Arch Chemicals, Inc.
P. O. Box 800
1200 Lower River Road
Charleston, TN 37310
Tel (423) 780-2724

February 26, 2004

Mr. James H. Craft
New York State
Department of Environmental Conservation
6274 East Avon-Lima Road
Avon, NY 14414

Re: Arch Rochester Fall 2003 Groundwater Monitoring Report
Arch Chemicals (Site #628018a) 100 McKee Rd., Rochester, NY

Dear Mr. Craft:

The attached 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 from November 17 through 21, 2003.

If you have any questions regarding this submittal, please call me at (423) 780-2175.

Sincerely,

Gayle M Taylor / jeb

Gayle M. Taylor
Manager, Environmental Issues
Arch Chemicals, Inc.

Encl.
cc (w/encl): Bart Putzig, NYSDEC
Renee Gelblat, USEPA Region II
Liliana Yohonn, Arch Chemicals, Inc.
Jeffrey Brandow, MACTEC Engineering & Consulting, Inc.

SURFACE WATER AND GROUNDWATER MONITORING PROGRAM
FALL 2003 MONITORING REPORT

ARCH CHEMICALS
ROCHESTER PLANT SITE
ROCHESTER, NEW YORK

ARCH CHEMICALS, INC.
CHARLESTON, TENNESSEE

FEBRUARY 2004

SURFACE WATER AND GROUNDWATER MONITORING PROGRAM
FALL 2003 MONITORING REPORT

ARCH CHEMICALS
ROCHESTER PLANT SITE
ROCHESTER, NEW YORK

Prepared by

MACTEC Engineering & Consulting, Inc.
Portland, Maine

for

ARCH CHEMICALS, INC.
Charleston, Tennessee

February 2004

This document meets standards prescribed in project planning documents and has been properly reviewed by qualified professionals.

Nelson M. Breton, C.G.
Project Geologist

Jeffrey E. Brandow, P.E.
Principal Engineer

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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 November 17 - 21, 2003.

During this monitoring event, samples from a total of 21 groundwater monitoring or pumping wells and three locations associated with the Dolomite Products Quarry seep and outfall were collected and analyzed by Severn Trent Laboratories in Amherst, New York.

As in prior reports, groundwater monitoring results were compared with previous average concentrations for the on-site and off-site monitoring wells. Out of the 24 total monitoring locations sampled for chloropyridines, 4 had contaminant concentrations exceeding their respective 5-year prior averages. For the 23 monitoring locations sampled for volatile organic compounds, only one had concentrations exceeding its 5-year prior average. Contaminant contour plots are generally consistent with past observations.

The sample from the quarry seep remained below its historical average. No chloropyridines were detected in the samples collected from the quarry outfall or from the Erie Barge Canal. The canal sample did contain low concentrations of benzene, toluene, ethylbenzene, and xylenes (BTEX); however, no BTEX compounds were detected in either the seep or the outfall sample so these compounds appear to be from an unrelated source.

During the period June 1 through November 30, 2003, the on-site groundwater extraction system pumped approximately 6.1 million gallons of groundwater to the on-site treatment system, containing an estimated 386 pounds of chloropyridines and 88 pounds of target volatile organic compounds. Physical and chemical rehabilitation of all seven pumping wells was completed in late August / early September 2003, with noticeable improvements in pumping rates in most of the wells. During this period, pump replacements were required in wells PW-10, PW-12, and BR-5A, and meters were replaced on wells PW-11, PW-12, and BR-5A.

Arch Chemicals and the New York State Department of Environmental Conservation signed a new Administrative Order on Consent that went into effect on August 21, 2003. To satisfy requirements under the Order, Arch provided the following submittals to the Department during this reporting period:

Submittal	Date Submitted
Draft Notice of Order	September 12, 2003
Records Search Report	September 18, 2003
Final (Certified) Notice of Order	September 30, 2003
Draft Remedial Design/Remedial Action Work Plan	October 16, 2003.

1.0 INTRODUCTION

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

The Fall 2003 sampling event included the collection and analysis of a total of twenty-four groundwater, surface water, and seep samples from off-site and on-site locations. This included one monitoring well (B-5) that was not on the regular fall monitoring schedule. Samples were collected from November 17 through 21, 2003, for analysis of selected chloropyridines and volatile organic compounds (VOCs).

This report presents the results of the Fall 2003 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). In addition, all samples were analyzed for target compound list (TCL) VOCs except for the sample from the former General Circuits facility, which is sampled for pyridines only in accordance with the approved monitoring schedule. Samples were collected by Severn Trent Laboratories and transported to their laboratory in Amherst, New York for analysis. The off-site and on-site locations of these sampling points are shown in Figures 1 and 2, respectively. Table 1 lists the wells that were sampled and the requested analyses. 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 pumping wells (BR-5A, BR-6A, BR-7A, BR-9, PW10, PW11, and PW12) were collected from the discharge lines.

Groundwater piezometric elevations were measured on November 14, 2003. Piezometric contour maps were constructed for each water-bearing zone (overburden, bedrock, and deep bedrock) and are presented in Figures 3, 4, and 5.

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 quarry seep, the quarry outfall, and the Barge Canal were collected by Severn Trent Laboratories on November 21, 2003.

Samples were analyzed for selected chloropyridines and TCL VOCs. The three locations sampled during this event are listed below and are shown on Figure 7.

Canal Sample	Quarry Samples
QO-2S1 (100 ft south of QO-2)	QS-4 (Quarry Seep)
	QO-2 (Quarry Outfall)

2.3 ANALYTICAL PROCEDURES

The analytical procedures, data review findings, and validated data for this groundwater 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 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 XII", March 2001.

Analytical results were evaluated for the following parameters:

* Collection and Preservation
* Holding Times
* Surrogate Recoveries
* Blanks
* Duplicates
* Laboratory Control Samples
  Matrix Spike/Matrix Spike Duplicates

** - all criteria were met for this parameter*

With the exception of the following items discussed below, results are determined to be usable as reported by the laboratory.

Matrix Spike/Matrix Spike Duplicate. The relative percent difference (RPD) for 2-chloropyridine was outside the QC control limits for the SVOC matrix spike/matrix spike duplicate samples (MS/MSD) PW-10MS/MSD. The 2-chloropyridine result in the un-spiked sample PW-10 was approximately twelve times greater than the spiking concentration. Using professional judgment, no qualifications were necessary.

The RPDs for 2-chloropyridine, 3-chloropyridine and 2,6-dichloropyridine were outside the QC limits for the SVOC blank MS/MSD associated with samples BR-106, MW-106, BR-105D, BR-105 and DUP (BR-105). 2-chloropyridine, 3-chloropyridine and 2,6-dichloropyridine results for these samples were qualified as estimated (J).

Miscellaneous. The 2,6-dichloropyridine result for sample PZ-101 exceeded the instrument calibration range and was qualified as estimated (J).

3.0 ANALYTICAL RESULTS

3.1 GROUNDWATER

The validated results from the Fall 2003 groundwater monitoring event are provided in Tables 2 and 3. Table 4 provides a comparison of the Fall 2003 analytical results for selected chloropyridines and VOCs in representative wells to mean concentrations of the prior five years (Fall 1998 through Spring 2003). 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 eleven of the twelve on-site wells sampled in the Fall 2003 event. Concentrations of chloropyridines ranged from non-detect in monitoring well S-3 to 79,000 micrograms per liter (µg/L) (sum of all chloropyridine isomer concentrations) in pumping well PW-10. Pumping wells BR-5A and PW-10, and monitoring well PZ-107, had selected chloropyridines concentrations above their respective means from monitoring events over the previous five years.

Off-Site. Chloropyridines were detected above sample quantitation limits in all nine off-site wells that were sampled. Concentrations of total selected chloropyridines ranged from 200 µg/L to 7,100 µg/L. Only one off-site well (PZ-101) contained total chloropyridines concentrations in exceedence of its 5-year prior mean.

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. Concentrations of VOCs ranged from non-detect to 13,000 µg/L for the sum of the principal site-related contaminants (carbon tetrachloride, chloroform, methylene chloride, tetrachloroethene, and trichloroethene). Only one on-site well sampled in the Fall 2003 event (pumping well BR-6A) had VOC concentrations greater than its 5-year prior mean. In addition to the selected VOCs, other notable constituents detected in on-site wells include chlorobenzene (in 10 out of 12 wells), toluene (9 of 12), benzene (8 of 12), 1,2-dichloroethene (6 of 12), carbon disulfide (5 of 12), and vinyl chloride (5 of 12).

Off-Site. Selected VOCs were detected in three of the eight off-site wells sampled for VOCs in the Spring 2003 event (the sample from former General Circuits well MW-16 is not analyzed for VOCs). Total concentrations of selected VOCs ranged from non-detect to approximately 640 ug/L. None of the off-site wells had selected VOC concentrations above their prior 5-year mean. In addition to the selected VOCs, other notable

constituents detected in off-site wells include benzene (in 8 out of 8 wells), chlorobenzene (7 of 8), and toluene (2 of 8).

Concentration Contours. The distribution of selected VOCs in groundwater is shown as a set of concentration contours on Figure 9. These contours were developed using both overburden and bedrock groundwater data, and are dashed where approximated using data from previous sampling rounds.

3.2 SURFACE WATER

Results from the Fall 2003 canal and quarry monitoring event are presented in Table 5.

3.2.1 Quarry

For samples collected from the Dolomite products quarry seep (QS-4) and discharge outfall (QO-2), the chloropyridine analyses yielded the following results:

LOCATION	QO-2	QS-4
PARAMETER[1]		
pyridine	ND	ND
2,6-Dichloropyridine	ND	43
2-Chloropyridine	ND	240
3-Chloropyridine	ND	ND
p-Fluoroanaline	ND	ND

Notes:
[1] = Concentrations reported in micrograms per liter (µg/L)

These chloropyridine concentrations are below historical averages.

No VOCs were detected in either of the quarry samples.

3.2.2 Barge Canal

No chloropyridines were detected in QO-2S1, collected from the Erie Barge Canal. This sample did contain low concentrations of benzene, toluene, ethylbenzene, and xylenes (BTEX); however, no BTEX compounds were detected in either the seep (QS-4) or the outfall sample (QO-2). Therefore, these compounds are likely to be from an unrelated source.

4.0 EXTRACTION SYSTEM PERFORMANCE AND MAINTENANCE

Table 6 is a summary of the system flow measurements for the seven extraction wells from June 2003 through November 2003. The total volume pumped during the six-month period is approximately 6.1 million gallons. Flow rates from several of the wells had exhibited significant declines over the winter of 2002-2003, and wells PW-10 and BR-6A had essentially become non-functional. Physical and chemical rehabilitation of all seven pumping wells was completed in late August / early September 2003, with noticeable improvements in pumping rates in all wells except BR-6A. A well rehabilitation summary

report was submitted to the NYSDEC in October 2003 that described the well rehabilitation effort and results in more detail.

During the period, pump replacements were required in wells PW-10, PW-12, and BR-5A. Meters were replaced on wells PW-11, PW-12, and BR-5A.

Table 7 provides a calculation of mass removal rates since the previous groundwater monitoring event (i.e., from June 2003 through November 2003). Arch estimates that approximately 88 pounds of target VOCs and 386 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 OTHER ISSUES

Arch Chemicals and the NYSDEC signed a new Administrative Order on Consent that went into effect on August 21, 2003. To satisfy requirements under the Order, Arch provided the following submittals to the Department during this reporting period:

Submittal	Date Submitted
Draft Notice of Order	September 12, 2003
Records Search Report	September 18, 2003
Final (Certified) Notice of Order	September 30, 2003
Draft Remedial Design/Remedial Action Work Plan	October 16, 2003.

6.0 NEXT MONITORING EVENT

The next monitoring event will occur in May 2004 and will include groundwater, surface water, and seep sampling.

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

Figures

P:\CAD\Data1\7311-52\7311f201.dwg Fri, 25 Jan 2002 - 10:28am RDCYR

GRIFFITH OIL
FIRTH RIXSON
MARK IV
ARCH
AID TO HOSPITALS
AMERICAN RECYCLE
LINDBERG
LEXINGTON
KODAK (BUILDING 800)
McKEE ROAD
ERIE BARGE CANAL
BUFFALO ROAD
OD

MW-G6 MW-G9 MW-G8 MW-107 BR-107 MW-108 BR-108 PZ-101 PZ-102 PZ-103 BR-106 MW-106 BR-111D BR-111 BR-112D BR-112A EC-1 BR-105D MW-105 BR-105 EC-2 BR-113D BR-113

MW-1 MW-3 MW-2 N-3 N-2 BR-1 N-1 E-5 E-4 W-1 B-2 W-2 BR-9 BR-102 B-3 W-3 PW12 C-3 C-1 BR-5 BR-5A E-3 ER-103 MW-103 B-4 W-4 PW11 B-5 BR-8 C-4 E-2 BR-2 C-2A BR-4 PW-10 B-17 BR-2B C-5 BR-30 BR-3 PZ-106 E-1 B-11 S-4 B-10 PZ-107 PZ-108 BR-7 BR-7A B-6 PZ-105 BR-6 W-6 B-7 S-1 B-8 S-2 B-9 S-3 B-13 B-14 B-15 B-16 PZ-104 W-5 B-12 MW-104 BR-104 MW-114 BR-114

1,150,750 N
1,150,500 N
1,150,250 N
1,150,000 N
1,149,750 N
1,149,500 N
1,149,250 N
1,149,000 N
1,148,750 N

743,250 E
743,500 E
743,750 E
744,000 E
744,250 E
744,500 E
744,750 E
745,000 E

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

0 100 200 400 FEET

SCALE: 1"=200'

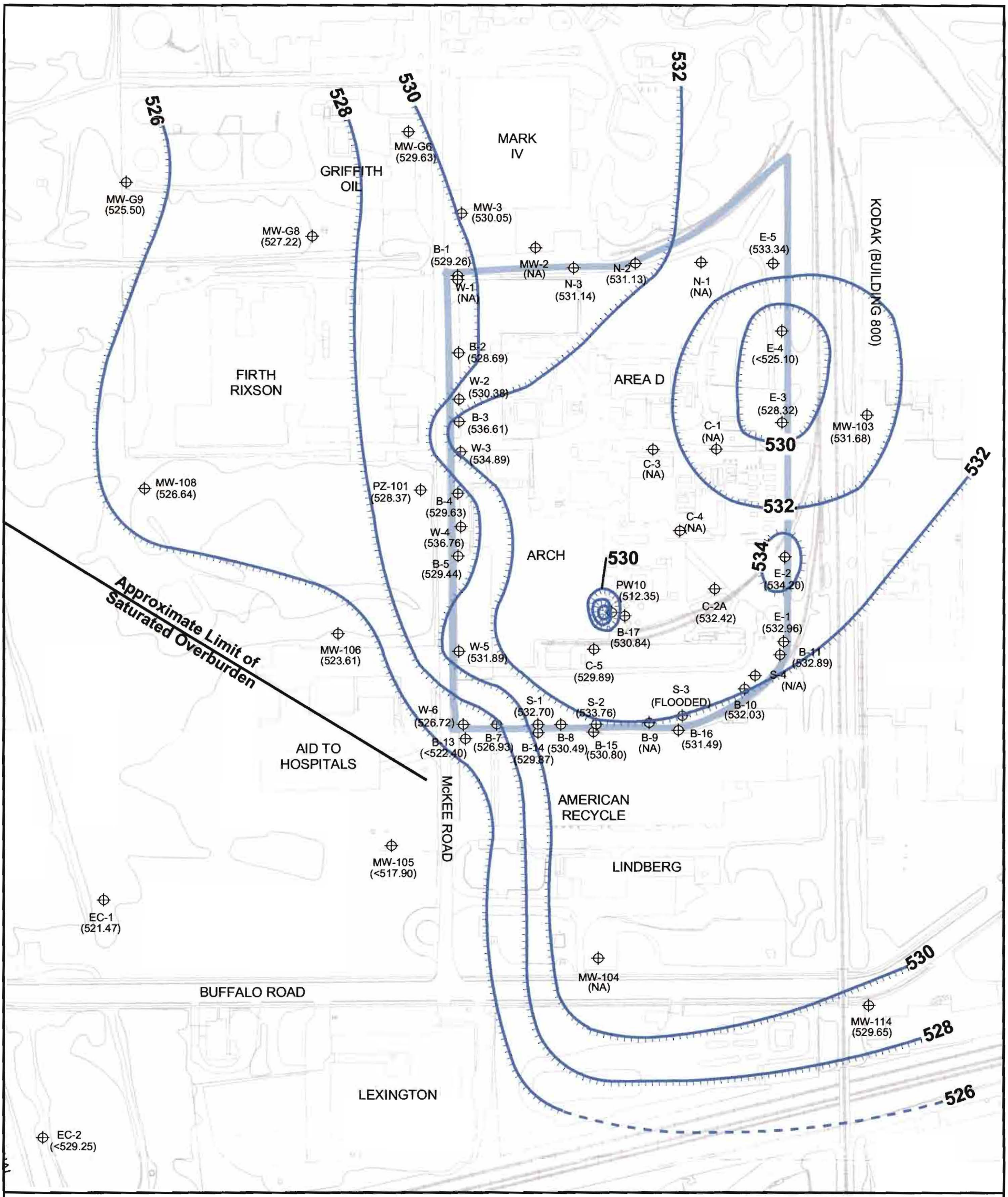
NOTE:

1. OFF-SITE WELL LOCATIONS ALSO INCLUDED ON FIGURE 1

FIGURE 2

ON-SITE MONITORING WELL LOCATIONS

ARCH CHEMICALS
ROCHESTER, N.Y.



Legend

- Outline of Arch Property Boundary
- Interpreted Groundwater Flow Direction
- 528 — Overburden Piezometric Elevation Contour (MSL)
- MW-114 (529.65) — Piezometric Elevation at Well or Piezometer

NOTES:

1. Water Levels Measured on November 14, 2003
2. NA = Not Available
3. Dashed Contours Reflect Uncertainty
4. **(<517.90) Reflects Bottom of Well Elevation, Well Observed Dry**

N

0 100 200 400 Feet

Prepared by JJW | Checked by NMB

Figure 3
Fall 2003
Overburden Groundwater
Interpreted Piezometric Contours

Arch Chemicals
Rochester, NY
MACTEC, Inc.

Document: P:\Projects\Arch\Rochester\GIS\MapDocuments\Arch_OvbGW_Fig3.mxd PDF: P:\Projects\Arch\Rochester\GIS\Figures\Monitoring_Fall2003\Figure3.pdf 02/13/2004 1:36 PM jjwherren

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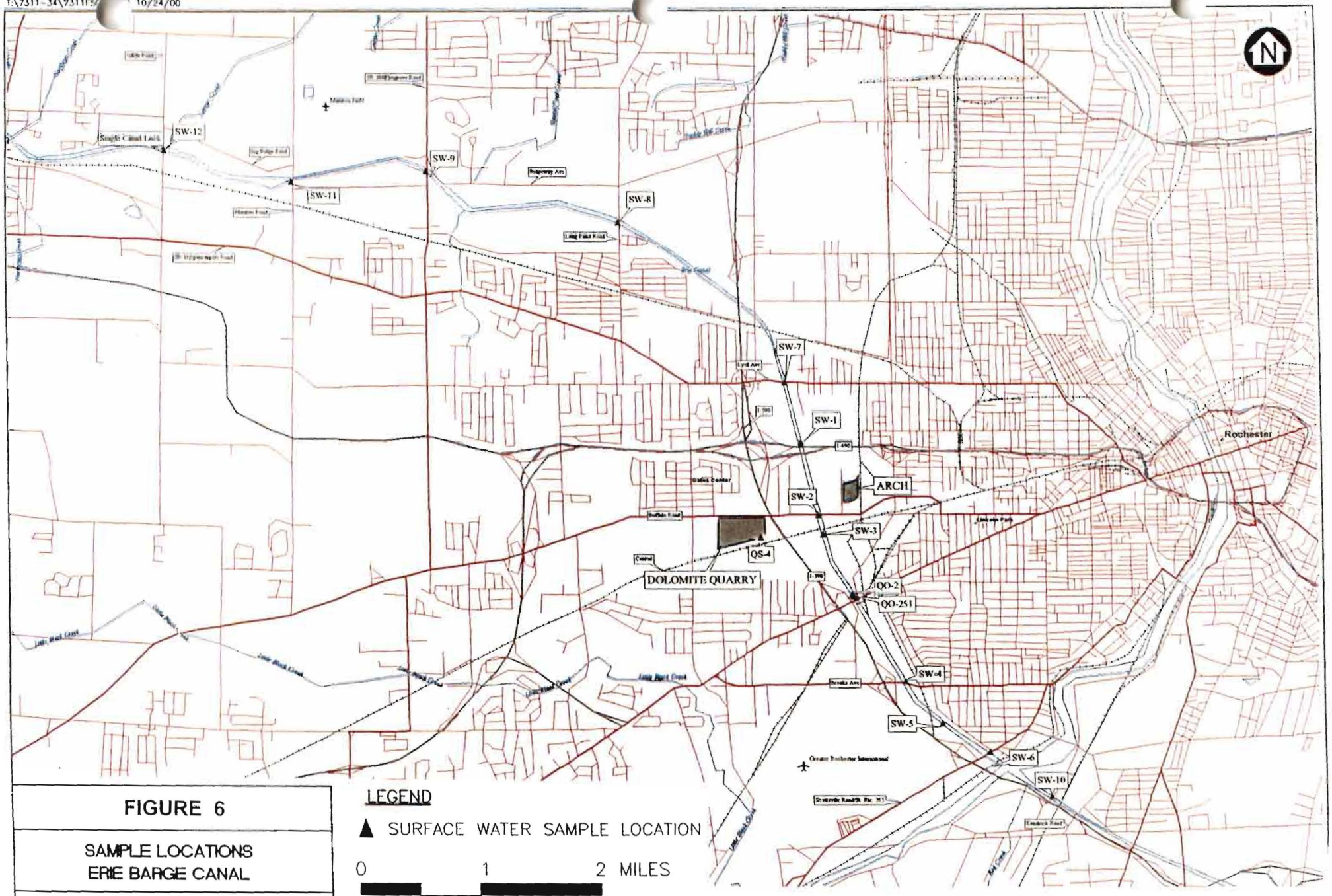


FIGURE 6

SAMPLE LOCATIONS
ERIE BARGE CANAL

ARCH CHEMICALS
ROCHESTER, N.Y.

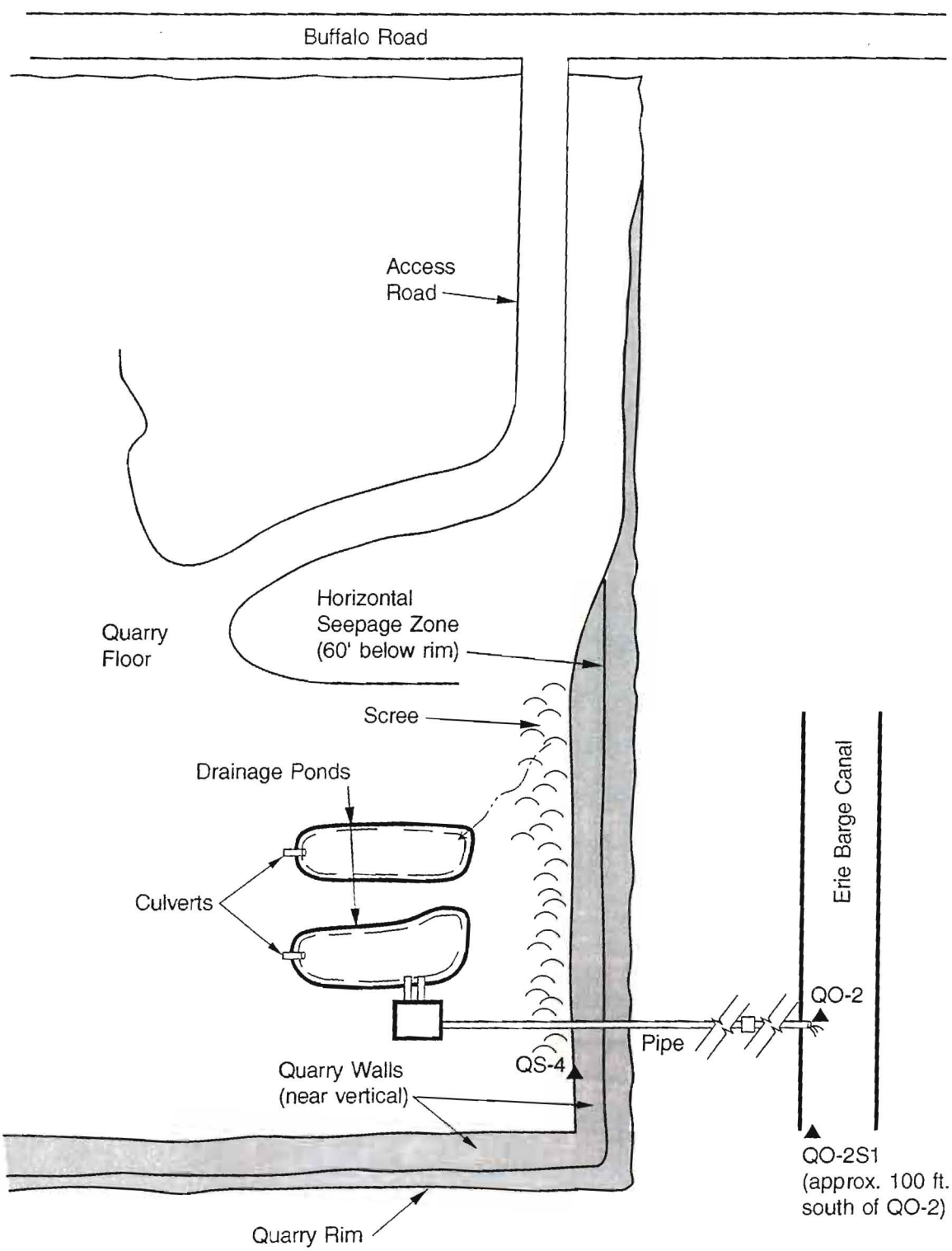
LEGEND

▲ SURFACE WATER SAMPLE LOCATION

0 1 2 MILES

APPROXIMATE SCALE

SOURCE: DeLorme Mapping 1995



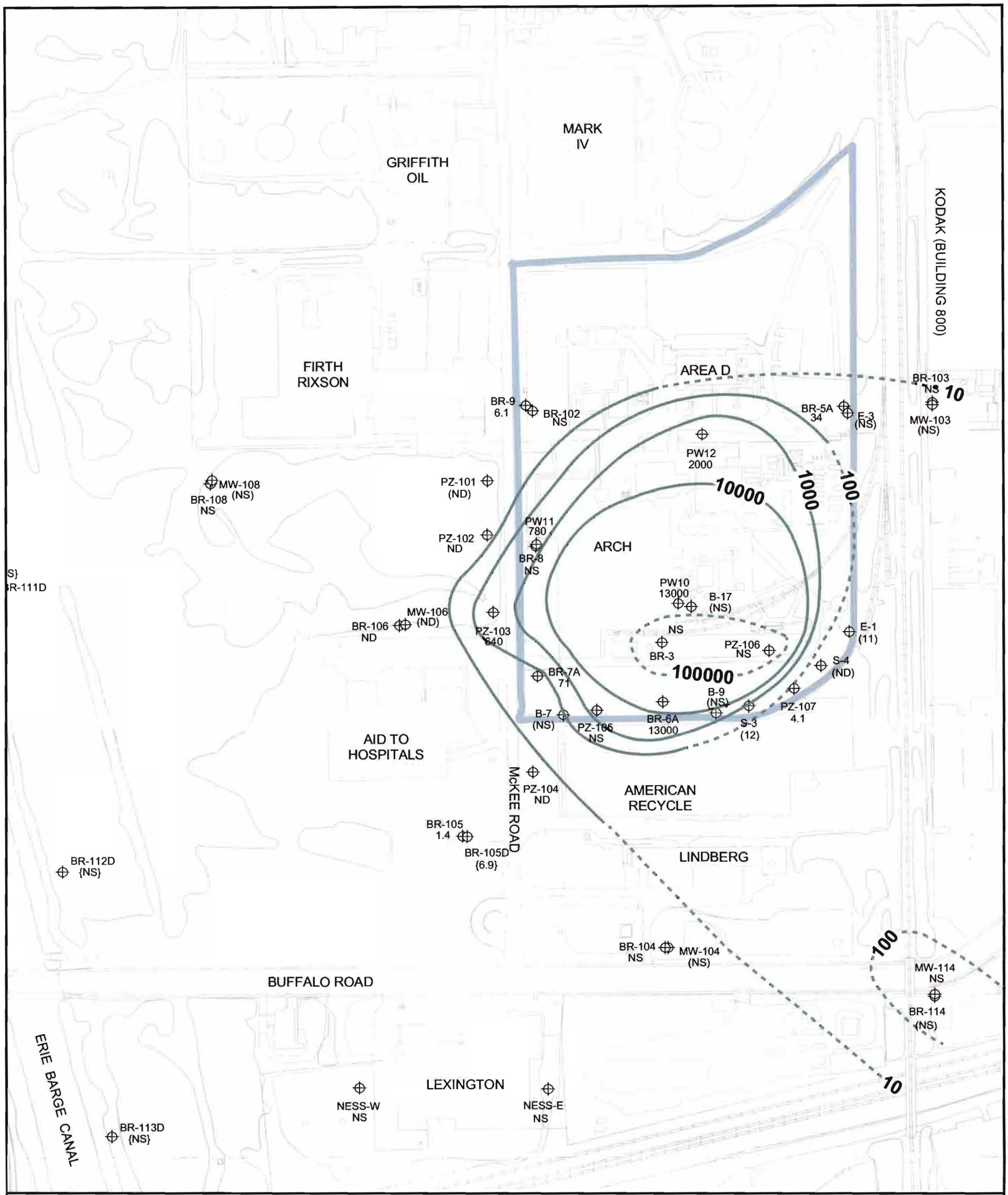
Not to Scale

FIGURE 7

SAMPLE LOCATIONS DOLOMITE PRODUCTS QUARRY

ARCH CHEMICALS
ROCHESTER, NEW YORK

W2002008.idw



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

N

0 100 200 Feet

NOTES:

1. Samples Collected in November, 2003
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.

Prepared by JJW | Checked by NMB

Figure 9
Fall 2003
Selected Volatile Organic Compound Concentration Contours

Arch Chemicals
Rochester, NY
MACTEC, Inc.

