SURFACE WATER AND GROUNDWATER MONITORING PROGRAM
4th QUARTER 2000 MONITORING REPORT

ARCH CHEMICALS
ROCHESTER PLANT SITE
ROCHESTER, NEW YORK

ARCH CHEMICALS, INC.
CHARLESTON, TENNESSEE

FEBRUARY 2001

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February 2001

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

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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 from November 7, 2000 through November 29, 2000. Also included as an Appendix to this report are the results of surface water sampling from the Barge Canal and the Dolomite Products quarry conducted in August 2000.

During this most recent sampling event, samples from a total of 44 groundwater monitoring wells, five canal locations, and three locations associated with the quarry seep and outfall were collected and analyzed by Severn Trent Laboratories in Amherst, New York. In addition, groundwater elevations were measured and used to create piezometric contour maps for each water-bearing zone.

Groundwater analytical results were compared with previous average concentrations from selected on-site and off-site wells. In general, most wells continue to show concentrations that are lower than the average from prior sampling events. However, elevated (above historical averages) concentrations of site related constituents were measured in several overburden and bedrock wells (e.g., BR-3, PZ-106, PZ-107, E-1, E-3) within the southern and southeastern portion of the plant site. With minor exception (e.g. BR-106), off-site wells show constituent concentrations below historical means.

Chloropyridines were not detected in any of the samples collected from the Barge Canal. Samples from the quarry seep and quarry outfall contained chloropyridines at concentrations lower than historical means.

1.0 INTRODUCTION

In accordance with the Order on Consent (Order) executed between Olin Corporation and New York State Department of Environmental Conservation (NYSDEC), effective August 23, 1993 and transferred to Arch Chemicals, Inc. (Arch) on February 15, 1999, this report has been prepared to present the results of the quarterly groundwater and surface water monitoring program.

Fifty-two groundwater, surface water, and seep samples were collected from off-site and on-site locations from November 7, 2000 through November 29, 2000 for analysis of selected chloropyridines and volatile organic compounds (VOCs).

2.0 SAMPLE COLLECTION AND ANALYSIS

2.1 GROUNDWATER

Groundwater samples were collected from off-site wells, on-site wells and piezometers for analysis of selected chloropyridines (2-chloropyridine, 2,6-dichloropyridine, 3-chloropyridine, 4-chloropyridine, pyridine, and p-fluoroaniline) and target compound list (TCL) volatile organic compounds (VOCs). This sampling event constitutes the last quarterly monitoring event for 2000. Samples were collected by Severn Trent Laboratories (STL) 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 was collected with the low flow/low stress purging technique from most of the wells using submersible or peristaltic pumps. Because of significant suspended solids inside wells along the Barge Canal that causes problems for submersible pumps, wells BR-108, BR-111D, BR-112A, BR-112D, BR-113D, and MW-108 were sampled with stainless steel bailers after purging the standing water volume a minimum of three times. Samples were obtained for all scheduled groundwater sampling locations, with the following exceptions: BR-9, PW-11, and MW-108. Field observation notes for PW-11 indicate that sample technicians were unable to obtain a sample from the well due to piping directly connected to the underground recovery system. The sample from BR-9 was not obtained due to an insitu pump malfunction. Monitoring well MW-108 is an extremely low-yield well, and provided only enough water for VOC sampling; therefore, the chloropyridine sample was not collected at this location.

Groundwater piezometric elevations were measured on November 6, 2000. 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 sampling were conducted as part of an on-going quarterly monitoring program for the Arch Rochester site. Eight canal and quarry surface water samples were collected by and submitted to Severn Trent Laboratories (STL) on

November 14, 2000 for selected chloropyridine analysis. The quarry outfall (QO-2) and quarry seep (QS-4) samples were also analyzed for TCL VOCs. The locations sampled during this quarter are listed below and are shown on Figures 6 and 7.

Canal Samples	Quarry Samples
SW-1	QS-4 (Quarry Seep)
SW-2	QO-2 (Quarry Outfall)
SW-3	
SW-6	
SW-12	
QO-2S1 (100 ft south of QO-2)	

2.3 Analytical Procedures

The analytical procedures, data review findings, and validated data for the November 2000 groundwater and surface water monitoring event are discussed in the following paragraphs.

Groundwater 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 µg/L, respectively, for undiluted samples.

2.4 Quality Control

All laboratory analysis results were reviewed and qualified following USEPA Region II modifications to "Laboratory Data Validation Functional Guidelines for Validating Organic Analyses" (USEPA, 9/1994). The following summarizes the chemistry review findings in accordance with these guidelines.

Groundwater. Sample results were reviewed for holding time compliance, surrogate standard recoveries, blank contamination, matrix spike blank/matrix spike blank duplicate (MSB/MSBD), and matrix spike/matrix spike duplicate (MS/MSD) accuracy and precision.

Based on the information provided by the laboratory, the overall data quality for both VOCs and the selected pyridine analysis appears to be adequate. Results reported for the chloropyridine analysis are a compilation of results from several analytical runs to best represent the most usable data for a given compound. In addition to reporting chloropyridine sample data, a 5 nanogram (ng) low end line check is conducted with every batch of semivolatile (chloropyridine) samples. The average percent recovery of six 5 ng line checks for the selected pyridines was 181%. This high recovery suggests sample results reported below the laboratory reporting limit of 10 ug/L may be biased high and are qualified as estimated (J).

Analytical holding times were met for all samples; MS/MSD and MSB/MSBD recoveries and relative percent differences (RPDs) were within QC limits with the exception of sample B-7. Target compounds were not detected above reporting limits in laboratory method

blanks, trip blanks, or equipment rinseate blanks, with exception of the trip blank sampled on November 8, 2000.

Chemist review findings and qualifying statements are as follows:

- Samples BR-113 and BR-113D were originally sampled on November 7, 2000, but were not analyzed due to missed extraction hold time. These locations were re-sampled on November 29, 2000 and extracted within the proper 7-day hold time.

- The trip blank sampled on November 8, 2000 for VOCs contained chlorobenzene at 1.3 J ug/L. Samples associated with this trip blank did not contain chlorobenzene; therefore samples were not affected.

- Due to high concentrations of target compounds, some samples required dilutions. In a few instances, target compounds in the highest dilution were below the quantitation limit (QL). In these cases, results were reported from a lower dilution. Concentrations that exceeded the instrument calibration range were qualified as "J".

Surface Water. Quality control results were acceptable for the November 2000 Canal and quarry surface water monitoring program. Laboratory results did not require any qualifying statements.

In summary, results qualified as estimated (J) by either the laboratory or during data review are not considered to have a negative impact on data usability.

3.0 ANALYTICAL RESULTS

3.1 GROUNDWATER

The validated results from the November 2000 groundwater monitoring event are provided in Tables 2 and 3. Table 4 provides a comparison of the November 2000 analytical results for selected chloropyridines and VOCs in representative wells to mean concentrations since 1995 (March 1995 through May 2000). Long term trends for both selected chloropyridines and VOCs are also presented as time-series plots for representative wells in Appendix A. A summary of the analytical findings is presented below by parameter class.

3.1.1 On-site Groundwater

Selected Chloropyridines. One or more of the selected chloropyridines (2-chloropyridine, 2-6-dichloropyridine, and 3-chloropyridine) were detected above sample quantitation limits in groundwater samples from all the on-site wells. Concentrations of chloropyridines ranged from estimated low-level micrograms per liter (µg/L) to 500,000 µg/L (sum of 3 highest pyridine concentrations). Excluding PW10, PW11, and PW12, 6 of the 12 on-site wells sampled in November 2000 and tracked from March 1995 to May 2000, show selected chloropyridines concentrations above the mean for the prior

monitoring events. The six on-site wells showing selected chloropyridines concentrations that are greater than the mean were:

BR-3	BR-102
PZ-106	PZ-107
E-1	E-3

It should be pointed out that BR-102 is not a routinely sampled well. This well was sampled in lieu of BR-9, which was not operating at the time of the sampling event due to a pump malfunction.

Chloropyridines 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. As shown on Figure 8, concentrations of total chloropyridines exceeding 10,000 µg/L are present in on-site wells and in two wells (PZ-103, and BR-106/MW-106) located due west of the Site. In addition, total chloropyridines exceeding 1000 µg/L are present in overburden (E-1 and S-3) and bedrock (PZ-107) wells immediately inside the southeast boundary of the Arch property.

Selected VOCs. Concentrations of VOCs range from not detected to thousands of µg/L for several site-related contaminants (carbon tetrachloride, chloroform, methylene chloride, tetrachloroethene, and trichloroethene). Of the 12 wells sampled in November 2000 and tracked from March 1995 to May 2000 (exclusive of PW10, PW11, and PW12), 10 show VOCs to be lower than the mean for the prior monitoring events. Wells BR-3 and PZ-107 show selected VOCs concentrations that are greater than the mean.

Selected VOCs distribution in groundwater is shown as a set of concentration contours on Figure 9. These contours were also developed using both overburden and bedrock groundwater data. Concentrations and the distribution of VOCs resemble those from the prior two sampling events.

3.1.2 Off-site Groundwater

Selected Chloropyridines. One or more of the selected chloropyridines (2-chloropyridine, 2-6-dichloropyridine, and 3-chloropyridine) were detected above sample quantitation limits in groundwater samples in 16 of the 24 off-site wells. Concentrations of total selected chloropyridines detected ranged from estimated low-level micrograms per liter (µg/L) to approximately 57,000 µg/L (PZ-103). Of the 17 off-site wells sampled in November 2000 and tracked from March 1995 to May 2000, one well (BR-106) shows selected chloropyridines concentrations greater than the mean for the prior monitoring events.

Chloropyridines distribution in off-site groundwater within close proximity of the Arch Plant are included in the concentration contours on Figure 8.

Selected VOCs. Concentrations of total selected VOCs range from not detected to 7.4 µg/L for several site-related contaminants (carbon tetrachloride, chloroform, methylene chloride, tetrachloroethene, and trichloroethene). Of the 15 wells sampled in November 2000 and tracked from March 1995 to May 2000, two wells, BR-105 and BR-114, show slight exceedances over the mean for the prior monitoring events. Wells BR-103, BR-108,

MW-108, and BR-124D show no selected VOC detections for the November 2000 and prior sampling events since March 1995.

Selected VOCs distribution in off-site groundwater is included in the concentration contours on Figure 9. None of the off-site wells show total selected VOCs concentrations above 10 µg/L.

3.2 SURFACE WATER

The results from the November 2000 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 following selected chloropyridines and VOCs were detected:

LOCATION	QO-2	QS-4
PARAMETER[1]		
2,6-Dichloropyridine	8 J	160
2-Chloropyridine	17	820
Chlorobenzene	ND (< 5)	1.5 J

Notes:

J = The positive result reported for this analyte is a quantitative estimate (below sample quantitation limit, but above method detection limit).

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

All selected chloropyridines concentrations are below historical average concentrations.

3.2.2 Barge Canal

Selected chloropyridines were not detected in any of the surface water samples (QO-2S1, SW-1, SW-2, SW-3, SW-6, and SW-12) from the Erie Barge Canal.

4.0 OTHER ISSUES

New containment well PW-11, located adjacent to monitoring well BR-8, has been operating since August 2000. The yield of this well is lower than expected, less than one gallon per minute. Arch is currently investigating whether this is the result of equipment and/or piping limitations, or if the well is just a poor producer of water.

New recovery wells PW-10 and PW-12 (BR-101) have been equipped with pumps and controllers, and will be activated as soon as discharge lines are prepared with adequate

capacity to handle the additional flow. The Rochester plant is currently working on these hook-ups.

Arch continues to evaluate the groundwater extraction and treatment system with the goal of increasing the total groundwater pumping rate of the system. Several pumps and piping runs have been identified for maintenance or upgrading, and the Rochester plant is in the process of implementing these improvements.

Arch has begun its initial planning for installation of the overburden groundwater collection trench that was proposed in the January 2000 Feasibility Study. This trench will be located to control migration of potentially-contaminated overburden groundwater along the south and southeasterly property boundaries of the plant, where piezometric contours suggest that continued off-site groundwater movement may be occurring in the overburden zone.

5.0 NEXT MONITORING EVENTS

The next monitoring event will occur in February 2001 and will include surface water and seep sampling in the Erie Canal and at the Dolomite Products quarry. This will be followed in May 2001 with a full monitoring event consisting of surface water, seep, and groundwater sampling.

Table 7 shows the current monitoring program for the Arch Rochester site.

Figures

LEGEND

ARCH PROPERTY

HR-114 BEDROCK WELL

N

I-390

ERIE BARGE CANAL

MCKEE ROAD

FIRTH RIXSON

ARCH

KODAK

AID TO HOSPITALS

AMERICAN RECYCLE

BUFFALO ROAD

MW-107/BR-107

MW-108/BR-108

PZ-102

PZ-103

BR-111/111D

MW-106/BR-106

BR-112/112D

BR-105/BR-105D

MW-104 /BR-104

MW-103/BR-103

MW-114/BR-114

HOWARD ROAD

DOLOMITE PRODUCTS QUARRY

MAIN EXTENT OF WATER-BEARING FRACTURE IN QUARRY WALL

MORIE WELL

12-6

8-6

7-6

CUMBERLAND FARMS PETROLEUM TERMINAL

OW-105

11-6

RW-1

9-6

10-6

13-4

OW-102A

BR-122-D

OW-103

NESS-W

NESS-E

BR-113/113D

LEXINGTON

GENERAL RAIL SIGNAL CO.

PFAUDLER

BR-117D

BR-117

BR-121D

BR-118

BR-118D

BR-120D

BR-119D

BR-123-D

BR-116D

BR-116

BR-124-D

LETTINGTON ROAD

Scale in Feet

0 500 1000

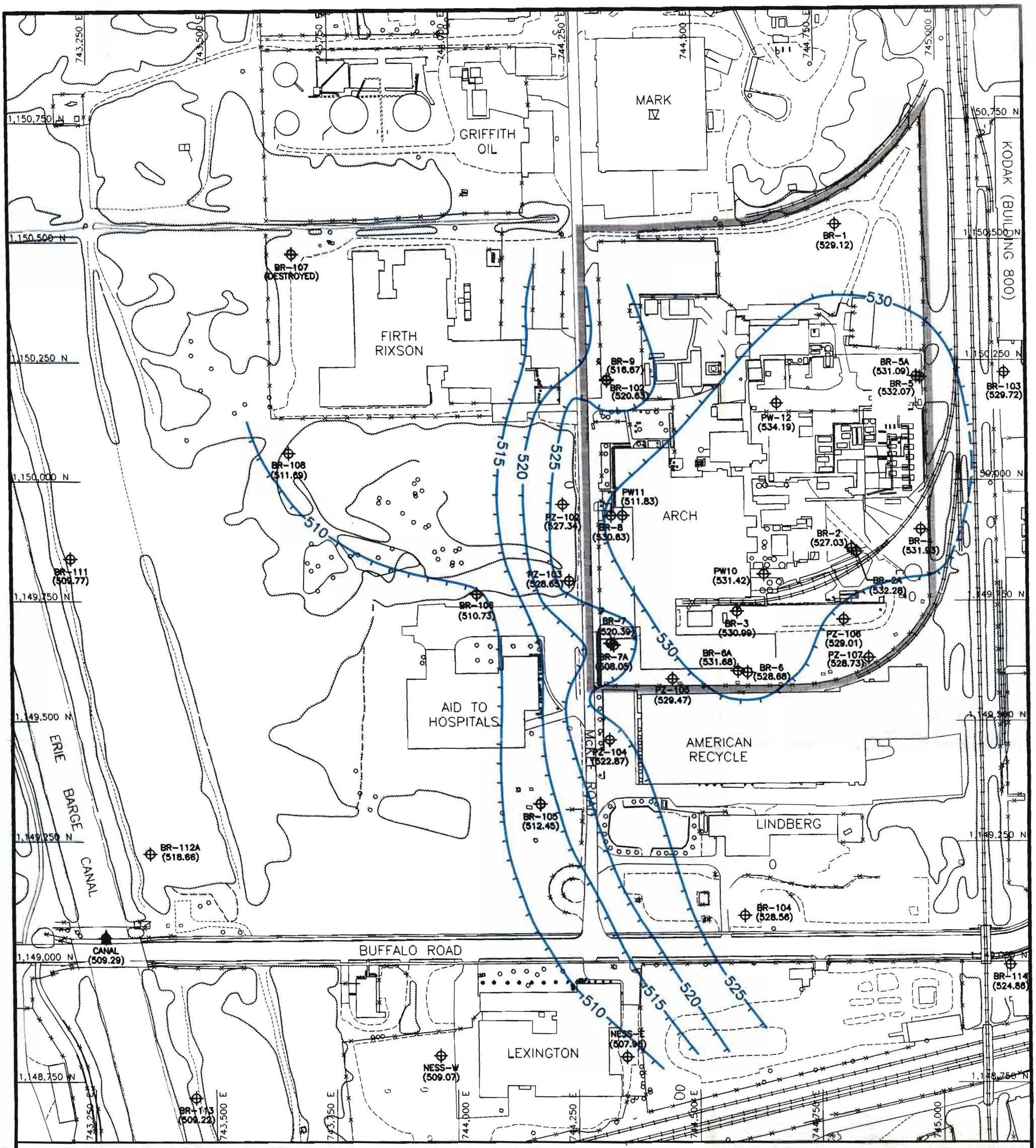
Source:
USGS Topographic Quadrangle 7.5-Minute Series;
Rochester West, N.Y., 1971 (Photorevised 1978).

FIGURE 1

OFF-SITE GROUNDWATER MONITORING WELL LOCATIONS

ARCH CHEMICALS ROCHESTER, N.Y.

T:\7311-34\7311F202.DWG 8/04/00 DEL



LEGEND

- OUTLINE OF ARCH PROPERTY BOUNDARY
- —525— BEDROCK PIEZOMETRIC ELEVATION CONTOUR (MSL)
- INTERPRETED GROUNDWATER FLOW DIRECTION (SHALLOW BEDROCK SYSTEM)
- BR-113 (511.44) PIEZOMETRIC ELEVATION AT WELL OR PIEZOMETER (MSL)
- ▲ PIEZOMETRIC ELEVATION AT SURFACE WATER MEASUREMENT POINT

NOTE:

1. WATER LEVELS MEASURED ON NOVEMBER 6, 2000

FIGURE 4

NOVEMBER 2000 BEDROCK GROUNDWATER INTERPRETED PIEZOMETRIC CONTOURS

ARCH CHEMICALS
ROCHESTER, N.Y.

CAD:\DATA1\44838\44838F04.DWG 02/01/01

LEGEND

ARCH PROPERTY

—501— DEEP BEDROCK GROUNDWATER PIEZOMETRIC ELEVATION CONTOUR (MSL)

INTERPRETED GROUNDWATER FLOW DIRECTION

BR-114D BEDROCK WELL ('D' DESIGNATES DEEP WELL)

(500.0) PIEZOMETRIC ELEVATION AT DEEP BEDROCK WELL

NOTES:

1. WATER LEVELS MEASURED NOVEMBER 6, 2000
2. DASHED CONTOURS REFLECT UNCERTAINTY

N

ERIE BARGE CANAL

I-390

HOWARD ROAD

DOLOMITE PRODUCTS QUARRY

MOREY WELL

BUFFALO ROAD

LETTINGTON DRIVE

FIRTH RIXSON

ARCH

KODAK

AID TO HOSPITALS

AMERICAN RECYCLE

CUMBERLAND FARMS PETROLEUM TERMINAL

LEXINGTON

GENERAL RAIL SIGNAL CO.

PFAUDLER

ERIE BARGE CANAL

BR-107
BR-9
BR-103
BR-108
BR-111
BR-111D (509.32)
BR-106
BR-3D (465.36)
MW-PZ-105
BR-112
BR-112D (509.27)
BR-105
BR-105D (509.76)
BR-104
BR-114
BR-113
BR-113D (509.28)
BR-122D (505.84)
BR-123D (508.35)
BR-116D (507.36)
BR-116
BR-124D (505.20)
BR-117D (496.45)
BR-117
BR-118
BR-118D (497.91)
BR-121D (495.94)
BR-120D (497.58)
BR-119D (498.95)

497 499 501 503 505 507 509

Scale in Feet
0 500 1000

Source:
USGS Topographic Quadrangle 7.5-Minute Series:
Rochester West, N.Y., 1971 (Photorevised 1978).

FIGURE 5

NOVEMBER 2000
DEEP BEDROCK GROUNDWATER
INTERPRETED PIEZOMETRIC CONTOURS

ARCH CHEMICALS
ROCHESTER, N.Y.

CAD:\DATA1\44839\44839F05.DWG 01/30/01

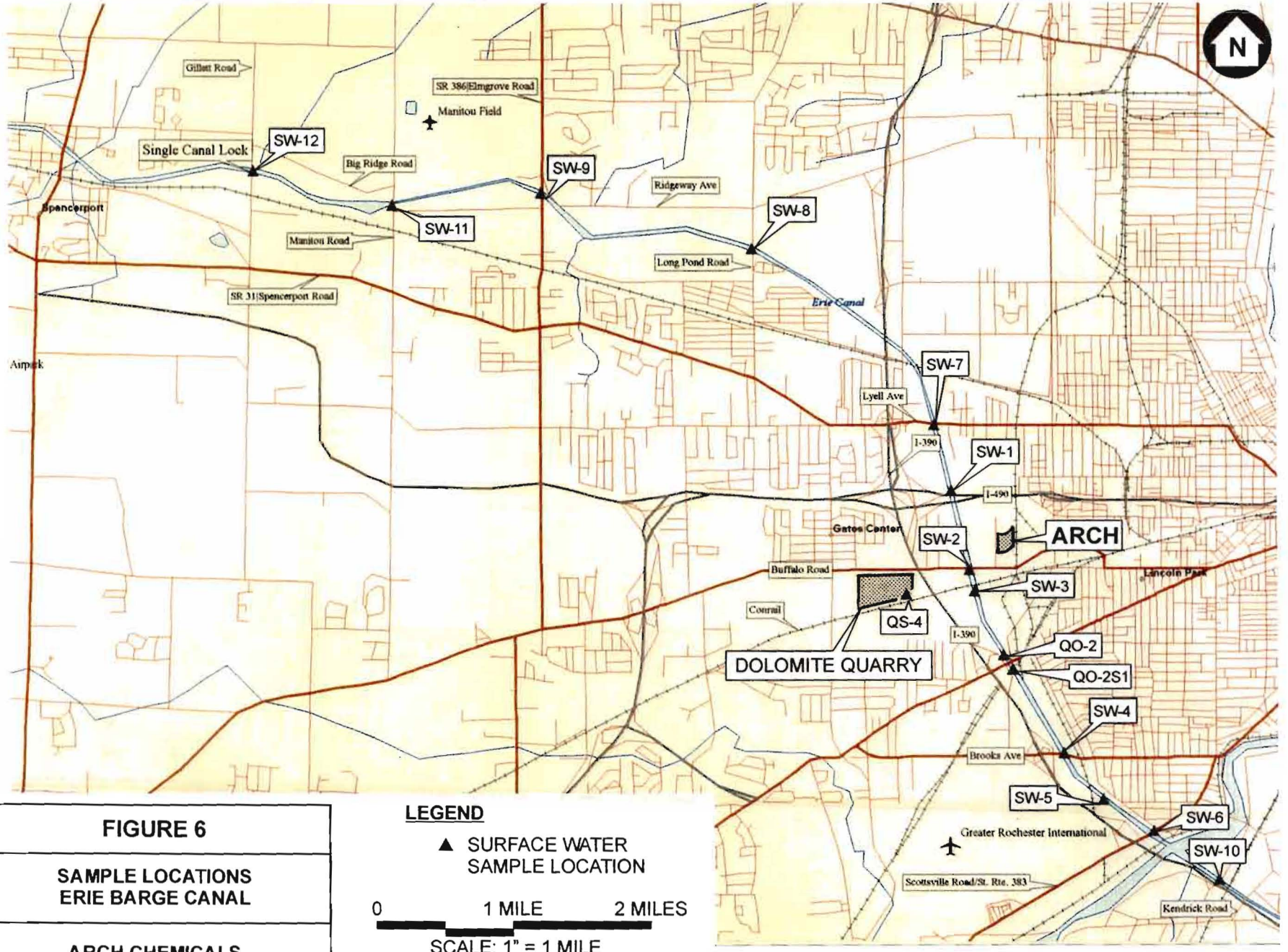


FIGURE 6

SAMPLE LOCATIONS
ERIE BARGE CANAL

ARCH CHEMICALS
ROCHESTER, N.Y.

