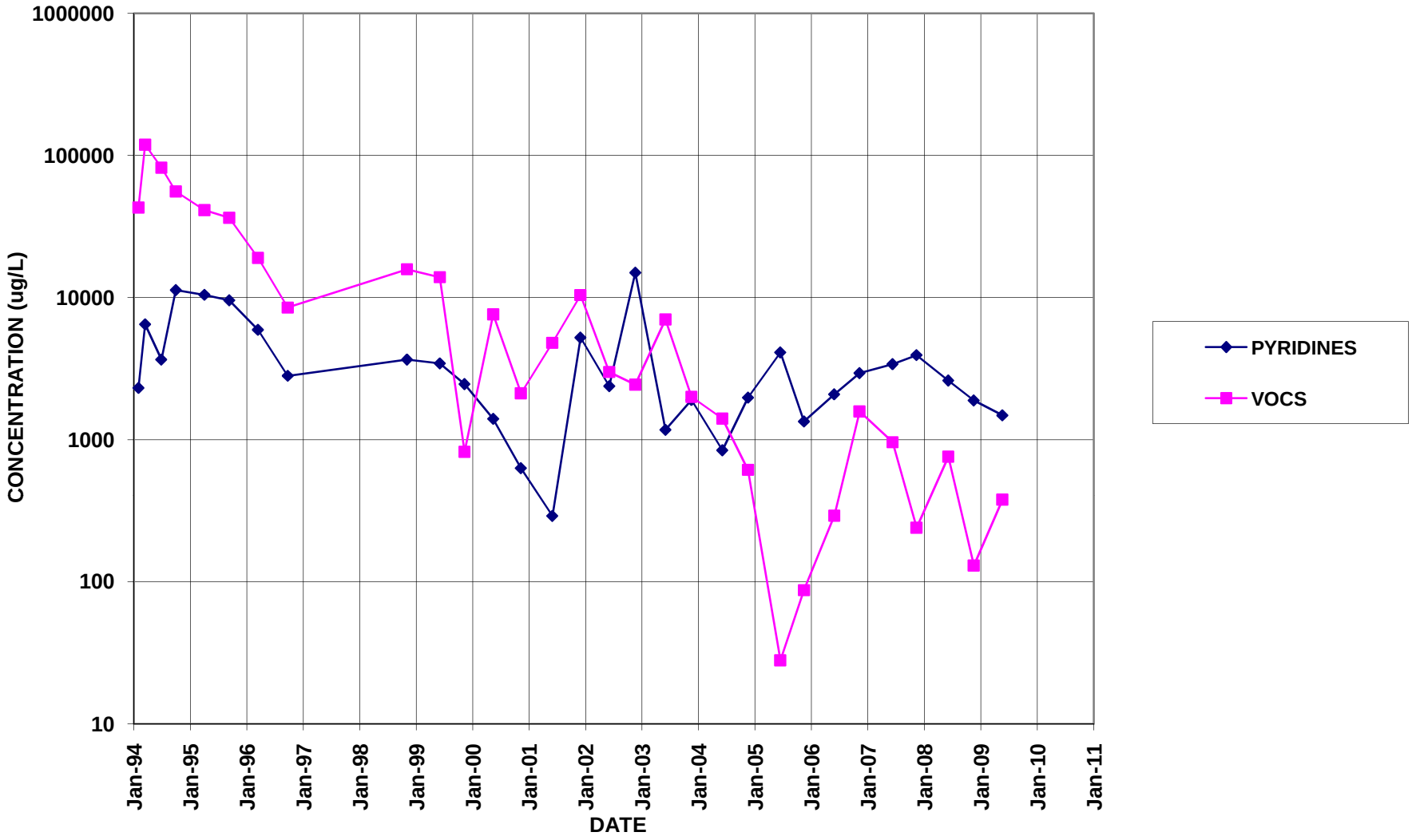
Prepared by: nmb
Reviewed by: jeb

PW11

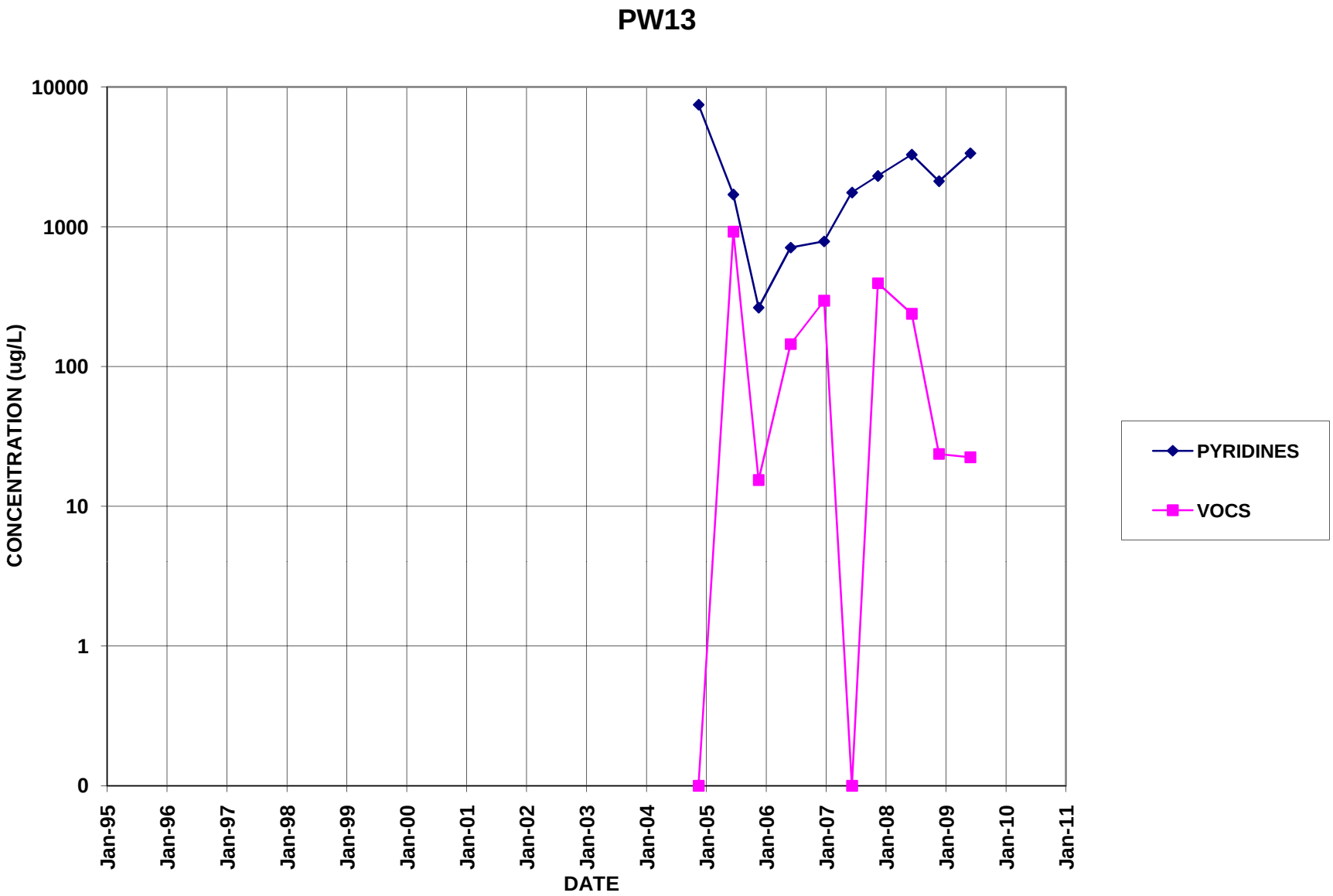


Prepared by: nmb
Reviewed by: jeb

PW12 (Formerly BR-101)