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Tables

TABLE 1
FALL 2003 GROUNDWATER SAMPLING AND ANALYTICAL PROGRAM

ARCH CHEMICALS, INC
ROCHESTER, NEW YORK

			ANALYSIS	PYRIDINES[1]	VOCs[2]
SITE / AREA	WELL / POINT	DATE	QC TYPE		
AID TO HOSPITALS	BR-106	11/19/2003	Sample	X	X
	MW-106	11/19/2003	Sample	X	X
	PZ-101	11/17/2003	Sample	X	X
	PZ-102	11/17/2003	Sample	X	X
	PZ-103	11/17/2003	Sample	X	X
AMERICAN RECYCLE MANUF. (58 MCKEE ROAD)	PZ-104	11/17/2003	Sample	X	X
ARCH ROCHESTER	B-5	11/17/2003	Sample	X	X
	BR-5A	11/18/2003	Sample	X	X
	BR-6A	11/18/2003	Sample	X	X
	BR-7A	11/18/2003	Sample	X	X
	BR-9	11/18/2003	Sample	X	X
	E-1	11/20/2003	Sample	X	X
	PW10	11/18/2003	Sample	X	X
	PW11	11/18/2003	Sample	X	X
	PW12	11/18/2003	Sample	X	X
	PZ-107	11/20/2003	Sample	X	X
	S-3	11/20/2003	Sample	X	X
	S-4	11/20/2003	Sample	X	X
DOLOMITE PRODUCTS, INC. (Seep)	QS-4	11/21/2003	Sample	X	X
ERIE BARGE CANAL (Surface Water)	QO-2	11/21/2003	Sample	X	X
	QO-2S1	11/21/2003	Sample	X	X
FORMER GENERAL CIRCUITS	MW-16	11/20/2003	Sample	X	
RG & E RIGHT OF WAY	BR-105	11/19/2003	Duplicate	X	X
	BR-105	11/19/2003	Sample	X	X
	BR-105D	11/19/2003	Sample	X	X

Notes:

1) Pyridines analysis by USEPA SW-846 Method 8270C.
2) VOCs analysis by USEPA SW-846 Method 8260B.

Prepared by: NMB Checked by: JEB

TABLE 2
FALL 2003 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	B-5		BR-105		BR-105		BR-105D		BR-106		BR-5A		BR-6A		BR-7A		BR-9		E-1	
SAMPLE DATE:	11/17/03		11/19/03		11/19/03		11/19/03		11/19/03		11/18/03		11/18/03		11/18/03		11/18/03		11/20/03	
QC TYPE:	N		D		N		N		N		N		N		N		N		N	
BY SW-846 Method 8270C (µg/L)																				
2,6-Dichloropyridine	50	U	500	UJ	500	UJ	500	UJ	800	J	190		6200	U	5000	U	47	U	9200	
2-Chloropyridine	90		1300	J	1500	J	2100	J	4200	J	1200		8700		10000		140		22000	
3-Chloropyridine	50	U	500	UJ	500	UJ	500	UJ	500	UJ	10	U	6200	U	5000	U	47	U	1300	
4-Chloropyridine	50	U	500	U	500	U	500	U	500	U	10	U	6200	U	5000	U	47	U	1000	U
p-Fluoroaniline	50	U	500	U	500	U	500	U	500	U	37		6200	U	5000	U	47	U	1000	U
Pyridine	120	U	1200	U	1200	U	1200	U	1200	U	6	J	16000	U	12000	U	120	U	260	J

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

QC TYPE: N = Field sample;
D = Field duplicate.

TABLE 2
FALL 2003 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	MW-106		MW-16		PW10		PW11		PW12		PZ-101		PZ-102		PZ-103		PZ-104		PZ-107	
SAMPLE DATE:	11/19/03		11/20/03		11/18/03		11/18/03		11/18/03		11/17/03		11/17/03		11/17/03		11/17/03		11/20/03	
QC TYPE:	N		N		N		N		N		N		N		N		N		N	
BY SW-846 Method 8270C (µg/L)																				
2,6-Dichloropyridine	1300	J	10	U	7100		260		500		200	J	200	U	2500	U	500	U	810	
2-Chloropyridine	4800	J	190		64000		1400		1400		2700		900		7100		3600		4000	
3-Chloropyridine	500	UJ	10	U	2500	U	250	U	500	U	11		200	U	2500	U	500	U	280	
4-Chloropyridine	500	U	10	U	2500	U	250	U	500	U	10	U	200	U	2500	U	500	U	100	U
p-Fluoroaniline	500	U	14		2500	U	250	U	500	U	44		200	U	2500	U	500	U	100	U
Pyridine	1200	U	24	U	7500		620	U	1200	U	24	U	500	U	6200	U	1200	U	250	U

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

QC TYPE: N = Field sample;
D = Field duplicate.

TABLE 2
FALL 2003 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	S-3		S-4	
SAMPLE DATE:	11/20/03		11/20/03	
QC TYPE:	N		N	
BY SW-846 Method 8270C (µg/L)				
2,6-Dichloropyridine	500	U	79	
2-Chloropyridine	500	U	19	
3-Chloropyridine	500	U	10	U
4-Chloropyridine	500	U	10	U
p-Fluoroaniline	500	U	10	U
Pyridine	1200	U	24	U

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

QC TYPE: N = Field sample;
D = Field duplicate.

TABLE 3
FALL 2003 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	B-5	BR-105	BR-105	BR-105D	BR-106	BR-5A	BR-6A	BR-7A	BR-9	E-1	MW-106
SAMPLE DATE:	11/17/03	11/19/03	11/19/03	11/19/03	11/19/03	11/18/03	11/18/03	11/18/03	11/18/03	11/20/03	11/19/03
QC TYPE:	N	D	N	N	N	N	N	N	N	N	N
VOLATILE ORGANIC COMPOUNDS BY SW-846 Method 8260/5ML (µg/L)											
1,1,1-Trichloroethane	5 U	25 U	5 U	25 U	10 U	5 U	120 U	10 U	2.8 J	50 U	50 U
1,1,2,2-Tetrachloroethane	5 U	25 U	5 U	25 U	10 U	5 U	120 U	10 U	10 U	50 U	50 U
1,1,2-Trichloroethane	5 U	25 U	5 U	25 U	10 U	5 U	120 U	10 U	10 U	50 U	50 U
1,1-Dichloroethane	5 U	25 U	1.6 J	25 U	10 U	5 U	120 U	4.3 J	15	50 U	50 U
1,1-Dichloroethene	5 U	25 U	5 U	25 U	10 U	5 U	120 U	10 U	10 U	50 U	50 U
1,2-Dichloroethane	20	25 U	5 U	25 U	10 U	5 U	120 U	10 U	10 U	50 U	50 U
1,2-Dichloroethene (total)	7.2 J	30 J	41	50 U	20 U	21	250 U	20 U	420	100 U	100 U
1,2-Dichloropropane	5 U	25 U	5 U	25 U	10 U	5 U	120 U	10 U	10 U	50 U	50 U
2-Butanone	25 U	120 U	25 U	120 U	50 U	25 U	620 U	50 U	50 U	250 U	250 U
2-Hexanone	25 U	120 U	25 U	120 U	50 U	25 U	620 U	50 U	50 U	250 U	250 U
4-Methyl-2-pentanone	25 U	120 U	25 U	120 U	50 U	25 U	620 U	50 U	50 U	250 U	250 U
Acetone	25 U	120 U	25 U	120 U	50 U	25 U	620 U	50 U	50 U	280	250 U
Benzene	5.3	25 U	2.2 J	7.3 J	20	13	120 U	24	100	50 U	64
Bromodichloromethane	5 U	25 U	5 U	25 U	10 U	5 U	120 U	10 U	10 U	50 U	50 U
Bromoform	5 U	25 U	5 U	25 U	10 U	5 U	290	10 U	10 U	50 U	50 U
Bromomethane	5 U	25 U	5 U	25 U	10 U	5 U	120 U	10 U	10 U	50 U	50 U
Carbon disulfide	5 U	25 U	5 U	25 U	10 U	5 U	610	5 J	10 U	18 J	50 U
Carbon tetrachloride	5 U	25 U	5 U	25 U	10 U	5 U	6200	5.7 J	10 U	50 U	50 U
Chlorobenzene	200	25 U	5	25 U	150	13	110 J	300	12	43 J	570
Chloroethane	5 U	25 U	5 U	25 U	10 U	5 U	120 U	10 U	10 U	50 U	50 U
Chloroform	5 U	25 U	5 U	6.9 J	10 U	15	6000	29	2.7 J	11 J	50 U
Chloromethane	5 U	25 U	5 U	25 U	10 U	5 U	120 U	10 U	10 U	50 U	50 U
cis-1,3-Dichloropropene	5 U	25 U	5 U	25 U	10 U	5 U	120 U	10 U	10 U	50 U	50 U
Dibromochloromethane	5 U	25 U	5 U	25 U	10 U	5 U	120 U	10 U	10 U	50 U	50 U
Ethylbenzene	5 U	25 U	5 U	25 U	10 U	5 U	120 U	10 U	15	50 U	50 U
Methylene chloride	5 U	25 U	5 U	25 U	10 U	7.5	540	33	10 U	50 U	50 U
Styrene	5 U	25 U	5 U	25 U	10 U	5 U	120 U	10 U	10 U	50 U	50 U
Tetrachloroethene	5 U	25 U	1.4 J	25 U	10 U	5 U	210	3.3 J	10 U	50 U	50 U
Toluene	4.2 J	25 U	5 U	25 U	10 U	5.7	160	29	5.1 J	50 U	18 J
Total Xylenes	15 U	75 U	15 U	75 U	30 U	15 U	380 U	30 U	30 U	150 U	150 U
trans-1,3-Dichloropropene	5 U	25 U	5 U	25 U	10 U	5 U	120 U	10 U	10 U	50 U	50 U
Trichloroethene	5.2	25 U	5 U	25 U	10 U	11	29 J	10 U	3.4 J	50 U	50 U
Vinyl acetate	25 U	120 U	25 U	120 U	50 U	25 U	620 U	50 U	50 U	250 U	250 U
Vinyl chloride	5 U	17 J	23	25 U	10 U	5.4	120 U	8.4 J	250	50 U	50 U

Notes:

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

J = Estimated value.

QC TYPE: N = Field sample; D = Field duplicate.

TABLE 3
FALL 2003 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	PW10	PW11	PW12	PZ-101	PZ-102	PZ-103	PZ-104	PZ-107	S-3	S-4
SAMPLE DATE:	11/18/03	11/18/03	11/18/03	11/17/03	11/17/03	11/17/03	11/17/03	11/20/03	11/20/03	11/20/03
QC TYPE:	N	N	N	N	N	N	N	N	N	N
VOLATILE ORGANIC COMPOUNDS										
BY SW-846 Method 8260/5ML (µg/L)										
1,1,1-Trichloroethane	250 U	10 U	50 U	5 U	10 U	25 U	5 U	5 U	25 U	50 U
1,1,2,2-Tetrachloroethane	250 U	10 U	50 U	5 U	10 U	25 U	5 U	5 U	25 U	50 U
1,1,2-Trichloroethane	250 U	10 U	50 U	5 U	10 U	25 U	5 U	5 U	25 U	50 U
1,1-Dichloroethane	250 U	19	50 U	5 U	10 U	25 U	5 U	5 U	25 U	50 U
1,1-Dichloroethene	250 U	10 U	50 U	5 U	10 U	25 U	5 U	5 U	25 U	50 U
1,2-Dichloroethane	250 U	10 U	50 U	5 U	10 U	25 U	5 U	5 U	25 U	50 U
1,2-Dichloroethene (total)	100 J	160	100 U	10 U	20 U	50 U	10 U	6 J	50 U	100 U
1,2-Dichloropropane	250 U	10 U	50 U	5 U	10 U	25 U	5 U	5 U	25 U	50 U
2-Butanone	1200 U	50 U	250 U	25 U	50 U	120 U	25 U	25 U	120 U	250 U
2-Hexanone	1200 U	50 U	250 U	25 U	50 U	120 U	25 U	25 U	120 U	250 U
4-Methyl-2-pentanone	1200 U	50 U	250 U	25 U	50 U	120 U	25 U	25 U	120 U	250 U
Acetone	1200 U	48 J	250 U	25 U	50 U	120 U	25 U	25 U	120 U	250 U
Benzene	50 J	47	63	15	35	68	3.4 J	3.7 J	25 U	50 U
Bromodichloromethane	250 U	10 U	50 U	5 U	10 U	25 U	5 U	5 U	25 U	50 U
Bromoform	610	10 U	50 U	5 U	10 U	25 U	5 U	5 U	25 U	50 U
Bromomethane	250 U	10 U	50 U	5 U	10 U	25 U	5 U	5 U	25 U	50 U
Carbon disulfide	680	10 U	92	5 U	10 U	19 J	5 U	5 U	25 U	50 U
Carbon tetrachloride	4400	10 U	340	5 U	10 U	25 U	5 U	5 U	25 U	50 U
Chlorobenzene	250	62	330	93	310	890	5.4	2.4 J	25 U	50 U
Chloroethane	250 U	10 U	50 U	5 U	10 U	25 U	5 U	5 U	25 U	50 U
Chloroform	6500	360	1200	5 U	10 U	120	5 U	5 U	12 J	50 U
Chloromethane	250 U	10 U	50 U	5 U	10 U	25 U	5 U	5 U	25 U	50 U
cis-1,3-Dichloropropene	250 U	10 U	50 U	5 U	10 U	25 U	5 U	5 U	25 U	50 U
Dibromochloromethane	250 U	10 U	50 U	5 U	10 U	25 U	5 U	5 U	25 U	50 U
Ethylbenzene	250 U	4.5 J	23 J	5 U	10 U	25 U	5 U	5 U	25 U	50 U
Methylene chloride	1100	420	400	5 U	10 U	520	5 U	5 U	25 U	50 U
Styrene	250 U	10 U	50 U	5 U	10 U	25 U	5 U	5 U	25 U	50 U
Tetrachloroethene	750	10 U	43 J	5 U	10 U	25 U	5 U	5 U	25 U	50 U
Toluene	250	6.6 J	360	5 U	10 U	170	5 U	1.2 J	25 U	50 U
Total Xylenes	750 U	30 U	120 J	15 U	30 U	75 U	15 U	15 U	75 U	150 U
trans-1,3-Dichloropropene	250 U	10 U	50 U	5 U	10 U	25 U	5 U	5 U	25 U	50 U
Trichloroethene	56 J	2.5 J	50 U	5 U	10 U	25 U	5 U	4.1 J	25 U	50 U
Vinyl acetate	1200 U	50 U	250 U	25 U	50 U	120 U	25 U	25 U	120 U	250 U
Vinyl chloride	250 U	180	50 U	5 U	10 U	18 J	5 U	3.8 J	25 U	50 U

Notes:

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

J = Estimated value.

QC TYPE: N = Field sample; D = Field duplicate.

TABLE 4
COMPARISON OF FALL 2003
CHLOROPYRIDINES AND VOLATILE ORGANICS CONCENTRATIONS
IN GROUNDWATER TO PREVIOUS RESULTS (ug/L)

ARCH ROCHESTER
SEMI-ANNUAL GROUNDWATER MONITORING REPORT - FALL 2003

WELL	SELECTED CHLOROPYRIDINES				SELECTED VOCs			
	# EVENTS IN PRIOR 5 YRS	HISTORIC MAXIMUM	5-YEAR MEAN	NOV-2003 RESULT	# EVENTS IN PRIOR 5 YRS	HISTORIC MAXIMUM	5-YEAR MEAN	NOV-2003 RESULT
ON-SITE WELLS/LOCATIONS								
B-17	8	28,000,000	180,000	NS	8	345,000	72,000	NS
B-5	0	1,400	NA	90	0	150	NA	5
B-7	6	9,100	3,500	NS	6	91	58	NS
B-9	5	4,000	1,700	NS	5	1500	320	NS
BR-3	7	6,500,000	150,000	NS	7	920,000	520,000	NS
BR-5A	10	1,700	330	**1,400**	10	9,400	84	34
BR-6A	10	144,500	37,000	8,700	10	26,000	7,000	**13,000**
BR-7A	10	510,000	21,000	10,000	10	3,000	360	71
BR-8	8	57,000	10,000	NS	8	6,900	3.8	NS
BR-9	8	720	460	140	8	160	79	6
E-1	7	171,680	40,000	33,000	7	5,300	600	11
E-3	8	600	58	NS	8	12,000	180	NS
PW10	8	160,000	75,000	**79,000**	8	120,000	43,000	13,000
PW11	6	27,000	6,500	1,700	7	30,000	10000	780
PW12	10	15,000	3,900	1,900	10	120,000	6,800	2,000
PZ-105	7	190,000	34,000	NS	6	9,700	1500	NS
PZ-106	8	120,000	28,000	NS	8	1,359,000	650,000	NS
PZ-107	10	11,000	2,000	**5,100**	10	12,000	830	4
S-3	7	18,240	8,300	ND	7	2,500	650	12
S-4	7	3,200	1,000	98	7	870	130	ND

TABLE 4
COMPARISON OF FALL 2003
CHLOROPYRIDINES AND VOLATILE ORGANICS CONCENTRATIONS
IN GROUNDWATER TO PREVIOUS RESULTS (ug/L)

ARCH ROCHESTER
SEMI-ANNUAL GROUNDWATER MONITORING REPORT - FALL 2003

WELL	SELECTED CHLOROPYRIDINES				SELECTED VOCs			
	# EVENTS IN PRIOR 5 YRS	HISTORIC MAXIMUM	5-YEAR MEAN	NOV-2003 RESULT	# EVENTS IN PRIOR 5 YRS	HISTORIC MAXIMUM	5-YEAR MEAN	NOV-2003 RESULT
OFF-SITE WELLS/LOCATIONS								
BR-103	7	400	13	NS	6	1	0	NS
BR-104	8	3,100	11	NS	5	9	ND	NS
BR-105	10	24,000	2,000	1,500	9	310	4.8	1
BR-105D	10	10,000	2,300	2,100	9	230	8.3	7
BR-106	10	21,000	9,800	5,000	10	6,300	360	ND
BR-108	8	1,700	8.9	NS	4	ND	ND	NS
BR-112D	8	310	43	NS	3	4	0.43	NS
BR-113D	8	490	84	NS	NA	3	NA	NS
BR-114	8	521	220	NS	7	5	3.5	NS
BR-116	6	12	ND	NS	NA	84	NA	NS
BR-116D	7	710	150	NS	1	120	ND	NS
BR-117D	6	80	18	NS	NA	1.9	NA	NS
BR-118D	6	330	130	NS	NA	6.6	NA	NS
BR-122D	7	650	160	NS	2	ND	ND	NS
BR-123D	7	860	410	NS	2	4	ND	NS
MW-103	6	82	4.3	NS	6	ND	120	NS
MW-104	6	180	1.9	NS	4	1	ND	NS
MW-106	9	130,000	16,000	6,100	9	453	51	ND
MW-114	8	18	1.1	NS	7	19	12	NS
MW-16	2	360	270	200	NS	NA	NA	NS
NESS-E	8	5,000	500	NS	5	700	ND	NS
NESS-W	8	2,100	300	NS	5	89	0.22	NS

TABLE 4
COMPARISON OF FALL 2003
CHLOROPYRIDINES AND VOLATILE ORGANICS CONCENTRATIONS
IN GROUNDWATER TO PREVIOUS RESULTS (ug/L)

ARCH ROCHESTER
SEMI-ANNUAL GROUNDWATER MONITORING REPORT - FALL 2003

WELL	SELECTED CHLOROPYRIDINES				SELECTED VOCs			
	# EVENTS IN PRIOR 5 YRS	HISTORIC MAXIMUM	5-YEAR MEAN	NOV-2003 RESULT	# EVENTS IN PRIOR 5 YRS	HISTORIC MAXIMUM	5-YEAR MEAN	NOV-2003 RESULT
OFF-SITE WELLS/LOCATIONS								
PZ-101	9	27,000	1,500	**3,000**	7	6	1.1	ND
PZ-102	9	58,000	8,000	900	7	10,000	3.1	ND
PZ-103	9	73,000	27,000	7,100	8	44,300	9,900	640
PZ-104	8	9,100	4,200	3,600	7	40	1.6	ND
QO-2	19	380	40	ND	9	ND	ND	ND
QO-2S1	18	27	1.5	ND	4	ND	ND	ND
QS-4	19	3,400	690	280	9	ND	ND	ND

Note:

1) Number of samples and mean reflect 5-year sampling period from December 1998 through May 2003.
   Historic maximum based on all available results from March 1990 through May 2003
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** - May 2003 exceeds 5-year mean.
5) NA = Not analyzed or not applicable
   ND = Not detected
   NS = Not sampled

TABLE 5
FALL 2003 CANAL/QUARRY MONITORING RESULTS

ARCH CHEMICAL, INC.
ROCHESTER, NEW YORK

WELL / POINT	QO-2		QO-2S1		QS-4	
DATE	11/21/2003		11/21/2003		11/21/2003	
VOLATILE ORGANIC COMPOUNDS BY SW-846 Method 8260/5ML (µg/L)						
1,1,1-Trichloroethane	5	U	5	U	5	U
1,1,2,2-Tetrachloroethane	5	U	5	U	5	U
1,1,2-Trichloroethane	5	U	5	U	5	U
1,1-Dichloroethane	5	U	5	U	5	U
1,1-Dichloroethene	5	U	5	U	5	U
1,2-Dichloroethane	5	U	5	U	5	U
1,2-Dichloroethene (total)	10	U	10	U	10	U
1,2-Dichloropropane	5	U	5	U	5	U
2-Butanone	25	U	25	U	25	U
2-Hexanone	25	U	25	U	25	U
4-Methyl-2-pentanone	25	U	25	U	25	U
Acetone	25	U	25	U	25	U
Benzene	5	U	4	J	5	U
Bromodichloromethane	5	U	5	U	5	U
Bromoform	5	U	5	U	5	U
Bromomethane	5	U	5	U	5	U
Carbon disulfide	5	U	5	U	5	U
Carbon tetrachloride	5	U	5	U	5	U
Chlorobenzene	5	U	5	U	5	U
Chloroethane	5	U	5	U	5	U
Chloroform	5	U	5	U	5	U
Chloromethane	5	U	5	U	5	U
cis-1,3-Dichloropropene	5	U	5	U	5	U
Dibromochloromethane	5	U	5	U	5	U
Ethylbenzene	5	U	1.4	J	5	U
Methylene chloride	5	U	5	U	5	U
Styrene	5	U	5	U	5	U
Tetrachloroethene	5	U	5	U	5	U
Toluene	5	U	18		5	U
Total Xylenes	15	U	7.8	J	15	U
trans-1,3-Dichloropropene	5	U	5	U	5	U
Trichloroethene	5	U	5	U	5	U
Vinyl acetate	25	U	25	U	25	U
Vinyl chloride	5	U	5	U	5	U
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270C (µg/L)						
2,6-Dichloropyridine	10	U	9	U	43	
2-Chloropyridine	10	U	9	U	240	
3-Chloropyridine	10	U	9	U	10	U
4-Chloropyridine	10	U	9	U	10	U
p-Fluoroaniline	10	U	9	U	10	U
Pyridine	24	U	24	U	25	U

Notes:

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

J = Estimated value.

NA = Not analyzed

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Prepared by: NMB Checked by: JEB

TABLE 6
EXTRACTION WELL WEEKLY FLOW MEASUREMENTS
JUNE 2003 THROUGH NOVEMBER 2003

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

Week Ending	BR-5A [Gal./Week]	BR-6A [Gal./Week]	BR-7A [Gal./Week]	BR-9 [Gal./Week]	PW-10 [Gal./Week]	PW-11 [Gal./Week]	PW-12 [Gal./Week]	Total [Gal.]
June '03								
06/07/03	55,887	282	57,086	17,558	3,385	80,971	2,000 *	217,169
06/14/03	64,941	251	46,429	46,992	0	93,146	2,000 *	253,759
06/21/03	58,485	291	78,382	42,360	0	92,415	2,000 *	273,933
06/28/03	1,152	185	26,979	65,447	5	70,644	2,000 *	166,412
							Total [Gal.]	911,273
July '03								
07/05/03	445	9,685	99,084	107,851	0	19,671	2,000 *	238,736
07/12/03	2,918	6,484	80,169	86,003	0	0	2,271	177,845
07/19/03	19,593	217	37,470	87,823	0	17,074	1,815	163,992
07/26/03	54,650	268	101,052	76,646	0	22,921	935	256,472
							Total [Gal.]	837,045
Aug '03								
08/02/03	52,768	295	76,620	86,821	0	19,472	1,223	237,199
08/09/03	28,873	2,105	32,988	67,172	0	18,181	1,212	150,531
08/16/03	53,000	584	61,275	60,545	0	16,813	841	193,058
08/23/03	28,432	166	28,960	28,272	0	6,429	385	92,644
08/30/03	67,923	66	11,376	63,041	0	24,572	21,018	187,996
							Total [Gal.]	861,428
Sept '03								
09/06/03	47,378	0	1	102,034	0	21,251	20,160 *	190,824
09/13/03	48,032	953	79,343	97,028	17,180	20,160 *	20,160 *	282,856
09/20/03	50,785	1,282	91,849	80,555	15,730	20,160 *	20,160 *	280,521
09/27/03	37,866	2,388	87,317	79,862	19,958	20,160 *	20,160 *	267,711
							Total [Gal.]	1,021,912
Oct '03								
10/04/03	41,852	10,062	105,912	83,168	22,659	20,160 *	26,174	309,987
10/11/03	32,464	1,734	63,310	68,405	16,371	20,160 *	23,082	225,526
10/18/03	33,137	6,885	73,944	72,358	27,302	20,160 *	20,709	254,495
10/25/03	31,637	9,204	79,804	75,513	26,020	20,160 *	20,160 *	262,498
							Total [Gal.]	1,052,506
Nov '03								
11/01/03	41,541	10,717	86,601	83,492	24,970	20,160 *	33,613	301,094
11/08/03	50,210	12,984	86,340	91,964	14,280	20,160 *	26,610	302,548
11/15/03	47,674	10,657	86,000 *	82,502	22,390	17,079	20,160 *	286,462
11/22/03	51,859	12,040	84,378	83,388	19,250	13,322	20,160 *	284,397
11/29/03	58,069	4,945	86,572	65,323	21,150	29,032	20,160 *	285,251
							Total [Gal.]	1,459,752
Total 6 Mo. Removal (Gal.)	1,061,571	104,730	1,749,241	1,902,123	250,650	744,433	331,168	6,143,916

Notes:

* Value is estimated due to meter failure(s)

Prepared by: NMB Checked by: JEB

TABLE 7

MASS REMOVAL SUMMARY
PERIOD: JUN '03 - NOV '03

ARCH ROCHESTER
FALL 2003 GROUNDWATER MONITORING REPORT

Well	Total Vol. Pumped (gallons)	Avg. VOC Conc. (ppm)	Avg. PYR. Conc. (ppm)	VOCs Removed (pounds)	PYR. Removed (pounds)
BR-5A	1,062,000	0.11	1.1	1.0	10.0
BR-6A	105,000	9.7	74	8	65
BR-7A	1,749,000	0.38	10.5	5	153
BR-9	1,902,000	0.03	0.26	0.5	4.0
PW-10	251,000	13	63	27	131
PW-11	744,000	5.3	3.0	33.1	19
PW-12	331,000	4.5	1.6	12	4.3
Totals:	6,144,000			88.1	385.6

Note: VOC and pyridine concentrations used in this table are an average of the analytical results from the Spring 2003 and Fall 2003 sampling events for each well

Prepared by: NMB Checked by: JEB

TABLE 8
2004 SAMPLING SCHEDULE
ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

ARCH ROCHESTER						2004					
MONITORING PROGRAM						SPRING		FALL		TOTAL	
	Well	*zone*	*area*	*Frequency/Parameters*	*Purpose*	*Pyridines*	*VOCs*	*Pyridines*	*VOCs*	*Pyridines*	*VOCs*
OFF-SITE	MW-103	OB	KODAK EAST	annual monitoring, VOCs & PYR	trend monitoring	1	1			1	1
MONITORING	BR-103	BR	KODAK EAST	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
	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	annual monitoring, VOCs & PYR	trend monitoring	1	1			1	1
	PZ-105	BR	ON-SITE	annual monitoring, VOCs & PYR	trend monitoring	1	1			1	1
	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	pumping well	ON-SITE	semi-annual monitoring, VOCs & PYR	mass removal/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
	PW10	pumping well	ON-SITE	semi-annual monitoring, VOCs & PYR	mass removal/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	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, VOCs & PYR	trend monitoring	1	1	1	1	2	2
MONITORING	QO-2	quarry outfall	CANAL	semi-annual monitoring, VOCs & PYR	trend monitoring	1	1	1	1	2	2
	QO-2S1	canal at outfall	CANAL	semi-annual monitoring, VOCs & PYR	surface water monitoring	1	1	1	1	2	2
TOTAL SAMPLES						46	33	23	22	69	55

Revised: 07/17/03 (deleted well B-9 -destroyed)

Prepared by: NMB Checked by: JEB

Appendix A

Groundwater Field Sampling Data Sheets

SEVERN TRENT STL

STL Buffalo
10 Hazelwood Drive, Suite 106
Amherst, NY 14228

Tel: 716 691 2600 Fax: 716 691 7991
www.stl-inc.com

FIELD REPORT

REMEDIAL INVESTIGATION SAMPLING
ARCH CHEMICAL
ROCHESTER, NEW YORK

FALL 2003 Event

Prepared For:

Harding Lawson Associates
511 Congress Street
Portland, Maine 04112-7050

Attention: Mr. Nelson Breton

Prepared By:

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

NY5A5762

Written By: Roger Senf

Reviewed By: R Senf

Date: 12-12-2003

1.0 INTRODUCTION

This report describes the sampling of the following points:

- Twenty-one (21) monitoring wells
- One (1) barge canal sample
- One (1) quarry outfall sample
- 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 November14-21, 2003 by Severn Trent Laboratories, Inc. (STL) personnel.

2.0 METHODOLOGIES

2.1 Water Level Measurements

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

2.2 Well Purging

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

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

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

conductance, temperature, ORP, dissolved oxygen and turbidity are monitored every 3-5 minutes until stabilization of parameters is realized. Once stabilization has occurred, sampling can be conducted. All purged water was collected into 55-gallon drums for disposal at the on-site wastewater treatment facility. Data pertaining to each evacuation are presented on the Sampling Summary Table and field Observation Forms.

2.3 Surface Water Samples

Surface water samples were collected from one (1) location on the Erie Barge Canal, one (1) outfall sample and one (1) Quarry Seep Sample. Samples were taken from the following locations:

- QO-2 Quarry outfall collected at discharge point to Erie Barge Canal approximately 600' north of Chili Avenue
- QO-2SI Collected from canal, 100' South of QO-2.
- QS-4 Collected from Quarry Seep

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

A groundwater sample was collected from a seep at the quarry (QS-4) located on Buffalo Road. The sample was 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 920 40 ml glass vials with teflon septa which were filled with deionized water at the STL laboratory. These blanks were transported to the site, stored with field collected samples and submitted to the STL 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 STL facility in Amherst, New York. Copies of these documents are included in the analytical report package.

