No. 121

Subsurface Investigations
A Division of The Envirovision Group, Inc.

VOLUME II - APPENDIX P (Cont'd) THRU APPENDIX T
REMEDIAL INVESTIGATION REPORT
SWIVELIER COMPANY, INC.
33 ROUTE 304
NANUET, NEW YORK
NYSDEC SITE CODE #344036

Prepared For

SWIVELIER COMPANY, INC.
33 ROUTE 304
NANUET, NEW YORK 10954

Prepared By

SUBSURFACE INVESTIGATIONS
A DIVISION OF THE ENVIROVISION GROUP, INC.
331 ROUTE 9W
CONGERS, NEW YORK 10920

NOVEMBER, 1993

Subsurface Investigations Inc.

February 17, 1992

Mr. Joseph McCarthy
NYSDEC - Region 3
21 S. Putt Corners Road
New Paltz, NY 12561

RE: PETROLEUM PRODUCT SPILL # 87-07447
SWIVELIER CO., NANUET, NEW YORK

Dear Mr. McCarthy,

In accordance with your letter of April 22, 1991, Subsurface Investigations, Inc. (SII) is submitting the following monthly monitoring and quarterly status reports on behalf of our client, the Swivelier Company in Nanuet, Rockland County, New York.

Samples were collected using clean bailers, following the removal of three casing volumes of water. Following collection, the samples were immediately placed on ice and delivered under chain-of-custody to Laboratory Resources, Inc. of Westwood, New Jersey (a New York certified laboratory) in accordance with NYSDEC guidelines. Prior to sample collection, static water levels were measured using an electric sounding interface probe. No free product or odors were found in any of the wells sampled.

Wells 1 North and 2 North were sampled and analyzed for BTEX, by EPA Method 602. Results with accompanying chain of custody forms are attached for your review. The results of analysis show reported concentrations of 2.8 parts per billion (ppb) and 14,989 ppb in well 1N and well 2N, respectively. The results of analysis, with the exception of the previous quarter which showed none detectable (ND) concentrations, have remained essentially the same.

We will continue the program of monthly monitoring and quarterly sampling as instructed by your department. If there are any questions, please call us.

Sincerely,

Brian H. Mende
Project Manager/Geologist

BHM:njm
Ref. No.: 92052

cc: C. Quinn - RCHD
G. Phelan - Swivelier

331 Route 9W Congers, NY 10920
Phone 914 268-6660 FAX 914 268-2065

3107 Lorena Avenue Baltimore, MD 21230
Phone 410/644-8265 FAX 410/644-8231

PETROLEUM PRODUCT SPILL # 87-07447
MONTHLY MONITORING REPORT
SWIVELIER COMPANY
NANUET, NEW YORK

WELL #	PRODUCT	ODOR	STATIC WATER LEVEL (FEET BELOW SURFACE)		
			8/30/91	9/30/91	10/21/91
1 SE	NO	NO	-------	-------	5.61
2 SW	NO	NO	-------	-------	6.11
1N	NO	NO	7.75	7.79	7.85
2N	NO	NO	5.75	5.75	5.85
3N	NO	NO	-------	--------	4.06

Laboratory Resources INC
363 Old Hook Road Westwood, New Jersey 07675 201/ 666-6644

LABORATORY ANALYSIS REPORT

Client: Subsurface Investigations

Contact: Mr. Brian Mende

Project: Swivelier

Lab ID No.:	Sample Reference	Matrix	Collection Date & Time	
W112372-01	Field Blank	Aqueous	12/26/91	15:30
W112372-02	Well 1N	Aqueous	12/26/91	15:35
W112372-03	Well 2N	Aqueous	12/26/91	16:00

Date Received: December 27, 1991

Date of Report: January 20, 1992

Tara A. Weiss
Laboratory Manager

N.J. Certification #02046
N.Y. Certification #10588

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CASE NARRATIVE

Laboratory Resources, Westwood, received three aqueous samples for Tier II deliverables on December 27, 1991. The samples were analyzed for the parameters in the chain of custody.

The samples were analyzed within the recommended holding times. Any parameters which were outside of their respective quality control ranges are noted in the non-conformance summaries.

Please contact us if there are any questions regarding the enclosed results.

LABORATORY DELIVERABLES

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following laboratory deliverables shall be included in the data submission. All deviations from the accepted methodology and procedures, or performance values outside acceptable ranges shall be summarized in the Non-Conformance Summary. The document shall be bound and paginated, contain a table of contents, and all pages shall be legible. Incomplete packages may be returned or held without review until the data package is completed.

		Check if Complete
I.	Cover Page, Format, and Laboratory Certification (Include Cross Reference Table of Field I.D. # and Laboratory I.D. #)	✓
II.	Chain of Custody	✓
III.	Summary Sheets Listing Analytical Results Including QA Data Information (see Attached Form and ESPG Attachment 2.B.2.C.)	N/A
IV.	Laboratory Chronicle and Methodology Summary including Sampling Holding Time Check	✓
V.	Initial Calibration and Continuing Calibration	✓
VI.	Tune Summary (MS)	N/A
VII.	Blanks (Method, Field, Trip)	✓
VIII.	Surrogate Recovery Summary	✓
IX.	Chromatographs Labelled/Compound Identification	✓
X	Non-Conformance Summary	✓

Laura D Weiss
Laboratory Manager or Environmental Consultant's Signature

1/20/92
Date

002

GC/MS ANALYSIS CONFORMANCE/NON-CONFORMANCE SUMMARY FORMAT

	No	Yes
1. GC/MS Tune Specifications		N/A
a. BFB passed		
b. DFTPP passed		N/A
2. GC/MS Tuning Frequency - Performed every 12 hours		N/A
3. GC~~/MS~~ Calibration - Initial Calibration performed within 30 days before sample analysis and continuing calibration performed within 24 hours before sample analysis		✓
4. GC/MS Calibration Requirements		N/A
a. Calibration Check Compounds		N/A
b. System Performance Check Compounds		
5. Blank Contamination - List compounds for each fraction		
a. VOA Fraction NONE		
b. B/N Fraction		
c. Acid Fraction		✓
6. Surrogate Recoveries Meet Criteria (If not met; list those compounds and their recoveries which fall outside the acceptable range)		
a. VOA Fraction		
b. B/N Fraction		
c. Acid Fraction		N/A
7. Extraction Holding Time Met		
Comments:		
8. Analysis Holding Time Met		✓
Comments:		

Additional Comments:

003

Tina A Weiss Date: 1/20/92

Organic Non-Conformance Summary

There were no non-conformances encountered during the analyses of these samples.

W112372

Laboratory Resources Inc

CHAIN OF CUSTODY

CUSTOMER INFORMATION

CUSTOMER: Subsurface Investigations
ADDRESS: Congers, NY
TELEPHONE: 914-268-6660
PROJECT: Swivelier
PROJECT MANAGER: Brian Mende
PROJECT LOCATION: Nanuet STATE: NY
PO NUMBER:

REPORT INFORMATION

SEND REPORT TO: Subsurface Investigations
331 Rt 9W
Congers, NY 10920

DATE REPORT REQUIRED:
RUSH RESULTS: FAX

PROJECT INFORMATION

TURNAROUND (INDICATE CALENDAR DAYS, CONFIRM WITH LAB): 2 5 7 14 (21) OTHER:
DELIVERABLES (PLEASE CIRCLE): TIER I (TIER II/ECRA)
CLP RESULTS ONLY 21E TASA OTHER:
IN CASE WE HAVE ANY QUESTIONS WHEN SAMPLES ARRIVE WE SHOULD CALL:
NAME: Brian Mende
TELEPHONE: 914 268-6660

ANALYTICAL REQUESTS

LAB ID CODE	SAMPLE IDENTIFICATION	DATE COLLECTED	TIME COLLECTED	SAMPLE TYPE: COMPOSITE (C)	SAMPLE TYPE: GRAB (G)	SAMPLE MATRIX: SOLID (S)	SAMPLE MATRIX: LIQUID (L)	SAMPLE MATRIX: COMBINED (C)	SAMPLE MATRIX: OTHER (O)	PRESERVATIVE*	ANALYSIS: BTEX
01	FB	12/24/91	1530		✓		✓			✓	✓
02	Well IN	12/24/91	1535		✓		✓			✓	✓
03	Well 2N	12/24/91	1600		✓		✓			✓	✓

PLEASE INDICATE NUMBER OF BOTTLES

CUSTODY

SAMPLER: [signature]
RECEIVED: [signature]
RELINQUISHED: [signature]
RECEIVED: [signature]
RELINQUISHED:
RECEIVED:

DATE: 12/27/91
TIME: 1530
DATE: 12/27/91
TIME: 2110
DATE:
TIME:

COMMENTS, REQUESTS OR REMARKS (Toxic?, Flammable?, Explosive?, High Levels?)

*PRESERVATIVE: NaOH H_2SO_4 HNO_3 HCL ASCORBIC ACID

LABORATORY RESOURCES, INC.

LABORATORY CHRONICLES

Sample Number	FB 01	Well 1N 02	Well 2N 03							
W112372										
Received & Refrigerated Date	12/27	→	→							
Organics Extraction Date:										
Petroleum Hydrocarbons										
Base/Neutrals										
PCBs/Pesticides										
Herbicides										
Analysis Date:										
Petroleum Hydrocarbons										
Volatiles	12/28	12/28	12/30.							
Base/Neutrals										
PCBs/Pesticides										
Herbicides										
Metals										
Total Solids										
Corrosivity										
Organic Supervisor Review & Approval	1/7/93	→	→							
Inorganic Supervisor Review & Approval										

METHODS SUMMARY

PURGEABLE HALOCARBONS/AROMATICS BY METHOD 602/8020

Method 602 and 8020 are based on the gas chromatographic analysis of five milliliters of aqueous sample or approximately 5 grams of solid waste, respectively, for purgeable aromatics. The samples are purged, trapped and desorbed onto a column using a temperature ramping program. A Hall electrolytic conductivity detector in series with a photoionization detector (PID) is used for detection of these compounds.

TOTAL SOLIDS (TOTAL RESIDUE)

The total solids analysis is performed according to Method 209A cited in the 16th Edition of Standard Methods for the Examination of Water and Wastewater. A well mixed aliquot of the sample is quantitatively transferred to a pre-condition evaporating dish and evaporated to a constant weight at 98 C. The evaporated sample is then dried to a constant weight at 103-105 C in a drying oven. The dried residue remaining in the evaporating dish represents the total solids and is reported as a percent.

PROJECT SUMMARY REPORT
FOR
ALL ORGANIC ANALYSIS

SAMPLES AND CONCENTRATIONS

Lab Work Order # - W112372 - (Sample no.)

COMPOUNDS	FIELD BLK	WELL 1N	WELL 2N	
	01	02	03	
UNITS	MG/L	MG/L	MG/L	
BENZENE		0.0012	0.1680	
ETHYLBENZENE		0.0016	0.5500	
TOLUENE			0.0979	
TOTAL XYLENES			0.6830	

B : COMPOUND ALSO PRESENT IN BLANK.

NOTE : IF NO ENTRY IS MADE THEN SAMPLE IS NONE DETECTED.

Laboratory Resources INC
A UNITED WATER RESOURCES COMPANY
363 Old Hook Road
Westwood, New Jersey 07675-3235
(201) 666-6644 • FAX: (201) 666-7978

NJ Certification # 02046
NY Certification # 10588

DATE OF REPORT: 01/14/92

CLIENT: SUBSURFACE INVESTIGATIONS
ANALYST: L. SUN

DATE OF ANALYSIS: 12/27/91
WORK ORDER #: W112372

PARAMETER	SAMPLE ID.> BLANK	MDL
BENZENE	ND	0.0005
CHLOROBENZENE	ND	0.0005
1,2-DICHLOROBENZENE	ND	0.0005
1,3-DICHLOROBENZENE	ND	0.0005
1,4-DICHLOROBENZENE	ND	0.0005
ETHYLBENZENE	ND	0.0005
TOLUENE	ND	0.0005
TOTAL XYLENES	ND	0.0010
% SURROGATE RECOVERY	102.31%	

MDL=MINIMUM DETECTION LIMIT
ND=NOT DETECTED AT MDL

% SURROGATE RECOVERY RANGE FOR @,@,@-TRIFLUOROTOLUENE = (80-125)

Eileen Smith
GC SUPERVISOR

METHOD 602

009

All results expressed as mg/L unless otherwise stated
(See reverse for additional information)

aboratory Resources INC
A UNITED WATER RESOURCES COMPANY
363 Old Hook Road
estwood, New Jersey 07675-3235
01) 666-6644 • FAX: (201) 666-7978

NJ Certification # 02046
NY Certification # 10588

DATE OF REPORT: 01/14/92

LIENT: SUBSURFACE INVESTIGATIONS
ALYST: L. SUN

DATE OF ANALYSIS: 12/27/91
WORK ORDER #: W112372

RAMETER	SAMPLE ID.> BLANK	MDL
NZENE	ND	0.0005
LOROBENZENE	ND	0.0005
2-DICHLOROBENZENE	ND	0.0005
3-DICHLOROBENZENE	ND	0.0005
4-DICHLOROBENZENE	ND	0.0005
HYLBENZENE	ND	0.0005
OLUENE	ND	0.0005
OTAL XYLENES	ND	0.0010
SURROGATE RECOVERY	102.31%	

DL=MINIMUM DETECTION LIMIT
D=NOT DETECTED AT MDL

SURROGATE RECOVERY RANGE FOR @,@,@-TRIFLUOROTOLUENE = (80-125)

Eileen Smith
GC SUPERVISOR

ETHOD 602

009

All results expressed as mg/L unless otherwise stated
(See reverse for additional information)

Laboratory Resources INC
A UNITED WATER RESOURCES COMPANY
363 Old Hook Road
Westwood, New Jersey 07675-3235
(201) 666-6644 • FAX: (201) 666-7978

NJ Certification # 02046
NY Certification # 10588

DATE OF REPORT: 01/14/92

DATE OF ANALYSIS: 12/30/91
WORK ORDER #: W112372

CLIENT: SUBSURFACE INVESTIGATIONS
ANALYST: L. SUN

PARAMETER	SAMPLE ID.> BLANK	MDL
BENZENE	ND	0.0005
CHLOROBENZENE	ND	0.0005
1,2-DICHLOROBENZENE	ND	0.0005
1,3-DICHLOROBENZENE	ND	0.0005
1,4-DICHLOROBENZENE	ND	0.0005
ETHYLBENZENE	ND	0.0005
TOLUENE	ND	0.0005
TOTAL XYLENES	ND	0.0010
% SURROGATE RECOVERY	113.15%	

MDL=MINIMUM DETECTION LIMIT
ND=NOT DETECTED AT MDL

% SURROGATE RECOVERY RANGE FOR @,@,@-TRIFLUOROTOLUENE = (80-125)

Eileen Smith
GC SUPERVISOR

METHOD 602

010

All results expressed as mg/L unless otherwise stated
(See reverse for additional information)

Laboratory Resources INC
A UNITED WATER RESOURCES COMPANY
363 Old Hook Road
Westwood, New Jersey 07675-3235
(201) 666-6644 • FAX: (201) 666-7978

NJ Certification # 02046
NY Certification # 10586

DATE OF REPORT: 01/14/92
DATE COLLECTED: 12/26/91
DATE RECEIVED: 12/27/91
DATE OF ANALYSIS: 12/28/91
WORK ORDER #: W112372

CLIENT: SUBSURFACE INVESTIGATIONS
ANALYST: L. SUN

PARAMETER	CLIENT ID.> FIELD BLK SAMPLE ID.> 01	MDL
BENZENE	ND	0.0005
CHLOROBENZENE	ND	0.0005
1,2-DICHLOROBENZENE	ND	0.0005
1,3-DICHLOROBENZENE	ND	0.0005
1,4-DICHLOROBENZENE	ND	0.0005
ETHYLBENZENE	ND	0.0005
TOLUENE	ND	0.0005
TOTAL XYLENES	ND	0.0010
% SURROGATE RECOVERY	104.58%	

MDL=MINIMUM DETECTION LIMIT
ND=NOT DETECTED AT MDL

; SURROGATE RECOVERY RANGE FOR @,@,@-TRIFLUOROTOLUENE = (80-125)

Eileen Smith
GC SUPERVISOR

METHOD 602

All results expressed as mg/L unless otherwise stated
(See reverse for additional information)

Laboratory Resources INC
A UNITED WATER RESOURCES COMPANY
363 Old Hook Road
Westwood, New Jersey 07675-3235
(201) 666-6644 • FAX: (201) 666-7978

NJ Certification # 02046
NY Certification # 10588

DATE OF REPORT: 01/14/92
DATE COLLECTED: 12/26/91
DATE RECEIVED: 12/27/91
DATE OF ANALYSIS: 12/28/91
WORK ORDER #: W112372
DILUTION: 2X

CLIENT: SUBSURFACE INVESTIGATIONS
ANALYST: L. SUN

PARAMETER	CLIENT ID.> WELL 1N SAMPLE ID.> 02	MDL
BENZENE	0.0012	0.0010
CHLOROBENZENE	ND	0.0010
1,2-DICHLOROBENZENE	ND	0.0010
1,3-DICHLOROBENZENE	ND	0.0010
1,4-DICHLOROBENZENE	ND	0.0010
ETHYLBENZENE	0.0016	0.0010
TOLUENE	ND	0.0010
TOTAL XYLENES	ND	0.0020
% SURROGATE RECOVERY	101.28%	

MDL=MINIMUM DETECTION LIMIT
ND=NOT DETECTED AT MDL

% SURROGATE RECOVERY RANGE FOR @,@,@-TRIFLUOROTOLUENE = (80-125)

* SOME PARAMETERS MAY BE RUN AT VARIOUS DILUTIONS
TO BE QUANTIFIED IN RANGE

Gilles Smith
GC SUPERVISOR

METHOD 602

All results expressed as mg/L unless otherwise stated
(See reverse for additional information)

Laboratory Resources INC
A UNITED WATER RESOURCES COMPANY
363 Old Hook Road
Westwood, New Jersey 07675-3235
(201) 666-6644 • FAX: (201) 666-7978

NJ Certification # 02046
NY Certification # 10588

DATE OF REPORT: 01/14/92
DATE COLLECTED: 12/26/91
DATE RECEIVED: 12/27/91
DATE OF ANALYSIS: 12/30/91
WORK ORDER #: W112372
DILUTION: 25X

CLIENT: SUBSURFACE INVESTIGATIONS
ANALYST: L. SUN

PARAMETER	CLIENT ID.> WELL 2N SAMPLE ID.> 03	MDL
BENZENE	0.1680	0.0125
CHLOROBENZENE	ND	0.0125
1,2-DICHLOROBENZENE	ND	0.0125
1,3-DICHLOROBENZENE	ND	0.0125
1,4-DICHLOROBENZENE	ND	0.0125
ETHYLBENZENE	0.5500	0.0125
TOLUENE	0.0979	0.0125
TOTAL XYLENES	0.6830	0.0250
% SURROGATE RECOVERY	93.44%	

MDL=MINIMUM DETECTION LIMIT
ND=NOT DETECTED AT MDL

% SURROGATE RECOVERY RANGE FOR @,@,@-TRIFLUOROTOLUENE = (80-125)

* SOME PARAMETERS MAY BE RUN AT VARIOUS DILUTIONS
TO BE QUANTIFIED IN RANGE

Eileen Smith
GC SUPERVISOR

METHOD 602

All results expressed as mg/L unless otherwise stated
(See reverse for additional information)

LABORATORY RESOURCES, INC.
363 OLD HOOK ROAD
WESTWOOD, N.J. 07675
LAB CERTIFICATION NO. 02046

DATE OF REPORT: 01/14/92

DATE OF ANALYSIS: 12/27-12/28
WORK ORDER #: W112372

CLIENT: SUBSURFACE

ANALYST: L. SUN
GC ID.#: TRACOR 9000

TIME CHRONICLE FOR VOLATILE ANALYSIS

SAMPLE ID. #	TIME	MISCELLANEOUS
STANDARD	11:15 A.M.	10PPB
STANDARD	1:45 P.M.	15PPB
STANDARD	3:00 P.M.	20PPB
STANDARD	4:15 P.M.	25PPB
STANDARD	5:30 P.M.	5PPB
BLANK	8:00 P.M.	
BLANK SPIKE	9:30 P.M.	10PPB
BLANK SPIKE DUPLICATE	10:45 P.M.	10PPB
W112372-01	12:15 A.M.	STR
W112372-02	1:30 A.M.	2X

LABORATORY RESOURCES, INC.
363 OLD HOOK ROAD
WESTWOOD, N.J. 07675
LAB CERTIFICATION NO. 02046

DATE OF REPORT: 01/14/92

DATE OF ANALYSIS: 12/30/91
WORK ORDER #: W112372

CLIENT: SUBSURFACE

ANALYST: L. SUN
GC ID.#: TRACOR 585

TIME CHRONICLE FOR VOLATILE ANALYSIS

SAMPLE ID. #	TIME	MISCELLANEOUS
CONTINUING STANDARD	10:15 A.M.	10PPB
BLANK	11:30 A.M.	
W112372-03	7:00 P.M.	25X

LABORATORY RESOURCES, INC.
363 OLD HOOK ROAD
WESTWOOD, N.J. 07675
LAB CERTIFICATION NO. 02046

DATE OF REPORT: 01/14/92

DATE OF ANALYSIS: 12/31/91
WORK ORDER #: W112372

CLIENT: SUBSURFACE

ANALYST: L. SUN
GC ID.#: TRACOR 565

TIME CHRONICLE FOR VOLATILE ANALYSIS

SAMPLE ID. #	TIME	MISCELLANEOUS
STANDARD	8:30 A.M.	10PPB
STANDARD	9:45 A.M.	15PPB
STANDARD	11:00 A.M.	20PPB
STANDARD	12:15 P.M.	25PPB
STANDARD	2:45 P.M.	5PPB
BLANK	4:00 P.M.	
BLANK SPIKE	6:30 P.M.	10PPB
BLANK SPIKE DUPLICATE	7:45 P.M.	10PPB

LABORATORY RESOURCES, INC.

SPIKE / SPIKE DUPLICATE RECOVERY
(FOR REGULATED COMPOUNDS)

TRACOR 9000

DATE: DECEMBER 27, 1991
SAMPLE ID. #: BLANK SPIKES

COMPOUND	SPIKE AMOUNT (UG/L)	SAMPLE CONC. (UG/L)	SPIKE (UG/L)	% RECOVERY	SPIKE DUP. (UG/L)	% RECOVERY	RPD	CONTROL LIMITS FOR % RECOVERY
BENZENE	10.00	0.00	12.29	122.90%	12.64	126.39%	2.80	31.2-106.1
RBON TETRACHLORIDE	10.00	0.00	5.97	59.70%	6.57	65.71%	9.58	23.8-80.4
CHLOROBENZENE	10.00	0.00	7.30	72.97%	7.80	77.99%	6.65	34.3-85.8
2-DICHLOROBENZENE	10.00	0.10	6.28	62.77%	6.74	67.44%	7.16	18.6-91.2
1,3-DICHLOROBENZENE	10.00	0.00	6.52	65.17%	7.04	70.60%	8.00	18.9-83.3
4-DICHLOROBENZENE	10.00	0.07	8.05	80.51%	8.66	86.63%	7.32	17.1-90.2
,2-DICHLOROETHANE	10.00	0.00	6.58	65.79%	7.40	73.99%	11.74	29.9-78.1
1,1-DICHLOROETHENE	10.00	0.00	6.93	69.34%	7.56	75.58%	8.62	18.3-78.0
S-1,2-DICHLOROETHENE	10.00	0.00	6.06	60.77%	6.82	68.21%	11.50	21.7-87.6
TRANS-1,2-DICHLOROETHENE	10.00	0.00	7.30	72.99%	7.97	79.71%	8.80	19.8-94.7
THYLENE CHLORIDE	10.00	1.49	6.95	69.52%	6.25	62.51%	10.62	10.8-97.5
1,2,4-TRICHLOROBENZENE	10.00	0.09	6.30	63.03%	6.99	68.91%	8.92	10.4-85.5
1,1-TRICHLOROETHANE	10.00	0.00	7.33	73.33%	8.69	80.93%	9.85	32.5-75.4
RICHLOROETHENE	10.00	0.00	6.53	65.25%	7.17	71.72%	9.44	31.7-76.8
TRACHLOROETHENE	10.00	0.27	7.13	71.33%	7.44	74.44%	4.28	48.6-93.5
,P-XYLENE	20.00	0.45	15.26	76.28%	16.10	80.50%	5.37	39.5-96.5
O-XYLENE	10.00	0.14	7.41	74.12%	7.83	78.81%	6.13	50.9-95.6
NYL CHLORIDE	10.00	0.00	4.41	44.10%	4.78	47.80%	8.05	21.6-110.7
3-CL-2-FL-BENZENE (SURROGATE)	10.00	7.88	7.57	75.66%	7.89	78.89%	4.18	70.0-120.5
3,4-TRIFLUOROTOLUENE (SURROGATE)	10.00	10.23	9.98	99.79%	10.23	102.27%	2.45	93.0-107.0

CEPTABLE RANGE FOR RPD IS 0-20 %

LABORATORY RESOURCES, INC.

SPIKE / SPIKE DUPLICATE RECOVERY
(FOR REGULATED COMPOUNDS)

TRACOR 585

DATE: DECEMBER 31, 1991
SAMPLE ID. #: BLANK SPIKES

MPOUND	SPIKE AMOUNT (UG/L)	SAMPLE CONC. (UG/L)	SPIKE (UG/L)	% RECOVERY	SPIKE DUP. (UG/L)	% RECOVERY	RPD	CONTROL LIMITS FOR % RECOVERY
NZENE	10.00	0.00	8.72	87.18%	9.45	94.54%	8.10	31.2-106.1
CARBON TETRACHLORIDE	10.00	0.00	0.00	0.00%	0.00	0.00%	ERR	23.6-80.4
LOROBENZENE	10.00	0.00	8.16	81.63%	8.51	85.13%	4.20	34.3-85.8
,2-DICHLOROBENZENE	10.00	0.00	7.17	71.70%	7.75	77.57%	7.86	18.8-91.2
,3-DICHLOROBENZENE	10.00	0.00	7.68	76.82%	7.44	74.37%	3.24	15.9-83.3
,4-DICHLOROBENZENE	10.00	0.00	9.57	95.65%	8.95	89.46%	6.69	17.1-90.2
1,2-DICHLOROETHANE	10.00	0.00	8.40	84.03%	9.24	92.43%	9.53	29.9-78.1
1-DICHLOROETHENE	10.00	0.00	6.71	67.08%	7.11	71.07%	5.78	18.3-78.0
CIS-1,2-DICHLOROETHENE	10.00	0.00	6.45	64.50%	5.96	59.60%	7.90	21.7-87.6
ANS-1,2-DICHLOROETHENE	10.00	0.00	7.15	71.45%	7.62	76.22%	6.46	19.8-94.7
METHYLENE CHLORIDE	10.00	2.21	5.81	58.10%	7.06	70.63%	19.74	10.8-97.5
2,4-TRICHLOROBENZENE	10.00	0.00	10.79	107.88%	10.86	108.57%	0.64	10.4-85.5
,1,1-TRICHLOROETHANE	10.00	0.00	8.05	80.48%	8.38	83.46%	3.63	32.5-75.4
RICHLOROETHENE	10.00	0.00	7.65	76.52%	8.12	81.16%	5.93	31.7-76.8
TRACHLOROETHENE	10.00	0.00	8.74	87.43%	8.48	84.84%	3.00	46.8-93.5
M,P-XYLENE	20.00	0.00	18.05	90.23%	17.99	89.93%	0.34	39.5-96.5
-XYLENE	10.00	0.00	8.57	85.70%	8.66	86.64%	1.10	30.9-95.6
VINYL CHLORIDE	10.00	0.00	5.27	52.67%	5.69	56.81%	7.57	21.6-110.7
-CL-2-FL-BENZENE (SURROGATE)	10.00	8.45	7.99	79.89%	7.67	76.65%	4.14	70.0-120.5
,4,4-TRIFLUOROTOLUENE (SURROGATE)	10.00	10.77	10.30	102.96%	9.92	99.19%	3.72	93.0-107.0

ACCEPTABLE RANGE FOR RPD IS 0-20 %

INITIAL CALIBRATION(HECD)
LABORATORY RESOURCES,INC.

DATE: NOVEMBER 27, 1991

TRACOR 585

COMPOUND	RF 5.00	RF 10.00	RF 15.00	RF 20.00	RF 25.00	$\overline{RF}$	%RSD
2CL-2FL-METHANE	0	0	0	0	0	0	ERR
CHLOROMETHANE	0.451148	0.515715	0.586352	0.633812	0.636475	0.564700	12.69352
VINYL CHLORIDE	1.027369	0.964605	1.191468	1.256805	1.291936	1.146437	11.21254
BROMOMETHANE	0	0	0	0	0	0	ERR
CHLOROETHANE	1.702203	1.462848	1.458030	1.648107	1.343911	1.523019	8.694684
3CL-FL-METHANE	2.359763	2.132877	2.172923	2.549563	2.373178	2.317661	6.507245
1,1-DICHLOROETHENE	2.364493	2.179407	2.086403	2.484141	2.473089	2.317507	6.867764
METHYLENE CHLORIDE	3.713504	3.133386	3.181171	3.602867	2.937911	3.313768	8.898463
T-1,2-2CL-ETHENE	2.257304	1.889072	2.046287	2.293548	2.199938	2.137230	7.022754
1,1-DICHLOROETHANE	2.053320	1.849228	1.912685	2.370839	2.242715	2.085758	9.416115
2,2-DICHLOROPROPANE	0.832012	0.984910	0.964896	1.023707	1.055799	0.972265	7.901511
CIS-1,2-DICHLOROETHENE	2.102015	2.080010	1.918559	2.186170	2.126806	2.082712	4.293135
CHLOROFORM	2.932952	2.882742	2.570922	2.867380	2.990441	2.848868	5.107028
BROMOCHLOROMETHANE	1.300780	1.355346	1.249580	1.422841	1.503669	1.366443	6.354103
1,1,1-TRICHLOROETHANE	2.410157	2.432213	2.297740	2.552027	2.440375	2.426503	3.339331
1,1-DICHLOROPROPENE	1.250017	1.331231	1.184058	1.313897	1.355990	1.287039	4.840278
CARBON 4CHLORIDE	3.407697	3.260230	2.930803	3.436890	3.161622	3.239448	5.675979
1,2-DICHLOROETHANE	1.434534	1.396515	1.370688	1.390721	1.515479	1.421588	3.608219
2-CHLOROETHYLVINYL ETHER	0	0	0	0	0	0	ERR
TRICHLOROETHENE	1.790570	2.049889	1.960341	1.546757	1.976631	1.864838	9.668783
1,2-2CL-PROPANE	1.918978	1.918662	1.742143	1.536843	1.980215	1.819368	8.911543
BR-2CL-METHANE	1.656818	1.636050	1.598813	1.507112	1.832259	1.646210	6.453025
DIBROMOMETHANE	1.278949	1.312235	1.280852	1.263814	1.464457	1.320061	5.597886
CIS-1,3-2CLPROPENE	0.921372	0.910483	0.826782	0.866840	0.997021	0.904499	6.320023
TRANS-1,3-2CLPROPENE	0.552340	0.565430	0.556095	0.583845	0.691774	0.589897	8.830479
1,1,2-3CL-ETHANE	2.727438	2.725310	2.387611	2.395271	2.742359	2.595598	6.426816
4CL-ETHENE;1,3-2CL-PROP	4.788631	4.197035	4.041897	4.131432	4.652924	4.362384	6.873083
2BR-CL-METHANE	1.221234	1.155333	1.195948	1.233737	1.473644	1.255979	8.923969
1,2-DIBROMOETHANE	0.840503	0.755547	0.819237	0.788960	0.805407	0.801931	3.579136
CHLOROBENZENE	0.773216	0.791583	0.740218	0.809864	0.891553	0.801287	6.322545
1,1,1,2-4CL-ETHANE	3.035014	2.855774	2.570899	2.718813	3.012819	2.838664	6.207267
BROMOFORM	0.577707	0.621516	0.593447	0.711287	0.761189	0.673029	9.718768
1,1,2,2-4CL-ETHANE	1.511344	1.586966	1.489718	1.420311	1.454931	1.492654	3.779021
1,2,3-3CL-PROPANE	1.350509	1.155706	1.065669	1.071961	1.253571	1.179483	9.273460
BROMOBENZENE	0.756213	0.733722	0.749907	0.704040	0.834156	0.755608	5.720241
2-CHLOROTOLUENE	0.765364	0.754900	0.705184	0.757126	0.842586	0.765032	5.775585
4-CHLOROTOLUENE	0.940462	0.979617	0.904198	0.937467	1.048779	0.962105	5.144223
1,3-DICHLOROBENZENE	1.267495	1.253676	1.179008	1.192701	1.345070	1.247590	4.762551
1,4-DICHLOROBENZENE	1.540257	1.469982	1.391940	1.335881	1.518996	1.451411	5.309224
1,2-DICHLOROBENZENE	1.290980	1.270085	1.202826	1.202945	1.297272	1.252822	3.332827
1,2-2BR-3-CL-PROPANE	0.241815	0.216409	0.221880	0.209501	0.203868	0.218695	5.976947
1,2,4-3CL-BENZENE	1.207080	1.440301	1.262783	1.328229	1.436050	1.334889	6.940950
6CL-BUTADIENE	2.037211	2.460442	2.069993	2.176338	2.196851	2.188167	6.812321
1,2,3-3CL-BENZENE	1.380250	1.361993	1.247535	1.316858	1.490824	1.359492	5.887983

INITIAL CALIBRATION(FID)
LABORATORY RESOURCES,INC.