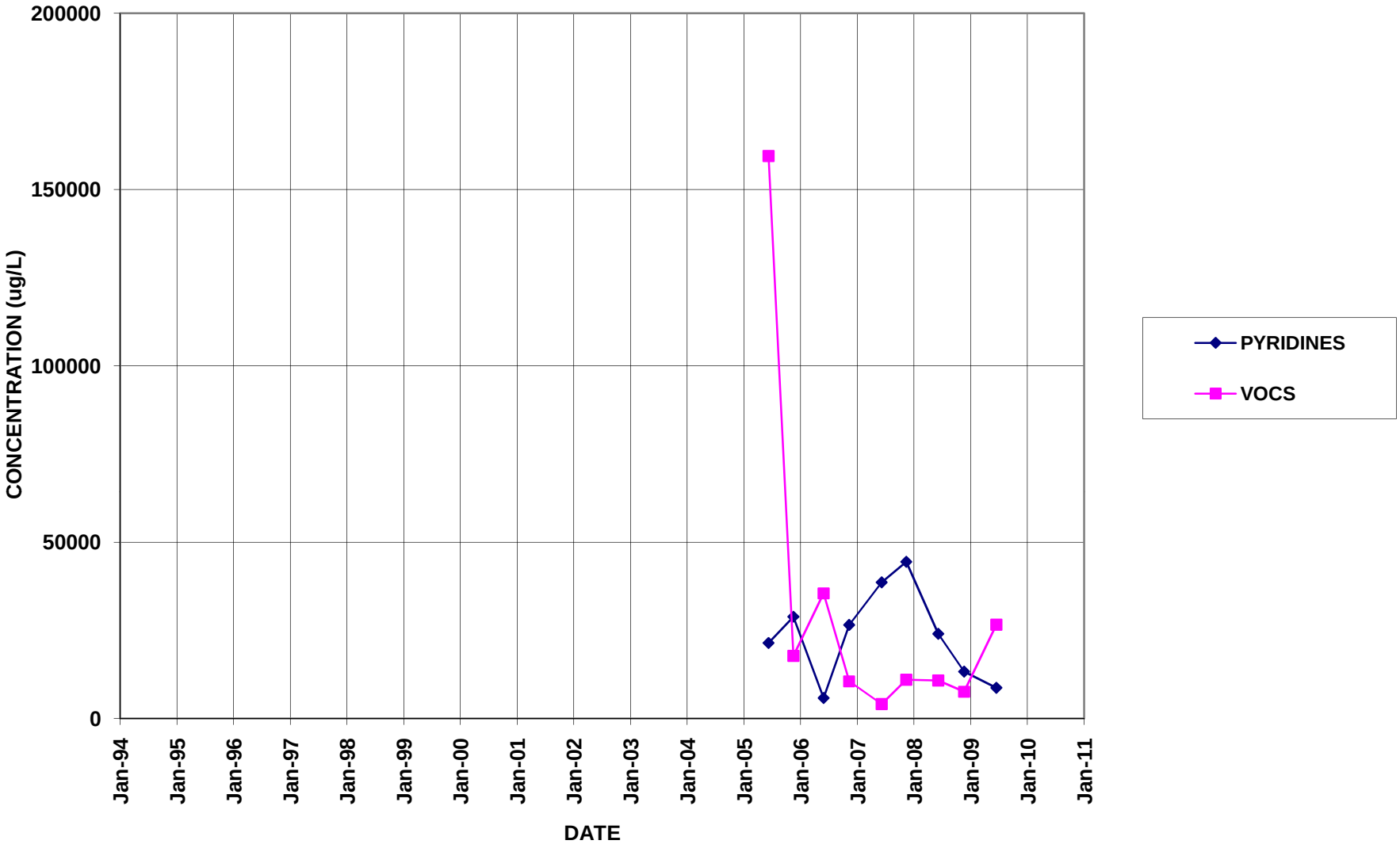


Prepared by: nmb
Reviewed by: jeb



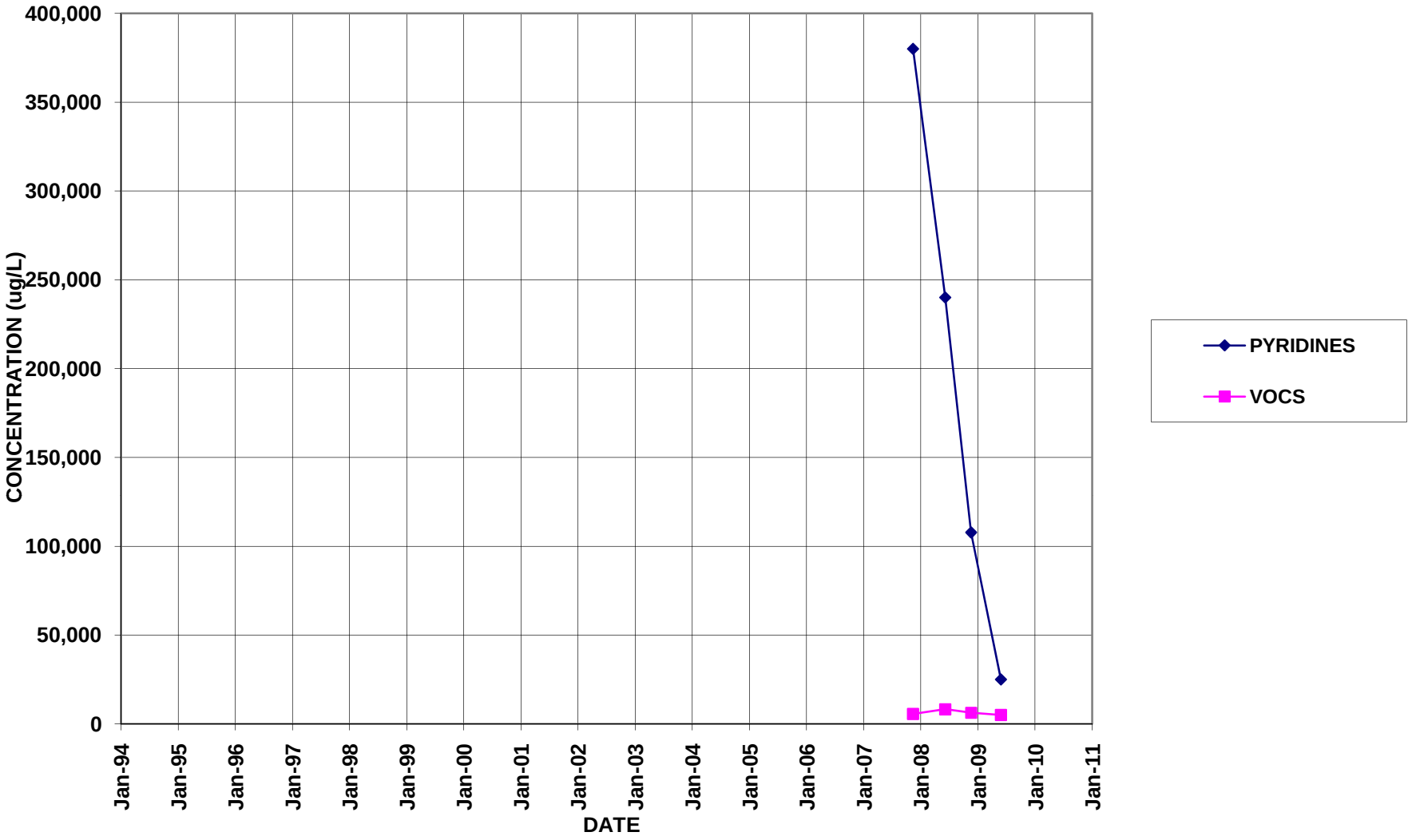
Prepared by: nmb
Reviewed by: jeb

PW14