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Groundwater( )vation Report
HARDING L WSON ASSOC.
NOVEMBER 2003
ARCH-ROCHESTER WATER LEVEL MEASUREMENTS

Sample Point	Date	Time	Casing Elevation	Depth to Water	GW Elv.	Comments
B-1	11/14/2003	1212	0.00	8.49	N/A	
B-10	11/14/2003	1122	0.00	6.77	N/A	
B-11	11/14/2003	1120	0.00	3.11	N/A	
B-13	11/14/2003	1252	0.00	N/A	N/A	DRY
B-14	11/14/2003	1254	0.00	8.08	N/A	
B-15	11/14/2003	1256	0.00	4.49	N/A	
B-16	11/14/2003	1258	0.00	4.72	N/A	
B-17	11/14/2003	1111	0.00	7.90	N/A	
B-2	11/14/2003	1211	0.00	10.33	N/A	
B-3	11/14/2003	1203	0.00	5.20	N/A	
B-4	11/14/2003	1220	0.00	13.24	N/A	
B-5	11/14/2003	1226	0.00	10.77	N/A	
B-7	11/14/2003	1245	0.00	14.18	N/A	
B-8	11/14/2003	1142	0.00	8.39	N/A	
B-9	11/14/2003	1138	0.00	N/A	N/A	BROKEN AT SURFACE AND BURIED UNDER ROCKS
BR-1	11/14/2003	1040	0.00	7.67	N/A	
BR-102	11/14/2003	1201	0.00	21.81	N/A	
BR-103	11/14/2003	1211	0.00	5.12	N/A	BROKEN CAP
BR-104	11/14/2003	1306	0.00	N/A	N/A	COULD NOT FIND WELL UNDER WATER
BR-105	11/14/2003	1257	0.00	24.05	N/A	
BR-105D	11/14/2003	1258	0.00	25.90	N/A	
BR-106	11/14/2003	1303	0.00	24.04	N/A	
BR-107	11/14/2003	0	0.00	N/A	N/A	DESTROYED
BR-108	11/14/2003	1323	0.00	28.96	N/A	
BR-111	11/14/2003	1253	0.00	29.61	N/A	
BR-111D	11/14/2003	1252	0.00	29.36	N/A	
BR-112A	11/14/2003	1246	0.00	32.63	N/A	
BR-112D	11/14/2003	1245	0.00	36.93	N/A	
BR-113	11/14/2003	1236	0.00	32.08	N/A	
BR-113D	11/14/2003	1237	0.00	31.95	N/A	
BR-114	11/14/2003	1207	0.00	11.67	N/A	
BR-116	11/14/2003	1154	0.00	30.50	N/A	
BR-116D	11/14/2003	1156	0.00	36.18	N/A	
BR-117	11/14/2003	1107	0.00	27.02	N/A	

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Groundwater(evation Report
HARDING L.WSON ASSOC.
NOVEMBER 2003
ARCH-ROCHESTER WATER LEVEL MEASUREMENTS

Sample Point	Date	Time	Casing Elevation	Depth to Water	GW Elv.	Comments
BR-117D	11/14/2003	1106	0.00	48.21	N/A	
BR-118	11/14/2003	1111	0.00	36.34	N/A	
BR-118D	11/14/2003	1112	0.00	48.37	N/A	
BR-119D	11/14/2003	1055	0.00	66.65	N/A	
BR-120D	11/14/2003	1050	0.00	58.18	N/A	
BR-121D	11/14/2003	1100	0.00	55.03	N/A	
BR-122D	11/14/2003	1144	0.00	44.93	N/A	
BR-123D	11/14/2003	1141	0.00	45.65	N/A	
BR-124D	11/14/2003	1138	0.00	32.12	N/A	
BR-2	11/14/2003	1104	0.00	7.57	N/A	
BR-2A	11/14/2003	1103	0.00	8.51	N/A	
BR-2D	11/14/2003	1107	0.00	0.55	N/A	
BR-3	11/14/2003	1128	0.00	10.85	N/A	
BR-3D	11/14/2003	1126	0.00	66.85	N/A	
BR-4	11/14/2003	1118	0.00	6.42	N/A	
BR-5	11/14/2003	1052	0.00	11.31	N/A	
BR-5A	11/14/2003	1050	0.00	11.65	N/A	0.00=FLOW RATE
BR-6	11/14/2003	1139	0.00	12.31	N/A	
BR-6A	11/14/2003	1140	0.00	24.42	N/A	0.00GPM = FLOW RATE
BR-7	11/14/2003	1241	0.00	20.68	N/A	
BR-7A	11/14/2003	1242	0.00	27.81	N/A	FLOW RATE METER BROKEN
BR-8	11/14/2003	1227	0.00	8.27	N/A	
BR-9	11/14/2003	1205	0.00	31.29	N/A	0.00GPM=FLOW RATE
C-1	11/14/2003	1053	0.00	N/A	N/A	DESTROYED
C-2A	11/14/2003	1105	0.00	7.24	N/A	
C-3	11/14/2003	1055	0.00	N/A	N/A	BROKE AT GROUND SURFACE AND BURIED UNDER PALLETS
C-4	11/14/2003	1056	0.00	N/A	N/A	BUILDING IN THIS AREA/WELL NO LONGER EXISTS
C-5	11/14/2003	1127	0.00	9.74	N/A	
E-1	11/14/2003	1116	0.00	2.05	N/A	
E-2	11/14/2003	1119	0.00	4.12	N/A	
E-3	11/14/2003	1051	0.00	8.27	N/A	
E-4	11/14/2003	1047	0.00	N/A	N/A	DRY
E-5	11/14/2003	1042	0.00	5.97	N/A	
EC-1	11/14/2003	1242	0.00	18.52	N/A	

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Groundwater(evation Report
HARDING LAWSON ASSOC.
NOVEMBER 2003
ARCH-ROCHESTER WATER LEVEL MEASUREMENTS

Sample Point	Date	Time	Casing Elevation	Depth to Water	GW Elv.	Comments
EC-2	11/14/2003	1238	0.00	N/A	N/A	DRY AT 12.75
ERIE CANAL	11/14/2003	1240	0.00	34.01	N/A	
MW-103	11/14/2003	1212	0.00	1.57	N/A	
MW-104	11/14/2003	1305	0.00	N/A	N/A	UNABLE TO FIND WELL UNDER WATER
MW-105	11/14/2003	1259	0.00	N/A	N/A	DRY AT 19.01
MW-106	11/14/2003	1304	0.00	11.83	N/A	
MW-107	11/14/2003	0	0.00	N/A	N/A	DESTROYED
MW-108	11/14/2003	1322	0.00	14.05	N/A	
MW-114	11/14/2003	1205	0.00	10.04	N/A	
MW-16	11/14/2003	1202	0.00	10.04	N/A	
MW-2	11/14/2003	1321	0.00	N/A	N/A	BURIED
MW-3	11/14/2003	1322	0.00	5.84	N/A	
MW-G6	11/14/2003	1327	0.00	5.02	N/A	
MW-G7	11/14/2003	1329	0.00	4.59	N/A	
MW-G8	11/14/2003	1330	0.00	7.03	N/A	
MW-G9	11/14/2003	1320	0.00	11.10	N/A	
N-1	11/14/2003	1041	0.00	N/A	N/A	DAMAGED CASING/BAILER STUCK IN WELL
N-2	11/14/2003	1038	0.00	6.20	N/A	
N-3	11/14/2003	1037	0.00	6.24	N/A	
NESS-E	11/14/2003	1234	0.00	35.50	N/A	
NESS-W	11/14/2003	1235	0.00	32.40	N/A	
PW-10	11/14/2003	1114	0.00	26.41	N/A	
PW-11	11/14/2003	1228	0.00	20.40	N/A	
PW-12(BR-101)	11/14/2003	1057	0.00	8.98	N/A	.408GPM=FLOW RATE
PZ-101	11/14/2003	1316	0.00	14.58	N/A	
PZ-102	11/14/2003	1314	0.00	14.16	N/A	
PZ-103	11/14/2003	1312	0.00	12.79	N/A	
PZ-104	11/14/2003	1251	0.00	14.11	N/A	
PZ-105	11/14/2003	1444	0.00	10.85	N/A	
PZ-106	11/14/2003	1125	0.00	10.33	N/A	
PZ-107	11/14/2003	1123	0.00	6.81	N/A	
PZ-108	11/14/2003	0	0.00	N/A	N/A	.
S-1	11/14/2003	1143	0.00	4.79	N/A	
S-2	11/14/2003	1141	0.00	3.39	N/A	

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Groundwater(evation Report
HARDING L.WSON ASSOC.
NOVEMBER 2003
ARCH-ROCHESTER WATER LEVEL MEASUREMENTS

Sample Point	Date	Time	Casing Elevation	Depth to Water	GW Elv.	Comments
S-3	11/14/2003	1138	0.00	1.22	N/A	
S-4	11/14/2003	1121	0.00	0.50	N/A	
W-1	11/14/2003	1213	0.00	N/A	N/A	UNABLE TO OBTAIN MEASUREMENT/OBSTRUCTION
W-2	11/14/2003	1208	0.00	9.94	N/A	
W-3	11/14/2003	1217	0.00	7.75	N/A	
W-4	11/14/2003	1224	0.00	4.34	N/A	
W-5	11/14/2003	1240	0.00	6.64	N/A	
W-6	11/14/2003	1244	0.00	12.27	N/A	

Sampling ary Table
HARDING LAWSON ASSOCIATES
NOVEMBER 2003
RI SAMPLING/ROCHESTER NY FACILITY

Sample Point	—Water Level— Date	Time	Water Level (ft)*	Water Elevation (ft)**	Bottom Of Well (ft)*	Field Measurements Date	Time	pH (STD) (Units)	Spec. Cond. (umhos)	Temp (°C)	Turb. (NTU)	Other Field Measurements	
B-5	11/14/2003	1310	10.77	N/A	16.21	11/17/2003	1320	6.87	2808	10.7	148.20	EH(mv)= 97	
	Comments: TURBID												
BR-105	11/19/2003	1230	24.36	N/A	44.60	11/19/2003	1300	7.47	1794	13.6	5.13	EH(mv)= -91	DO(ppm)= 0.97
	Comments: CLEAR												
BR-105	11/19/2003	1230	24.36	N/A	44.60	11/19/2003	1303	7.47	1793	13.6	4.97	EH(mv)= -91	DO(ppm)= 0.95
	Comments: CLEAR/DUPLICATE												
BR-105D	11/19/2003	1145	24.78	N/A	79.50	11/19/2003	1215	6.92	11680	14.3	0.92	EH(mv)= -101	DO(ppm)= 0.70
	Comments: CLEAR												
BR-106	11/19/2003	1027	24.86	N/A	43.22	11/19/2003	1050	7.97	2910	14.2	15.76	EH(mv)= -30	DO(ppm)= 0.57
	Comments: CLEAR												
BR-5A	11/18/2003	950	12.02	N/A	N/A	11/18/2003	955	7.06	1914	14.4	5.07	EH(mv)= 34	
	Comments: CLEAR												
BR-6A	11/18/2003	1045	25.01	N/A	N/A	11/18/2003	1050	7.48	5219	14.7	47.70	EH(mv)= 81	
	Comments: SL.TURBID												
BR-7A	11/18/2003	1155	28.68	N/A	N/A	11/18/2003	1200	7.36	2424	14.9	10.36	EH(mv)= 53	
	Comments: CLEAR												
BR-9	11/18/2003	1100	31.50	N/A	N/A	11/18/2003	1105	8.02	2262	13.8	64.20	EH(mv)= 52	
	Comments: SL.TURBID												
E-1	11/20/2003	1021	1.74	N/A	9.75	11/20/2003	1045	8.28	20900	9.8	23.90	EH(mv)= -21	DO(ppm)= 0.95
	Comments: SL.TURBID/BLACK												
MW-106	11/19/2003	1055	11.52	N/A	19.35	11/19/2003	1125	6.81	3640	14.4	8.02	EH(mv)= -62	DO(ppm)= 0.56
	Comments: CLEAR/BLACK TINT												
MW-16	11/20/2003	905	11.58	N/A	34.44	11/20/2003	935	6.81	2223	15.4	3.01	EH(mv)= 23	DO(ppm)= 0.87
	Comments: CLEAR												
PW-10	11/18/2003	1025	26.15	N/A	N/A	11/18/2003	1030	6.96	5476	15.2	32.70	EH(mv)= 73	
	Comments: AMBER/STRONG ODER												
PW-11	11/18/2003	1140	29.82	N/A	N/A	11/18/2003	1145	7.46	2606	14.5	4.14	EH(mv)= 82	
	Comments: CLEAR												
PW-12(BR-101)	11/18/2003	1005	22.40	N/A	N/A	11/18/2003	1010	6.85	3792	15.8	13.48	EH(mv)= 77	
	Comments: CLEAR/GREY TINT												
PZ-101	11/17/2003	1223	14.58	N/A	21.69	11/17/2003	1245	7.09	6371	10.6	3.57	EH(mv)= 74	DO(ppm)= 0.90
	Comments: CLEAR												

SG - Specific Gravity
EH - Redox
DO - Dissolved Oxygen

* From Top of Riser
** Elevation Above Sea Level

Sampling ...ary Table
HARDING LA...N ASSOCIATES
NOVEMBER 2003
RI SAMPLING/ROCHESTER NY FACILITY

Sample Point	—Water Level— Date	Time	Water Level (ft)*	Water Elevation (ft)**	Bottom Of Well (ft)*	Field Measurements Date	Time	pH (STD) (Units)	Spec. Cond. (umhos)	Temp (°C)	Turb. (NTU)	Other Field Measurements	
PZ-102	11/17/2003	1150	14.16	N/A	32.00	11/17/2003	1215	6.71	5224	10.9	0.86	EH(mv)= 40	DO(ppm)= 0.88
	Comments: CLEAR/BLACK SPECKS												
PZ-103	11/17/2003	1105	12.91	N/A	32.52	11/17/2003	1130	6.73	5390	12.0	0.77	EH(mv)= -21	DO(ppm)= 0.99
	Comments: CLEAR/BLACK SPECKS												
PZ-104	11/17/2003	1020	14.25	N/A	23.93	11/17/2003	1045	6.76	1781	14.9	2.15	EH(mv)= -10	DO(ppm)= 0.97
	Comments: CLEAR												
PZ-107	11/20/2003	1130	5.96	N/A	27.90	11/20/2003	1155	7.16	3947	12.9	0.93	EH(mv)= 45	DO(ppm)= 0.62
	Comments: CLEAR												
QO-2	11/21/2003	1205	0.00	N/A	N/A	11/21/2003	1210	7.22	1492	12.3	15.55	EH(mv)= 37	
	Comments: CLEAR												
QO-2S1	11/21/2003	1230	0.00	N/A	N/A	11/21/2003	1235	7.40	651	10.1	8.44	EH(mv)= 17	
	Comments: CLEAR												
QS-4	11/21/2003	1145	0.00	N/A	N/A	11/21/2003	1150	7.04	1559	12.1	2.75	EH(mv)= -10	
	Comments: CLEAR												
S-3	11/20/2003	1211	1.11	N/A	13.38	11/20/2003	1235	7.74	2276	9.4	5.11	EH(mv)= 44	DO(ppm)= 0.97
	Comments: CLEAR												
S-4	11/20/2003	1101	0.54	N/A	13.05	11/20/2003	1125	7.57	320	9.5	10.11	EH(mv)= -100	DO(ppm)= 0.94
	Comments: CLEAR												

SG - Specific Gravity
EH - Redox
DO - Dissolved Oxygen

* From Top of Riser
** Elevation Above Sea Level

FIELD OBSERVATIONS

Facility: ARCH CHEMICAL

Sample Point ID: B-5

Field Personnel: P. LITTLE

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 11-14-03 1310

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

Prot. Casing/riser height: —

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

If prot.casing; depth to riser below: —

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

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

PURGE INFORMATION:

Date / Time Initiated: 11-14-03 / 1315

Date / Time Completed: 11-14-03 / 1325

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 10.77

Elevation. G/W MSL:

Well Total Depth, Feet: 16.21

Method of Well Purge: PUC BAILER

One (1) Riser Volume, Gal: .89

Dedicated: Y (N)

Total Volume Purged, Gal: 1.5

Purged To Dryness (Y) N

Purge Observations:

Start clear Finish TURBID

PURGE DATA: (if applicable)

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

FIELD OBSERVATIONS (continued)

SAMPLING INFORMATION: **POINT ID** B-5

Date/Time 11-17-03 1315 **Water Level @ Sampling, Feet:** 11.13

Method of Sampling: PVC BAILER **Dedicated:** Y / (N)

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other (ORP)	Other ( )
1320	10.7	6.07	2808	148.2	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: CLOUDS 45°

Sample Characteristics: TURBID

COMMENTS AND OBSERVATIONS: RISER ~~PIPE~~ PL IS BENT HAD TO USE SMALL ~~DRUM~~ PC D.A. BAILER

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

Date: 11/17/03 **By:** [signature] **Company:** SIL

FIELD OBSERVATIONS

Facility: ARCH CHEMICAL

Sample Point ID: RR-10S

Field Personnel: P. LITHE, T PALMER

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 11-19-03 / 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: 11-19-03 / 1235

Date / Time Completed: 11-19-03 1300

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

Riser Diameter, Inches: 4.0

Initial Water Level, Feet: 24.36

Elevation. G/W MSL:

Well Total Depth, Feet: 44.60

Method of Well Purge: PC ~~Bladder Pump~~ ~~Peristaltic Pump~~

One (1) Riser Volume, Gal: —

Dedicated: (Y) / N

Total Volume Purged, Gal: 2.0

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
1240	200	24.37		14.0	7.73	1804	16.20	-86	1.87
1245	↓	↓		13.7	7.41	1790	10.80	-91	1.56
1250				13.9	7.41	1790	8.50	-91	1.21
1255				13.6	7.41	1793	6.75	-91	1.07
1300	↓	↓		13.6	7.47	1794	5.13	-91	.97

SAMPLED AT 1300 / 11-19-03 DUP

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FIELD OBSERVATIONS (continued)

AMPLING INFORMATION: POINT ID BR-105

ate/Time 11-19-03 1300 Water Level @ Sampling, Feet: 24.37

ethod of Sampling: BLADDER PUMP Dedicated: Y (N)

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

AMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other (ORP)	Other (DO)
1303	13.6	7.47	1793	4.97	-91	.95

ISTRUMENT CHECK DATA:

rbidity Serial #: _____NTU std. = _____NTU _____NTU std. = _____NTU

lutions: _____

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

lutions: _____

nductivity Serial #: _____ _____umhos/cm=_____ _____umhos/cm=_____

lutions: _____

ENERAL INFORMATION:

eather conditions @ time of sampling: RAIN 50°

mple Characteristics: Clear

OMMENTS AND OBSERVATIONS: DUPLICATE SAMPLE

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

e: 11/19/03 By: [signature] Company: STR

FIELD OBSERVATIONS

Facility: ARCH CHEMICAL

Sample Point ID: BR-10S-D

Field Personnel: P. LITHE, T PALMER

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 11-19-03 / 1145

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

Prot. Casing/riser height: —

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

If prot.casing; depth to riser below: —

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

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

PURGE INFORMATION:

Date / Time Initiated: 11-19-03 / 1150

Date / Time Completed: 11-19-03 / 1215

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 24.78

Elevation. G/W MSL:

Well Total Depth, Feet: 79.50

Method of Well Purge: BLADDER PUMP ~~PERISTALTIC PUMP~~

One (1) Riser Volume, Gal: —

Dedicated: (Y) / N

Total Volume Purged, Gal: 2.0

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
1155	~~150~~ 150	~~26.20~~ 26.20		14.7	6.78	10,180	13.02	-97	1.06
1200	↓	↓		14.3	6.96	10,580	2.35	-100	.96
1205				14.6	6.90	11.160	1.11	-102	.83
1210				14.6	6.90	11,600	1.09	-102	.77
1215	↓	↓		14.3	6.92	11,680	.92	-101	.70

SAMPLED AT 1215 / 11-19-03

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FIELD OBSERVATIONS (continued)

AMPLING INFORMATION: POINT ID BR-105D

ate/Time 11-19-03 1215 Water Level @ Sampling, Feet: 26.20

ethod of Sampling: BLADDER PUMP Dedicated: Y (N)

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

AMPLING DATA:

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

'STRUMENT CHECK DATA:

rbidity Serial #: _____NTU std. = _____NTU _____NTU std. = _____NTU

lutions: _____

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

lutions: _____

nductivity Serial #: _____ _____umhos/cm=_____ _____umhos/cm=_____

lutions: _____

ENERAL INFORMATION:

ather conditions @ time of sampling: RAIN 50°

mple Characteristics: Clear

OMMENTS AND OBSERVATIONS: _____

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

e: 11/19/03 By: _____ Company: STL

FIELD OBSERVATIONS

Facility: ARCH CHEMICAL

Sample Point ID: BR-106

Field Personnel: R. LITHE, T. PALMER

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 11-19-03 1102?

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

Prot. Casing/riser height: —

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

If prot.casing; depth to riser below: —

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

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

PURGE INFORMATION:

Date / Time Initiated: 11-19-03 1030

Date / Time Completed: 11-19-03 1050

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

Riser Diameter, Inches: 4.0

Initial Water Level, Feet: 24.86

Elevation. G/W MSL:

Well Total Depth, Feet: 43.22

Method of Well Purge: BLADDER PUMP ~~PERISTALTIC PUMP~~

One (1) Riser Volume, Gal: —

Dedicated: (X) / (N)

Total Volume Purged, Gal: 2.0

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
1035	200	24.87		15.5	8.57	2908	72.1	5	.67
1040	↓	↓		14.1	7.97	2911	59.7	-30	.60
1045	↓	↓		14.2	7.97	2911	20.2	-30	.59
1050	↓	↓		14.2	7.97	2910	15.76	-30	.57

SAMPLED AT 1050 / 11-19-03 RAW

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FIELD OBSERVATIONS (continued)

SAMPLING INFORMATION: POINT ID BR-106

Date/Time 11-19-03 1050 Water Level @ Sampling, Feet: 24.87

Method of Sampling: Bladder 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 ( )	Other ( )

INSTRUMENT CHECK DATA:

Turbidity Serial #: 3794 NTU std. = 5.0 NTU 5.0 NTU std. = 5.0 NTU

Solutions: 13 DR-11

pH Serial #: 60750 4.0 std.= 4.00 7.0 std.= 7.00 10.0 std. = 10.00

Solutions: 4-2188, 7-2146, 10-3181

Conductivity Serial #: 60750 100 umhos/cm= 101 1424 umhos/cm= 1424

Solutions: 100-2540, 1424-2915

GENERAL INFORMATION:

Weather conditions @ time of sampling: RAIN 50°

Sample Characteristics: Clear

COMMENTS AND OBSERVATIONS:

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

Date: 11/19/03 By: [signature] Company: STL

LeachField Form
Revision 0
March 15,2002

FIELD OBSERVATIONS

acility: ARCH CHEMICAL Sample Point ID: BR-5A

Field Personnel: P. LITTLE, TPALMER Sample Matrix: GW

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-18-03 1 0950 Water Level @ Sampling, Feet: 12.02

Method of Sampling: INSITU 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 (DO)	Other ( )
0955	14.4	7.06	1914	5.07	34	

INSTRUMENT CHECK DATA:

Turbidity Serial #: 3093 NTU std. = 5.0 NTU 5.0 NTU std. = 5.0 NTU

Solutions: 130A-11

pH Serial #: 600750 4.0 std.= 4.00 7.0 std.= 7.00 10.0 std. = 10.00

Solutions: 4-2188, 7-2140, 10-3181

Conductivity Serial #: 600750 60 umhos/cm= 100 1424 umhos/cm= 1424

Solutions: 100-2940, 1424-2915

GENERAL INFORMATION:

Weather conditions @ time of sampling: SUN 45°

Sample Characteristics: Clear

COMMENTS AND OBSERVATIONS:

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

Date: 11/18/03 By: [signature] Company: STL

LeachField Form
Revision 0
March 15,2002

FIELD OBSERVATIONS

Facility: ARCH CHEMICAL Sample Point ID: BR-6A

Field Personnel: P. LITTLE, TRAINEE Sample Matrix: GW

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-18-03 1645 Water Level @ Sampling, Feet: 25.01

Method of Sampling: IN SITU PUMP Dedicated: (Y) N

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other (ORP)	Other ( )
1650	14.7	7.48	5219	47.7	81	

INSTRUMENT CHECK DATA:

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

Solutions: _____

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

Solutions: _____

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

Solutions: _____

GENERAL INFORMATION:

Weather conditions @ time of sampling: SUN 50°

Sample Characteristics: SL TURBID

COMMENTS AND OBSERVATIONS:

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

Date: 11/18/03 By: [signature] Company: STL

LeachField Form
Revision 0
March 15,2002

FIELD OBSERVATIONS

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

Field Personnel: R. LITTLE, TRAUMER Sample Matrix: GW

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-18-03 / 1155 Water Level @ Sampling, Feet: 28.68

Method of Sampling: INSITU 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 ( )
1200	14.9	7.36	2424	10.36	53	

INSTRUMENT CHECK DATA:

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

Solutions: _____

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

Solutions: _____

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

Solutions: _____

GENERAL INFORMATION:

Weather conditions @ time of sampling: SUN 50°

Sample Characteristics: clear

COMMENTS AND OBSERVATIONS:

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

Date: 11/19/03 By: [signature] Company: STL

LeachField Form
Revision 0
March 15,2002

FIELD OBSERVATIONS

Facility: ARCH CHEMICAL Sample Point ID: ~~AR-SP~~ BR-9

Field Personnel: P. LITTLE, TRAINEE Sample Matrix: GW

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-18-03 1100 Water Level @ Sampling, Feet: 31.50

Method of Sampling: INSITU 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 ( )	Other ( )
1105	13.8	8.02	2262	64.2	52	

INSTRUMENT CHECK DATA:

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

Solutions: _____

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

Solutions: _____

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

Solutions: _____

GENERAL INFORMATION:

Weather conditions @ time of sampling: SUN 50°

Sample Characteristics: SL. TURBID

COMMENTS AND OBSERVATIONS:

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

Date: 11/18/03 By: [signature] Company: SR

FIELD OBSERVATIONS

Facility: ARCH CHEMICAL

Sample Point ID: E-1

Field Personnel: R. LITHE, TALMER

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 11-20-03 / 1021

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

Prot. Casing/riser height: —

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

If prot.casing; depth to riser below: —

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

% LEL: — / —

Vol. Organic Meter (Calibration/Reading):

Volatiles (ppm) — / —

PURGE INFORMATION:

Date / Time Initiated: 11-20-03 / 1025

Date / Time Completed: 11-20-03 / 1045

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 1.74

Elevation. G/W MSL:

Well Total Depth, Feet: 9.75

Method of Well Purge: PERISTALTIC PUMP

One (1) Riser Volume, Gal:

Dedicated: (Y) / N

Total Volume Purged, Gal: 1.5

Purged To Dryness Y / (N)

Purge Observations:

Start SL TURBID BLACK

Finish SL TURBID BLACK

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other DO	Other ~~RO~~ ORP
1030	ML/min 100	WL 1.74		10.0	8.26	18,220	25.10	1.07	-13
1035	↓	↓		9.7	8.26	20,150	23.2	1.00	-20
1040				9.3	8.28	26,870	24.1	.97	~~-27~~ -31
1045				9.8	8.28	20,900	23.9	.95	-21

SAMPLED AT 1045 / 11-20-03

FIELD OBSERVATIONS (continued)

SAMPLING INFORMATION: POINT ID E-1

Date/Time 11-20-03 1045 Water Level @ Sampling, Feet: 1.74

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

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

SAMPLING DATA:

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

INSTRUMENT CHECK DATA:

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

Solutions: _____

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

Solutions: _____

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

Solutions: _____

GENERAL INFORMATION:

Weather conditions @ time of sampling: Cloudy 45°

Sample Characteristics: SL TURBID BLACK TINT

COMMENTS AND OBSERVATIONS: _____

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

Date: 11 DEC 03 By: [signature] Company: STL

FIELD OBSERVATIONS

Facility: ARCH CHEMICAL　　Sample Point ID: MW-106

Field Personnel: P. Lithe, T Palmer　　Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 11-19-03 / 1055　　Cond of seal: (X) Good ( ) Cracked ____ %
( ) None ( ) Buried

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

If prot.casing; depth to riser below: —

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

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

PURGE INFORMATION:

Date / Time Initiated: 11-19-03 / 1100　　Date / Time Completed: 11-19-03 / 1125

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

Initial Water Level, Feet: 11.52　　Elevation. G/W MSL: ______

Well Total Depth, Feet: 19.35　　Method of Well Purge: BLADDER PUMP ~~Peristaltic pump~~

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

Total Volume Purged, Gal: 2.0　　Purged To Dryness Y / (N)

Purge Observations: ______　　Start Clear / Odorless　　Finish Clear / 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
	ml/min	WL							
1105	150	12.51		14.6	6.56	3351	27.7	-101	.97
1110	↓	↓		14.3	6.48	3368	20.3	-95	.83
1115				14.6	6.70	3621	15.03	-61	.72
1120				14.2	6.78	3636	10.82	-61	.63
1125	↓	↓		14.4	6.81	3640	8.02	-62	.56

Sampled At 1125/11-19-03
P L Lithe

Field Form
Revision 0
03/14/02

FIELD OBSERVATIONS (continued)

SAMPLING INFORMATION: POINT ID MW-106

Date/Time 11-19-03 1 1125 Water Level @ Sampling, Feet: 12.51

Method of Sampling: BLADDER 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 ( )	Other ( )

INSTRUMENT CHECK DATA:

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

Solutions: _____

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

Solutions: _____

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

Solutions: _____

GENERAL INFORMATION:

Weather conditions @ time of sampling: RAIN 50°

Sample Characteristics: Clear BLACK TINT

COMMENTS AND OBSERVATIONS:

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

Date: 11/19/03 By: [signature] Company: STL

FIELD OBSERVATIONS

Facility: ARCH CHEMICAL

Sample Point ID: MW-16

Field Personnel: R. LITHE, TALMER

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 11-20-03 1 0905

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

Prot. Casing/riser height: —

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

If prot.casing; depth to riser below: —

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

% LEL: — / —

Vol. Organic Meter (Calibration/Reading):

Volatiles (ppm): — / —

PURGE INFORMATION:

Date / Time Initiated: 11-20-03 1 0 910

Date / Time Completed: 11-20-03 1 0935

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

Riser Diameter, Inches: 4.0

Initial Water Level, Feet: 11.58

Elevation. G/W MSL:

Well Total Depth, Feet: 34.44

Method of Well Purge: BLADDER PUMP PERISTALTIC PUMP

One (1) Riser Volume, Gal: —

Dedicated: (Y) / N

Total Volume Purged, Gal: 2.0

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
0915	MP/HZ 100	11.60 12		18.1	6.97	2910	15.45	28	1.31
0920	|	|		16.9	6.90	2936	14.40	24	1.15
0925	|	|		15.4	6.81	2928	8.18	23	1.08
0930	|	|		15.6	6.81	2220	4.13	23	.93
0935	↓	↓		15.4	6.81	2223	3.01	23	.87

SAMPLED AT 0935 / 11-20-03

AL Zim

FIELD OBSERVATIONS (continued)

AMPLING INFORMATION: POINT ID MW-16

ate/Time 11-20-03 1935 Water Level @ Sampling, Feet: 11.60

ethod of Sampling: BLADDER PUMP Dedicated: Y (N)

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

AMPLING DATA:

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

STRUMENT CHECK DATA:

rbidity Serial #: 3093 NTU std. = 50 NTU 5.0 NTU std. = 5.0 NTU

lutions: 130R-11

I Serial #: 600250 4.0 std.= 4.0 7.0 std.= 7.0 10.0 std. = 10.0

lutions: 4-2188, 7-2140, 10-3181

nductivity Serial #: 600250 100 umhos/cm= 100 1424 umhos/cm= 1424

lutions:

NERAL INFORMATION:

ather conditions @ time of sampling: Cloudy 45°

nple Characteristics: Clear

MMENTS AND OBSERVATIONS:

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

: 11/20/03 By: [signature] Company: STT

LeachField Form
Revision 0
March 15,2002

FIELD OBSERVATIONS

'acility: ARCH CHEMICAL Sample Point ID: PW-10

Field Personnel: R. LITTLE, TPALMER Sample Matrix: GW

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-18-03 / 1025 Water Level @ Sampling, Feet: 26.15

Method of Sampling: IN SITU PUMP Dedicated: (Y) N

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

SAMPLING DATA:

Time	Temp. (°C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other (ORP)	Other ( )
1030	15.2	6.96	5476	32.70	73	

INSTRUMENT CHECK DATA:

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

Solutions: _____

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

Solutions: _____

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

Solutions: _____

GENERAL INFORMATION:

Weather conditions @ time of sampling: SUN 50°

Sample Characteristics: AMBER STRONG ODOR

COMMENTS AND OBSERVATIONS:

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

Date: 11/18/03 By: [signature] Company: SPL

LeachField Form
Revision 0
March 15,2002

FIELD OBSERVATIONS

Facility: ARCH CHEMICAL Sample Point ID: PW-11

Field Personnel: R. LITTLE, TRAINEE Sample Matrix: GW

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-18-03 1140 Water Level @ Sampling, Feet: 29.82

Method of Sampling: INSITU 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 ( )
1145	14.5	7.46	2606	4.14	82	

INSTRUMENT CHECK DATA:

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

Solutions: _____

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

Solutions: _____

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

Solutions: _____

GENERAL INFORMATION:

Weather conditions @ time of sampling: SUN 50°

Sample Characteristics: Clear

COMMENTS AND OBSERVATIONS:

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

Date: 11/18/03 By: [signature] Company: STL

LeachField Form
Revision 0
March 15,2002

FIELD OBSERVATIONS

acility: ARCH CHEMICAL Sample Point ID: PW-12

Field Personnel: R. LITTLE, TRAINEE Sample Matrix: GW

(X) Grab ( ) Composite

SAMPLING INFORMATION:

.408

Date/Time 11-18-03 1005 Water Level @ Sampling, Feet: 22.40

Method of Sampling: INSITU 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 ( )
1010	15.8	6.85	3792	13.48	77	

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 45

Sample Characteristics: CLEAR SLIGHT TINT

COMMENTS AND OBSERVATIONS:

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

Date: 11/18/03 By: [signature] Company: STL

FIELD OBSERVATIONS

Facility: ARCH CHEMICAL

Sample Point ID: PZ-101

Field Personnel: P. LITHE, T PALMER

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 11-17-03 / 1223

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

Prot. Casing/riser height: —

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

If prot.casing; depth to riser below: —

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

% LEL: — / —

Vol. Organic Meter (Calibration/Reading):

Volatiles (ppm) — / —

PURGE INFORMATION:

Date / Time Initiated: 11-17-03 / 1225

Date / Time Completed: 11-17-03 / 1245

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 14.58

Elevation. G/W MSL:

Well Total Depth, Feet: 21.69

Method of Well Purge: Peristaltic Pump

One (1) Riser Volume, Gal: —

Dedicated: (Y) / N

Total Volume Purged, Gal: 1.5

Purged To Dryness Y / (N)

Purge Observations:

Start Clear Finish Clear

PURGE DATA: (if applicable)

Time	Purge Rate (gpm/htz)		Cumulative Volume	Temp. (C)	pH (std units)	Conduct (Umhos/cm)	Turb. (NTU)	Other ORP	Other DO
	ml/min	WL							
1230	150	15.05		10.6	7.13	6328	5.73	73	1.27
1235	↓	↓		10.6	7.11	6360	4.63	74	1.01
1240				10.7	7.09	6367	4.10	74	.96
1245	↓	↓		10.6	7.09	6371	3.57	74	.90

SAMPLED AT 1245 / 11-17-03

PL Lithe

FIELD OBSERVATIONS (continued)

SAMPLING INFORMATION: POINT ID P2-101

Date/Time 11-17-03 / 1245 Water Level @ Sampling, Feet: 15.05

Method of Sampling: _____ Dedicated: Y / N

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

SAMPLING DATA:

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

INSTRUMENT CHECK DATA:

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

Solutions: _____

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

Solutions: _____

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

Solutions: _____

GENERAL INFORMATION:

Weather conditions @ time of sampling: Cloudy 45°

Sample Characteristics: Clear

COMMENTS AND OBSERVATIONS: _____

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

Date: 11/17/03 By: [signature] Company: SR

FIELD OBSERVATIONS

Facility: ARCH CHEMICAL

Sample Point ID: P2-102

Field Personnel: P. LITHE, T. PALMER

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 11-17-03 / 1150

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

Prot. Casing/riser height: —

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

If prot.casing; depth to riser below: —

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

% LEL: — / —

Vol. Organic Meter (Calibration/Reading):

Volatiles (ppm): — / —

PURGE INFORMATION:

Date / Time Initiated: 11-17-03 / 1155

Date / Time Completed: 11-17-03 / 1215

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 14.16

Elevation. G/W MSL:

Well Total Depth, Feet: 32.00

Method of Well Purge: PERISTALTIC PUMP

One (1) Riser Volume, Gal:

Dedicated: (Y) / N

Total Volume Purged, Gal: 1.5

Purged To Dryness Y / (N)

Purge Observations:

Start Clear (Black Sludge)

Finish Clear ~~Black~~ (Black Sludge)

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
1200	mL/min 100	WL 14.73		10.5	6.67	5238	1.08	41	1.11
1205		↓		10.9	6.71	5223	1.01	40	.99
1210		↓		10.9	6.71	5224	.90	40	.92
1215		↓		10.9	6.71	5224	.86	40	.88

SAMPLED AT 1215/11-17-03

PL Love

FIELD OBSERVATIONS (continued)

SAMPLING INFORMATION: POINT ID PZ-102

Date/Time 11-17-07 1215 Water Level @ Sampling, Feet: 14.73

Method of Sampling: _____ Dedicated: Y / N

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

SAMPLING DATA:

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

INSTRUMENT CHECK DATA:

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

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

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

GENERAL INFORMATION:

Weather conditions @ time of sampling: cloud 45°

Sample Characteristics: clear / BLACK SAND

COMMENTS AND OBSERVATIONS: _____

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

Date: 11/17/07 By: [signature] Company: SR

FIELD OBSERVATIONS

Facility: ARCH CHEMICAL

Sample Point ID: P2-103

Field Personnel: P. LITHE, TALMER

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 11-17-03 / 1105

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

Prot. Casing/riser height: —

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

If prot.casing; depth to riser below: —

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

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

PURGE INFORMATION:

Date / Time Initiated: 11-17-03 / 1110

Date / Time Completed: 11-17-03 / 1130

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 12.91

Elevation. G/W MSL: ____

Well Total Depth, Feet: 32.52

Method of Well Purge: PERISTALTIC PUMP

One (1) Riser Volume, Gal: —

Dedicated: (Y) / N

Total Volume Purged, Gal: 1.5

Purged To Dryness Y / (N)

Purge Observations: ____

Start CLEAR BLACK SEDIMENT (H) Finish CLEAR BLACK SEDIMENT

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/MIN 100	WL 13.11		11.6	6.58	5347	1.12	1	1.91
1120	|	|		11.4	6.69	5389	.84	-20	1.52
1125	|	|		12.1	6.71	5391	.80	-20	1.11
1130	|	↓		12.0	6.73	5390	.77	-21	.99

SAMPLED AT 1130 / 11-17-03

RL Lithe

FIELD OBSERVATIONS (continued)

SAMPLING INFORMATION: POINT ID PZ-103

Date/Time 11-17-03 1130 Water Level @ Sampling, Feet: 13.11

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

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

SAMPLING DATA:

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

INSTRUMENT CHECK DATA:

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

Solutions: _____

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

Solutions: _____

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

Solutions: _____

GENERAL INFORMATION:

Weather conditions @ time of sampling: Cloudy 45°

Sample Characteristics: Clear Black Sticks

COMMENTS AND OBSERVATIONS:

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

Date: 11/17/03 By: [signature] Company: SIR

FIELD OBSERVATIONS

Facility: ARCH CHEMICAL | Sample Point ID: P2-104

Field Personnel: R. LITHE, T PALMER | Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 11-17-03 / 1020 | Cond of seal: (X) Good ( ) Cracked ( ) None ( ) Buried ____ %

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

If prot.casing; depth to riser below: —

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

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

PURGE INFORMATION:

Date / Time Initiated: 11-17-03 / 1025 | Date / Time Completed: 11-17-03 / 1045

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

Initial Water Level, Feet: 14.25 | Elevation. G/W MSL: ____

Well Total Depth, Feet: 23.93 | Method of Well Purge: PERISTALTIC PUMP

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

Total Volume Purged, Gal: 2.0 | 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
1030	ML/min 200	15.15		16.5	6.83	1782	5.55	-19	1.76
1035	↓	↓		15.2	6.60	1780	3.28	-10	1.27
1040				15.2	6.76	1781	2.72	-10	1.06
1045	↓	↓		14.9	6.76	1781	2.15	-10	.97

SAMPLE AT 1045 / 11-17-03

FIELD OBSERVATIONS (continued)

AMPLING INFORMATION: POINT ID PZ-104

ate/Time 11-17-03 / 1045 Water Level @ Sampling, Feet: 15.15

lethod of Sampling: _____ Dedicated: Y / N

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

AMPLING DATA:

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

STRUMENT CHECK DATA:

rbidity Serial #: 3794 NTU std. = 5.0 NTU 5.0 NTU std. = 5.0 NTU

lutions: 130R-11

I Serial #: 600750 4.0 std.= 4.00 7.0 std.= 7.00 10.0 std. = 10.00

lutions: 4-2138, 7-2140, 10-3135

nductivity Serial #: 600750 100 umhos/cm= 100 1424 umhos/cm= 1424

lutions: 100-2940, 1424-2915

ENERAL INFORMATION:

ather conditions @ time of sampling: clouds 45°

mple Characteristics: Clear

MMENTS AND OBSERVATIONS:

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

: 11/17/03 By: RL Low Company: SJR

FIELD OBSERVATIONS

Facility: ARCH CHEMICAL | Sample Point ID: PZ-107

Field Personnel: P. LITHE, T PALMER | Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 11-20-03 / 1130 | Cond of seal: (X) Good ( ) Cracked ( ) None ( ) Buried ____ %

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

If prot.casing; depth to riser below: —

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

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

PURGE INFORMATION:

Date / Time Initiated: 11-20-03 / 1135 | Date / Time Completed: 11-20-03 / 1155

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

Initial Water Level, Feet: 5.96 | Elevation. G/W MSL: ____

Well Total Depth, Feet: 27.90 | Method of Well Purge: PERISTALTIC PUMP

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

Total Volume Purged, Gal: 1.0 | 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
1140	MAX 100	WL 6.22		12.1	7.11	4052	2.26	40	.98
1145	↓	↓		12.2	7.14	4060	1.60	45	.86
1150	↓	↓		12.7	7.15	3951	1.03	45	.71
1155	↓	↓		12.9	7.16	3947	.93	45	.62

SAMPLED AT 1155 / 11-20-03

RL Lutz

FIELD OBSERVATIONS (continued)

SAMPLING INFORMATION: POINT ID P2-102

Date/Time 11-20-03 1155 Water Level @ Sampling, Feet: 6.22

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

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

SAMPLING DATA:

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

INSTRUMENT CHECK DATA:

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

Solutions: _____

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

Solutions: _____

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

Solutions: _____

GENERAL INFORMATION:

Weather conditions @ time of sampling: cloudy 45°

Sample Characteristics: clear

COMMENTS AND OBSERVATIONS: _____

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

Date: 11/20/03 By: Al Zita Company: STL

LeachField Form
Revision 0
March 15,2002

FIELD OBSERVATIONS

Facility: ARCH Chemical　　Sample Point ID: QC-2

Field Personnel: P. Little, T. Palmer　　Sample Matrix: SW

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-21-03 / 1205　　Water Level @ Sampling, Feet: —

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 (DO)	Other ( )
1210	12.3	7.22	1492	15.55	3.7	

INSTRUMENT CHECK DATA:

Turbidity Serial #: ________ NTU std. = ____ NTU ____ NTU std. = ____ NTU
Solutions: ________

pH Serial #: ________ 4.0 std.= ____ 7.0 std.= ____ 10.0 std. = ____
Solutions: ________

Conductivity Serial #: ________ ____ umhos/cm= ____ ____ umhos/cm= ____
Solutions: ________

GENERAL INFORMATION:

Weather conditions @ time of sampling: Sun ~~55°~~ 55°

Sample Characteristics: Clear

COMMENTS AND OBSERVATIONS:

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

Date: 11/21/03　　By: P. Little　　Company: STL

LeachField Form
Revision 0
March 15,2002

FIELD OBSERVATIONS

Facility: ARCH Chemical Sample Point ID: Q-2S1

Field Personnel: R. Little, T Palmer Sample Matrix: SW

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-21-03 1230 Water Level @ Sampling, Feet: —

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 ( )
1235	10.1	7.40	651	8.44	17	

INSTRUMENT CHECK DATA:

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

Solutions: _____

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

Solutions: _____

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

Solutions: _____

GENERAL INFORMATION:

Weather conditions @ time of sampling: SUN 55°

Sample Characteristics: Clear

COMMENTS AND OBSERVATIONS: _____

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

Date: 11/21/03 By: R Little Company: STC

LeachField Form
Revision 0
March 15,2002

FIELD OBSERVATIONS

Facility: ARCH CHEMICAL Sample Point ID: QS-4

Field Personnel: B. Little, TPalmer Sample Matrix: SW

(X) Grab ( ) Composite

SAMPLING INFORMATION:

Date/Time 11-21-03 1145 Water Level @ Sampling, Feet: ——

Method of Sampling: MANUAL GRAB / SS BUCKET 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 ( )
1150	12.1	7.04	1559	2.75	-10	

INSTRUMENT CHECK DATA:

Turbidity Serial #: 3093 NTU std. = 5.0 NTU 5.0 NTU std. = 5.0 NTU

Solutions: 13 DR 11

pH Serial #: 600750 4.0 std.= 4.00 7.0 std.= 7.00 10.0 std. = 10.00

Solutions: 4-2188, 7-2140, 10-3181

Conductivity Serial #: 600750 160 umhos/cm= 161 1424 umhos/cm= 1424

Solutions: 100-2940 1424-2915

GENERAL INFORMATION:

Weather conditions @ time of sampling: SUN 55°

Sample Characteristics: Clear

COMMENTS AND OBSERVATIONS:

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

Date: 11/21/03 By: [signature] Company: STL

FIELD OBSERVATIONS

Facility: ARCH CHEMICAL

Sample Point ID: S-3

Field Personnel: P. LITHE, T PALMER

Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 11-20-03 / 1211

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

Prot. Casing/riser height: —

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

If prot.casing; depth to riser below: —

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

% LEL: — / —

Vol. Organic Meter (Calibration/Reading):

Volatiles (ppm): — / —

PURGE INFORMATION:

Date / Time Initiated: 11-20-03 / 1215

Date / Time Completed: 11-20-03 / 1235

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

Riser Diameter, Inches: 2.0

Initial Water Level, Feet: 1.11

Elevation. G/W MSL:

Well Total Depth, Feet: 13.38

Method of Well Purge: PERISTALTIC PUMP

One (1) Riser Volume, Gal: —

Dedicated: (Y) / N

Total Volume Purged, Gal: 1.0

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
1220	ML/MIN 100	1.11		9.4	7.61	2246	10.77	44	2.17
1225	↓	↓		9.4	7.74	2270	9.67	43	1.88
1230	↓	↓		9.4	7.74	2274	6.14	44	1.15
1235	↓	↓		9.4	7.74	2276	5.11	44	.97

SAMPLED AT 1235 / 11-20-03

T. Palmer

FIELD OBSERVATIONS (continued)

SAMPLING INFORMATION: POINT ID S-3

Date/Time 11-20-03 1235 Water Level @ Sampling, Feet: 1.11

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

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

SAMPLING DATA:

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

INSTRUMENT CHECK DATA:

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

Solutions: _____

H 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 45°

Sample Characteristics: Clear

COMMENTS AND OBSERVATIONS: _____

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

Date: 11/20/03 By: [signature] Company: STL

FIELD OBSERVATIONS

Facility: ARCH CHEMICAL Sample Point ID: S-4

Field Personnel: P. LITHE, T. PALMER Sample Matrix: G/W

MONITORTING WELL INSPECTION:

Date/Time 11-20-03 1101 Cond of seal: (X) Good ( ) Cracked ( ) None ( ) Buried %

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

If prot.casing; depth to riser below: —

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

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

PURGE INFORMATION:

Date / Time Initiated: 11-20-03 1105 Date / Time Completed: 11-20-03 1125

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

Initial Water Level, Feet: .54 Elevation. G/W MSL:

Well Total Depth, Feet: 13.05 Method of Well Purge: Peristaltic Pump

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

Total Volume Purged, Gal: 1.0 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
1110	mL/min 100	.54		10.4	7.57	335	42.6	-108	1.19
1115	↓	↓		10.1	7.57	319	15.68	-100	1.07
1120				10.1	7.58	320	11.76	-100	.99
1125	↓	↓		9.5	7.57	320	10.11	-100	.94

SAMPLED AT 1125 / 11-20-03

RL Lithe

FIELD OBSERVATIONS (continued)

;AMPLING INFORMATION: POINT ID S-4

late/Time 11-20-03 / 1125 Water Level @ Sampling, Feet: .54

lethod of Sampling: Peristaltic pump Dedicated: (Y) N

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

AMPLING DATA:

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

STRUMENT CHECK DATA:

rbidity Serial #: ______ NTU std. = ____ NTU ____ NTU std. = ____ NTU

lutions: ______

Serial #: ______ 4.0 std.= ______ 7.0 std.= ______ 10.0 std. = ______

lutions: ______

nductivity Serial #: ______ ____ umhos/cm= ____ ____ umhos/cm= ____

utions: ______

NERAL INFORMATION:

ather conditions @ time of sampling: Cloudy 45°

nple Characteristics: Clear

MMENTS AND OBSERVATIONS: ______

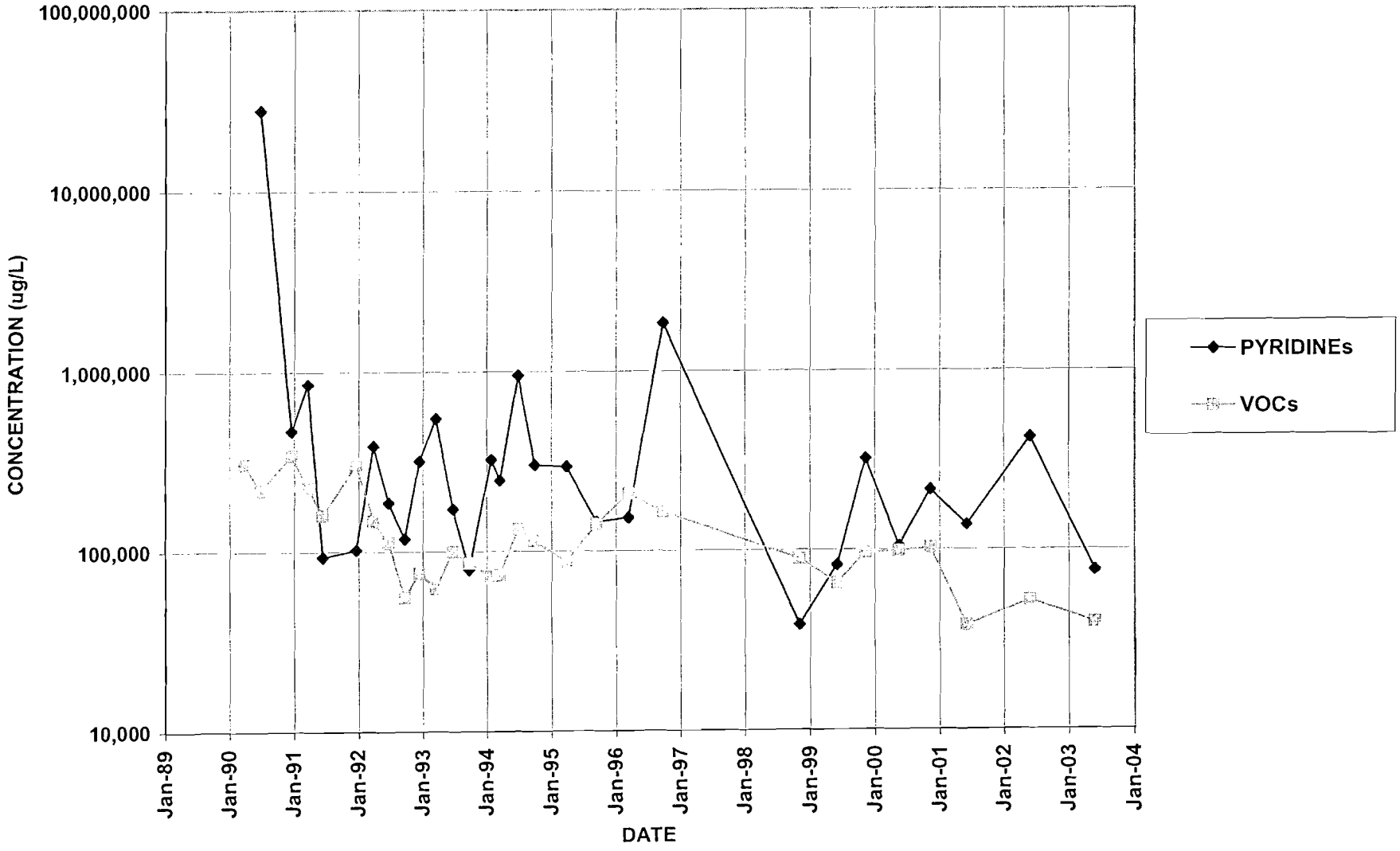
tify that sampling procedures were in accordance with all applicable EPA, State and Site-Specific ocals.