DATE: NOVEMBER 27, 1991

TRACOR 585

COMPOUND	RF 5.00	RF 10.00	RF 15.00	RF 20.00	RF 25.00	$\overline{RF}$	%RSD
VINYL CHLORIDE	0.221659	0.265169	0.242097	0.287017	0.310207	0.265230	11.84046
1,1-DICHLORDETHENE	0.606735	0.633396	0.597100	0.653669	0.703196	0.638819	5.925465
T-1,2-2CL-ETHENE	1.464413	1.507939	1.490940	1.635728	1.724522	1.564708	6.346574
CIS-1,2-DICHLORDETHENE	0.352672	0.363334	0.360253	0.411020	0.446432	0.386622	9.399939
1,1-DICHLOROPROPENE	0.163876	0.187166	0.182997	0.206241	0.222942	0.192645	10.51981
BENZENE	0.995415	1.036499	0.835347	0.772548	0.819662	0.891894	11.68270
TRICHLORDETHENE	0.736698	0.823844	0.787227	0.840651	0.876566	0.812997	5.875593
CIS-1,3-2CLPROPENE	0.134032	0.153282	0.149507	0.162886	0.163522	0.152646	7.055061
TOLUENE	1.544263	1.634973	1.600407	1.696929	1.761346	1.647584	4.577280
TRANS-1,3-2CLPROPENE	0.152625	0.171786	0.171553	0.180727	0.170892	0.169517	5.420679
TETRACHLORDETHENE	0.629375	0.702132	0.684641	0.727171	0.763608	0.701385	6.377086
CHLOROBENZENE	1.501908	1.615884	1.576752	1.641643	1.731312	1.613500	4.677564
ETHYLBENZENE	1.375570	1.468090	1.432063	1.474065	1.537208	1.457399	3.643652
M,P-XYLENE	3.227781	3.447432	3.308086	3.352437	3.468613	3.360870	2.650347
O-XYLENE	1.173341	1.263564	1.245772	1.294989	1.370576	1.269849	5.069091
STYRENE	1.567189	1.721691	1.723057	1.767210	1.866420	1.729114	5.584148
ISOPROPYLBENZENE	1.008276	1.089026	1.070662	1.110340	1.163293	1.088319	4.653591
N-PROPYLBENZENE	0	0	0	0	0	0	ERR
BROMOBENZENE	2.840246	3.080646	2.996039	3.052706	3.226182	3.039164	4.117789
135-TMB,2-CLTOLUENE	3.211291	3.523282	3.334413	3.415130	3.527069	3.402237	3.513878
4-CL-TOLUENE	1.472669	1.569391	1.570045	1.565350	1.688320	1.573155	4.352809
TERT-BUTYL-BENZENE	0.943627	0.960104	0.952810	0.967471	1.054903	0.975783	4.134126
124-3METHYL-BENZENE	1.369166	1.514452	1.480358	1.543081	1.588868	1.499185	4.943429
SEC-BUTYL-BENZENE	0.932429	1.006297	0.997428	1.033958	1.096343	1.011690	4.955401
P-ISOPROPYLTOLUENE	0.978847	1.065877	1.035861	1.093875	1.149431	1.068778	5.192204
1,3-2CL-BENZENE	1.290941	1.419914	1.408528	1.441607	1.542182	1.420634	5.847192
1,4-2CL-BENZENE	1.233932	1.365410	1.348625	1.382133	1.482526	1.362525	5.827487
N-BUTYL-BENZENE	1.010217	1.130489	1.116283	1.142876	1.204711	1.120915	5.624111
1,2-2CL-BENZENE	1.037390	1.127873	1.119993	1.148477	1.257654	1.138277	6.209066
124-TRICHLOROBENZENE	0.692126	0.775326	0.767043	0.803981	0.898918	0.787479	8.489837
6CL-BUTADIENE	0.539344	0.619373	0.610870	0.629315	0.669735	0.613727	6.894765
NAPTHALENE	1.273979	1.062882	1.143929	1.092919	1.253379	1.165417	7.255970
1,2,3-3CL-BENZENE	0.769011	0.768139	0.799194	0.821582	0.947459	0.821077	8.072249

INITIAL CALIBRATION(HSQD)

LABORATORY RESOURCES,INC.

DATE: DECEMBER 31, 199.

TRACOR 995

COMPOUND	RF 5.00	RF 10.00	RF 15.00	RF 20.00	RF 25.00	RF	%RSD
DCL-DFL-METHANE	0.506727	0.619494	0.520672	0.54348	0.554396	0.548754	7.997285
CHLOROMETHANE	0.181728	0.434881	0.309638	0.2997	0.220321	0.289253	37.53575
VINYL CHLORIDE	0.94657	1.294924	1.049636	1.036813	1.03794	1.173197	14.30389
BROMOMETHANE	0.251121	0.530944	0.478459	0.465997	0.448921	0.435088	24.97909
CHLOROETHANE	1.87766	1.770269	1.477179	1.590019	1.56369	1.655753	9.880532
TCL-FL-METHANE	2.137358	2.165105	1.756175	1.824415	2.12242	2.000694	9.755292
1,1-DICHLOROETHENE	2.214135	2.245899	1.722567	1.802277	1.948387	1.986591	11.91191
METHYLENE CHLORIDE	3.810431	2.931831	2.43638	2.366574	2.516389	2.812321	21.32054
T-1,2-DCL-ETHENE	2.215169	2.073242	1.769369	1.929892	2.039576	2.00521	8.533263
1,1-DICHLOROETHANE	3.577753	2.307723	2.28464	2.123253	2.29219	2.517154	23.74078
2,2-DICHLOROPROPANE	1.074906	1.061108	1.072465	1.060676	0.995039	1.052839	3.129616
CIS-1,2-DICHLOROETHENE	2.524756	2.364393	2.060914	2.026047	2.01324	2.19774	10.60239
CHLOROFORM	3.489318	3.195136	2.638691	2.602699	2.639629	2.913117	13.72218
BROMOCHLOROMETHANE	1.470381	1.321857	1.045238	1.213461	1.106188	1.231417	13.82667
1,1,1-TRICHLOROETHANE	2.491524	2.177477	1.959318	2.081812	1.94207	2.13044	10.48858
1,1-DICHLOROPROPENE	1.43248	1.429068	1.356102	1.333691	1.189077	1.349123	7.32909
CARBON 4CHLORIDE	3.392215	3.085302	2.729522	2.903964	2.757636	2.973728	9.190813
1,2-DICHLOROETHANE	2.216942	1.971892	1.718496	1.723948	1.571172	1.86089	12.47435
TRICHLOROETHENE	2.353745	2.083705	1.996782	2.060135	1.998404	2.09455	7.066432
1,2-DCL-PROPANE	2.18931	1.902763	1.781906	1.825184	1.788528	1.86988	8.867327
BR-DCL-METHANE	1.752601	1.639973	1.466467	1.600218	1.487068	1.5792e9	8.201613
DIBROMOMETHANE	1.408833	1.228538	1.159609	1.207853	1.136517	1.23367	8.663211
CIS-1,3-DCLPROPENE	1.023102	0.890273	0.823777	0.854601	0.884358	0.895222	8.516356
TRANS-1,3-DCLPROPENE	0.66395	0.619025	0.597313	0.600191	0.638808	0.623257	4.420662
1,1,2-TCL-ETHANE	3.575869	2.671081	2.438506	2.306537	2.330918	2.664542	19.8657
TCL-ETHENE;1,3-DCL-PROP	5.079772	4.453904	4.318753	4.214846	4.127785	4.439008	8.52172
DBR-CL-METHANE	1.456056	1.16471	1.284184	1.236449	1.320062	1.302352	8.005245
1,2-DIBROMOETHANE	0.914633	0.770121	0.744722	0.83394	0.930083	0.8387	9.917509
CHLOROBENZENE	0.917116	0.833909	0.832351	0.8279	0.81624	0.845503	4.805019
1,1,1,2-4CL-ETHANE	3.352886	2.754633	2.739393	2.886221	2.638388	2.833194	10.38506
BROMOFORM	0.786293	0.679755	0.675899	0.689062	0.826178	0.731442	9.55551
1,1,2,2-4CL-ETHANE	2.17117	1.84908	1.252199	1.39487	1.651947	1.603853	21.92233
1,2,3-TCL-PROPANE	1.481873	1.093104	0.853673	1.003869	1.20451	1.127446	20.94574
BROMOBENZENE	0.862994	0.674567	0.644096	0.678219	0.734961	0.718968	12.09292
2-CHLOROTOLUENE	0.948894	0.8352	0.790963	0.791238	0.798606	0.83298	9.08236
4-CHLOROTOLUENE	1.183724	1.003256	0.833077	0.870189	0.919568	0.961963	14.48984
1,3-DICHLOROBENZENE	1.522297	1.286333	1.228659	1.228443	1.262839	1.305716	9.459934
1,4-DICHLOROBENZENE	1.377657	1.149649	1.121262	1.129758	1.099156	1.175304	9.751857
1,2-DICHLOROBENZENE	1.613024	1.383217	1.336611	1.316971	1.371974	1.400359	8.630681
1,2-DBR-3-CL-PROPANE	0.301869	0.224329	0.222925	0.249172	0.297946	0.259248	14.8823
1,2,4-TCL-BENZENE	1.675918	0.898593	1.561843	1.362612	1.421759	1.364185	20.95282
HCL-BUTADIENE	2.653833	1.525732	2.429245	2.212886	2.036062	2.171486	19.75551
1,2,3-TCL-BENZENE	1.779763	0.978458	1.426986	1.353156	1.429889	1.393051	20.55701

INITIAL CALIBRATION(PID)
LABORATORY RESOURCES,INC.

DATE: DECEMBER 31, 1991

TRACOR 585

COMPOUND	RF 5.00	RF 10.00	RF 15.00	RF 20.00	RF 25.00	$\overline{RF}$	%RSD
VINYL CHLORIDE	0.223576	0.202012	0.187138	0.189333	0.19387	0.19918	7.421615
1,1-DICHLOROETHENE	0.69366	0.611163	0.593058	0.627673	0.647209	0.634583	6.038191
T-1,2-DCL-ETHENE	1.526988	1.479366	1.481913	1.522063	1.529636	1.497989	2.815699
C1S-1,2-DICHLOROETHENE	0.354534	0.336801	0.327095	0.35977	0.374026	0.350251	5.376298
1,1-DICHLOROPROPENE	0.214792	0.179294	0.166765	0.163608	0.162857	0.178903	13.12824
BENZENE	1.156642	1.095228	0.981191	1.035205	0.861453	1.021944	11.2784
TRICHLOROETHENE	0.838707	0.790918	0.760178	0.819806	0.805226	0.802969	3.70597
C1S-1,3-DCLPROPENE	0.195353	0.177993	0.168602	0.177473	0.181433	0.180271	5.374196
TOLUENE	1.512098	1.471374	1.407082	1.517443	1.491424	1.47988	3.013847
TRANS-1,3-DCLPROPENE	0.213406	0.197589	0.190761	0.202279	0.20424	0.201655	4.15177
TETRACHLOROETHENE	0.749599	0.698852	0.665705	0.7161	0.701194	0.70629	4.306333
CHLOROBENZENE	1.724247	1.665833	1.589754	1.703061	1.673458	1.671271	3.065098
ETHYLBENZENE	1.42049	1.389714	1.360972	1.473436	1.44761	1.418484	3.156814
M,P-XYLENE	3.504935	3.377807	3.262696	3.510846	3.455967	3.42245	3.038436
O-XYLENE	1.420449	1.363283	1.302799	1.388952	1.361197	1.367336	3.166397
STYRENE	1.803406	1.717751	1.688108	1.70906	1.763321	1.736329	2.678959
ISOPROPYLBENZENE	1.183301	1.122793	1.073757	1.128795	1.09725	1.121179	3.661525
N-PROPYLBENZENE	0	0	0	0	0	0	ERR
BROMOBENZENE	3.131096	3.032706	2.914382	3.106349	3.066367	3.05018	2.777581
135-TMB,2-CLTOLUENE	3.648986	3.48486	3.366896	3.594909	3.526885	3.504267	3.071343
4-CL-TOLUENE	1.653067	1.619898	1.553343	1.648013	1.623867	1.619997	2.460139
TERT-BUTYL-BENZENE	1.078964	0.990892	0.989017	0.932408	0.9c9744	0.992206	5.43203
124-3METHYL-BENZENE	1.501587	1.502297	1.420571	1.611085	1.514503	1.510909	4.497434
SEC-BUTYL-BENZENE	1.093011	1.040702	0.995786	1.046375	1.019267	1.039029	3.48051
P-ISOPROPYLTOLUENE	1.10743	1.038628	0.997005	1.045533	1.016251	1.0405e9	4.020136
1,3-DCL-BENZENE	1.459306	1.427725	1.401e09	1.497804	1.490704	1.45883	2.792611
1,4-DCL-BENZENE	1.123451	1.082204	1.059743	1.125545	1.114087	1.101006	2.621877
N-BUTYL-BENZENE	1.195311	1.119351	1.070689	1.114871	1.088658	1.117476	3.94166
1,2-DCL-BENZENE	1.239541	1.183896	1.169153	1.255736	1.259344	1.221532	3.445305
124-TRICHLOROBENZENE	0.865744	0.807773	0.825685	0.867245	0.898962	0.853082	4.254595
6CL-BUTADIENE	0.700927	0.653908	0.619711	0.635109	0.647711	0.651473	4.695122
NAPTHALENE	1.205893	1.172371	1.166577	1.409866	1.459118	1.302805	9.674472
1,2,3-3CL-BENZENE	0.870767	0.82442	0.858658	0.911296	0.938928	0.880154	5.154694

INITIAL CALIBRATION(HSSD)
LABORATORY RESOURCES,INC.

DATE: DECEMBER 27, 1991

TRACOR 9000

COMPOUND	RF 5.00	RF 10.00	RF 15.00	RF 20.00	RF 25.00	$\overline{RF}$	%RSD
DCL-2FL-METHANE	0	0	0	0	0	0	ERR
CHLOROMETHANE	0.39165	0.312469	0.527736	0.64224	0.574931	0.489805	27.58165
VINYL CHLORIDE	0.840903	0.781338	0.992031	1.042981	0.928138	0.917078	11.67052
BROMOMETHANE	0	0	0	0	0	0	ERR
CHLOROETHANE	1.943381	1.585704	1.761285	1.844126	1.404676	1.667834	12.0372
TCL-FL-METHANE	1.937776	1.648908	1.762625	1.791949	1.490525	1.730357	9.743559
1,1-DICHLOROETHENE	2.01127	1.568484	1.706302	1.690515	1.527626	1.70124	11.15477
METHYLENE CHLORIDE	3.021477	2.235351	2.058755	2.162258	1.848737	2.265316	19.73585
T-1,2-DCL-ETHENE	2.139591	1.713151	1.890172	1.969325	1.772354	1.896915	8.879062
1,1-DICHLOROETHANE	2.248237	1.880648	2.135192	2.234934	2.140195	2.127841	6.941868
2,2-DICHLOROPROPANE	1.017286	0.89416	0.987826	1.027626	0.987661	0.982912	5.360508
CIS-1,2-DICHLOROETHENE	2.352428	2.025643	2.239634	2.304517	2.232257	2.230896	5.598516
CHLOROFORM	3.000301	2.487951	2.740701	2.814406	2.733663	2.755404	6.58399
BROMOCHLOROMETHANE	1.384648	1.235344	1.322978	1.434744	1.359564	1.347456	5.543395
1,1,1-TRICHLOROETHANE	2.406639	2.015375	2.154971	2.227485	2.157691	2.192432	6.493537
1,1-DICHLOROPROPENE	1.759402	1.440849	1.597883	1.651477	1.630271	1.615977	7.125338
CARBON 4CHLORIDE	3.425726	2.884869	3.071931	3.149016	3.01978	3.110264	6.459945
1,2-DICHLOROETHANE	2.038611	1.839276	1.879578	2.023296	1.933454	1.943223	4.513251
TRICHLOROETHENE	2.266893	1.858523	2.10028	2.118436	2.089791	2.086785	7.01571
1,2-DCL-PROPANE	1.949869	1.691202	1.797436	1.880524	1.802975	1.824401	5.329806
BR-DCL-METHANE	1.750424	1.532775	1.695043	1.798234	1.788804	1.713056	6.342192
DIBROMOMETHANE	1.336352	1.202834	1.280064	1.32215	1.257554	1.279751	4.17907
CIS-1,3-DCLPROPENE	0.947395	0.87771	0.937388	0.991148	0.948695	0.940467	4.329666
TRANS-1,3-DCLPROPENE	0.709125	0.661595	0.705195	0.736469	0.729355	0.708348	4.1331
1,1,2-TCL-ETHANE	3.137279	2.564459	2.560095	2.566556	2.376543	2.641007	10.94345
4CL-ETHENE;1,3-DCL-PROP	3.388887	4.201315	4.152217	4.318378	4.074732	4.023107	9.352438
2BR-CL-METHANE	1.485587	1.299574	1.420984	1.488392	1.455087	1.429919	5.442011
1,2-DIBROMOETHANE	1.002489	0.860057	0.944299	1.030493	1.022667	0.971993	7.314545
CHLOROBENZENE	0.921444	0.806156	0.877779	0.901248	0.857383	0.872802	5.085131
1,1,1,2-4CL-ETHANE	2.898292	2.493015	2.625472	2.686525	2.444077	2.629476	6.817075
BROMOFORM	1.012912	0.901019	0.996288	1.078158	1.029614	1.003598	6.476425
1,1,2,2-4CL-ETHANE	2.110189	1.793231	1.867542	1.960592	1.814744	1.90926	6.78591
1,2,3-3CL-PROPANE	1.497416	1.318254	1.386843	1.476676	1.378813	1.4116	5.253832
BROMOBENIENE	0.794584	0.704244	0.728429	0.764067	0.737155	0.745696	4.653633
2-CHLOROTOLOUENE	0.891594	0.772914	0.822476	0.791255	0.666829	0.789014	10.38109
4-CHLOROTOLOUENE	1.005451	0.909052	0.962769	0.972499	0.889454	0.947845	5.021998
1,3-DICHLOROBENZIENE	1.444544	1.252992	1.327642	1.369455	1.324225	1.343772	5.222227
1,4-DICHLOROBENZIENE	1.303347	1.090319	1.171484	1.197716	1.151033	1.182779	6.609247
1,2-DICHLOROBENZIENE	1.477571	1.299477	1.358222	1.462812	1.405234	1.400663	5.275269
1,2-DBR-3-CL-PROPANE	0.496672	0.411572	0.450104	0.500957	0.48747	0.469355	8.100813
1,2,4-3CL-BENZIENE	1.637539	1.473053	1.324125	1.588326	1.551923	1.514993	8.080684
6CL-BUTADIENE	2.563425	2.23868	1.781202	2.404919	2.275754	2.252796	12.994
1,2,3-3CL-BENZIENE	1.635679	1.553073	1.296065	1.657028	1.606954	1.54976	9.490594

INITIAL CALIBRATION(PID)
LABORATORY RESOURCES,INC.

DATE: DECEMBER 27, 1991

TRACOR 9000

COMPOUND	RF 5.00	RF 10.00	RF 15.00	RF 20.00	RF 25.00	RF	%RSD
VINYL CHLORIDE	0.04979	0.091977	0.081042	0.087779	0.080261	0.07417	24.36356
1,1-DICHLOROETHENE	0.527568	0.374913	0.476202	0.533713	0.476823	0.477724	13.33643
T-1,2-2CL-ETHENE	1.222008	1.043014	1.109279	1.341654	1.224899	1.188171	9.719409
CIS-1,2-DICHLOROETHENE	0.355813	0.297133	0.339817	0.41872	0.379947	0.358286	12.6436
1,1-DICHLOROPROPENE	0.181132	0.153071	0.167398	0.208676	0.194494	0.180994	12.08606
BENZENE	0.606843	0.478139	0.456088	0.528295	0.514229	0.516719	11.21263
TRICHLOROETHENE	0.79035	0.643431	0.679139	0.804585	0.730064	0.729514	9.51798
CIS-1,3-2CLPROPENE	0.168507	0.14277	0.166726	0.187526	0.171835	0.167473	9.595865
TOLUENE	1.60889	1.35315	1.398309	1.701828	1.534243	1.519284	9.527558
TRANS-1,3-2CLPROPENE	0.198254	0.17292	0.185193	0.230251	0.208133	0.198948	11.04581
TETRACHLOROETHENE	0.793363	0.622728	0.792747	0.776216	0.704032	0.737817	10.04331
CHLOROBENZENE	1.772362	1.480797	1.65973	1.87846	1.688667	1.676007	9.530614
ETHYLBENZENE	1.505537	1.255205	1.272965	1.553736	1.382647	1.393976	9.621665
M,P-XYLENE	3.760899	3.079909	3.149215	3.811806	3.40337	3.44104	9.820446
O-XYLENE	1.482588	1.257517	1.307081	1.602047	1.446838	1.419174	9.771083
STYRENE	2.053095	1.669371	1.904724	2.135043	1.905813	1.933609	9.189059
ISOPROPYLBENZENE	1.213252	1.033009	1.051254	1.301171	1.177216	1.155181	9.764931
N-PROPYLBENZENE	0	0	0	0	0	0	ERR
BROMOBENZENE	2.018909	1.864867	1.756443	2.159301	2.059171	1.971738	8.131397
135-TMB,2-CLTOLUENE	3.814625	3.115996	3.209404	3.966504	3.583385	3.537983	10.46424
4-CL-TOLUENE	1.783121	1.489592	1.529821	1.887693	1.677522	1.67355	10.01546
TERT-BUTYL-BENZENE	1.038078	0.908881	0.939714	1.167169	1.011426	1.021013	10.76262
124-3METHYL-BENZENE	1.731542	1.326096	1.446449	1.762326	1.633748	1.578032	11.76338
SEC-BUTYL-BENZENE	1.126119	0.933366	0.963505	1.236959	1.123125	1.076615	11.7157
P-ISOPROPYLTOLUENE	1.139732	0.937117	0.956614	1.243924	1.132026	1.081883	12.11943
1,3-2CL-BENZENE	1.507429	1.251631	1.295225	1.627131	1.459405	1.428164	10.82954
1,4-2CL-BENZENE	1.131008	0.955095	0.998967	1.279899	1.155415	1.104075	11.76765
N-BUTYL-BENZENE	1.204039	1.002751	0.991628	1.312153	1.197916	1.141697	12.22556
1,2-2CL-BENZENE	1.251973	1.044506	1.07864	1.359966	1.221249	1.191267	10.88584
124-TRICHLOROBENZENE	0.888707	0.753272	0.67828	0.953071	0.870726	0.828211	13.50765
HCL-BUTADIENE	0.694022	0.582402	0.472939	0.75155	0.673982	0.634979	17.16277
NAPTHALENE	1.578362	1.319327	1.128263	1.645057	1.490163	1.431834	14.66519
1,2,3-3CL-BENZENE	0.971193	0.816463	0.715405	1.017521	0.936613	0.891439	13.84245

DAILY CALIBRATION(HECD)
LABORATORY RESOURCES,INC.

DATE: DECEMBER 30, 1991

TRACOR 585

COMPOUND	$\overline{RF}$	RF	%DIFF
2CL-2FL-METHANE	0	0	ERR
CHLOROMETHANE	0.564701	0.407997	27.74981
VINYL CHLORIDE	1.146437	0.914585	20.22367
BROMOMETHANE	0	0	ERR
CHLOROETHANE	1.52302	1.512774	0.67271
3CL-FL-METHANE	2.317661	2.224317	4.027504
1,1-DICHLOROETHENE	2.317507	2.027777	12.50181
METHYLENE CHLORIDE	3.313768	3.812878	15.06168
T-1,2-2CL-ETHENE	2.13723	1.971296	7.763998
1,1-DICHLOROETHANE	2.085758	1.785337	14.40344
2,2-DICHLOROPROPANE	0.972265	0.866045	10.92498
CIS-1,2-DICHLOROETHENE	2.082712	1.787579	14.17061
CHLOROFORM	2.848868	2.54582	10.6375
BROMOCHLOROMETHANE	1.366444	1.320527	3.36031
1,1,1-TRICHLOROETHANE	2.426503	2.043931	15.76639
1,1-DICHLOROPROPENE	1.287039	1.176821	8.563733
CARBON 4CHLORIDE	3.239449	2.766737	14.59236
1,2-DICHLOROETHANE	1.421588	1.394885	1.878369
2-CHLOROETHYLVINYL ETHER	0	0	ERR
TRICHLOROETHENE	1.864838	1.681974	9.805677
1,2-2CL-PROPANE	1.819369	1.668432	8.296095
BR-2CL-METHANE	1.646211	1.421621	13.64285
DIBROMOMETHANE	1.320062	1.176473	10.87738
CIS-1,3-2CLPROPENE	0.9045	0.846465	6.416235
TRANS-1,3-2CLPROPENE	0.589897	0.582039	1.332123
1,1,2-3CL-ETHANE	2.595598	2.621013	0.979147
4CL-ETHENE;1,3-2CL-PROP	4.362384	4.269123	2.137845
2BR-CL-METHANE	1.25598	1.157564	7.835752
1,2-DIBROMOETHANE	0.801931	0.758675	5.393947
CHLOROBENZENE	0.801287	0.753825	5.923264
1,1,1,2-4CL-ETHANE	2.838664	2.602563	8.317324
BROMOFORM	0.67303	0.620763	7.765924
1,1,2,2-4CL-ETHANE	1.492654	1.480215	0.833365
1,2,3-3CL-PROPANE	1.179484	1.095387	7.129911
BROMOBENZENE	0.755608	0.766011	1.376735
2-CHLOROTOLUENE	0.765032	0.75607	1.17151
4-CHLOROTOLUENE	0.962105	0.936656	2.645125
1,3-DICHLOROBENZENE	1.247591	1.25122	0.290905
1,4-DICHLOROBENZENE	1.451412	1.406848	3.070366
1,2-DICHLOROBENZENE	1.252822	1.23946	1.066545
1,2-2BR-3-CL-PROPANE	0.218695	0.204617	6.437105
1,2,4-3CL-BENZENE	1.334889	1.288388	3.483499
6CL-BUTADIENE	2.188168	2.390217	9.233745
1,2,3-3CL-BENZENE	1.359493	1.401659	3.101625

DAILY CALIBRATION(PID)
LABORATORY RESOURCES,INC.

DATE: DECEMBER 30, 1991

TRACOR 585

COMPOUND	$\overline{RF}$	RF	%DIFF
VINYL CHLORIDE	0.26523	0.101487	61.736e23
1,1-DICHLOROETHENE	0.63882	0.588586	7.863465
T-1,2-2CL-ETHENE	1.564709	1.330965	14.9385
CIS-1,2-DICHLOROETHENE	0.386623	0.323642	16.8073
1,1-DICHLOROPROPENE	0.192645	0.20448	6.143e02
BENZENE	0.891895	0.851989	4.474284
TRICHLOROETHENE	0.812698	0.749989	7.750204
CIS-1,3-2CLPROPENE	0.152646	0.13384	12.32027
TOLUENE	1.647584	1.527062	7.315069
TRANS-1,3-2CLPROPENE	0.169517	0.156015	7.963364
TETRACHLOROETHENE	0.701386	0.631914	9.90498
CHLOROBENZENE	1.6135	1.499027	7.094668
ETHYLBENZENE	1.4574	1.379577	5.33984
M,P-XYLENE	3.36087	3.197795	4.852185
O-XYLENE	1.269649	1.187836	6.443729
STYRENE	1.729114	1.665196	3.696594
ISOPROPYLBENZENE	1.08832	1.010128	7.184652
N-PROPYLBENZENE	0	0	ERR
BROMOBENZENE	3.039164	2.860475	5.87556e
135-TMB,2CLTOLUENE	3.402238	3.221825	5.302771
4-CL-TOLUENE	1.573186	1.527278	2.916276
TERT-BUTYL-BENZENE	0.975784	0.941676	3.495382
124-3METHYL-BENZENE	1.499186	1.397552	6.778576
SEC-BUTYL-BENZENE	1.011691	0.951717	5.928079
P-ISOPROPYLTOLUENE	1.068779	1.009963	5.503111
1,3-2CL-BENZENE	1.420635	1.346839	5.208621
1,4-2CL-BENZENE	1.362525	1.29119	5.235543
N-BUTYL-BENZENE	1.120916	1.080986	3.571141
1,2-2CL-BENZENE	1.138278	1.067125	6.250914
124-TRICHLOROBENZENE	0.797479	0.733777	8.019468
6CL-BUTADIENE	0.613728	0.623442	1.582758
NAPHTHALENE	1.165418	1.059812	9.061621
1,2,3-3CL-BENZENE	0.821078	0.752531	8.348426

Operator: LS

Sample Name: BLANK

Data File Name: A:ADM278.ATB

Date Taken: 12-27-1991 ~~21:16:25~~ Original Method:ACOL

Interface: 8 Cycle#: 8 Channel#: 0 Vial#: N.A.

AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1

SAMPLE WEIGHT = 1

AREA PERCENT REPORT

No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	11.84	53,196.	11.8589	1	2,687.	30.240	19.8
2	13.93	64,413.	14.3594	1	4,926.	36.617	13.1
3	17.97	1,462.	0.3259	1	227.	0.831	6.4
4	22.09	2,535.	0.5651	1	352.	1.441	7.2
5	26.59	175,911.	39.2154	1	26,306.	100.000	6.7
6	27.37	6,142.	1.3693	1	1,289.	3.492	4.8
7	30.76	113,365.	25.2722	1	19,451.	64.445	5.8
8	33.73	3,520.	0.7846	1	609.	2.001	5.8
9	34.20	2,512.	0.5600	1	496.	1.428	5.1
10	37.81	1,445.	0.3221	1	268.	0.821	5.4
1	39.01	2,386.	0.5319	1	415.	1.356	5.7
2	44.69	2,418.	0.5390	1	454.	1.374	5.3
13	45.16	11,553.	2.5755	1	1,921.	6.568	6.0
4	46.43	3,655.	0.8149	1	665.	2.078	5.5
5	46.94	4,063.	0.9058	1	789.	2.310	5.2

Total Area: 448,576. Area Reject: 1

Operator: LS

Sample Name: BLANK

Data File Name: A:ADM278.ATB

Original Method:ACOL

Date Taken: 12-27-1991 ~~21:16:25~~ Cycle#: 8 Channel#: 0 Vial#: N.A.

Interface: 8

AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1

SAMPLE WEIGHT = 1

INTERNAL STANDARD TABLE

ORIGINAL RECORDED DATA USED FOR THIS TABLE.

Data File Name: A:ADM278.ATB Sample Name: BLANK

Area reject: 1 Sample Amount: 1

Amount injected: 1.00000 Dilution factor: 1.00000

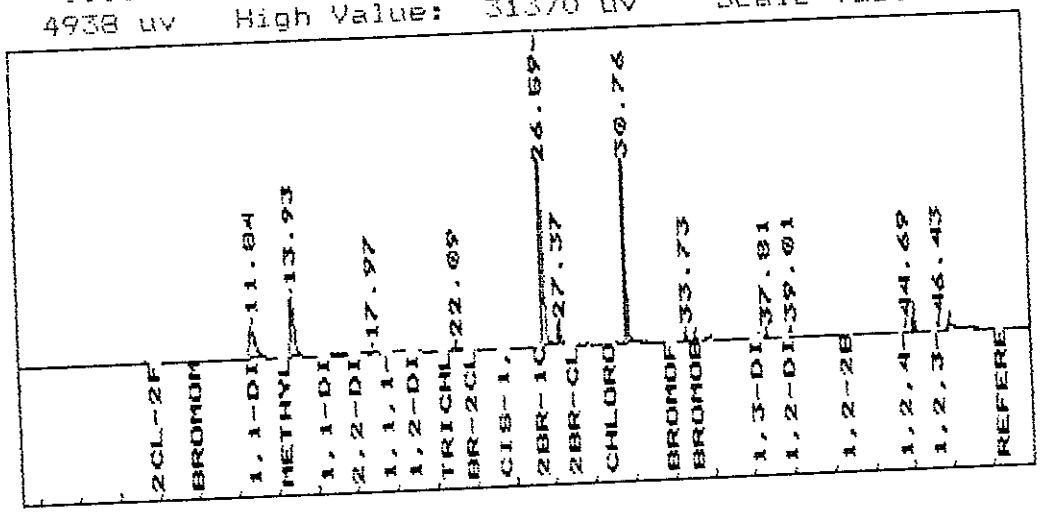
Internal Standard Amount: 10

Sample Weight = 1

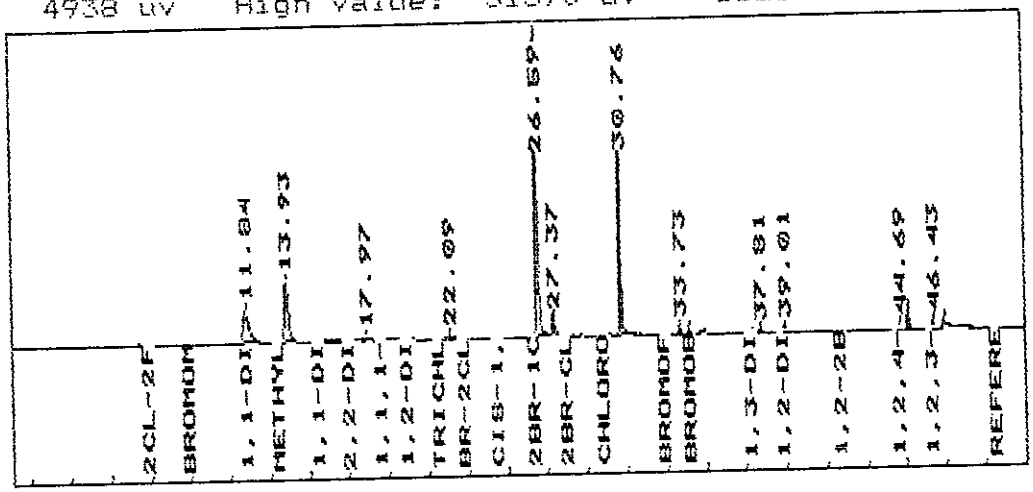
PK NUM	RET TIME	PEAK NAME	CONCENTRATION in PPB	NORMALIZED CONC%	AREA	AREA/ HEIGHT	HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
	13.928	METHYLENE CHLORIDE	1.4936	13.9752%	64,413.	4,926.	13.1	1	NA	NA	.1200	2.3187E-05
3	17.969	CHLOROFORM	~~0.0343~~	0.3208%	1,462.	227.	6.4	1	NA	NA	.1862	2.3454E-05
4	22.094	1,2-2CLPROPANE	~~0.0813~~	0.7604%	2,535.	352.	7.2	1	NA	NA	-.5263	3.2059E-05
	26.586	2BR-1CL-PROPANE	10.0000	0.0000%	175,911.	26,306.	6.7	1	NA	NA	.8871	5.6847E-05
	27.371	4CLETHE;1,3-2CLPRO	~~0.3252~~	3.0433%	6,142.	1,289.	4.8	1	NA	NA	.8615	5.2952E-05
7	30.761	1-CL-2-FL-BENZENE	7.8781	73.7149%	113,365.	19,451.	5.8	1	NA	NA	.5458	6.9493E-05
	33.734	1,1,2,2-4CL-ETHANE	~~0.1024~~	0.9584%	3,520.	609.	5.8	1	NA	NA	.3477	2.9102E-05
	34.202	1,2,3-3CL-PROPANE	~~0.1014~~	0.9484%	2,512.	496.	5.1	1	NA	NA	.3429	4.0351E-05
10	37.809	1,4-DICHLOROBENZEN	~~0.0730~~	0.6832%	1,445.	268.	5.4	1	NA	NA	.2657	5.0535E-05
11	39.011	1,2-DICHLOROBENZEN	~~0.0983~~	0.9195%	2,386.	415.	5.7	1	NA	NA	.2145	4.1188E-05
	44.689	1,2,4-3CL-BENZENE	~~0.0936~~	0.8754%	2,418.	454.	5.3	1	NA	NA	0	3.8694E-05
13	45.157	6CL-BUTADIENE	~~0.2767~~	2.5892%	11,553.	1,921.	6.0	1	NA	NA	0	2.3952E-05
14	46.426	1,2,3-3CL-BENZENE	~~0.1294~~	1.2112%	3,655.	665.	5.5	1	NA	NA	0	3.5413E-05

TOTAL AMOUNT = 10.6872 ES

ata File = A:ADM278.PTS Printed on 01-14-1992 at 14:36:52
tart time: 0.00 min. Stop time: 51.00 min. Offset: 0 mv.
Low Value: 4938 uv High Value: 31370 uv Scale factor: 1.0



ata File = A:ADM278.PTS Printed on 01-14-1992 at 14:36:52
tart time: 0.00 min. Stop time: 51.00 min. Offset: 0 mv.
Low Value: 4938 uv High Value: 31370 uv Scale factor: 1.0



Sample Name: BLANK
Data File Name: A:BDM278.ATB Operator: LS
Date Taken: 12-27-1991 ~~21:16:25~~ Original Method:BCOL
Interface: 8 Cycle#: 8 Channel#: 1 Vial#: N.A.

AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1
MPLE WEIGHT = 1

******** AREA PERCENT REPORT ********

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	12.31	665.	0.6567	1	101.	1.311	6.6
2	17.25	429.	0.4233	1	73.	0.845	5.9
3	22.08	21,787.	21.5043	1	3,694.	42.922	5.9
4	25.12	373.	0.3679	1	65.	0.734	5.7
5	25.50	2,040.	2.0131	1	378.	4.018	5.4
6	27.34	882.	0.8708	1	163.	1.738	5.4
7	29.98	1,397.	1.3791	2	267.	2.753	5.2
8	30.16	1,459.	1.4404	2	268.	2.875	5.5
9	30.39	3,661.	3.6137	1	662.	7.213	5.5
0	30.74	50,760.	50.1004	1	10,005.	100.000	5.1
1	31.76	942.	0.9296	2	175.	1.856	5.4
12	31.95	1,281.	1.2641	2	237.	2.523	5.4
3	32.95	793.	0.7828	1	143.	1.562	5.6
4	34.25	562.	0.5548	1	129.	1.107	4.4
15	34.77	2,081.	2.0541	2	386.	4.100	5.4
16	34.95	1,290.	1.2730	2	244.	2.541	5.3
7	36.06	1,396.	1.3776	1	178.	2.750	7.8
18	36.64	608.	0.5998	1	113.	1.197	5.4
19	37.12	880.	0.8683	2	161.	1.733	5.5
0	37.36	850.	0.8386	2	163.	1.674	5.2
1	37.76	467.	0.4609	1	110.	0.920	4.2
22	38.51	1,148.	1.1334	1	214.	2.262	5.4
23	38.96	881.	0.8693	1	163.	1.735	5.4
24	44.66	678.	0.6690	1	120.	1.335	5.7
25	45.12	841.	0.8297	1	158.	1.656	5.3
26	45.54	2,240.	2.2113	1	394.	4.414	5.7
7	46.39	926.	0.9138	1	168.	1.824	5.5

Total Area: 101,317. Area Reject: 1

Sample Name: BLANK
Data File Name: A:BDM278.ATB Operator: LS
Date Taken: 12-27-1991 ~~21:16:25~~ Original Method:BCOL
Interface: 8 Cycle#: 8 Channel#: 1 Vial#: N.A.
OUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1
SAMPLE WEIGHT = 1

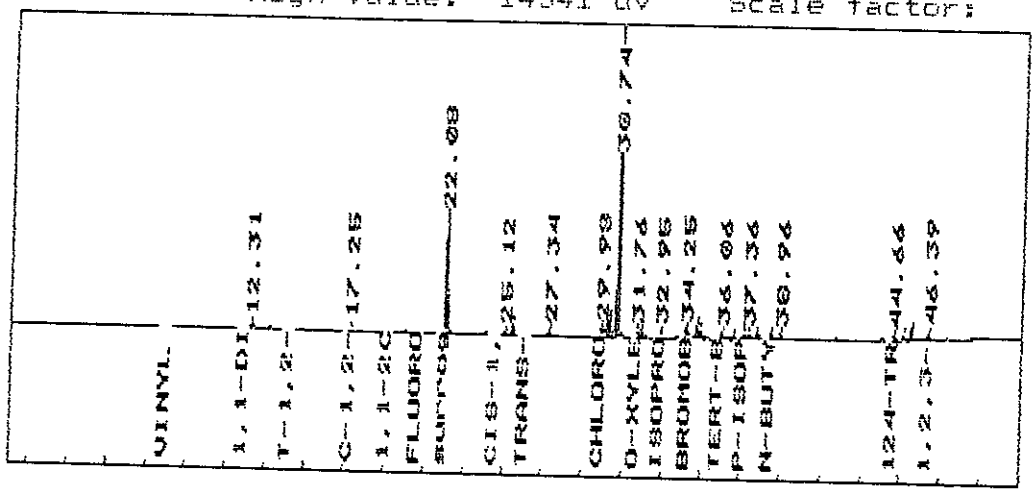
INTERNAL STANDARD TABLE

IGINAL RECORDED DATA USED FOR THIS TABLE.
Data File Name: A:BDM278.ATB Sample Name: BLANK
Area reject: 1 Sample Amount: 1
ount injected: 1.00000
ternal Standard Amount: 10 Dilution factor: 1.00000
Sample Weight = 1

K NUM	RET TIME	PEAK NAME	CONCENTRATION in PPB	NORMALIZED CONC%	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
	12.308	1,1-DICHLOROETHENE	~~0.3456~~	1.3748%	665.	101.	6.6	1	NA	NA	66.74	5.1647E-04
	17.251	C-1,2-2CL-ETHENE	~~0.2775~~	1.1105%	429.	73.	5.9	1	NA	NA	86.79	6.4716E-04
3	22.077	surrogate	10.2308	40.9340%	21,787.	3,694.	5.9	1	NA	NA	51.25	4.6957E-04
	25.501	TOLUENE	~~0.2846~~	1.1386%	2.040.	378.	5.4	1	NA	NA	47.10	1.3952E-04
	27.338	TETRACHLOROETHENE	~~0.2686~~	1.0749%	882.	163.	5.4	1	NA	NA	52.42	3.0450E-04
7	29.976	CHLOROBENZENE	~~0.1788~~	0.7154%	1,397.	267.	5.2	2	NA	NA	63.33	1.2796E-04
8	30.160	ETHYLBENZENE	~~0.2204~~	0.8818%	1,459.	268.	5.5	2	NA	NA	60.39	1.5101E-04
	30.394	M,P-XYLENE	~~0.4490~~	1.7966%	3,661.	662.	5.5	1	NA	NA	58.39	1.2264E-04
10	30.745	1-CL-2-FL-BENZENE	10.0000	40.0105%	50,760.	10,005.	5.1	1	NA	NA	58.70	1.9700E-04
11	31.763	O-XYLENE	~~0.1448~~	0.5795%	942.	175.	5.4	2	NA	NA	58.23	1.5379E-04
	31.947	STYRENE	~~0.1499~~	0.5996%	1,281.	237.	5.4	2	NA	NA	52.67	1.1701E-04
	32.949	ISOPROPYLBENZENE	~~0.1499~~	0.5999%	793.	143.	5.6	1	NA	NA	52.35	1.8904E-04
14	34.252	BROMOBENZENE	~~0.0555~~	0.2221%	562.	129.	4.4	1	NA	NA	49.48	9.8771E-05
	34.769	135-TMB;2CLTOLUENE	~~0.2597~~	1.0391%	2,081.	386.	5.4	2	NA	NA	50.76	1.2479E-04
	34.953	4-CHLOROTOLUENE	~~0.1668~~	0.6672%	1,290.	244.	5.3	2	NA	NA	42.38	1.2929E-04
17	36.055	124-3METHYL-BENZEN	~~0.1953~~	0.0000%	1,396.	178.	7.8	1	NA	NA	36.81	1.3995E-04
18	36.640	SEC-BUTYLBENZENE	~~0.1236~~	0.4944%	608.	113.	5.4	1	NA	NA	36.10	2.0335E-04
	37.124	P-ISOPROPYLTOLUENE	~~0.1790~~	0.7161%	880.	161.	5.5	2	NA	NA	36.8	2.0343E-04
20	37.358	1,3-2CL-BENZENE	~~0.1294~~	0.5176%	850.	163.	5.2	2	NA	NA	33.55	1.5225E-04
21	37.759	1,4-2CL-BENZENE	~~0.0935~~	0.3739%	467.	110.	4.2	1	NA	NA	32.29	2.0015E-04
	38.510	N-BUTYLBENZENE	~~0.2169~~	0.8678%	1,148.	214.	5.4	1	NA	NA	29.11	1.8888E-04
	38.961	1,2-2CL-BENZENE	~~0.1622~~	0.6489%	881.	163.	5.4	1	NA	NA	29.82	1.8413E-04
24	44.656	124-TRICHLOROBENZE	~~0.1746~~	0.6985%	678.	120.	5.7	1	NA	NA	45.96	2.5756E-04
	45.123	6CL-BUTADIENE	~~0.2073~~	0.8295%	841.	158.	5.3	1	NA	NA	37.15	2.4660E-04
	45.541	NAPHTHALENE	~~0.3124~~	1.2500%	2,240.	394.	5.7	1	NA	NA	35.46	1.3945E-04
27	46.393	1,2,3-3CL-BENZENE	~~0.2147~~	0.8590%	926.	168.	5.5	1	NA	NA	36.10	2.3188E-04
		TOTAL AMOUNT =	24.9935									

EJS

ata File = A:BDM278.PTS Printed on 01-14-1992 at 14:37:52
tart time: 0.00 min. Stop time: 51.00 min. Offset: 0 mv.
Low Value: 4496 uv High Value: 14541 uv Scale factor: 1.0



Sample Name: BLANK
Data File Name: A:ADE303.ATB
Operator: ES
Date Taken: 12-30-1991 ~~14:54:15~~
Interface: 0
Original Method: AC00
Cycle#: 3
Channel#: 0
Vial#: N.A.

AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1
SAMPLE WEIGHT = 1

AREA PERCENT REPORT

No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	5.79	1,831.	0.5364	1	252.	1.198	7.3
2	11.92	7,328.	2.1470	1	518.	4.796	14.1
3	13.99	51,792.	15.1752	1	4,570.	33.898	11.3
4	16.13	4,091.	1.1987	1	166.	2.678	24.7
5	22.04	3,796.	1.1121	1	559.	2.484	6.8
6	26.49	152,787.	44.7671	1	20,818.	100.000	7.3
7	30.73	119,669.	35.0635	1	19,317.	78.324	6.2

Total Area: 341,293. Area Reject: 1

Sample Name: BLANK
Data File Name: A:ADE303.ATB
Operator: ES
Date Taken: 12-30-1991 ~~14:54:15~~
Original Method:AC00
Interface: 0
Cycle#: 3
Channel#: 0
Vial#: N.A.

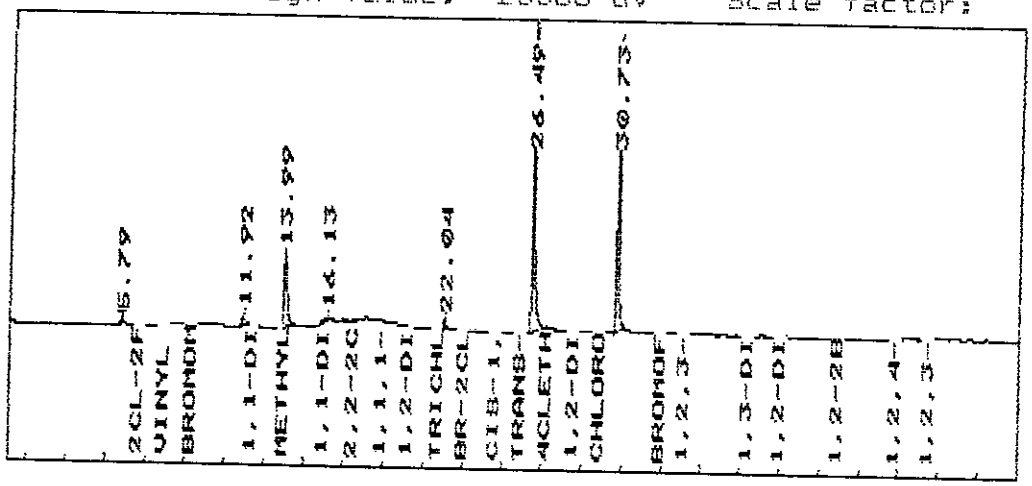
A..OUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1
SAMPLE WEIGHT = 1

INTERNAL STANDARD TABLE

(IGINAL RECORDED DATA USED FOR THIS TABLE.
Data File Name: A:ADE303.ATB Sample Name: BLANK
Area reject: 1 Sample Amount: 1
/ ount injected: 1.00000 Dilution factor: 1.00000
I. ternal Standard Amount: 10
Sample Weight = 1

/. (NUM	RET TIME	PEAK NAME	CONCENTRATION in PPB	NORMALIZED CONC%	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
	13.995	METHYLENE CHLORIDE	0.8890	7.8853%	51,792.	4,570.	11.3	1	NA	NA	.6002	1.7166E-05
,	16.132	1,1-DICHLOROETHANE	~~0.1580~~	1.3303%	4,091.	166.	24.7	1	NA	NA	1.577	3.6660E-05
5	22.044	TRICHLOROETHENE	~~0.1477~~	1.3100%	3,796.	559.	6.8	1	NA	NA	1.930	3.8913E-05
	26.486	2BR-1CL-PROPANE	10.0000	0.0000%	152,787.	20,818.	7.3	1	NA	NA	.5069	6.5451E-05
	30.728	1-CL-2-FL-BENZENE	10.0880	89.4745%	119,669.	19,317.	6.2	1	NA	NA	.4366	8.4299E-05
		TOTAL AMOUNT =	11.2747	ES								

ata File = A:ADE303.PTS Printed on 01-14-1992 at 14:49:18
tart time: 0.00 min. Stop time: 51.00 min. Offset: 0 mv.
ow Value: 4640 uv High Value: 25586 uv Scale factor: 1.0



```
**********************************************************************************
* Sample Name: BLANK                                                             *
*  Data File Name: A:8DE303.ATB                                  Operator: ES    *
* Date Taken:  12-30-1991 14:54:15      Original Method:8C00                     *
* Interface: 0                  Cycle#:  3          Channel#: 1    Vial#: N.A.   *
**********************************************************************************
AMOUNT INJECTED =  1   DILUTION FACTOR =  1   SAMPLE AMOUNT =  1
SAMPLE WEIGHT   =  1
```

AREA PERCENT REPORT

No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	12.51	1,587.	0.5193	1	212.	0.847	7.5
2	22.01	90,364.	29.5745	1	15,553.	48.250	5.8
3	30.69	187,283.	61.2940	1	37,761.	100.000	5.0
4	38.21	24,498.	8.0177	1	2,616.	13.081	9.4
5	45.69	1,817.	0.5945	1	329.	0.970	5.5

Total Area: 305,548. Area Reject: 1

Sample Name: BLANK
Data File Name: A:BDE303.ATB Operator: ES
Date Taken: 12-30-1991 ~~14:54:15~~ Original Method:BC00
Interface: 0 Cycle#: 3 Channel#: 1 Vial#: N.A.

AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1
SAMPLE WEIGHT = 1

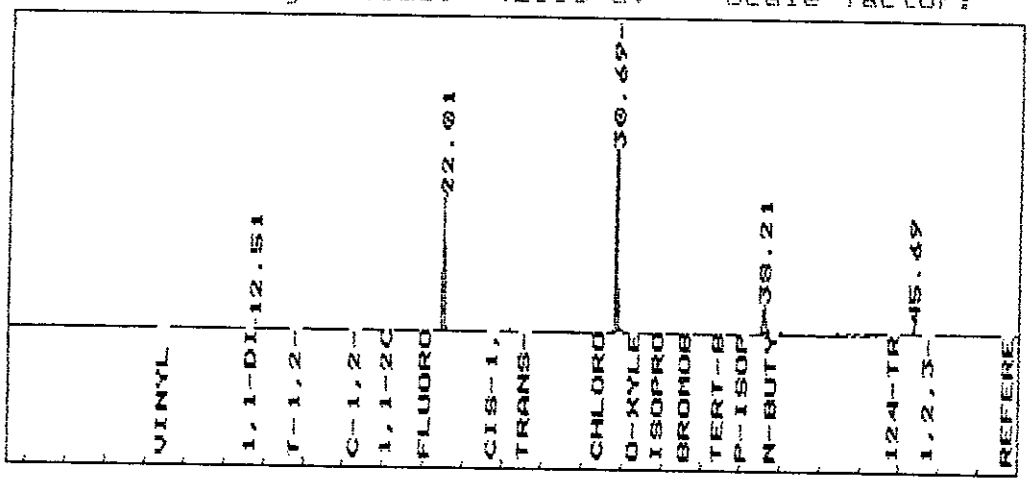
INTERNAL STANDARD TABLE

ORIGINAL RECORDED DATA USED FOR THIS TABLE.
Data File Name: A:BDE303.ATB Sample Name: BLANK
Area reject: 1 Sample Amount: 1
Count injected: 1.00000 Dilution factor: 1.00000
Internal Standard Amount: 10
Sample Weight = 1

NUM	RET TIME	PEAK NAME	CONCENTRATION in PPB	NORMALIZED CONC%	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
	12.508	1,1-DICHLOROETHENE	~~0.1439~~	0.6379%	1.587.	212.	7.5	1	NA	NA	69.45	9.0718E-05
	22.011	surrogate	11.3151	50.1475%	90,364.	15,553.	5.8	1	NA	NA	50.80	1.2522E-04
3	30.695	1-CL-2-FL-BENZENE	10.0000	44.3191%	187,283.	37,761.	5.0	1	NA	NA	58.44	5.3395E-05
	38.210	1,4-2CL-BENZENE	~~1.0131~~	4.4899%	24,498.	2,616.	9.4	1	NA	NA	33.87	4.1353E-05
	45.691	NAPHTHALENE	~~0.0915~~	0.4056%	1,817.	329.	5.5	1	NA	NA	35.91	5.0382E-05
		TOTAL AMOUNT =	22.5636									

ES

ata File = A:BDE303.PTS Printed on 01-14-1992 at 14:49:54
tart time: 0.00 min. Stop time: 51.00 min. Offset: 0 mv.
Low Value: 4476 uv High Value: 42335 uv Scale factor: 1.0



Sample Name: W112372-01 602 STR
Data File Name: A:ADM2712.ATB
Operator: LS
Date Taken: 12-28-1991 ~~01.28.50~~ Original Method:ACOL
Interface: 8 Cycle#: 12 Channel#: 0 Vial#: N.A.

AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1
SAMPLE WEIGHT = 1

AREA PERCENT REPORT

No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	11.86	34,066.	7.1316	1	1,653.	20.003	20.6
2	13.91	170,300.	35.6517	1	12,794.	100.000	13.3
3	22.11	1,751.	0.3667	1	274.	1.028	6.4
4	26.59	162,187.	33.9531	1	24,725.	95.236	6.6
5	30.78	105,589.	22.1046	1	19,307.	62.001	5.5
6	48.11	3,785.	0.7923	1	699.	2.222	5.4
Total Area:		477,678.	Area Reject:		1		

****
* Sample Name: W112372-01 602 STR Operator: LS *
* Data File Name: A:ADM2712.ATB *
* Date Taken: 12-28-1991 ~~01:28:50~~ Original Method:ACOL *
* Interface: 8 Cycle#: 12 Channel#: 0 Vial#: N.A. *
****
AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1
SAMPLE WEIGHT = 1

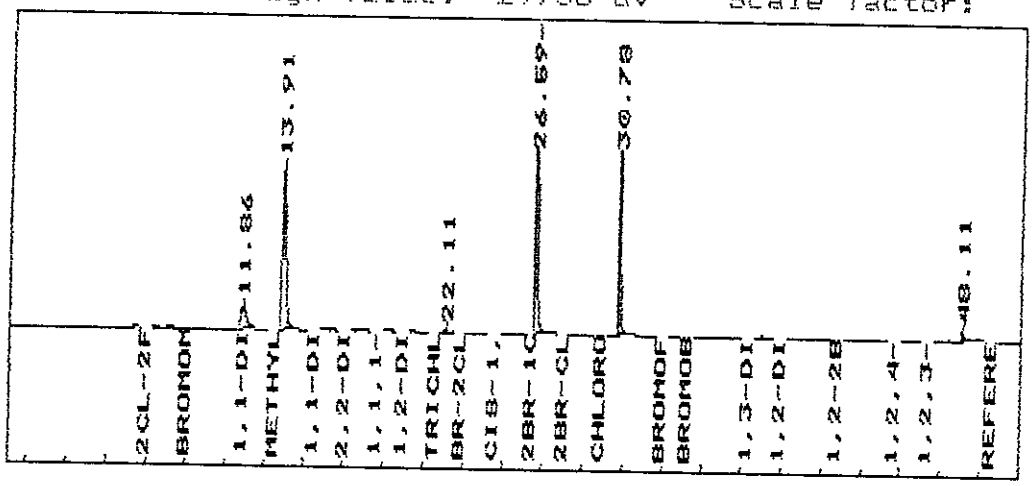
INTERNAL STANDARD TABLE

ORIGINAL RECORDED DATA USED FOR THIS TABLE.
Data File Name: A:ADM2712.ATB Sample Name: W112372-01 602 STR
Area reject: 1 Sample Amount: 1
Amount injected: 1.00000 Dilution factor: 1.00000
Internal Standard Amount: 10
Sample Weight = 1

NUM	RET TIME	PEAK NAME	CONCENTRATION in PPB	NORMALIZED CONC%	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
	13.911	METHYLENE CHLORIDE	4.2829	34.8139%	170,300.	12,794.	13.3	1	NA	NA	0	2.5149E-05
	22.111	1,2-2CLPROPANE	~~0.0609~~	0.4950%	1,751.	274.	6.4	1	NA	NA	-.4511	3.4772E-05
4	26.586	2BR-1CL-PROPANE	10.0000	0.0000%	162,187.	24,725.	6.6	1	NA	NA	.8871	6.1657E-05
	30.778	1-CL-2-FL-BENZENE	7.9586	64.6911%	105,589.	19,307.	5.5	1	NA	NA	.6004	7.5373E-05
		TOTAL AMOUNT :	12.3024									

ES

Data File = A:ADM2712.PTS Printed on 01-14-1992 at 14:38:44
Start time: 0.00 min. Stop time: 51.00 min. Offset: 0 mv.
Low Value: 4909 uv High Value: 29736 uv Scale factor: 1.0



****
Sample Name: W112372-01 602 STR
* Data File Name: A:BDM2712.ATB Operator: LS *
Date Taken: 12-28-1991 ~~01:28:50~~ Original Method:BCOL *
Interface: 8 Cycle#: 12 Channel#: 1 Vial#: N.A. *
****
AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1
MPLE WEIGHT = 1

********* AREA PERCENT REPORT *********

Pk No.	Ret Time	Peak Area	Area %	BL	Peak Ht.	Normalized %	Area/Height
1	14.45	1,635.	1.8612	1	152.	3.588	10.8
2	22.08	19,997.	22.7600	2	3,361.	43.876	5.9
3	22.29	715.	0.8139	2	114.	1.569	6.3
4	24.70	1,156.	1.3161	1	148.	2.537	7.8
5	25.50	520.	0.5913	1	96.	1.140	5.4
6	27.32	1,344.	1.5299	1	245.	2.949	5.5
7	30.74	45,576.	51.8738	1	8,809.	100.000	5.2
8	31.93	903.	1.0276	1	171.	1.981	5.3
9	36.22	2,126.	2.4195	1	408.	4.664	5.2
0	37.99	3,104.	3.5326	1	354.	6.810	8.8
1	40.20	6,511.	7.4113	1	1,205.	14.287	5.4
12	43.95	3,188.	3.6289	1	535.	6.996	6.0
3	46.33	399.	0.4545	1	84.	0.876	4.8
4	47.39	685.	0.7795	1	72.	1.503	9.5

otal Area: 87,859. Area Reject: 1

Sample Name: W112372-01 602 STR Operator: LS
Data File Name: A:BDM2712.ATB
Date Taken: 12-28-1991 ~~01:28:50~~ Original Method:BCOL
Interface: 8 Cycle#: 12 Channel#: 1 Vial#: N.A.

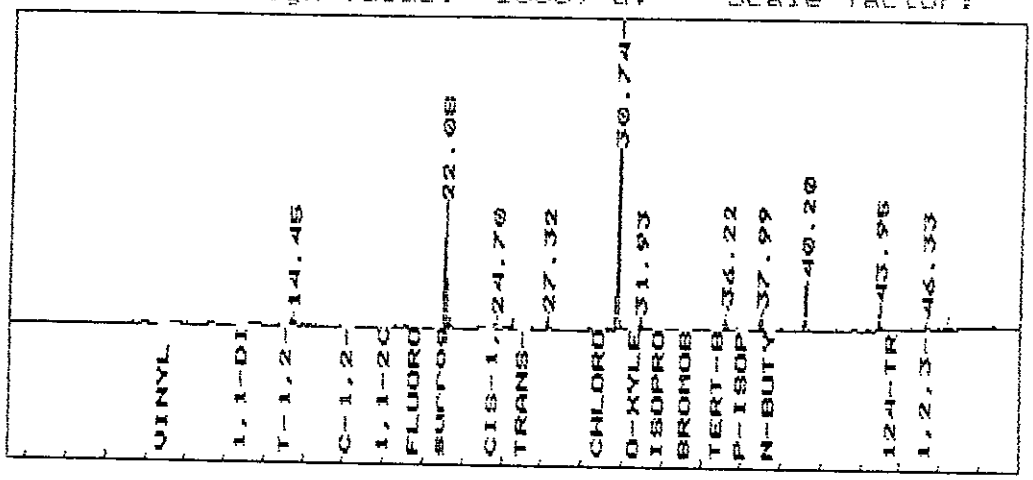
JOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1
SAMPLE WEIGHT = 1

INTERNAL STANDARD TABLE

IIGINAL RECORDED DATA USED FOR THIS TABLE.
Data File Name: A:BDM2712.ATB Sample Name: W112372-01 602 STR
Area reject: 1 Sample Amount: 1
lount injected: 1.00000 Dilution factor: 1.00000
. nternal Standard Amount: 10
Sample Weight = 1

K NUM	RET TIME	PEAK NAME	CONCENTRATION in PPB	NORMALIZED CONC%	AREA	AREA/ HEIGHT	HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
	14.445	T-1,2-DICHLOROETHE	~~0.3378~~	1.3570%	1,635.	152.	10.8	1	NA	NA	84.04	2.0655E-04
_	22.077	surrogate	10.4581	42.0158%	19,997.	3,361.	5.9	2	NA	NA	51.25	5.2299E-04
4	24.699	CIS-1,3-2CLPROPENE	~~1.7312~~	6.9551%	1,156.	148.	7.8	1	NA	NA	55.52	1.4972E-03
	25.501	TOLUENE	~~0.0807~~	0.3243%	520.	96.	5.4	1	NA	NA	47.10	1.5539E-04
	27.321	TETRACHLOROETHENE	~~0.4559~~	1.8315%	1,344.	245.	5.5	1	NA	NA	52.32	3.3914E-04
7	30.745	1-CL-2-FL-BENZENE	10.0000	40.1754%	45,576.	8,809.	5.2	1	NA	NA	58.70	2.1941E-04
8	31.930	STYRENE	~~0.1177~~	0.4727%	903.	171.	5.3	1	NA	NA	52.59	1.3032E-04
	36.222	124-3METHYL-BENZEN	~~0.3313~~	0.0000%	2,126.	408.	5.2	1	NA	NA	37.45	1.5587E-04
10	37.993	1,4-2CL-8ENZENE	~~0.6919~~	2.7796%	3,104.	354.	8.8	1	NA	NA	33.11	2.2291E-04
12	43.954	124-TRICHLOROBENZE	~~0.9146~~	3.6745%	3,188.	535.	6.0	1	NA	NA	43.66	2.8686E-04
	46.326	1,2,3-3CL-BENZENE	~~0.1031~~	0.4143%	399.	84.	4.8	1	NA	NA	35.91	2.5826E-04
		TOTAL AMOUNT =	24.8909	ES								

Data File = A:BDM2712.PTS Printed on 01-14-1992 at 14:43:57
Start time: 0.00 min. Stop time: 51.00 min. Offset: 0 mv.
Low Value: 4480 uv High Value: 13339 uv Scale factor: 1.0



Sample Name: W112372-02 602 1/2 Operator: LS

Data File Name: A:ADM2713.ATB

Date Taken: 12-28-1991 ~~02:31:59~~ Original Method:ACOL

Interface: 8 Cycle#: 13 Channel#: 0 Vial#: N.A.

AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1

SAMPLE WEIGHT = 1

AREA PERCENT REPORT

No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	6.36	5,444.	0.4108	1	770.	0.689	7.1
2	8.47	3,438.	0.2594	1	237.	0.435	14.5
3	11.86	33,236.	2.5079	2	1,711.	4.205	19.4
4	12.37	22,455.	1.6944	2	1,267.	2.841	17.7
5	13.93	143,521.	10.8296	2	11,020.	18.157	13.0
6	14.53	4,641.	0.3502	2	518.	0.587	9.0
7	15.80	39,694.	2.9952	1	5,744.	5.022	6.9
8	17.52	790,431.	59.6433	1	133,361.	100.000	5.9
9	21.81	16,172.	1.2203	3	2,661.	2.046	6.1
10	22.09	4,415.	0.3331	4	508.	0.559	8.7
11	26.59	159,741.	12.0535	1	25,161.	20.209	6.3
12	30.78	102,077.	7.7024	1	17,817.	12.914	5.7

Total Area: 1,325,265. Area Reject: 1

```
**********************************************************************
* Sample Name: W112372-02 602 1/2                    Operator: LS    *
*  Data File Name: A:ADM2713.ATB                                     *
* Date Taken:  12-28-1991 02:31:59     Original Method:ACOL          *
* Interface: 8                 Cycle#:  13        Channel#: 0   Vial#: N.A.  *
* **********************************************************************
AMOUNT INJECTED =  1   DILUTION FACTOR =  1   SAMPLE AMOUNT =  1
SAMPLE WEIGHT   =  1
```

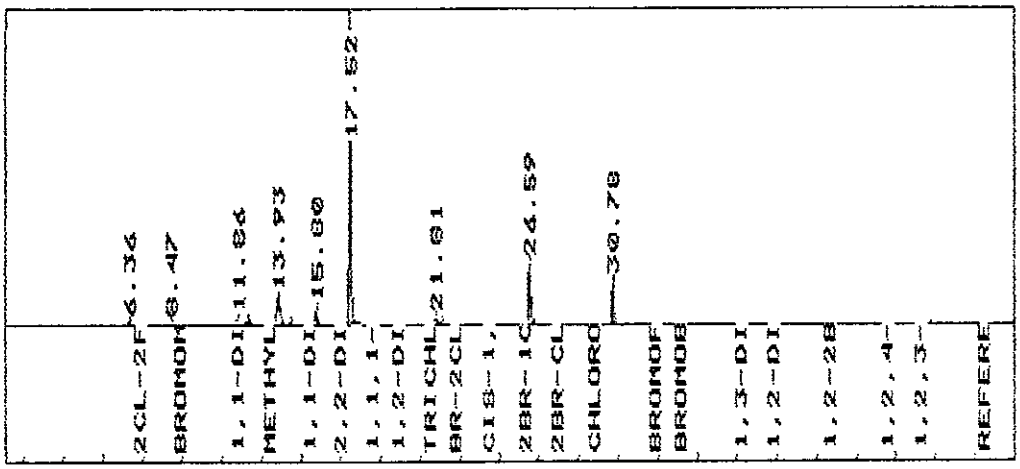
INTERNAL STANDARD TABLE

ORIGINAL RECORDED DATA USED FOR THIS TABLE.
Data File Name: A:ADM2713.ATB Sample Name: W112372-02 602 1/2
Area reject: 1 Sample Amount: 1
Amount injected: 1.00000 Dilution factor: 1.00000
Internal Standard Amount: 10
Sample Weight = 1

PK NUM	RET TIME	PEAK NAME	CONCENTRATION in PPB	NORMALIZED CONC%	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
	12.375	1,1-DICHLOROETHENE	~~0.8911~~	2.2314%	22,455.	1,267.	17.7	2	NA	NA	.6793	3.9682E-05
5	13.928	METHYLENE CHLORIDE	3.6647	9.1771%	143,521.	11,020.	13.0	2	NA	NA	.1200	2.5534E-05
6	14.529	T-1,2-2CL-ETHENE	~~0.1758~~	0.4402%	4,641.	518.	9.0	2	NA	NA	-.4576	3.7879E-05
	15.798	1,1-DICHLOROETHANE	~~1.3310~~	3.3331%	39,694.	5,744.	6.9	1	NA	NA	-.5257	3.3532E-05
	17.518	C-1,2-2CL-ETHENE	25.3873	63.5741%	790,431.	133,361.	5.9	1	NA	NA	0	3.2118E-05
9	21.810	TRICHLOROETHENE	0.5160	1.2922%	16,172.	2,661.	6.1	3	NA	NA	.8494	3.1907E-05
10	22.094	1,2-2CLPROPANE	~~0.1559~~	0.3903%	4,415.	508.	8.7	4	NA	NA	-.5263	3.5304E-05
	26.586	2BR-1CL-PROPANE	10.0000	0.0000%	159,741.	25,161.	6.3	1	NA	NA	.8871	6.2601E-05
12	30.778	1-CL-2-FL-BENZENE	7.8117	19.5617%	102,077.	17,817.	5.7	1	NA	NA	.6004	7.6527E-05
		TOTAL AMOUNT =	39.9335									

ES

ata File = A:ADM2713.PTS Printed on 01-14-1992 at 14:44:41
Start time: 0.00 min. Stop time: 51.00 min. Offset: 0 mv.
Low Value: 4924 uv High Value: 138657 uv Scale factor: 1.0



Sample Name: W112372-02 602 1/2 Operator: LS

Data File Name: A:8DM2713.ATB

Date Taken: 12-28-1991 02:31:59 Original Method:8COL

Interface: 8 Cycle#: 13 Channel#: 1 Vial#: N.A.

AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1

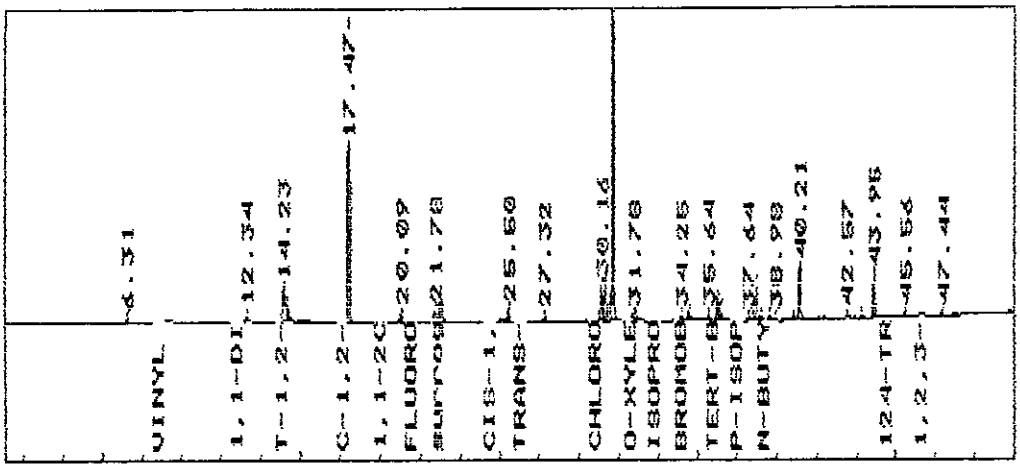
SAMPLE WEIGHT = 1

AREA PERCENT REPORT

Ret No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	6.31	451.	0.2532	1	107.	0.968	4.2
2	12.34	1,484.	0.8333	1	141.	3.187	10.5
3	14.23	8,000.	4.4919	2	835.	17.180	9.6
4	14.41	4,772.	2.6795	2	432.	10.248	11.0
5	17.47	46,565.	26.1464	1	8,674.	100.000	5.4
6	20.09	1,210.	0.6797	1	206.	2.599	5.9
7	21.78	1,796.	1.0085	1	322.	3.857	5.6
8	22.08	18,962.	10.6474	1	3,219.	40.722	5.9
9	25.50	1,626.	0.9131	1	297.	3.492	5.5
10	27.32	701.	0.3938	1	123.	1.506	5.7
11	30.16	4,762.	2.6737	2	905.	10.226	5.3
12	30.39	6,663.	3.7412	2	1,244.	14.309	5.4
13	30.76	44,626.	25.0577	1	8,702.	95.836	5.1
14	31.78	988.	0.5549	2	176.	2.122	5.6
15	31.93	701.	0.3939	2	125.	1.506	5.6
16	34.25	645.	0.3623	1	124.	1.386	5.2
17	34.62	1,114.	0.6254	1	192.	2.392	5.8
18	35.64	939.	0.5272	1	169.	2.016	5.5
19	36.07	3,138.	1.7622	2	581.	6.740	5.4
20	36.22	2,018.	1.1330	2	374.	4.333	5.4
21	37.64	443.	0.2487	1	89.	0.951	5.0
22	38.01	8,039.	4.5138	2	965.	17.264	8.3
23	38.29	688.	0.3861	2	128.	1.477	5.4
24	38.71	674.	0.3784	1	123.	1.447	5.5
25	38.98	354.	0.1986	1	66.	0.760	5.4
26	39.88	476.	0.2675	2	86.	1.023	5.5
27	40.21	7,115.	3.9951	2	1,338.	15.280	5.3
28	42.57	197.	0.1108	1	44.	0.424	4.5
29	43.27	410.	0.2301	1	77.	0.880	5.3
30	43.95	6,814.	3.8259	1	1,120.	14.632	6.1
31	45.56	888.	0.4985	1	163.	1.907	5.4
32	47.44	834.	0.4684	1	101.	1.791	8.3

Total Area: 178,093. Area Reject: 1

ata File = A:BDM2713.PTS Printed on 01-14-1992 at 14:45:23
Start time: 0.00 min. Stop time: 51.00 min. Offset: 0 mv.
Low Value: 4493 uv High Value: 13236 uv Scale factor: 1.0



Sample Name: W112372-03 602 1/25 Operator: ES

Data File Name: A:ADE309.AT8

Date Taken: 12-30-1991 ~~19:52:25~~ Original Method:AC00

Interface: 0 Cycle#: 9 Channel#: 0 Vial#: N.A.

AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1

SAMPLE WEIGHT = 1

AREA PERCENT REPORT

No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	5.79	2,819.	0.2570	1	404.	0.459	7.0
2	6.60	83,677.	7.6280	1	5,903.	13.621	14.2
3	11.94	614,311.	56.0003	1	36,244.	100.000	16.9
4	14.06	191,223.	17.4318	1	17,692.	31.128	10.8
5	17.69	7,972.	0.7267	1	1,249.	1.298	6.4
6	26.59	107,450.	9.7950	1	15,552.	17.491	6.9
7	30.81	89,526.	8.1611	1	14,613.	14.573	6.1

Total Area: 1,096,978. Area Reject: 1

```
**********************************************************************
* Sample Name: W112372-03 602 1/25                    Operator: ES   *
*  Data File Name: A:ADE309.ATB                                      *
* Date Taken:  12-30-1991 19:52:23     Original Method:AC00          *
* Interface: 0                Cycle#:  9          Channel#: 0   Vial#: N.A.  *
**********************************************************************
AMOUNT INJECTED =  1   DILUTION FACTOR =  1   SAMPLE AMOUNT =  1
SAMPLE WEIGHT   =  1
```

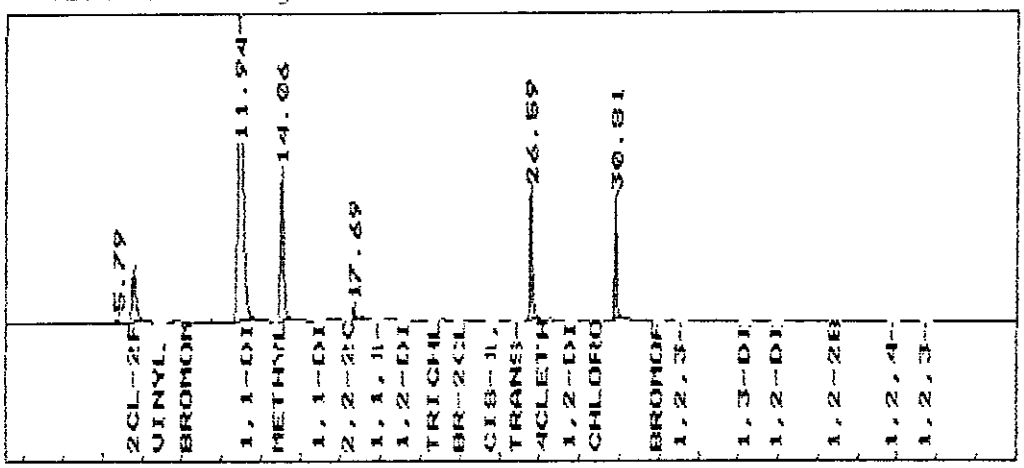
INTERNAL STANDARD TABLE

ORIGINAL RECORDED DATA USED FOR THIS TABLE.
Data File Name: A:ADE309.ATB Sample Name: W112372-03 602 1/25
Area reject: 1 Sample Amount: 1
Amount injected: 1.00000 Dilution factor: 1.00000
Internal Standard Amount: 10
Sample Weight = 1

K NUM	RET TIME	PEAK NAME	CONCENTRATION in PPB	NORMALIZED CONC%	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
	6.596	2CL-2FL-METHANE	~~26.7775~~	62.8708%	83,677.	5,903.	14.2	1	NA	NA	1.023	3.2001E-04
4	14.061	METHYLENE CHLORIDE	4.6675	10.9588%	191,223.	17,692.	10.8	1	NA	NA	1.080	2.4409E-05
5	17.685	C-1,2-2CL-ETHENE	~~0.4150~~	0.9745%	7,972.	1,249.	6.4	1	NA	NA	.8571	5.2063E-05
	26.586	2BR-1CL-PROPANE	10.0000	0.0000%	107,450.	15,552.	6.9	1	NA	NA	.8871	9.3067E-05
	30.811	1-CL-2-FL-BENZENE	10.7313	25.1960%	89,526.	14,613.	6.1	1	NA	NA	.7096	1.1987E-04
		TOTAL AMOUNT :	42.5913									

ES

Data File = A:ADE309.PTS Printed on 01-14-1992 at 14:50:55
Start time: 0.00 min. Stop time: 51.00 min. Offset: 0 mv.
Low Value: 4676 uv High Value: 41091 uv Scale factor: 1.0



Sample Name: W112372-03 602 1/25 Operator: ES

Data File Name: A:BDE309.ATB

Date Taken: 12-30-1991 ~~19:52:23~~ Original Method:BC00

Interface: 0 Cycle#: 9 Channel#: 1 Vial#: N.A.

AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1

SAMPLE WEIGHT = 1

AREA PERCENT REPORT

No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	11.04	1,284.	0.0648	1	196.	0.266	6.6
2	11.56	1,558.	0.0786	1	209.	0.323	7.5
3	12.54	4,419.	0.2229	1	593.	0.916	7.4
4	13.69	2,412.	0.1217	1	284.	0.500	8.5
5	14.70	1,715.	0.0865	1	240.	0.356	7.1
6	15.66	2,616.	0.1319	1	500.	0.542	5.2
7	16.40	1,781.	0.0898	1	268.	0.369	6.6
8	17.65	1,098.	0.0554	1	233.	0.228	4.7
9	20.12	74,089.	3.7365	1	12,846.	15.357	5.8
10	20.69	1,713.	0.0864	1	238.	0.355	7.2
1	21.69	1,853.	0.0934	1	260.	0.384	7.1
2	22.09	51,399.	2.5922	2	8,657.	10.654	5.9
13	22.36	2,709.	0.1366	2	351.	0.561	7.7
4	22.73	2,907.	0.1466	1	335.	0.603	8.7
5	23.05	1,499.	0.0756	1	220.	0.311	6.8
16	23.58	2,189.	0.1104	1	343.	0.454	6.4
17	24.70	1,524.	0.0769	1	262.	0.316	5.8
8	25.48	77,185.	3.8926	1	14,996.	15.999	5.1
19	30.19	391,402.	19.7393	2	75,296.	81.131	5.2
20	30.41	482,435.	24.3303	2	88,706.	100.000	5.4
1	30.78	129,003.	6.5059	2	25,658.	26.740	5.0
2	31.81	60,567.	3.0546	1	12,030.	12.555	5.0
23	33.02	14,149.	0.7136	1	2,550.	2.933	5.5
24	34.34	47,228.	2.3818	2	9,454.	9.789	5.0
25	34.70	76,669.	3.8666	2	13,293.	15.892	5.8
26	34.87	20,859.	1.0520	2	3,677.	4.324	5.7
27	35.72	62,294.	3.1416	2	12,115.	12.912	5.1
28	36.17	220,535.	11.1221	2	44,163.	45.713	5.0
29	36.52	2,694.	0.1359	2	387.	0.558	7.0
30	36.76	2,003.	0.1010	1	397.	0.415	5.0
1	37.16	975.	0.0492	1	222.	0.202	4.4
2	37.78	30,096.	1.5178	1	5,806.	6.238	5.2
33	38.28	3,189.	0.1608	2	438.	0.661	7.3
34	38.44	14,738.	0.7432	2	2,871.	3.055	5.1
35	38.81	49,420.	2.4923	1	8,218.	10.244	6.0
36	39.14	2,672.	0.1348	2	404.	0.554	6.6
37	39.28	3,131.	0.1579	2	558.	0.649	5.6
38	39.63	7,520.	0.3793	1	1,428.	1.559	5.3
39	40.03	19,362.	0.9765	1	3,593.	4.013	5.4
40	40.35	2,262.	0.1141	1	496.	0.469	4.6
1	40.68	8,169.	0.4120	1	1,604.	1.693	5.1
2	41.30	13,977.	0.7049	1	2,284.	2.897	6.1
43	41.57	17,459.	0.8805	1	3,225.	3.619	5.4
44	42.84	11,230.	0.5663	2	2,048.	2.328	5.5
5	43.12	5,735.	0.2892	2	1,035.	1.189	5.5
46	43.44	15,203.	0.7667	1	2,915.	3.151	5.2

48	44.44	3,833.	0.1933	1	622.	0.794	6.2
49	45.74	25,985.	1.3105	1	4,994.	5.386	5.2
50	46.98	1,235.	0.0623	1	240.	0.256	5.1
51	50.50	1,766.	0.0890	1	278.	0.366	6.4

Total Area: 1,982,856. Area Reject: 1

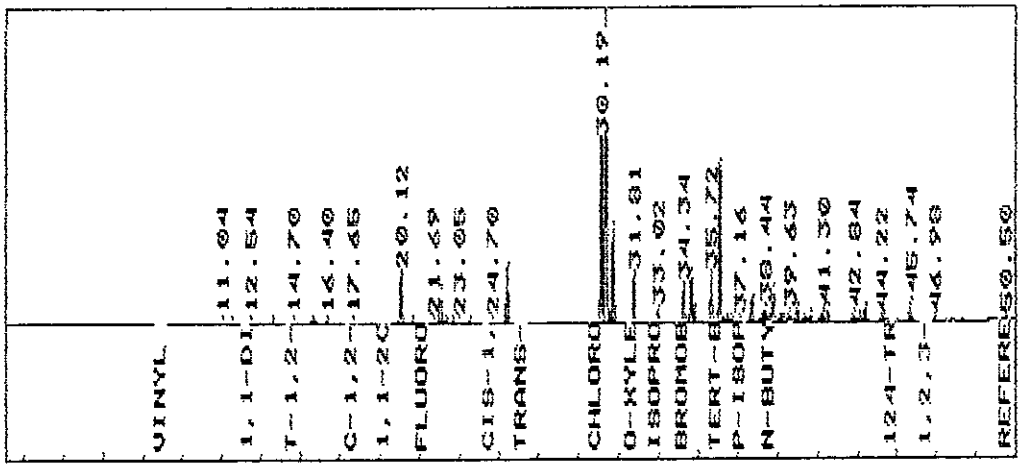
```
**********************************************************************
* Sample Name: W112372-03 602 1/25                    Operator: ES   *
*  Data File Name: A:BDE309.ATB                                      *
* Date Taken:  12-30-1991 19:52:23     Original Method:BC00          *
* Interface: 0              Cycle#:  9          Channel#: 1   Vial#: N.A.  *
**********************************************************************
.OUNT INJECTED =  1   DILUTION FACTOR =  1   SAMPLE AMOUNT =  1
SAMPLE WEIGHT   =  1
```

INTERNAL STANDARD TABLE

```
 IGINAL RECORDED DATA USED FOR THIS TABLE.
Data File Name: A:BDE309.ATB    Sample Name: W112372-03 602 1/25
Area reject:          1     Sample Amount:  1
 ount injected:       1.00000              Dilution factor:       1.00000
 ternal Standard Amount:  10
Sample Weight =  1
```

K NUM	RET TIME	PEAK NAME	CONCENTRATION in PPB	NORMALIZED CONC%	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
	12.542	1,1-DICHLOROETHENE	~~0.5820~~	0.5664%	4,419.	593.	7.4	1	NA	NA	69.90	1.3170E-04
	14.696	T-1,2-DICHLOROETHE	~~0.0999~~	0.0972%	1,715.	240.	7.1	1	NA	NA	87.23	5.8242E-05
8	17.652	C-1,2-2CL-ETHENE	~~0.2647~~	0.2576%	1,098.	233.	4.7	1	NA	NA	91.13	2.4101E-04
	20.124	BENZENE	6.7409	6.5604%	74,089.	12,846.	5.8	1	NA	NA	94.35	9.0984E-05
	22.094	surrogate	9.3436	9.0934%	51,399.	8,657.	5.9	2	NA	NA	51.37	1.8179E-04
17	24.699	CIS-1,3-2CLPROPENE	~~0.8827~~	0.8591%	1,524.	262.	5.8	1	NA	NA	55.52	5.7918E-04
	25.484	TOLUENE	3.9181	3.8132%	77,185.	14,996.	5.1	1	NA	NA	47.01	5.0763E-05
	30.194	ETHYLBENZENE	21.9927	21.4036%	391,402.	75,296.	5.2	2	NA	NA	60.56	5.6189E-05
20	30.411	M,P-XYLENE	23.3894	22.7630%	482,435.	88,706.	5.4	2	NA	NA	58.48	4.8482E-05
21	30.778	1-CL-2-FL-BENZENE	10.0000	9.7322%	129,003.	25,658.	5.0	2	NA	NA	58.87	7.7518E-05
	31.814	O-XYLENE	3.9526	3.8467%	60,567.	12,030.	5.0	1	NA	NA	58.48	6.5260E-05
	33.016	ISOPROPYLBENZENE	~~1.0858~~	1.0567%	14,149.	2,550.	5.5	1	NA	NA	52.66	7.6740E-05
24	34.335	BROMOBENZENE	~~1.2799~~	1.2456%	47,228.	9,454.	5.0	2	NA	NA	49.85	2.7100E-05
	34.870	135-TM8;2CLTOLUENE	~~1.0037~~	0.9769%	20,859.	3,677.	5.7	2	NA	NA	51.19	4.8120E-05
	36.172	124-3METHYL-BENZEN	~~12.2323~~	0.0000%	220,535.	44,163.	5.0	2	NA	NA	37.26	5.5466E-05
30	36.757	SEC-BUTYLBENZENE	~~0.1632~~	0.1588%	2,003.	397.	5.0	1	NA	NA	36.53	8.1450E-05
31	37.157	P-ISOPROPYLTOLUENE	~~0.0749~~	0.0729%	975.	222.	4.4	1	NA	NA	36.92	7.6753E-05
	37.775	1,4-2CL-BENZENE	~~1.8068~~	1.7584%	30,096.	5,806.	5.2	1	NA	NA	32.35	6.0036E-05
35	38.811	N-BUTYLBENZENE	~~3.5442~~	3.4493%	49,420.	8,218.	6.0	1	NA	NA	30.12	7.1717E-05
36	39.145	1,2-2CL-BENZENE	~~0.1941~~	0.1889%	2,672.	404.	6.6	2	NA	NA	30.43	7.2642E-05
	44.439	124-TRICHLOROBENZE	~~0.4049~~	0.3940%	3,833.	622.	6.2	1	NA	NA	45.25	1.0564E-04
	45.741	NAPHTHALENE	~~1.9006~~	1.8497%	25,985.	4,994.	5.2	1	NA	NA	36.06	7.3143E-05
50	46.977	1,2,3-3CL-BENZENE	~~0.1273~~	0.1239%	1,235.	240.	5.1	1	NA	NA	37.82	1.0301E-04
	50.501	REFERENCE	~~10.0000~~	9.7322%	1,766.	278.	6.4	1	NA	NA	47.58	5.6640E-03
		TOTAL AMOUNT :	102.7519	ES								

Data File = A:BDE309.PTS Printed on 01-14-1992 at 14:51:39
Start time: 0.00 min. Stop time: 51.00 min. Offset: 0 mv.
Low Value: 4474 uv High Value: 93344 uv Scale factor: 1.0



Laboratory Resources INC
363 Old Hook Road Westwood, New Jersey 07675 201/666-6644

LABORATORY ANALYSIS REPORT

Client: Subsurface Investigations

Contact: Mr. Tom Larison

Project: Swivellier
Nanuet, NY

Lab ID No.:	Sample Reference	Matrix	Collection Date & Time	
W207188-01	3N-79	Aqueous	7/9/92	14:13
W207188-02	2N-79	Aqueous	7/9/92	13:45

Date Received: July 10, 1992

Date of Report: July 23, 1992

Laboratory Manager

N.J. Certification #02046
N.Y. Certification #10588

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Laboratory Resources Inc.

CASE NARRATIVE

Laboratory Resources, Westwood, received two aqueous samples for Reduced Deliverables Format on July 10, 1992. The samples were analyzed for the parameters outlined in the chain of custody.

The samples were analyzed within the recommended holding times. Any parameters which were outside of their respective quality control ranges are noted in the non-conformance summary.

Please contact us if there are any questions regarding the enclosed results.

LABORATORY DELIVERABLES

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR
ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following laboratory deliverables shall be included in the data submission. All deviations from the accepted methodology and procedures, or performance values outside acceptable ranges shall be summarized in the Nonconformance Summary. The document shall be bound and paginated, contain a Table of Contents, and all pages shall be legible. Incomplete packages may be returned or held without review until the data package is completed.

		CHECK IF COMPLETE
I.	Cover Page, Format, and Laboratory Certification (Include Cross Reference Table of Field I.D. # and Laboratory I.D.)	✓
II.	Chain of Custody	✓
III.	Summary Sheets Listing Analytical Results Including QA Data Information (see Attached Form and ESPG Attachment 2.8.2.C)	✓
IV.	Laboratory Chronicle and Methodology Summary including Sample Holding Time Check	✓
V.	Initial Calibration and Continuing Calibration	✓
VI.	Tune Summary (MS)	N/A
VII.	Blanks (Method, Field, Trip)	✓
VIII.	Surrogate Recovery Summary	✓
IX.	Chromatograms Labelled/Compound Identification	✓
X.	Nonconformance Summary	✓

Laboratory Manager or Environmental Consultant's Signature

7/23/92
Date

PROJECT SUMMARY REPORT
FOR
ALL ORGANIC ANALYSIS

SAMPLES AND CONCENTRATIONS

Lab Work Order # - W207188 - (Sample no.)

COMPOUNDS	3N 79 01	2N 79 02		
UNITS	UG/L	UG/L		
VOLATILES:				
BENZENE	1.5	57.2		
ETHYLBENZENE	117	108		
TOLUENE	15.3	2.0		
TOTAL XYLENES	475	49.2		

B : COMPOUND ALSO PRESENT IN BLANK.

NOTE : IF NO ENTRY IS MADE THEN SAMPLE IS NONE DETECTED.

Subsurface Investigations Inc.

Environmental Engineers/Consultants
331 Route 9W Congers, New York 10920
914/268-6660 Fax: 914/268-2065

CHAIN OF CUSTODY RECORD

PROJECT NO. 91028

DATE 7/9/92

COMPANY:
FACILITY/SITE: SWIVELLIER
ADDRESS: RT 304 NANUET
ATTN: TOM LARISON

STA NO	MATRIX CODE	TIME	COMP	GRAB	STATION LOCATION	NO OF CONT.	ANALYSES: BTEX	REMARKS
-01	4	1413		✓	3N-79	3	X	
-02	4	1345		✓	2N-79	3	X	

MATRIX CODE
1. AIR 2. SOIL 3. SLUDGE 4. WATER 5. MISC. SOLID 6. MISC. LIQUID

SAMPLED BY: (SIGNATURE) TOM LARISON

RELINQUISHED BY: (SIGNATURE) DATE / TIME 7/10/92-1350

RECEIVED BY: (SIGNATURE) DATE / TIME 7/10/92-1350

RELINQUISHED BY: (SIGNATURE) DATE / TIME

RECEIVED BY: (SIGNATURE) DATE / TIME

RELINQUISHED BY: (SIGNATURE) DATE / TIME

RECEIVED BY: (SIGNATURE) DATE / TIME

QA/QC REQUIREMENTS
TIER I ( ) TIER II (V) NORMAL ( ) OTHER ( )

TURNAROUND TIME (DAYS)
1 ( ) 7 ( ) 14 ( ) STANDARD (V)

REMARKS

004

LABORATORY RESOURCES, INC.	LABORATORY CHRONICLES									
Sample Number W207188	3N-79 01	2N-79 02								
Received & Refrigerated Date	7/10/92	7/10/92								
Organics Extraction Date:										
Petroleum Hydrocarbons										
Base/Neutrals										
Acids Extractables										
Pesticides/PCBs										
Metals Digestion										
Analysis Date :										
Petroleum Hydrocarbons										
Volatiles	7/16/92	7/16/92								
Base/Neutrals										
Acids Extractables										
Pesticides/PCBs										
Herbicides										
Metals										
Total Solids										
Organic Supervisor Review & Approval	7/23/92 →									
Inorganic Supervisor Review & Approval										

Laboratory Resources Inc.

ORGANIC NON-CONFORMANCE SUMMARY

There were no non-conformances encountered during the analyses of these samples.

METHODS SUMMARY

PURGEABLE HALOCARBONS/AROMATICS BY METHOD 602/8020

Methods 602 and 8020 are based on the gas chromatographic analysis of five milliliters of aqueous sample or approximately 5 grams of solid waste, respectively, for purgeable aromatics. The samples are purged, trapped and desorbed onto a column using a temperature ramping program. A Hall electrolytic conductivity detector in series with a photoionization detector (PID) is used for detection of these compounds.

TOTAL SOLIDS (TOTAL RESIDUE)

The total solids analysis is performed according to Method 209A cited in the 16th Edition of Standard Methods for the Examination of Water and Wastewater. A well mixed aliquot of the samples is quantitatively transferred to a pre-conditioned evaporation dish and evaporated to a constant weight at 98 C. The evaporated sample is then dried to a constant weight 103 - 105 C in a drying oven. The dried residue remaining in the evaporating dish represents the total solids and is reported as a percent.

LABORATORY RESOURCES, INC.
363 OLD HOOK ROAD
WESTWOOD, NJ 07675
LAB CERTIFICATION: NJ 02046
NY 10588

WORK ORDER #: W207188
DATE COLLECTED: 07/09/92
DATE RECEIVED: 07/10/92
DATE ANALYZED: 07/16/92
DILUTION FACTOR: 1.0
ANALYST: MONICA

PARAMETER	CLIENT ID.> 3N 79 SAMPLE ID.> 01	MDL
BENZENE	1.5	0.50
CHLOROBENZENE	ND	0.50
1,2-DICHLOROBENZENE	ND	0.50
1,3-DICHLOROBENZENE	ND	0.50
1,4-DICHLOROBENZENE	ND	0.50
ETHYLBENZENE	117	0.50
TOLUENE	15.3	0.50
TOTAL XYLENES	475	1.0
% SURROGATE RECOVERY	80.79%	

MDL=MINIMUM DETECTION LIMIT
ND=NOT DETECTED AT MDL

% SURROGATE RECOVERY RANGE FOR @,@,@-TRIFLUOROTOLUENE = (80-125)

* SOME PARAMETERS MAY BE RUN AT VARIOUS DILUTIONS
TO BE QUANTIFIED IN RANGE

ALL RESULTS EXPRESSED IN UG/L
METHOD 602

LABORATORY RESOURCES, INC.
363 OLD HOOK ROAD
WESTWOOD, NJ 07675
LAB CERTIFICATION: NJ 02046
NY 10588

WORK ORDER #: W207188
DATE COLLECTED: 07/09/92
DATE RECEIVED: 07/10/92
DATE ANALYZED: 07/16/92
DILUTION FACTOR: 1.0
ANALYST: MONICA

PARAMETER	CLIENT ID.> 2N 79 SAMPLE ID.> 02	MDL
BENZENE	57.2	0.50
CHLOROBENZENE	ND	0.50
1,2-DICHLOROBENZENE	ND	0.50
1,3-DICHLOROBENZENE	ND	0.50
1,4-DICHLOROBENZENE	ND	0.50
ETHYLBENZENE	108	0.50
TOLUENE	2.0	0.50
TOTAL XYLENES	49.2	1.0
% SURROGATE RECOVERY	88.36%	

MDL=MINIMUM DETECTION LIMIT
ND=NOT DETECTED AT MDL

% SURROGATE RECOVERY RANGE FOR @,@,@-TRIFLUOROTOLUENE = (20-125)

* SOME PARAMETERS MAY BE RUN AT VARIOUS DILUTIONS
TO BE QUANTIFIED IN RANGE

ALL RESULTS EXPRESSED IN UG/L
METHOD 602

LABORATORY RESOURCES, INC.
363 OLD HOOK ROAD
WESTWOOD, NJ 07675
LAB CERTIFICATION: NJ 02046
NY 10588

WORK ORDER #: W207188

DATE ANALYZED: 07/16/92
DILUTION FACTOR: 1.0
ANALYST: MONICA

PARAMETER	SAMPLE ID.> BLANK	MDL
BENZENE	ND	0.50
CHLOROBENZENE	ND	0.50
1,2-DICHLOROBENZENE	ND	0.50
1,3-DICHLOROBENZENE	ND	0.50
1,4-DICHLOROBENZENE	ND	0.50
ETHYLBENZENE	ND	0.50
TOLUENE	ND	0.50
TOTAL XYLENES	ND	1.0
% SURROGATE RECOVERY	100.26%	

MDL=MINIMUM DETECTION LIMIT
ND=NOT DETECTED AT MDL

% SURROGATE RECOVERY RANGE FOR @,@,@-TRIFLUOROTOLUENE = (80-125)

* SOME PARAMETERS MAY BE RUN AT VARIOUS DILUTIONS
TO BE QUANTIFIED IN RANGE

ALL RESULTS EXPRESSED IN UG/L
METHOD 602

LABORATORY RESOURCES, INC.

SPIKE / SPIKE DUPLICATE RECOVERY
(FOR REGULATED COMPOUNDS)

TRACOR 9000

DATE: JULY 9, 1992
SAMPLE ID. #: MATRIX SPIKES - W207131-02

COMPOUND	SPIKE AMOUNT (UG/L)	SAMPLE CONC. (UG/L)	SPIKE (UG/L)	% RECOVERY	SPIKE DUP. (UG/L)	% RECOVERY	RPD	CONTROL LIMITS FOR % RECOVERY
BENZENE	10.00	0.00	9.11	91.13%	9.01	90.08%	1.17	11.5-131.5
CARBON TETRACHLORIDE	10.00	0.00	6.11	61.11%	6.45	64.55%	5.46	51.0-85.0
CHLOROBENZENE	10.00	0.00	7.13	71.29%	6.21	62.14%	13.72	60.0-109.2
1,2-DICHLOROBENZENE	10.00	0.00	7.94	79.40%	8.76	87.60%	9.82	51.7-110.3
1,3-DICHLOROBENZENE	10.00	0.00	8.21	82.07%	7.36	73.65%	10.82	51.2-111.3
1,4-DICHLOROBENZENE	10.00	0.00	7.91	79.12%	6.98	69.79%	12.53	44.7-107.4
1,2-DICHLOROETHANE	10.00	0.00	6.73	67.27%	7.30	72.97%	8.12	50.1-98.9
1,1-DICHLOROETHENE	10.00	0.00	7.18	71.76%	6.37	63.71%	11.88	49.2-107.4
CIS-1,2-DICHLOROETHENE	10.00	0.00	7.62	76.20%	8.16	81.58%	6.81	0.00-175.2
TRANS-1,2-DICHLOROETHENE	10.00	0.00	7.74	77.43%	7.24	72.44%	6.65	56.6-103.7
METHYLENE CHLORIDE	10.00	1.93	17.45	174.50%	10.70	106.99%	47.98	0.00-161.7
1,2,4-TRICHLOROBENZENE	10.00	0.00	7.63	76.25%	7.34	73.36%	3.87	53.6-106.8
1,1,1-TRICHLOROETHANE	10.00	0.00	8.00	79.99%	9.07	90.70%	12.55	50.8-109.8
TRICHLOROETHENE	10.00	0.07	7.96	79.62%	7.48	74.84%	6.19	49.3-109.1
TETRACHLOROETHENE	10.00	0.00	9.13	91.30%	9.28	92.85%	1.68	48.5-119.9
M,P-XYLENE	20.00	0.00	18.24	91.21%	18.04	90.19%	1.12	60.4-103.9
O-XYLENE	10.00	0.00	8.78	87.83%	8.80	88.03%	0.23	58.0-104.9
VINYL CHLORIDE	10.00	0.00	4.09	40.86%	4.61	46.13%	12.12	0.00-134.6
1-CL-2-FL-BENZENE (SURROGATE)	10.00	6.18	7.47	74.72%	6.24	62.41%	17.96	58.0-116.7
α,α,α-TRIFLUOROTOLUENE (SURROGATE)	10.00	10.34	10.39	103.93%	10.23	102.26%	1.62	91.9-108.7

* ACCEPTABLE RANGE FOR RPD IS 0-20 %

LABORATORY RESOURCES, INC.
GC VOLATILE RUN LOG

DATE 7/9/92

FILE NAME AJL09

TRACO1.90D

	SAMPLE ID #	FILE #	ANALYSES	DILUTION	DATE/TIME	COMMENTS
	Std	1		10PPB	1030AM	
	Std	2		10PPB	1135	passed
✓	Blk	3			1240	
✓	Spike	4		10PB	1345	131-02
✓	SpikeDup	5		10PPB	1450	131-02
	131-02	6	502.2	STR	1555	
	127-02	7	8014/8020	STR	1700	
	127-03	8	8010/8020	STR	1805	
	088-01	9	TPH	1/10	1910	sludge
	129-01	10	A780	STR	2015	
	103-02	11	602	STR	2220	
	103-03	12	602	STR	2325	
	103-04	13	602	STR	0030	
	081-02	14	502.2	STR	0135	rerun
	081-01	15	502.2	STR	0240	rerun
	081-03	16	502.2	STR	0345	rerun
	081-05	17	502.2	STR	0450	rerun
	479-02	18	8020	1/250	0555	rerun
	479-05	19	8020	1/100	0700	rerun

SIGNATURE

LABORATORY RESOURCES, INC.
GC VOLATILE RUN LOG

DATE 7/16/92

FILE NAME AJL16

Tracor 9000

	SAMPLE ID #	FILE #	ANALYSES	DILUTION	DATE/TIME	COMMENTS
	Std	1		10PPB	830AM	passed
	Std	2		10PPB	935	
✓	BLK	3			1040	
	Spike	4		10PPB	1145	BLK
	Spikedup	5		10PPB	1250	624
	223-03	6	624/8240	STR	1355	
	103-06	7	602	STR	1500	
	103-07	8	602	1/10	1605	
	103-08	9	602	STR	1710	
	201-04	10	602	STR	1815	rerun
	155-02	11	601	1/50	1920	
✓	188-01	12	602	STR	2025	
✓	188-02	13	602	STR	2130	
	198-02	14	602	1/10	2235	rerun
	195-01	15	8010/20	1/5	2340	rerun
	195-03	16	"	1/5	0045	rerun
	195-02	17	"	1/25	0150	rerun
	193-01	18	602	1/250	0255	rerun

SIGNATURE

LABORATORY RESOURCES, INC.
363 OLD HOOK ROAD
WESTWOOD, N.J. 07675
LAB CERTIFICATION NO. 02046

DATE OF ANALYSIS: 07/09/92
GC ID #: TRACOR 9000
ANALYST: MONICA

CLIENT: SUBSURFACE INVEST.