LEGEND

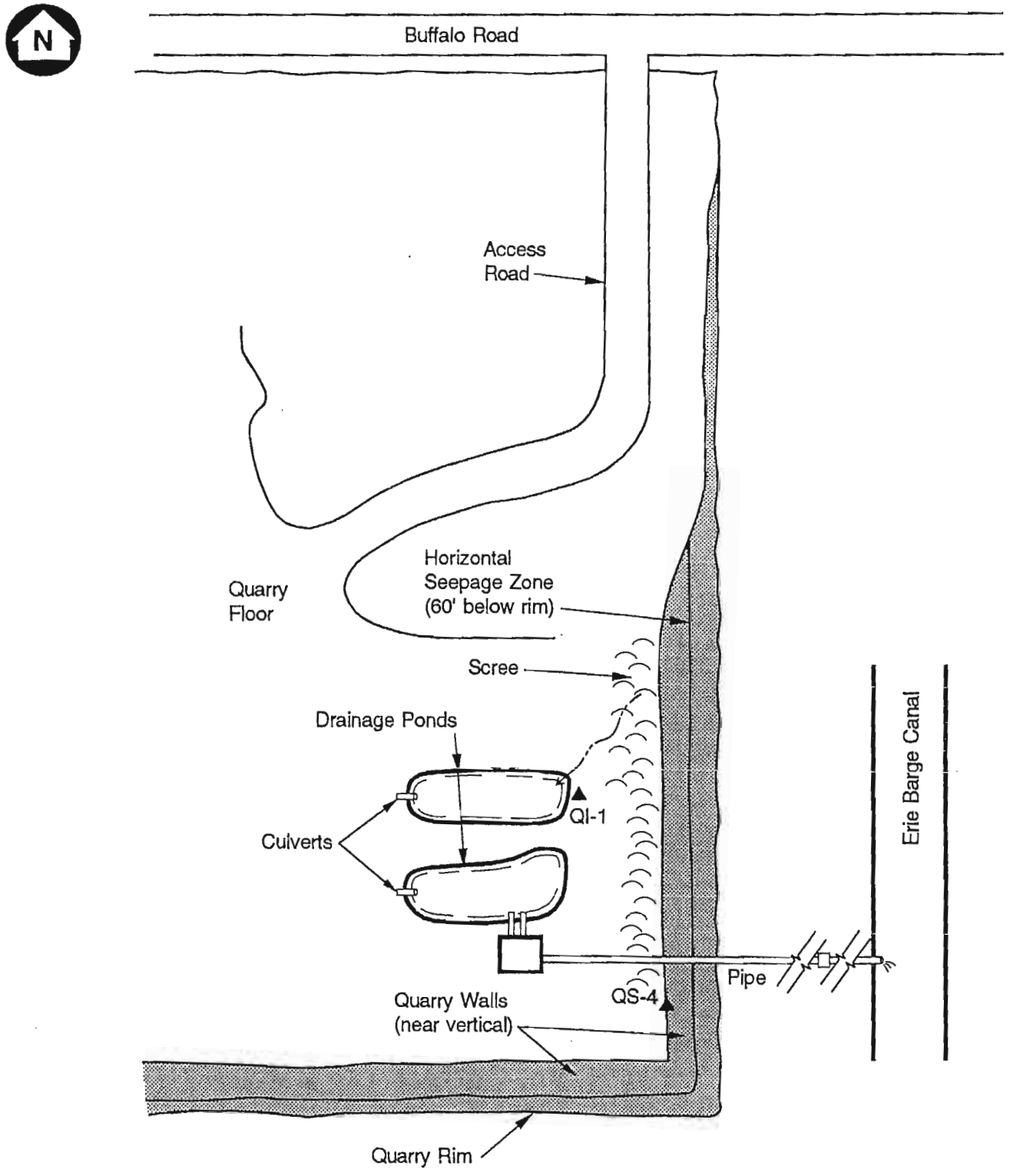
▲ SURFACE WATER SAMPLE LOCATION

0 1 MILE 2 MILES

SCALE: 1" = 1 MILE

SOURCE: DeLorme Mapping 1995

W2001008



Legend

QS-4 ▲ Seep Sample Location

QI-1 ▲ Pond Inflow Sample Location

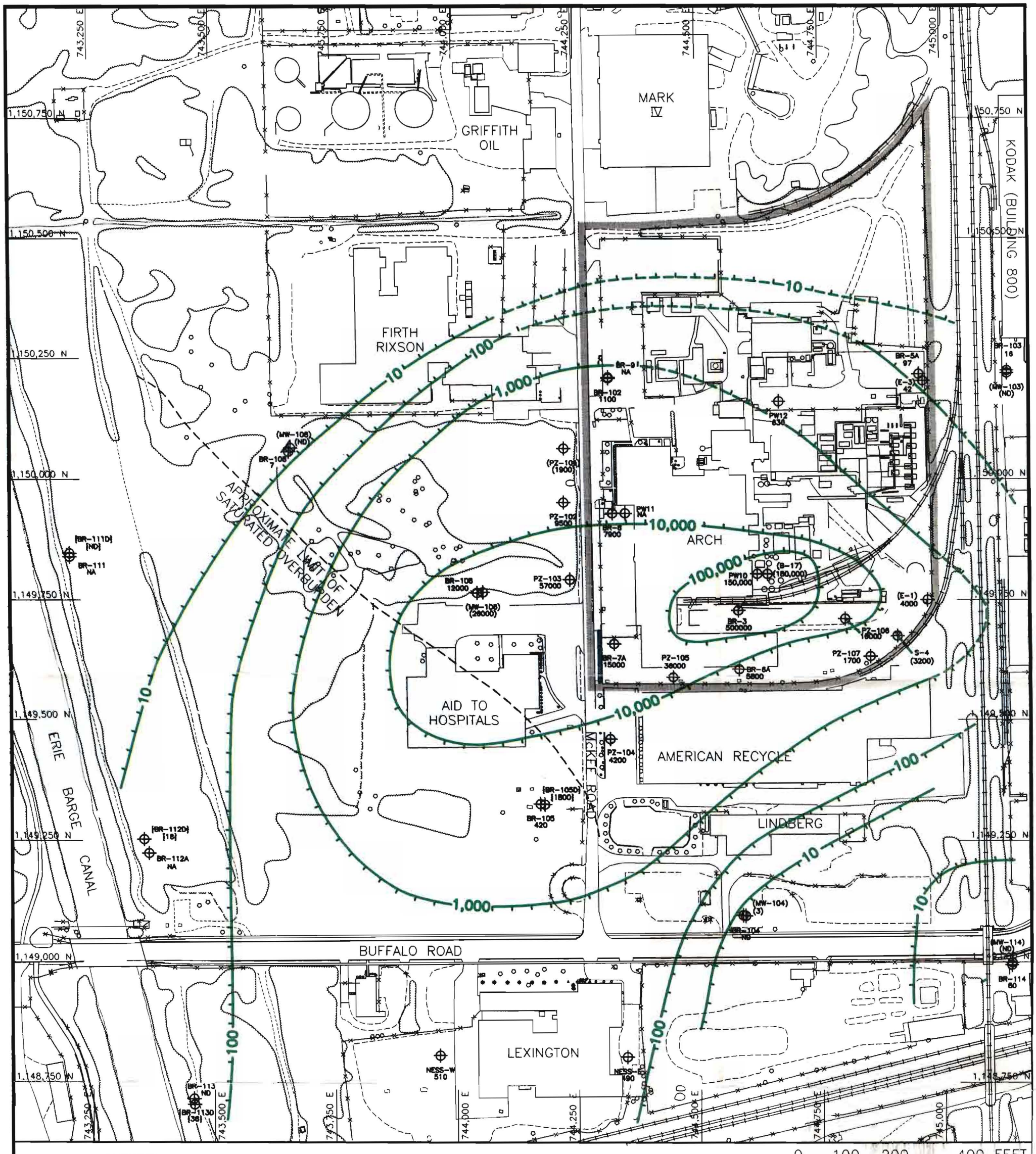
Not to Scale

FIGURE 7

SAMPLE LOCATIONS DOLOMITE PRODUCTS QUARRY

ARCH CHEMICALS
ROCHESTER, NEW YORK

W9908010(d)



LEGEND

—100— CHLOROPYRIDINES CONCENTRATION CONTOUR

DASHES INDICATE DIRECTION OF LOWER CONCENTRATION

OUTLINE OF ARCH PROPERTY BOUNDARY

{1000} DEEP BEDROCK WELL

(1000) OVERBURDEN WELL

1000 BEDROCK WELL

BR-112A NA CONCENTRATION AT SAMPLE LOCATION (ug/L)

NOTES:

1. SAMPLES COLLECTED NOVEMBER 7 TO NOVEMBER 29, 2000.
2. SELECTED CHLOROPYRIDINES CONSIST OF 2,6-DICHLOROPYRIDINE, 2-CHLOROPYRIDINE,

FIGURE 8

NOVEMBER 2000 SELECTED CHLOROPYRIDINE CONCENTRATION CONTOURS (IN BEDROCK GROUNDWATER)

ARCH CHEMICALS
ROCHESTER, N.Y.

Tables

TABLE 1
NOVEMBER 2000 SAMPLING AND ANALYTICAL PROGRAM

ARCH CHEMICALS, INC
ROCHESTER, NEW YORK

			ANALYSIS	PYRIDINES[1]	VOCs[2]
MEDIA	SITE / AREA	WELL / POINT	DATE		
Groundwater	AID TO HOSPITALS	BR-106	11/08/00	X	X
		BR-108		X	X
		MW-106		X	X
		MW-108		ns	X
		PZ-101		X	X
		PZ-102		X	X
		PZ-103		X	X
		MW-108	11/10/00	X	
	AMERICAN RECYCLE MANUF. (58 MCKEE ROAD)	PZ-104	11/08/00	X	X
	ARCH ROCHESTER	PZ-106	11/08/00	X	X
		PZ-107		X	X
		B-7	11/09/00	X	X
		B-9		X	X
		E-1		X	X
		E-3		X	X
		PZ-105		X	X
		B-17	11/10/00	X	X
		BR-102		X	X
		BR-3		X	X
		BR-6A		X	X
		BR-8		X	X
		BR-9		ns	ns
		PW10		X	X
		PW11		ns	ns
		PW12		X	X
		BR-5A	11/13/00	X	X
		BR-7A		X	X
		S-3		X	X
		S-4		X	X
	DOLOMITE PRODUCTS, INC.	QS-4	11/14/00	X	X
	EASTMAN KODAK (FORMERLY	BR-103	11/07/00	X	X
		MW-103		X	X
	ERIE BARGE CANAL	BR-111	11/07/00	X	X
		BR-111D		X	X
		BR-112A		X	X
		BR-112D		X	X
		BR-124D	11/09/00	X	X
		BR-113	11/29/00	X	
		BR-113D		X	
	JACKSON WELDING	BR-114	11/07/00	X	X
		MW-114		X	X
	LEXINGTON MACHINING	NESS-E	11/09/00	X	X
		NESS-W		X	X
	RG & E RIGHT OF WAY	BR-104	11/07/00	X	X
		MW-104		X	X
		BR-105	11/08/00	X	X
		BR-105D		X	X
Surface Water	ERIE BARGE CANAL	QO-2	11/14/00	X	X
		QO-2S1		X	
		SW-1		X	
		SW-12		X	
		SW-2		X	
		SW-3		X	
		SW-6		X	
Totals				51	43

Notes:
1) Pyridines analysis by USEPA SW-846 Method 8270C.
2) VOCs analysis by USEPA SW-846 Method 8260B.
3) ns = not sampled; field conditions prevented collection of an adequate sample

TABLE 2
NOVEMBER 2000 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	B-17		B-7		B-9		BR-102		BR-103		BR-104		BR-105	
SAMPLE DATE:	11/10/00		11/9/00		11/9/00		11/10/00		11/7/00		11/7/00		11/8/00	
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270C (µg/L)														
2,6-Dichloropyridine	14,000		590		360		150		10	U	10	U	72	J
2-Chloropyridine	160,000		1,800		1,000		980		16		10	U	350	
3-Chloropyridine	5,500		50	U	50	U	11		10	U	10	U	250	U
4-Chloropyridine	5,000	U	50	U	50	U	10	U	10	U	10	U	250	U
p-Fluoroaniline	5,000	U	50	U	50	U	56		12		10	U	250	U
Pyridine	37,000		50	U	50	U	10	U	10	U	10	U	250	U

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

TABLE 2
NOVEMBER 2000 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	BR-105D		BR-106		BR-108		BR-111		BR-111D		BR-112A		BR-112D		BR-113	
SAMPLE DATE:	11/8/00		11/8/00		11/8/00		11/7/00		11/7/00		11/7/00		11/7/00		11/29/00	
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270C (µg/L)																
2,6-Dichloropyridine	76	J	1,700	J	3	J	10	U	9	U	9	U	3	J	10	U
2-Chloropyridine	1,700		10,000		24		10	U	9	U	9	U	13		10	U
3-Chloropyridine	200	U	2,000	U	10	U	10	U	9	U	9	U	9	U	10	U
4-Chloropyridine	200	U	2,000	U	10	U	10	U	9	U	9	U	9	U	10	U
p-Fluoroaniline	200	U	2,000	U	10	U	10	U	9	U	9	U	9	U	10	U
Pyridine	200	U	2,000	U	10	U	10	U	9	U	9	U	9	U	10	U

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

TABLE 2
NOVEMBER 2000 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	BR-113D		BR-114		BR-124D		BR-3		BR-5A		BR-6A		BR-7A		BR-8	
SAMPLE DATE:	11/29/00		11/7/00		11/9/00		11/10/00		11/13/00		11/10/00		11/13/00		11/10/00	
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270C (µg/L)																
2,6-Dichloropyridine	9	U	32		10	U	40,000		61		810	J	3,400		1,200	
2-Chloropyridine	38		38		10	U	440,000		36		4,800		12,000		6,700	
3-Chloropyridine	9	U	10		10	U	17,000		10	U	1,000	U	1,000	U	500	U
4-Chloropyridine	9	U	10	U	10	U	5,000	U	10	U	1,000	U	1,000	U	500	U
p-Fluoroaniline	9	U	10	U	10	U	5,000	U	7	J	1,000	U	1,000	U	500	U
Pyridine	9	U	10	U	10	U	32,000		10	U	1,200		1,000	U	500	U

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

TABLE 2
NOVEMBER 2000 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	E-1		E-3		MW-103		MW-104		MW-106		MW-108		MW-114		NESS-E	
SAMPLE DATE:	11/9/00		11/9/00		11/7/00		11/7/00		11/8/00		11/10/00		11/7/00		11/9/00	
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270C (µg/L)																
2,6-Dichloropyridine	630		26		10	U	3	J	3,500		16	U	10	U	53	
2-Chloropyridine	3,400	J	22		10	U	10	U	22,000		16	U	10	U	440	
3-Chloropyridine	200	U	10	U	10	U	10	U	2,500	U	16	U	10	U	50	U
4-Chloropyridine	200	U	10	U	10	U	10	U	2,500	U	16	U	10	U	50	U
p-Fluoroaniline	200	U	8	J	10	U	10	U	2,500	U	16	U	10	U	50	U
Pyridine	200	U	10	U	10	U	10	U	2,500	U	16	U	10	U	50	U

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

TABLE 2
NOVEMBER 2000 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	NESS-W		PW10		PW12		PZ-101		PZ-102		PZ-103		PZ-104	
SAMPLE DATE:	11/9/00		11/10/00		11/10/00		11/8/00		11/8/00		11/8/00		11/8/00	
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270C (µg/L)														
2,6-Dichloropyridine	23	J	6,600		170		110		1,200		11,000		420	J
2-Chloropyridine	490		140,000		460		1,800		8,300		46,000		3,800	
3-Chloropyridine	50	U	5,000	U	160	U	10	U	1,000	U	5,000	U	640	U
4-Chloropyridine	50	U	5,000	U	160	U	10	U	1,000	U	5,000	U	640	U
p-Fluoroaniline	50	U	5,000	U	170		42		1,000	U	5,000	U	640	U
Pyridine	100		14,000		160	U	10	U	1,000	U	5,000	U	640	U

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

TABLE 2
NOVEMBER 2000 GROUNDWATER MONITORING RESULTS
CHLOROPYRIDINES

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	PZ-105		PZ-106		PZ-107		S-3		S-4	
SAMPLE DATE:	11/9/00		11/8/00		11/8/00		11/13/00		11/13/00	
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270C (µg/L)										
2,6-Dichloropyridine	3,600		2,800		400		260		2,900	
2-Chloropyridine	32,000		13,000		1,100		35		220	J
3-Chloropyridine	2,500	U	2,000	U	170		10	U	120	
4-Chloropyridine	2,500	U	2,000	U	100	U	10	U	10	U
p-Fluoroaniline	2,500	U	2,000	U	100	U	10	U	10	U
Pyridine	2,500	U	2,000	U	110		10	U	10	U

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

TABLE 3
NOVEMBER 2000 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	B-17		B-7		B-9		BR-102		BR-103 *		BR-104		BR-105		BR-105D		BR-106		BR-108		BR-111	
SAMPLE DATE:	11/10/00		11/9/00		11/9/00		11/10/00		11/7/00		11/7/00		11/8/00		11/8/00		11/8/00		11/8/00		11/7/00	
VOLATILE ORGANIC COMPOUNDS BY SW-846 Method 8260/5ML (µg/L)																						
1,1,1-Trichloroethane	2,500	U	5	U	5	U	5	U	12000	U	5	U	5	U	5	U	5	U	5	U	5	U
1,1,2,2-Tetrachloroethane	2,500	U	5	U	5	U	5	U	12000	U	5	U	5	U	5	U	5	U	5	U	5	U
1,1,2-Trichloroethane	2,500	U	5	U	5	U	5	U	12000	U	5	U	5	U	5	U	5	U	5	U	5	U
1,1-Dichloroethane	2,500	U	5	U	5	U	5	U	12000	U	5	U	5	U	4.3	J	22		5	U	5	U
1,1-Dichloroethene	2,500	U	5	U	5	U	5	U	12000	U	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichloroethane	2,500	U	5	U	5	U	5	U	12000	U	5	U	5	U	5	U	5	U	5	U	5	U
1,2-Dichloroethene (total)	2,500	U	5	U	5	U	4.1	J	12000	U	5	U	88		6.4		10		5	U	5	U
1,2-Dichloropropane	2,500	U	5	U	5	U	5	U	12000	U	5	U	5	U	5	U	5	U	5	U	5	U
2-Butanone	5,000	U	10	U	10	U	10	U	25000	U	10	U	10	U	10	U	10	U	10	U	10	U
2-Hexanone	5,000	U	10	U	10	U	10	U	25000	U	10	U	10	U	10	U	10	U	10	U	10	U
4-Methyl-2-pentanone	5,000	U	10	U	10	U	10	U	25000	U	10	U	10	U	10	U	10	U	10	U	10	U
Acetone	12,000	U	25	U	25	U	25	U	62000	U	25	U	25	U	25	U	25	U	25	U	25	U
Benzene	2,500	U	3.5	J	1.5	J	24		12000	U	5	U	2.9	J	7.1		79		5	U	5	U
Bromodichloromethane	2,500	U	5	U	5	U	5	U	12000	U	5	U	5	U	5	U	5	U	5	U	5	U
Bromoform	2,500	U	9.4		3	J	5	U	12000	U	5	U	5	U	5	U	5	U	5	U	5	U
Bromomethane	5,000	U	10	U	10	U	10	U	25000	U	10	U	10	U	10	U	10	U	10	U	10	U
Carbon disulfide	620	J	13		5.4		3.5	J	12000	U	5	U	5	U	2.2	J	2.7	J	5	U	5	U
Carbon tetrachloride	17,000		55		21		5	U	12000	U	5	U	5	U	5	U	5	U	5	U	5	U
Chlorobenzene	2500	U	19		6.2		94		12000	U	5	U	7		5	U	170		5	U	5	U
Chloroethane	5,000	U	10	U	10	U	10	U	25000	U	10	U	10	U	10	U	10	U	10	U	10	U
Chloroform	78,000		34		5.2		2.6	J	12000	U	5	U	5	U	5.9		2.8	J	5	U	5	U
Chloromethane	5,000	U	10	U	10	U	10	U	25000	U	10	U	10	U	10	U	10	U	10	U	10	U
cis-1,3-Dichloropropene	2,500	U	5	U	5	U	5	U	12000	U	5	U	5	U	5	U	5	U	5	U	5	U
Dibromochloromethane	2,500	U	5	U	5	U	5	U	12000	U	5	U	5	U	5	U	5	U	5	U	5	U
Ethylbenzene	2,500	U	5	U	5	U	5	U	12000	U	5	U	5	U	5	U	4.5	J	5	U	5	U
Methylene chloride	5,100		5	U	5	U	5	U	12000	U	5	U	5	U	5	U	5	U	5	U	5	U
Styrene	2,500	U	5	U	5	U	5	U	12000	U	5	U	5	U	5	U	5	U	5	U	5	U
Tetrachloroethene	1,800	J	2.4	J	2.6	J	5	U	12000	U	5	U	5	U	5	U	3.5	J	5	U	5	U
Toluene	1,500	J	5	U	1.6	J	32		12000	U	5	U	5	U	5	U	19		5	U	5	U
Total Xylenes	7,500	U	15	U	15	U	4.8	J	38000	U	15	U	15	U	2	J	4.8	J	15	U	15	U
trans-1,3-Dichloropropene	2,500	U	5	U	5	U	5	U	12000	U	5	U	5	U	5	U	5	U	5	U	5	U
Trichloroethene	2,500	U	5	U	1.6	J	1.3	J	12000	U	5	U	2.2	J	5	U	1.1	J	5	U	5	U
Vinyl acetate	5,000	U	10	U	10	U	10	U	25000	U	10	U	10	U	10	U	10	U	10	U	10	U
Vinyl chloride	2,500	U	5	U	3.1	J	3.2	J	12000	U	5	U	16		5.2		44		5	U	5	U

Notes:

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

J = Estimated value.

* Elevated detection limits in this sample resulted from dilution performed in error (lab confused the sample with BR-3); this sample has routinely been non-detect for volatile organic compounds

TABLE 3
NOVEMBER 2000 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	BR-111D		BR-112A		BR-112D		BR-114		BR-124D		BR-3		BR-5A		BR-6A		BR-7A		BR-8		E-1	
SAMPLE DATE:	11/7/00		11/7/00		11/7/00		11/7/00		11/9/00		11/10/00		11/13/00		11/10/00		11/13/00		11/10/00		11/9/00	
VOLATILE ORGANIC COMPOUNDS BY SW-846 Method 8260/5ML (µg/L)																						
1,1,1-Trichloroethane	5	U	5	U	5	U	5	U	5	U	12000	U	5	U	50	U	40	U	100	U	5	U
1,1,2,2-Tetrachloroethane	5	U	5	U	5	U	5	U	5	U	12000	U	5	U	50	U	40	U	100	U	5	U
1,1,2-Trichloroethane	5	U	5	U	5	U	5	U	5	U	12000	U	5	U	50	U	40	U	100	U	5	U
1,1-Dichloroethane	5	U	5	U	14		5	U	5	U	12000	U	5	U	50	U	8.3	J	100	U	5	U
1,1-Dichloroethene	5	U	5	U	5	U	5	U	5	U	12000	U	5	U	50	U	40	U	100	U	5	U
1,2-Dichloroethane	5	U	5	U	5	U	5	U	5	U	12000	U	5	U	50	U	40	U	100	U	5	U
1,2-Dichloroethene (total)	5	U	5	U	5	U	5	U	5	U	12000	U	5	U	17	J	29	J	100	U	3.2	J
1,2-Dichloropropane	5	U	5	U	5	U	5	U	5	U	12000	U	5	U	50	U	40	U	100	U	5	U
2-Butanone	10	U	10	U	10	U	10	U	10	U	25000	U	10	U	100	U	80	U	200	U	10	U
2-Hexanone	10	U	10	U	10	U	10	U	10	U	25000	U	10	U	100	U	80	U	200	U	10	U
4-Methyl-2-pentanone	10	U	10	U	10	U	10	U	10	U	25000	U	10	U	100	U	80	U	200	U	10	U
Acetone	25	U	25	U	25	U	25	U	25	U	62000	U	25	U	250	U	200	U	500	U	25	U
Benzene	170		5	U	26		5	U	5	U	12000	U	5	U	50	U	38	J	35	J	2.7	J
Bromodichloromethane	5	U	5	U	5	U	5	U	5	U	12000	U	5	U	50	U	40	U	100	U	5	U
Bromoform	5	U	5	U	5	U	5	U	5	U	9,700	J	5	U	50	U	40	U	100	U	1.3	J
Bromomethane	10	U	10	U	10	U	10	U	10	U	25000	U	10	U	100	U	80	U	200	U	10	U
Carbon disulfide	4.5	J	5	U	5	U	5	U	5	U	43,000		5	U	110		40	U	100	U	11	
Carbon tetrachloride	5	U	5	U	5	U	5	U	5	U	96,000		5	U	260		40	U	100	U	8.2	
Chlorobenzene	5	U	5	U	5	U	5	U	5	U	12000	U	2.1	J	72		950		1,900		38	
Chloroethane	10	U	10	U	3.7	J	10	U	10	U	25000	U	10	U	100	U	80	U	200	U	10	U
Chloroform	5	U	5	U	5	U	5	U	5	U	280,000		5	U	3,300		140		100	U	280	
Chloromethane	10	U	10	U	10	U	10	U	10	U	25000	U	10	U	100	U	80	U	200	U	10	U
cis-1,3-Dichloropropene	5	U	5	U	5	U	5	U	5	U	12000	U	5	U	50	U	40	U	100	U	5	U
Dibromochloromethane	5	U	5	U	5	U	5	U	5	U	12000	U	5	U	50	U	40	U	100	U	5	U
Ethylbenzene	42		5	U	5	U	5	U	5	U	12000	U	5	U	50	U	40	U	100	U	4.2	J
Methylene chloride	5	U	5	U	5	U	5	U	5	U	87,000		5	U	300		110		100	U	10	
Styrene	5	U	5	U	5	U	5	U	5	U	12000	U	5	U	50	U	40	U	100	U	5	U
Tetrachloroethene	5	U	5	U	5	U	1.2	J	5	U	12,000	U	5	U	240		40	U	100	U	12	
Toluene	2.4	J	5	U	5	U	5	U	5	U	6,200	J	5	U	200		78		28	J	6.9	
Total Xylenes	27		15	U	15	U	15	U	1.6	J	38000	U	15	U	11	J	120	U	300	U	12	J
trans-1,3-Dichloropropene	5	U	5	U	5	U	5	U	5	U	12000	U	5	U	50	U	40	U	100	U	5	U
Trichloroethene	5	U	5	U	5	U	1.5	J	5	U	12000	U	5	U	19	J	40	U	100	U	1.1	J
Vinyl acetate	10	U	10	U	10	U	10	U	10	U	25000	U	10	U	100	U	80	U	200	U	10	U
Vinyl chloride	5	U	5	U	5	U	5	U	5	U	12000	U	5	U	50	U	43		100	U	7.7	

Notes:

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

J = Estimated value.