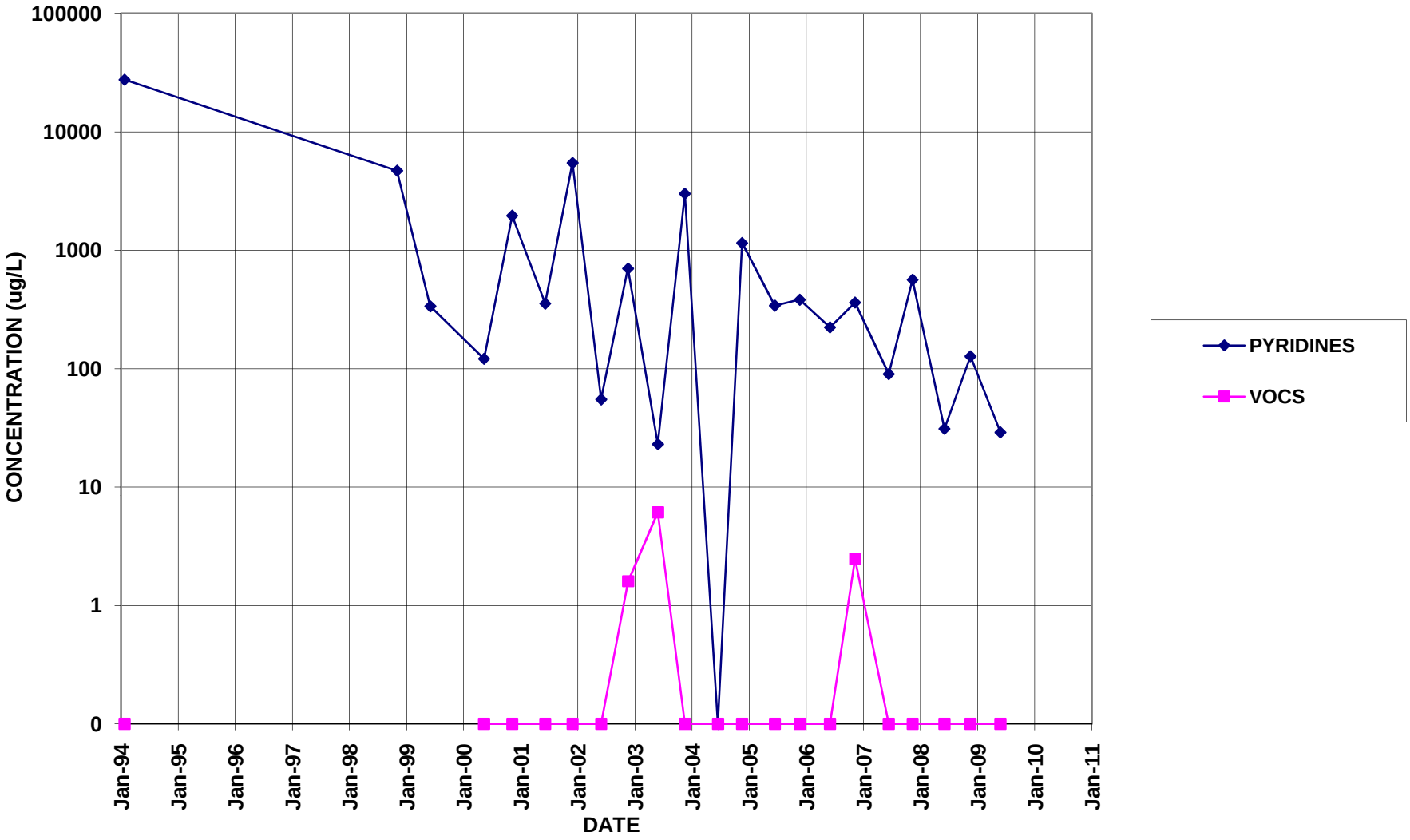
Prepared by: nmb
Reviewed by: jeb

PW15



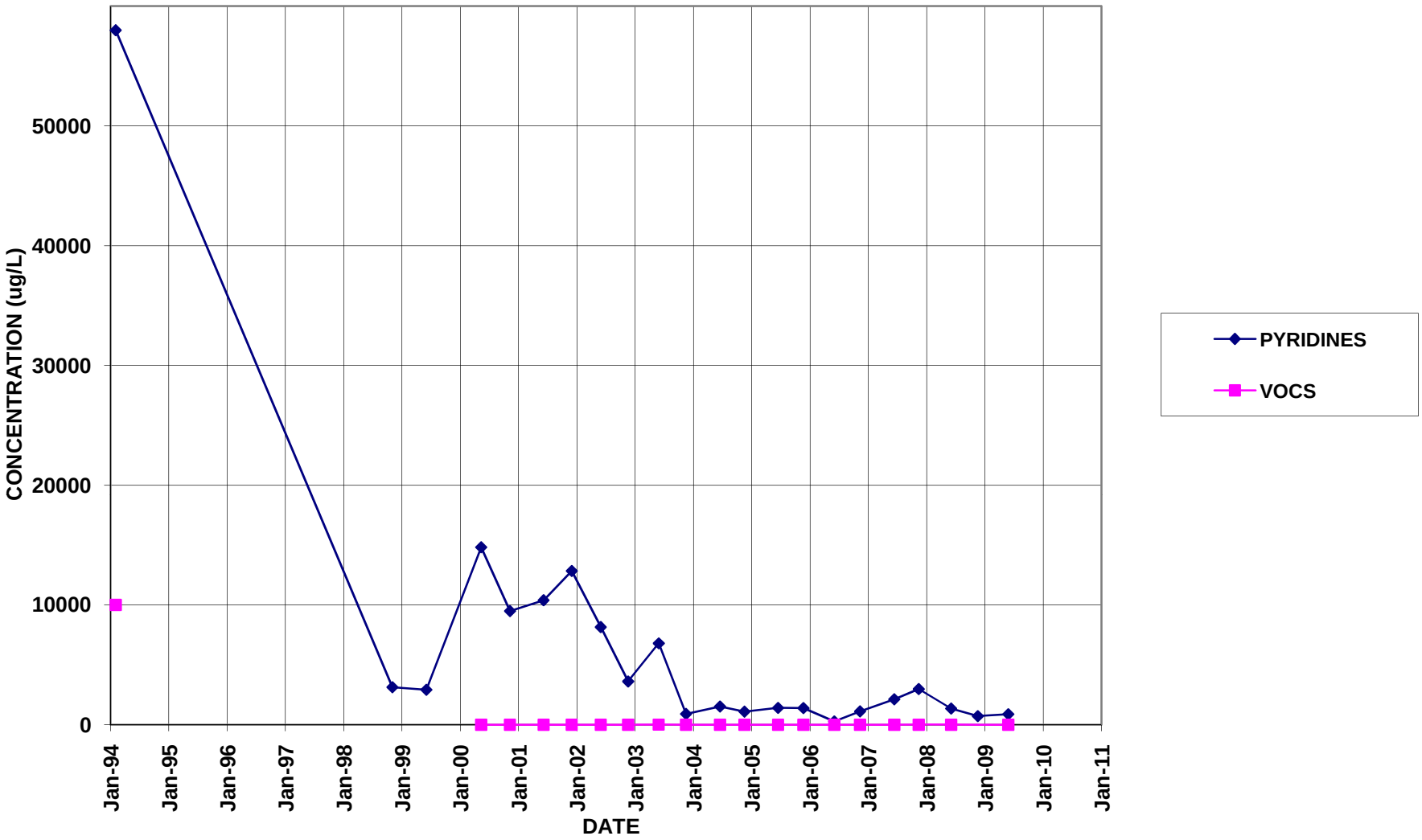
Prepared by: nmb
Reviewed by: jeb