WORK ID#: W207188

TIME CHRONICLE FOR VOLATILE ANALYSIS

SAMPLE ID. #	TIME	MISCELLANEOUS
CONTINUING STANDARD	11:35 A.M.	10 PPB
BLANK	12:40 P.M.	
MATRIX SPIKE	13:45 P.M.	10 PPB
MATRIX SPIKE DUPLICATE	14:50 P.M.	10 PPB

LABORATORY RESOURCES, INC.
363 OLD HOOK ROAD
WESTWOOD, N.J. 07675
LAB CERTIFICATION NO. 02046

DATE OF ANALYSIS: 07/16/92
GC ID #: TRACOR 9000
ANALYST: MONICA

CLIENT: SUBSURFACE INVEST.

WORK ID#: W207188

TIME CHRONICLE FOR VOLATILE ANALYSIS

SAMPLE ID. #	TIME	MISCELLANEOUS
CONTINUING STANDARD	08:30 A.M.	10 PPB
BLANK	10:40 A.M.	
W207188-01	20:25 P.M.	STR
W207188-02	21:30 P.M.	STR

INITIAL CALIBRATION(HECD) DATE: JUNE 29, 1992
LABORATORY RESOURCES,INC.

TRACOR 9000

COMPOUND	RF 5.00	RF 10.00	RF 15.00	RF 20.00	RF 25.00	$\overline{RF}$	%RSD
2CL-2FL-METHANE	0.803931	0.352928	0.762166	0.836432	0.801537	0.711399	28.4107
CHLOROMETHANE	1.780477	0.490926	1.530198	1.756716	1.640336	1.439731	37.48843
VINYL CHLORIDE	1.408567	1.338071	1.447227	1.60429	1.546631	1.468957	7.268371
BROMOMETHANE	0.650976	0.432015	0.587961	0.735762	0.754089	0.63216	20.61994
CHLOROETHANE	1.68096	1.468129	1.594186	1.841141	1.831499	1.683183	9.446293
3CL-FL-METHANE	1.924107	3.112611	3.08633	3.405212	2.298351	2.765322	22.5747
1,1-DICHLOROETHENE	2.342009	1.968414	1.946408	2.16884	2.09858	2.10485	7.664227
METHYLENE CHLORIDE	3.245604	2.364515	2.573657	2.767706	2.803714	2.751039	11.89748
T-1,2-2CL-ETHENE	2.297034	2.05356	1.970984	2.236889	2.289789	2.169651	6.841201
1,1-DICHLOROETHANE	2.262574	2.314628	2.097538	2.270192	2.388832	2.266753	4.723608
2,2-DICHLOROPROPANE	0.048009	0.092712	0.055109	0.142091	0.31356	0.130296	83.68879
CIS-1,2-DICHLOROETHENE	2.225864	2.174847	2.034827	2.256731	2.430074	2.224469	6.426408
CHLOROFORM	3.199715	3.117805	2.791917	2.997738	3.089209	3.039277	5.131977
BROMOCHLOROMETHANE	1.510665	1.342112	1.361655	1.466893	1.523966	1.441058	5.855564
1,1,1-TRICHLOROETHANE	2.324824	2.370144	2.066692	2.299573	2.430343	2.298315	6.034601
1,1-DICHLOROPROPENE	1.682537	1.571823	1.594089	1.770541	1.753774	1.674553	5.389579
CARBON 4CHLORIDE	2.666851	3.049954	2.589725	2.707195	2.833567	2.769459	6.496879
1,2-DICHLOROETHANE	1.981846	1.797218	1.816897	2.027472	2.02115	1.928917	5.84895
TRICHLOROETHENE	2.14324	2.081272	2.101311	2.286952	2.175751	2.157705	3.755276
1,2-2CL-PROPANE	1.881057	1.924484	1.711883	1.875104	1.899184	1.858343	4.525433
BR-2CL-METHANE	1.616235	1.747851	1.520532	1.734048	1.855038	1.694741	7.612295
DIBROMOMETHANE	1.197137	1.225968	1.043573	1.205901	1.218432	1.178202	6.457005
CIS-1,3-2CLPROPENE	1.382095	1.650585	1.250035	1.523583	1.595549	1.48037	11.03886
TRANS-1,3-2CLPROPENE	0.854709	0.983358	0.732646	0.890091	0.922252	0.876611	10.65026
1,1,2-3CL-ETHANE	3.122564	2.575202	2.053468	2.188467	2.131306	2.414201	18.39432
TETRACHLOROETHENE	2.126659	2.136879	2.62998	2.279845	2.073688	2.24941	10.04867
1,3-DICHLOROPROPANE	2.16822	1.963985	2.507138	1.819147	1.788825	2.049463	14.47142
2BR-CL-METHANE	1.238614	1.314522	1.065655	1.206824	1.225858	1.210295	7.486566
1,2-DIBROMOETHANE	0.912498	0.890351	0.729983	0.855546	0.832647	0.844205	8.397362
CHLOROBENZENE	0.764534	0.855344	0.777317	0.821428	0.774359	0.798596	4.826292
1,1,1,2-4CL-ETHANE	2.766161	2.683695	2.393849	2.536147	2.428738	2.561718	6.269944
BROMOFORM	0.722801	0.690917	0.650116	0.766784	0.789747	0.724073	7.784405
1,1,2,2-4CL-ETHANE	1.571913	1.296951	1.143716	1.372267	1.332838	1.343337	11.48222
1,2,3-3CL-PROPANE	1.123981	0.940313	0.813532	0.964483	0.985449	0.965552	11.49133
BROMOBENZENE	0.728477	0.695402	0.657905	0.675491	0.697168	0.690888	3.827916
2-CHLOROTOLUENE	0.734646	0.735236	0.742225	0.748625	0.723723	0.736891	1.26452
4-CHLOROTOLUENE	0.916235	0.948606	0.866599	0.903417	0.826765	0.892324	5.263066
1,3-DICHLOROBENZENE	1.293523	1.351328	1.252017	1.308856	1.189787	1.279102	4.790826
1,4-DICHLOROBENZENE	1.424413	1.480531	1.360468	1.466443	1.347984	1.415968	4.25055
1,2-DICHLOROBENZENE	1.293641	1.354898	1.23079	1.332228	1.252624	1.292836	4.032331
1,2-2BR-3-CL-PROPANE	0.311549	0.229184	0.217459	0.270639	0.275682	0.260903	14.5594
1,2,4-3CL-BENZENE	1.578147	1.707278	1.38913	1.527838	1.275752	1.495629	11.20452
6CL-BUTADIENE	2.469619	2.753805	2.195315	2.382257	1.860924	2.332384	14.21955
1,2,3-3CL-BENZENE	1.527372	1.594612	1.371347	1.52903	1.249921	1.454456	9.678439

INITIAL CALIBRATION(PID) DATE: JUNE 29, 1992
LABORATORY RESOURCES,INC.

TRACOR 9000

COMPOUND	RF 5.00	RF 10.00	RF 15.00	RF 20.00	RF 25.00	$\overline{RF}$	%RSD
VINYL CHLORIDE	0.108551	0.154288	0.164354	0.179462	0.165192	0.154369	17.57951
1,1-DICHLOROETHENE	0.434165	0.406416	0.459152	0.481213	0.450777	0.446345	6.27929
T-1,2-2CL-ETHENE	1.106709	1.262295	1.170422	1.246117	1.172714	1.191651	5.304303
CIS-1,2-DICHLOROETHENE	0.325333	0.374616	0.473745	0.420547	0.37193	0.393234	14.29475
1,1-DICHLOROPROPENE	0.429392	0.357896	0.48823	0.506773	0.443923	0.445243	13.05576
BENZENE	1.364834	1.38076	1.429312	1.511506	1.370487	1.41138	4.356608
TRICHLOROETHENE	0.715392	0.773083	0.739759	0.786158	0.727809	0.74844	4.021214
CIS-1,3-2CLPROPENE	0.215839	0.250268	0.229522	0.278735	0.280296	0.250932	11.49078
TOLUENE	1.450841	1.525619	1.421121	1.504156	1.406702	1.461688	3.534677
TRANS-1,3-2CLPROPENE	0.210644	0.248013	0.21224	0.261099	0.247907	0.235981	9.763817
TETRACHLOROETHENE	0.602167	0.696238	0.629291	0.661931	0.618204	0.641566	5.859318
CHLOROBENZENE	1.445825	1.615666	1.48362	1.606496	1.484904	1.527302	5.116281
ETHYLBENZENE	1.33273	1.393393	1.314245	1.370292	1.273476	1.336827	3.520493
M,P-XYLENE	3.212806	3.345599	3.104482	3.245939	2.981493	3.178064	4.392153
O-XYLENE	1.241842	1.36099	1.277959	1.359978	1.264216	1.300997	4.290102
STYRENE	1.593945	1.813318	1.641071	1.757034	1.603402	1.681754	5.83217
ISOPROPYLBENZENE	0.989518	1.104088	1.036458	1.093154	1.008557	1.046355	4.845015
N-PROPYLBEN;BROMOBENZENE	2.743721	2.961782	2.76102	2.938613	2.692998	2.819627	4.329033
135-TMB;2-CLTOLUENE	3.207211	3.394189	3.200484	3.33936	3.048393	3.237927	4.171478
4-CL-TOLUENE	1.456952	1.590737	1.477202	1.582719	1.421584	1.505839	5.082195
TERT-BUTYL-BENZENE	0.871941	0.99798	0.936146	1.053426	0.900518	0.952002	7.739052
124-3METHYL-BENZENE	1.417184	1.491445	1.473008	1.48472	1.398793	1.45303	2.900659
SEC-BUTYL-BENZENE	0.942142	1.057644	1.005024	1.053974	0.942206	1.000198	5.688487
P-ISOPROPYLTOLUENE	0.980489	1.095996	1.028809	1.091435	0.96693	1.032732	5.834585
1,3-2CL-BENZENE	1.328549	1.4404	1.313807	1.402583	1.255404	1.348149	5.455627
1,4-2CL-BENZENE	1.271522	1.360231	1.236659	1.315106	1.192562	1.275216	5.134863
N-BUTYL-BENZENE	1.024298	1.154316	1.081641	1.148884	0.985205	1.078869	6.928982
1,2-2CL-BENZENE	1.077771	1.145153	1.042167	1.124553	1.013852	1.080699	5.076514
124-TRICHLOROBENZENE	0.75661	0.846955	0.750491	0.819566	0.670962	0.768917	8.902117
6CL-BUTADIENE	0.599941	0.681815	0.623406	0.66973	0.515081	0.617995	10.76276
NAPTHALENE	1.209409	1.000183	0.903095	1.040072	0.923529	1.015257	12.01629
1,2,3-3CL-BENZENE	0.844823	0.836179	0.75219	0.837627	0.675721	0.789308	9.372976

INITIAL CALIBRATION(HECD)
LABORATORY RESOURCES,INC.

DATE: JULY 14, 1992

TRACOR 9000

COMPOUND	RF 5.00	RF 10.00	RF 15.00	RF 20.00	RF 25.00	$\overline{RF}$	%RSD
2CL-2FL-METHANE	0.635463	0.648319	0.696247	0.647832	0.796835	0.684939	9.743244
CHLOROMETHANE	0.78709	0.654132	0.649479	0.544827	0.724377	0.671981	13.51433
VINYL CHLORIDE	1.606965	1.300537	1.49268	1.581402	1.667391	1.529795	9.33003
BROMOMETHANE	0.315413	0.224855	0.258908	0.336641	0.338471	0.294858	17.17902
CHLOROETHANE	1.494472	1.282548	1.292231	1.393731	1.278795	1.348355	7.009263
3CL-FL-METHANE	3.193278	3.000859	3.100557	3.372057	2.997578	3.132866	4.986888
1,1-DICHLOROETHENE	1.988616	1.894333	1.990116	2.188166	2.117714	2.035789	5.720626
METHYLENE CHLORIDE	6.686768	3.756573	2.952312	3.183453	2.849353	3.885692	41.29924
T-1,2-2CL-ETHENE	2.072548	1.926321	2.009696	2.300775	2.18973	2.099814	7.040962
1,1-DICHLOROETHANE	2.070368	1.976191	2.042431	2.4315	2.354695	2.175037	9.369735
2,2-DICHLOROPROPANE	0	0	0	0	0	0	ERR
CIS-1,2-DICHLOROETHENE	2.178177	2.035505	1.997411	2.327446	2.312137	2.170135	7.023796
CHLOROFORM	3.056273	2.84601	2.773012	3.27422	3.247349	3.039373	7.485185
BROMOCHLOROMETHANE	1.430801	1.238246	1.26297	1.490555	1.533272	1.391169	9.607891
1,1,1-TRICHLOROETHANE	2.163733	2.114273	2.081861	2.500492	2.228073	2.217686	7.550089
1,1-DICHLOROPROPENE	1.542109	1.640115	1.509648	1.761454	1.696426	1.62995	6.434911
CARBON 4CHLORIDE	2.236682	2.412158	2.516382	3.094662	2.811561	2.614289	13.00972
1,2-DICHLOROETHANE	2.006557	1.688307	1.655208	1.906546	1.961546	1.843633	8.74757
TRICHLOROETHENE	2.126074	2.112235	2.11771	2.458277	2.331193	2.229098	7.079851
1,2-2CL-PROPANE	1.996163	1.772868	1.887464	2.207432	2.245189	2.021823	10.04643
BR-2CL-METHANE	1.822816	1.572045	1.606008	1.98786	2.027218	1.80319	11.66533
DIBROMOMETHANE	1.145125	1.023186	1.003903	1.330139	1.31747	1.163965	13.37675
CIS-1,3-2CLPROPENE	1.382544	1.247479	1.325451	1.712392	1.621856	1.457944	13.6813
TRANS-1,3-2CLPROPENE	0.760323	0.642864	0.672111	0.940687	0.782182	0.759633	15.37806
1,1,2-3CL-ETHANE	2.856417	2.093217	2.159964	2.335114	2.55335	2.399612	12.97534
TETRACHLOROETHENE	2.21244	2.234083	2.171185	2.439458	2.330888	2.277611	4.733946
1,3-DICHLOROPROPANE	2.02824	1.553405	1.66717	1.862866	1.879349	1.798206	10.43276
2BR-CL-METHANE	1.188253	1.017331	1.186851	1.370757	1.470183	1.246675	14.17659
1,2-DIBROMOETHANE	0.767879	0.645878	0.758935	0.879812	0.981453	0.806791	15.86533
CHLOROBENZENE	0.891653	0.873091	0.869233	1.027112	0.967975	0.925813	7.48083
1,1,1,2-4CL-ETHANE	2.908533	2.548713	2.578474	2.81211	2.920855	2.753737	6.497356
BROMOFORM	0.726231	0.586296	0.717104	0.878858	0.966671	0.775032	19.23146
1,1,2,2-4CL-ETHANE	1.556608	1.034773	1.24932	1.431041	1.600801	1.374309	17.02221
1,2,3-3CL-PROPANE	1.080034	0.766358	0.91548	1.075481	1.210282	1.009527	16.9846
BROMOBENZENE	0.721666	0.633007	0.703654	0.793794	0.841367	0.738698	10.96969
2-CHLOROTOLOUENE	0.808379	0.760337	0.770557	0.825762	0.830802	0.799167	4.015506
4-CHLOROTOLOUENE	0.896923	0.879804	0.922151	0.924739	0.949058	0.914535	2.929149
1,3-DICHLOROBENZENE	1.431823	1.284266	1.390534	1.532069	1.605845	1.448908	8.616909
1,4-DICHLOROBENZENE	1.483696	1.333769	1.465763	1.597263	1.700063	1.516111	9.166668
1,2-DICHLOROBENZENE	1.432773	1.223458	1.30049	1.470535	1.563006	1.398052	9.70719
1,2-2BR-3-CL-PROPANE	0.27185	0.183824	0.251628	0.31019	0.358491	0.275197	23.74371
1,2,4-3CL-BENZENE	1.559645	1.290756	1.427246	1.559988	1.764939	1.520515	11.59447
6CL-BUTADIENE	2.193087	2.299742	2.393507	2.631726	2.665794	2.436771	8.47236
1,2,3-3CL-BENZENE	1.325803	1.137903	1.32757	1.457803	1.669063	1.383629	14.17387

INITIAL CALIBRATION(PID) DATE: JULY 14, 1992
LABORATORY RESOURCES,INC.

TRACOR 9000

COMPOUND	RF 5.00	RF 10.00	RF 15.00	RF 20.00	RF 25.00	$\overline{RF}$	%RSD
VINYL CHLORIDE	0.163143	0.145651	0.149779	0.207213	0.158083	0.164774	14.99632
1,1-DICHLOROETHENE	0.461121	0.447497	0.475258	0.626308	0.527274	0.507492	14.37817
T-1,2-2CL-ETHENE	1.230333	1.228073	1.195995	1.604592	1.311993	1.314197	12.77555
CIS-1,2-DICHLOROETHENE	0.63125	0.601772	0.604558	0.835006	0.707935	0.676104	14.58936
1,1-DICHLOROPROPENE	0.458633	0.478999	0.484169	0.657467	0.52901	0.521656	15.36439
BENZENE	1.54121	1.506686	1.45011	1.934232	1.608014	1.60805	11.88417
TRICHLOROETHENE	0.740454	0.774755	0.732392	0.984547	0.812692	0.808968	12.75243
CIS-1,3-2CLPROPENE	0.204683	0.19362	0.181653	0.299532	0.230344	0.221966	21.14804
TOLUENE	1.514514	1.517683	1.408617	1.907746	1.575626	1.584837	12.00784
TRANS-1,3-2CLPROPENE	0.174598	0.145119	0.141728	0.251726	0.165713	0.175777	25.39464
TETRACHLOROETHENE	0.622102	0.640691	0.625735	0.836298	0.678608	0.680687	13.19553
CHLOROBENZENE	1.657229	1.605838	1.542228	2.050562	1.712514	1.713674	11.58677
ETHYLBENZENE	1.459427	1.408053	1.330973	1.714579	1.43238	1.469082	9.894011
M,P-XYLENE	3.560363	3.534455	3.276124	4.237847	3.48923	3.619604	10.03713
O-XYLENE	1.383771	1.387741	1.320802	1.75225	1.478852	1.464683	11.62988
STYRENE	1.842956	1.768463	1.7152	2.242935	1.89123	1.892157	10.96172
ISOPROPYLBENZENE	1.065014	1.106693	1.067176	1.40825	1.158913	1.161209	12.33779
N-PROPYLBEN;BROMOBENZENE	3.057754	2.977816	2.87457	3.760635	3.166081	3.167371	11.00093
135-TMB;2-CLTOLUENE	3.547299	3.561618	3.339476	4.317325	3.553588	3.663861	10.28901
4-CL-TOLUENE	1.637272	1.61714	1.565167	2.023827	1.723083	1.713298	10.66267
TERT-BUTYL-BENZENE	0.98048	0.972404	0.995966	1.36985	1.078708	1.079481	15.53959
124-3METHYL-BENZENE	1.54965	1.631805	1.507111	1.905043	1.632737	1.645269	9.418561
SEC-BUTYL-BENZENE	0.96104	1.04127	1.021413	1.347243	1.103552	1.094903	13.6958
P-ISOPROPYLTOLUENE	1.012458	1.109687	1.061898	1.396668	1.148072	1.145717	13.02641
1,3-2CL-BENZENE	1.460201	1.379007	1.354656	1.761626	1.49993	1.491084	10.88644
1,4-2CL-BENZENE	1.386391	1.298441	1.282492	1.683686	1.436229	1.417448	11.40717
N-BUTYL-BENZENE	1.033217	1.139399	1.107482	1.471499	1.196972	1.189714	14.1426
1,2-2CL-BENZENE	1.162285	1.03732	1.0482	1.382229	1.204958	1.166998	12.02082
124-TRICHLOROBENZENE	0.804136	0.722853	0.746825	0.982584	0.886211	0.828522	12.87248
6CL-BUTADIENE	0.569694	0.646129	0.637162	0.824693	0.690232	0.673582	14.08113
NAPTHALENE	1.029038	0.761603	0.865625	1.281514	1.153594	1.018275	20.65259
1,2,3-3CL-BENZENE	0.775727	0.683597	0.727528	0.964738	0.903973	0.811113	14.68137

DAILY CALIBRATION(HECD) DATE: JULY 9, 1992
LABORATORY RESOURCES,INC.

TRACOR 9000

COMPOUND	$\overline{RF}$	RF	%DIFF
2CL-2FL-METHANE	0.711399	0.483714	32.00518
CHLOROMETHANE	1.439731	0.698942	51.4533
VINYL CHLORIDE	1.468957	1.380385	6.029602
BROMOMETHANE	0.63216	0.138062	78.16035
CHLOROETHANE	1.683183	1.328791	21.05489
3CL-FL-METHANE	2.765322	1.987149	28.1404
1,1-DICHLOROETHENE	2.10485	2.192877	4.182118
METHYLENE CHLORIDE	2.751039	3.515672	27.79432
T-1,2-2CL-ETHENE	2.169651	2.021114	6.846135
1,1-DICHLOROETHANE	2.266753	1.844169	18.64268
2,2-DICHLOROPROPANE	0.130296	0	100
CIS-1,2-DICHLOROETHENE	2.224469	2.100396	5.577609
CHLOROFORM	3.039277	3.010178	0.957415
BROMOCHLOROMETHANE	1.441058	1.319631	8.426241
1,1,1-TRICHLOROETHANE	2.298315	1.812292	21.14694
1,1-DICHLOROPROPENE	1.674553	1.758886	5.036141
CARBON 4CHLORIDE	2.769459	2.519174	9.037321
1,2-DICHLOROETHANE	1.928917	1.987034	3.012924
TRICHLOROETHENE	2.157705	2.299835	6.587083
1,2-2CL-PROPANE	1.858343	2.088131	12.36522
BR-2CL-METHANE	1.694741	1.788376	5.52508
DIBROMOMETHANE	1.178202	1.427183	21.13228
CIS-1,3-2CLPROPENE	1.48037	1.142399	22.83014
TRANS-1,3-2CLPROPENE	0.876611	0.473232	46.01576
1,1,2-3CL-ETHANE	2.414201	3.161455	30.95242
TETRACHLOROETHENE	2.24941	2.753377	22.42663
1,3-DICHLOROPROPANE	2.049463	2.33347	13.85766
2BR-CL-METHANE	1.210295	1.364738	12.76079
1,2-DIBROMOETHANE	0.844205	0.882136	4.493148
CHLOROBENZENE	0.798596	1.156848	44.86012
1,1,1,2-4CL-ETHANE	2.561718	3.578994	39.71069
BROMOFORM	0.724073	0.609604	15.80905
1,1,2,2-4CL-ETHANE	1.343537	1.84523	37.34124
1,2,3-3CL-PROPANE	0.965552	1.232339	27.63057
BROMOBENZENE	0.690888	0.990234	43.32755
2-CHLOROTOLUENE	0.736891	1.082403	46.89782
4-CHLOROTOLUENE	0.892324	1.378734	54.51039
1,3-DICHLOROBENZENE	1.279102	1.507754	17.876
1,4-DICHLOROBENZENE	1.415968	1.683758	18.91217
1,2-DICHLOROBENZENE	1.292836	1.635642	26.51578
1,2-2BR-3-CL-PROPANE	0.260903	0.252241	3.319669
1,2,4-3CL-BENZENE	1.495629	1.67212	11.80043

DAILY CALIBRATION(PID) DATE: JULY 9, 1992
LABORATORY RESOURCES,INC.

TRACOR 9000

COMPOUND	$\overline{RF}$	RF	%DIFF
VINYL CHLORIDE	0.154369	0.100403	34.9593
1,1-DICHLOROETHENE	0.446345	0.509738	14.20274
T-1,2-2CL-ETHENE	1.191651	1.161648	2.517828
CIS-1,2-DICHLOROETHENE	0.393234	0.59761	51.97308
1,1-DICHLOROPROPENE	0.445243	0.488617	9.741719
BENZENE	1.41138	1.49903	6.210248
TRICHLOROETHENE	0.74844	0.747545	0.119667
CIS-1,3-2CLPROPENE	0.250932	0.132872	47.04845
TOLUENE	1.461688	1.540326	5.37995
TRANS-1,3-2CLPROPENE	0.235981	0.107969	54.24682
TETRACHLOROETHENE	0.641566	0.658766	2.680935
CHLOROBENZENE	1.527302	1.622869	6.25721
ETHYLBENZENE	1.336827	1.578352	18.06698
M,P-XYLENE	3.178064	3.728493	17.31964
O-XYLENE	1.300997	1.43149	10.03025
STYRENE	1.681754	1.887745	12.24855
ISOPROPYLBENZENE	1.046355	1.154082	10.29543
N-PROPYLBEN;BROMOBENZENE	2.819627	3.087666	9.50618
135-TMB,2CLTOLUENE	3.237927	3.713593	14.69044
4-CL-TOLUENE	1.505839	1.662396	10.39667
TERT-BUTYL-BENZENE	0.952002	1.088414	14.32891
124-3METHYL-BENZENE	1.45303	1.598582	10.01716
SEC-BUTYL-BENZENE	1.000198	1.067392	6.718059
P-ISOPROPYLTOLUENE	1.032732	1.13021	9.438875
1,3-2CL-BENZENE	1.348149	1.418036	5.183966
1,4-2CL-BENZENE	1.275216	1.347007	5.629712
N-BUTYL-BENZENE	1.078869	1.138793	5.554328
1,2-2CL-BENZENE	1.080699	1.12043	3.676427
124-TRICHLOROBENZENE	0.768917	0.771306	0.310677
6CL-BUTADIENE	0.617995	0.641822	3.855623
NAPHTHALENE	1.015257	1.02381	0.842443
1,2,3-3CL-BENZENE	0.789308	0.808188	2.392019

DAILY CALIBRATION(HECD)
LABORATORY RESOURCES,INC.

DATE: JULY 16, 1992

TRACOR 9000

COMPOUND	$\overline{RF}$	RF	%DIFF
2CL-2FL-METHANE	0.684939	0.690053	0.746648
CHLOROMETHANE	0.671981	0.823397	22.53285
VINYL CHLORIDE	1.529795	1.488377	2.707426
BROMOMETHANE	0.294858	0.227055	22.99499
CHLOROETHANE	1.348355	1.459695	8.257455
3CL-FL-METHANE	3.132866	3.375019	7.729433
1,1-DICHLOROETHENE	2.035789	2.328469	14.37671
METHYLENE CHLORIDE	3.885692	3.97899	2.401084
T-1,2-2CL-ETHENE	2.099814	2.348341	11.83565
1,1-DICHLOROETHANE	2.175037	2.360131	8.509929
2,2-DICHLOROPROPANE	0	0	ERR
CIS-1,2-DICHLOROETHENE	2.170135	2.454139	13.0869
CHLOROFORM	3.039373	3.464435	13.98521
BROMOCHLOROMETHANE	1.391169	1.446447	3.973507
1,1,1-TRICHLOROETHANE	2.217686	2.598186	17.15751
1,1-DICHLOROPROPENE	1.62995	2.047559	25.62094
CARBON 4CHLORIDE	2.614289	3.040781	16.31389
1,2-DICHLOROETHANE	1.843633	1.872411	1.560992
TRICHLOROETHENE	2.229098	2.807462	25.9461
1,2-2CL-PROPANE	2.021823	2.194516	8.541425
BR-2CL-METHANE	1.80319	1.87438	3.947999
DIBROMOMETHANE	1.163965	0.987305	15.17739
CIS-1,3-2CLPROPENE	1.457944	1.514752	3.896414
TRANS-1,3-2CLPROPENE	0.759633	0.623753	17.8876
1,1,2-3CL-ETHANE	2.399612	2.162874	9.865715
TETRACHLOROETHENE	2.277611	2.602535	14.26602
1,3-DICHLOROPROPANE	1.798206	1.811096	0.716851
2BR-CL-METHANE	1.246675	1.170354	6.121985
1,2-DIBROMOETHANE	0.806791	0.688741	14.63207
CHLOROBENZENE	0.925813	0.991052	7.046751
1,1,1,2-4CL-ETHANE	2.753737	3.119831	13.29443
BROMOFORM	0.775032	0.490139	36.75884
1,1,2,2-4CL-ETHANE	1.374309	1.225575	10.82243
1,2,3-3CL-PROPANE	1.009527	0.875878	13.23874
BROMOBENZENE	0.738698	0.685676	7.177693
2-CHLOROTOLUENE	0.799167	0.860254	7.643778
4-CHLOROTOLUENE	0.914535	1.00615	10.0177
1,3-DICHLOROBENZENE	1.448908	1.568502	8.254096
1,4-DICHLOROBENZENE	1.516111	1.636905	7.967397
1,2-DICHLOROBENZENE	1.398052	1.392448	0.400894
1,2-2BR-3-CL-PROPANE	0.275197	0.150359	45.36299
1,2,4-3CL-BENZENE	1.520515	1.527866	0.483447
6CL-BUTADIENE	2.436771	3.006901	23.39694
1,2,3-3CL-BENZENE	1.383629	1.369383	1.029554

DAILY CALIBRATION(PID)
LABORATORY RESOURCES,INC.

DATE: JULY 16, 1992

TRACOR 9000

COMPOUND	$\overline{RF}$	RF	%DIFF
VINYL CHLORIDE	0.164774	0.142328	13.62225
1,1-DICHLOROETHENE	0.507492	0.488771	3.688825
T-1,2-2CL-ETHENE	1.314197	1.287063	2.064695
CIS-1,2-DICHLOROETHENE	0.676104	0.63581	5.959758
1,1-DICHLOROPROPENE	0.521656	0.527262	1.074685
BENZENE	1.60805	1.546663	3.817476
TRICHLOROETHENE	0.808968	0.802045	0.855764
CIS-1,3-2CLPROPENE	0.221966	0.204639	7.806372
TOLUENE	1.584837	1.540278	2.811587
TRANS-1,3-2CLPROPENE	0.175777	0.151632	13.73601
TETRACHLOROETHENE	0.680687	0.70485	3.54985
CHLOROBENZENE	1.713674	1.617927	5.587268
ETHYLBENZENE	1.469082	1.491877	1.551618
M,P-XYLENE	3.619604	3.535514	2.323179
O-XYLENE	1.464683	1.39648	4.656494
STYRENE	1.892157	1.763469	6.801136
ISOPROPYLBENZENE	1.161209	1.170124	0.767706
N-PROPYLBEN;BROMOBENZENE	3.167371	2.990512	5.583778
135-TMB,2CLTOLUENE	3.663861	3.612625	1.398413
4-CL-TOLUENE	1.713298	1.619847	5.454451
TERT-BUTYL-BENZENE	1.079481	1.101317	2.022789
124-3METHYL-BENZENE	1.645269	1.583174	3.774165
SEC-BUTYL-BENZENE	1.094903	1.116132	1.93886
P-ISOPROPYLTOLUENE	1.145717	1.144469	0.108866
1,3-2CL-BENZENE	1.491084	1.394922	6.449116
1,4-2CL-BENZENE	1.417448	1.257878	11.25753
N-BUTYL-BENZENE	1.189714	1.221397	2.663079
1,2-2CL-BENZENE	1.166998	1.064967	8.743089
124-TRICHLOROBENZENE	0.828522	0.777086	6.208196
6CL-BUTADIENE	0.673582	0.69172	2.692736
NAPHTHALENE	1.018275	0.677209	33.49447
1,2,3-3CL-BENZENE	0.811113	0.640393	21.04764

Operator: MO

Sample Name: W207188-01 602 STRAIGHT

Data File Name: A:AJL1612.ATB 20:25 DS

Original Method:ACOL

Date Taken: 07-16-1992 ~~23:44:41~~

Interface: 8 Cycle#: 12 Channel#: 0 Vial#: N.A.

AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1

SAMPLE WEIGHT = 1

******** AREA PERCENT REPORT ********

% No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	6.03	2,438.	0.1986	1	366.	0.318	6.7
2	7.25	9,039.	0.7363	2	837.	1.181	10.8
3	7.55	14,852.	1.2099	2	1,454.	1.940	10.2
4	11.17	119,903.	9.7674	2	10,614.	15.662	11.3
5	11.66	14,408.	1.1737	2	1,942.	1.882	7.4
6	13.26	47,561.	3.8743	2	5,034.	6.213	9.4
7	13.96	3,092.	0.2518	2	445.	0.404	7.0
8	15.26	62,394.	5.0826	1	9,576.	8.150	6.5
9	16.97	765,553.	62.3627	1	121,466.	100.000	6.3
10	18.37	2,059.	0.1677	1	286.	0.269	7.2
11	19.69	3,223.	0.2626	1	530.	0.421	6.1
12	21.23	6,300.	0.5132	2	978.	0.823	6.4
13	21.51	4,513.	0.3676	2	534.	0.589	8.5
14	25.95	105,148.	8.5655	1	14,814.	13.735	7.1
15	30.13	67,100.	5.4661	1	11,563.	8.765	5.8

Total Area: 1,227,582. Area Reject: 1

Operator: MD

Sample Name: WZ07188-01 602 STRAIGHT

Data File Name: A:AJL1612.ATB 20:25 ES

Original Method:ACOL

Date Taken: 07-16-1992 ~~22:44:41~~

Cycle#: 12 Channel#: 0 Vial#: N.A.

Interface: 8

AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1

SAMPLE WEIGHT = 1

INTERNAL STANDARD TABLE

ORIGINAL RECORDED DATA USED FOR THIS TABLE.