TABLE 3
NOVEMBER 2000 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	E-3		MW-103		MW-104		MW-106		MW-108		MW-114		NESS-E		NESS-W		PW10		PW12		PZ-101	
SAMPLE DATE:	11/9/00		11/7/00		11/7/00		11/8/00		11/8/00		11/7/00		11/9/00		11/9/00		11/10/00		11/10/00		11/8/00	
VOLATILE ORGANIC COMPOUNDS BY SW-846 Method 8260/5ML (µg/L)																						
1,1,1-Trichloroethane	5	U	5	U	5	U	20	U	5	U	5	U	5	U	5	U	1200	U	200	U	5	U
1,1,2,2-Tetrachloroethane	5	U	5	U	5	U	20	U	5	U	5	U	5	U	5	U	1200	U	200	U	5	U
1,1,2-Trichloroethane	5	U	5	U	5	U	20	U	5	U	5	U	5	U	5	U	1200	U	200	U	5	U
1,1-Dichloroethane	5	U	5	U	5	U	20	U	5	U	5	U	5	U	5.7		1200	U	200	U	5	U
1,1-Dichloroethene	5	U	5	U	5	U	20	U	5	U	5	U	5	U	5	U	1200	U	200	U	5	U
1,2-Dichloroethane	5	U	5	U	5	U	20	U	5	U	5	U	5	U	5	U	1200	U	200	U	5	U
1,2-Dichloroethene (total)	5	U	5	U	5	U	20	U	5	U	5	U	5	U	1.8	J	1200	U	200	U	5	U
1,2-Dichloropropane	5	U	5	U	5	U	20	U	5	U	5	U	5	U	5	U	1200	U	200	U	5	U
2-Butanone	10	U	10	U	10	U	40	U	10	U	10	U	10	U	10	U	2500	U	400	U	10	U
2-Hexanone	10	U	10	U	10	U	40	U	10	U	10	U	10	U	10	U	2500	U	400	U	10	U
4-Methyl-2-pentanone	10	U	10	U	10	U	40	U	10	U	10	U	10	U	10	U	2500	U	400	U	10	U
Acetone	25	U	25	U	25	U	100	U	25	U	25	U	25	U	25	U	6200	U	1,000	U	25	U
Benzene	5	U	5	U	5	U	83		5	U	5	U	5	U	32		1200	U	85	J	25	
Bromodichloromethane	5	U	5	U	5	U	20	U	5	U	5	U	5	U	5	U	1200	U	200	U	5	U
Bromoform	5	U	5	U	5	U	20	U	5	U	5	U	5	U	5	U	1200	U	200	U	5	U
Bromomethane	10	U	10	U	10	U	40	U	10	U	10	U	10	U	10	U	2500	U	400	U	10	U
Carbon disulfide	3.7	J	5	U	5	U	6.9	J	5	U	5	U	5	U	5	U	22000		88	J	5	U
Carbon tetrachloride	9.7		5	U	5	U	20	U	5	U	5	U	5	U	5	U	55000		250		5	U
Chlorobenzene	1.2	J	5	U	5	U	700		5	U	5	U	5	U	5	U	480	J	2800		90	
Chloroethane	10	U	10	U	10	U	40	U	10	U	10	U	10	U	10	U	2500	U	400	U	10	U
Chloroform	3.2	J	5	U	5	U	20	U	5	U	2	J	5	U	5	U	49000		570		5	U
Chloromethane	10	U	10	U	10	U	40	U	10	U	10	U	10	U	10	U	2500	U	400	U	10	U
cis-1,3-Dichloropropene	5	U	5	U	5	U	20	U	5	U	5	U	5	U	5	U	1200	U	200	U	5	U
Dibromochloromethane	5	U	5	U	5	U	20	U	5	U	5	U	5	U	5	U	1200	U	200	U	5	U
Ethylbenzene	5	U	5	U	5	U	20	U	5	U	5	U	5	U	5.2		1200	U	150	J	5	U
Methylene chloride	5	U	5	U	5	U	20	U	5	U	5	U	5	U	5	U	8500		1,300		5	U
Styrene	5	U	5	U	5	U	20	U	5	U	5	U	5	U	5	U	1200	U	200	U	5	U
Tetrachloroethene	5	U	5	U	5	U	20	U	5	U	1.7	J	5	U	5	U	3900		200	U	5	U
Toluene	5	U	5	U	5	U	120		5	U	5	U	5	U	5	U	2300		5,300		5	U
Total Xylenes	15	U	15	U	15	U	60	U	15	U	15	U	15	U	1.4	J	3800	U	900		15	U
trans-1,3-Dichloropropene	5	U	5	U	5	U	20	U	5	U	5	U	5	U	5	U	1200	U	200	U	5	U
Trichloroethene	5	U	5	U	5	U	20	U	5	U	3.7	J	5	U	5	U	1200	U	200	U	5	U
Vinyl acetate	10	U	10	U	10	U	40	U	10	U	10	U	10	U	10	U	2500	U	400	U	10	U
Vinyl chloride	5	U	5	U	5	U	20	U	5	U	5	U	5	U	5	U	1200	U	200	U	5	U

Notes:

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

J = Estimated value.

TABLE 3
NOVEMBER 2000 GROUNDWATER MONITORING RESULTS
VOLATILE ORGANIC COMPOUNDS

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

LOCATION:	PZ-102		PZ-103		PZ-104		PZ-105		PZ-106		PZ-107		S-3		S-4	
SAMPLE DATE:	11/8/00		11/8/00		11/8/00		11/9/00		11/8/00		11/8/00		11/13/00		11/13/00	
VOLATILE ORGANIC COMPOUNDS BY SW-846 Method 8260/5ML (µg/L)																
1,1,1-Trichloroethane	25	U	40	U	5	U	100	U	10000	U	50	U	10	U	5	U
1,1,2,2-Tetrachloroethane	25	U	40	U	5	U	100	U	10000	U	50	U	10	U	5	U
1,1,2-Trichloroethane	25	U	40	U	5	U	100	U	10000	U	50	U	10	U	5	U
1,1-Dichloroethane	25	U	40	U	5	U	100	U	10000	U	50	U	10	U	5	U
1,1-Dichloroethene	25	U	40	U	5	U	100	U	10000	U	50	U	10	U	5	U
1,2-Dichloroethane	25	U	40	U	5	U	100	U	10000	U	50	U	10	U	5	U
1,2-Dichloroethene (total)	25	U	40	U	5	U	100	U	10000	U	18	J	10	U	5	U
1,2-Dichloropropane	25	U	40	U	5	U	100	U	10000	U	50	U	10	U	5	U
2-Butanone	50	U	80	U	10	U	200	U	20000	U	100	U	20	U	10	U
2-Hexanone	50	U	80	U	10	U	200	U	20000	U	100	U	20	U	10	U
4-Methyl-2-pentanone	50	U	80	U	10	U	200	U	20000	U	100	U	20	U	10	U
Acetone	120	U	200	U	25	U	500	U	50000	U	250	U	50	U	25	U
Benzene	38		91		4.2	J	37	J	10000	U	50	U	10	U	5	U
Bromodichloromethane	25	U	40	U	5	U	100	U	10000	U	50	U	10	U	5	U
Bromoform	25	U	40	U	5	U	100	U	5400	J	29	J	10	U	5	U
Bromomethane	50	U	80	U	10	U	200	U	20000	U	100	U	20	U	10	U
Carbon disulfide	25	U	21	J	2.6	J	74	J	61000		280		10	U	5	U
Carbon tetrachloride	25	U	40	U	5	U	27	J	82000		230		10	U	5	U
Chlorobenzene	780		1600		16		150		10000	U	50	U	10	U	4.6	J
Chloroethane	50	U	80	U	10	U	200	U	20000	U	100	U	20	U	10	U
Chloroform	25	U	40	U	5	U	100	U	250000		1,400		10	U	2.4	J
Chloromethane	50	U	80	U	10	U	200	U	20000	U	100	U	20	U	2.3	J
cis-1,3-Dichloropropene	25	U	40	U	5	U	100	U	10000	U	50	U	10	U	5	U
Dibromochloromethane	25	U	40	U	5	U	100	U	10000	U	50	U	10	U	5	U
Ethylbenzene	25	U	40	U	5	U	100	U	10000	U	50	U	10	U	5	U
Methylene chloride	25	U	40	U	5	U	100	U	15000		100		10	U	5	U
Styrene	25	U	40	U	5	U	100	U	10000	U	50	U	10	U	5	U
Tetrachloroethene	25	U	40	U	5	U	100	U	10000	U	50	U	10	U	5	U
Toluene	19	J	430		5	U	190		10000	U	25	J	10	U	5	U
Total Xylenes	75	U	120	U	15	U	300	U	30000	U	150	U	30	U	15	U
trans-1,3-Dichloropropene	25	U	40	U	5	U	100	U	10000	U	50	U	10	U	5	U
Trichloroethene	25	U	40	U	5	U	100	U	10000	U	50	U	10	U	5	U
Vinyl acetate	50	U	80	U	10	U	200	U	20000	U	100	U	20	U	10	U
Vinyl chloride	25	U	40	U	5	U	100	U	10000	U	50	U	10	U	5	U

Notes:

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

J = Estimated value.

TABLE 4
COMPARISON OF NOVEMBER 2000
CHLOROPYRIDINES AND VOLATILE ORGANICS CONCENTRATIONS
IN GROUNDWATER TO PREVIOUS RESULTS (ug/L)

ARCH ROCHESTER
SEMI-ANNUAL GROUNDWATER MONITORING REPORT - FALL 2000

WELL	SELECTED CHLOROPYRIDINES						SELECTED VOCs					
	# OF PRIOR EVENTS	PRIOR MAXIMUM (5-year)	PRIOR MEAN (5-year)	NOV-2000 RESULT	< MEAN OR ND	> MEAN	# OF EVENTS	PRIOR MAXIMUM (5-year)	PRIOR MEAN (5-year)	NOV-2000 RESULT	< MEAN OR ND	> MEAN
ON-SITE WELLS/LOCATIONS												
B-17	8	1,800,000	380,000	216,500	X		9	210,000	110,000	101,900	X	
BR-102	9	1,600	750	1,141		X	10	1,400	540	7.0	X	
BR-3	7	150,000	100,000	529,000		X	9	680,000	200,000	463,000		X
BR-5A	10	310	160	97	X		10	6,100	850	ND	X	
BR-6A	7	93,000	41,000	6,810	X		7	26,000	12,000	4,119	X	
BR-7A	8	280,000	50,000	15,400	X		8	2,800	680	293	X	
BR-8	10	56,653	8,500	7,900	X		10	4	0.4	ND	X	
BR-9	3	690	620	NA			3	150	120	NA		
E-1	8	18,096	3,800	4,030		X	9	5,300	1,000	319	X	
E-3	10	200	47	48		X	10	900	96	13	X	
PW10	2	149,500	110,000	160,600		X	2	80,000	66,000	116,400		X
PW11	1	27,000	27,000	NA			1	ND	ND	NA		
PW12	8	10,000	5,100	630	X		8	41,000	18,000	2,120	X	
PZ-106	4	13,710	11,000	15,800		X	4	760,000	380,000	347,000	X	
PZ-107	4	2,000	1,700	1,780		X	4	2,100	940	1,730		X
S-3	2	640	470	295	X		2	260	150	ND	X	

TABLE 4
COMPARISON OF NOVEMBER 2000
CHLOROPYRIDINES AND VOLATILE ORGANICS CONCENTRATIONS
IN GROUNDWATER TO PREVIOUS RESULTS (ug/L)

ARCH ROCHESTER
SEMI-ANNUAL GROUNDWATER MONITORING REPORT - FALL 2000

WELL	SELECTED CHLOROPYRIDINES						SELECTED VOCs					
	# OF PRIOR EVENTS	PRIOR MAXIMUM (5-year)	PRIOR MEAN (5-year)	NOV-2000 RESULT	< MEAN OR ND	> MEAN	# OF EVENTS	PRIOR MAXIMUM (5-year)	PRIOR MEAN (5-year)	NOV-2000 RESULT	< MEAN OR ND	> MEAN
OFF-SITE WELLS/LOCATIONS												
BR-103	9	410	74	16	X		7	3	1.1	ND	X	
BR-104	10	880	120	ND	X		8	1	0.1	ND	X	
BR-105	10	13,000	5,100	422	X		8	32	9.1	18		X
BR-105D	10	10,000	3,500	1,776	X		8	320	61	11	X	
BR-106	10	37,000	9,600	11,700		X	8	12,000	1,600	51	X	
BR-108	9	1,700	197	27	X		6	6	1	ND	X	
BR-112A	9	47	5.2	ND	X		3	ND	ND	ND	X	
BR-112D	10	620	115	16	X		3	69	30	ND	X	
BR-113	9	8	2.3	ND	X		2	ND	ND	NA		
BR-113D	10	490	150	38	X		2	36	31	NA		
BR-114	10	450	130	80	X		5	9	2.2	3		X
BR-124D	7	65	9.3	ND	X		6	ND	ND	ND	X	
MW-106	9	100,000	35,000	25,500	X		7	97	20	ND	X	
MW-108	5	28	8	ND	X		5	ND	ND	ND	X	
MW-114	10	18	2.5	ND	X		5	11	8	7	X	
NESS-E	12	2,600	1,400	493	X		9	710	150	ND	X	
NESS-W	11	2,000	860	613	X		8	110	33	ND	X	
QS-4	16	3,400	1,000	980	X		4	ND	ND	ND	X	

Note:
1) Number of samples, mean, and maximum data reflect 5-year sampling period beginning in March 1995 and ending in May 2000.
2) Chloropyridines represented by: 2-Chloropyridine, 2,6-Dichloropyridine, and 3-Chloropyridine, p-Fluoroaniline, and Pyridine.
3) Selected VOCs represented by Carbon Tetrachloride, Chloroform, Methylene Chloride, Tetrachloroethene, and Trichloroethene.
4) X = Comparison of November 2000 concentration to 5-year mean.
5) NA = Not analyzed or not applicable
ND = Not detected

TABLE 5
NOVEMBER 2000 CANAL/QUARRY MONITORING RESULTS

ARCH CHEMICAL, INC.
ROCHESTER, NEW YORK

WELL / POINT	QO-2	QO-2S1	QS-4	SW-1	SW-12	SW-2	SW-3	SW-6
DATE	11/14/00	11/14/00	11/14/00	11/14/00	11/14/00	11/14/00	11/14/00	11/14/00
VOLATILE ORGANIC COMPOUNDS BY SW-846 Method 8260/5ML (µg/L)								
1,1,1-Trichloroethane	5 U	NA	5 U	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	5 U	NA	5 U	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	5 U	NA	5 U	NA	NA	NA	NA	NA
1,1-Dichloroethane	5 U	NA	5 U	NA	NA	NA	NA	NA
1,1-Dichloroethene	5 U	NA	5 U	NA	NA	NA	NA	NA
1,2-Dichloroethane	5 U	NA	5 U	NA	NA	NA	NA	NA
1,2-Dichloroethene (total)	5 U	NA	5 U	NA	NA	NA	NA	NA
1,2-Dichloropropane	5 U	NA	5 U	NA	NA	NA	NA	NA
2-Butanone	10 U	NA	10 U	NA	NA	NA	NA	NA
2-Hexanone	10 U	NA	10 U	NA	NA	NA	NA	NA
4-Methyl-2-pentanone	10 U	NA	10 U	NA	NA	NA	NA	NA
Acetone	25 U	NA	25 U	NA	NA	NA	NA	NA
Benzene	5 U	NA	5 U	NA	NA	NA	NA	NA
Bromodichloromethane	5 U	NA	5 U	NA	NA	NA	NA	NA
Bromoform	5 U	NA	5 U	NA	NA	NA	NA	NA
Bromomethane	10 U	NA	10 U	NA	NA	NA	NA	NA
Carbon disulfide	5 U	NA	5 U	NA	NA	NA	NA	NA
Carbon tetrachloride	5 U	NA	5 U	NA	NA	NA	NA	NA
Chlorobenzene	5 U	NA	1.5 J	NA	NA	NA	NA	NA
Chloroethane	10 U	NA	10 U	NA	NA	NA	NA	NA
Chloroform	5 U	NA	5 U	NA	NA	NA	NA	NA
Chloromethane	10 U	NA	10 U	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	5 U	NA	5 U	NA	NA	NA	NA	NA
Dibromochloromethane	5 U	NA	5 U	NA	NA	NA	NA	NA
Ethylbenzene	5 U	NA	5 U	NA	NA	NA	NA	NA
Methylene chloride	5 U	NA	5 U	NA	NA	NA	NA	NA
Styrene	5 U	NA	5 U	NA	NA	NA	NA	NA
Tetrachloroethene	5 U	NA	5 U	NA	NA	NA	NA	NA
Toluene	5 U	NA	5 U	NA	NA	NA	NA	NA
Total Xylenes	15 U	NA	15 U	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	5 U	NA	5 U	NA	NA	NA	NA	NA
Trichloroethene	5 U	NA	5 U	NA	NA	NA	NA	NA
Vinyl acetate	10 U	NA	10 U	NA	NA	NA	NA	NA
Vinyl chloride	5 U	NA	5 U	NA	NA	NA	NA	NA

TABLE 5
NOVEMBER 2000 CANAL/QUARRY MONITORING RESULTS

ARCH CHEMICAL, INC.
ROCHESTER, NEW YORK

WELL / POINT	QO-2		QO-2S1		QS-4		SW-1		SW-12		SW-2		SW-3		SW-6	
DATE	11/14/00		11/14/00		11/14/00		11/14/00		11/14/00		11/14/00		11/14/00		11/14/00	
SELECTED CHLOROPYRIDINES BY SW-846 Method 8270C (µg/L)																
2,6-Dichloropyridine	8	J	10	U	160		9	U	10	U	9	U	10	U	10	U
2-Chloropyridine	17		10	U	820		9	U	10	U	9	U	10	U	10	U
3-Chloropyridine	10	U	10	U	100	U	9	U	10	U	9	U	10	U	10	U
4-Chloropyridine	10	U	10	U	100	U	9	U	10	U	9	U	10	U	10	U
p-Fluoroaniline	10	U	10	U	100	U	9	U	10	U	9	U	10	U	10	U
Pyridine	10	U	10	U	100	U	9	U	10	U	9	U	10	U	10	U

Notes:

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

J = Estimated value.

NA = Not analyzed

TABLE 6
EXTRACTION WELL WEEKLY FLOW MEASUREMENTS - JANUARY 2000 THROUGH DECEMBER 2000

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

	BR5A Meter Reading	BR5A Gals Pumped	BR6A Meter Reading	BR6A Gals Pumped	BR7A Meter Reading	BR7A Gals Pumped	BR9 Meter Reading	BR9 Gals Pumped	PW11 Meter Reading	PW11 Gals Pumped	Total
7-Jan	785	785	0	0	0	0	0	0			785
14-Jan	1,965	1,180	0	0	0	0	0	0			1,180
21-Jan	3,239	1,274	40,175	40,175	0	0	0	0			41,449
28-Jan	5,717	2,478	69,721	29,546	9,654	9,654	0	0			41,678
January											**85,092**
4-Feb	3574	3574	31761	31761	9654	9654	0	0			44,989
11-Feb	7211	3637	52784	21023	48384	38730	26712	26712			90,102
18-Feb	12728	5517	83159	30375	65914	17530	59258	32546			85,968
25-Feb	28377	15649	125595	42436	107583	41669	84760	25502			125,256
February											**346,315**
3-Mar	15910	15910	38542	38542	39654	39654	27938	27398			121,504
10-Mar	27547	11637	83411	44869	77622	37968	58902	30964			125,438
17-Mar	45381	17834	115095	31684	119940	42318	83560	24658			116,494
24-Mar	45393	12325	142730	27635	152794	32854	102916	19356			92,170
March											**455,606**
7-Apr	11739	11739	32941	32941	31846	31846	24016	24016			100,542
14-Apr	20125	8386	57893	24952	60241	28395	41554	17538			79,271
21-Apr	34956	14831	87531	29638	93955	33714	54179	12625			90,808
28-Apr	44702	9746	117395	32864	132528	38573	54545	15972			97,155
											0
April											**367,776**
7-May	15385	15385	30284	30284	35691	35691	11675	11675			93,064
14-May	28249	12864	56227	25943	67876	32185	22622	10947			81,939
21-May	45877	17628	89041	32841	114823	46947	46467	23845			121,261
28-May	65345	19468	136390	47349	173202	58379	71809	25342			150,538
May											**446,802**
2-Jun	24862	24862	49632	49632	55976	55976	27519	27519			157,989
9-Jun	51248	26386	101648	52016	108949	52973	51884	24365			155,740
16-Jun	81064	29816	156924	55276	170783	61834	84370	32486			179,412
23-Jun	102128	21064	204458	47534	225729	54946	110853	26,483			150,027
30-Jun	120449	18321	255106	50648	284007	58278	131444	20591			147,838
June											**791,006**
7-Jul	22648	22648	25681	25681	48356	48356	20648	20648			117,333
14-Jul	47331	24683	46354	20673	101029	52673	48282	27634			125,663
21-Jul	69195	21864	80639	34285	159163	58134	73234	24952			139,235
28-Jul	92810	23615	106287	25648	211925	52762	97234	23842			125,867
											0
July											**508,098**
4-Aug	22315	22315	21943	21943	43681	43681	24958	24958			112,897
11-Aug	41962	19647	43516	21573	92308	48627	46930	21972	9585	9585	121,404
18-Aug	48358	6396	58314	14798	119345	27037	61834	14907	17349	7764	70,902
25-Aug	59384	11026	77659	19345	152530	33185	81329	19495	27694	10345	93,396
August											**398,599**

TABLE 6
EXTRACTION WELL WEEKLY FLOW MEASUREMENTS - JANUARY 2000 THROUGH DECEMBER 2000

ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

	BR5A Meter Reading	BR5A Gals Pumped	BR6A Meter Reading	BR6A Gals Pumped	BR7A Meter Reading	BR7A Gals Pumped	BR9 Meter Reading	BR9 Gals Pumped	PW11 Meter Reading	PW11 Gals Pumped	Total
1-Sep	17975	17975	18103	18103	37514	37514	22619	22619	39270	11576	107,787
8-Sep	25366	7391	34077	15947	72428	34914	41251	18632	48797	9527	86,411
15-Sep	35180	9814	54452	20375	114110	41862	67975	26724	56813	8016	106,791
22-Sep	46883	11703	79267	24915	159482	45372	92789	24814	62749	5926	112,730
29-Sep	53167	6284	96612	17345	198099	38617	114361	21572	71468	8719	
September											**413,719**
6-Oct	6845	6845	14968	14968	29648	29648	12694	12694	7629	7629	71,784
13-Oct	9193	2348	28540	13572	54406	24758	23083	10389	15875	8246	59,313
20-Oct	14507	5314	44386	15846	82030	27624	29367	6284	23129	7254	62,322
27-Oct	14507	0	55714	11358	102378	20348	37916	8549	31444	8315	48,570
											0
October											**241,989**
3-Nov	1186	1186	10635	10635	15846	15846	5318	5318	7618	7618	40,603
10-Nov	3769	2583	25317	14682	37194	21348	9002	3684	16232	8614	50,911
17-Nov	5784	2018	36903	11586	55470	18276	10677	1675	24581	8349	41,904
24-Nov	9025	3241	53758	16845	80427	24957	12931	2254	33593	9012	56,309
November											**189,727**
1-Dec	0	0	11245	11245	24068	24068	3185	3185	39534	5941	44,439
8-Dec	0	0	24769	13524	44254	20186	8403	5218	47849	8315	47,243
15-Dec	0	0	35623	10854	65318	21064	12941	4538	55464	7615	44,071
22-Dec	0	0	41838	6215	79583	14265	19795	6854	63776	8312	35,646
29-Dec	0	0	56683	14845	96068	16485	21959	2164	71800	8024	41,518
December											**212,917**
2000 Total											**4,457,646**