: 11/24/03 By: [signature] Company: STL

Appendix B

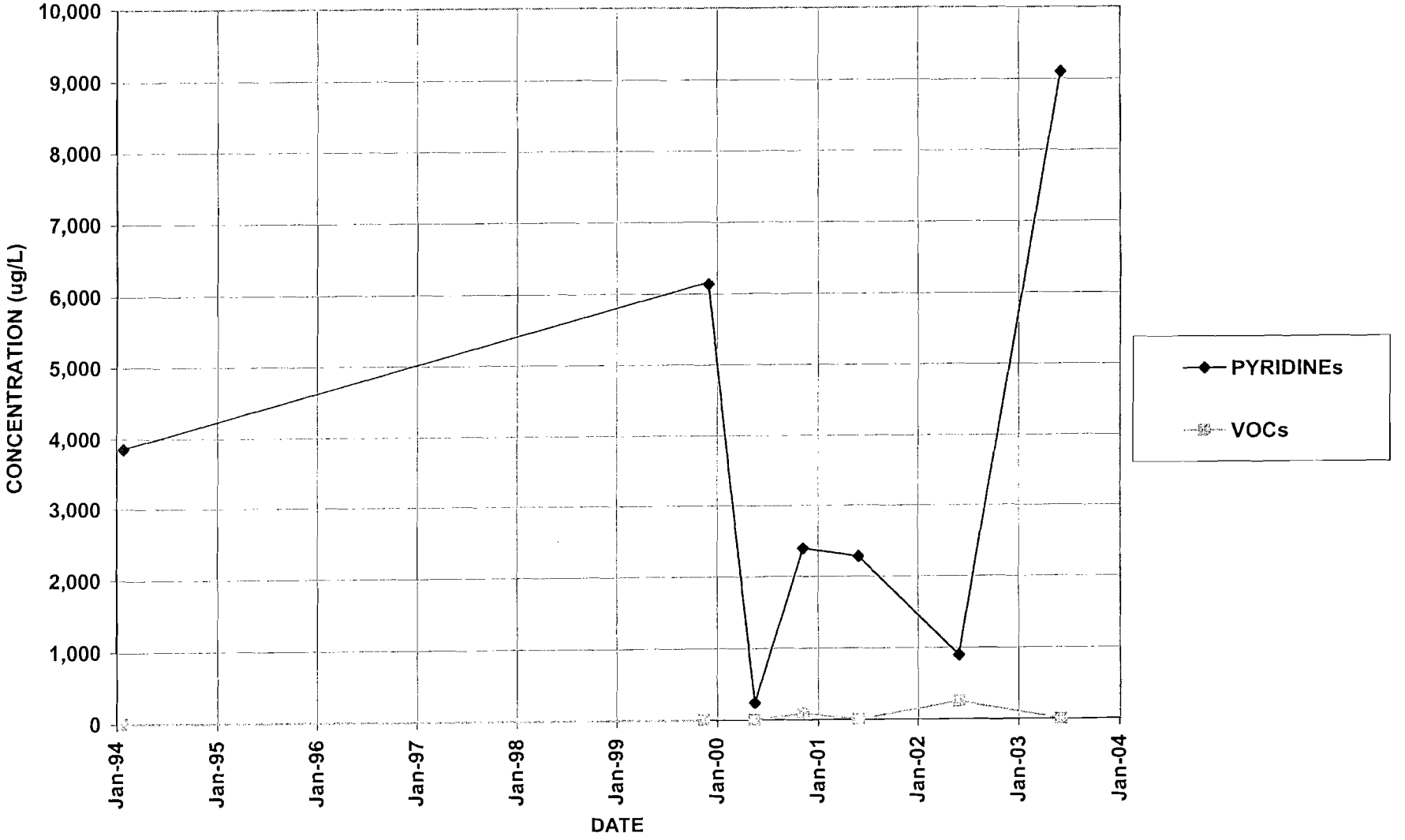
Well Trend Data

B-17



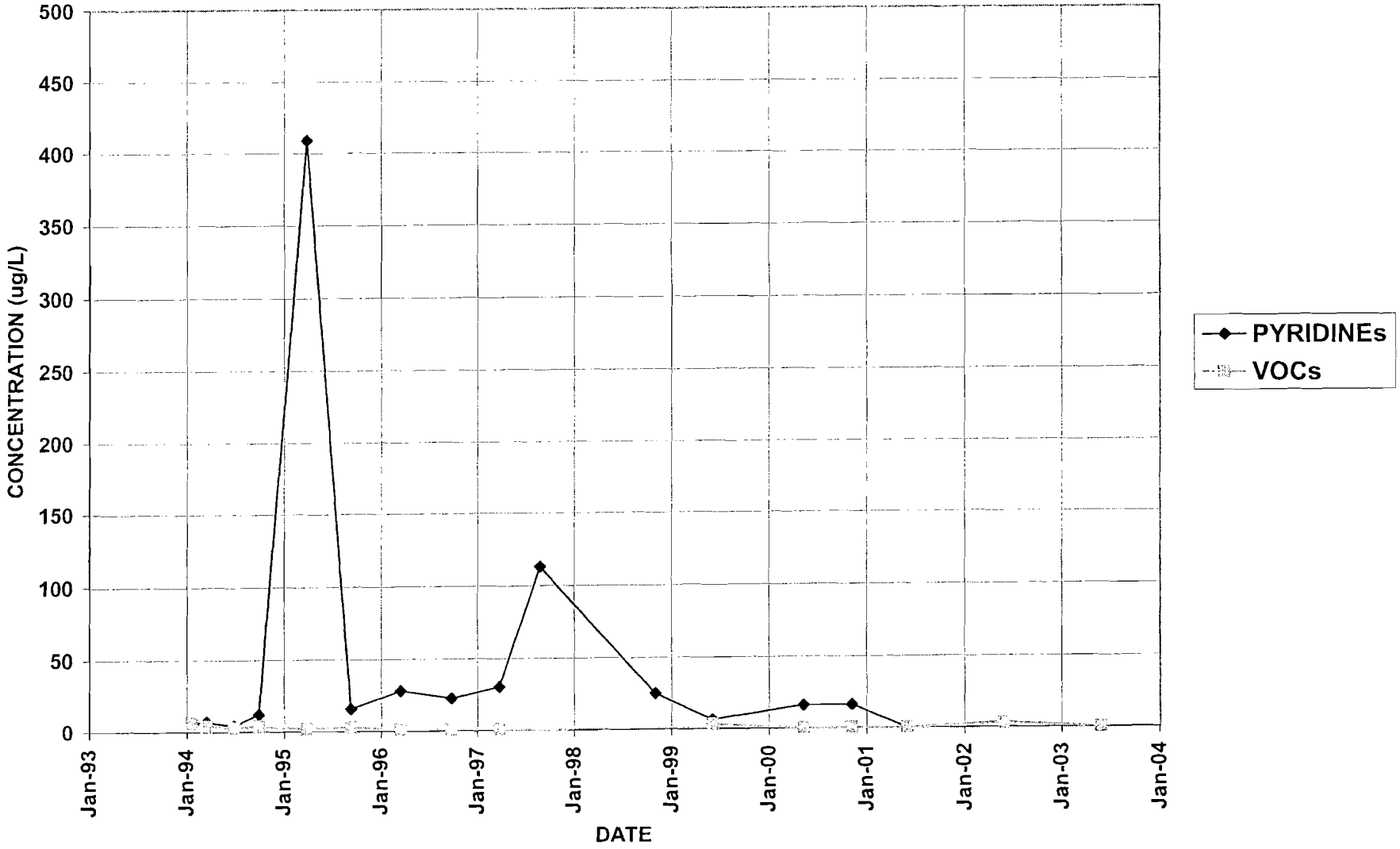
Prepared by: nmb
Reviewed by: jrb

B-7



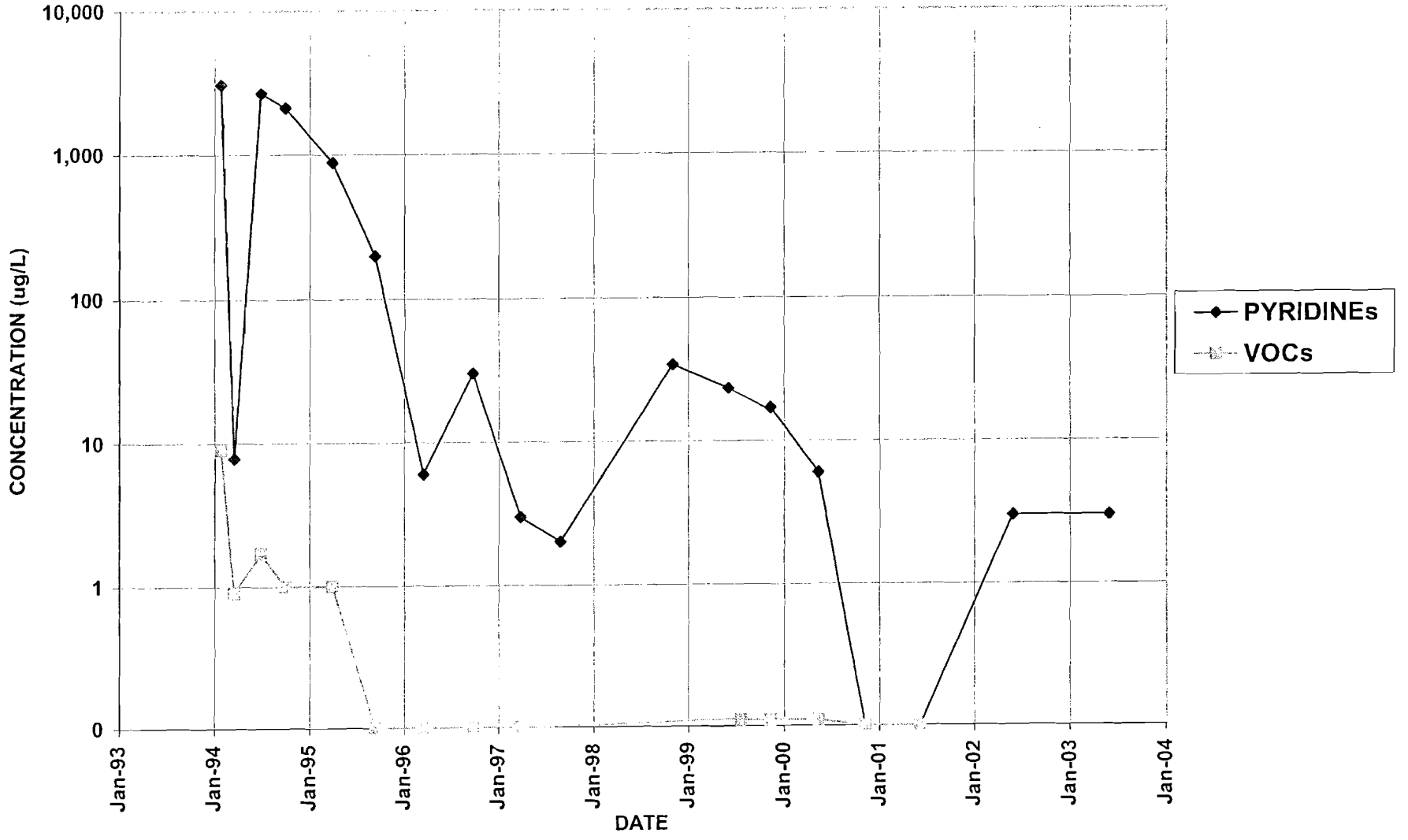
Prepared by: nmb
Reviewed by: jrb

BR-103

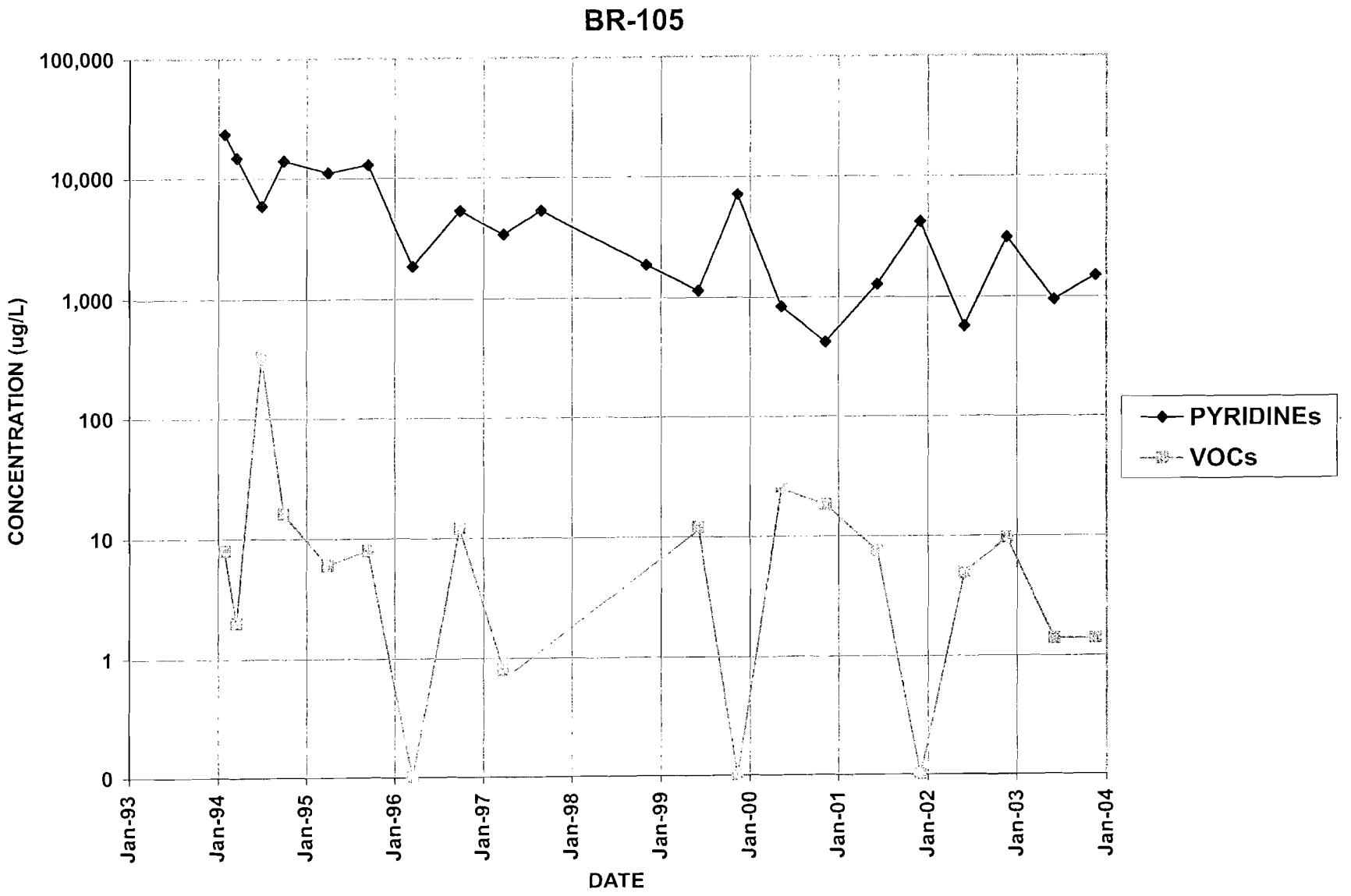


Prepared by: nmb
Reviewed by: jrb

BR-104

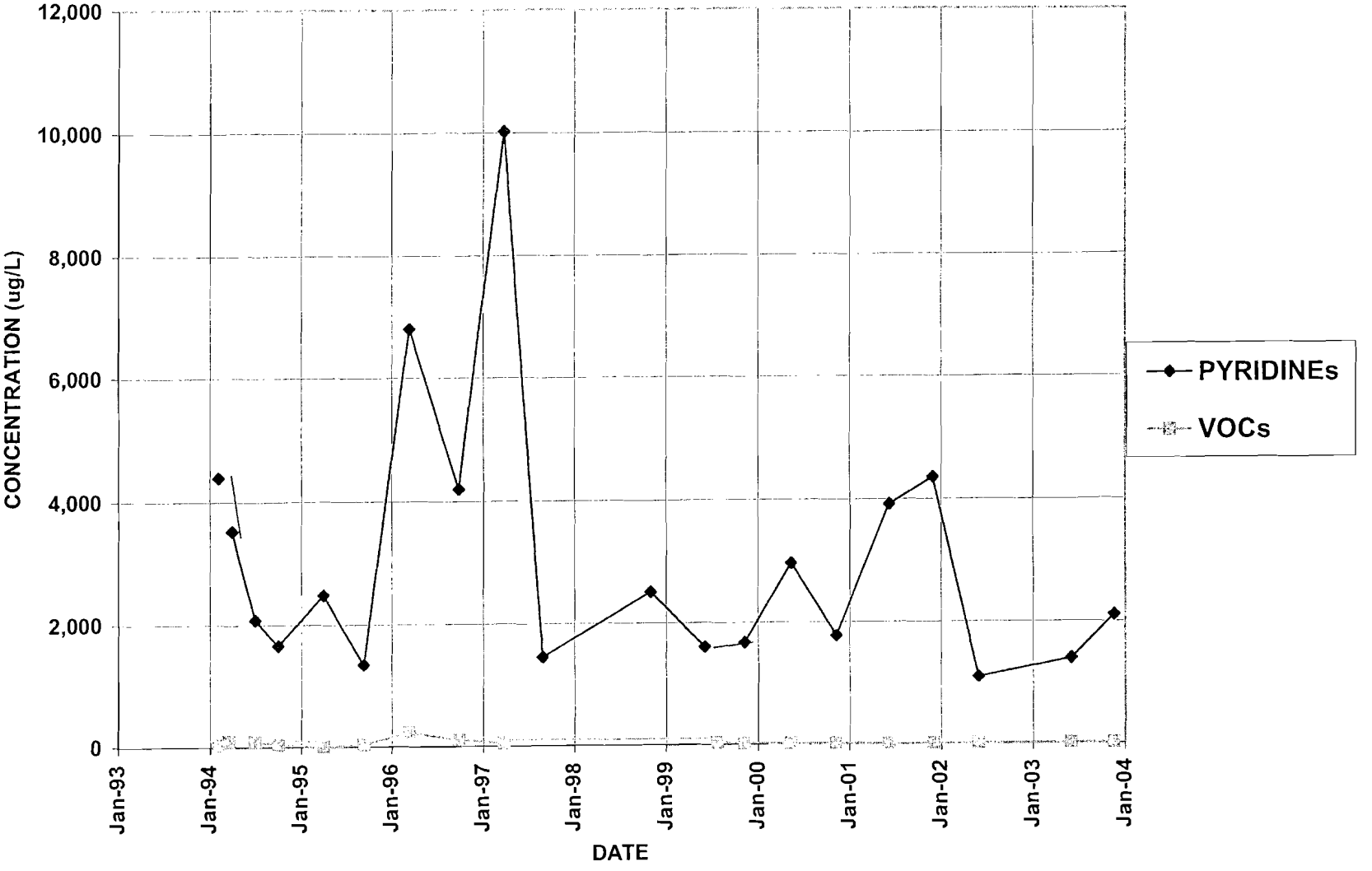


Prepared by: nmb
Reviewed by: jrb



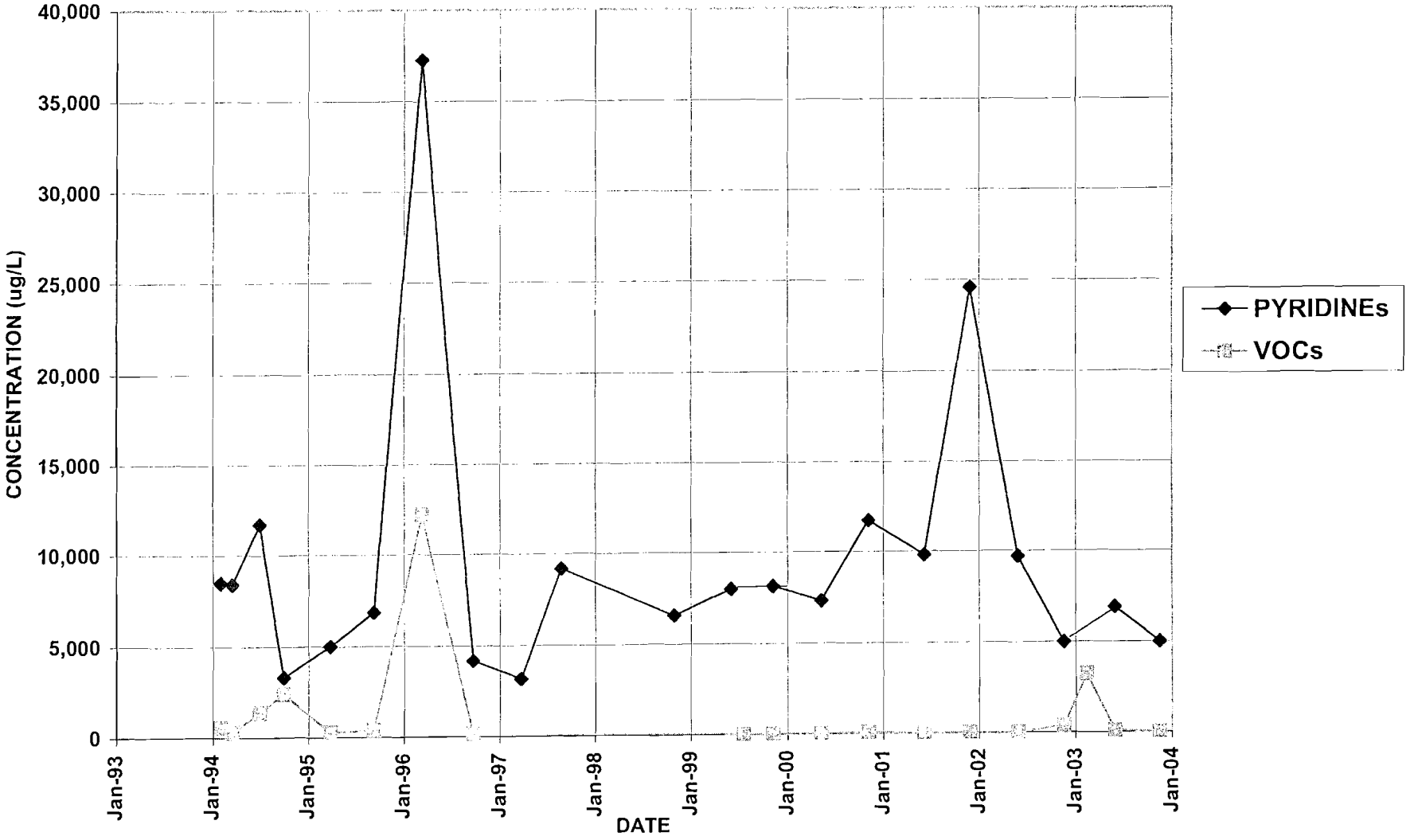
Prepared by: nmb
Reviewed by: jrb

BR-105D



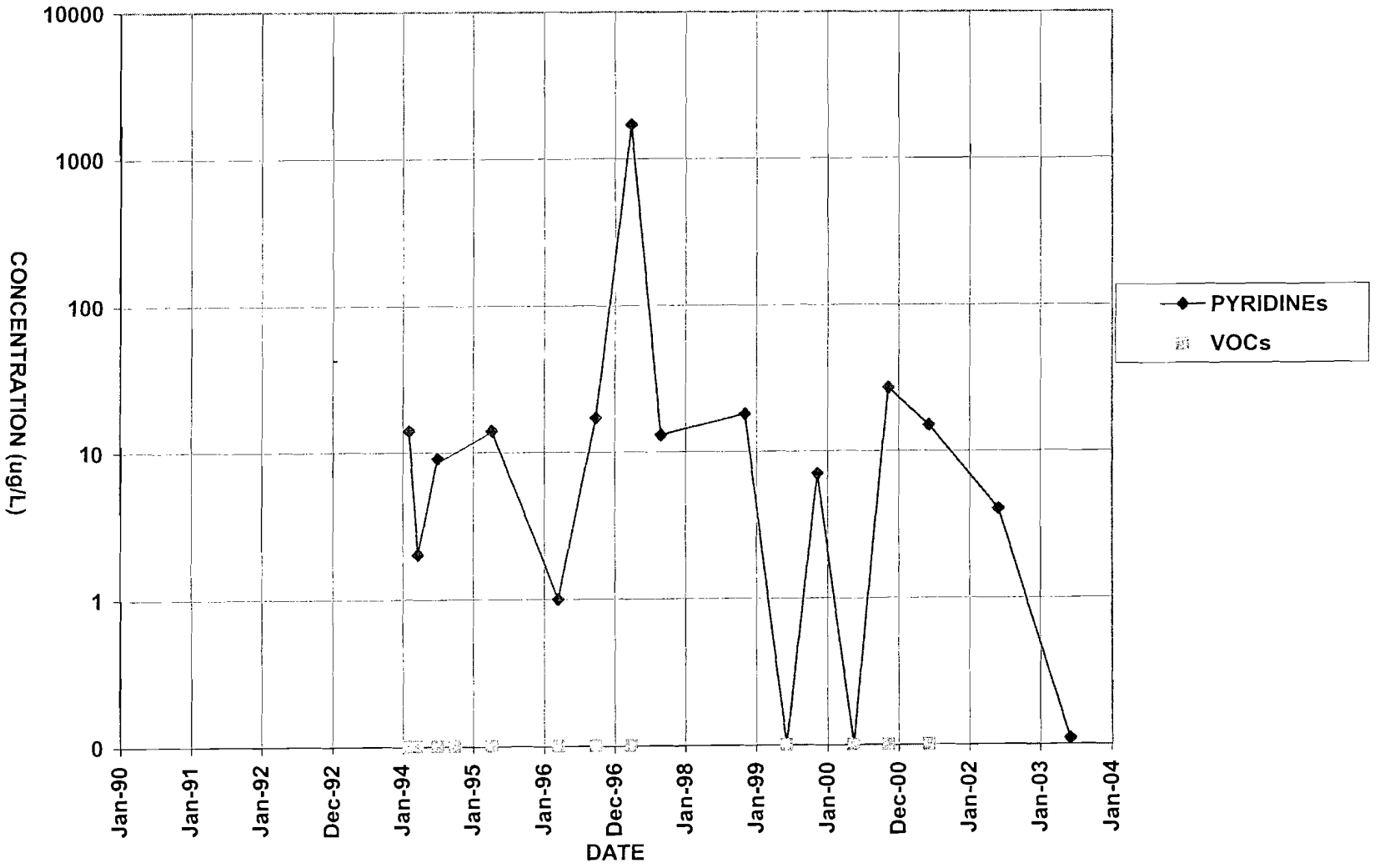
Prepared by: nmb
Reviewed by: jrb

BR-106



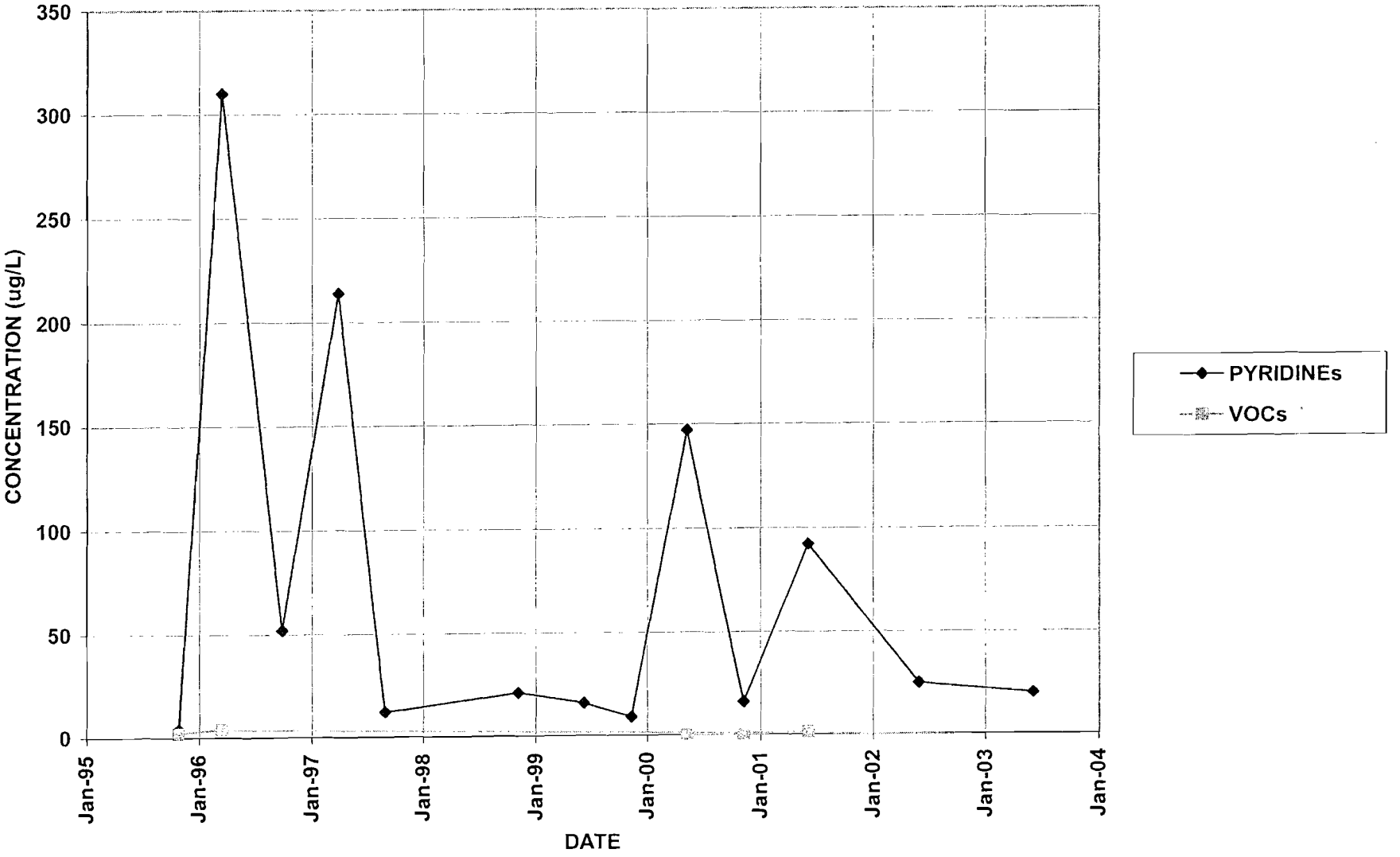
Prepared by: nmb
Reviewed by: jrb

BR-108



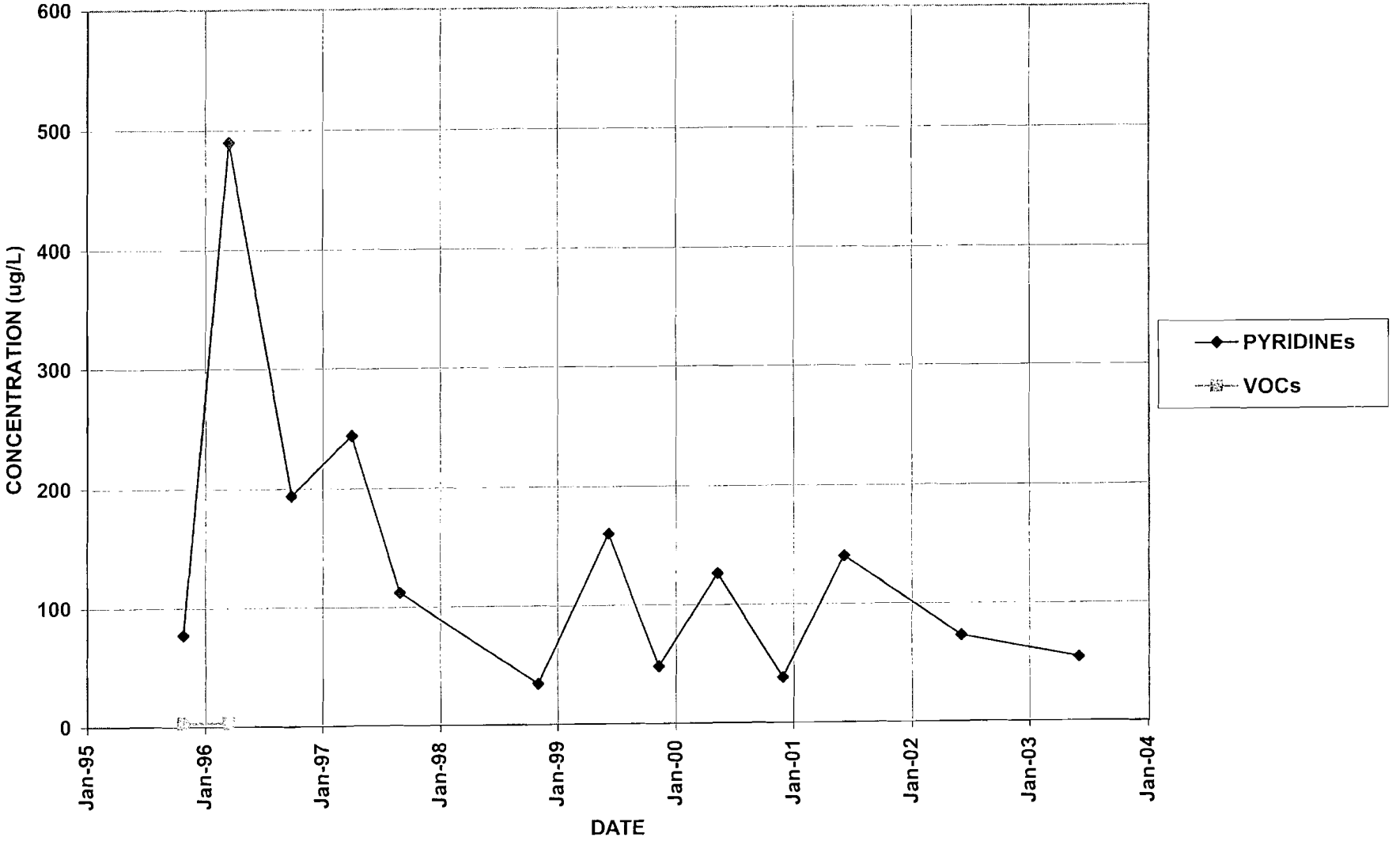
Prepared by: nmb
Reviewed by: jrb