Data File Name: A:AJL1612.ATB Sample Name: WZ07188-01 602 STRAIGHT

Area reject: 1 Sample Amount: 1

Amount injected: 1.00000 Dilution factor: 1.00000

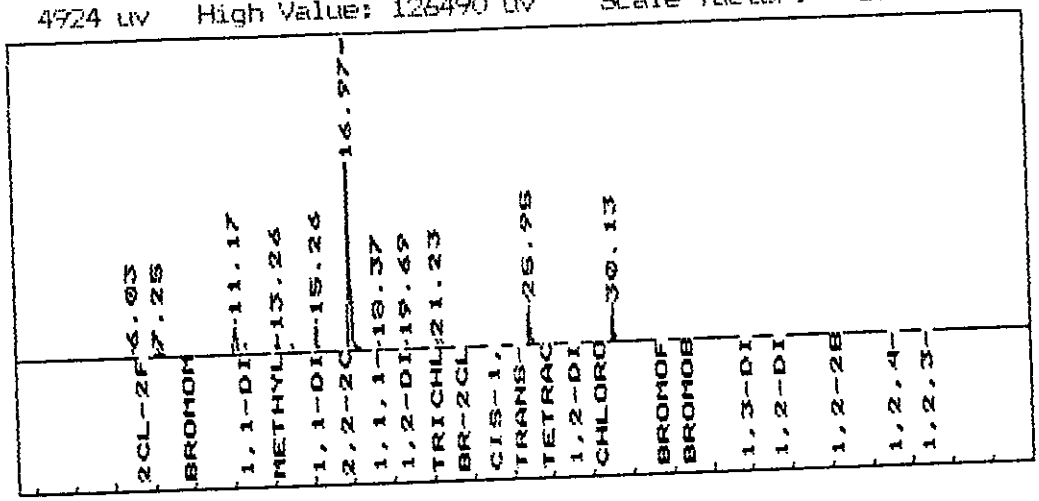
Internal Standard Amount: 10

Sample Weight = 1

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in PPB	NORMALIZED CONC%	AREA	AREA/ HEIGHT	HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
2	7.248	VINYL CHLORIDE	~~0.5776~~	1.3629%	9,039.	837.	10.8	2	NA	NA	-2.690	6.3898E-05
5	11.657	1,1-DICHLOROETHENE	~~0.5885~~	1.3888%	14,468.	1,942.	7.4	2	NA	NA	.8670	4.0844E-05
6	13.260	METHYLENE CHLORIDE	1.1368	2.6826%	47,561.	5,034.	9.4	2	NA	NA	.6337	2.3902E-05
7	13.961	T-1,2-DCL-ETHENE	~~0.1252~~	0.2955%	3,092.	445.	7.0	2	NA	NA	.7228	4.0498E-05
8	15.264	1,1-DICHLOROETHANE	2.5142	5.9332%	62,394.	9,576.	6.5	1	NA	NA	.5500	4.0296E-05
9	16.967	C-1,2-DCL-ETHENE	29.6671	70.0104%	765,553.	121,466.	6.3	1	NA	NA	.3952	3.8753E-05
10	18.370	1,1,1-TCL-ETHANE	~~0.0754~~	0.1779%	2,059.	286.	7.2	1	NA	NA	.4566	3.6604E-05
11	19.689	1,2-DICHLOROETHANE	~~0.1637~~	0.3864%	3,223.	530.	6.1	1	NA	NA	.5115	5.0792E-05
12	21.226	TRICHLOROETHENE	~~0.2134~~	0.5036%	6,300.	978.	6.4	2	NA	NA	.2365	3.3875E-05
13	21.510	1,2-DCLPROPANE	~~0.1976~~	0.4615%	4,513.	534.	8.5	2	NA	NA	-1.151	4.3337E-05
14	25.952	2BR-1CL-PROPANE	10.0000	0.0000%	105,148.	14,814.	7.1	1	NA	NA	0	9.5104E-05
15	30.127	surrogate	7.1179	16.7972%	67,100.	11,563.	5.8	1	NA	NA	0	1.0608E-04

TOTAL AMOUNT = 42.3753 ES

Data File = A:AJL1612.PTS Printed on 07-22-1992 at 11:42:19
Start time: 0.00 min. Stop time: 51.00 min. Offset: 0 mv.
Low Value: 4924 uv High Value: 126490 uv Scale factor: 1.0



Operator: MD

Sample Name: W207188-01 602 STRAIGHT

Data File Name: A:BGL1612.ATB 20:25 dl

Original Method:BGL

Date Taken: 07-16-1992 ~~23:44:41~~

Cycle#: 12 Channel#: 1 Vial#: N.A.

Interface: 8

AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1

SAMPLE WEIGHT = 1

******** AREA PERCENT REPORT ********

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	7.25	4,549.	0.0178	1	796.	0.093	5.7
2	9.65	2,514.	0.0099	2	368.	0.051	6.8
3	9.94	2,856.	0.0112	2	377.	0.058	7.6
4	10.35	13,528.	0.0531	1	2,039.	0.276	6.6
5	10.70	4,911.	0.0193	2	757.	0.100	6.5
6	10.85	12,803.	0.0502	2	1,674.	0.262	7.6
7	11.62	1,931.	0.0076	1	302.	0.039	6.4
8	12.27	14,867.	0.0583	1	1,218.	0.304	12.2
9	12.94	18,257.	0.0716	2	1,581.	0.373	11.5
10	13.16	5,237.	0.0205	2	571.	0.107	9.2
11	13.93	17,465.	0.0685	1	2,359.	0.357	7.4
12	14.75	51,760.	0.2030	2	5,083.	1.058	10.2
13	14.90	29,098.	0.1141	2	4,017.	0.595	7.2
14	15.06	20,004.	0.0785	2	2,301.	0.409	8.7
15	15.30	21,816.	0.0856	2	2,710.	0.446	8.1
16	15.65	36,357.	0.1426	2	3,539.	0.743	10.3
17	16.20	8,667.	0.0340	2	995.	0.177	8.7
18	16.93	217,903.	0.8547	2	37,399.	4.453	5.8
19	17.30	11,675.	0.0458	2	1,380.	0.239	8.5
20	17.55	40,048.	0.1571	2	4,023.	0.819	10.0
21	17.74	60,922.	0.2390	2	5,056.	1.245	12.0
22	18.25	100,371.	0.3937	3	8,643.	2.051	11.6
23	18.55	5,683.	0.0223	4	677.	0.116	8.4
24	18.72	3,368.	0.0132	4	467.	0.069	7.2
25	18.94	7,743.	0.0304	2	1,057.	0.158	7.3
26	19.09	14,592.	0.0572	2	1,604.	0.298	9.1
27	19.56	25,546.	0.1002	1	2,939.	0.522	8.7
28	19.79	17,013.	0.0667	1	3,272.	0.348	5.2
29	20.12	26,636.	0.1045	1	2,224.	0.544	12.0
30	20.51	12,284.	0.0482	2	1,458.	0.251	8.4
31	20.74	11,317.	0.0444	2	912.	0.231	12.4
32	21.13	58,354.	0.2289	1	7,880.	1.193	7.4
33	21.49	39,181.	0.1537	2	6,460.	0.801	6.1
34	21.78	62,772.	0.2462	2	7,851.	1.283	8.0
35	22.14	105,153.	0.4124	2	11,661.	2.149	9.0
36	22.44	17,813.	0.0699	2	2,126.	0.364	8.4
37	22.80	13,277.	0.0521	2	1,465.	0.271	9.1
38	22.98	39,774.	0.1560	2	6,033.	0.813	6.6
39	23.41	3,989.	0.0156	2	501.	0.082	8.0
40	23.73	25,486.	0.1000	2	3,227.	0.521	7.9
41	24.08	17,384.	0.0682	2	2,702.	0.355	6.4
42	24.28	15,263.	0.0599	2	1,123.	0.312	13.6
43	24.58	6,962.	0.0273	2	998.	0.142	7.0
44	24.87	252,196.	0.9892	3	43,347.	5.154	5.8
45	25.12	3,135.	0.0123	4	544.	0.064	5.8
46	25.28	18,851.	0.0739	2	2,683.	0.385	7.0
47	25.58	13,342.	0.0523	2	2,151.	0.273	6.2

027

50	27.04	4,116.	0.0161	2	661.	0.084	6.2
51	27.25	2,850.	0.0112	2	465.	0.058	6.1
52	27.54	2,578.	0.0101	2	464.	0.053	5.6
53	27.71	900.	0.0035	2	186.	0.018	4.8
54	28.01	2,194.	0.0086	1	366.	0.045	6.0
55	28.61	1,314.	0.0052	1	206.	0.027	6.4
56	29.12	5,176.	0.0203	1	829.	0.106	6.2
57	29.51	1,615,471.	6.3362	2	291,129.	33.017	5.5
58	29.76	4,892,882.	19.1910	2	845,682.	100.000	5.8
59	30.11	106,971.	0.4196	2	17,368.	2.186	6.2
60	30.51	786.	0.0031	1	183.	0.016	4.3
61	31.11	1,151,623.	4.5169	1	209,837.	23.537	5.5
62	32.30	150,030.	0.5885	1	27,628.	3.066	5.4
63	33.60	616,112.	2.4165	2	115,027.	12.592	5.4
64	33.95	2,147,789.	8.4241	2	342,023.	43.896	6.3
65	34.13	1,553,856.	6.0946	2	273,268.	31.757	5.7
66	34.97	726,218.	2.8484	2	131,473.	14.842	5.5
67	35.40	3,279,568.	12.8632	2	581,203.	67.027	5.6
68	35.74	75,433.	0.2959	2	12,636.	1.542	6.0
69	35.97	66,089.	0.2592	2	10,958.	1.351	6.0
70	36.37	88,753.	0.3481	2	12,299.	1.814	7.2
71	36.97	663,795.	2.6036	1	125,558.	13.567	5.3
72	37.27	2,101.	0.0082	1	510.	0.043	4.1
73	37.61	777,770.	3.0506	2	132,657.	15.896	5.9
74	37.76	174,334.	0.6838	2	35,738.	3.563	4.9
75	37.89	797,712.	3.1288	2	124,243.	16.304	6.4
76	38.01	496,750.	1.9484	2	89,484.	10.152	5.6
77	38.33	38,905.	0.1526	2	6,617.	0.795	5.9
78	38.44	116,663.	0.4576	2	20,683.	2.384	5.6
79	38.79	492,388.	1.9313	2	58,497.	10.063	8.4
80	39.19	656,815.	2.5762	2	123,188.	13.424	5.3
81	39.51	91,248.	0.3579	2	11,984.	1.865	7.6
82	39.65	65,557.	0.2571	2	8,630.	1.340	7.6
83	39.85	168,511.	0.6609	2	27,753.	3.444	6.1
84	40.43	432,234.	1.6953	2	64,608.	8.834	6.7
85	40.70	337,422.	1.3234	2	60,914.	6.896	5.5
86	40.95	53,326.	0.2092	2	9,295.	1.090	5.7
87	41.17	103,288.	0.4051	2	18,189.	2.111	5.7
88	41.38	25,424.	0.0997	2	3,732.	0.520	6.8
89	41.52	57,862.	0.2269	2	9,437.	1.183	6.1
90	41.72	12,968.	0.0509	2	2,249.	0.265	5.8
91	41.97	280,331.	1.0995	2	44,365.	5.729	6.3
92	42.12	58,315.	0.2287	2	9,186.	1.192	6.3
93	42.25	155,540.	0.6101	2	26,078.	3.179	6.0
94	42.42	26,747.	0.1049	2	5,374.	0.547	5.0
95	42.55	358,307.	1.4054	3	63,605.	7.323	5.6
96	42.74	24,270.	0.0952	4	3,613.	0.496	6.7
97	42.90	7,750.	0.0304	4	1,274.	0.158	6.1
98	43.15	17,671.	0.0693	2	2,395.	0.361	7.4
99	43.32	43,838.	0.1719	2	6,969.	0.896	6.3
100	43.54	143,248.	0.5619	2	21,377.	2.928	6.7
101	43.69	83,720.	0.3284	3	13,947.	1.711	6.0
102	43.89	8,544.	0.0335	4	1,373.	0.175	6.2
103	44.10	105,091.	0.4122	3	14,087.	2.148	7.5
104	44.36	2,284.	0.0090	4	434.	0.047	5.3
105	44.59	6,025.	0.0236	1	1,022.	0.123	5.9
106	44.82	226,651.	0.8890	1	44,305.	4.632	5.1
107	45.31	8,939.	0.0351	2	1,510.	0.183	5.9
108	45.51	30,340.	0.1190	2	5,265.	0.620	5.8
109	45.66	17,043.	0.0668	2	3,049.	0.348	5.6
110	46.04	58,763.	0.2305	2	10,322.	1.201	5.7
111	46.44	9,305.	0.0365	2	861.	0.190	10.8
112	46.66	44,062.	0.1728	2	5,271.	0.901	8.4
113	46.99	41,504.	0.1628	2	4,441.	0.848	9.3

116	48.20	5,033.	0.0197	1	590.	0.103	8.5
117	48.61	51,687.	0.2027	1	10,260.	1.056	5.0
118	49.23	2,227.	0.0087	1	383.	0.046	5.8
119	49.48	65,373.	0.2564	1	12,371.	1.336	5.3

Total Area: 25,495,698. Area Reject: 1

```
**********************************************************************************
* Sample Name: W207188-01 602 STRAIGHT                          Operator: MD     *
*  Data File Name: A:BJL1612.ATB  20:25:08                                       *
* Date Taken:  07-16-1992 ~~22:44:41~~  Original Method:ECOL                     *
* Interface: 8              Cycle#:  12          Channel#: 1    Vial#: N.A.     *
**********************************************************************************
AMOUNT INJECTED =  1   DILUTION FACTOR =  1   SAMPLE AMOUNT =  1
SAMPLE WEIGHT   =  1
```

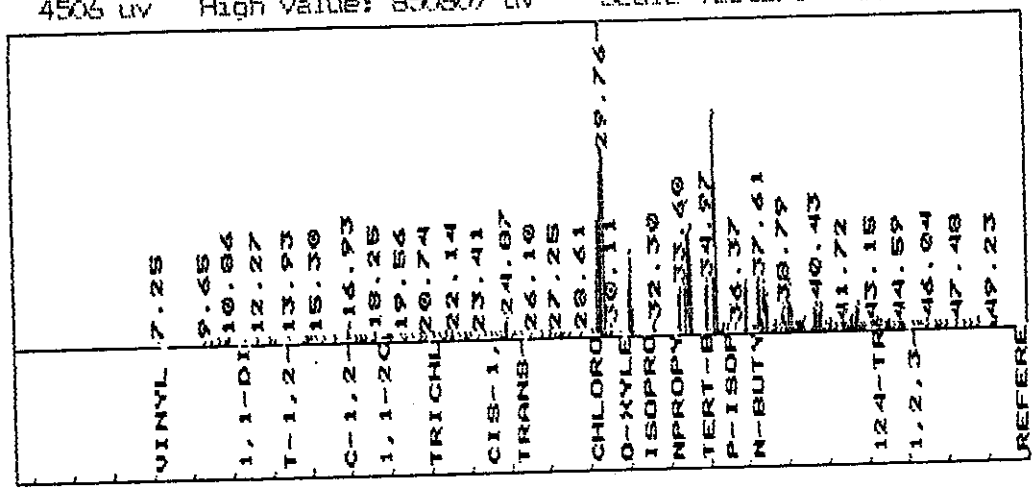
****** INTERNAL STANDARD TABLE ******

ORIGINAL RECORDED DATA USED FOR THIS TABLE.
Data File Name: A:BJL1612.ATB Sample Name: W207188-01 602 STRAIGHT
Area reject: 1 Sample Amount: 1
Amount injected: 1.00000 Dilution factor: 1.00000
Internal Standard Amount: 10
Sample Weight = 1

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in PPB	NORMALIZED CONC%	AREA	AREA/ HEIGHT	HEIGHT RL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
1	7.249	VINYL CHLORIDE	~~7.9879~~	0.2959%	4,549.	796.	5.7 1	NA	NA	-2.031	6.5681E-04
7	11.623	1,1-DICHLOROETHENE	~~0.3373~~	0.0366%	1,931.	302.	6.4 1	NA	NA	.8695	1.9126E-04
11	13.928	T-1,2-DICHLOROETHE	~~1.2685~~	0.1256%	17,465.	2,359.	7.4 1	NA	NA	.7246	7.2633E-05
18	16.934	C-1,2-2CL-ETHENE	32.0381	3.1726%	217,903.	37,399.	5.8 2	NA	NA	.4955	1.4703E-04
24	18.721	1,1-2CL-PROPENE	~~0.5972~~	0.0591%	3,368.	467.	7.2 4	NA	NA	.2683	1.7730E-04
27	19.556	BENZENE	1.5440	0.1529%	25,546.	2,939.	8.7 1	NA	NA	.5150	6.0442E-05
32	21.125	TRICHLOROETHENE	6.8015	0.6735%	58,354.	7,880.	7.4 1	NA	NA	0	1.1656E-04
33	21.493	surrogate	8.0785	0.8000%	39,181.	6,460.	6.1 2	NA	NA	.1556	2.0619E-04
41	24.081	CIS-1,3-2CLPROPENE	~~7.9412~~	0.7864%	17,384.	2,702.	6.4 2	NA	NA	0	4.5682E-04
44	24.866	TOLUENE	15.3063	1.5157%	252,196.	43,347.	5.8 3	NA	NA	0	6.0692E-05
47	25.584	TRANS-1,3-2CLPROPE	~~8.2252~~	0.8145%	13,342.	2,151.	6.2 2	NA	NA	-.1303	6.1651E-04
49	26.636	TETRACHLOROETHENE	~~1.0348~~	0.1025%	7,803.	736.	10.6 1	NA	NA	-.1877	1.3263E-04
56	29.125	CHLOROBENZENE	~~0.2991~~	0.0296%	5,176.	829.	6.2 1	NA	NA	-.6833	5.7779E-05
57	29.509	ETHYLBENZENE	101.2275	10.0242%	1,615,471.	291,129.	5.5 2	NA	NA	0	6.2661E-05
58	29.759	M,P-XYLENE	258.7465	25.6228%	4,892,882.	845,682.	5.8 2	NA	NA	.0561	5.2882E-05
59	30.110	1-CL-2-FL-BENZENE	10.0000	0.0000%	106,971.	17,368.	6.2 2	NA	NA	1.178	9.3483E-05
61	31.112	O-XYLENE	77.0917	7.6341%	1,151,623.	209,837.	5.5 1	NA	NA	1.124	6.6942E-05
62	32.298	ISOPROPYLBENZENE	~~11.9851~~	1.1869%	150,030.	27,628.	5.4 1	NA	NA	1.126	7.9891E-05
63	33.600	NPROPYL;BROMOBENZE	~~38.5191~~	3.8144%	616,112.	115,027.	5.4 2	NA	NA	.8776	6.2520E-05
65	34.135	135-TMB;2CLTOLUENE	~~86.4174~~	7.9635%	1,553,856.	273,268.	5.7 2	NA	NA	1.128	5.1753E-05
67	35.404	124-3METHYL-BENZEN	~~193.4512~~	19.1766%	3,279,568.	581,203.	5.6 2	NA	NA	1.083	5.9048E-05
69	35.972	SEC-BUTYLBENZENE	~~5.5354~~	0.5481%	66,089.	10,958.	6.0 2	NA	NA	1.037	8.3756E-05
70	36.373	P-ISOPROPYLTOLUENE	~~7.2495~~	0.7179%	88,753.	12,299.	7.2 2	NA	NA	.7620	8.1682E-05
71	36.974	1,4-2CL-BENZENE	~~49.3319~~	4.8852%	663,795.	125,558.	5.3 1	NA	NA	.7235	7.4318E-05
75	37.892	N-BUTYLBENZENE	~~61.0551~~	6.0461%	797,712.	124,243.	6.4 2	NA	NA	1.133	7.6538E-05
77	38.327	1,2-2CL-BENZENE	~~3.4151~~	0.3382%	38,905.	6,617.	5.9 2	NA	NA	1.090	8.7780E-05
102	43.838	124-TRICHLOROBENZE	~~1.0279~~	0.1018%	8,544.	1,373.	6.2 4	NA	NA	.7949	1.2030E-04
104	44.355	6CL-BUTADIENE	~~0.3088~~	0.0306%	2,284.	434.	5.3 4	NA	NA	.7611	1.3515E-04
106	44.823	NAPHTHALENE	~~31.2872~~	3.0983%	226,651.	44,305.	5.1 1	NA	NA	.9527	1.3804E-04
109	45.658	1,2,3-3CL-BENZENE	~~2.4879~~	0.2464%	17,043.	3,049.	5.6 2	NA	NA	.8832	1.4598E-04

TOTAL AMOUNT = 1,009.8299 ES

Data File = A:BJL1612.PTS Printed on 07-22-1992 at 11:47:56
Start time: 0.00 min. Stop time: 51.00 min. Offset: 0 mv.
Low Value: 4506 uv High Value: 850607 uv Scale factor: 1.0



Sample Name: W207188-02 602 STRAIGHT Operator: MD

Data File Name: A:ADL1613.ATB 21:30 dl

Date Taken: 07-~~17~~-1992 ~~08:47:57~~ Original Method:ADDL

Interface: 8 16 Cycle#: 13 Channel#: 0 Vial#: N.A.

AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1

SAMPLE WEIGHT = 1

******** AREA PERCENT REPORT ********

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	6.01	2,834.	0.4513	1	461.	1.332	6.1
2	7.23	13,112.	2.0883	2	1,121.	6.163	11.7
3	7.57	5,016.	0.7988	2	471.	2.358	10.7
4	11.19	212,734.	33.8813	3	18,672.	100.000	11.4
5	11.71	2,926.	0.4661	4	390.	1.376	7.5
6	13.29	56,926.	9.0663	1	6,357.	26.759	9.0
7	15.30	3,208.	0.5110	1	501.	1.508	6.4
8	16.98	124,203.	19.7813	1	20,465.	58.384	6.1
9	18.40	6,171.	0.9829	1	840.	2.901	7.3
10	21.26	5,176.	0.8244	2	892.	2.433	5.8
11	21.53	3,746.	0.5966	2	457.	1.761	8.2
12	25.95	81,028.	12.9050	1	11,911.	38.089	6.8
13	26.74	40,120.	6.3897	1	6,452.	18.859	6.2
14	30.13	68,797.	10.9571	1	12,198.	32.340	5.6
15	35.91	1,884.	0.3000	1	509.	0.886	3.7

Total Area: 627,880. Area Reject: 1

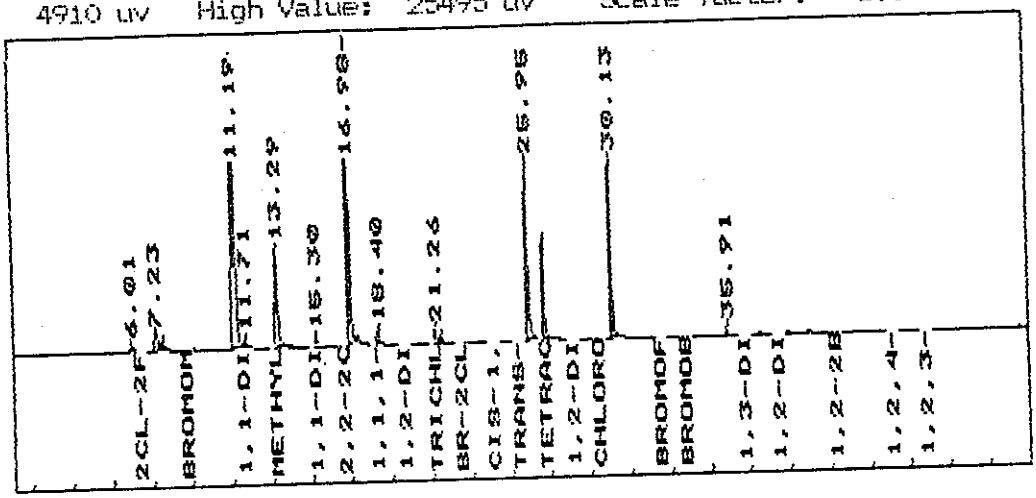
****
* Sample Name: W207188-02 602 STRAIGHT Operator: MD *
* Data File Name: A:AJL1613.ATB 21:20 dl *
* Date Taken: 07-~~17~~-1992 ~~00:47:57~~ Original Method:ACOL *
* Interface: 8 16 Cycle#: 13 Channel#: 0 Vial#: N.A. *
****
AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1
SAMPLE WEIGHT = 1

****** INTERNAL STANDARD TABLE ******

ORIGINAL RECORDED DATA USED FOR THIS TABLE.
Data File Name: A:AJL1613.ATB Sample Name: W207188-02 602 STRAIGHT
Area reject: 1 Sample Amount: 1
Amount injected: 1.00000 Dilution factor: 1.00000
Internal Standard Amount: 10
Sample Weight = 1

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in PPB	NORMALIZED CONC%	AREA	AREA/ HEIGHT	HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
2	7.231	VINYL CHLORIDE	~~1.0872~~	4.8629%	13,112.	1,121.	11.7	2	NA	NA	-2.914	8.2919E-05
5	11.707	1,1-DICHLOROETHENE	~~0.1551~~	0.6938%	2,926.	390.	7.5	4	NA	NA	1.300	5.3002E-05
6	13.293	METHYLENE CHLORIDE	1.7656	7.8974%	56,926.	6,357.	9.0	1	NA	NA	.8871	3.1017E-05
7	15.297	1,1-DICHLOROETHANE	~~0.1678~~	0.7504%	3,208.	501.	6.4	1	NA	NA	.7700	5.2291E-05
8	16.984	C-1,2-2CL-ETHENE	6.2460	27.9371%	124,203.	20,465.	6.1	1	NA	NA	.4940	5.0288E-05
9	18.403	1,1,1-3CL-ETHANE	~~0.2931~~	1.3112%	6,171.	840.	7.3	1	NA	NA	.6392	4.7500E-05
10	21.259	TRICHLOROETHENE	~~0.2275~~	1.0178%	5,176.	892.	5.8	2	NA	NA	.3943	4.3959E-05
11	21.526	1,2-2CLPROPANE	~~0.2107~~	0.9423%	3,746.	457.	8.2	2	NA	NA	-1.074	5.6238E-05
12	25.952	2BR-1CL-PROPANE	10.0000	0.0000%	81,028.	11,911.	6.8	1	NA	NA	0	1.2341E-04
13	26.737	1,3-2CL-PROPANE	~~2.7351~~	12.2282%	40,120.	6,452.	6.2	1	NA	NA	-.3733	6.8144E-05
14	30.127	surrogate	9.4703	42.3590%	68,797.	12,198.	5.6	1	NA	NA	0	1.3765E-04
		TOTAL AMOUNT =	22.3572	65								

Data File = A:A3L1613.PTS Printed on 07-22-1992 at 11:46:23
Start time: 0.00 min. Stop time: 51.00 min. Offset: 0 mv.
Low Value: 4910 uv High Value: 25495 uv Scale factor: 1.0



****
* Sample Name: W207188-02 602 STRAIGHT   Operator: MD *
* Data File Name: A:BJL1613.ATB 21:30 [initials]   Original Method:BCOL *
* Date Taken: 07-~~17~~ 16-1992 ~~00:47:57~~   Channel#: 1   Vial#: N.A. *
* Interface: 8   Cycle#: 13
****
AMOUNT INJECTED = 1   DILUTION FACTOR = 1   SAMPLE AMOUNT = 1
SAMPLE WEIGHT = 1

******** AREA PERCENT REPORT ********

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	7.26	2,546.	0.0355	1	372.	0.147	6.8
2	9.95	4,403.	0.0614	1	585.	0.254	7.5
3	10.39	8,578.	0.1197	1	1,308.	0.494	6.6
4	10.89	15,869.	0.2214	1	1,762.	0.914	9.0
5	12.29	8,286.	0.1156	1	790.	0.477	10.5
6	12.96	26,219.	0.3657	1	2,700.	1.510	9.7
7	13.94	7,677.	0.1071	1	1,020.	0.442	7.5
8	14.76	10,665.	0.1488	2	891.	0.614	12.0
9	14.91	24,960.	0.3482	2	3,332.	1.438	7.5
10	15.08	19,445.	0.2712	2	2,308.	1.120	8.4
11	15.31	4,578.	0.0639	2	582.	0.264	7.9
12	15.53	19,321.	0.2695	2	2,369.	1.113	8.2
13	15.71	17,934.	0.2502	2	1,880.	1.033	9.5
14	16.22	11,065.	0.1544	2	1,372.	0.637	8.1
15	16.95	28,826.	0.4021	1	5,277.	1.661	5.5
16	17.59	15,577.	0.2173	2	1,204.	0.897	12.9
17	17.75	13,964.	0.1948	2	1,373.	0.804	10.2
18	18.27	47,858.	0.6676	2	3,612.	2.757	13.2
19	18.57	2,126.	0.0297	2	335.	0.122	6.3
20	19.10	7,471.	0.1042	1	609.	0.430	12.3
21	19.54	975,253.	13.6043	3	159,389.	56.184	6.1
22	19.81	16,807.	0.2344	4	1,950.	0.968	8.6
23	20.11	13,390.	0.1868	2	1,473.	0.771	9.1
24	20.52	3,604.	0.0503	2	587.	0.208	6.1
25	20.77	3,728.	0.0520	2	635.	0.215	5.9
26	21.14	23,638.	0.3297	1	2,986.	1.362	7.9
27	21.51	31,478.	0.4391	2	5,347.	1.813	5.9
28	21.78	37,897.	0.5286	2	4,847.	2.183	7.8
29	22.14	64,090.	0.8940	2	7,689.	3.692	8.3
30	22.46	20,849.	0.2908	2	2,884.	1.201	7.2
31	22.76	3,189.	0.0445	2	382.	0.184	8.3
32	22.98	15,342.	0.2140	2	2,387.	0.884	6.4
33	23.75	8,331.	0.1162	1	1,037.	0.480	8.0
34	24.10	6,349.	0.0886	1	1,134.	0.366	5.6
35	24.30	1,798.	0.0251	1	257.	0.104	7.0
36	24.87	24,175.	0.3372	1	3,777.	1.393	6.4
37	25.28	7,331.	0.1023	1	1,065.	0.422	6.9
38	25.58	10,360.	0.1445	1	1,750.	0.597	5.9
39	26.12	21,157.	0.2951	1	3,374.	1.219	6.3
40	26.69	17,618.	0.2458	1	2,001.	1.015	8.8
41	27.25	1,348.	0.0188	1	226.	0.078	6.0
42	27.72	6,687.	0.0933	2	817.	0.385	8.2
43	28.01	1,844.	0.0257	2	273.	0.106	6.8
44	29.12	2,100.	0.0293	1	350.	0.121	6.0
45	29.51	1,735,817.	24.2139	2	321,183.	100.000	5.4
46	29.74	960,818.	13.4030	2	170,351.	55.353	5.6
47	30.09	78,576.	1.0961	2	14,294.	4.527	5.5

51	33.58	279,378.	3.8972	2	53,212.	16.095	5.3
52	33.95	148,076.	2.0656	2	24,460.	8.531	6.1
53	34.12	70,465.	0.9830	2	12,929.	4.059	5.5
54	34.95	177,974.	2.4827	2	33,549.	10.253	5.3
55	35.39	445,686.	6.2171	2	82,587.	25.676	5.4
56	35.74	17,306.	0.2414	2	2,937.	0.997	5.9
57	35.97	33,870.	0.4725	2	5,968.	1.951	5.7
58	36.37	3,238.	0.0452	2	527.	0.187	6.1
59	36.47	3,435.	0.0479	2	614.	0.198	5.6
60	36.97	48,282.	0.6735	2	9,143.	2.781	5.3
61	37.27	4,961.	0.0692	2	586.	0.286	8.5
62	37.63	168,868.	2.3556	2	29,074.	9.728	5.8
63	37.91	98,507.	1.3741	2	15,912.	5.675	6.2
64	38.01	200,646.	2.7989	2	35,480.	11.559	5.7
65	38.33	16,160.	0.2254	2	2,643.	0.931	6.1
66	38.44	14,260.	0.1989	2	2,343.	0.822	6.1
67	38.81	82,813.	1.1552	2	10,841.	4.771	7.6
68	39.19	103,900.	1.4494	2	19,921.	5.936	5.2
69	39.51	29,913.	0.4173	2	5,098.	1.723	5.9
70	39.66	11,988.	0.1672	2	1,573.	0.691	7.6
71	39.85	85,820.	1.1972	2	14,859.	4.944	5.8
72	40.45	90,951.	1.2687	2	15,248.	5.240	6.0
73	40.71	88,020.	1.2278	2	16,540.	5.071	5.3
74	40.97	11,011.	0.1536	2	1,812.	0.634	6.1
75	41.18	4,971.	0.0693	2	836.	0.286	5.9
76	41.40	5,912.	0.0825	2	820.	0.341	7.2
77	41.53	5,546.	0.0774	2	858.	0.319	6.5
78	41.73	881.	0.0123	2	193.	0.051	4.6
79	41.97	74,183.	1.0348	2	12,314.	4.274	6.0
80	42.25	34,319.	0.4787	2	6,470.	1.977	5.3
81	42.57	91,467.	1.2759	3	17,782.	5.269	5.1
82	42.77	7,199.	0.1004	4	1,266.	0.415	5.7
83	43.17	4,101.	0.0572	2	549.	0.236	7.5
84	43.34	10,735.	0.1497	2	1,681.	0.618	6.4
85	43.55	29,197.	0.4073	2	4,228.	1.682	6.9
86	43.69	15,557.	0.2170	2	2,645.	0.896	5.9
87	43.90	2,511.	0.0350	2	407.	0.145	6.2
88	44.10	19,671.	0.2744	2	2,161.	1.133	9.1
89	44.84	25,789.	0.3598	1	5,092.	1.486	5.1
90	45.31	1,906.	0.0266	2	295.	0.110	6.5
91	45.52	7,782.	0.1086	2	1,280.	0.448	6.1
92	45.67	3,752.	0.0523	2	666.	0.216	5.6
93	46.06	10,163.	0.1418	1	1,846.	0.585	5.5
94	46.66	5,914.	0.0825	1	876.	0.341	6.8
95	46.99	5,321.	0.0742	1	716.	0.307	7.4
96	47.49	6,454.	0.0900	1	742.	0.372	8.7
97	48.63	4,396.	0.0613	1	880.	0.253	5.0
98	49.50	11,121.	0.1551	1	2,005.	0.641	5.5