TABLE 7
QUARTERLY SAMPLING SCHEDULE
ARCH CHEMICALS, INC.
ROCHESTER, NEW YORK

ARCH ROCHESTER MONITORING PROGRAM					Q1		Q2		Q3		Q4		TOTAL	
	Well	*zone*	*area*	*Data Objective:*	*Pyridines*	*VOC's*	*Pyridines*	*VOC's*	*Pyridines*	*VOC's*	*Pyridines*	*VOC's*	*Pyridines*	*VOC's*
OFF-SITE MONITORING	MW-103	OB	KODAK EAST	overburden plume monitoring			1	1			1	1	2	2
	BR-103	BR	KODAK EAST	shallow bedrock plume monitoring			1	1			1	1	2	2
	MW-104	OB	BUFFALO RD	overburden plume monitoring			1	1			1	1	2	2
	BR-104	BR	BUFFALO RD	shallow bedrock plume monitoring			1	1			1	1	2	2
	BR-105	BR	AID-HOSP	shallow bedrock plume monitoring			1	1			1	1	2	2
	BR-105D	BR deep	AID-HOSP	deep bedrock plume monitoring			1	1			1	1	2	2
	MW-106	OB	AID-HOSP	overburden plume monitoring			1	1			1	1	2	2
	BR-106	BR	AID-HOSP	shallow bedrock plume monitoring			1	1			1	1	2	2
	MW-108	OB	AID-HOSP	overburden plume monitoring			1	1			1	1	2	2
	BR-108	BR	AID-HOSP	shallow bedrock plume monitoring			1	1			1	1	2	2
	BR-111	BR	NYSDOT	shallow bedrock plume monitoring			1	1			1	1	2	2
	BR-111D	BR deep	NYSDOT	deep bedrock plume monitoring			1	1			1	1	2	2
	BR-112A	BR	NYSDOT	shallow bedrock plume monitoring			1	1			1	1	2	2
	BR-112D	BR deep	NYSDOT	deep bedrock plume monitoring			1	1			1	1	2	2
	BR-113	BR	NYSDOT	shallow bedrock plume monitoring			1				1		2	0
	BR-113D	BR deep	NYSDOT	deep bedrock plume monitoring			1				1		2	0
	MW-114	OB	JACKSON	shallow bedrock plume monitoring			1	1			1	1	2	2
	BR-114	BR	JACKSON	deep bedrock plume monitoring			1	1			1	1	2	2
	BR-116	BR	PFAUDLER	shallow bedrock plume monitoring			1						1	0
	BR-116D	BR deep	PFAUDLER	deep bedrock plume monitoring			1						1	0
	BR-117D	BR deep	QUARRY	deep bedrock plume monitoring			1						1	0
	BR-118D	BR deep	QUARRY	deep bedrock plume monitoring			1						1	0
	BR-119D	BR deep	QUARRY	deep bedrock plume monitoring			1						1	0
	BR-120D	BR deep	QUARRY	deep bedrock plume monitoring			1						1	0
	BR-121D	BR deep	QUARRY	deep bedrock plume monitoring			1						1	0
	BR-122D	BR deep	QUARRY	deep bedrock plume monitoring			1						1	0
	BR-123D	BR deep	QUARRY	deep bedrock plume monitoring			1						1	0
	BR-124D	BR deep	QUARRY	deep bedrock plume monitoring			1	1			1	1	2	2
	NESS-E	BR deep	NESS	deep bedrock plume monitoring			1	1			1	1	2	2
	NESS-W	BR deep	NESS	deep bedrock plume monitoring			1	1			1	1	2	2
	PZ-101	BR	McKee Rd	shallow bedrock plume monitoring			1	1			1	1	2	2
	PZ-102	BR	McKee Rd	shallow bedrock plume monitoring			1	1			1	1	2	2
	PZ-103	BR	McKee Rd	shallow bedrock plume monitoring			1	1			1	1	2	2
	PZ-104	BR	ALH	shallow bedrock plume monitoring			1	1			1	1	2	2
ON-SITE MONITORING	PZ-107	BR	ON-SITE	onsite tracking of contam trends			1	1			1	1	2	2
	PZ-106	BR	ON-SITE	onsite tracking of contam trends			1	1			1	1	2	2
	PZ-105	BR	ON-SITE	onsite tracking of contam trends			1	1			1	1	2	2
	BR-102	BR	ON-SITE	onsite tracking of contam trends			1	1			1	1	2	2
	BR-3	BR	ON-SITE	onsite tracking of contam trends			1	1			1	1	2	2
	BR-8	BR	ON-SITE	onsite tracking of contam trends			1	1			1	1	2	2
	BR-9	pumping well	ON-SITE	onsite tracking of removed contaminants			1	1			1	1	2	2
	BR-5A	pumping well	ON-SITE	onsite tracking of removed contaminants			1	1			1	1	2	2
	BR-6A	pumping well	ON-SITE	onsite tracking of removed contaminants			1	1			1	1	2	2
	BR-7A	pumping well	ON-SITE	onsite tracking of removed contaminants			1	1			1	1	2	2
	B-17	OB	ON-SITE	onsite tracking of contam trends			1	1			1	1	2	2
	B-7	OB	ON-SITE	onsite tracking of contam trends			1	1			1	1	2	2
	B-9	OB	ON-SITE	onsite tracking of contam trends			1	1			1	1	2	2
	S-3	OB	ON-SITE	onsite tracking of contam trends			1	1			1	1	2	2
	S-4	OB	ON-SITE	onsite tracking of contam trends			1	1			1	1	2	2
	E-1	OB	ON-SITE	onsite tracking of contam trends			1	1			1	1	2	2
	E-3	OB	ON-SITE	onsite tracking of contam trends			1	1			1	1	2	2
	PW10	BR	ON-SITE	onsite tracking of contam trends			1	1			1	1	2	2
	PW11	BR	ON-SITE	onsite tracking of contam trends			1	1			1	1	2	2
	PW12	BR	ON-SITE	onsite tracking of contam trends			1	1			1	1	2	2
QUARRY/CANAL MONITORING	QS-4	quarry seep	QUARRY	track quarry seep quality	1		1	1	1		1	1	4	2
	QO-2	quarry outfall	CANAL	track water quality input to canal	1		1	1	1		1	1	4	2
	QO-2S1	canal at outfall	CANAL	track dilution of input to canal	1		1		1		1		4	0
	SW-1	barge canal	CANAL	track canal water quality	1		1		1		1		4	0
	SW-2	barge canal	CANAL	track canal water quality	1		1		1		1		4	0
	SW-3	barge canal	CANAL	track canal water quality	1		1		1		1		4	0
	SW-6	barge canal	CANAL	track canal water quality	1		1		1		1		4	0
	SW-12	barge canal	CANAL	track canal water quality	1		1		1		1		4	0
TOTAL SAMPLES					8	0	62	45	8	0	53	45	131	90

Figures

Appendix A

Well Trend Data

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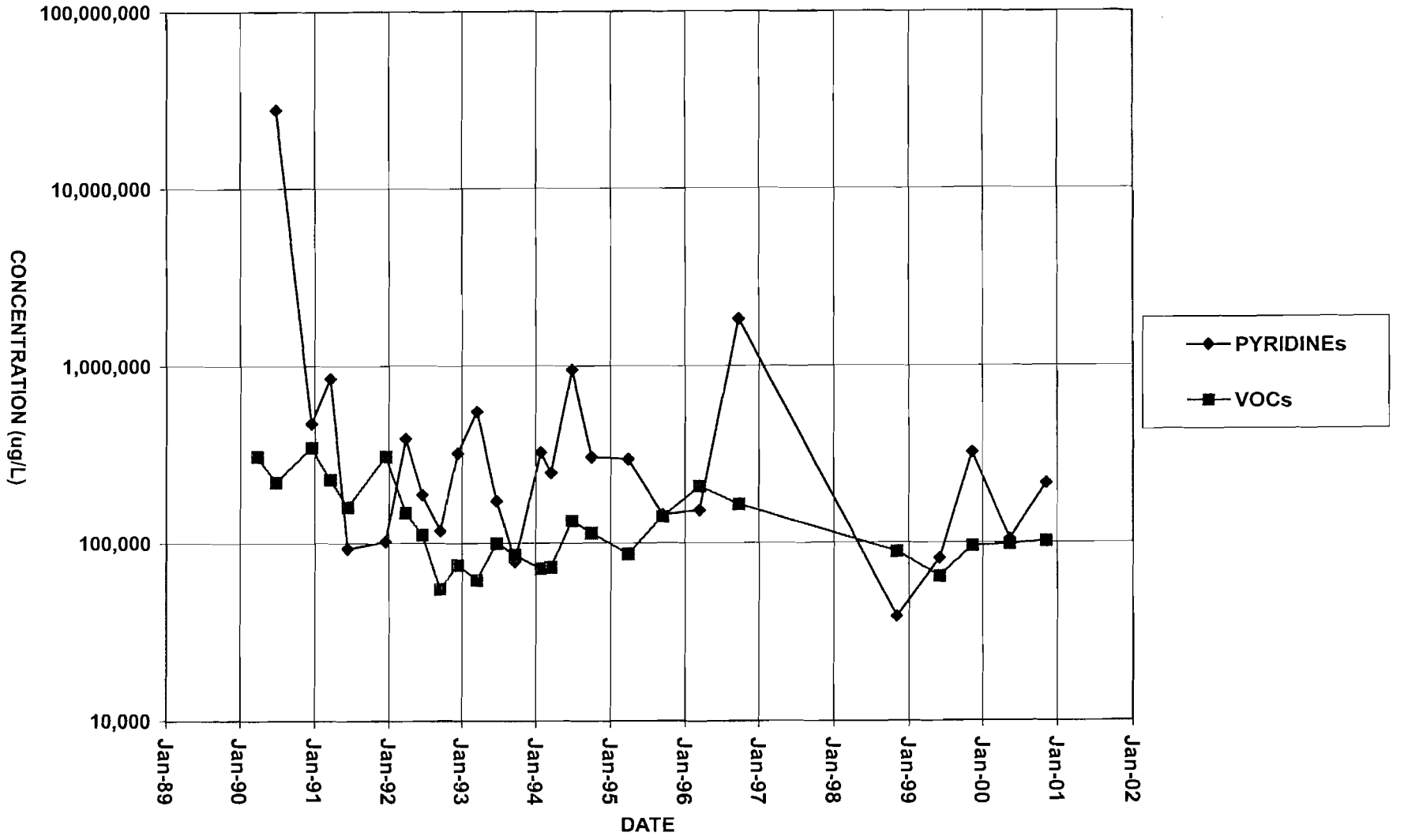
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Jan-93
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Jan-01
Jan-02
DATE
PYRIDINEs
VOCs

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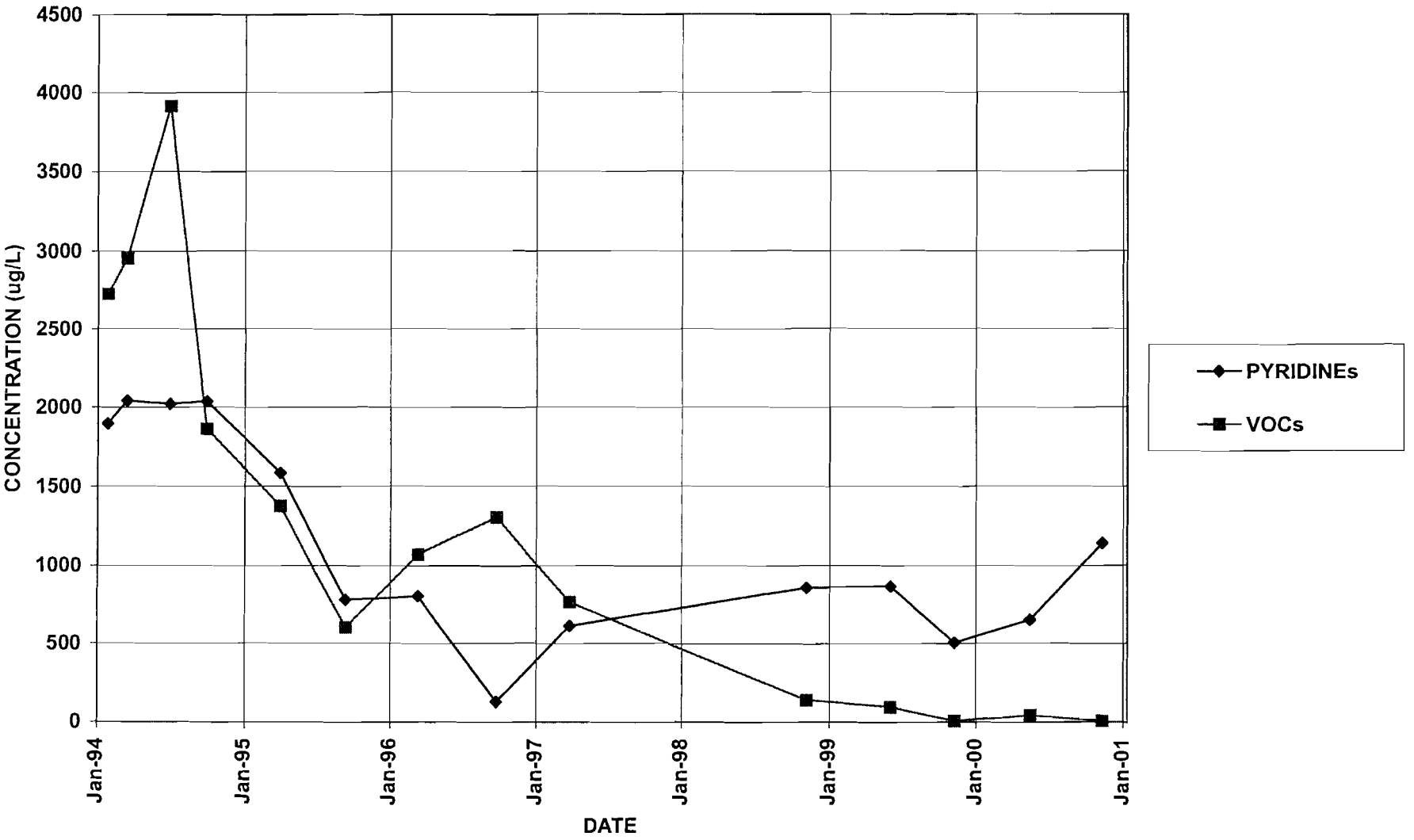
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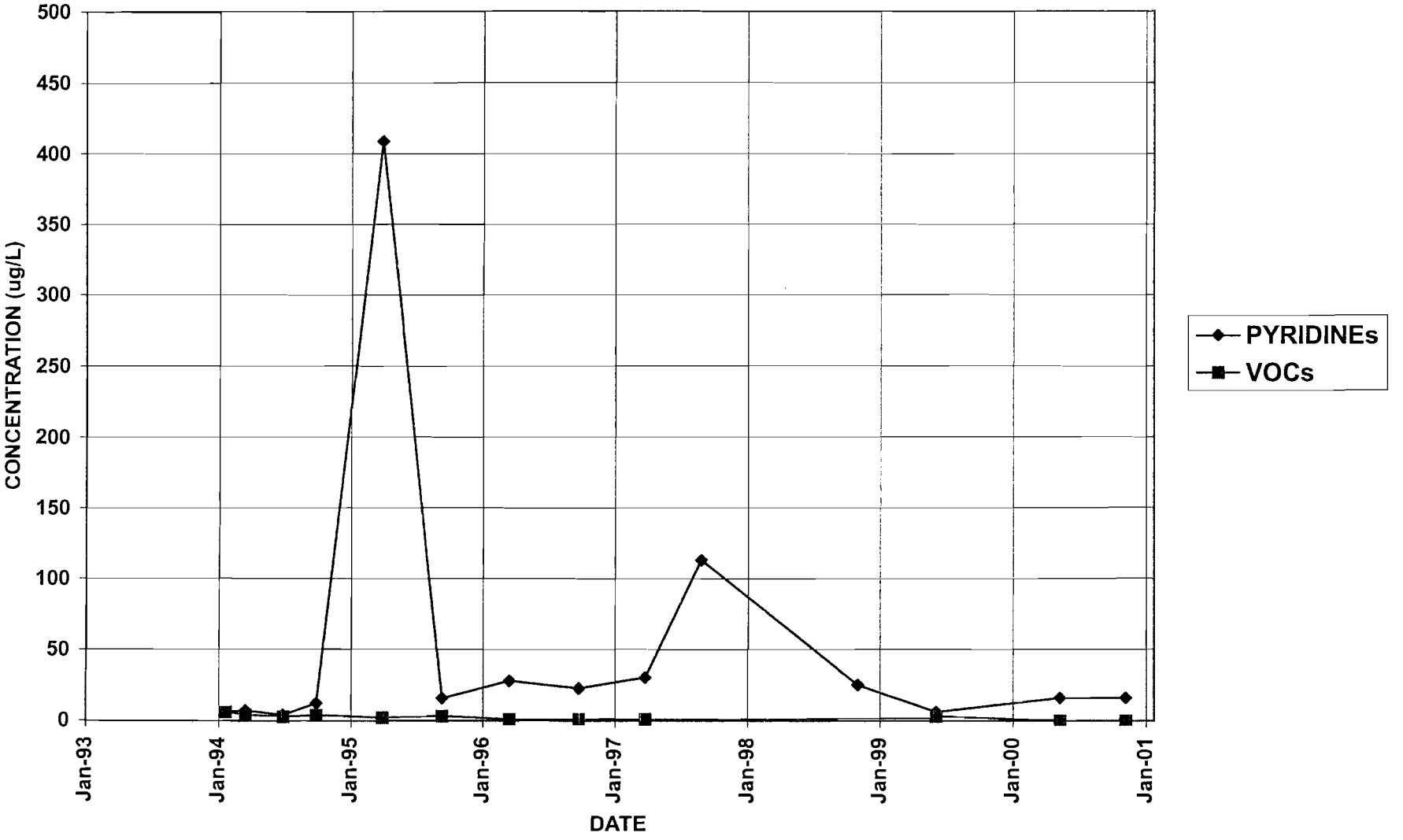
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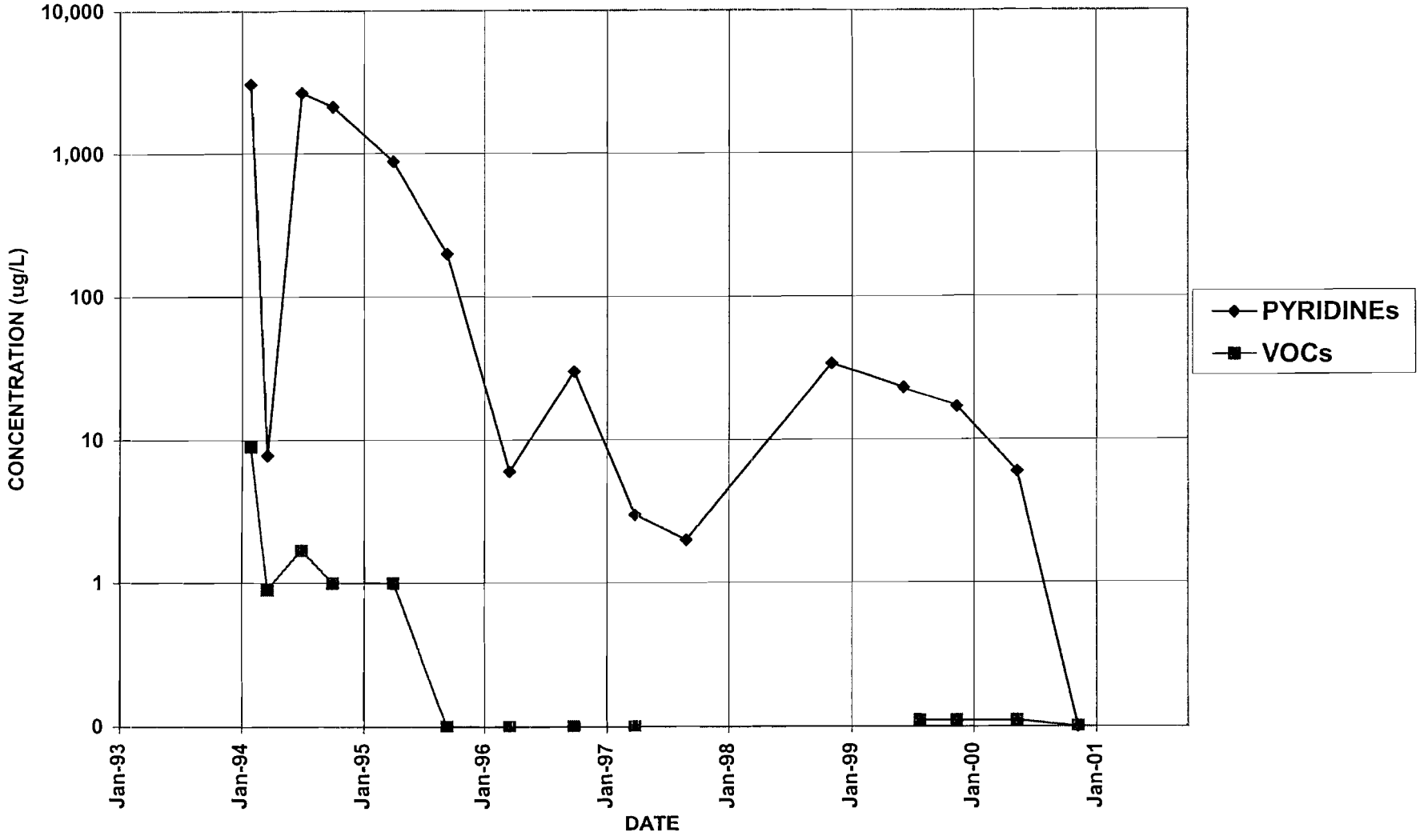
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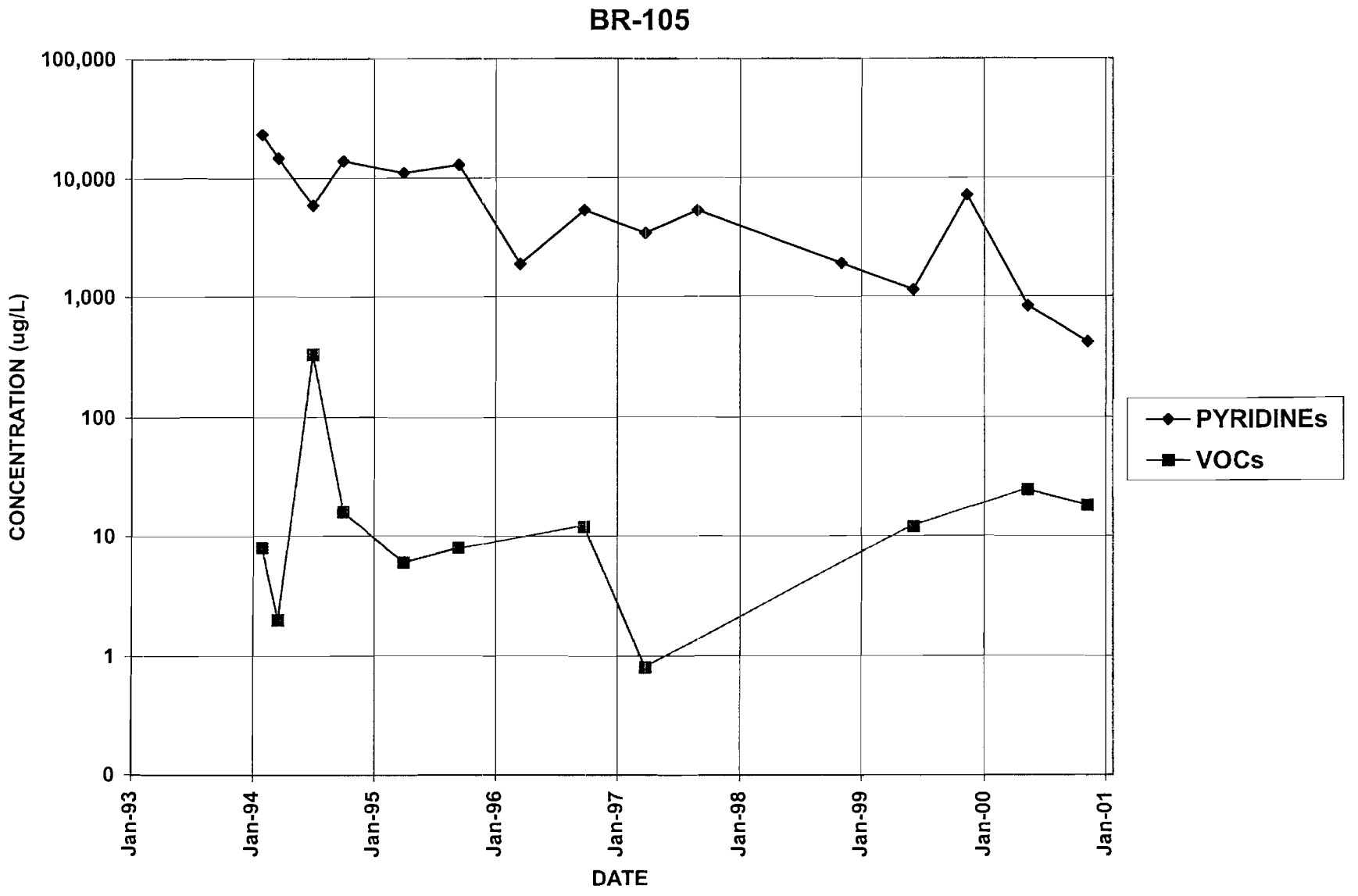
VOCs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Jan-01
DATE
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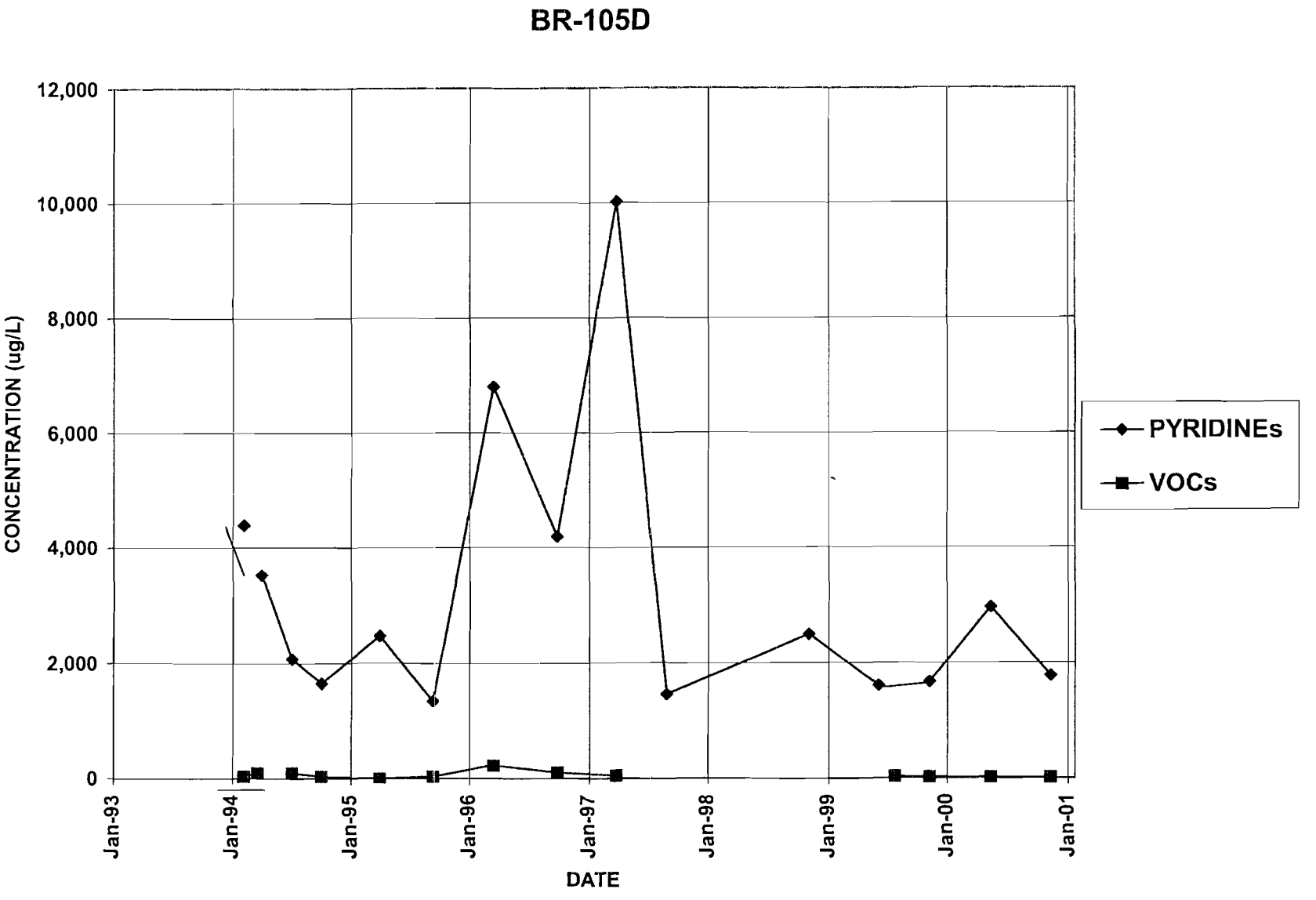
VOCs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Jan-00
Jan-01
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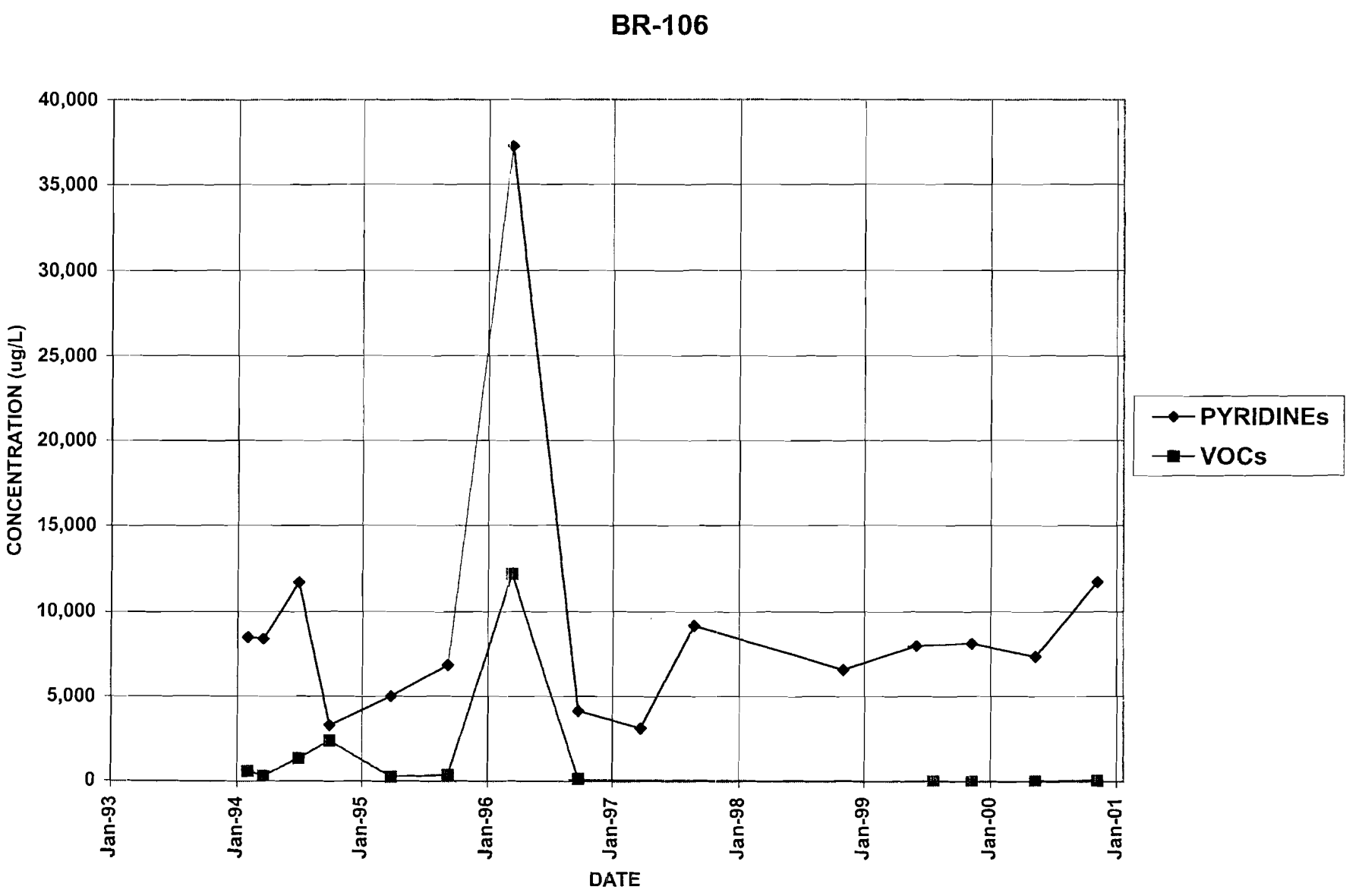
VOCs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Jan-98
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Jan-01
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VOCs