PZ-101



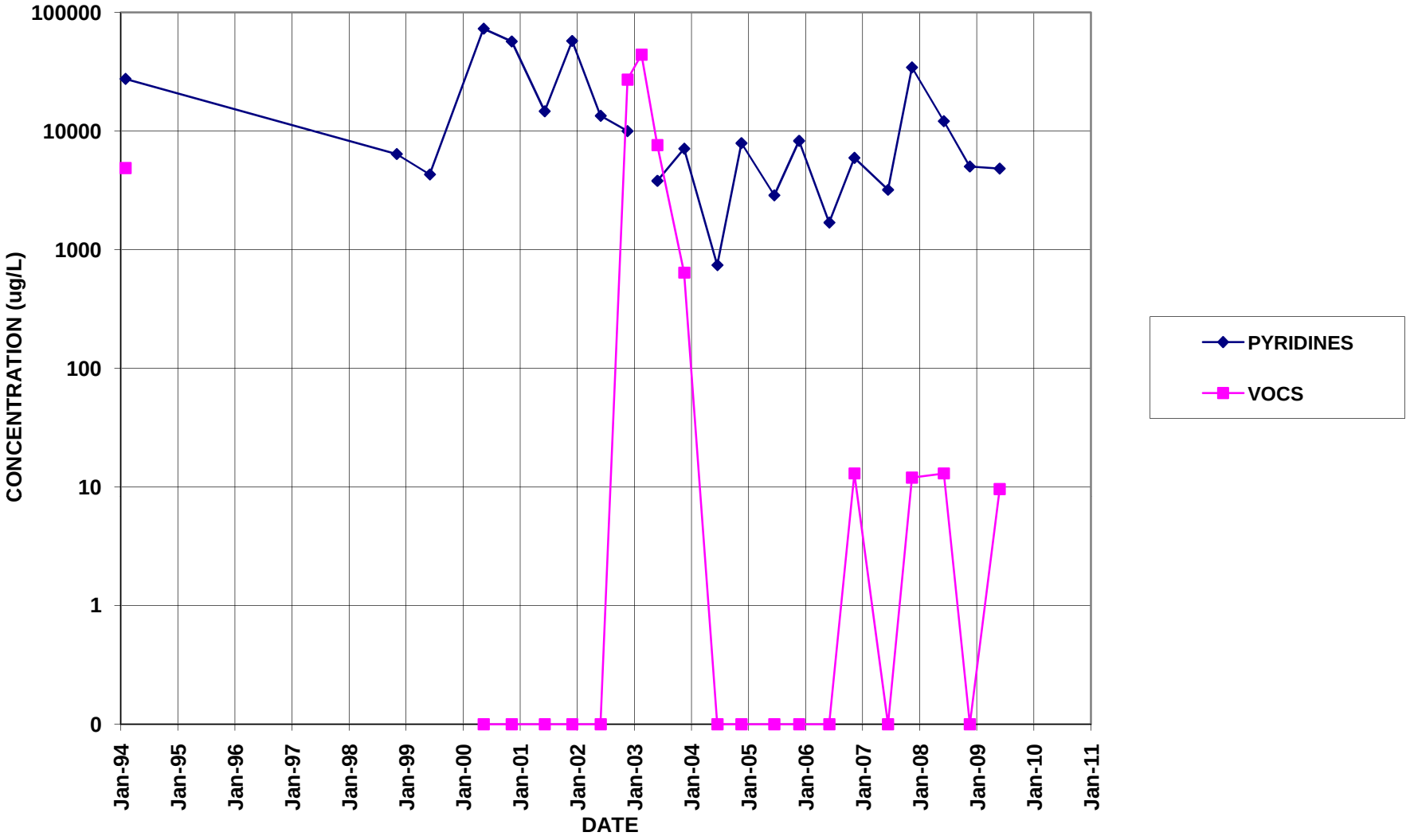
Prepared by: nmb
Reviewed by: jeb

PZ-102



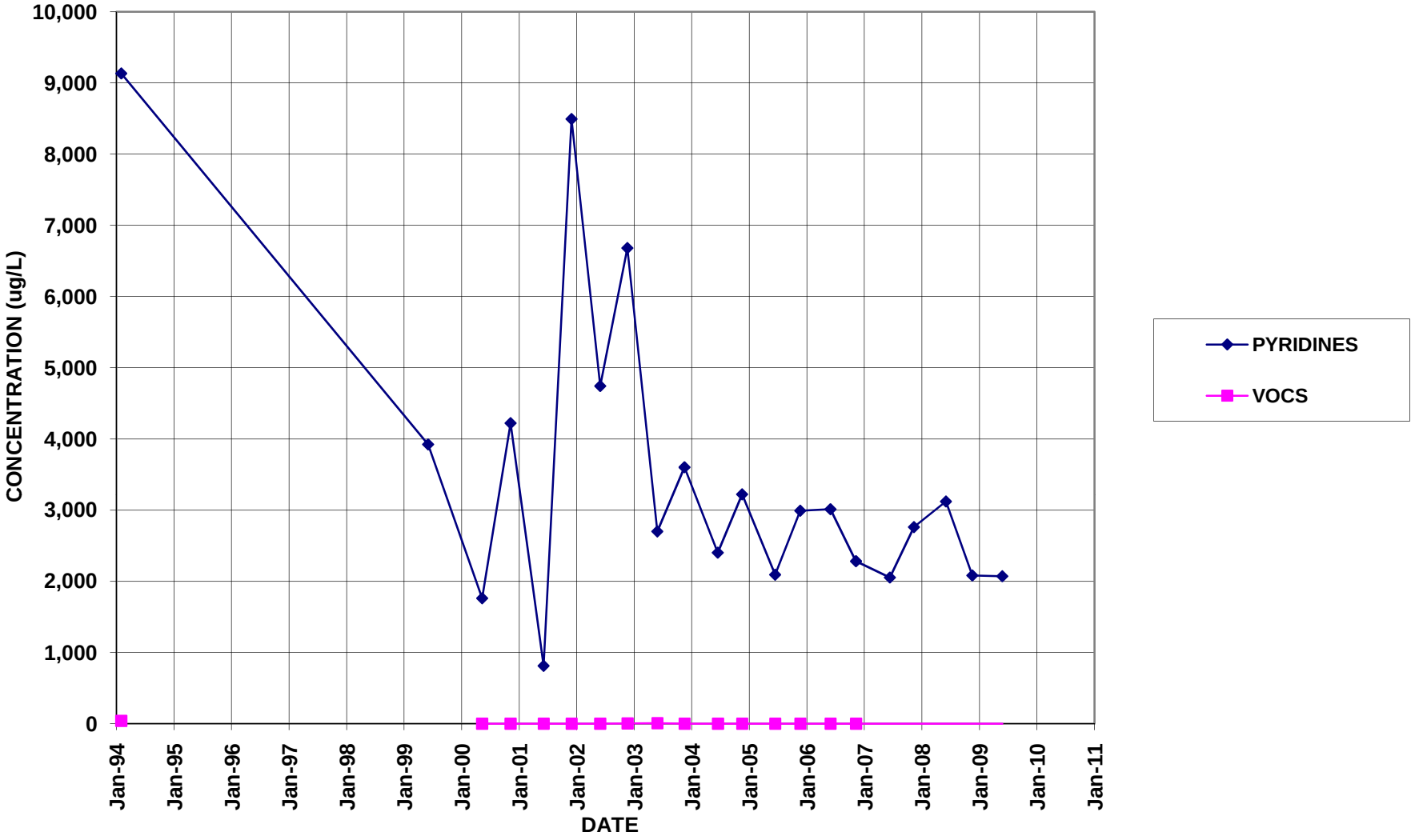
Prepared by: nmb