Total Area: 7,168,689. Area Reject: 1

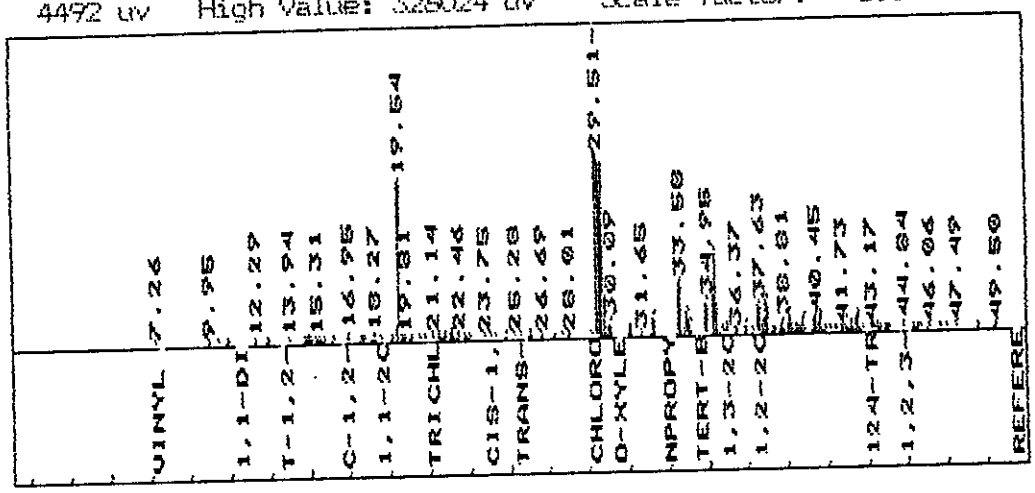
****
* Sample Name: W207188-02 602 STRAIGHT Operator: MO *
* Data File Name: A:BJL1613.ATB 2:30 AM *
* Date Taken: 07-17-1992 ~~09:47:57~~ Original Method:BCOL *
* Interface: 8 Cycle#: 13 Channel#: 1 Vial#: N.A. *
****
AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1
SAMPLE WEIGHT = 1

****** INTERNAL STANDARD TABLE ******

ORIGINAL RECORDED DATA USED FOR THIS TABLE.
Data File Name: A:BJL1613.ATB Sample Name: W207188-02 602 STRAIGHT
Area reject: 1 Sample Amount: 1
Amount injected: 1.00000 Dilution factor: 1.00000
Internal Standard Amount: 10
Sample Weight = 1

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in PPB	NORMALIZED CONC%	AREA	AREA/ HEIGHT	HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
1	7.265	VINYL CHLORIDE	~~2.2765~~	0.5075%	2,546.	372.	6.8	1	NA	NA	-1.805	8.9417E-04
7	13.945	T-1,2-DICHLOROETHE	~~0.7591~~	0.1692%	7,677.	1,020.	7.5	1	NA	NA	.8454	9.8881E-05
15	16.951	C-1,2-DCL-ETHENE	~~5.7698~~	1.2863%	28,826.	5,277.	5.5	1	NA	NA	.5946	2.0016E-04
19	18.570	1,1-DCL-PROPENE	~~0.5131~~	0.1144%	2,126.	335.	6.3	2	NA	NA	-.5366	2.4137E-04
21	19.539	BENZENE	80.2479	17.8895%	975,253.	159,389.	6.1	3	NA	NA	.4291	8.2284E-05
26	21.142	TRICHLOROETHENE	~~3.7508~~	0.8362%	23,638.	2,986.	7.9	1	NA	NA	0	1.5865E-04
27	21.510	surrogate	8.8357	1.9697%	31,478.	5,347.	5.9	2	NA	NA	.2334	2.8070E-04
34	24.098	CIS-1,3-DCLPROPENE	~~3.7483~~	0.8802%	6,349.	1,134.	5.6	1	NA	NA	.1387	6.2191E-04
36	24.866	TOLUENE	1.9975	0.4453%	24,175.	3,777.	6.4	1	NA	NA	0	8.2625E-05
38	25.584	TRANS-1,3-2CLPROPE	~~8.4950~~	1.9383%	10,360.	1,750.	5.9	1	NA	NA	-.1303	8.3931E-04
40	26.687	TETRACHLOROETHENE	~~3.1810~~	0.7091%	17,618.	2,001.	8.8	1	NA	NA	0	1.8056E-04
44	29.125	CHLOROBENZENE	~~0.1652~~	0.0368%	2,100.	350.	6.0	1	NA	NA	-.6833	7.8660E-05
45	29.509	ETHYLBENZENE	148.0754	33.0101%	1,735,817.	321,183.	5.4	2	NA	NA	0	8.5306E-05
46	29.743	M,P-XYLENE	69.1721	15.4204%	960,818.	170,351.	5.6	2	NA	NA	0	7.1993E-05
47	30.093	1-CL-2-FL-BENZENE	10.0000	0.0000%	78,576.	14,294.	5.5	2	NA	NA	1.980	1.2727E-04
48	31.112	O-XYLENE	3.8778	0.8645%	42,551.	7,995.	5.3	1	NA	NA	1.982	9.1133E-05
50	32.281	ISOPROPYLBENZENE	~~11.7949~~	2.6292%	108,437.	19,831.	5.5	1	NA	NA	1.931	1.0876E-04
51	33.584	NPROPYL;BROMOBENZE	~~23.7787~~	5.3009%	279,378.	53,212.	5.3	2	NA	NA	1.683	8.5113E-05
53	34.118	135-TMB;2CLTOLUENE	~~4.9647~~	1.1068%	70,465.	12,929.	5.5	2	NA	NA	1.937	7.0456E-05
55	35.387	124-3METHYL-BENZEN	~~35.8271~~	7.9869%	445,686.	82,587.	5.4	2	NA	NA	1.893	8.0387E-05
57	35.972	SEC-BUTYLBENZENE	~~3.8619~~	0.8609%	33,870.	5,968.	5.7	2	NA	NA	1.895	1.1402E-04
59	36.473	P-ISOPROPYLTOLUENE	~~0.3826~~	0.0852%	3,435.	614.	5.6	2	NA	NA	1.897	1.1120E-04
60	36.974	1,4-DCL-BENZENE	~~4.8849~~	1.0890%	48,282.	9,143.	5.3	2	NA	NA	1.578	1.0118E-04
63	37.909	N-BUTYLBENZENE	~~10.2642~~	2.2882%	98,507.	15,912.	6.2	2	NA	NA	2.037	1.0420E-04
65	38.327	1,2-DCL-BENZENE	~~1.9312~~	0.4305%	16,160.	2,643.	6.1	2	NA	NA	1.948	1.1950E-04
87	43.904	124-TRICHLOROBENZE	~~0.4112~~	0.0917%	2,511.	407.	6.2	2	NA	NA	1.689	1.6377E-04
88	44.105	6CL-BUTADIENE	~~3.4191~~	0.8068%	19,671.	2,161.	9.1	2	NA	NA	1.042	1.8398E-04
89	44.840	NAPHTHALENE	~~4.0465~~	1.0804%	25,789.	5,092.	5.1	1	NA	NA	1.847	1.8793E-04
92	45.675	1,2,3-3CL-BENZENE	~~0.7456~~	0.1662%	3,752.	666.	5.6	2	NA	NA	1.776	1.9873E-04
		TOTAL AMOUNT =	448.5765	ES								

Data File = A:BOL1613.PTS Printed on 07-22-1992 at 11:48:38
Start time: 0.00 min. Stop time: 51.00 min. Offset: 0 mv.
Low Value: 4492 uv High Value: 326024 uv Scale factor: 1.0



****
* Operator: MD *
* Sample Name: BLANK *
* Data File Name: A:AJL163.ATB 10:40 [handwritten initials] *
* Date Taken: 07-16-1992 ~~12:50:00~~ Original Method:ACOL *
* Interface: 8 Cycle#: 3 Channel#: 0 Vial#: N.A. *
****
AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1
SAMPLE WEIGHT = 1

********* AREA PERCENT REPORT *********

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	5.96	7,853.	1.5508	1	1,089.	3.335	7.2
2	7.25	1,574.	0.3109	1	170.	0.669	9.3
3	11.07	235,440.	46.4952	1	20,989.	100.000	11.2
4	13.21	94,223.	18.6074	1	9,949.	40.020	9.5
5	21.48	3,507.	0.6926	1	477.	1.490	7.3
6	25.92	96,388.	19.0349	1	13,700.	40.939	7.0
7	30.11	67,390.	13.3083	1	11,678.	28.623	5.8

Total Area: 506,375. Area Reject: 1

****
* Sample Name: BLANK Operator: MD *
* Data File Name: A:AJL163.ATB 10:40 dd *
* Date Taken: 07-16-1992 ~~12:50:00~~ Original Method:ACOL *
* Interface: 8 Cycle#: 3 Channel#: 0 Vial#: N.A. *
****
AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1
SAMPLE WEIGHT = 1

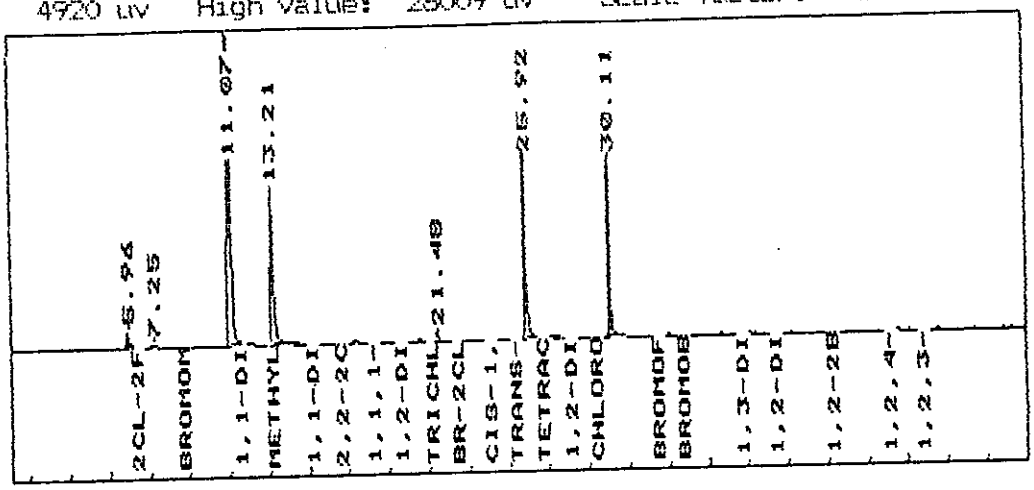
****** INTERNAL STANDARD TABLE ******

ORIGINAL RECORDED DATA USED FOR THIS TABLE.
Data File Name: A:AJL163.ATB Sample Name: BLANK
Area reject: 1 Sample Amount: 1
Amount injected: 1.00000 Dilution factor: 1.00000
Internal Standard Amount: 10
Sample Weight = 1

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in PPB	NORMALIZED CONC%	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
2	7.248	VINYL CHLORIDE	~~0.1697~~	1.0420%	1,574.	170.	9.3	1	NA	NA	-2.690	6.9705E-05
4	13.210	METHYLENE CHLORIDE	2.4568	23.3298%	94,223.	9,949.	9.5	1	NA	NA	.2534	2.6074E-05
5	21.476	1,2-DCLPROPANE	0.1658	1.5744%	3,507.	477.	7.3	1	NA	NA	-1.304	4.7276E-05
6	25.918	2BR-1CL-PROPANE	10.0000	0.0000%	96,383.	13,700.	7.0	1	NA	NA	0	1.0375E-04
7	30.110	surrogate	7.7983	74.0538%	67,390.	11,678.	5.8	1	NA	NA	-.1108	1.1572E-04
		TOTAL AMOUNT =	10.5305									

ES

Data File = A:AJL163.PTS Printed on 07-22-1992 at 11:41:44
Start time: 0.00 min. Stop time: 51.00 min. Offset: 0 mv.
Low Value: 4920 uv High Value: 26009 uv Scale factor: 1.0



****
* Sample Name: BLANK Operator: MD *
* Data File Name: A:BDL163.ATB 10:40 BS *
* Date Taken: 07-16-1992 ~~12:56:00~~ Original Method:BDDL *
* Interface: 8 Cycle#: 3 Channel#: 1 Vial#: N.A. *
****

AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1
SAMPLE WEIGHT = 1

******** AREA PERCENT REPORT ********

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	5.91	1,112.	0.7577	1	230.	1.289	4.8
2	21.46	39,213.	26.7150	1	6,657.	45.456	5.9
3	24.85	2,941.	2.0035	1	517.	3.409	5.7
4	29.73	2,803.	1.9093	1	510.	3.249	5.5
5	30.08	86,267.	58.7717	1	17,040.	100.000	5.1
6	34.10	1,264.	0.8608	1	250.	1.465	5.1
7	37.07	952.	0.6485	1	198.	1.103	4.8
8	37.36	6,615.	4.5068	1	800.	7.668	8.3
9	38.28	1,459.	0.9939	1	274.	1.691	5.3
10	44.84	2,898.	1.9745	1	491.	3.360	5.9
11	45.69	1,260.	0.8581	1	239.	1.460	5.3

Total Area: 146,783. Area Reject: 1

****
* Sample Name: BLANK Operator: MD *
* Data File Name: A:BJL163.ATB 10:40 dd *
* Date Taken: 07-16-1992 ~~12:50:00~~ Original Method:BCCL *
* Interface: 8 Cycle#: 3 Channel#: 1 Vial#: N.A. *
****
AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1
SAMPLE WEIGHT = 1

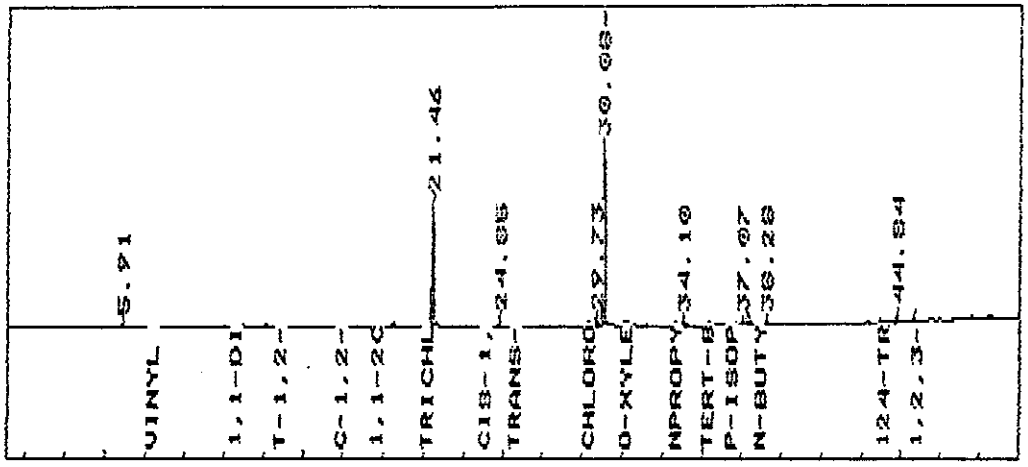
****** INTERNAL STANDARD TABLE ******

ORIGINAL RECORDED DATA USED FOR THIS TABLE.
Data File Name: A:BJL163.ATB Sample Name: BLANK
Area reject: 1 Sample Amount: 1
Amount injected: 1.00000 Dilution factor: 1.00000
Internal Standard Amount: 10
Sample Weight = 1

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in PPB	NORMALIZED CONC%	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
2	21.459	surrogate	10.0257	87.3129%	39,213.	6,657.	5.9	1	NA	NA	0	2.5567E-04
3	24.850	TOLUENE	~~0.2213~~	1.9275%	2,941.	517.	5.7	1	NA	NA	0	7.5258E-05
4	29.726	M,P-XYLENE	~~0.1838~~	1.6005%	2,803.	510.	5.5	1	NA	NA	-.0561	6.5574E-05
5	30.077	1-CL-2-FL-BENZENE	10.0000	0.0000%	86,267.	17,040.	5.1	1	NA	NA	-.1109	1.1592E-04
6	34.101	135-TMB;2CLTOLUENE	~~0.0811~~	0.7062%	1,264.	250.	5.1	1	NA	NA	-.1467	6.4174E-05
7	37.074	1,4-2CL-BENZENE	~~0.0877~~	0.7640%	952.	198.	4.8	1	NA	NA	-.1798	9.2154E-05
9	39.276	1,2-2CL-BENZENE	~~0.1583~~	1.3830%	1,459.	274.	5.3	1	NA	NA	-.2176	1.0885E-04
10	44.840	NAPHTHALENE	~~0.4761~~	4.3205%	2,898.	491.	5.9	1	NA	NA	-.1858	1.7117E-04
11	45.691	1,2,3-3CL-BENZENE	~~0.2290~~	1.9855%	1,260.	239.	5.3	1	NA	NA	-.2188	1.8101E-04

TOTAL AMOUNT = 11.4825 ES

Data File = A:BDL163.PTS Printed on 07-22-1992 at 11:47:16
Start time: 0.00 min. Stop time: 51.00 min. Offset: 0 mv.
Low Value: 4487 uv High Value: 21614 uv Scale factor: 1.0



Laboratory Resources INC
363 Old Hook Road Westwood, New Jersey 07675 201/ 666-6644

LABORATORY ANALYSIS REPORT

Client: Subsurface Investigations, Inc.

Contact: Mr. Tom Larison

Project: Swivelier - Nanuet, NY

Lab ID No.:	Sample Reference	Matrix	Collection Date & Time	
W204052-01	2N-41	Aqueous	4/1/92	17:03
W204052-02	3N-41	Aqueous	4/1/92	18:09
W204052-03	Trip Blank	Aqueous	--	--

Date Received: April 2, 1992

Date of Report: April 14, 1992

Tara A. Weiss
Laboratory Manager

N.J. Certification #02046
N.Y. Certification #10588

Laboratory Resources INC

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CASE NARRATIVE

Laboratory Resources, Westwood, received two aqueous samples plus a trip blank for Reduced Deliverables Format on April 2, 1992. The samples were analyzed for the parameters outlined in the chain of custody.

The samples were analyzed within the recommended holding times. Any parameters which were outside of their respective quality control ranges are noted in the non-conformance summary.

Please contact us if there are any questions regarding the enclosed results.

LABORATORY DELIVERABLES

THIS FORM MUST BE COMPLETED BY THE LABORATORY OR
ENVIRONMENTAL CONSULTANT AND ACCOMPANY ALL DATA SUBMISSIONS

The following laboratory deliverables shall be included in the data submission. All deviations from the accepted methodology and procedures, or performance values outside acceptable ranges shall be summarized in the Nonconformance Summary. The document shall be bound and paginated, contain a Table of Contents, and all pages shall be legible. Incomplete packages may be returned or held without review until the data package is completed.

		CHECK IF COMPLETE
I.	Cover Page, Format, and Laboratory Certification (Include Cross Reference Table of Field I.D. # and Laboratory I.D.)	✓
II.	Chain of Custody	✓
III.	Summary Sheets Listing Analytical Results Including QA Data Information (see Attached Form and ESPG Attachment 2.8.2.C)	N/A
IV.	Laboratory Chronicle and Methodology Summary including Sample Holding Time Check	✓
V.	Initial Calibration and Continuing Calibration	✓
VI.	Tune Summary (MS)	N/A
VII.	Blanks (Method, Field, Trip)	✓
VIII.	Surrogate Recovery Summary	✓
IX.	Chromatograms Labelled/Compound Identification	✓
X.	Nonconformance Summary	✓

Laboratory Manager or Environmental Consultant's Signature

4/15/92
Date

PROJECT SUMMARY REPORT
FOR
ALL ORGANIC ANALYSIS

SAMPLES AND CONCENTRATIONS

Lab Work Order # - W204052 - (Sample no.)

COMPOUNDS	2N-41	3N-41	TB	
	01	02	03	
UNITS	UG/L	UG/L	UG/L	
VOLATILES:				
BENZENE	366			
ETHYLBENZENE	1340	44.9		
TOLUENE	215	6.2		
TOTAL XYLENES	2480	101		

B : COMPOUND ALSO PRESENT IN BLANK.

NOTE : IF NO ENTRY IS MADE THEN SAMPLE IS NONE DETECTED.

LABORATORY RESOURCES, INC.

LABORATORY CHRONICLES

Sample Number W2040520	2N-41 01	3N-41 02	DB 03							
Received & Refrigerated Date	PM 4/2/92	→	→							
Organics Extraction Date:										
Petroleum Hydrocarbons										
Base/Neutrals										
PCBs/Pesticides										
Herbicides										
Analysis Date:										
Petroleum Hydrocarbons										
Volatiles	MR 4/8	4/8	4/8							
Base/Neutrals										
PCBs/Pesticides										
Herbicides										
Metals										
Total Solids										
Corrosivity										
Organic Supervisor Review & Approval	BS 4/14/92		→							
Inorganic Supervisor Review & Approval										

ORGANIC NON-CONFORMANCE SUMMARY

1. The quantitation limits are elevated due to the dilution required for samples 2N-41 and 3N-41 (W204052-01 and 02).

Laboratory Resources INC
363 Old Hook Road Westwood, New Jersey 07675 201/666-6644

METHODS SUMMARY

PURGEABLE HALOCARBONS/AROMATICS BY METHOD 602/8020

Method 602 and 8020 are based on the gas chromatographic analysis of five milliliters of aqueous sample or approximately 5 grams of solid waste, respectively, for purgeable aromatics. The samples are purged, trapped and desorbed onto a column using a temperature ramping program. A Hall electrolytic conductivity detector in series with a photoionization detector (PID) is used for detection of these compounds.

TOTAL SOLIDS (TOTAL RESIDUE)

The total solids analysis is performed according to Method 209A cited in the 16th Edition of Standard Methods for the Examination of Water and Wastewater. A well mixed aliquot of the sample is quantitatively transferred to a pre-condition evaporating dish and evaporated to a constant weight at 98 C. The evaporated sample is then dried to a constant weight at 103-105 C in a drying oven. The dried residue remaining in the evaporating dish represents the total solids and is reported as a percent.

LABORATORY RESOURCES, INC.
563 OLD HOOK ROAD
WESTWOOD, NJ 07675
LAB CERTIFICATION: NJ 02046
NY 10588

WORK ORDER #: W204052
DATE COLLECTED: 04/01/92
DATE RECEIVED: 04/02/92
DATE ANALYZED: 04/08/92
DILUTION FACTOR: 10.0
ANALYST: MONICA ES

PARAMETER	CLIENT ID.> 2N-41 SAMPLE ID.> 01	MDL
BENZENE	366	5.0
CHLOROBENZENE	ND	5.0
1,2-DICHLOROBENZENE	ND	5.0
1,3-DICHLOROBENZENE	ND	5.0
1,4-DICHLOROBENZENE	ND	5.0
ETHYLBENZENE	1340	5.0
TOLUENE	215	5.0
TOTAL XYLENES	2480	10.0
% SURROGATE RECOVERY	86.10%	

MDL=MINIMUM DETECTION LIMIT
ND=NOT DETECTED AT MDL

% SURROGATE RECOVERY RANGE FOR @,@,@-TRIFLUOROTOLUENE = (80-125)

* SOME PARAMETERS MAY BE RUN AT VARIOUS DILUTIONS
TO BE QUANTIFIED IN RANGE

ALL RESULTS EXPRESSED IN UG/L
METHOD 602

LABORATORY RESOURCES, INC.
563 OLD HOOK ROAD
WESTWOOD, NJ 07675
LAB CERTIFICATION: NJ 02046
NY 10588

WORK ORDER #: W204052
DATE COLLECTED: 04/01/92
DATE RECEIVED: 04/02/92
DATE ANALYZED: 04/08/92
DILUTION FACTOR: 10.0
ANALYST: MONICA ES

PARAMETER	CLIENT ID.> 3N-41 SAMPLE ID.> 02	MDL
BENZENE	ND	5.0
CHLOROBENZENE	ND	5.0
1,2-DICHLOROBENZENE	ND	5.0
1,3-DICHLOROBENZENE	ND	5.0
1,4-DICHLOROBENZENE	ND	5.0
ETHYLBENZENE	44.9	5.0
TOLUENE	6.2	5.0
TOTAL XYLENES	101	10.0
% SURROGATE RECOVERY	103.15%	

MDL=MINIMUM DETECTION LIMIT
ND=NOT DETECTED AT MDL

% SURROGATE RECOVERY RANGE FOR @,@,@-TRIFLUOROTOLUENE = (80-125)

* SOME PARAMETERS MAY BE RUN AT VARIOUS DILUTIONS
TO BE QUANTIFIED IN RANGE

ALL RESULTS EXPRESSED IN UG/L
METHOD 602

LABORATORY RESOURCES, INC.
363 OLD HOOK ROAD
WESTWOOD, NJ 07675
LAB CERTIFICATION: NJ 02046
NY 10588

WORK ORDER #: W204052

DATE RECEIVED: 04/02/92
DATE ANALYZED: 04/08/92
DILUTION FACTOR: 1.0
ANALYST: MONICA ES

PARAMETER	CLIENT ID.> TRIP BLANK SAMPLE ID.> 03	MDL
BENZENE	ND	0.50
CHLOROBENZENE	ND	0.50
1,2-DICHLOROBENZENE	ND	0.50
1,3-DICHLOROBENZENE	ND	0.50
1,4-DICHLOROBENZENE	ND	0.50
ETHYLBENZENE	ND	0.50
TOLUENE	ND	0.50
TOTAL XYLENES	ND	1.0
% SURROGATE RECOVERY	104.96%	

MDL=MINIMUM DETECTION LIMIT
ND=NOT DETECTED AT MDL

% SURROGATE RECOVERY RANGE FOR @,@,@-TRIFLUOROTOLUENE = (80-125)

* SOME PARAMETERS MAY BE RUN AT VARIOUS DILUTIONS
TO BE QUANTIFIED IN RANGE

ALL RESULTS EXPRESSED IN UG/L
METHOD 602

WORK ORDER #: W204052

LABORATORY RESOURCES, INC.
63 OLD HOOK ROAD
WESTWOOD, NJ 07675
LAB CERTIFICATION: NJ 02046
NY 10588

DATE ANALYZED: 04/08/92
DILUTION FACTOR: 1.0
ANALYST: MONICA ES

PARAMETER	SAMPLE ID.> BLANK	MDL
BENZENE	ND	0.50
CHLOROBENZENE	ND	0.50
1,2-DICHLOROBENZENE	ND	0.50
1,3-DICHLOROBENZENE	ND	0.50
1,4-DICHLOROBENZENE	ND	0.50
ETHYLBENZENE	ND	0.50
TOLUENE	ND	0.50
TOTAL XYLENES	ND	1.0
SURROGATE RECOVERY	106.93%	

MDL=MINIMUM DETECTION LIMIT
ND=NOT DETECTED AT MDL

% SURROGATE RECOVERY RANGE FOR @,@,@-TRIFLUOROTOLUENE = (80-125)

* SOME PARAMETERS MAY BE RUN AT VARIOUS DILUTIONS
TO BE QUANTIFIED IN RANGE

ALL RESULTS EXPRESSED IN UG/L
METHOD 602

LABORATORY RESOURCES, INC.

SPIKE / SPIKE DUPLICATE RECOVERY
(FOR REGULATED COMPOUNDS)

TRACOR 9000

DATE: APRIL 8, 1992
SAMPLE ID. #: BLANK SPIKES

COMPOUND	SPIKE AMOUNT (UG/L)	SAMPLE CONC. (UG/L)	SPIKE (UG/L)	% RECOVERY	SPIKE DUP. (UG/L)	% RECOVERY	RPD	CONTROL LIMITS FOR % RECOVERY
BENZENE	10.00	0.00	8.79	87.94%	9.36	93.64%	6.28	11.5-131.5
CARBON TETRACHLORIDE	10.00	0.00	6.94	69.36%	7.10	70.95%	2.27	51.0-85.0
CHLOROBENZENE	10.00	0.00	8.37	83.65%	8.96	89.63%	6.89	60.0-109.2
1,2-DICHLOROBENZENE	10.00	0.00	8.05	80.46%	8.80	87.95%	8.90	51.7-110.3
1,3-DICHLOROBENZENE	10.00	0.00	8.11	81.07%	8.62	86.18%	6.10	51.2-111.3
1,4-DICHLOROBENZENE	10.00	0.00	8.00	79.99%	8.52	85.19%	6.30	44.7-107.4
1,2-DICHLOROETHANE	10.00	0.00	7.94	79.35%	8.65	86.46%	8.57	50.1-98.9
1,1-DICHLOROETHENE	10.00	0.84	5.71	57.15%	5.64	56.40%	1.31	49.2-107.4
CIS-1,2-DICHLOROETHENE	10.00	0.00	7.19	71.91%	7.91	79.07%	9.48	0.00-175.2
TRANS-1,2-DICHLOROETHENE	10.00	0.00	7.45	74.48%	8.08	80.81%	8.14	56.6-103.7
METHYLENE CHLORIDE	10.00	1.97	10.17	101.69%	10.68	106.75%	4.86	0.00-161.7
1,2,4-TRICHLOROBENZENE	10.00	0.00	7.76	77.63%	8.46	84.63%	8.63	53.6-106.8
1,1,1-TRICHLOROETHANE	10.00	0.00	8.00	79.98%	7.83	78.30%	2.13	50.8-109.8
TRICHLOROETHENE	10.00	0.00	7.54	75.44%	8.45	84.49%	11.32	49.3-109.1
TETRACHLOROETHENE	10.00	0.00	9.25	92.51%	9.77	97.75%	5.51	48.5-119.9
M,P-XYLENE	20.00	0.20	18.78	93.90%	20.08	100.42%	6.71	60.4-103.9
O-XYLENE	10.00	0.00	9.73	97.26%	10.37	103.67%	6.38	58.0-104.9
VINYL CHLORIDE	10.00	0.49	3.05	30.50%	3.69	36.90%	18.99	0.00-134.6
1-CL-2-FL-BENZENE (SURROGATE)	10.00	8.20	8.34	83.43%	8.37	83.72%	0.34	58.0-116.7
B,B,B-TRIFLUOROTOLUENE (SURROGATE)	10.00	10.69	10.32	103.24%	10.43	104.26%	0.99	91.9-108.7

* ACCEPTABLE RANGE FOR RPD IS 0-20 %

Subsurface Investigations Inc.

Environmental Engineers/Consultants
331 Route 9W Congers, New York 10920
914/268-6660 Fax: 914/268-2065

CHAIN OF CUSTODY RECORD

W204052

PROJECT NO.

COMPANY: SWINGLICK

FACILITY/SITE: 33 RT 3+4

ADDRESS: NANUET, N.Y.

DATE 4/1/92

ATTN: TOM LARISON

STA NO	MATRIX CODE	TIME	COMP	GRAB	STATION LOCATION	NO OF CONT.	ANALYSES: BTEX	REMARKS
01	4	1703			MW-2N-41 P	1	X	
02	4	1809			3N-41 P	1	X	TIER II DELIVERABLES
					Trip Blank P		X	

MATRIX CODE
1. AIR 2. SOIL 3. SLUDGE 4. WATER 5. MISC. SOLID 6. MISC. LIQUID

SAMPLED BY: (SIGNATURE) T. LARISON

RELINQUISHED BY: (SIGNATURE) DATE / TIME 4/2/92 11:20

RECEIVED BY: (SIGNATURE) DATE / TIME

RELINQUISHED BY: (SIGNATURE) DATE / TIME

RECEIVED BY: (SIGNATURE) DATE / TIME

RELINQUISHED BY: (SIGNATURE) DATE / TIME

RECEIVED BY: (SIGNATURE) DATE / TIME

RECEIVED FOR LABORATORY BY: (SIGNATURE) DATE / TIME

REMARKS

012

LABORATORY RESOURCES, INC.
GC VOLATILE RUN LOG

DATE 4/8/92

FILE NAME VA808

Shaca 9000

	SAMPLE ID #	FILE #	ANALYSES	DILUTION	DATE/TIME	COMMENTS
	Std	1		10PPB	815	passed
	Std	2		10PPB	920	
	Blank	3			1025	
	Spike	4		10PPB	1130	Blk
	Spike Dup.	5		10PPB	1240	Blk
	034-01	6	602	1/50	1345	re-run
	031-03	7	602	1/2	1450	re-run
	041-26	8	THM	1/2	1555	re-run
	106-01	9	602	1/2	1700	
	106-02	10	602	1/2	1805	
	106-03	11	602	1/2	1910	
	052-03	12	602	STR	2015	Trip Blk
	052-01	13	602	1/10	2120	
	052-02	14	602	1/10	2225	
	011-05	15	602	STR	2330	Trip Blk
	011-04	16	602	STR	135	Field Blk
	045-03	17	601/602	STR	240	Trip Blk
	045-02	18	601/602	STR	345	Field Blk
	045-01	19	601/602	1/250	450	
		20				

SIGNATURE

015

LABORATORY RESOURCES, INC.
364 OLD HOOK ROAD
WESTWOOD, N.J. 07675
LAB CERTIFICATION NO. 02046

DATE OF ANALYSIS: 04/08/92
GC ID #: TRACOR 9000
ANALYST: MONICA

CLIENT: SUBSURFACE
WORK ID#: W204052

TIME CHRONICLE FOR VOLATILE ANALYSIS

SAMPLE ID. #	TIME	MISCELLANEOUS
CONTINUING STANDARD	8:15 A.M.	10 PPB
BLANK	10:25 A.M.	
BLANK SPIKE	11:30 A.M.	10 PPB
BLANK SPIKE DUPLICATE	12:40 P.M.	10 PPB
W204052-03	20:15 P.M.	STR
W204052-01	21:20 P.M.	10X
W204052-02	22:25 P.M.	10X

INITIAL CALIBRATION(HECD) DATE: APRIL 6, 1992
LABORATORY RESOURCES, INC.