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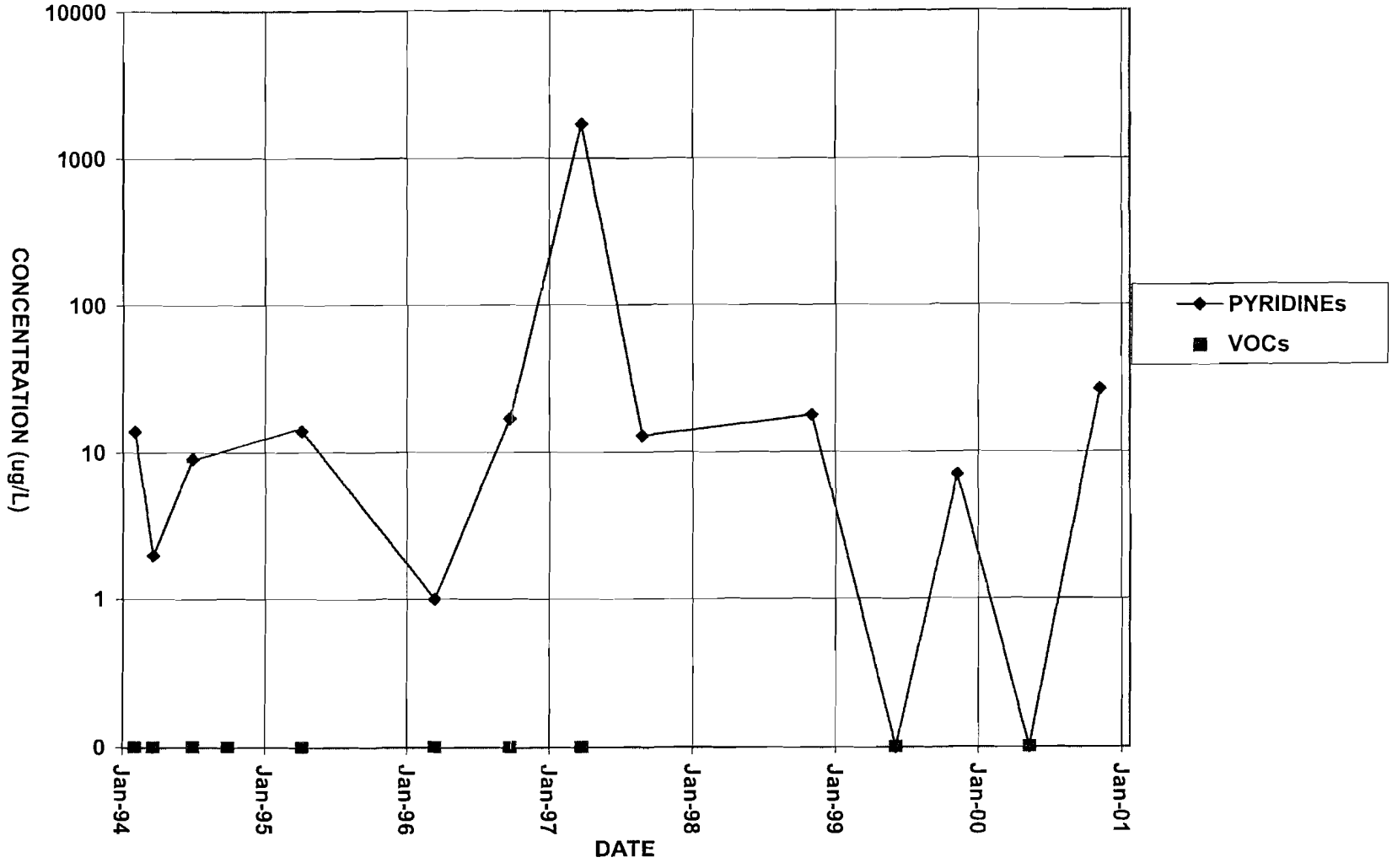
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Jan-00
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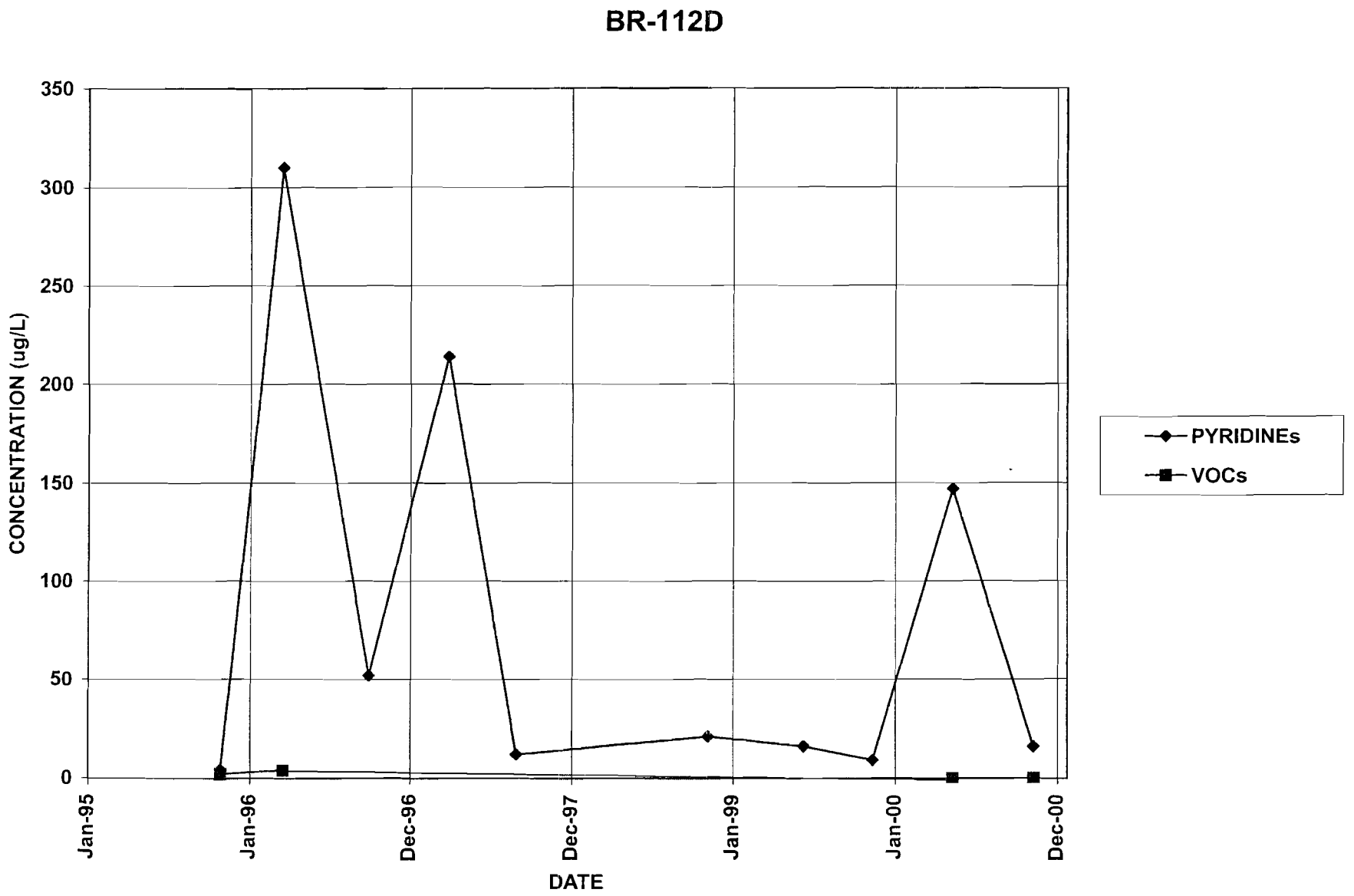
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DATE
PYRIDINEs
VOCs