BR-112D



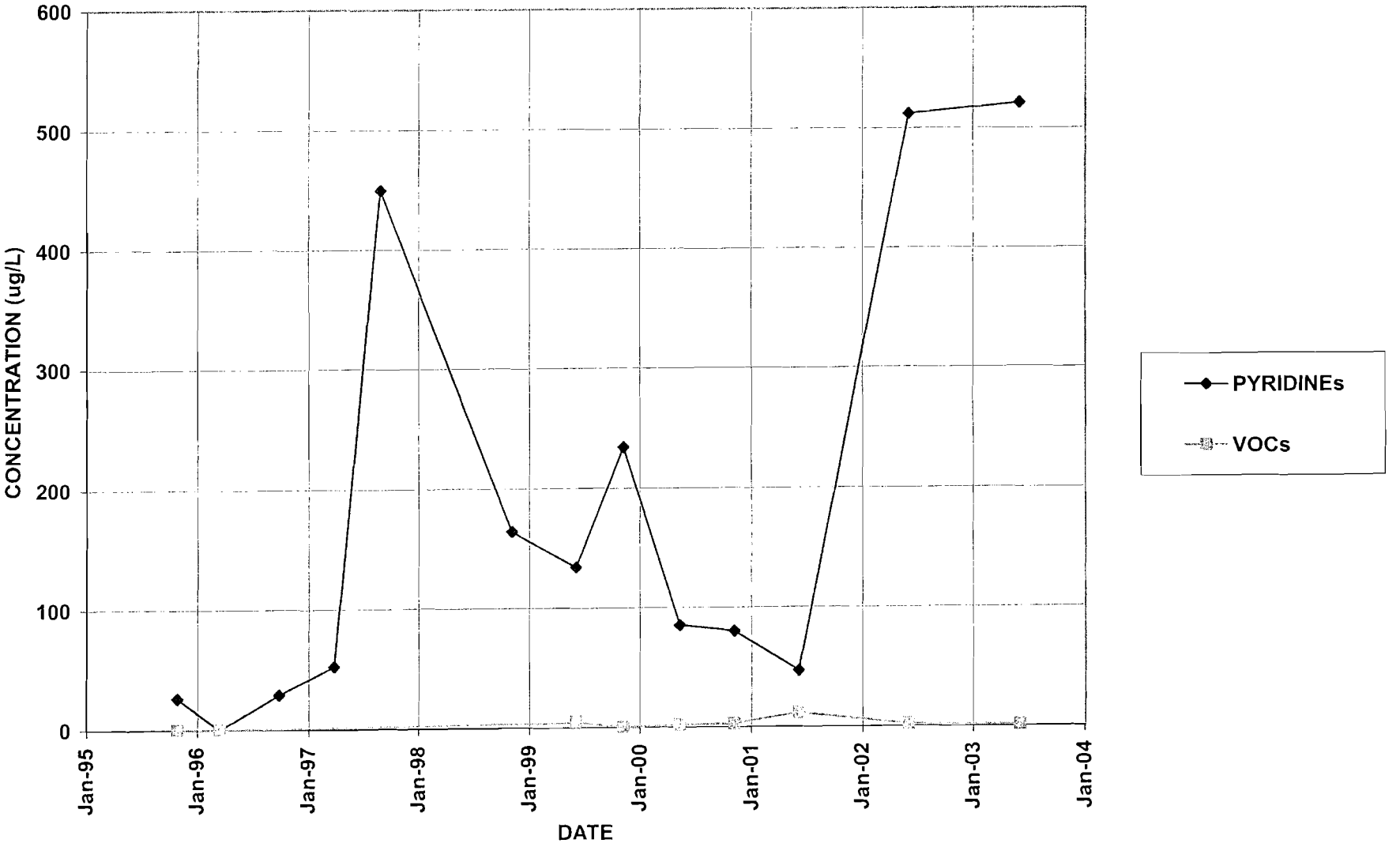
Prepared by: nmb
Reviewed by: jrb

BR-113D



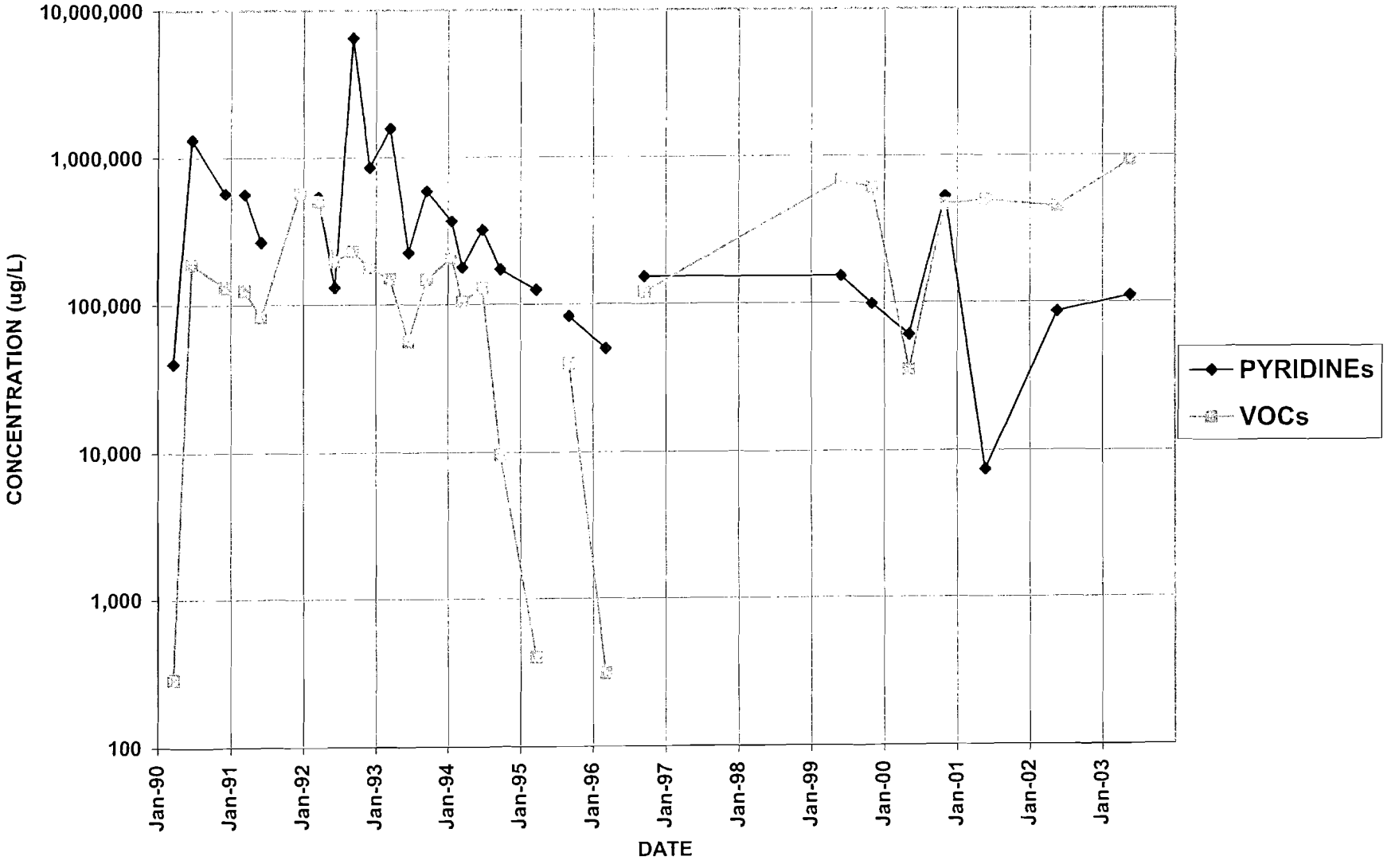
Prepared by: nmb
Reviewed by: jrb

BR-114



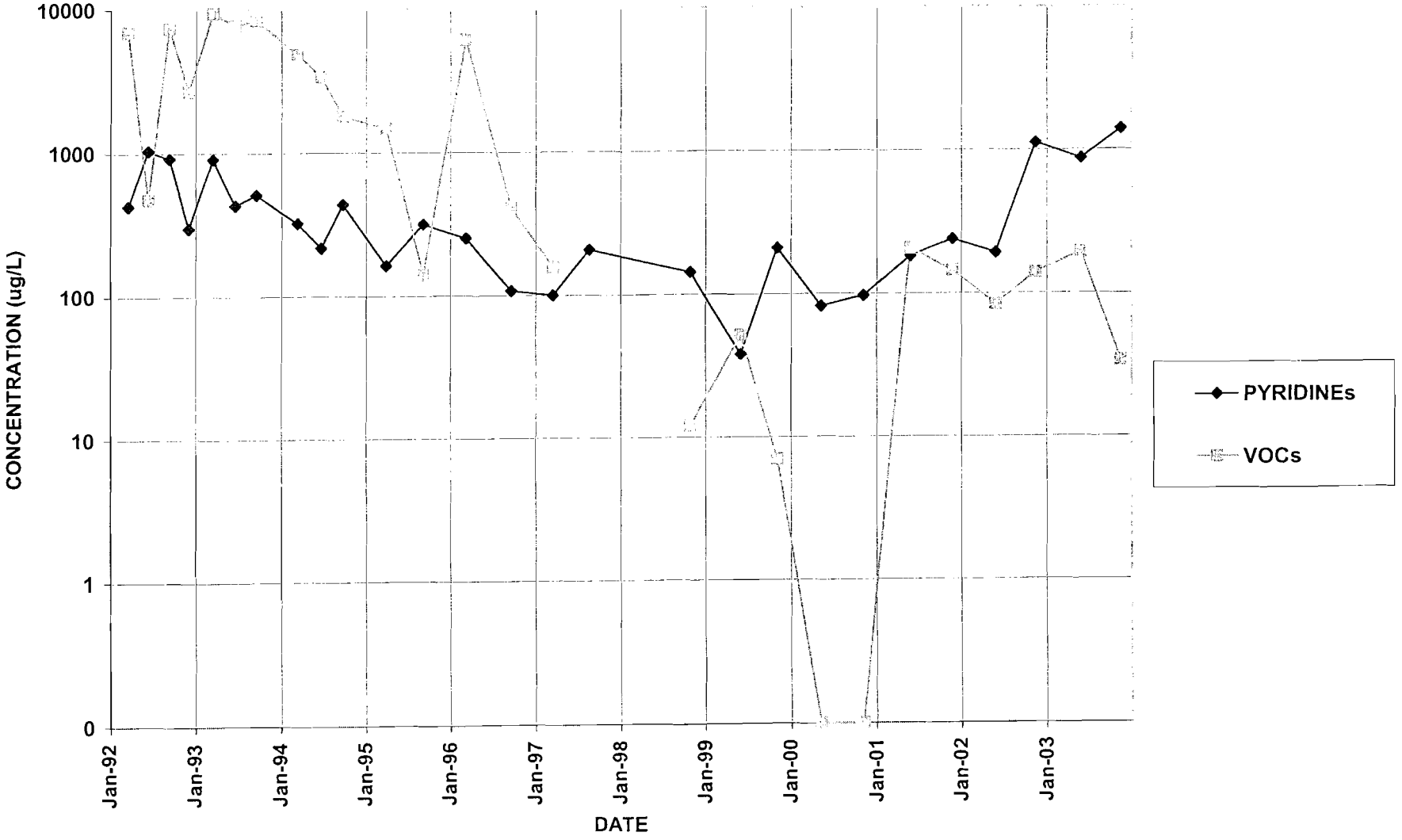
Prepared by: nmb
Reviewed by: jrb

BR-3



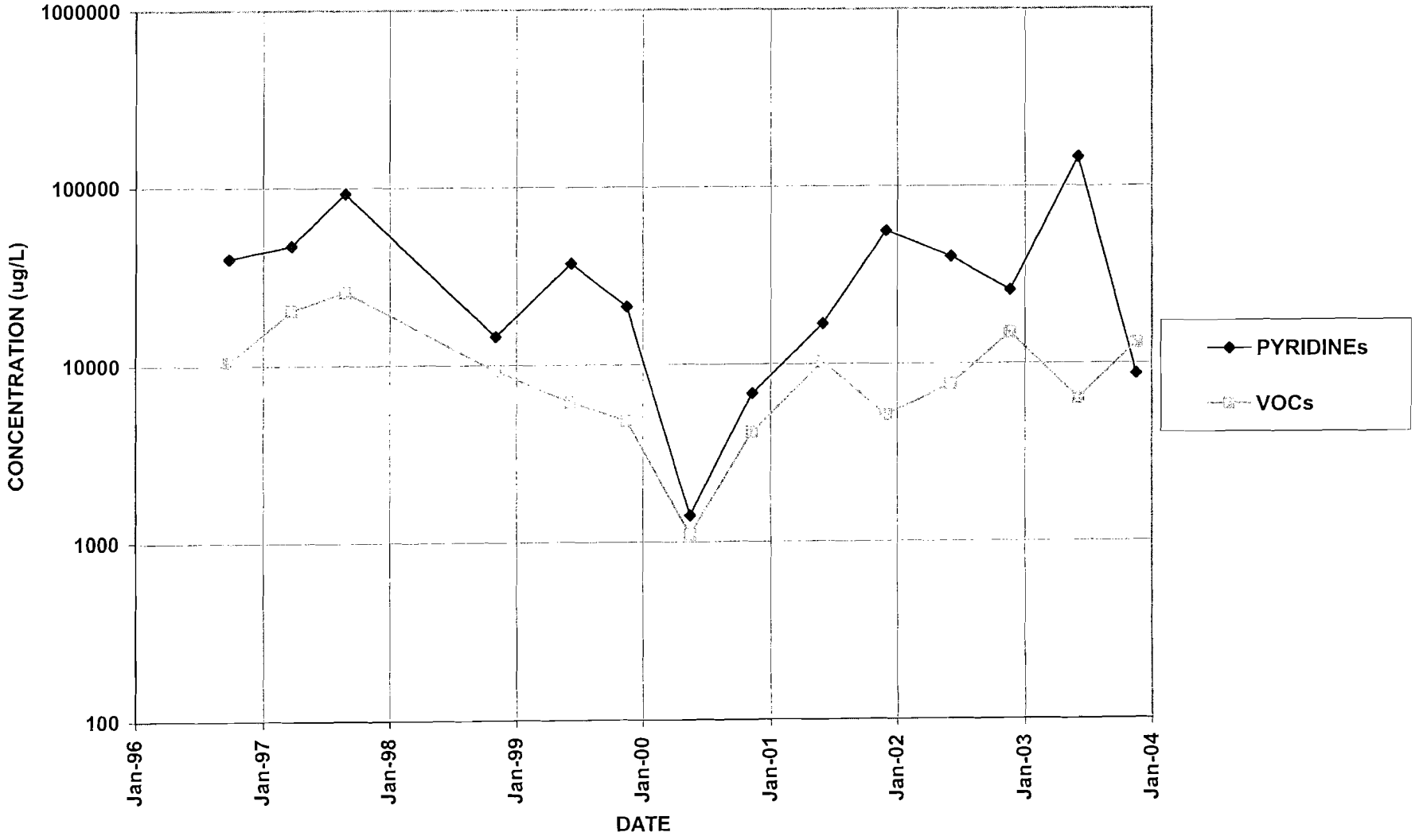
Prepared by: nmb
Reviewed by: jrb

BR-5A



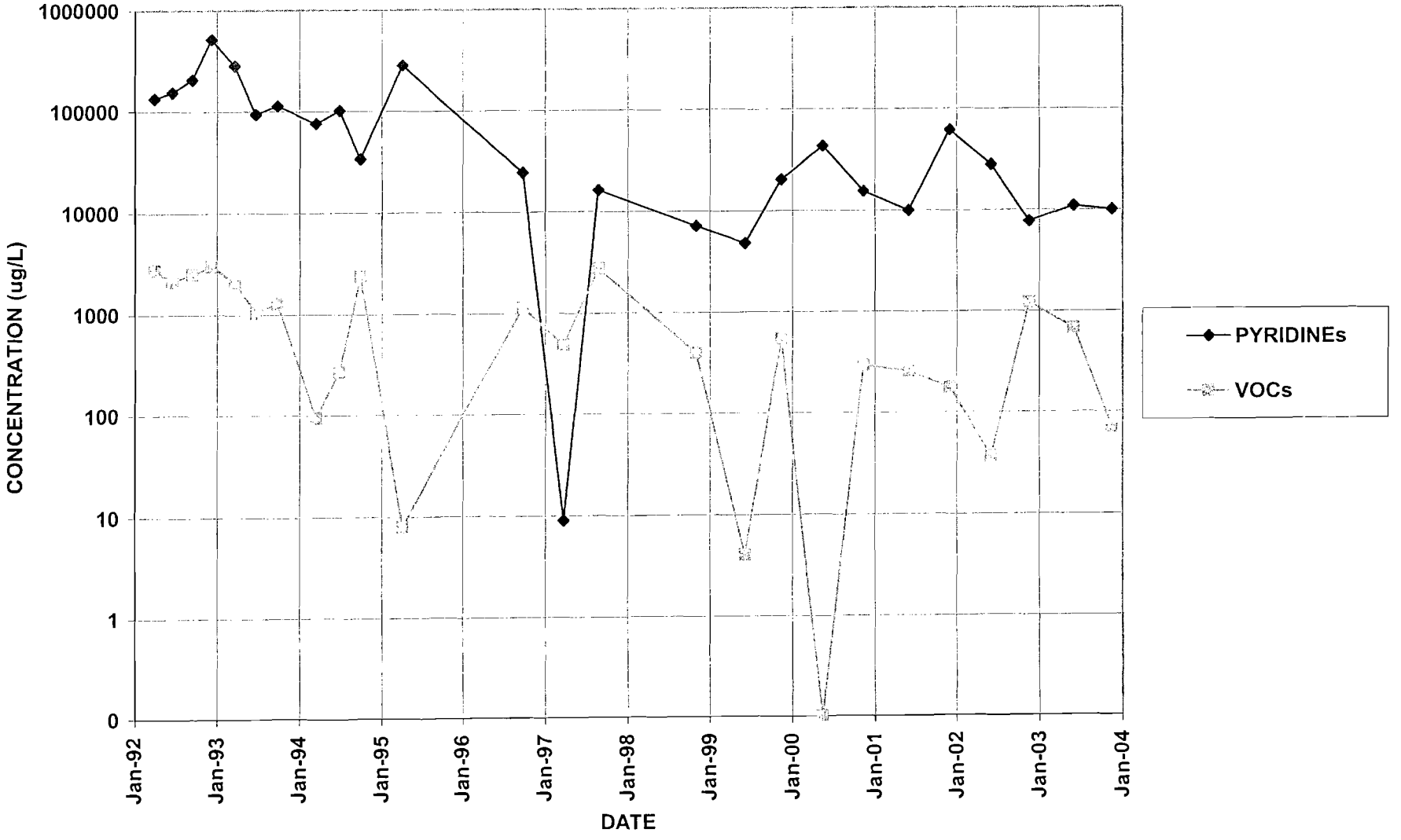
Prepared by: nmb
Reviewed by: jrb

BR-6A



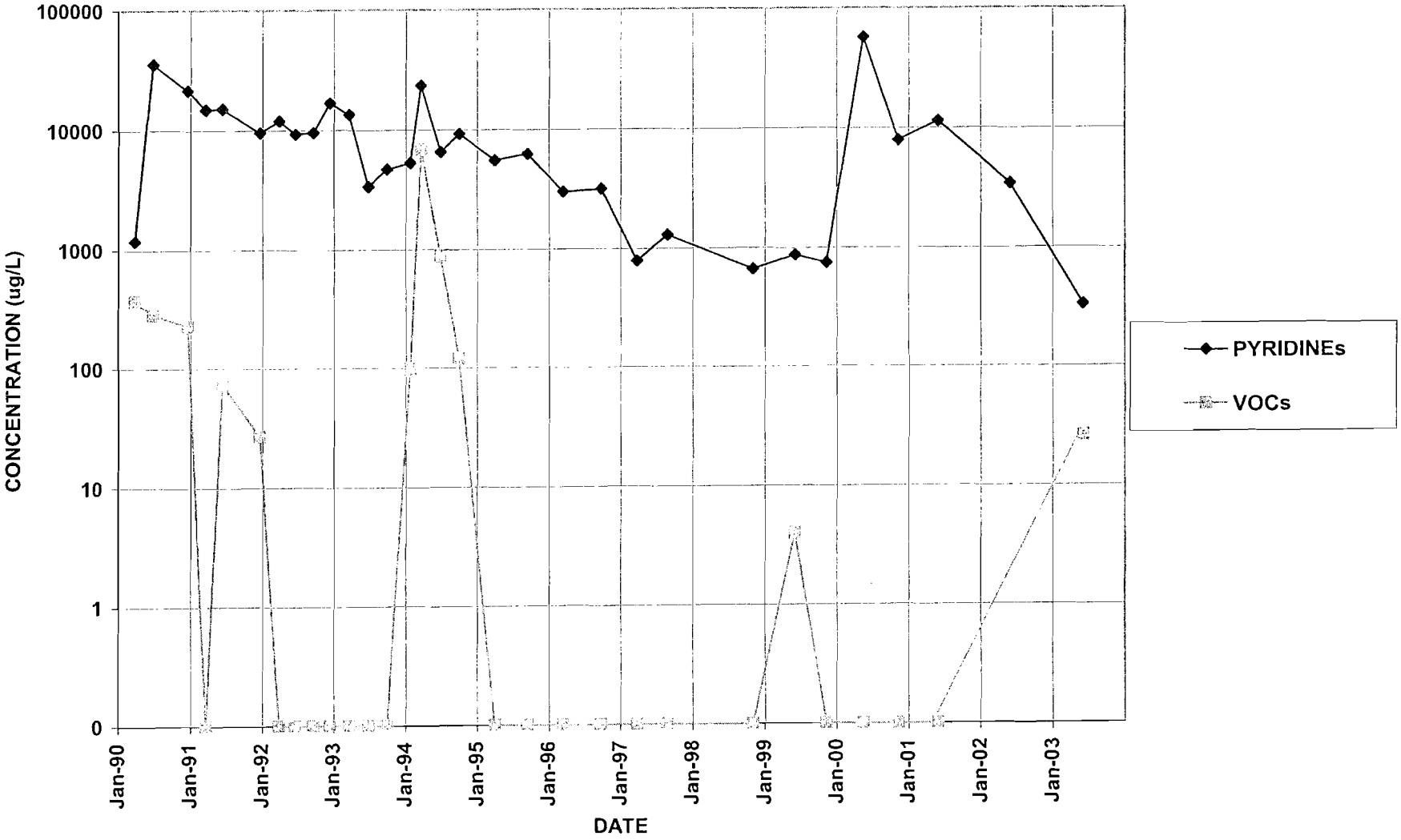
Prepared by: nmb
Reviewed by: jrb

BR-7A



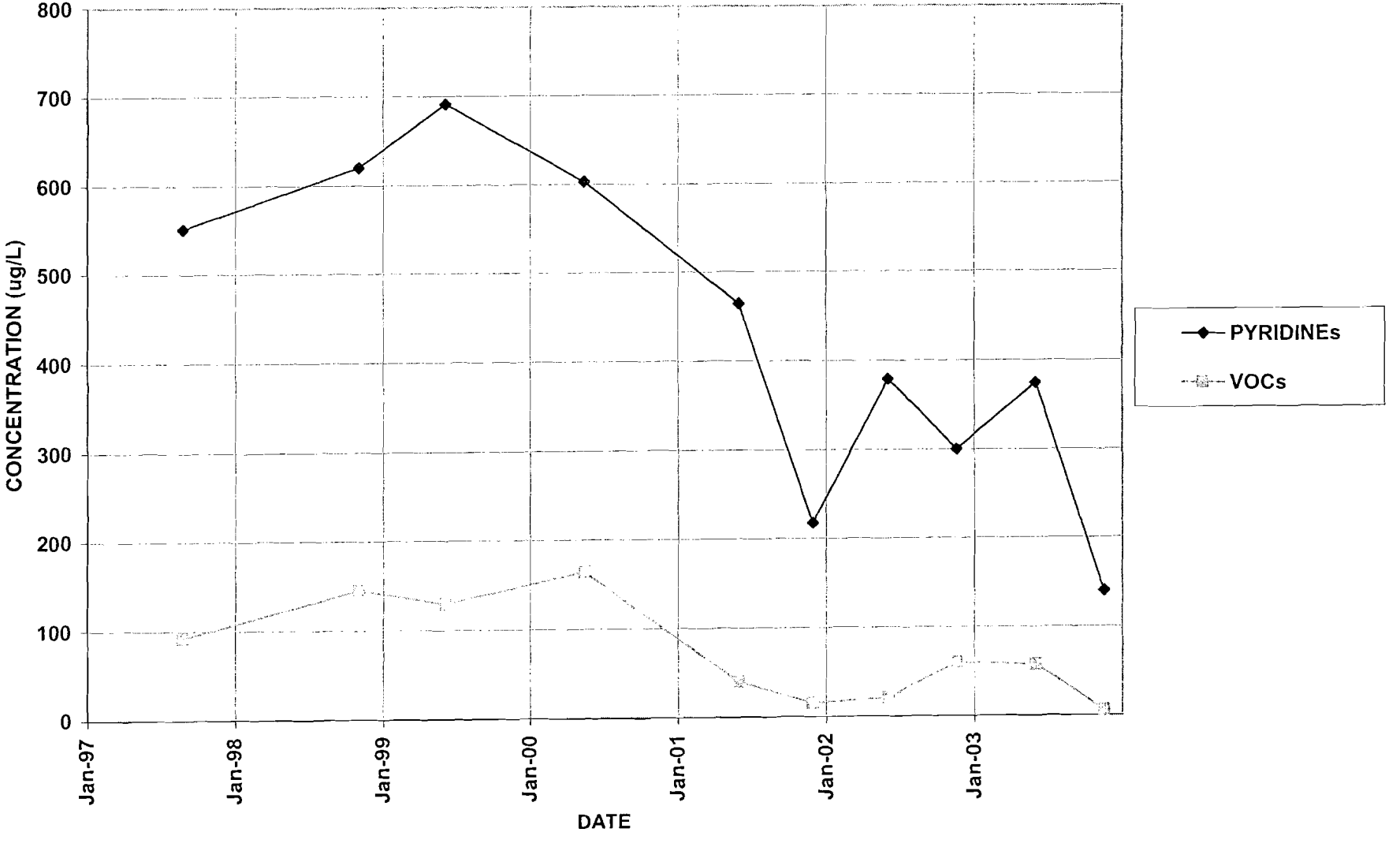
Prepared by: nmb
Reviewed by: jrb

BR-8



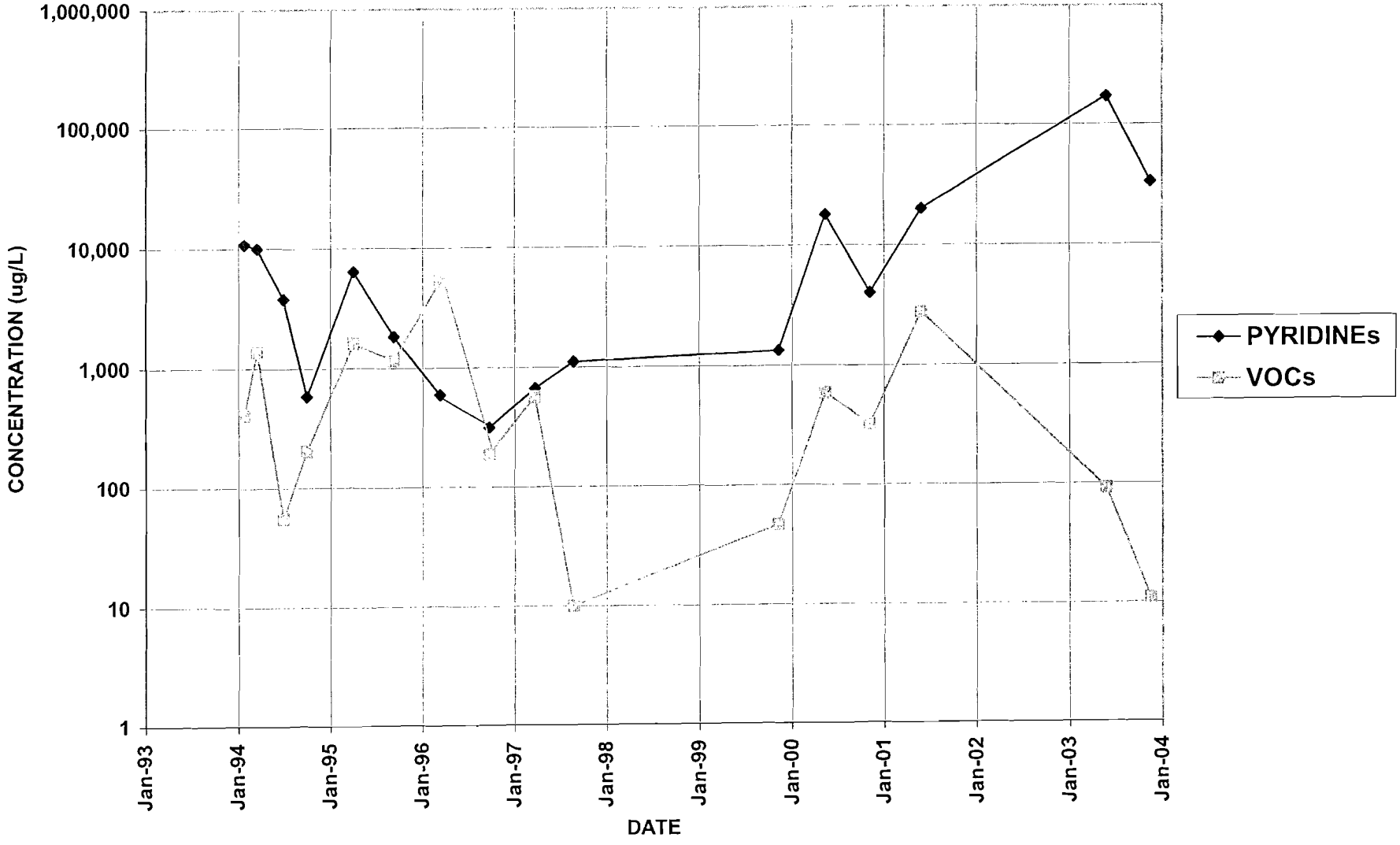
Prepared by: nmb
Reviewed by: jrb

BR-9



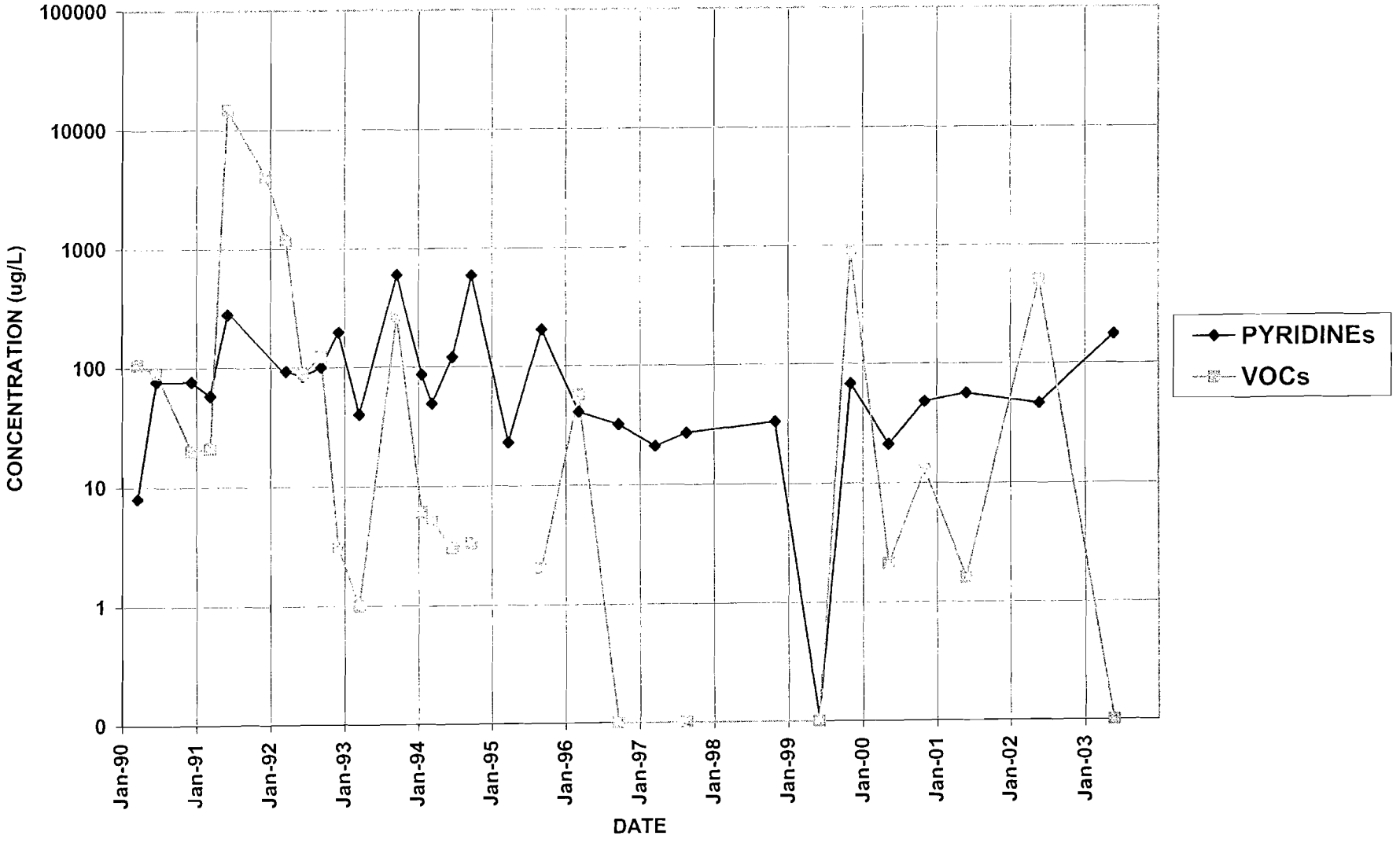
Prepared by: nmb
Reviewed by: jrb