Reviewed by: jeb

PZ-103



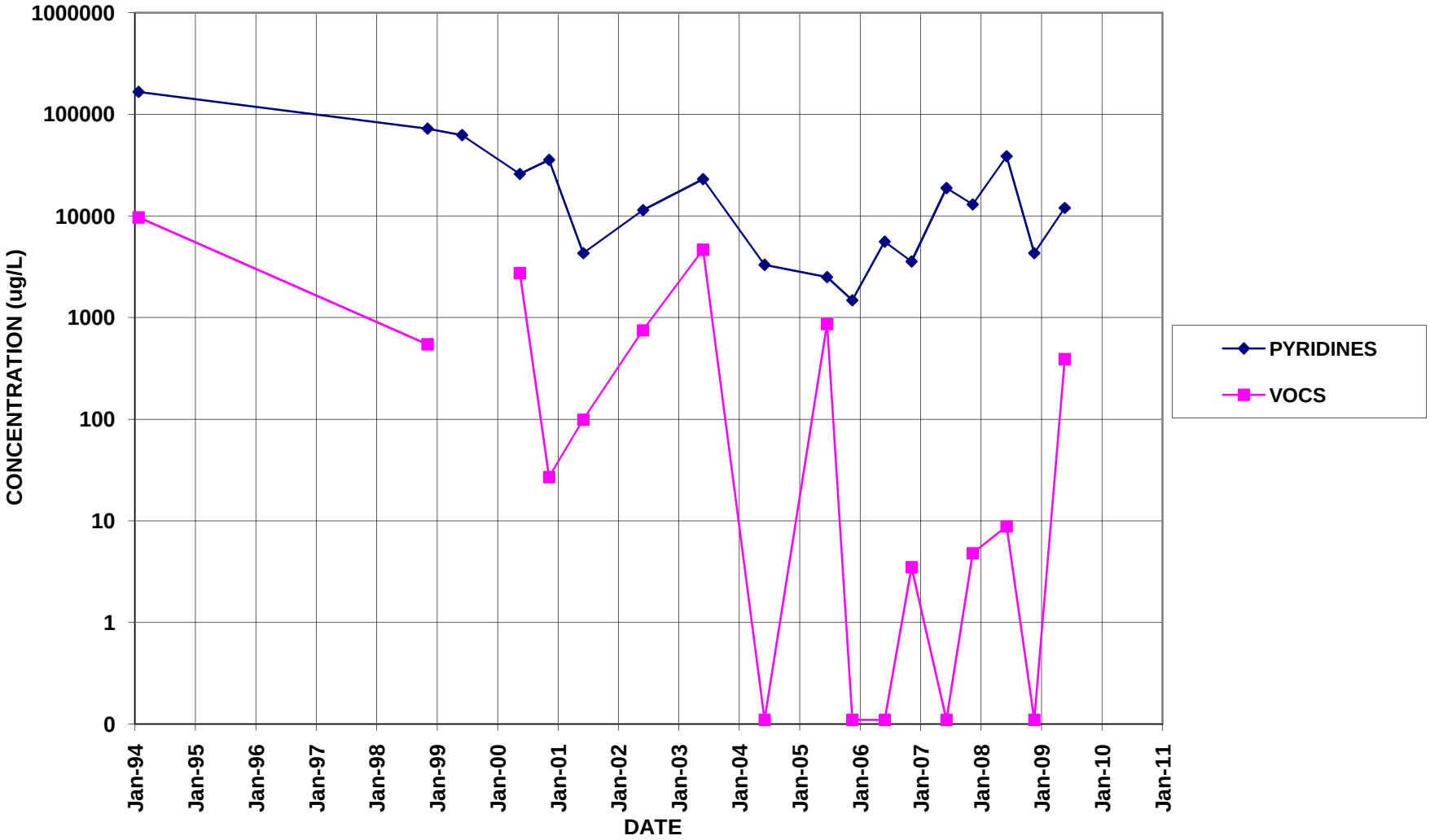
Prepared by: nmb
Reviewed by: jeb

PZ-104



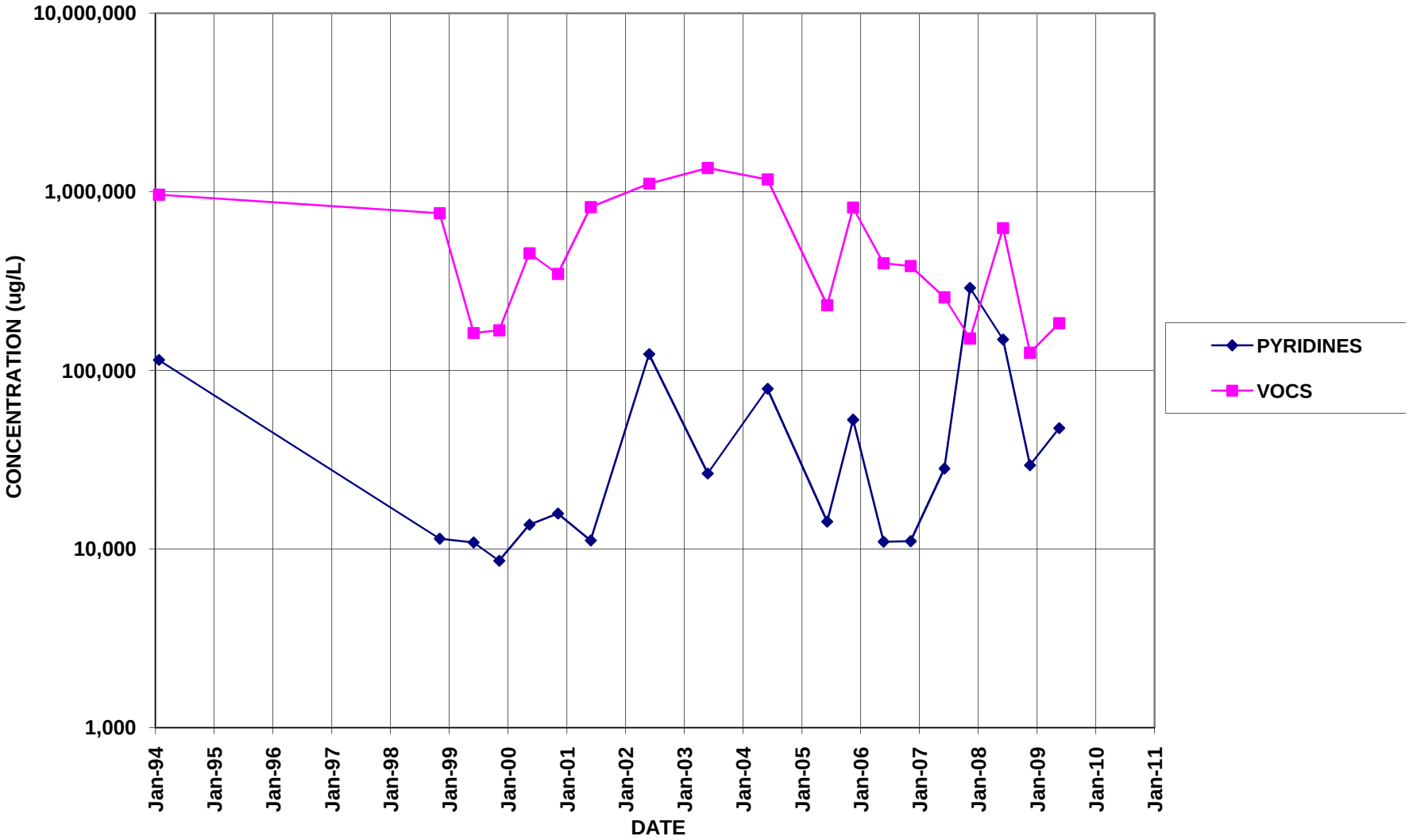
Prepared by: nmb