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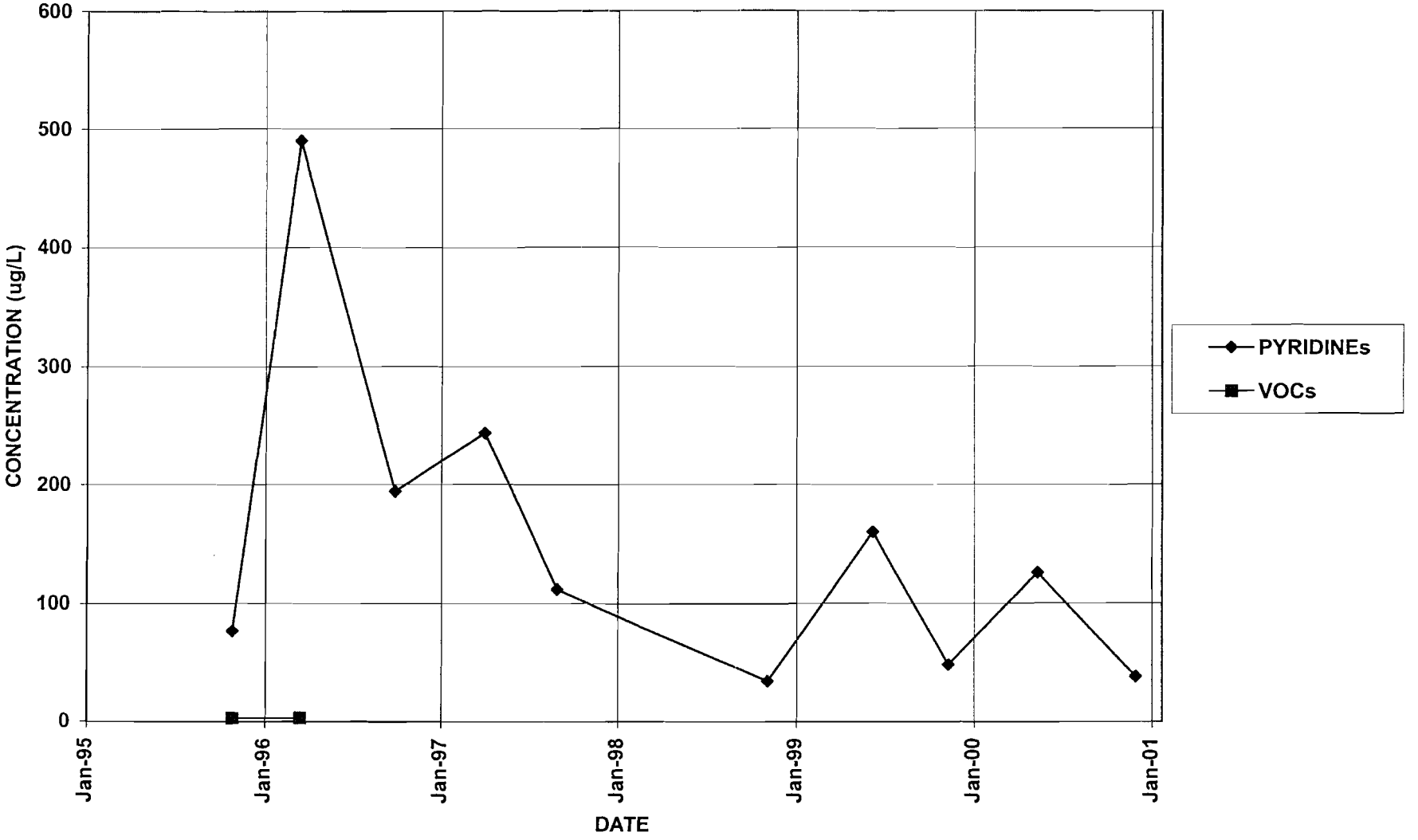
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Jan-00
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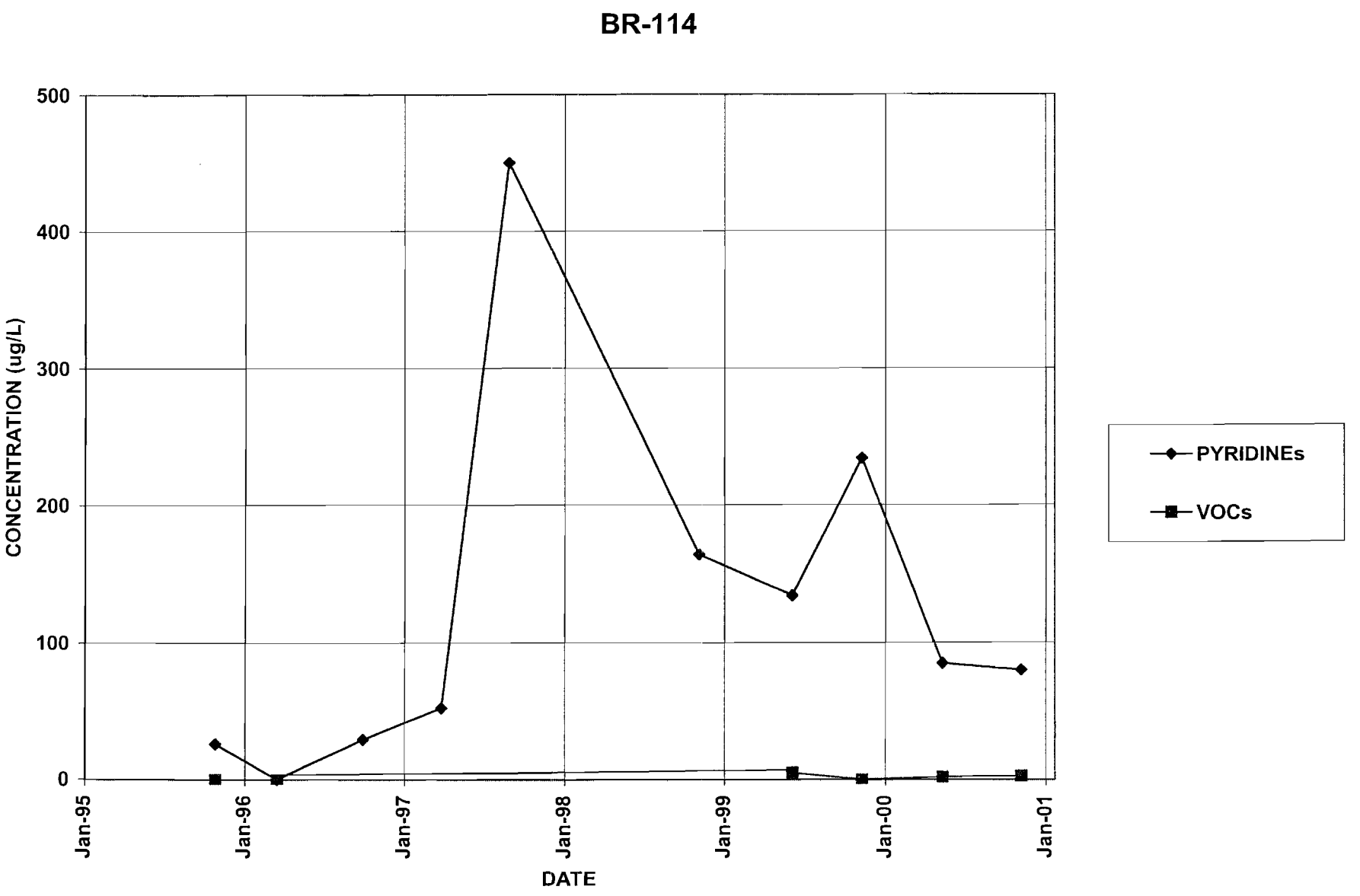
VOCs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Jan-00
Jan-01
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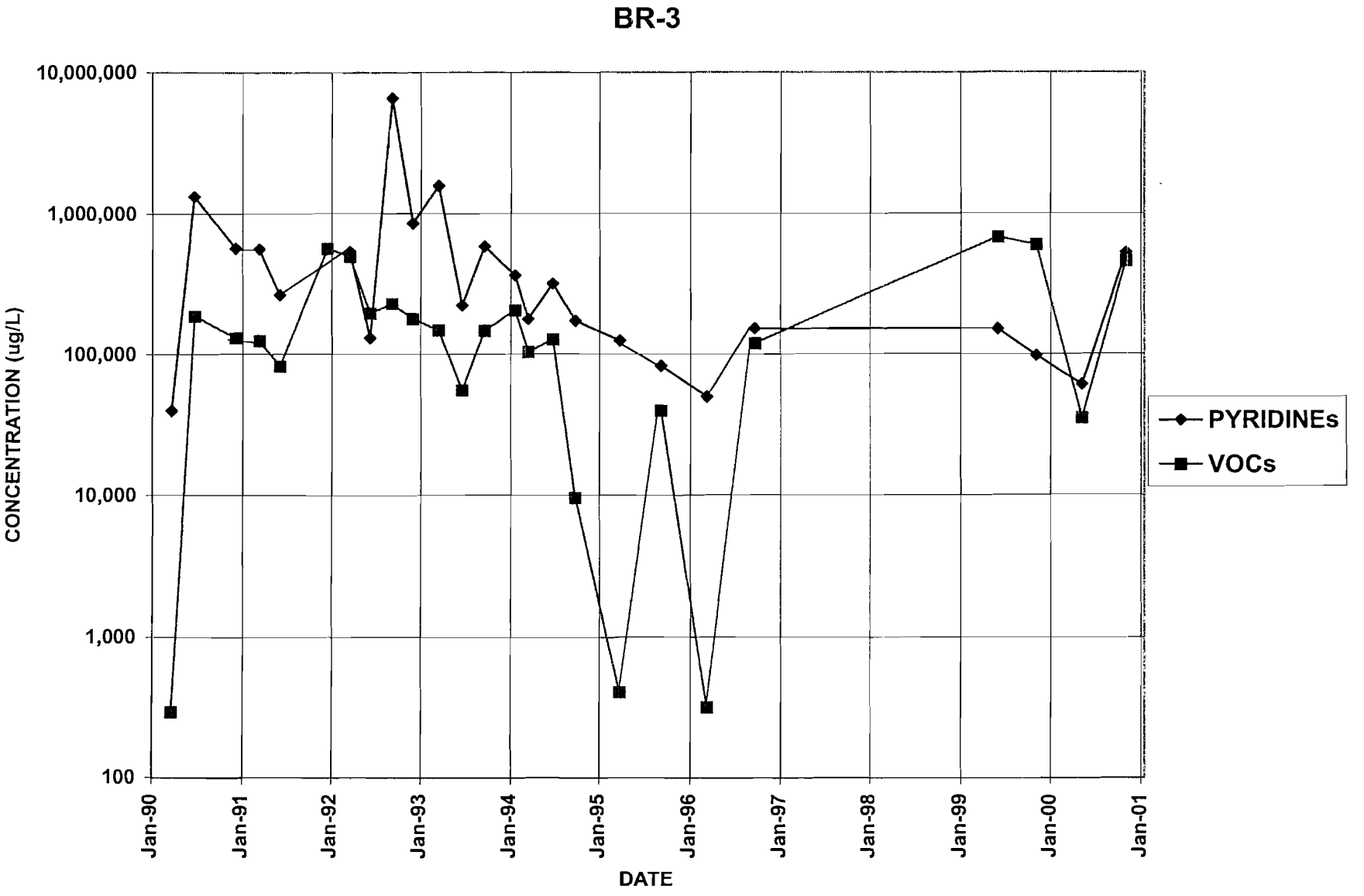
VOCs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DATE
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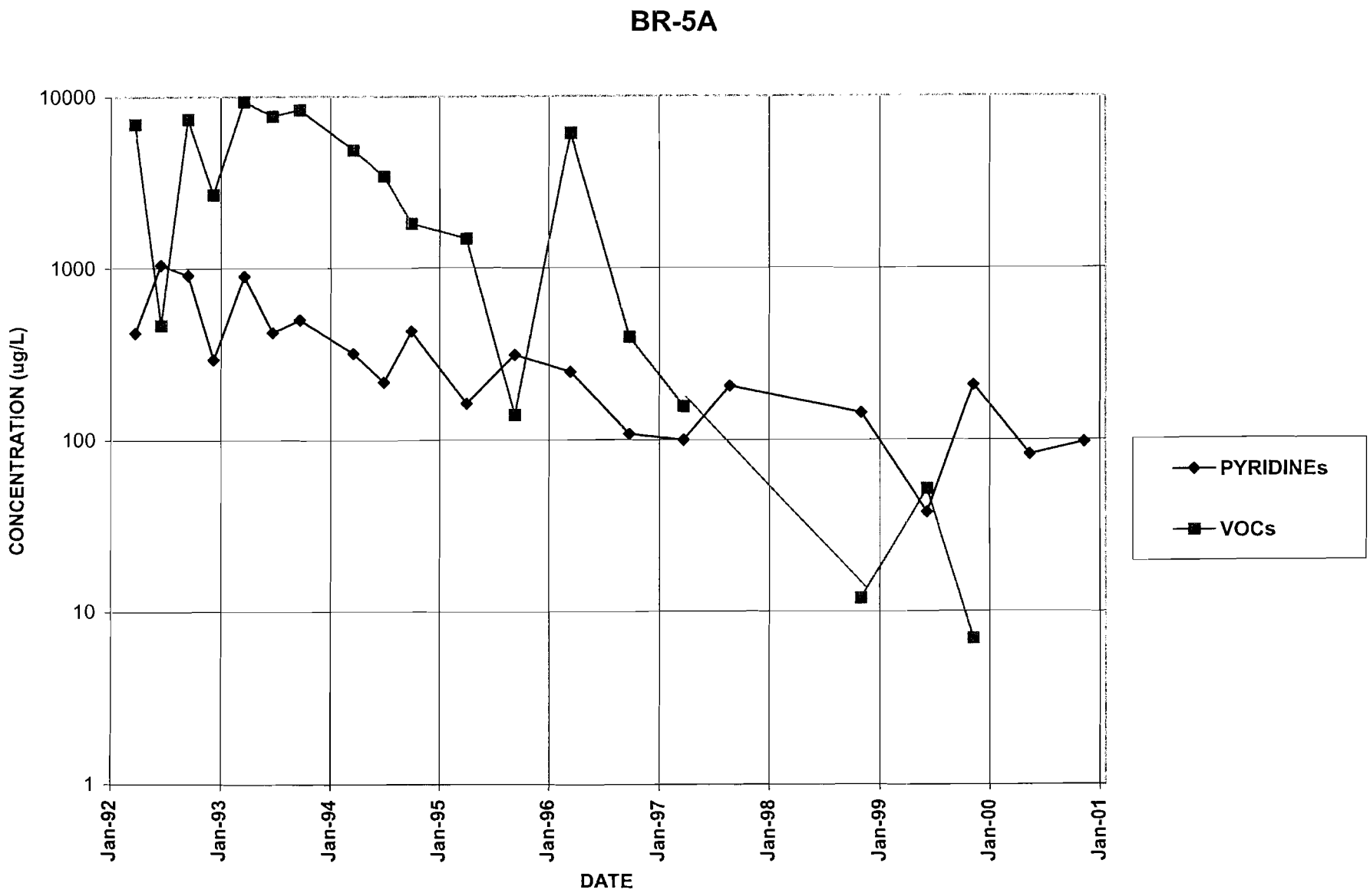
VOCs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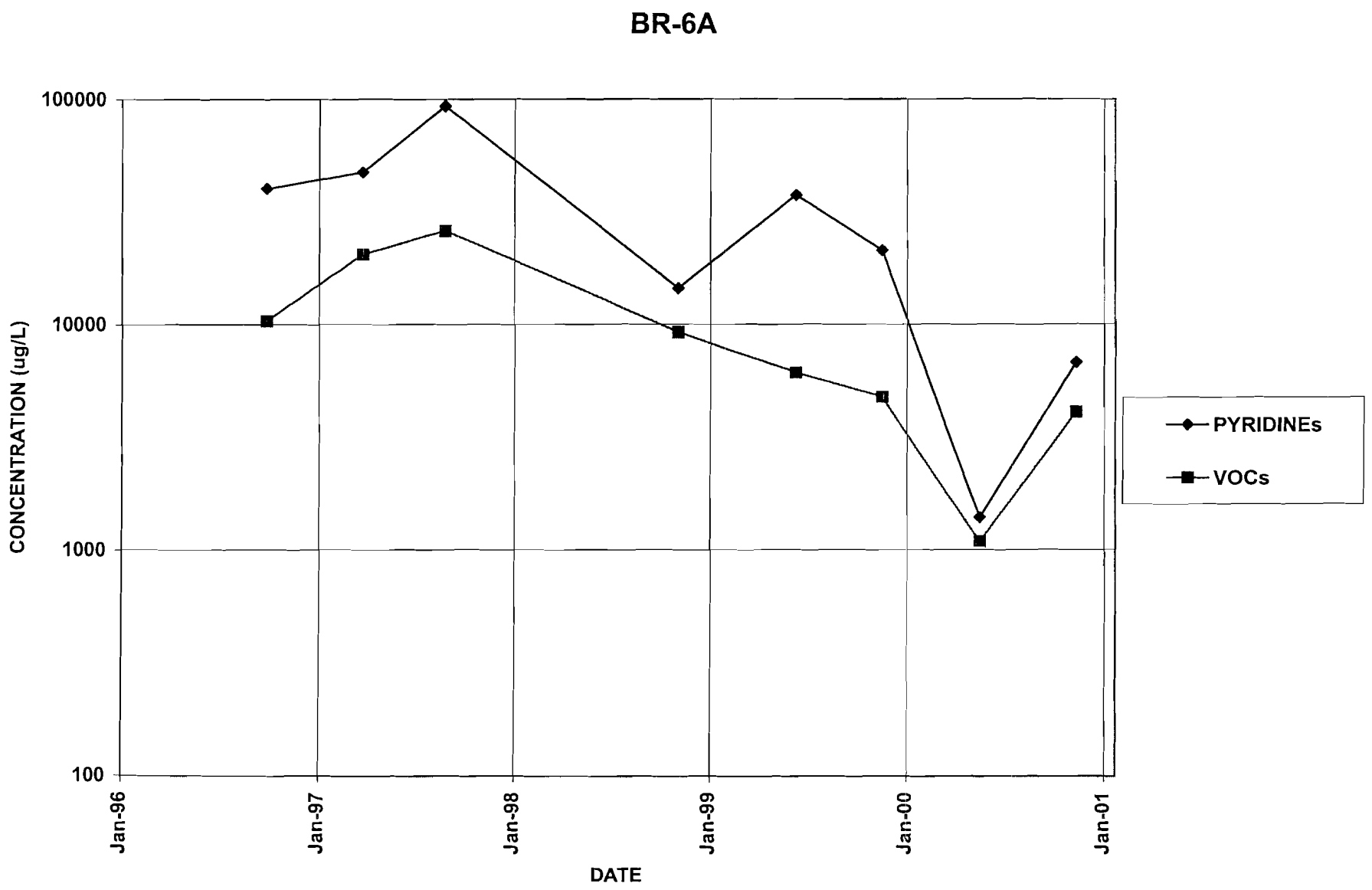
Jan-00
Jan-01
DATE
PYRIDINEs
VOCs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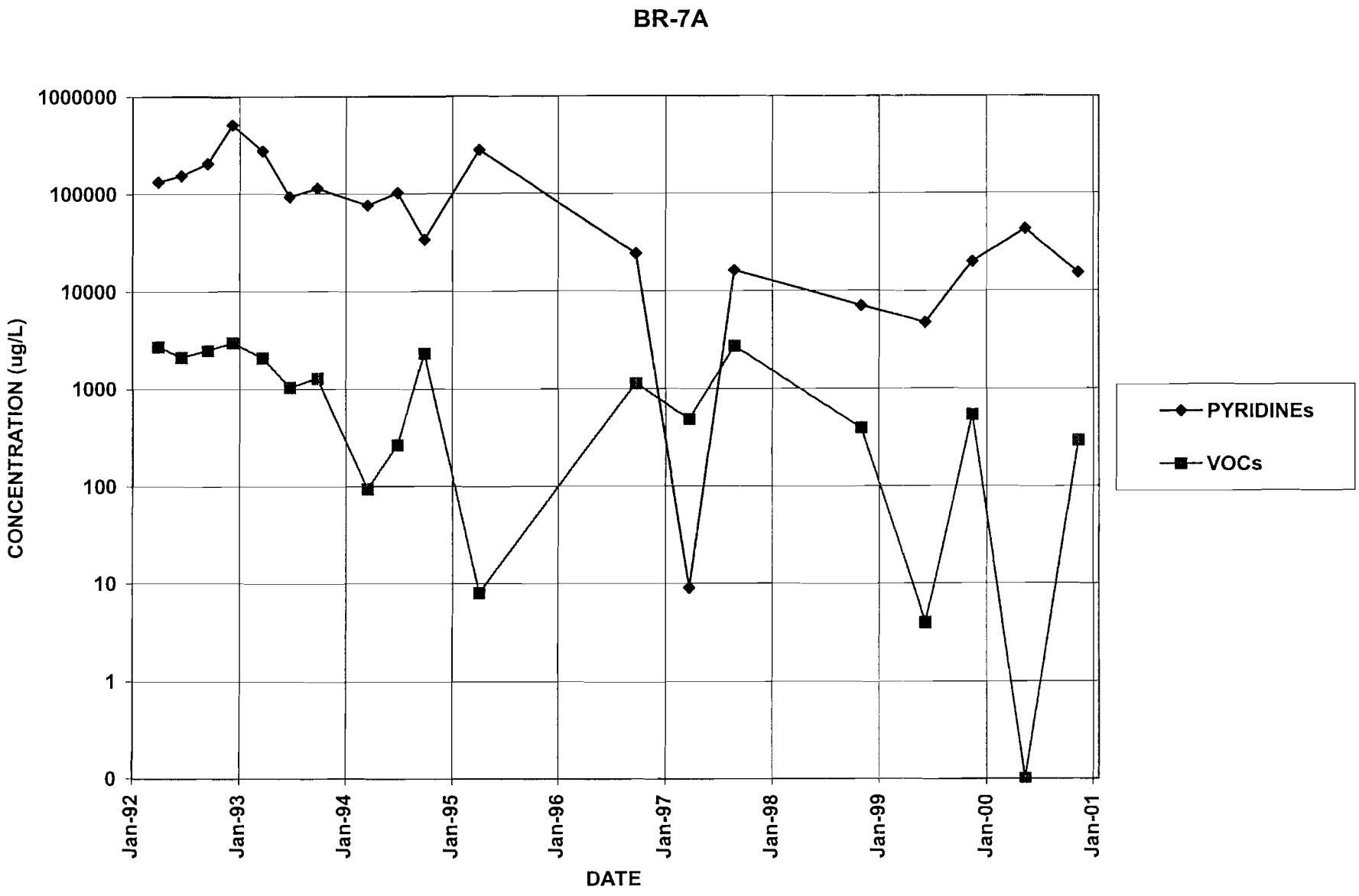
VOCs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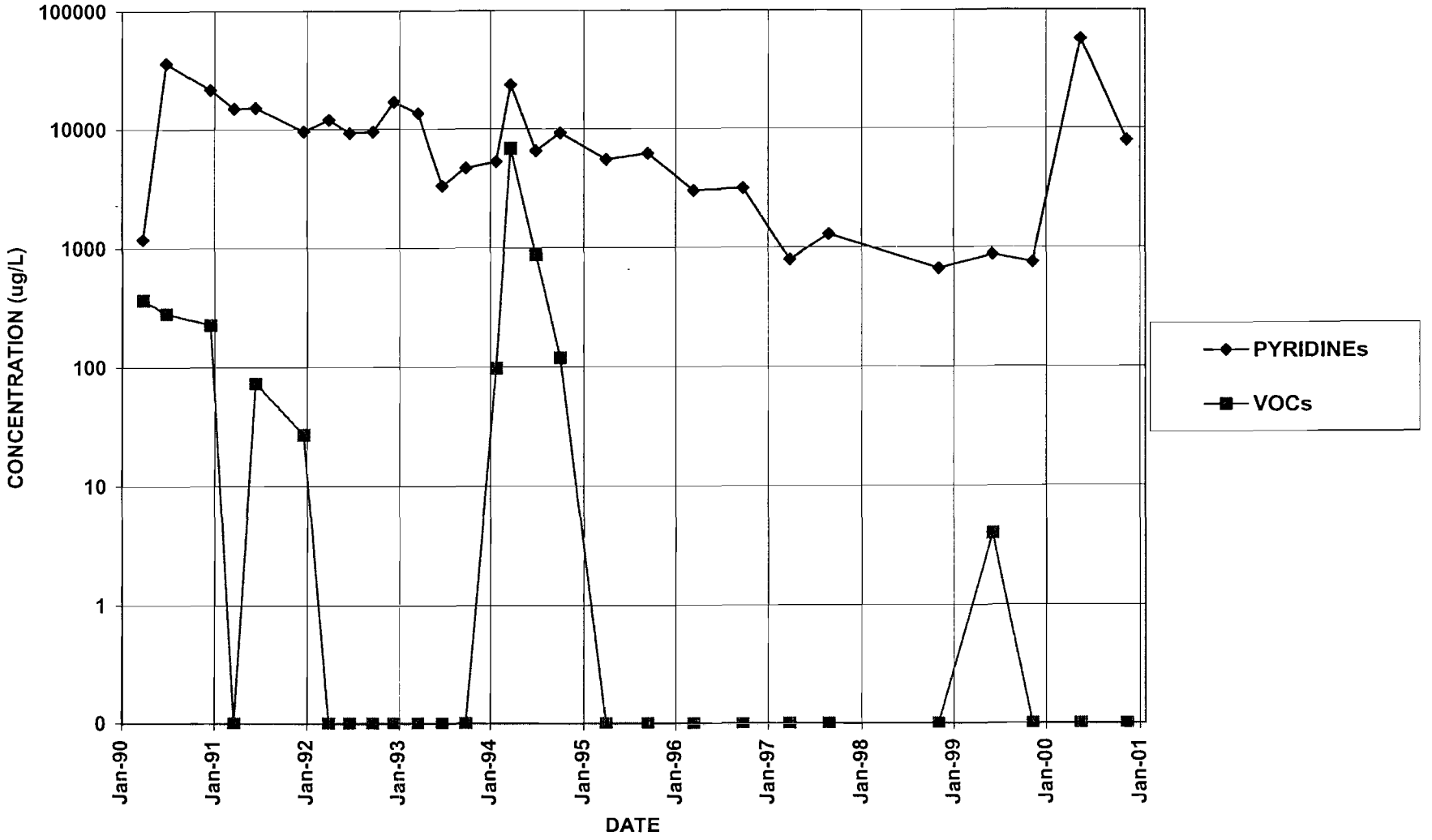
VOCs

BR-8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DATE
PYRIDINEs
VOCs

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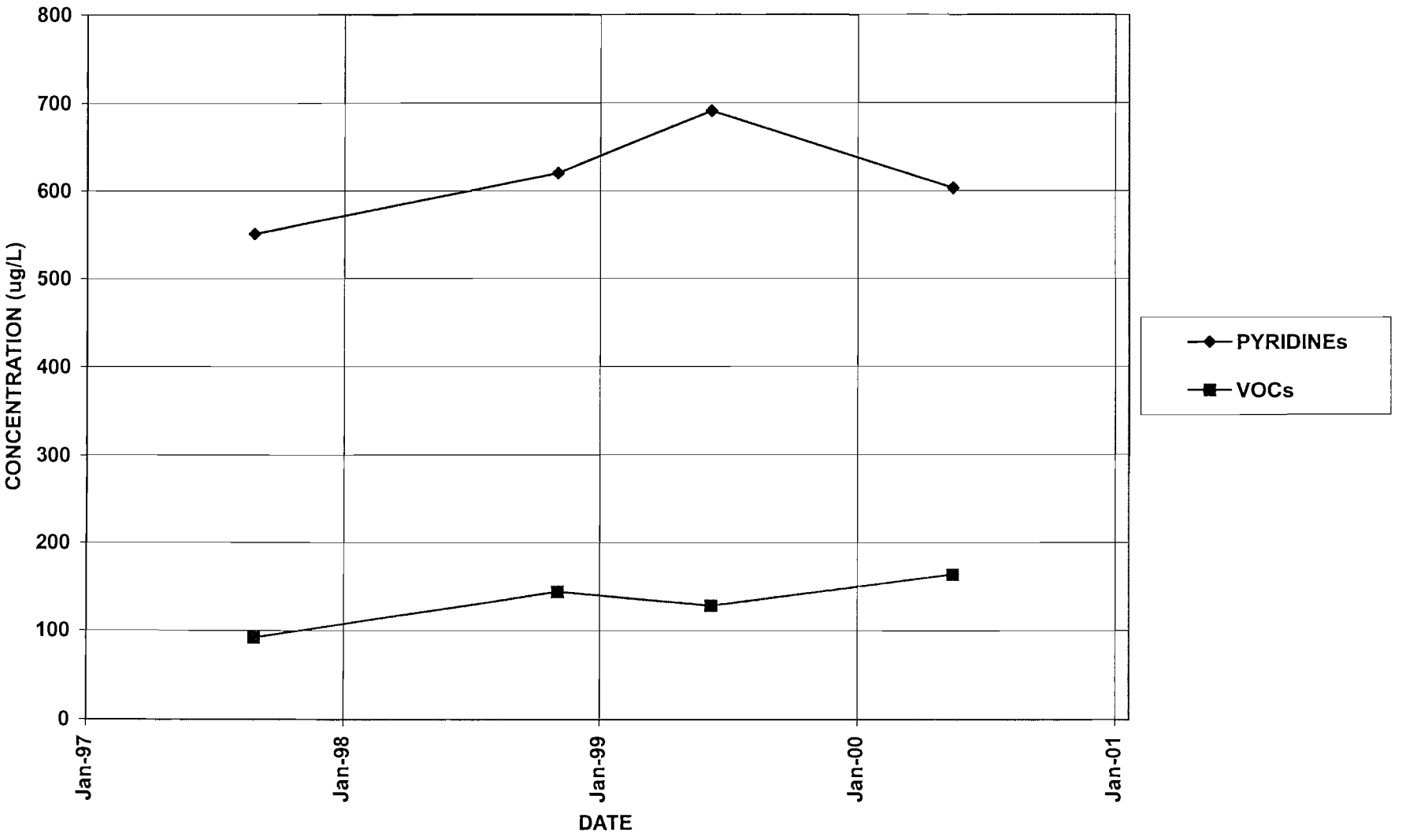
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Jan-00
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DATE
PYRIDINEs
VOCs

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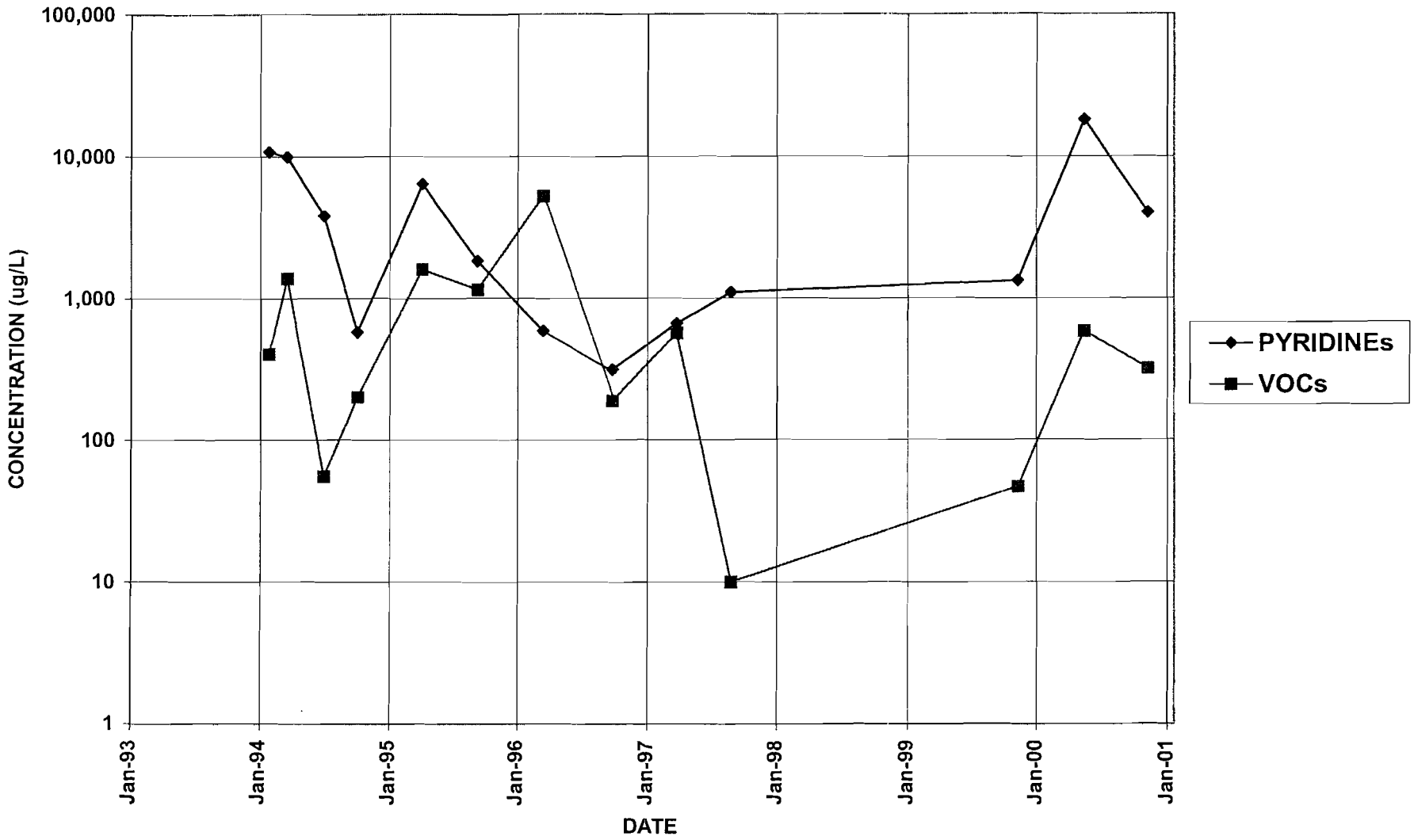
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DATE
PYRIDINEs
VOCs