E-1



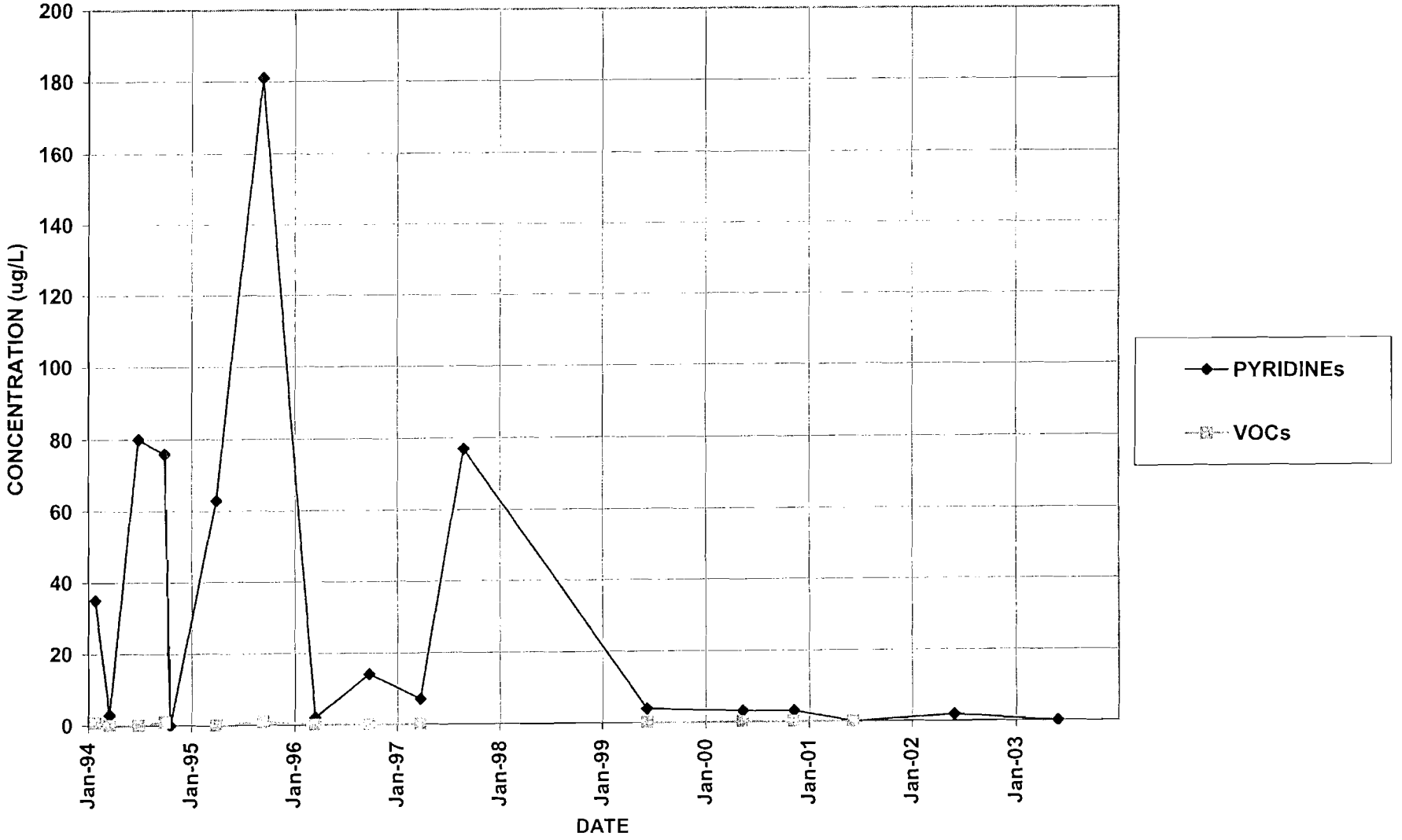
Prepared by: nmb
Reviewed by: jrb

E-3



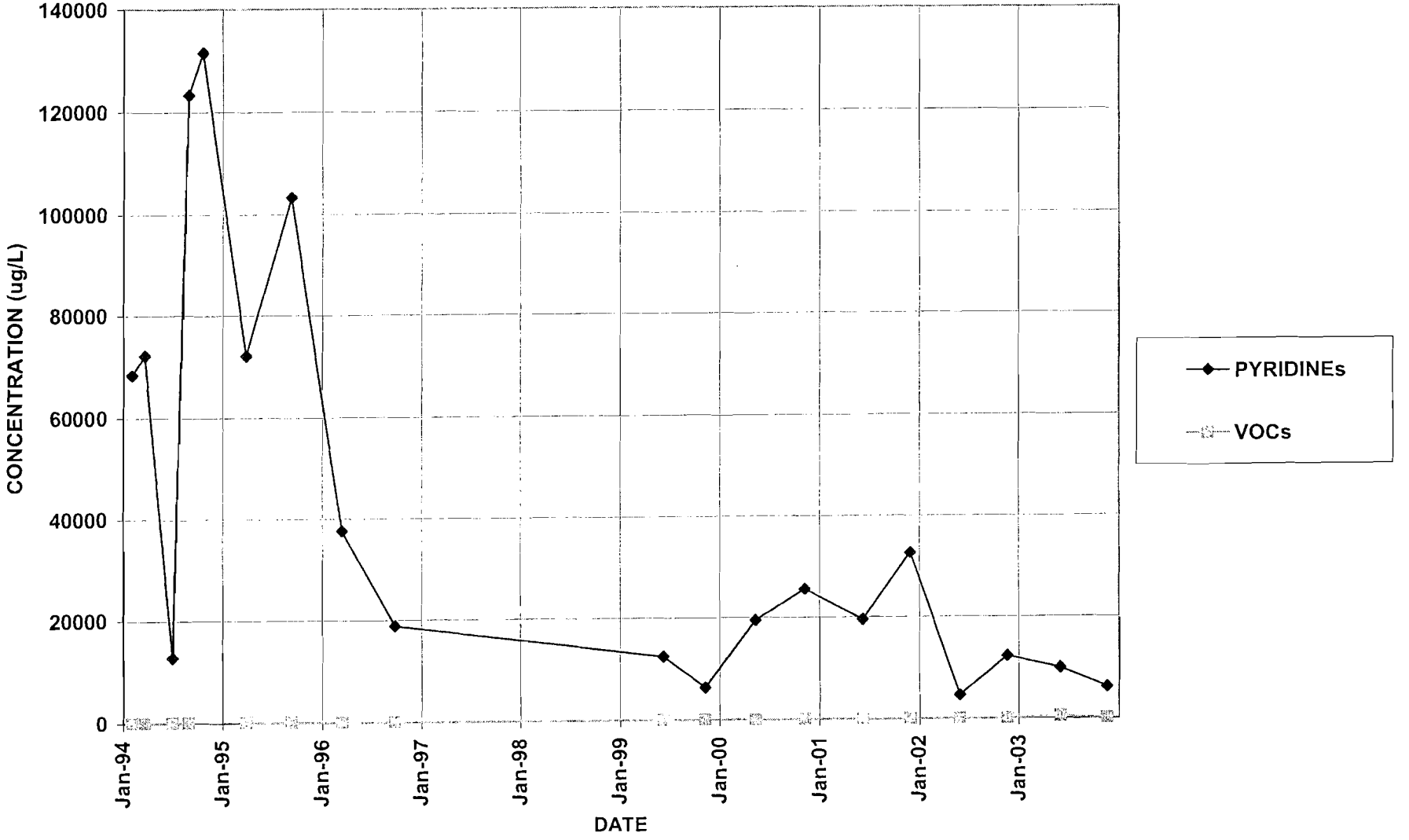
Prepared by: nmb
Reviewed by: jrb

MW-104



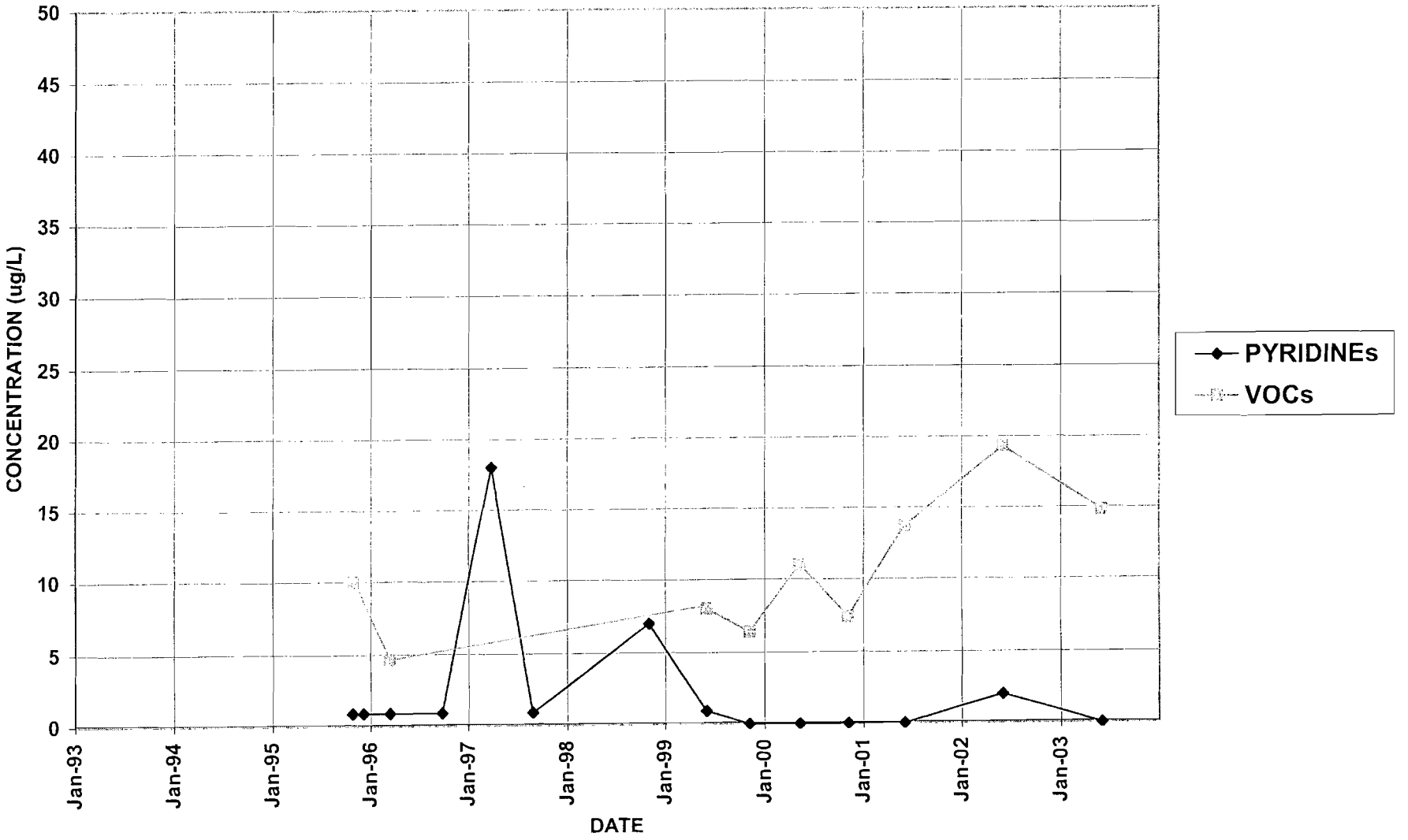
Prepared by: nmb
Reviewed by: jrb

MW-106



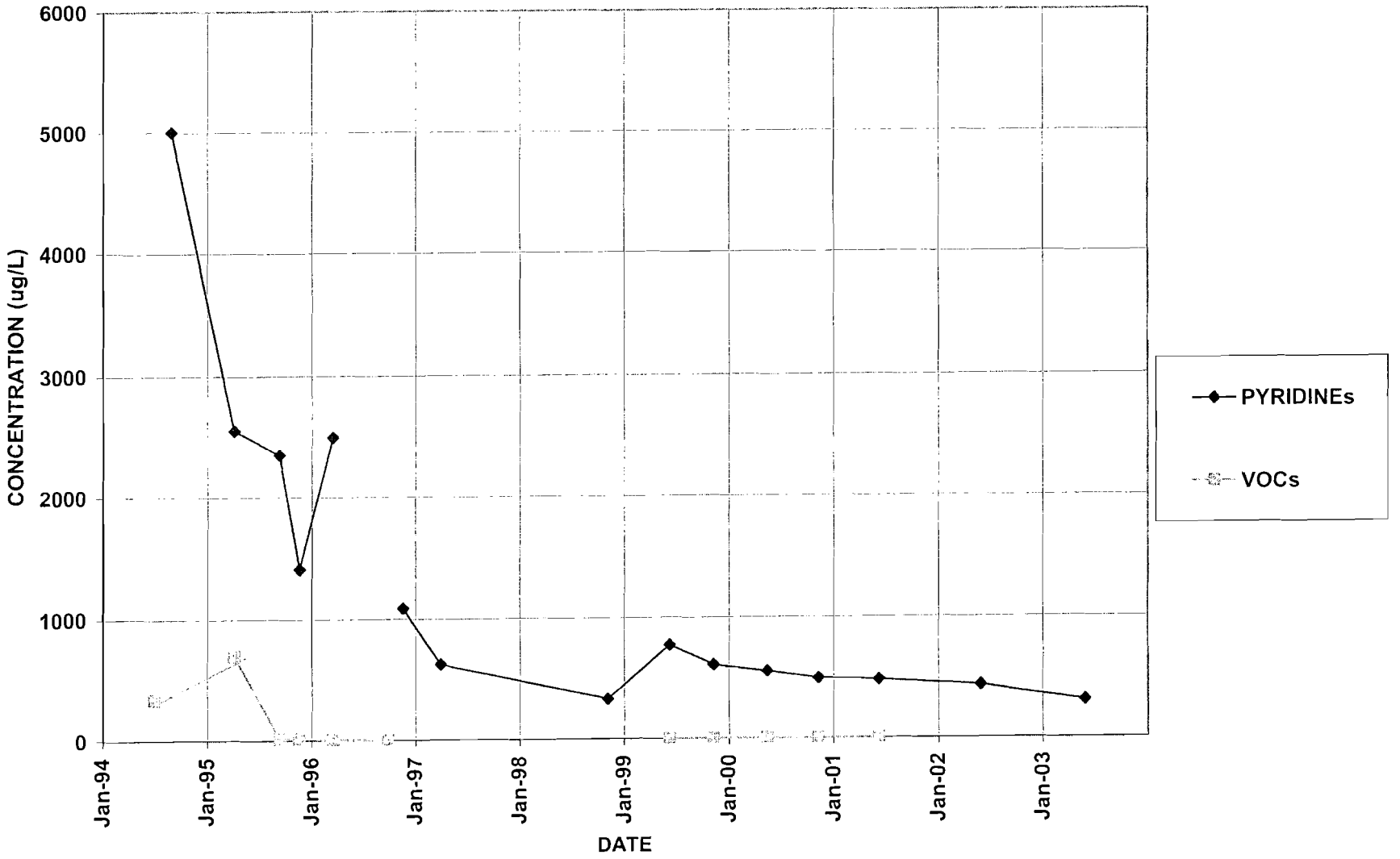
Prepared by: nmb
Reviewed by: jrb

MW-114

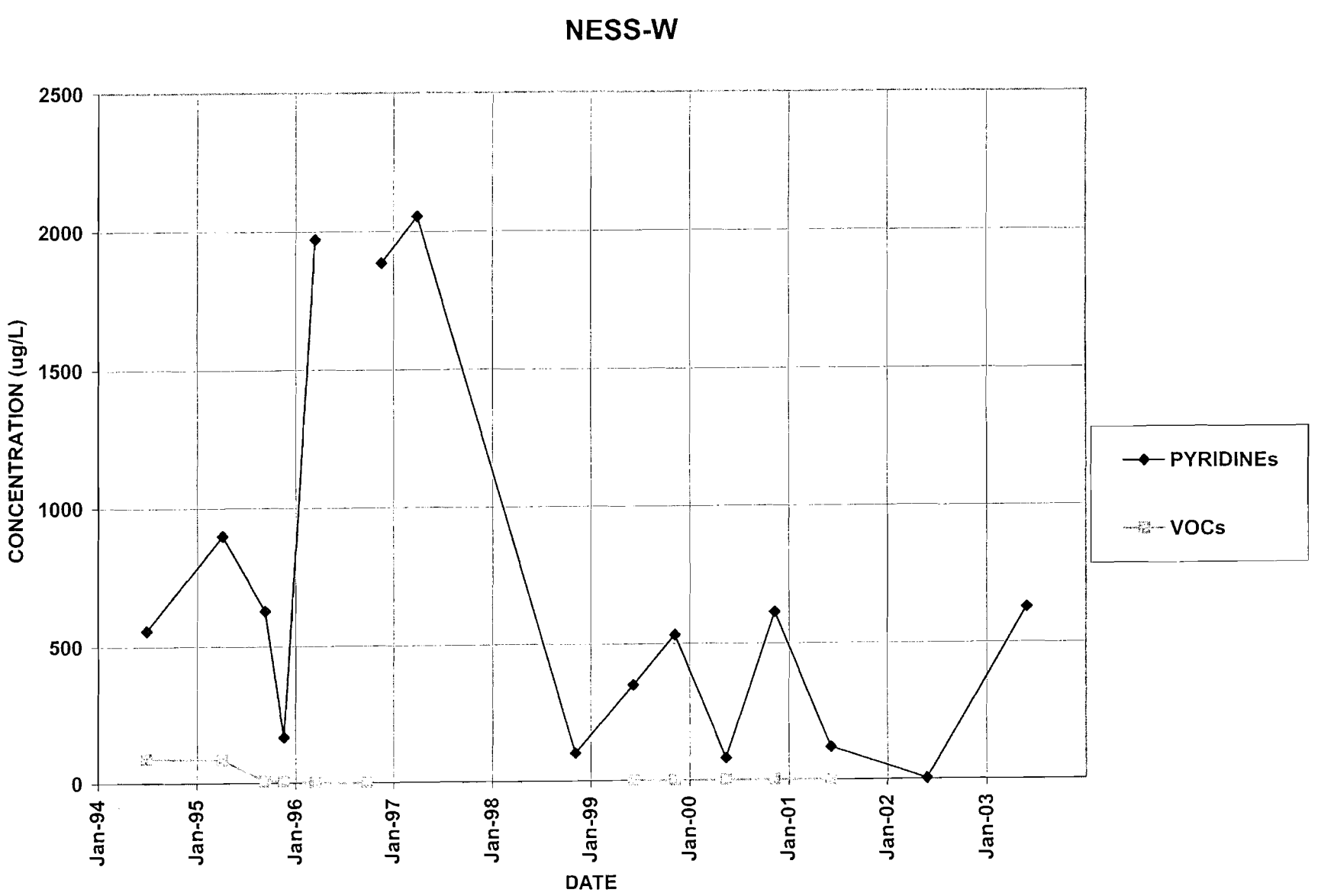


Prepared by: nmb
Reviewed by: jrb

NESS-E

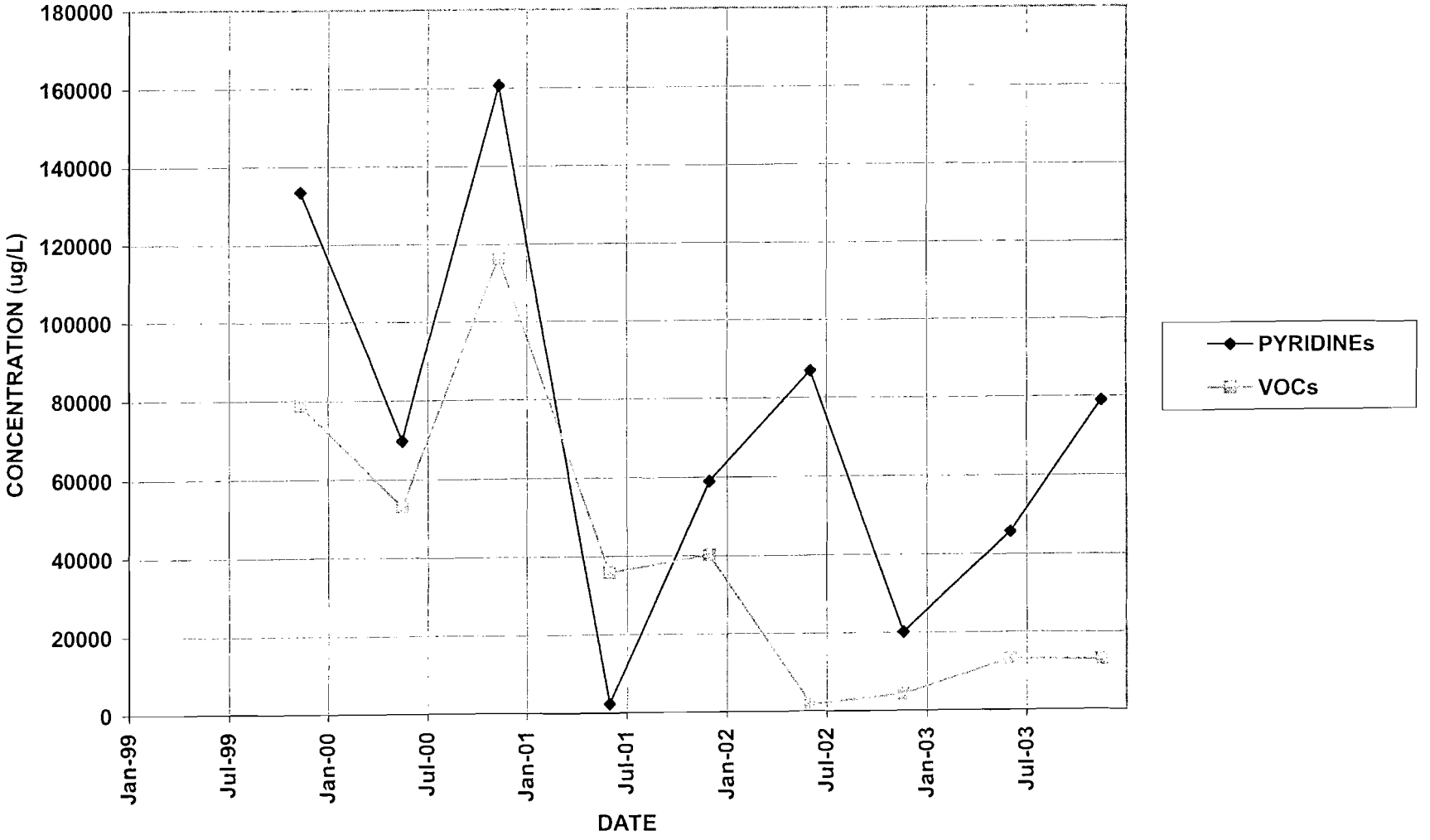


Prepared by: nmb
Reviewed by: jrb



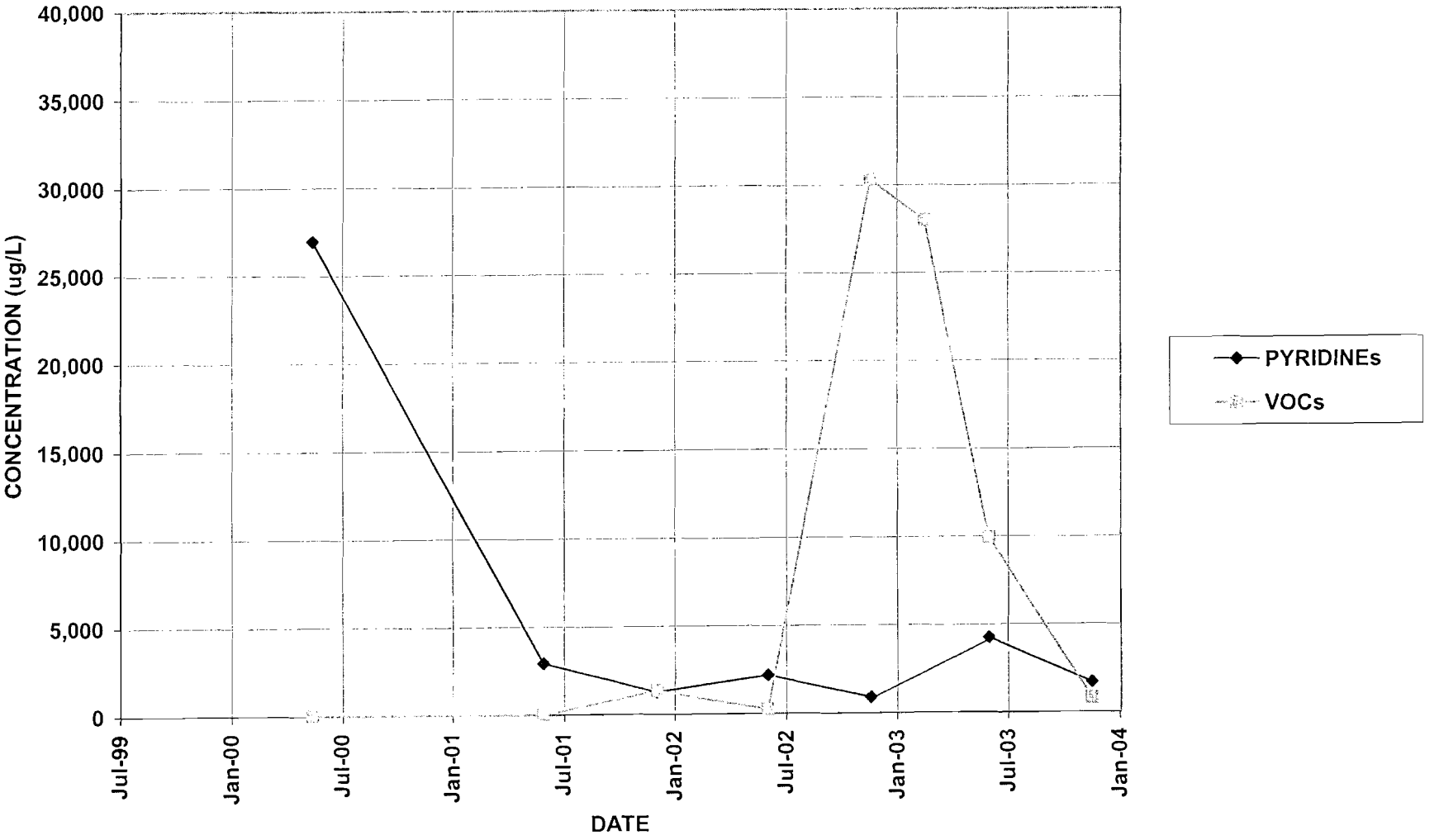
Prepared by: nmb
Reviewed by: jrb

PW10



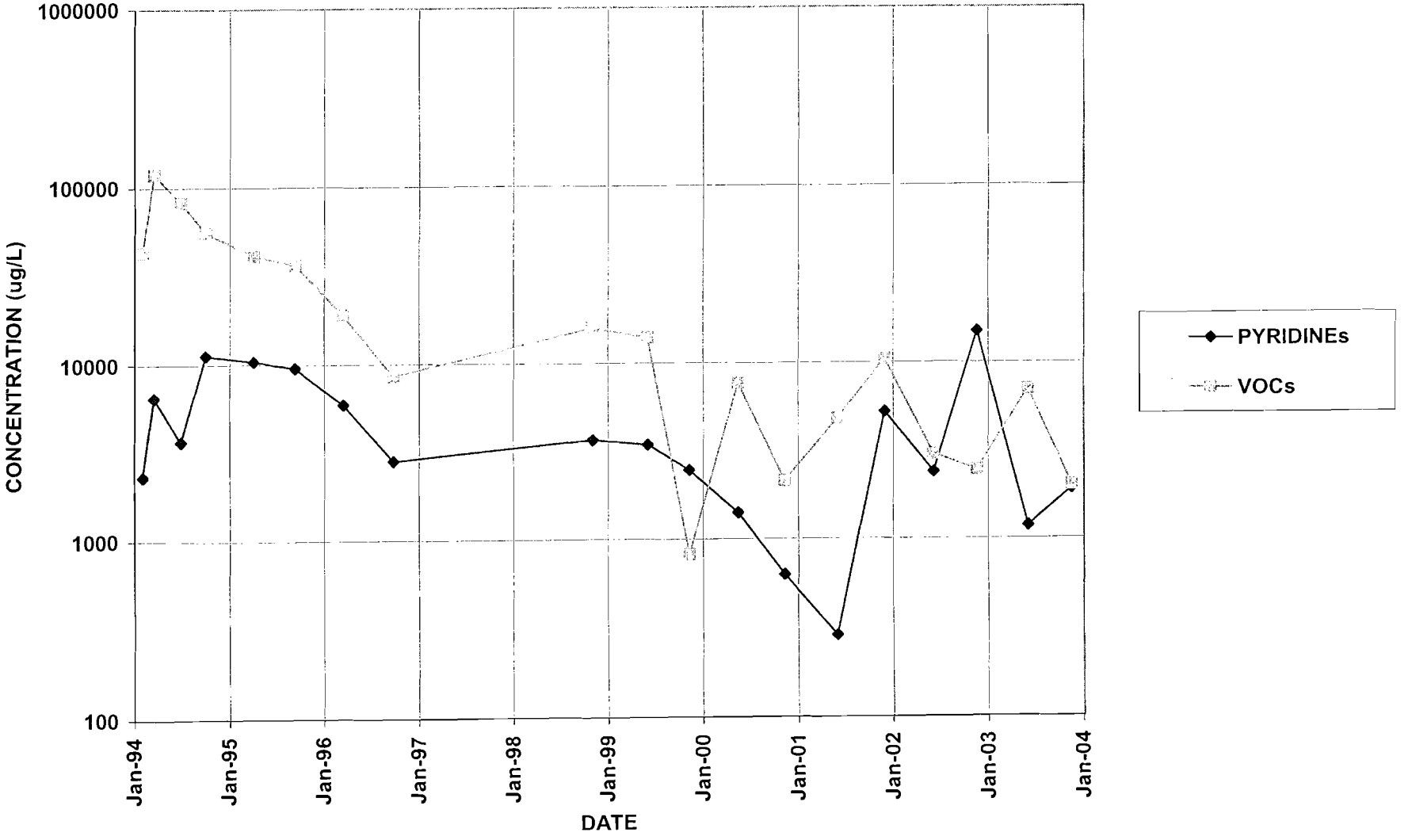
Prepared by: nmb
Reviewed by: jrb

PW11



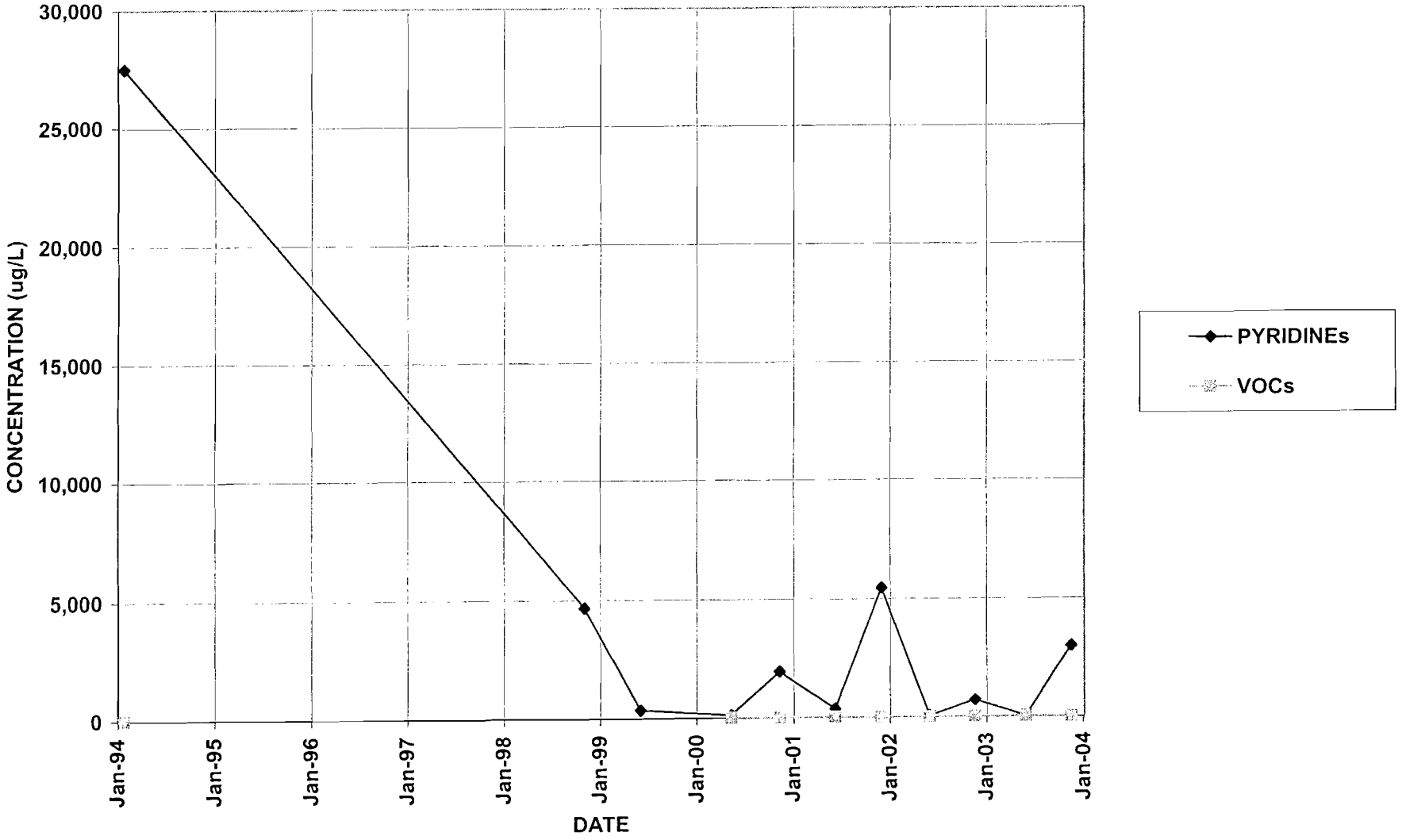
Prepared by: nmb
Reviewed by: jrb

PW12 (Formerly BR-101)