Reviewed by: jeb

PZ-105



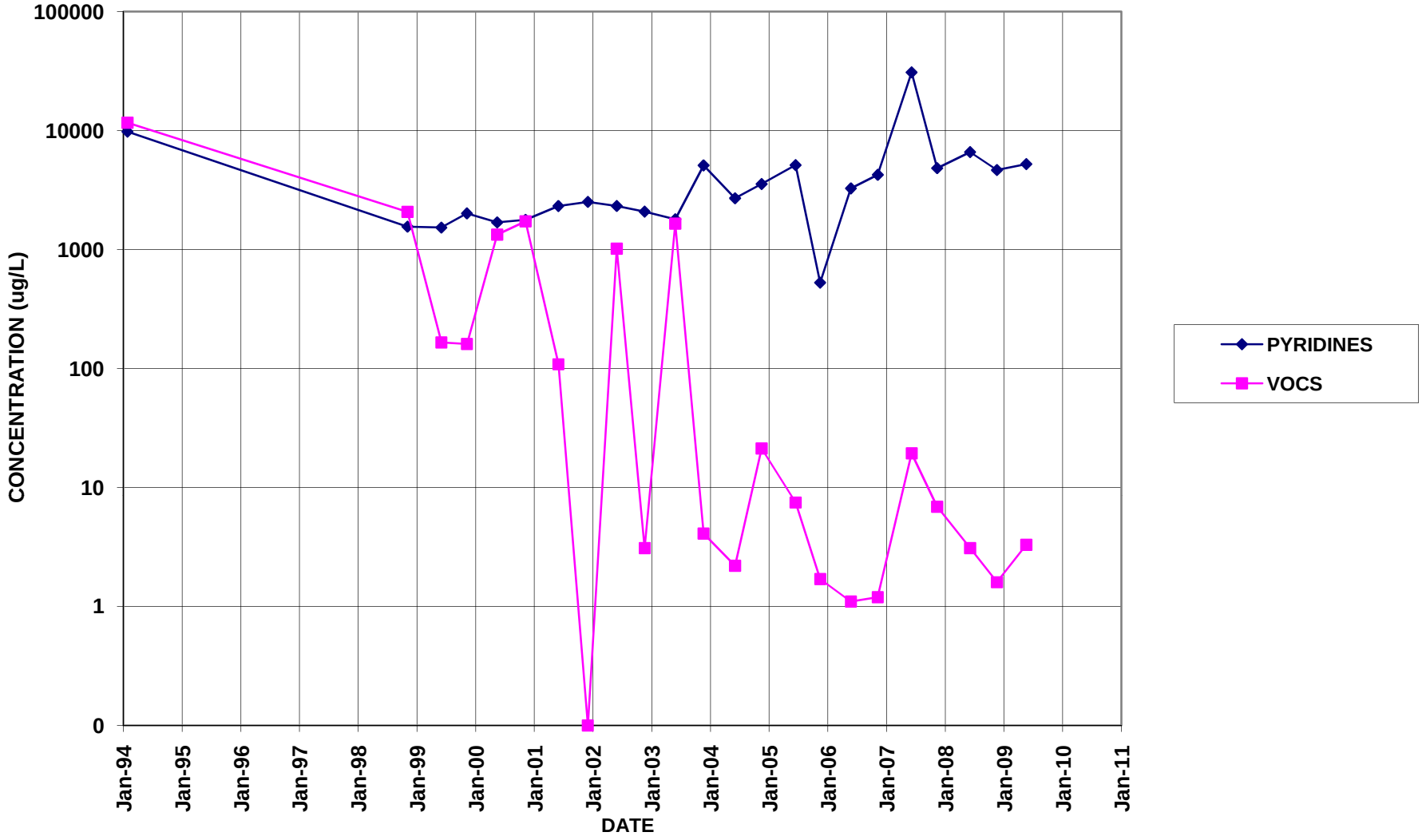
Prepared by: nmb
Reviewed by: jeb

PZ-106



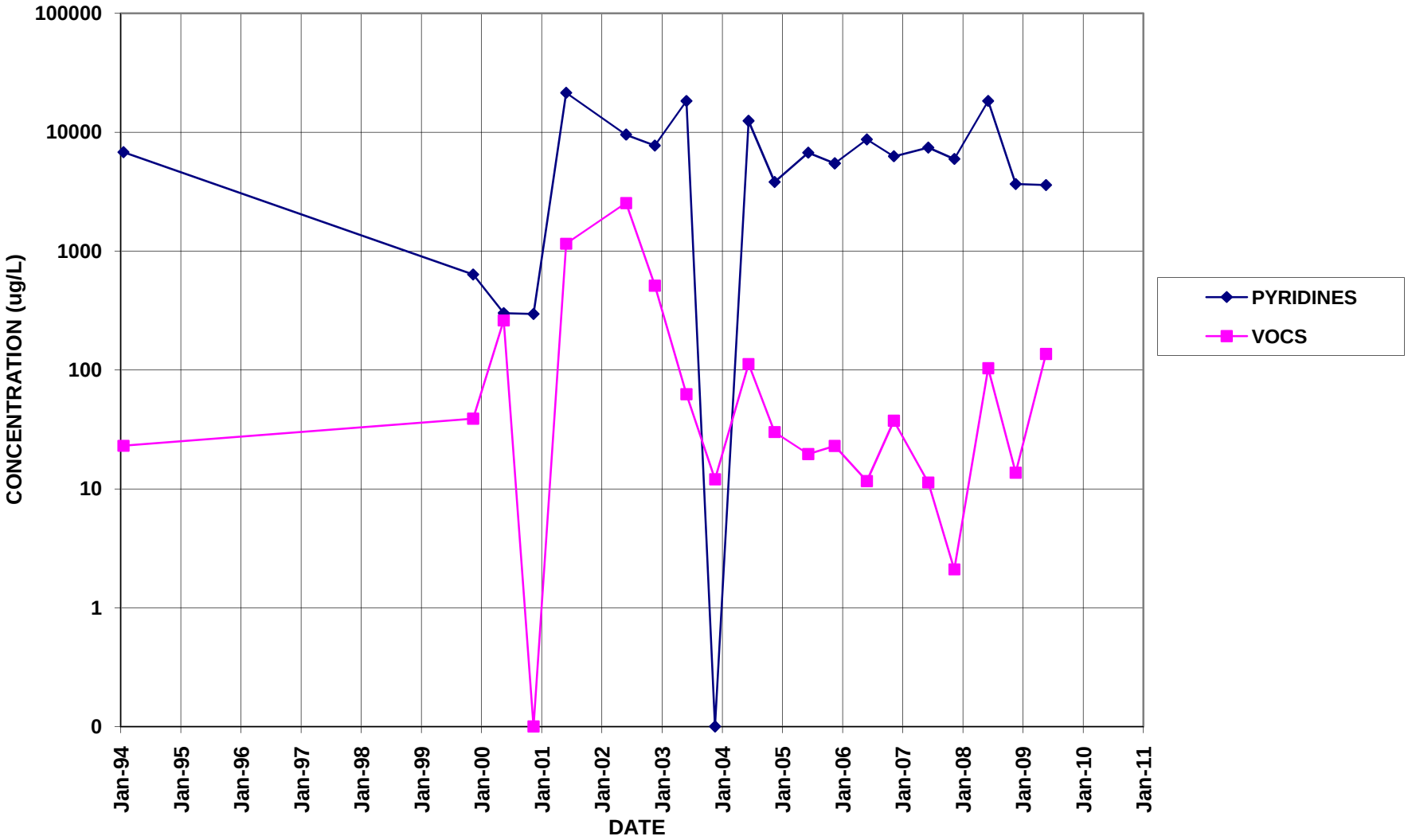