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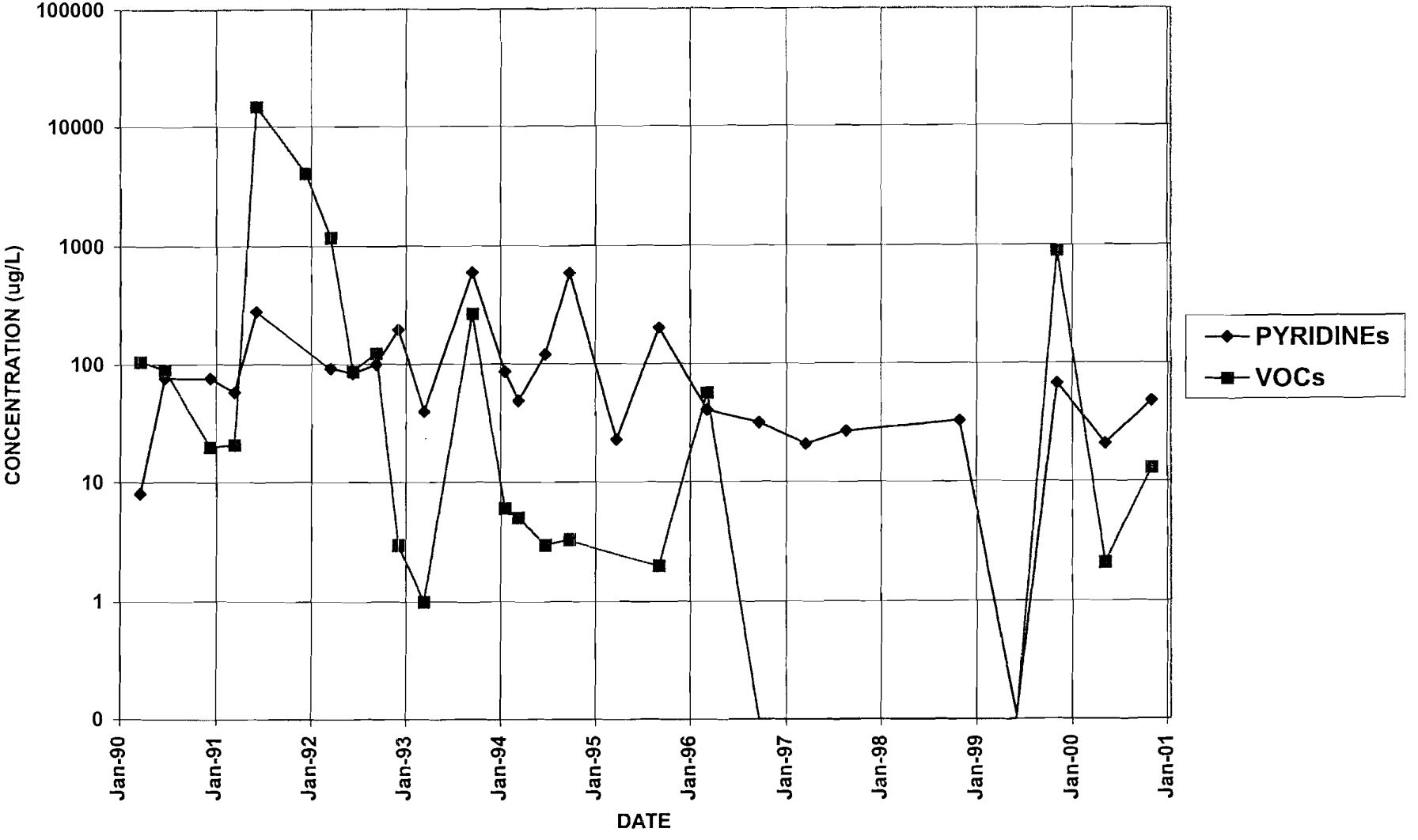
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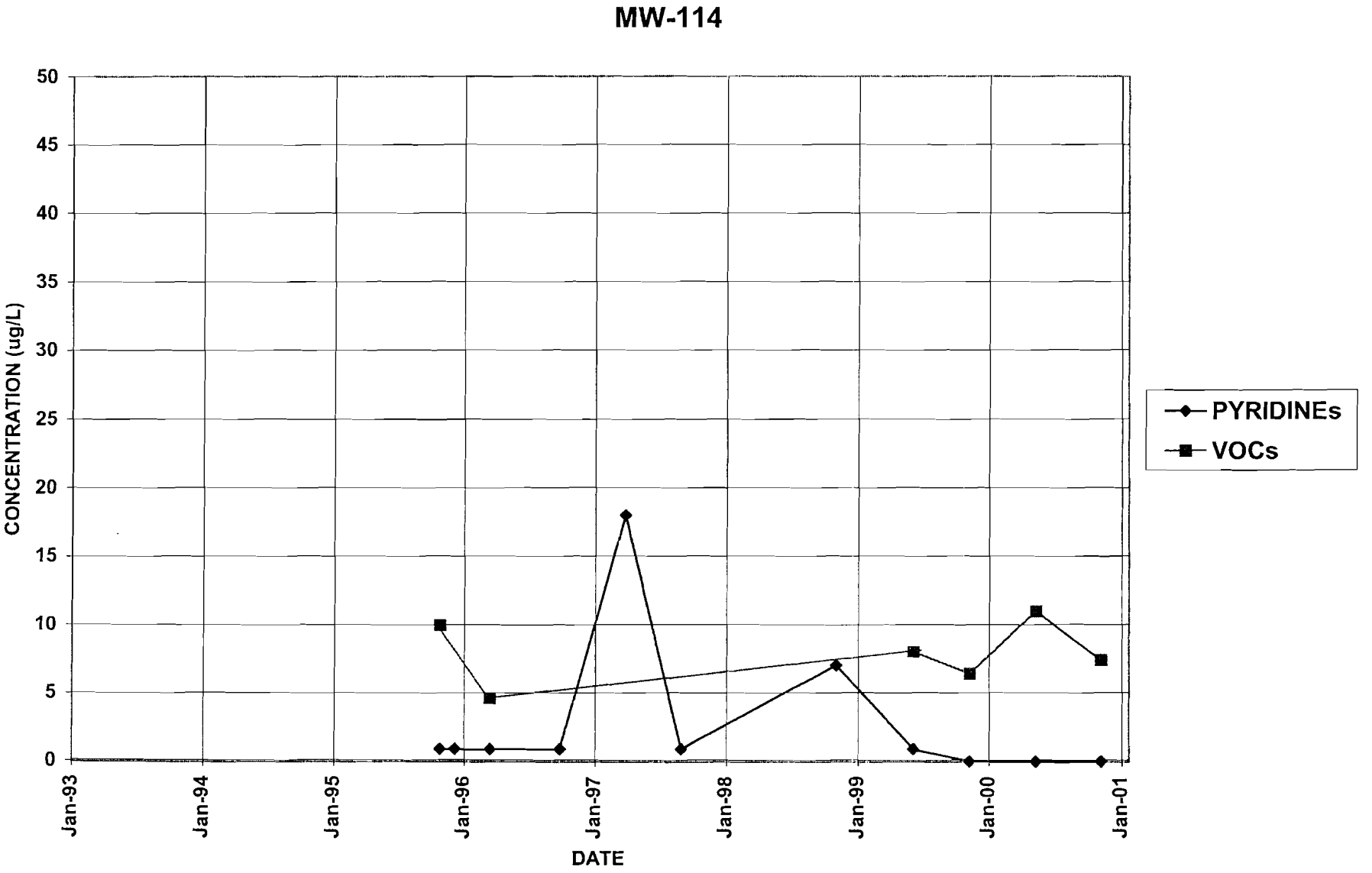
DATE
PYRIDINEs
VOCs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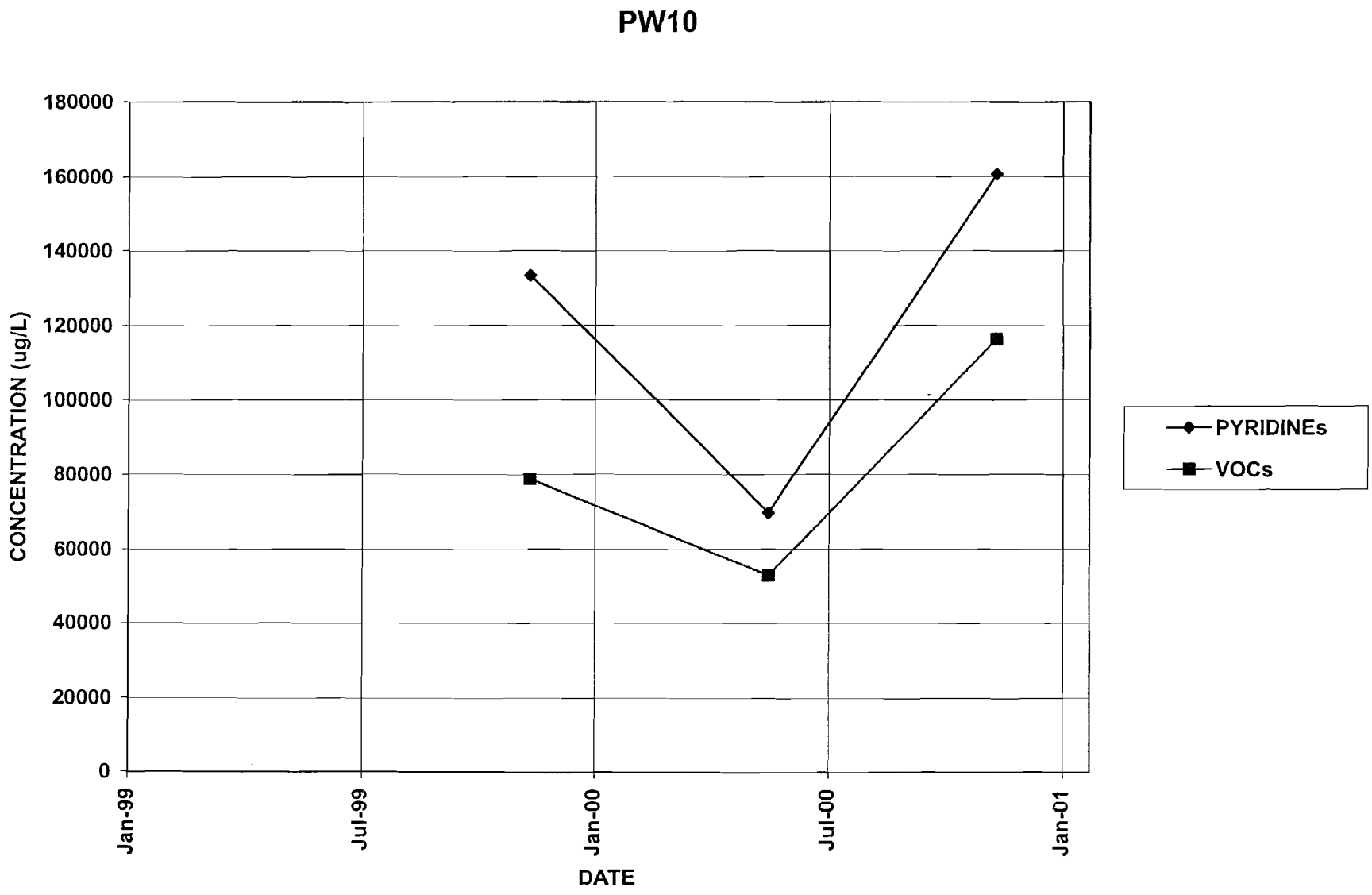
DATE
PYRIDINEs
VOCs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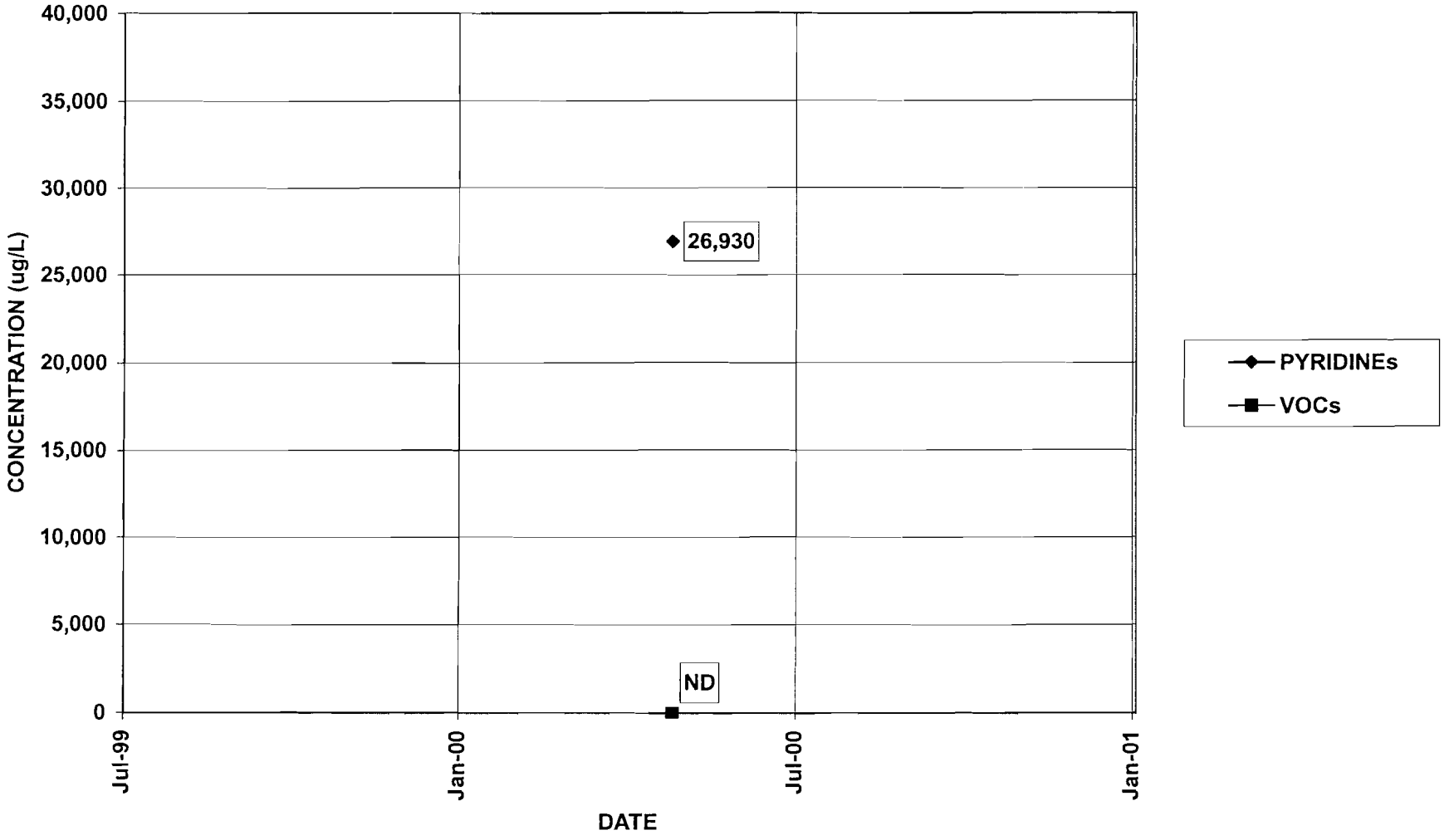
PYRIDINEs
VOCs

PW11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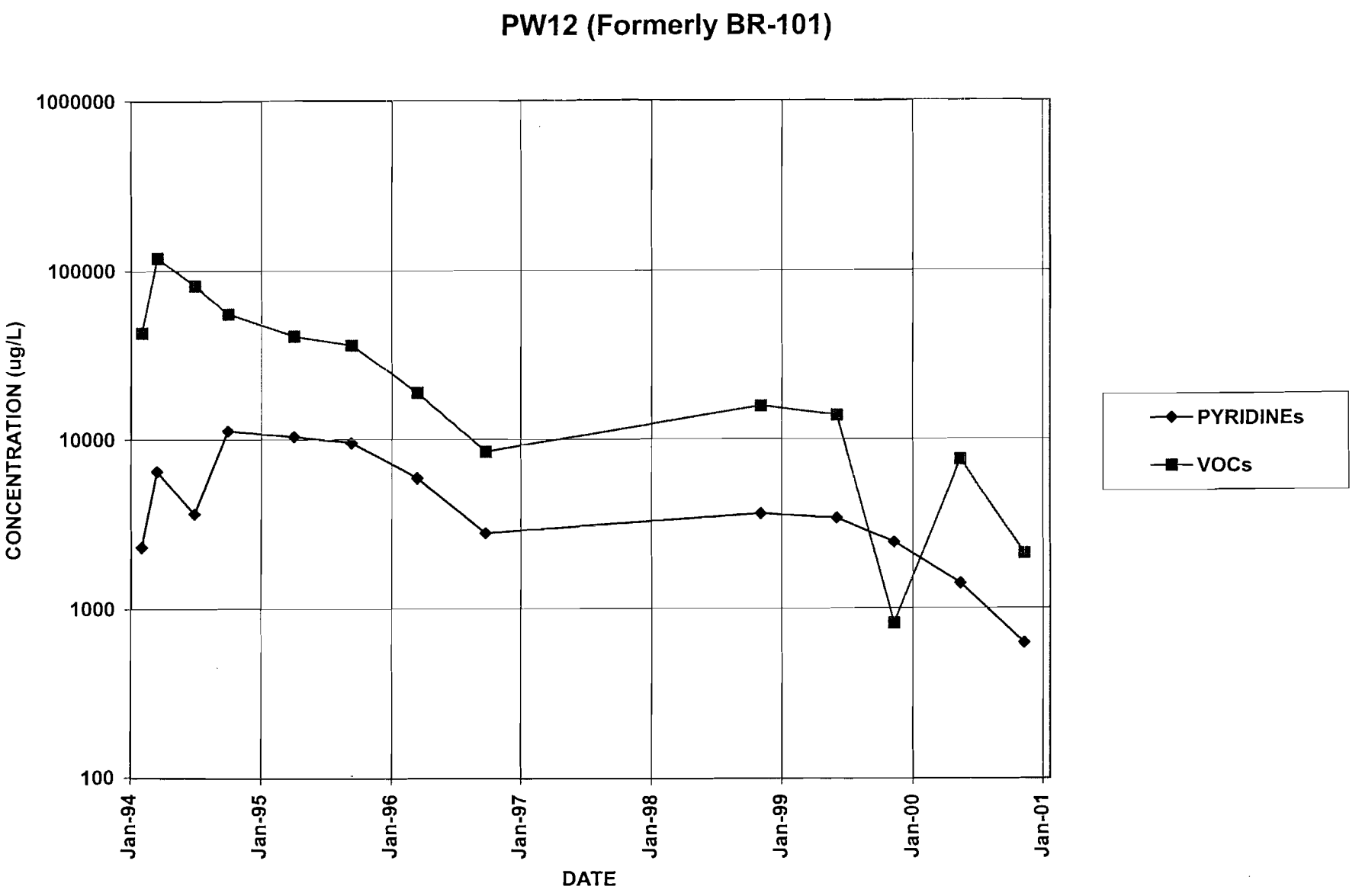
VOCs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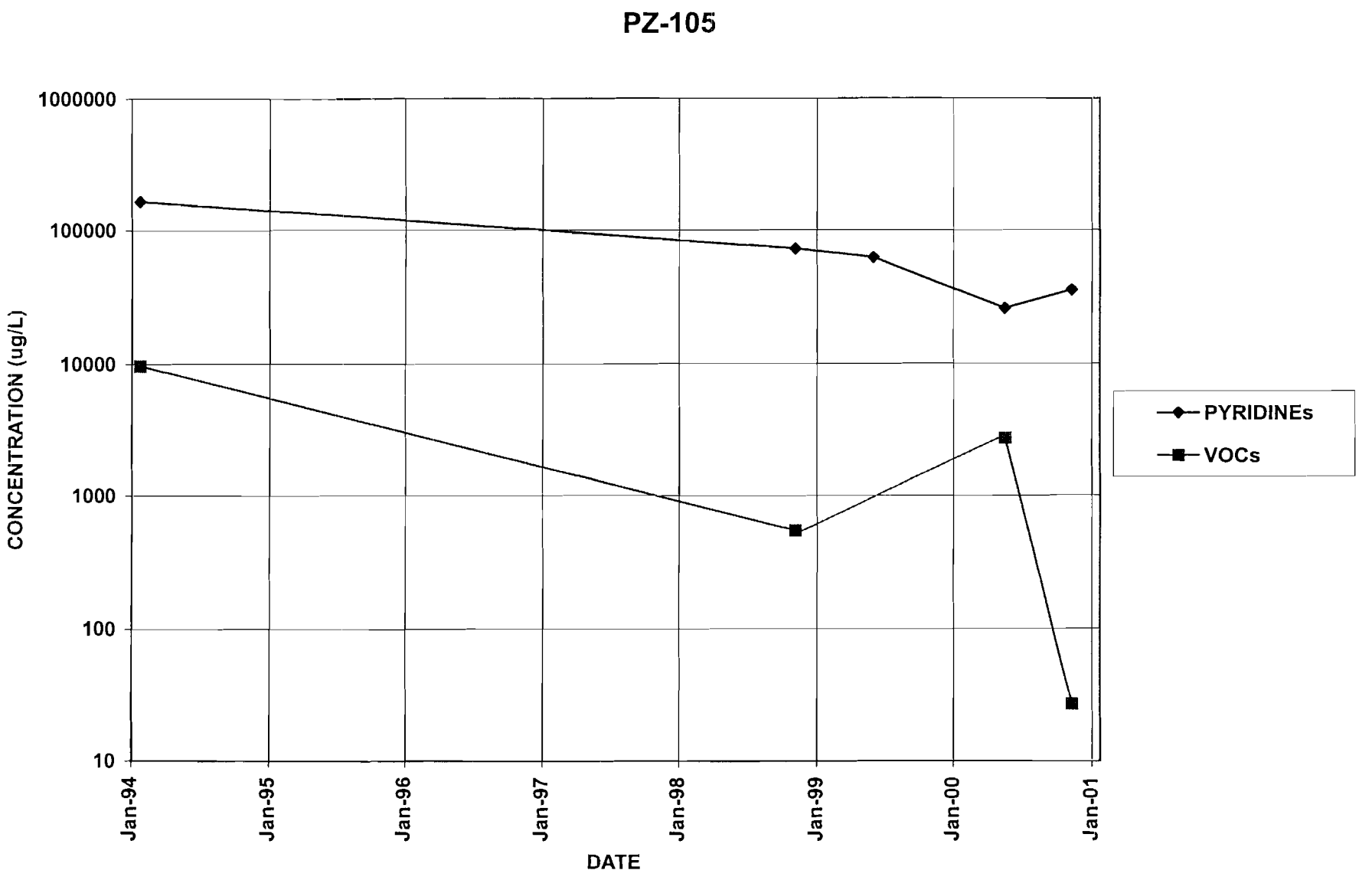
VOCs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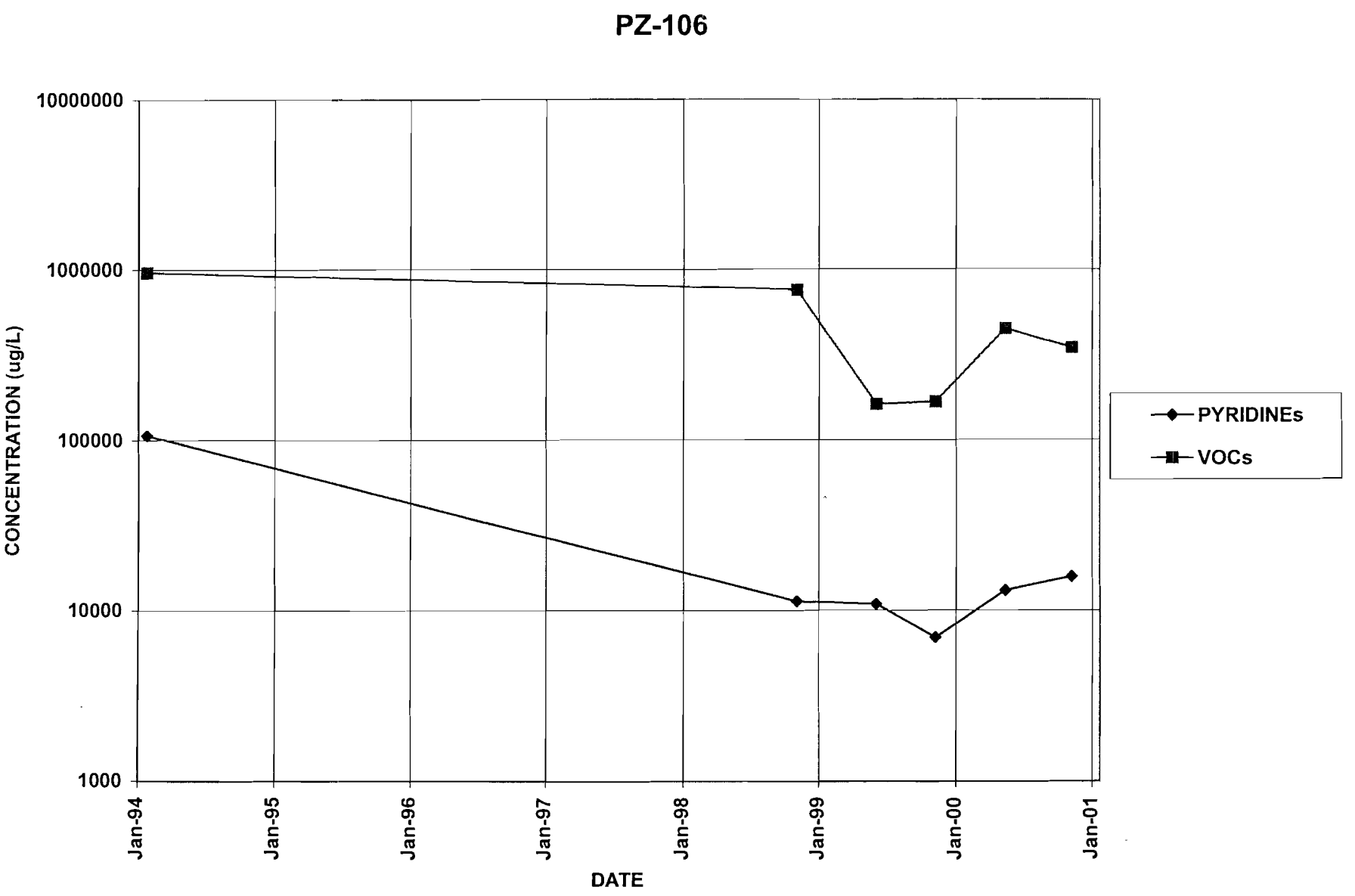
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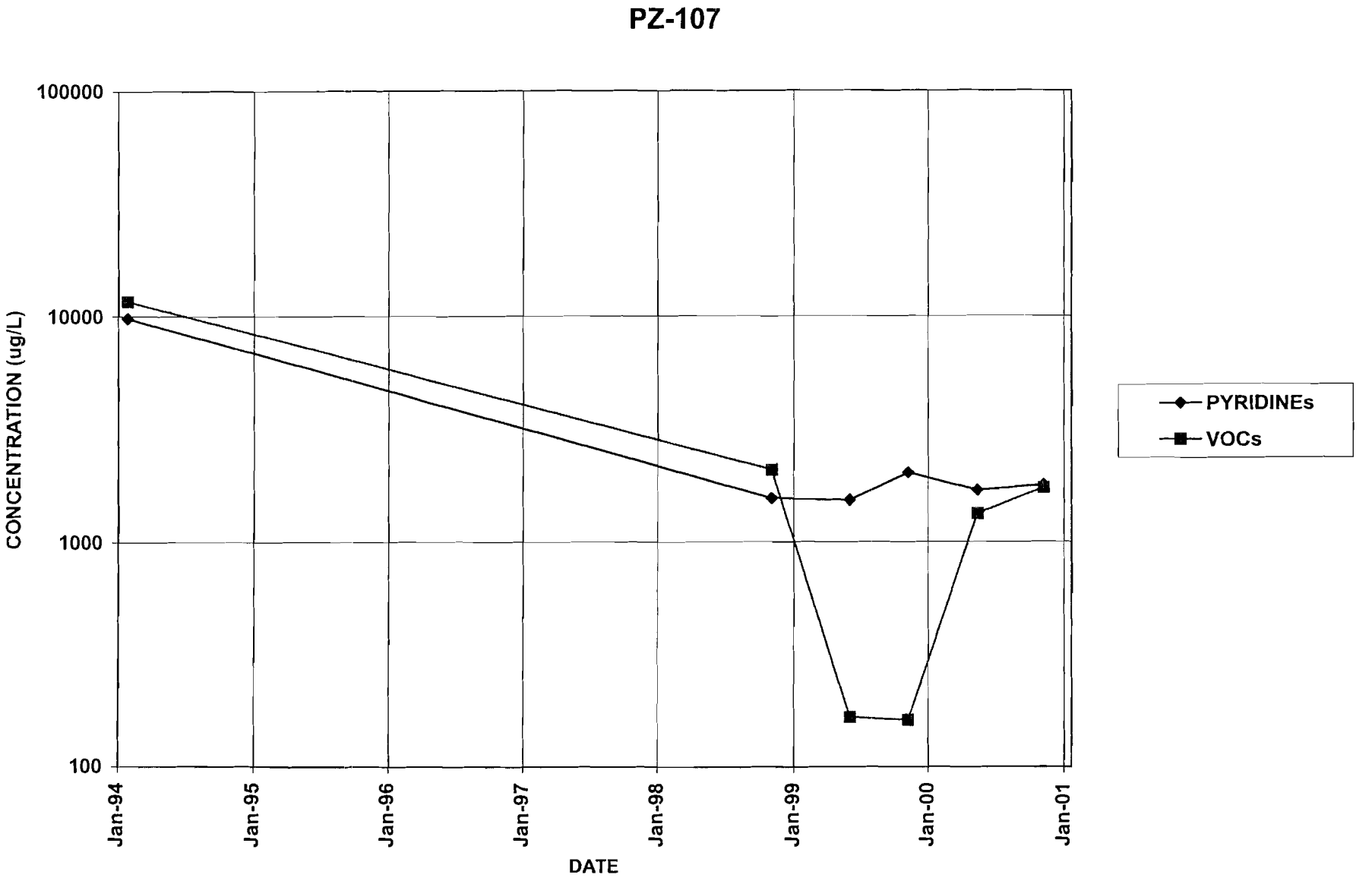
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VOCs