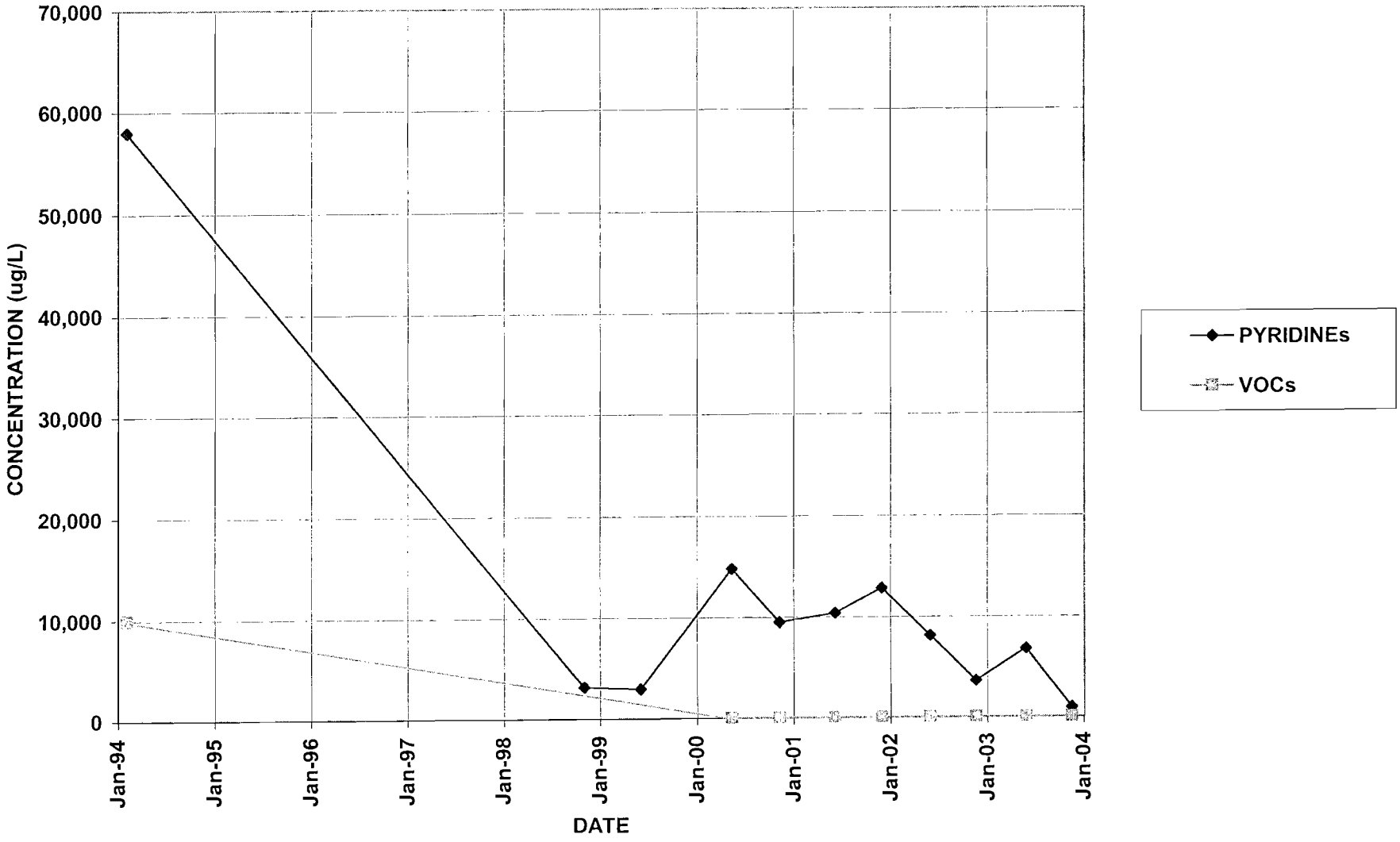
Prepared by: nmb
Reviewed by: jrb

PZ-101



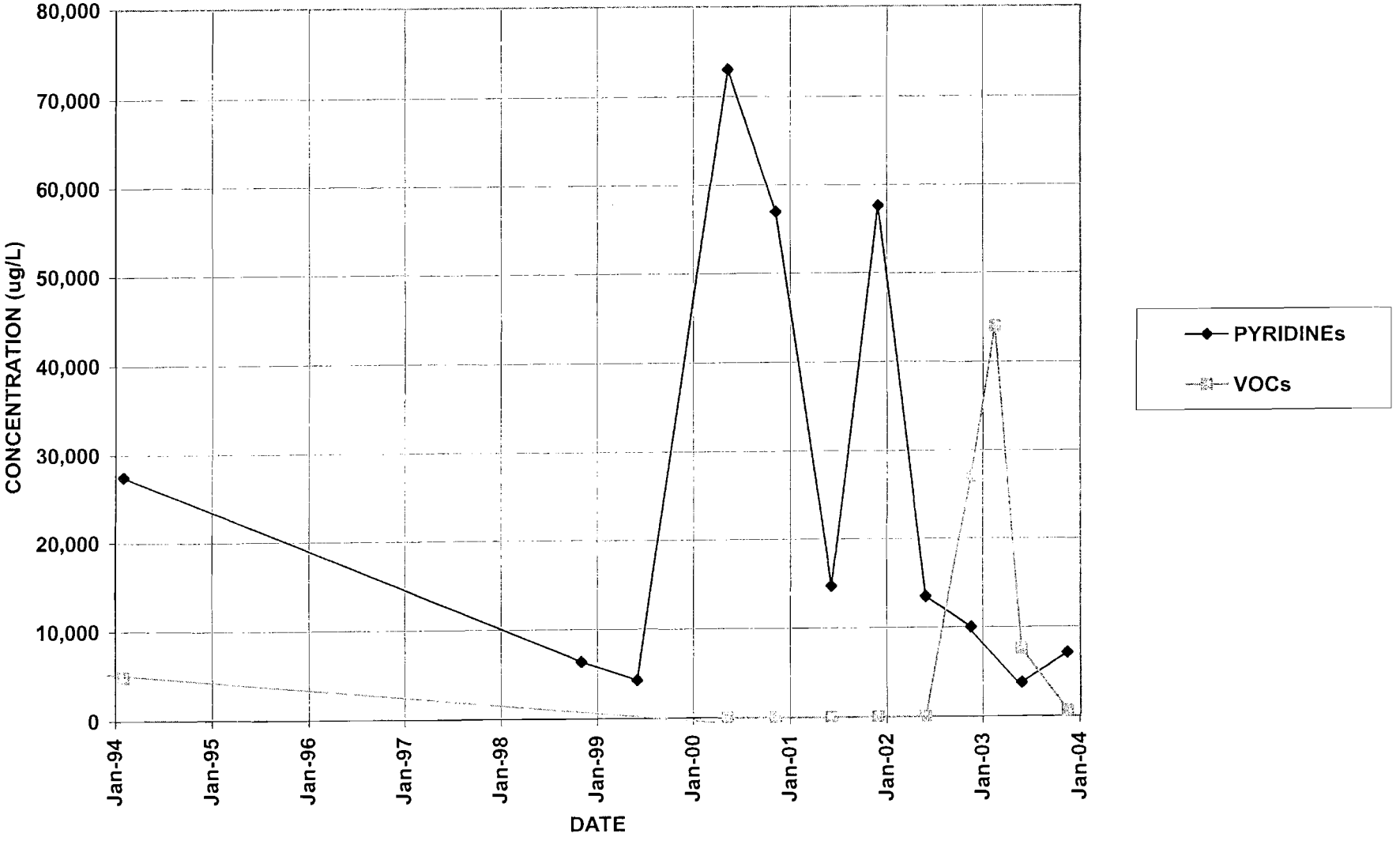
Prepared by: nmb
Reviewed by: jrb

PZ-102



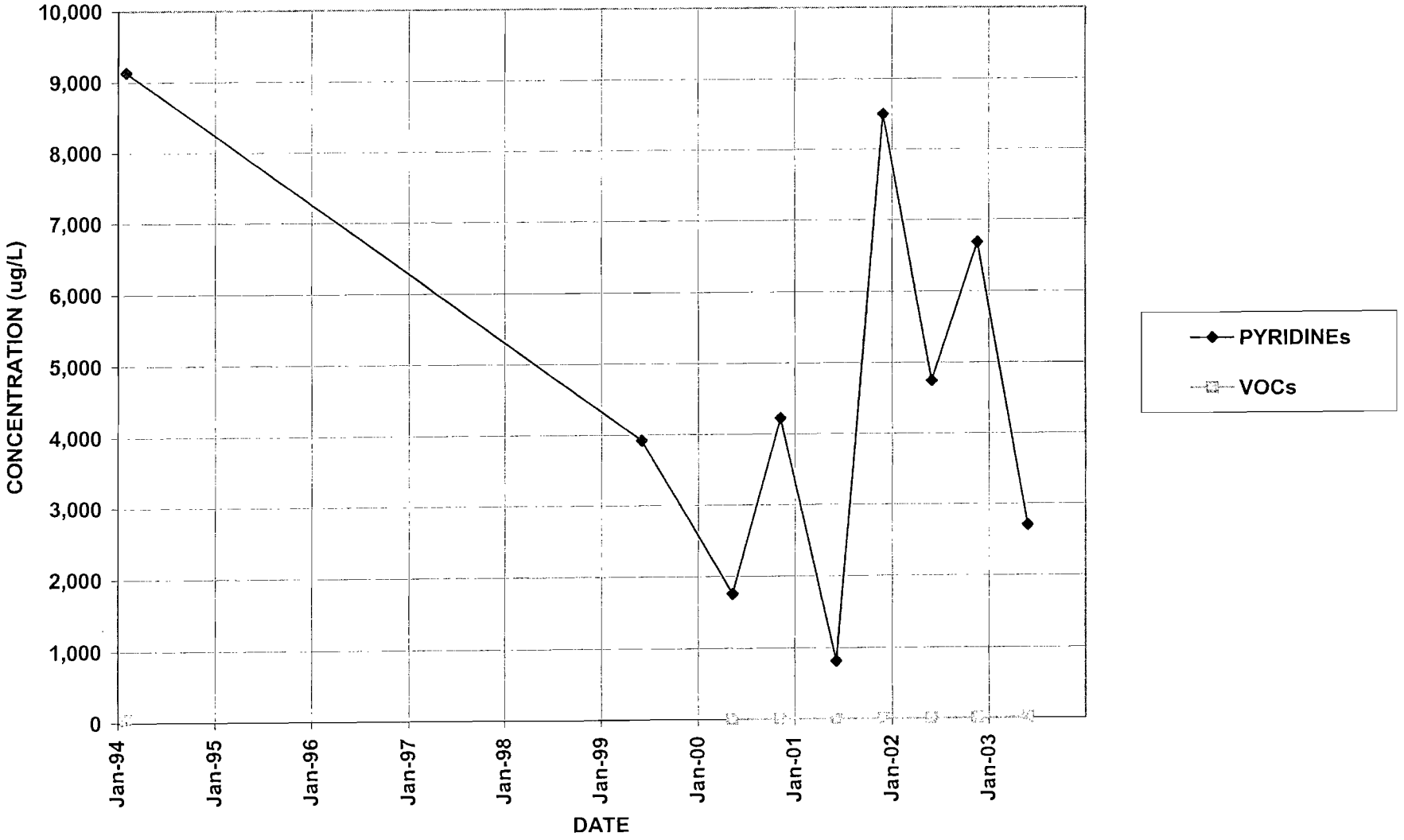
Prepared by: nmb
Reviewed by: jrb

PZ-103



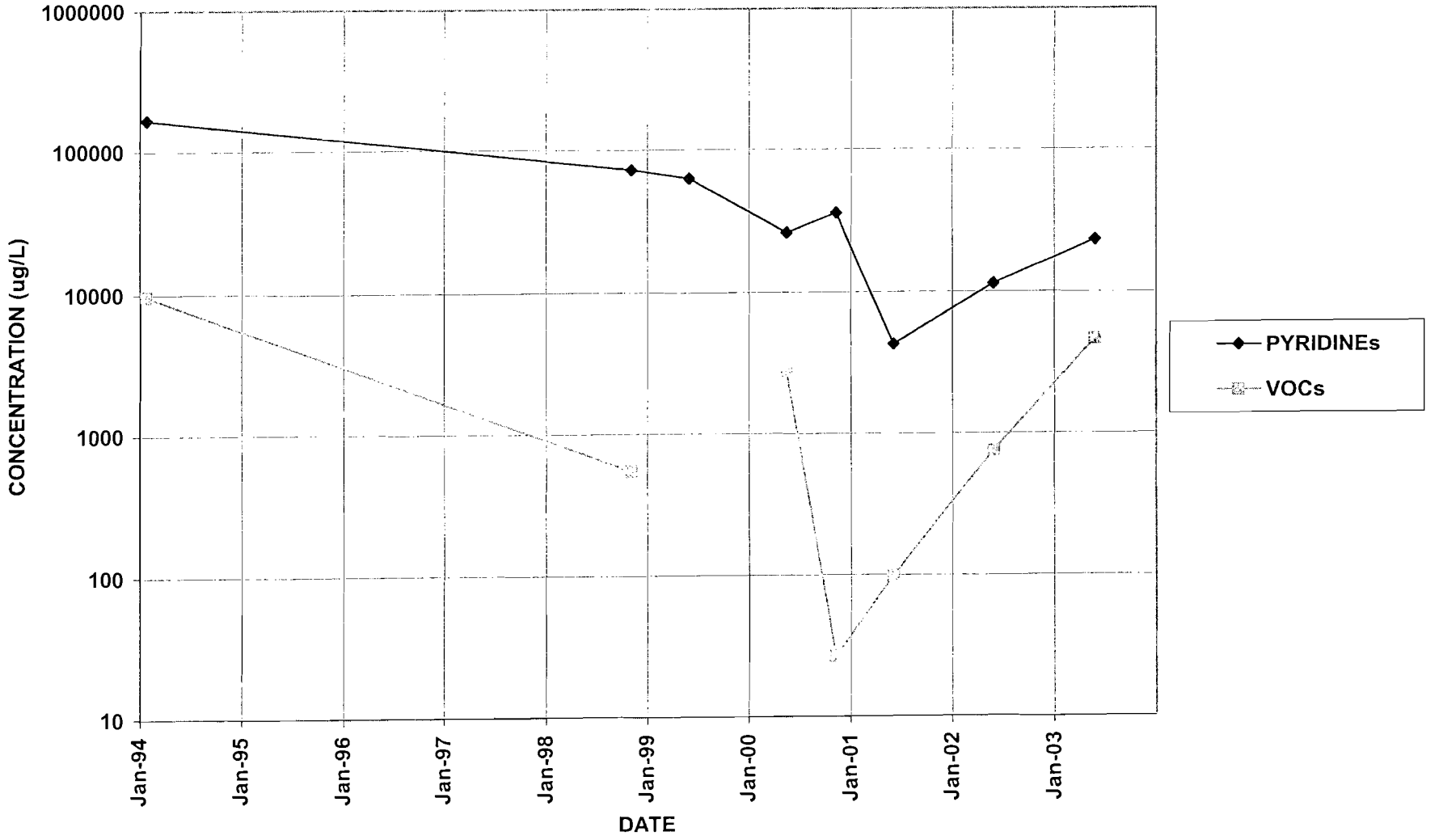
Prepared by: nmb
Reviewed by: jrb

PZ-104



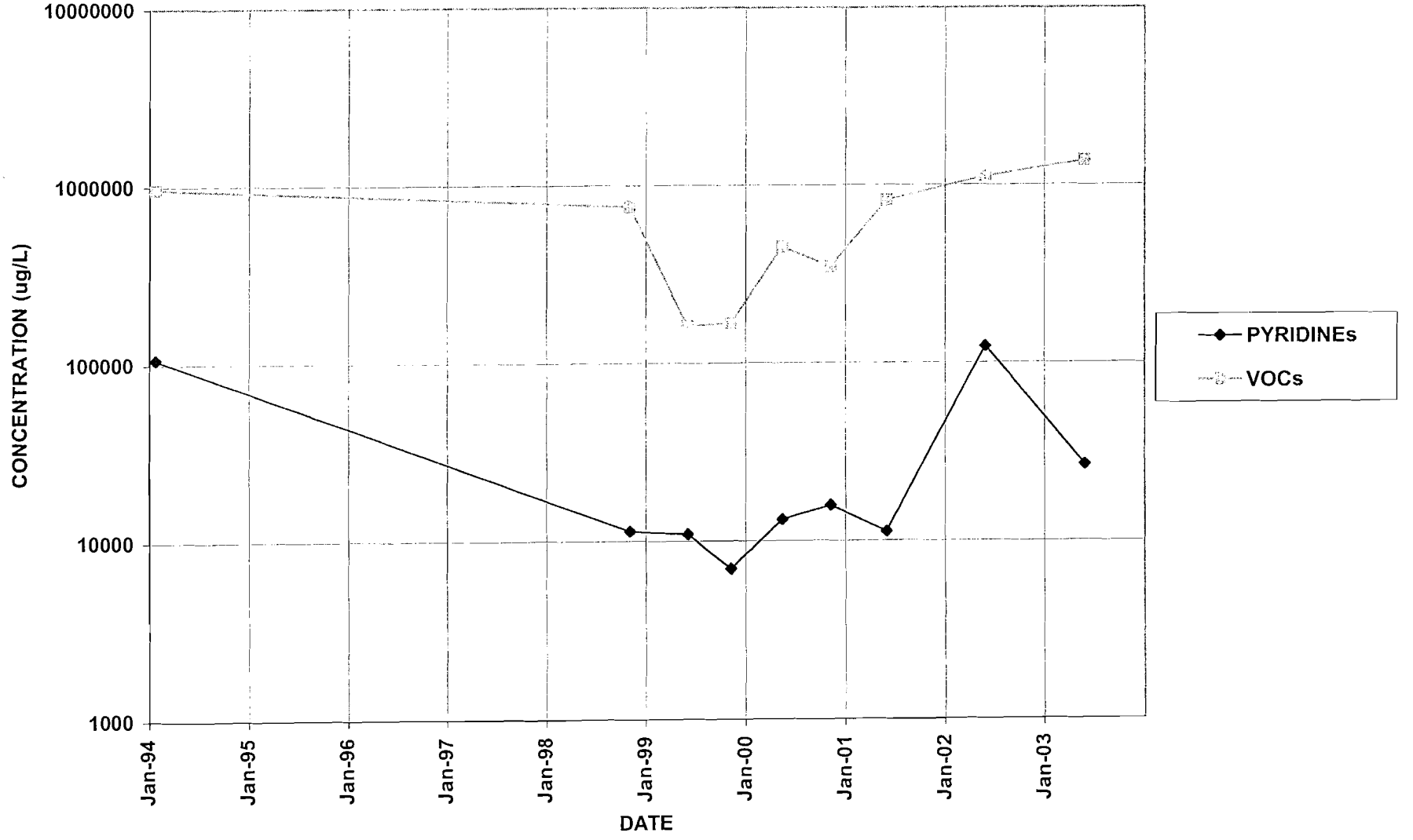
Prepared by: nmb
Reviewed by: jrb

PZ-105



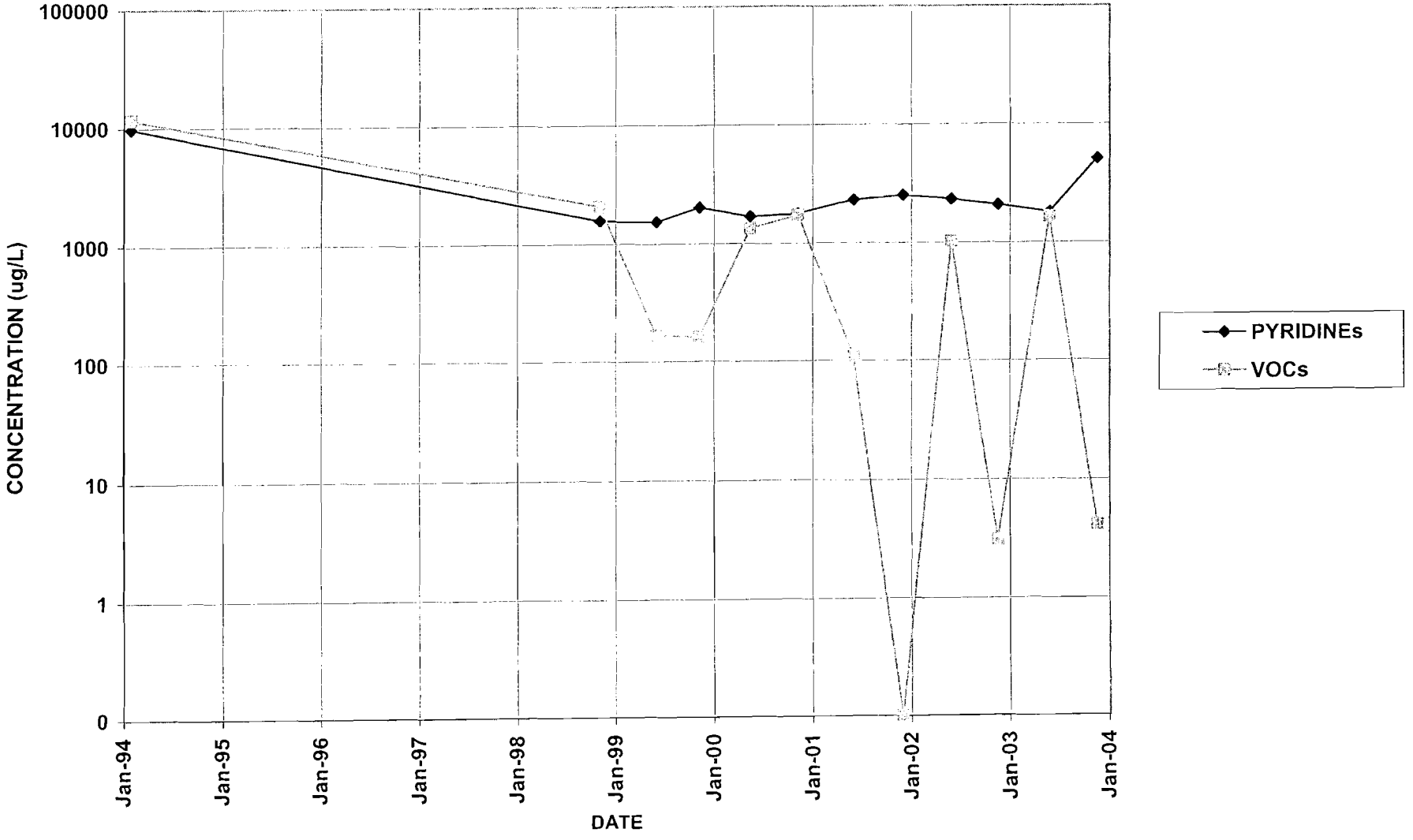
Prepared by: nmb
Reviewed by: jrb

PZ-106



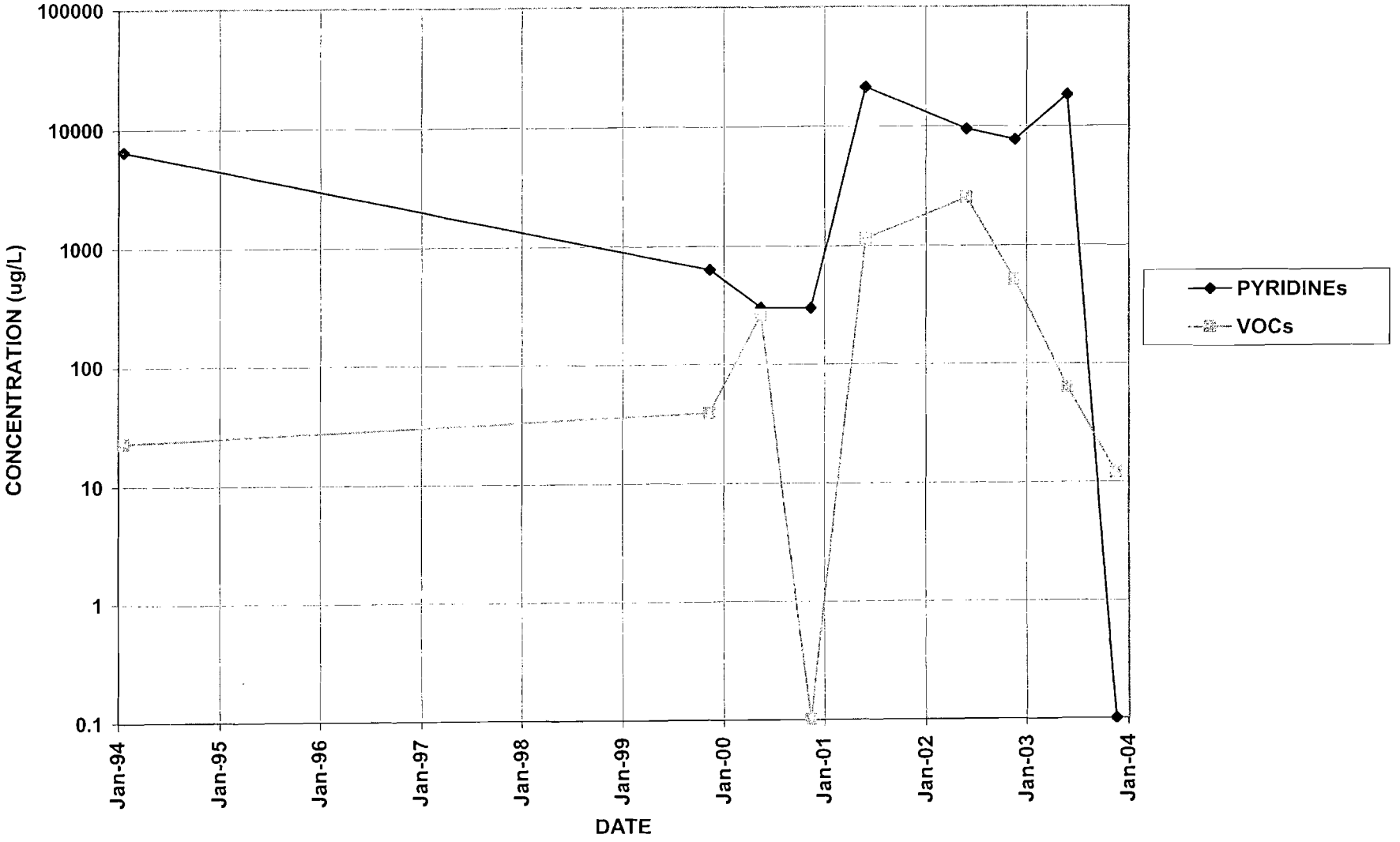
Prepared by: nmb
Reviewed by: jrb

PZ-107



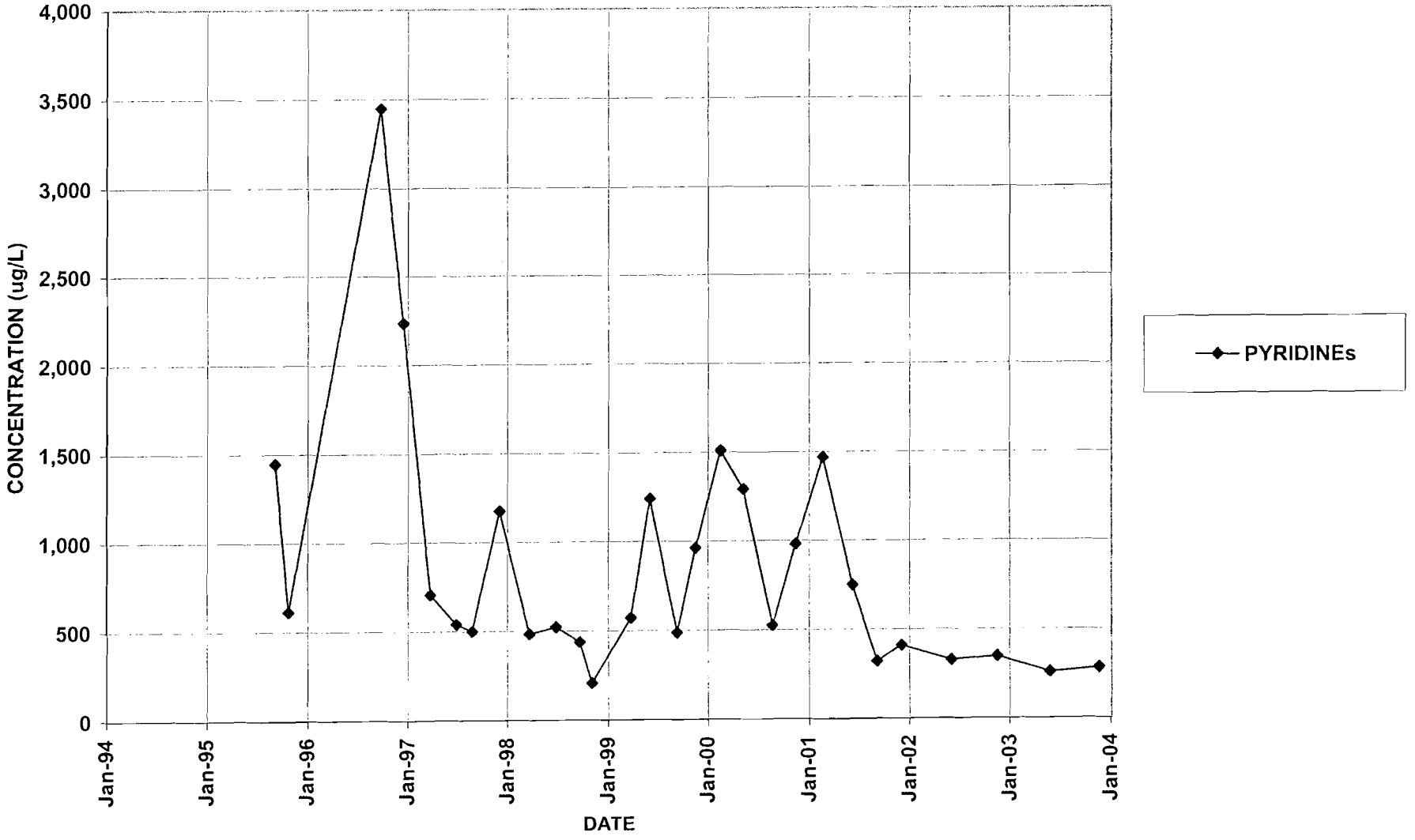
Prepared by: nmb
Reviewed by: jrb

S-3



Prepared by: nmb
Reviewed by: jrb

QS-4 (QUARRY SEEP)



Prepared by: nmb
Reviewed by: jrb