Prepared by: nmb
Reviewed by: jeb

PZ-107



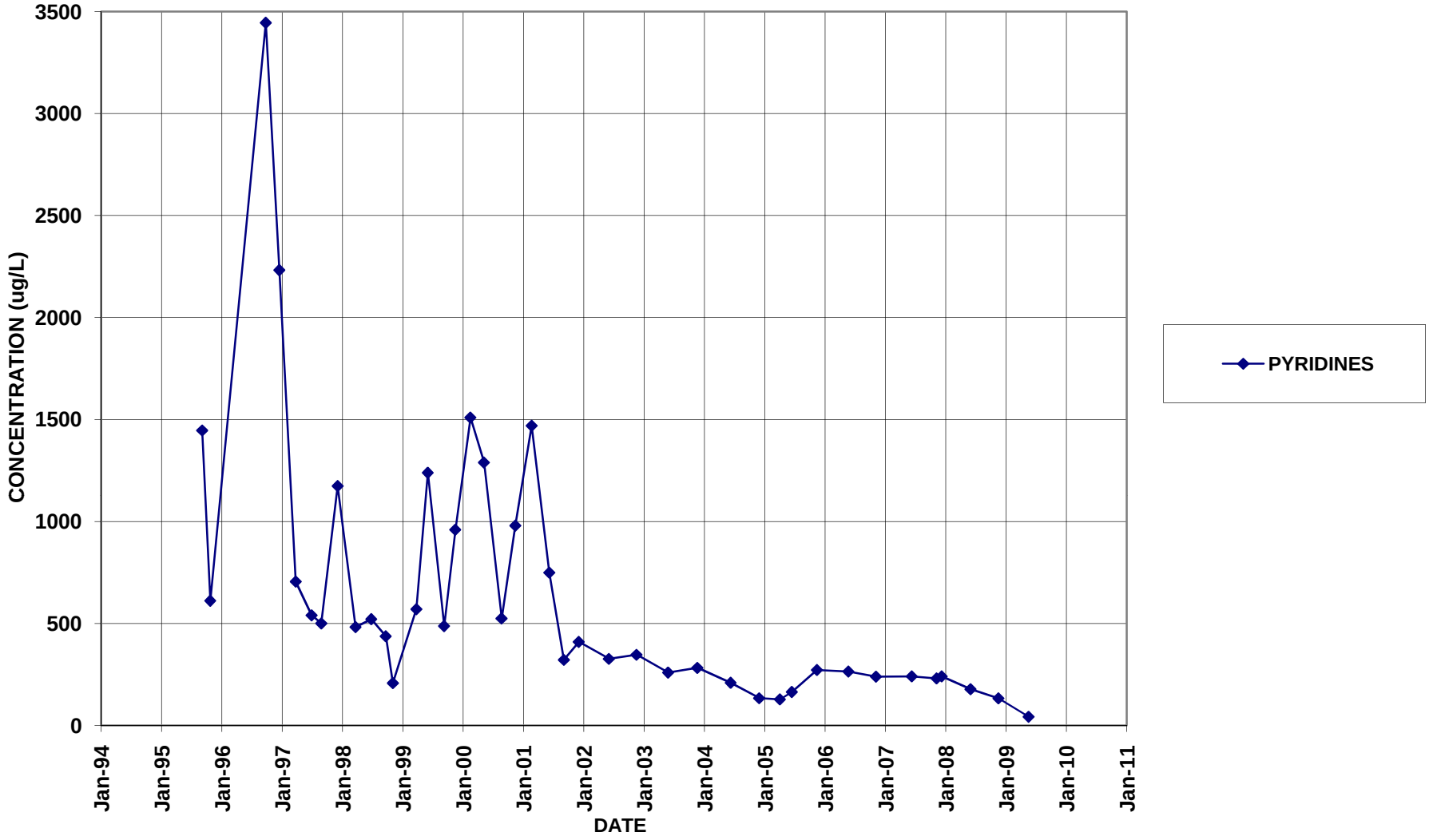
Prepared by: nmb
Reviewed by: jeb

S-3



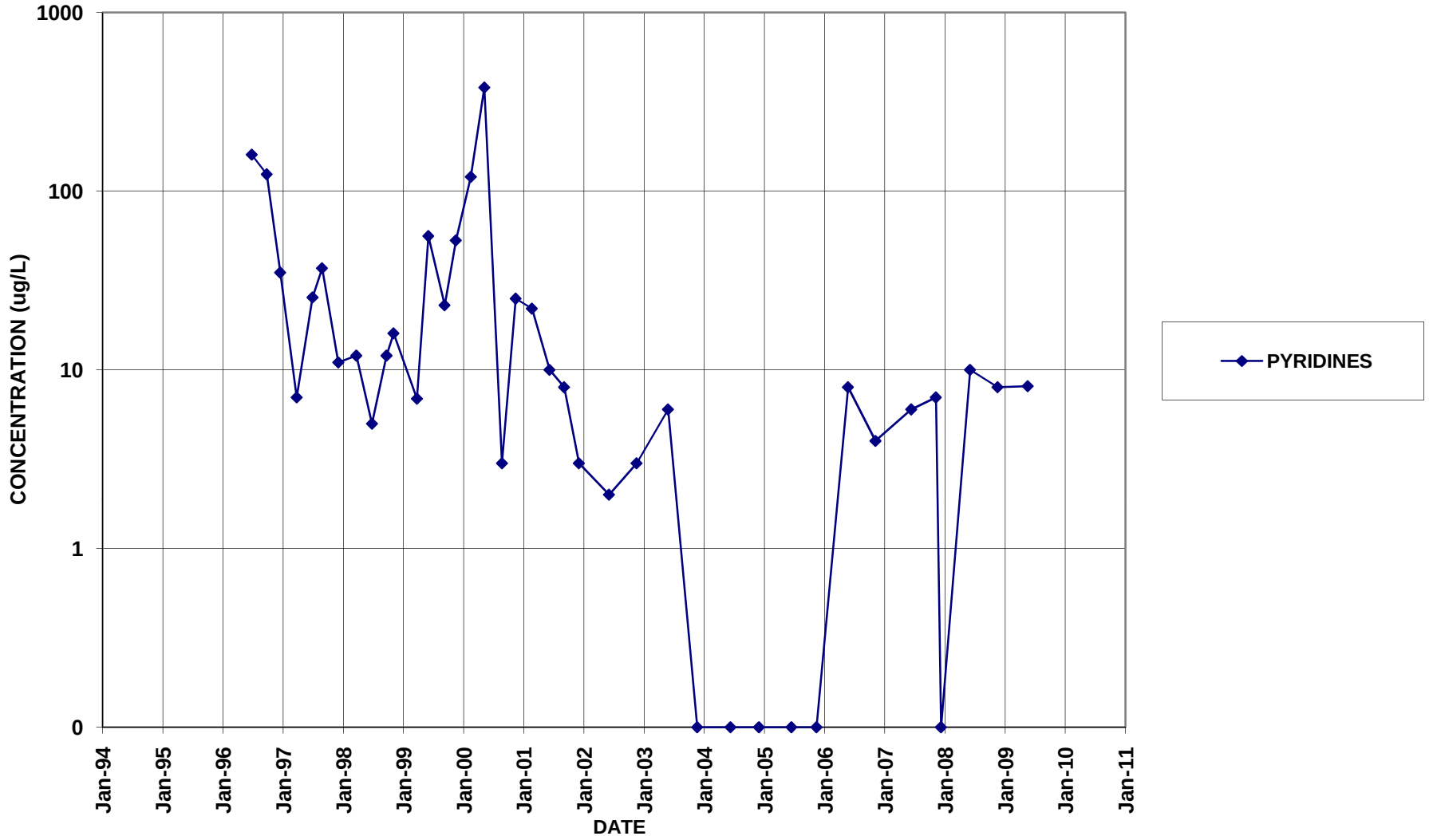
Prepared by: nmb
Reviewed by: jeb

QS-4 (QUARRY SEEP)



Prepared by: nmb
Reviewed by: jeb

QO-2 (QUARRY OUTFALL)



Prepared by: nmb
Reviewed by: jeb