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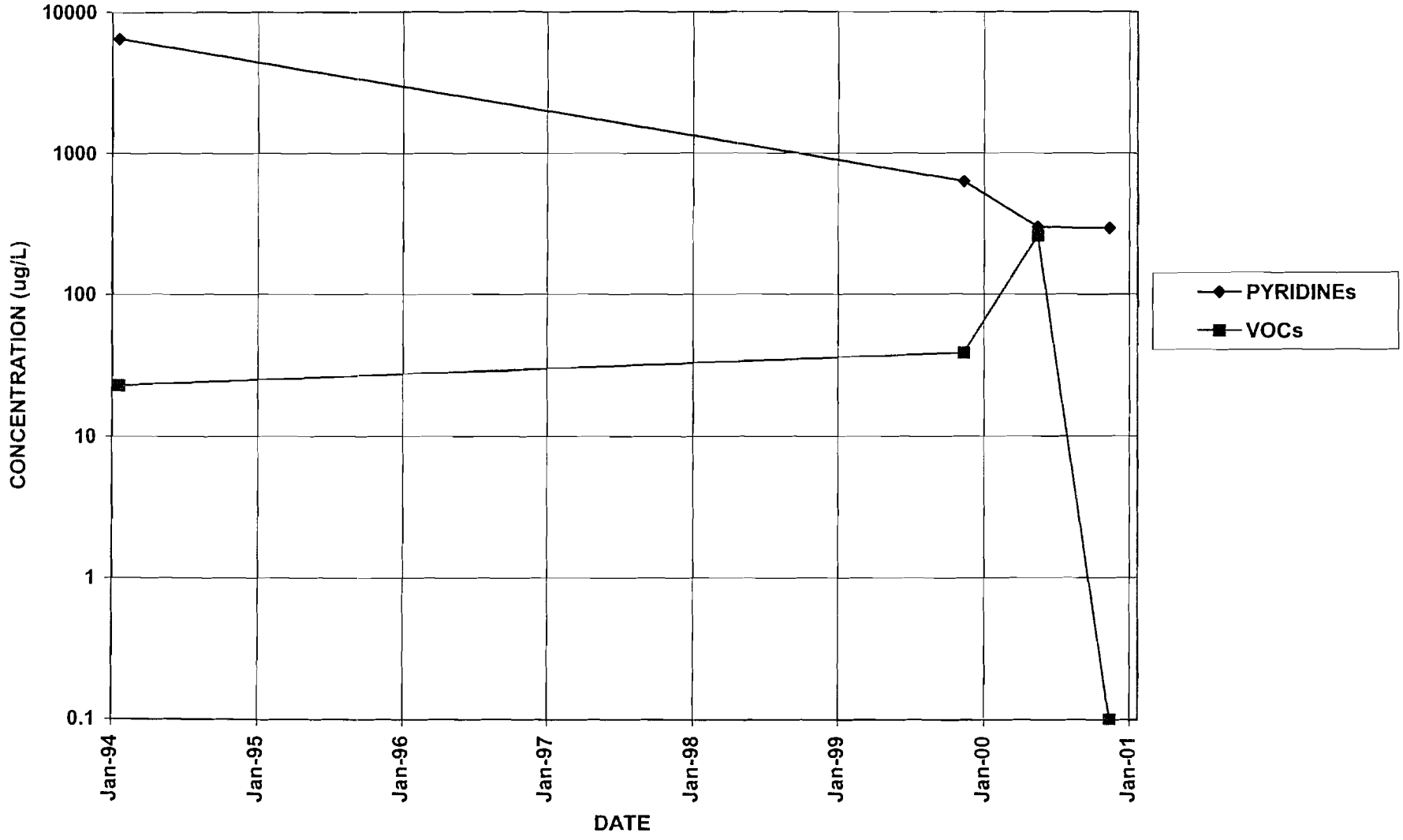
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Jan-95
Jan-96
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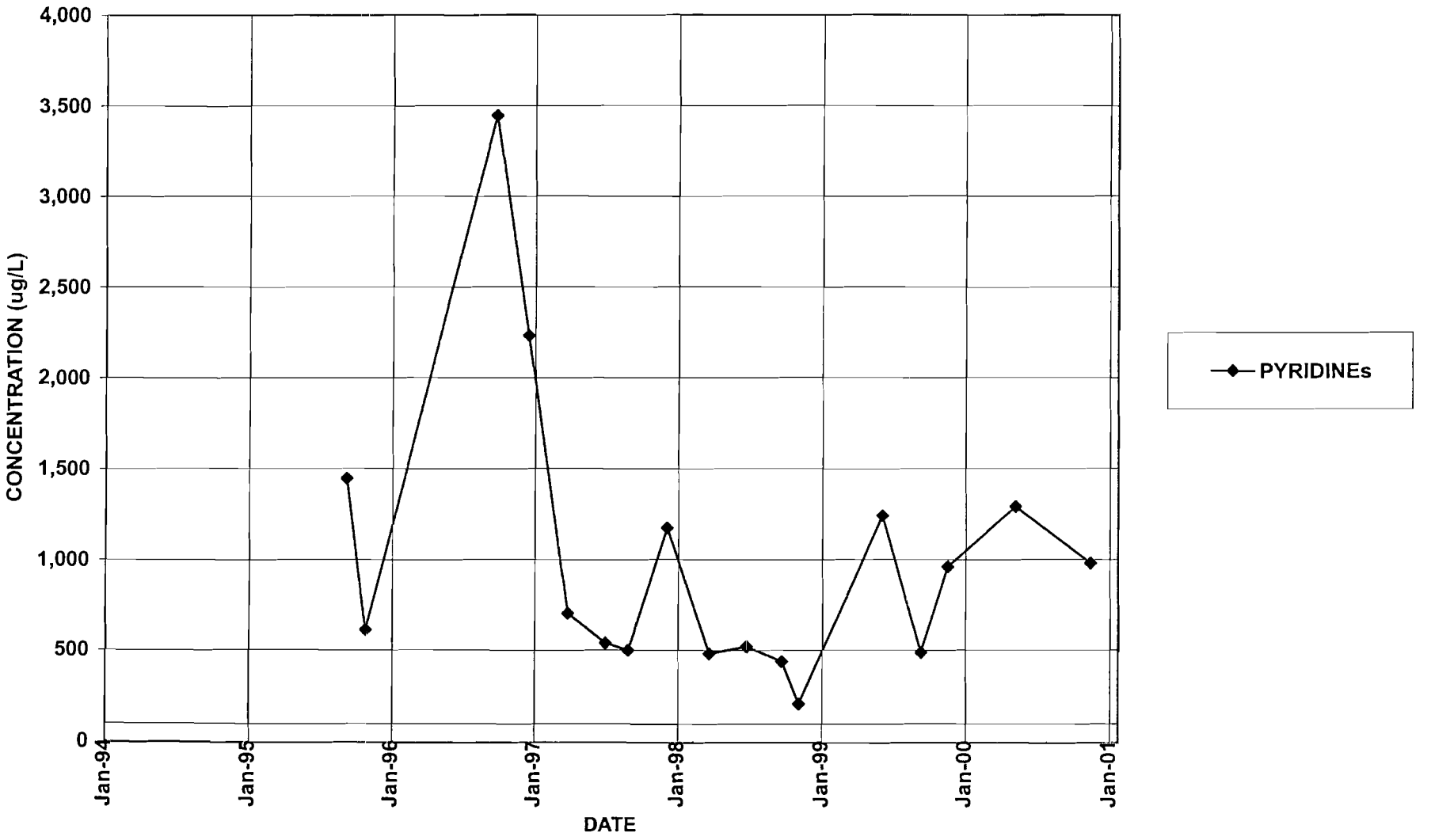
Jan-00
Jan-01
DATE
PYRIDINEs
VOCs

QS-4 (QUARRY SEEP)



Appendix B

Third Quarter 2000 – Erie Barge Canal and Quarry Sampling Results

Harding ESE
A MACTEC COMPANY

Harding ESE, Inc.
511 Congress Street
Portland, ME 04101

Telephone: 207/775-5401
Fax: 207/772-4762
Home Page: www.mactec.com

October 25, 2000

Ms. Gayle Bahn
Arch Chemicals, Inc.
P.O. Box 800, 1200 Lower River Road
Charleston, TN 37310

Subject: **Arch Chemicals - Rochester Site**
Third Quarter 2000 - Erie Barge Canal Water and Quarry Sampling Results

Dear Ms. Bahn:

Analytical results for the surface water samples collected during the third quarter of 2000 from the Erie Barge Canal (Canal) and the Dolomite Products Company quarry (quarry) are enclosed. Canal and quarry sampling are conducted as part of the on-going quarterly monitoring program for the Arch Rochester site. The sampling program, analytical procedure, data review findings, and validated data for the August 2000 sampling event are discussed below.

Sampling

Five canal and quarry surface-water samples were collected by and submitted to Severn Trent Laboratories (STL) in New York for selected chloropyridine analysis on August 23, 2000. The locations sampled during this quarter are listed below and are shown on the maps in Attachment 1.

Canal Samples	Quarry Samples
SW-1	QS-4 (Quarry Seep)
SW-2	QO-2 (Quarry Outfall)
SW-3	
SW-6	
SW-12	
QO-2S1	

Analytical Procedures and Data Review

All water samples were analyzed for the Arch suite of selected chloropyridines (pyridine, 2-chloropyridine, 3-chloropyridine, 4-chloropyridine, 2,6-dichloropyridine, and p-fluoroaniline) in accordance with SW-846 Method 8270C. The reporting limit for the selected chloropyridines is 10 micrograms per liter (µg/L) for undiluted samples.

A preliminary review of the quality control sample results associated with the analytical results was performed for data quality assurance purposes. Sample results were reviewed for holding time compliance; surrogate standard recoveries; blank contamination; and matrix spike blank (MSB) and matrix spike/matrix spike duplicate (MS/MSD) accuracy and precision. The results of the data review

are discussed in the quality control section of this letter. Overall, the data quality appears to be very good based on the information reviewed.

Analytical Results

The results from the Third Quarter 2000 Canal and quarry-monitoring event are presented in Attachment 2. Samples that were observed to contain one or more of the selected chloropyridines are summarized below; all results are expressed in µg/L.

Sample ID	2,6-DCPYR	2-CPYR
QO-2	1J (32)	2J (160)
QS-4	85J (1000)	440 (4700)

Notes: J = The positive result reported for this analyte is a quantitative estimate (result greater than the method detection limit but lower than the sample quantitations limit.
CPYR = chloropyridine
DCPYR = dichloropyridine
(32)= Historic Maximum Concentration

Quality Control

As part of the Third Quarter 2000 Canal and quarry surface water-monitoring program, MS/MSD samples and an equipment rinsate blank sample were collected as field quality control (QC) samples. Laboratory method-specific and field QC results were reviewed in accordance with Region II validation guidelines and indicated good precision and accuracy; no qualifying statements were required for positive results reported by the laboratory.

Conclusions

Results from the third quarter 2000 Canal and quarry seep sampling program indicate that chloropyridines were not detected in the samples collected from the Canal in the proximity of the Arch Site (SW-1, SW-2, SW-3), and that chloropyridines were detected in the quarry seep and quarry outfall at concentrations below historical observations.

The next quarterly sampling event is scheduled for November 2000.

If you have any questions or comments on the material described in this letter, please do not hesitate to contact me at (207) 828-3498.

Sincerely,

Harding ESE,
A Mactec Company

Nelson Breton, C.G.
Project Geologist

NB/jpc

Attachments: Sample Location Maps - Attachment 1
Laboratory Data Summary Table - Attachment 2
Chain of Custody Form - Attachment 3

cc: J. Brandow
J. Connolly
R. Gahagan
file 10.1

ATTACHMENT 1

SAMPLE LOCATION MAPS

T:\7311-34\7311F501 C&P 10/24/00

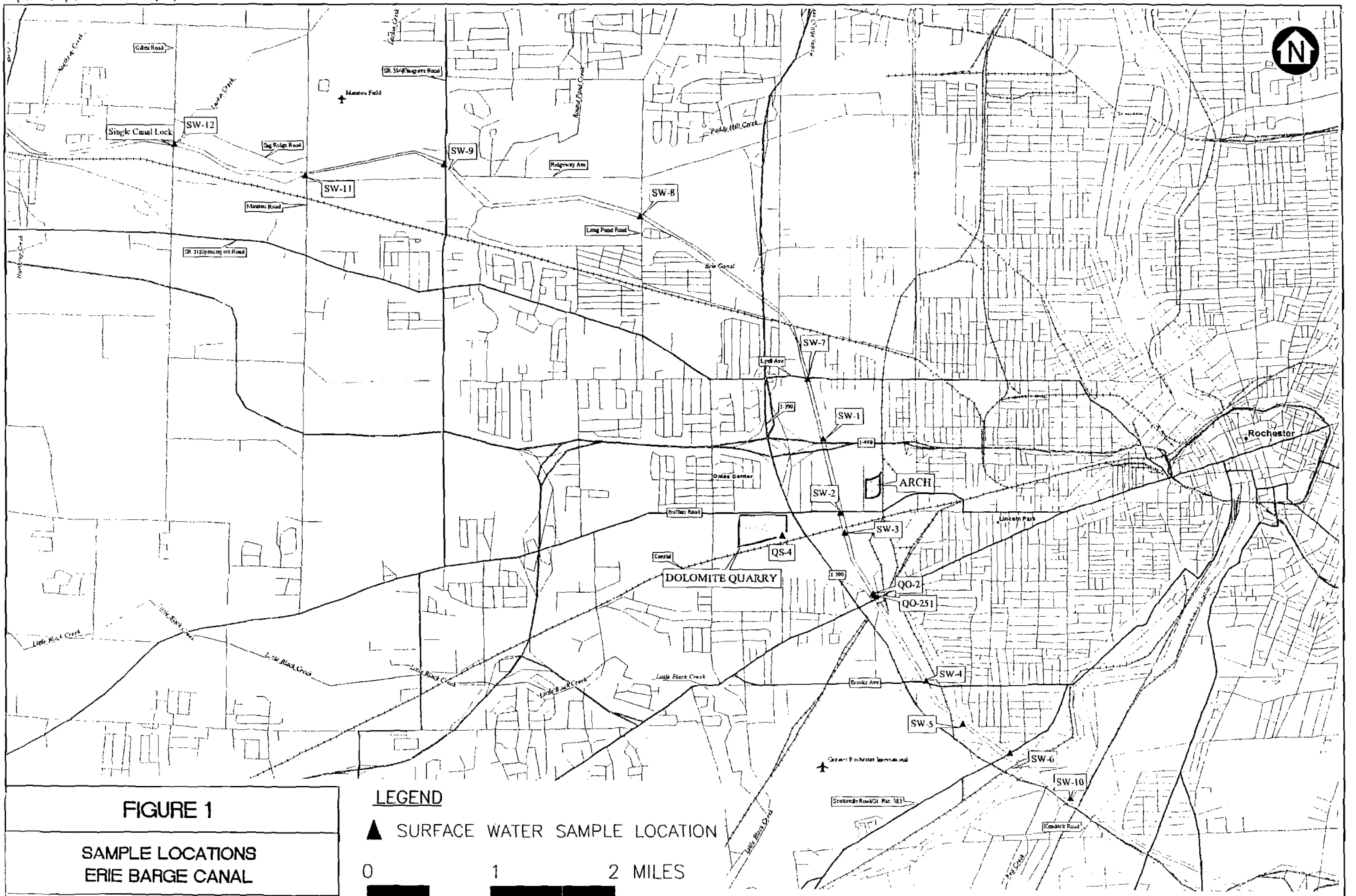
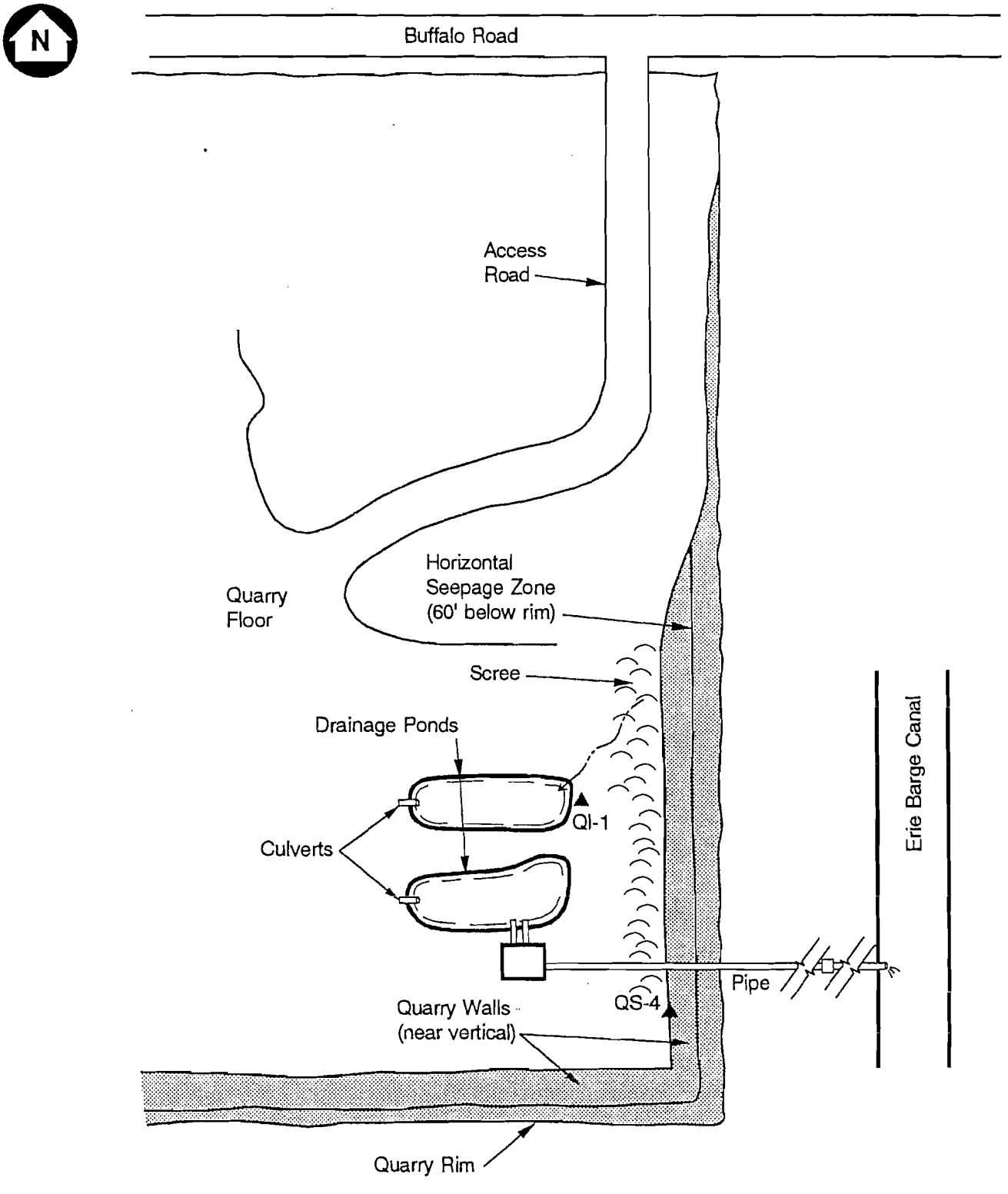


FIGURE 1

SAMPLE LOCATIONS ERIE BARGE CANAL

ARCH CHEMICALS
ROCHESTER, N.Y.



Legend

QS-4 ▲ Seep Sample Location

QI-1 ▲ Pond Inflow Sample Location

Not to Scale

FIGURE 2

SAMPLE LOCATIONS DOLOMITE PRODUCTS QUARRY

OLIN CHEMICALS
PHASE II RI REPORT ADDENDUM
ROCHESTER, NEW YORK

W9801019

ATTACHMENT 2

LABORATORY DATA SUMMARY TABLE

Arch Chemicals
Rochester, NY
August 2000 Monitoring Event

Selected Pyridine Analysis Results

Location	SW-1	SW-2	SW-3	SW-6	SW-12	QO-2	QO-2S1	QS-4	ERB
Date Sampled	8/23/2000	8/23/2000	8/23/2000	8/23/2000	8/23/2000	8/23/2000	8/23/2000	8/23/2000	8/23/2000
Selected Pyridines by SW-846 8270C (ug/L)									
2,6-Dichloropyridine	9. U	10. UJ	9. U	9. U	9. U	1. J	9. U	85. J	9. U
2-Chloropyridine	9. U	10. U	9. U	9. U	9. U	2. J	9. U	440.	9. U
3-Chloropyridine	9. U	10. U	9. U	9. U	9. U	10. U	9. U	100. U	9. U
4-Chloropyridine	9. U	10. U	9. U	9. U	9. U	10. U	9. U	100. U	9. U
p-Fluoroaniline	9. U	10. U	9. U	9. U	9. U	10. U	9. U	100. U	9. U
Pyridine	9. U	10. U	9. U	9. U	9. U	10. U	9. U	100. U	9. U

Notes:
U = not detected, value represents sample quantitation limit (SQL)
J = estimated value

ATTACHMENT 3

CHAIN OF CUSTODY FORM

STL
Committed To *Your* Success

Report To:
Contact:
Company:
Address:
Phone:
Fax:
E-Mail:

Bill To:
Contact:
Company:
Address:
Phone:
Fax:
PO#: Quote:

Internal Use Only

Sampler Name: JEFF YOHE / R. SENF
Signature:
Project Name: ARCH CHEMICAL
Project Number: NY9A8493.1
Project Location:
Date Required:

STL Sample No.	Client Sample ID	Sampling Date	Sampling Time	MATRIX	COMP / GRAB	PYRIDINES 46	Additional Analyses / Remarks
	ERB ✓	08-23-00	1055	W	G	2	EQUIPMENT RINSE BLANK
	SW-1 ✓		1330			2	
	SW-2 ✓		1100			2	
	SW-3 ✓		1120			2	
	SW-6 ✓		1315			2	
	SW-12 ✓		1200			2	
	QS-4 ✓		1130			2	
	QO-2 ✓		1255			2	
	QO-251 ✓		1305			2	

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
	STL	08-23-00	1545			8/23/00	1550
RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME

Matrix Key
WW = Wastewater
W = Water
S = Soil
SL = Sludge
MS = Miscellaneous Solids
OL = Oil
A = Air
O = _____

Container Key
1. Plastic
2. VOA Vial
3. Sterile Plastic
4. Amber Glass
5. Widemouth Glass
6. Other
—

Preservative Key
1. HCl, Cool to 4°
2. H_2SO_4, Cool to 4°
3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn Acetate, Cool to 4°
6. Cool to 4°
7. None

COMMENTS: Cooler @ 4°C

Courier:

Bill of Lading:

000025

STL
Committed To *Your* Success

Report To:	Bill To:	*Internal Use Only*
Contact:	Contact:	
Company:	Company:	
Address:	Address:	
Phone:	Phone:	
Fax:	Fax:	
E-Mail:	PO#: Quote:	

Sampler Name:	Signature:
JEFF YOHE / R. SENF	
Project Name:	Project Number:
ARCH CHEMICAL	NY9A8493, X2
Project Location:	Date Required:

STL Sample No.	Client Sample ID	Sampling Date	Sampling Time	MATRIX	COMP / GRAB	PYRIDINES 4/6	Additional Analyses / Remarks
	ERB ✓	08-23-00	1055	W	G	2	EQUIPMENT RINSE BLANK
	SW-1 ✓		1330			2	
	SW-2 ✓		1100			2	
	SW-3 ✓		1120			2	
	SW-6 ✓		1315			2	
	SW-12 ✓		1200			2	
	QS-4 ✓		1130			2	
	QO-2 ✓		1255			2	
	QO-251 ✓		1305			2	

RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
	STL	08-23-00	1545			8/23/00	1550
RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME
RELINQUISHED BY	COMPANY	DATE	TIME	RECEIVED BY	COMPANY	DATE	TIME

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3. HNO_3, Cool to 4°
4. NaOH, Cool to 4°
5. NaOH/Zn Acetate, Cool to 4°
6. Cool to 4°
7. None

COMMENTS:
Cooler @ 4°C

Courier:

Bill of Lading:

000025