TRACOR 9000

COMPOUND	RF 5.00	RF 10.00	RF 15.00	RF 20.00	RF 25.00	$\overline{RF}$	%RSD
2CL-2FL-METHANE	0.247688	0.394171	0.347739	0.418389	0.5465	0.390297	27.83356
CHLOROMETHANE	0.875674	0.926543	0.738031	0.731628	1.582672	0.97291	36.19314
VINYL CHLORIDE	1.310784	1.423239	1.643032	1.620592	1.51688	1.503507	9.155125
BROMOMETHANE	0.296754	1.379813	0.360437	0.418844	0.458643	0.583314	77.03164
CHLOROETHANE	1.296921	2.342611	1.356617	1.695274	1.154811	1.569247	30.31297
3CL-FL-METHANE	2.384735	1.897674	2.380486	2.618048	2.146505	2.12395	25.3829
1,1-DICHLOROETHENE	1.927764	2.012777	2.313357	2.310536	2.094747	2.1311	8.255936
METHYLENE CHLORIDE	11.32254	6.564932	5.601126	4.234486	3.839113	6.430439	45.27056
T-1,2-2CL-ETHENE	2.002804	2.017191	2.402365	2.44485	2.231901	2.219826	9.345772
1,1-DICHLOROETHANE	1.995723	2.126803	2.442993	2.432934	2.309892	2.261667	9.660130
2,2-DICHLOROPROPANE	0.516878	1.117252	1.651974	1.344508	1.519851	1.288099	35.38556
CIS-1,2-DICHLOROETHENE	2.117322	1.921273	2.716975	2.646242	2.465974	2.454757	9.536536
CHLOROFORM	3.152121	3.061134	3.460626	3.393996	3.164379	3.246451	5.281963
BROMODICHLOROMETHANE	1.226363	1.239736	1.54441	1.572526	1.399796	1.398966	11.43842
1,1,1-TRICHLOROETHANE	2.248101	2.548611	2.850743	2.805604	2.571674	2.612347	9.639257
1,1-DICHLOROPROPENE	1.443734	1.551485	1.840192	1.871021	1.665058	1.674298	10.95414
CARBON TETRACHLORIDE	2.416387	3.078831	3.501395	3.251801	2.962902	3.042256	12.62157
1,2-DICHLOROETHANE	1.404674	1.956	1.404481	1.327481	2.130495	2.157026	9.476660
TRICHLOROETHENE	2.206503	1.735771	2.688077	2.655098	2.350095	2.441106	5.177187
1,2-2CL-PROPANE	1.811816	1.91194	2.120441	2.151686	2.006173	2.012411	7.777092
BR-2CL-METHANE	1.846036	1.557276	1.83026	1.841826	1.759496	1.719439	8.014253
DIBROMOMETHANE	1.045001	1.257997	1.483569	1.457761	1.294422	1.30778	13.80131
CIS-1,3-2CLPROPENE	0.587787	1.308119	0.999030	0.886759	1.568615	0.964023	38.19412
TRANS-1,3-2CLPROPENE	0.244226	0.425412	0.517366	0.479212	0.581577	0.452703	31.26134
1,1,2-3CL-ETHANE	3.176724	[illegible]	3.004921	2.746417	2.592832	[illegible]	[illegible]
TETRACHLOROETHENE	1.128019	1.1865	2.816038	2.594469	2.478545	2.401993	[illegible]
1,3-DICHLOROPROPANE	1.494439	2.139162	2.395871	2.07738	2.480801	[illegible]	[illegible]
2BR-CL-METHANE	[illegible]	1.303674	1.30657	1.244757	1.41113	[illegible]	[illegible]
1,2-DIBROMOETHANE	0.809537	0.624154	0.775007	0.776529	0.967664	[illegible]	[illegible]
CHLOROBENZENE	0.746146	0.7673	0.849021	0.522099	0.882630	[illegible]	[illegible]
1,1,1,2-4CL-ETHANE	2.677517	2.838615	3.085927	2.667353	2.941907	2.831664	[illegible]
BROMOFORM	0.521795	0.460587	0.686049	[illegible]	0.789418	[illegible]	[illegible]
1,1,2,2-4CL-ETHANE	1.496533	1.499515	1.703348	1.606511	1.513647	[illegible]	[illegible]
1,2,3-3CL-PROPANE	1.64034	0.909935	1.190895	1.119486	1.081184	[illegible]	[illegible]
BROMOBENZENE	0.648007	[illegible]	0.767197	0.771801	0.73859	[illegible]	[illegible]
2-CHLOROTOLUENE	0.554531	0.671412	0.791004	[illegible]	[illegible]	[illegible]	[illegible]
4-CHLOROTOLUENE	0.823958	0.909092	0.992231	[illegible]	0.856135	[illegible]	[illegible]
1,3-DICHLOROBENZENE	1.142749	1.166753	1.321641	[illegible]	[illegible]	[illegible]	[illegible]
1,4-DICHLOROBENZENE	1.216297	1.355014	1.496475	[illegible]	[illegible]	[illegible]	[illegible]
1,2-DICHLOROBENZENE	1.131710	1.362566	1.357853	[illegible]	[illegible]	[illegible]	[illegible]
1,2-2BR-3-CL-PROPANE	0.26600	0.347293	0.350066	0.2887	[illegible]	[illegible]	[illegible]
1,2,4-3CL-BENZENE	1.29121	[illegible]	1.814092	[illegible]	[illegible]	[illegible]	[illegible]
3CL-BUTADIENE	1.840420	[illegible]	2.266686	[illegible]	[illegible]	[illegible]	[illegible]
1,2,3-3CL-BENZENE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

INITIAL CALIBRATION(PID) DATE: APRIL 6, 1992
LABORATORY RESOURCES, INC.

TRACOR 9000

COMPOUND	RF 5.00	RF 10.00	RF 15.00	RF 20.00	RF 25.00	$\overline{RF}$	%RSD
VINYL CHLORIDE	0.12222	0.143651	0.151112	0.148175	0.14887	0.142806	8.278618
1,1-DICHLOROETHENE	0.378665	0.390528	0.473673	0.479915	0.46112	0.43678	11.05772
T-1,2-DCL-ETHENE	0.973915	1.016826	1.081875	1.054449	1.142158	1.053844	6.065672
CIS-1,2-DICHLOROETHENE	0.424485	0.36904	0.478164	0.609191	0.475905	0.471357	18.59562
1,1-DICHLOROPROPENE	0.435485	0.403435	0.52403	0.526429	0.513685	0.480615	11.59399
BENZENE	1.394943	1.366196	1.530581	1.502159	1.520557	1.462887	5.230187
TRICHLOROETHENE	0.721301	0.756459	0.810542	0.784815	0.798086	0.776241	4.481866
CIS-1,3-DCLPROPENE	0.108224	0.137616	0.155	0.134157	0.150605	0.13712	13.37568
TOLUENE	1.334241	1.395879	1.491761	1.432841	1.474925	1.425929	4.448165
TRANS-1,3-DCLPROPENE	0.073625	0.122991	0.167222	0.10583	0.14557	0.123048	29.25547
TETRACHLOROETHENE	0.573319	0.675049	0.65645	0.628785	0.635236	0.633829	6.072122
CHLOROBENZENE	1.414439	1.423165	1.580494	1.47692	1.552091	1.489422	4.492663
ETHYLBENZENE	1.194177	1.245773	1.312124	1.262861	1.28306	1.259199	3.518042
M,P-XYLENE	2.927602	2.975986	3.129709	2.959429	3.012087	3.014957	2.176264
O-XYLENE	1.117392	1.131402	1.215267	1.164457	1.190725	1.163786	3.47874
STYRENE	1.506116	1.59026	1.622437	1.549145	1.599245	1.575635	3.023753
ISOPROPYLBENZENE	0.88803	0.94757	1.002477	0.952929	0.978875	0.953976	4.497477
N-PROPYLBENZ+BROMOBENZENE	2.573125	2.663737	2.840993	2.772435	2.783793	2.708818	3.82424
135-TMB/2-CLTOLUENE	2.928127	2.967131	3.213951	3.021902	3.132362	3.050293	3.910167
4-CL-TOLUENE	1.346058	1.41629	1.513993	1.47881	1.503744	1.444939	4.259905
TERT-BUTYL-BENZENE	0.818057	0.867772	0.962407	0.903735	0.95429	0.896472	7.549486
124-3METHYL-BENZENE	1.22367	1.231189	1.367113	1.289957	1.36538	1.316261	4.59330
SEC-BUTYL-BENZENE	0.736271	0.855634	0.967467	0.907972	0.946153	0.899899	7.284257
P-ISOPROPYLTOLUENE	0.861707	0.986019	1.020048	0.969975	1.017456	0.966441	6.564121
1,3-DCL-BENZENE	1.168422	1.140838	1.224081	1.220775	1.308808	1.216321	4.972751
1,4-DCL-BENZENE	1.113027	1.130951	1.199104	1.20185	1.282191	1.220903	5.298815
N-BUTYL-BENZENE	0.885272	0.98776	1.068547	1.04123	1.055498	0.999471	7.265019
1,2-DCL-BENZENE	0.927975	0.93077	1.04843	0.974266	1.052344	0.986697	5.31077
124-TRICHLOROBENZENE	0.645599	0.727607	0.764028	0.70001	0.781999	0.723915	7.479162
HCL-BUTADIENE	0.454589	0.560125	0.591097	0.530535	0.597764	0.546182	10.49822
NAPTHALENE	1.047948	1.056597	1.127418	1.018562	1.154914	1.081086	5.314201
1,2,3-TCL-BENZENE	0.694629	0.765607	0.904342	0.731666	0.828456	0.78257	7.459307

DAILY CALIBRATION(HECD)
LABORATORY RESOURCES,INC.

DATE: APRIL 8, 1992

TRACOR 9000

COMPOUND	$\overline{RF}$	RF	%DIFF
DCL-DFL-METHANE	0.390897	0.324854	16.89537
CHLOROMETHANE	0.97291	0.55542	42.91148
VINYL CHLORIDE	1.503507	1.032348	31.33736
BROMOMETHANE	0.583314	0.377475	35.28793
CHLOROETHANE	1.569247	0.822022	47.61678
TCL-FL-METHANE	2.12395	1.428332	32.75114
1,1-DICHLOROETHENE	2.1311	1.715934	19.48129
METHYLENE CHLORIDE	6.430439	2.366849	63.19303
T-1,2-DCL-ETHENE	2.219826	1.788983	19.40888
1,1-DICHLOROETHANE	2.261667	1.916984	15.24023
2,2-DICHLOROPROPANE	1.258099	1.248958	0.863117
CIS-1,2-DICHLOROETHENE	2.454757	2.036048	17.05703
CHLOROFORM	3.246451	2.799778	13.75882
BROMOCHLOROMETHANE	1.398966	1.222853	12.58881
1,1,1-TRICHLOROETHANE	2.612347	2.236046	14.4047
1,1-DICHLOROPROPENE	1.674298	1.505685	10.07067
CARBON TCHLORIDE	3.051258	2.448106	19.76734
1,2-DICHLOROETHANE	2.157026	1.73665	19.48868
TRICHLOROETHENE	2.441106	2.085474	14.56851
1,2-DCL-PROPANE	2.012411	1.732584	13.90505
BR-DCL-METHANE	1.713439	1.68005	1.948692
DIBROMOMETHANE	1.30775	1.08107	17.33362
CIS-1,3-DCLPROPENE	0.984923	0.675118	30.03401
TRANS-1,3-DCLPROPENE	0.452739	0.335226	25.95589
1,1,2-TCL-ETHANE	2.870338	2.270887	20.88433
TETRACHLOROETHENE	2.421893	2.138992	11.68697
1,3-DICHLOROPROPANE	2.119134	1.689424	20.27762
TBR-CL-METHANE	1.212284	1.072121	11.56189
1,2-DIBROMOETHANE	0.750584	0.691702	7.844783
CHLOROBENZENE	0.81308	0.789141	2.944255
1,1,1,2-TCL-ETHANE	2.881664	2.349042	18.48313
BROMOFORM	0.639301	0.628676	1.567924
1,1,2,2-TCL-ETHANE	1.562751	1.244143	20.38763
1,2,3-TCL-PROPANE	1.094362	0.881756	19.42741
BROMOBENZENE	0.723803	0.644738	10.92359
2-CHLOROTOLUENE	0.718789	0.66653	7.270491
4-CHLOROTOLUENE	0.907917	0.768532	15.35222
1,3-DICHLOROBENZENE	1.229139	1.145634	6.793755
1,4-DICHLOROBENZENE	1.369273	1.23398	9.887925
1,2-DICHLOROBENZENE	1.213337	1.153408	4.939261
1,2-TBR-3-CL-PROPANE	0.228278	0.231186	1.273794
1,2,4-TCL-BENZENE	1.388187	1.319336	4.959746
HCL-BUTADIENE	2.088754	2.062462	1.258711
1,2,3-TCL-BENZENE	1.378046	1.269307	7.89081

DAILY CALIBRATION(PID) DATE: APRIL 8, 1992
LABORATORY RESOURCES,INC.

TRACOR 9000

COMPOUND	$\overline{RF}$	RF	%DIFF
VINYL CHLORIDE	0.142806	0.147941	3.596234
1,1-DICHLOROETHENE	0.43678	0.450829	3.216441
T-1,2-2CL-ETHENE	1.053844	1.036735	1.623473
CIS-1,2-DICHLOROETHENE	0.471357	0.508879	7.960329
1,1-DICHLOROPROPENE	0.480613	0.522539	8.723478
BENZENE	1.462887	1.522974	4.107393
TRICHLOROETHENE	0.776241	0.814027	4.867866
CIS-1,3-2CLPROPENE	0.13712	0.122817	10.43104
TOLUENE	1.425929	1.496671	4.961111
TRANS-1,3-2CLPROPENE	0.123048	0.09021	26.68853
TETRACHLOROETHENE	0.633829	0.649846	2.527004
CHLOROBENZENE	1.498422	1.492367	0.404148
ETHYLBENZENE	1.259199	1.383247	9.851322
M,P-XYLENE	3.014937	3.242392	7.54428
O-XYLENE	1.163768	1.168272	0.386986
STYRENE	1.575835	1.567419	0.534005
ISOPROPYLBENZENE	0.953976	1.004224	5.267208
N-PROPYLBEN;BROMOBENZENE	2.708818	2.762643	1.98702
135-TMB,2CLTOLUENE	3.053293	3.237608	6.036612
4-CL-TOLUENE	1.444939	1.421009	1.656123
TERT-BUTYL-BENZENE	0.896472	0.892902	0.398291
124-3METHYL-BENZENE	1.316262	1.393092	5.836964
SEC-BUTYL-BENZENE	0.899899	0.917899	2.00014
P-ISOPROPYLTOLUENE	0.966446	0.978354	1.232099
1,3-2CL-BENZENE	1.256221	1.245853	0.825305
1,4-2CL-BENZENE	1.223933	1.19993	1.961151
N-BUTYL-BENZENE	0.999471	1.016579	1.711642
1,2-2CL-BENZENE	0.996697	0.967923	2.886926
124-TRICHLOROBENZENE	0.723915	0.721333	0.356631
6CL-BUTADIENE	0.546182	0.596096	9.138666
NAPHTHALENE	1.081086	0.944392	12.64416
1,2,3-3CL-BENZENE	0.76287	0.742891	2.618976

Sample Name: W204052-01 602 1/10 Operator: MR

Data File Name: A:AAR0813.ATB

Date Taken: 04-08-1992 21:20:58 GS Original Method:ACOL

Interface: 8 Cycle#: 13 Channel#: 0 Vial#: N.A.

AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1

SAMPLE WEIGHT = 1

AREA PERCENT REPORT

Peak No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	5.73	8,698.	4.2838	1	1,461.	11.947	6.0
2	6.91	3,635.	1.7903	1	499.	4.993	7.3
3	10.82	26,232.	12.9190	1	2,339.	36.030	11.2
4	12.89	72,806.	35.8558	1	10,315.	100.000	7.1
5	16.53	1,840.	0.9063	1	327.	2.527	5.6
6	17.92	1,813.	0.8927	1	256.	2.490	7.1
7	25.45	54,747.	26.9620	1	7,616.	75.196	7.2
8	29.59	33,281.	16.3902	1	5,577.	45.712	6.0

Total Area: 203,053. Area Reject: 1

Sample Name: W204052-01 602 1/10 Operator: MR

Data File Name: A:AAR0813.ATB

Date Taken: 04-08-1992 21:20:58 Original Method:ACOL

Interface: 8 Cycle#: 13 Channel#: 0 Vial#: N.A.

AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1

SAMPLE WEIGHT = 1

INTERNAL STANDARD TABLE

ORIGINAL RECORDED DATA USED FOR THIS TABLE.

Data File Name: A:AAR0813.ATB Sample Name: W204052-01 602 1/10

Area reject: 1 Sample Amount: 1

Amount injected: 1.00000 Dilution factor: 1.00000

Internal Standard Amount: 10

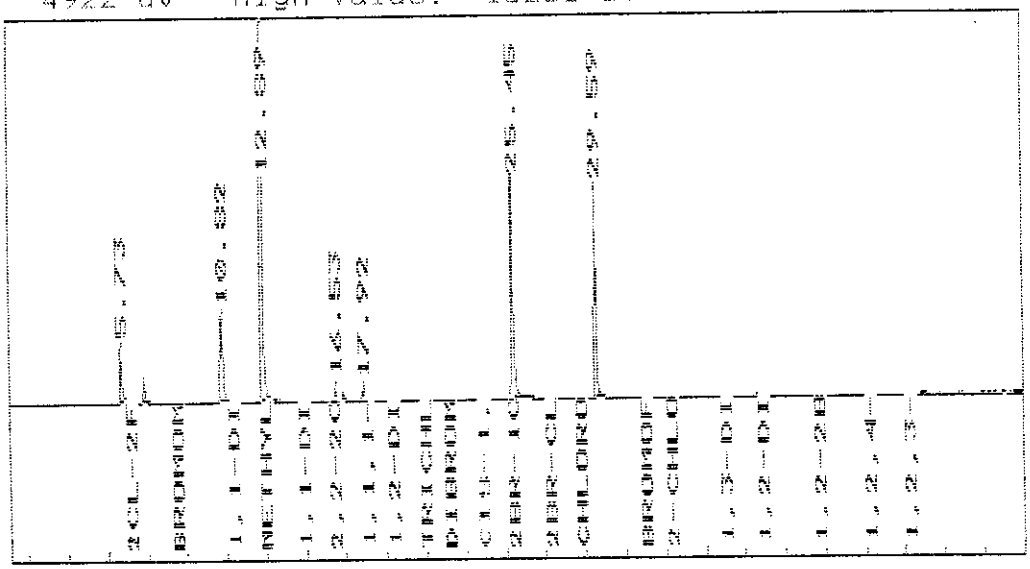
Sample Weight = 1

PK NUM	RET TIME	PEAK NAME	CONCENTRATION in PPB	NORMALIZED CONC%	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
2	6.914	CHLOROMETHANE	1.1955	7.8629%	3,635.	499.	7.3	1	NA	NA	-.4807	3.2886E-04
4	12.892	METHYLENE CHLORIDE	5.6187	36.9545%	72,806.	10,315.	7.1	1	NA	NA	-.6435	7.7173E-05
5	16.533	C-1,2-2CL-ETHENE	0.1651	1.0858%	1,840.	327.	5.6	1	NA	NA	-.9009	8.9712E-05
6	17.919	1,1,1-3CL-ETHANE	0.1481	0.9739%	1,813.	256.	7.1	1	NA	NA	-.9233	8.1688E-05
7	25.451	2BR-1CL-PROPANE	10.0000	0.0000%	54,747.	7,616.	7.2	1	NA	NA	.1972	1.8266E-04
8	29.592	surrogate	8.0770	53.1230%	33,281.	5,577.	6.0	1	NA	NA	-.7838	2.4269E-04
		TOTAL AMOUNT =	15.2044									

ES

020

Data File = A:AAR0813.PTS Printed on 04-13-1992 at 13:33:20
Start time: 0.00 min. Stop time: 51.00 min. Offset: 0 mv.
Low Value: 4922 uv High Value: 15281 uv Scale factor: 1.0



Sample Name: W204052-01 602 1/10 Operator: MR

Data File Name: A:8AR0813.ATB

Date Taken: 04-08-1992 21:20:58 Original Method:8COL

Interface: 8 Cycle#: 13 Channel#: 1 Vial#: N.A.

AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1

SAMPLE WEIGHT = 1

AREA PERCENT REPORT

Peak No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	5.69	272.	0.0259	1	84.	0.074	3.2
2	11.47	606.	0.0576	1	99.	0.165	6.1
3	15.23	626.	0.0596	1	94.	0.170	6.7
4	17.25	555.	0.0527	1	90.	0.151	6.2
5	19.05	53,175.	5.0566	2	9,067.	14.447	5.9
6	19.34	474.	0.0451	2	78.	0.129	6.1
7	19.62	455.	0.0433	1	64.	0.124	7.1
8	20.62	747.	0.0711	1	103.	0.203	7.3
9	21.04	4,368.	0.4153	1	722.	1.187	6.1
10	21.66	688.	0.0655	1	85.	0.187	8.1
11	21.96	630.	0.0599	1	91.	0.171	6.9
12	22.49	939.	0.0893	1	156.	0.255	6.0
13	23.58	597.	0.0567	1	104.	0.162	5.8
14	24.37	34,280.	3.2599	1	6,602.	9.314	5.2
15	28.97	183,314.	17.4322	2	35,251.	49.804	5.2
16	29.21	368,068.	35.0013	2	69,002.	100.000	5.3
17	29.54	10,673.	1.0149	2	1,981.	2.900	5.4
18	30.54	18,840.	1.7915	1	3,614.	5.119	5.2
19	31.13	3,469.	0.3299	1	412.	0.942	8.4
20	31.73	6,660.	0.6334	1	1,246.	1.810	5.3
21	33.02	18,317.	1.7418	2	3,584.	4.976	5.1
22	33.37	60,716.	5.7737	2	10,548.	16.496	5.8
23	33.53	21,276.	2.0233	2	4,061.	5.781	5.2
24	34.35	29,807.	2.8345	2	5,740.	8.098	5.2
25	34.79	109,983.	10.4587	2	21,318.	29.881	5.2
26	35.12	991.	0.0943	2	152.	0.269	6.5
27	35.35	1,007.	0.0958	2	171.	0.274	5.9
28	35.75	668.	0.0636	1	135.	0.182	4.9
29	36.34	12,144.	1.1549	1	2,414.	3.299	5.0
30	36.81	320.	0.0304	1	58.	0.087	5.5
31	36.99	5,991.	0.5697	1	1,232.	1.628	4.9
32	37.36	31,812.	3.0251	1	5,648.	8.643	5.6
33	37.69	762.	0.0725	2	130.	0.207	5.9
34	37.81	1,617.	0.1538	2	298.	0.439	5.4
35	38.16	8,957.	0.8518	2	908.	2.434	9.9
36	38.54	9,004.	0.8562	2	1,788.	2.446	5.0
37	38.84	1,094.	0.1040	2	195.	0.297	5.6
38	39.01	806.	0.0767	2	136.	0.219	5.9
39	39.18	3,686.	0.3506	2	708.	1.002	5.2
40	39.76	6,172.	0.5870	1	1,029.	1.677	6.0
41	40.03	6,449.	0.6133	1	1,247.	1.752	5.2
42	41.27	4,459.	0.4241	2	838.	1.212	5.3
43	41.55	2,487.	0.2365	2	452.	0.676	5.5
44	41.85	5,902.	0.5612	1	1,183.	1.603	5.0
45	42.62	515.	0.0490	1	101.	0.140	5.1
46	42.84	603.	0.0573	1	124.	0.164	4.9

[illegible]	44.76	515.	[illegible]	76.	0.113	5.5
49	45.31	365.	0.0442 1	90.	0.126	5.1
50	47.85	483.	0.0460 1	95.	0.131	5.1
51	48.68	1,035.	0.0984 1	197.	0.281	5.3

Total Area: 1,051,586. Area Reject: 1

Operator: MR

Sample Name: W204052-01 602 1/10

Data File Name: A:BARO813.ATB

Date Taken: 04-08-1992 21:20:58 Original Method:BCOL

Interface: 8 Cycle#: 13 Channel#: 1 Vial#: N.A.

AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1

SAMPLE WEIGHT = 1

INTERNAL STANDARD TABLE

ORIGINAL RECORDED DATA USED FOR THIS TABLE.

Data File Name: A:BARO813.ATB Sample Name: W204052-01 602 1/10

Area reject: 1 Sample Amount: 1

Amount injected: 1.00000 Dilution factor: 1.00000

Internal Standard Amount: 10

Sample Weight = 1

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in PPB	NORMALIZED CONC%	AREA	AREA/ HEIGHT	HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
5	19.055	BENZENE	32.7135	5.6843%	53,175.	9,067.	5.9	2	NA	NA	-.6962	6.1521E-04
8	20.625	TRICHLOROETHENE	~~0.8604~~	0.1495%	747.	103.	7.3	1	NA	NA	-.6436	1.1510E-03
9	21.042	surrogate	8.6102	1.4961%	4,368.	722.	6.1	1	NA	NA	-.7092	1.9713E-03
3	23.580	CIS-1,3-2CLPROPENE	~~4.5520~~	0.7910%	597.	104.	5.8	1	NA	NA	-.8426	7.6288E-03
4	24.365	TOLUENE	21.4602	3.7289%	34,280.	6,602.	5.2	1	NA	NA	-.8157	6.2602E-04
15	28.974	ETHYLBENZENE	124.1684	21.5753%	183,314.	35,251.	5.2	2	NA	NA	0	6.7735E-04
16	29.208	M,P-XYLENE	212.7195	36.9619%	368,068.	69,002.	5.3	2	NA	NA	.1144	5.7794E-04
7	29.542	1-CL-2-FL-BENZENE	10.0000	0.0000%	10,673.	1,981.	5.4	2	NA	NA	.4542	9.3695E-04
18	30.544	O-XYLENE	15.1092	2.6254%	18,840.	3,614.	5.2	1	NA	NA	0	8.0199E-04
20	31.730	ISOPROPYLBENZENE	~~6.2141~~	1.0798%	6,660.	1,246.	5.3	1	NA	NA	-.6795	9.3300E-04
1	33.016	NPROPYL;BROMOBENZE	~~6.2121~~	1.0794%	18,317.	3,584.	5.1	2	NA	NA	-.1010	3.3915E-04
3	33.534	135-TMB;2CLTOLUENE	~~12.3145~~	2.1397%	21,276.	4,061.	5.2	2	NA	NA	.7021	5.7879E-04
25	34.786	124-3METHYL-BENZEN	~~73.9706~~	12.8530%	109,983.	21,318.	5.2	2	NA	NA	-.3825	6.7257E-04
7	35.354	SEC-BUTYLBENZENE	~~1.0279~~	0.1786%	1,007.	171.	5.9	2	NA	NA	0	1.0208E-03
8	35.755	P-ISOPROPYLTOLUENE	~~0.6400~~	0.1112%	668.	135.	4.9	1	NA	NA	.4221	9.5768E-04
29	36.339	1,4-2CL-BENZENE	~~9.4526~~	1.6477%	12,144.	2,414.	5.0	1	NA	NA	0	7.8083E-04
32	37.358	N-BUTYLBENZENE	~~29.3196~~	5.0945%	31,812.	5,648.	5.6	1	NA	NA	.4039	9.2167E-04
3	37.692	1,2-2CL-BENZENE	~~0.7376~~	0.1282%	762.	130.	5.9	2	NA	NA	.5793	9.6800E-04
46	42.835	124-TRICHLOROBENZE	~~0.7829~~	0.1360%	603.	124.	4.9	1	NA	NA	-.8887	1.2989E-03
47	44.088	NAPHTHALENE	~~14.0924~~	2.4487%	14,204.	2,815.	5.0	1	NA	NA	.1517	9.9212E-04
8	44.756	1,2,3-3CL-BENZENE	~~0.5232~~	0.0909%	415.	76.	5.5	1	NA	NA	-1.070	1.2612E-03
		TOTAL AMOUNT :	575.5109									

ES

Data File = A:BAR0813.PTS Printed on 04-13-1992 at 13:37:11
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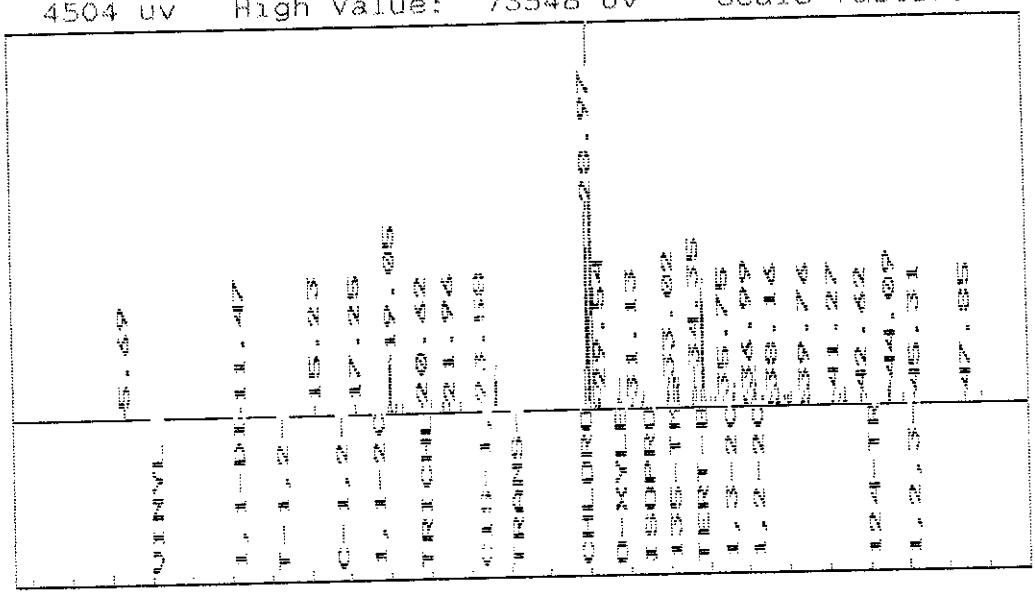


Sample Name: W204052-02 602 1/10 Operator: MR

Data File Name: A:AAR0814.ATB

Date Taken: 04-08-1992 22:25:05 Original Method:ACOL

Interface: 8 Cycle#: 14 Channel#: 0 Vial#: N.A.

AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1

SAMPLE WEIGHT = 1

AREA PERCENT REPORT

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	5.76	7,152.	2.8451	1	1,246.	10.273	5.7
2	6.96	6,817.	2.7118	1	888.	9.792	7.7
3	10.85	17,376.	6.9120	1	1,585.	24.958	11.0
4	12.91	69,620.	27.6945	1	10,068.	100.000	6.9
5	14.88	2,684.	1.0678	1	422.	3.856	6.4
6	16.55	35,526.	14.1320	2	5,619.	51.028	6.3
7	16.98	1,503.	0.5978	2	241.	2.159	6.2
8	17.94	5,319.	2.1157	1	712.	7.639	7.5
9	25.47	64,202.	25.5393	1	8,931.	92.218	7.2
10	29.59	41,187.	16.3839	1	6,901.	59.159	6.0

Total Area: 251,386. Area Reject: 1

Operator: MR

Sample Name: W204052-02 602 1/10

Data File Name: A:AAR0814.ATB

Date Taken: 04-08-1992 22:25:05 Original Method:ACOL

Interface: 8 Cycle#: 14 Channel#: 0 Vial#: N.A.

AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1

SAMPLE WEIGHT = 1

INTERNAL STANDARD TABLE

ORIGINAL RECORDED DATA USED FOR THIS TABLE.

Data File Name: A:AAR0814.ATB Sample Name: W204052-02 602 1/10

Area reject: 1 Sample Amount: 1

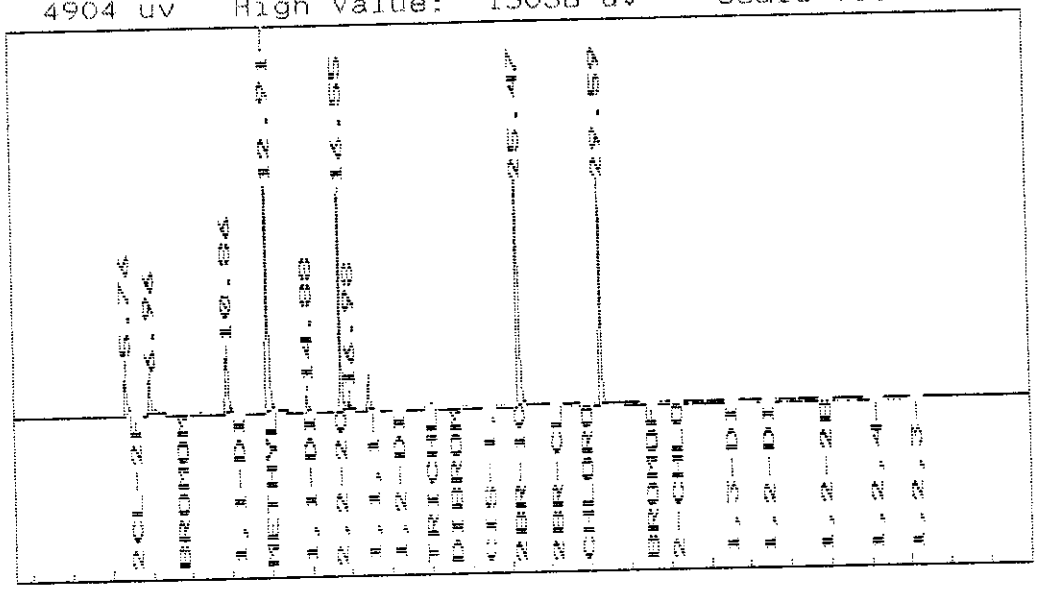
Amount injected: 1.00000 Dilution factor: 1.00000

Internal Standard Amount: 10

Sample Weight = 1

PK NUM	RET TIME	PEAK NAME	CONCENTRATION in PPB	NORMALIZED CONC%	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
2	6.964	VINYL CHLORIDE	~~1.0265~~	5.8695%	6,817.	888.	7.7	1	NA	NA	-4.137	1.5088E-04
4	12.909	METHYLENE CHLORIDE	4.5816	26.1450%	69,620.	10,068.	6.9	1	NA	NA	-.5148	6.5808E-05
5	14.880	1,1-DICHLOROETHANE	~~0.2181~~	1.2446%	2,684.	422.	6.4	1	NA	NA	-.6688	8.1252E-05
6	16.550	C-1,2-2CL-ETHENE	2.7177	15.5089%	35,526.	5,619.	6.3	2	NA	NA	-.8008	7.6500E-05
7	16.984	CHLOROFORM	~~0.0836~~	0.4771%	1,503.	241.	6.2	2	NA	NA	-.7804	5.5632E-05
8	17.936	1,1,1-3CL-ETHANE	~~0.3705~~	2.1142%	5,319.	712.	7.5	1	NA	NA	-.8310	6.9658E-05
9	25.468	28R-1CL-PROPANE	10.0000	0.0000%	64,202.	8,931.	7.2	1	NA	NA	.2629	1.5576E-04
10	29.592	surrogate	8.5236	48.6407%	41,187.	6,901.	6.0	1	NA	NA	-.7838	2.0695E-04
		TOTAL AMOUNT :	17.5237									

Data File = A:AAR0814.PTS Printed on 04-13-1992 at 13:34:06
Start time: 0.00 min. Stop time: 51.00 min. Offset: 0 mv.
Low Value: 4904 uv High Value: 15038 uv Scale factor: 1.0



Operator: MR

Sample Name: W204052-02 602 1/10

Data File Name: A:BAR0814.ATB

Date Taken: 04-08-1992 22:25:05 Original Method:BCOL

Interface: 8 Cycle#: 14 Channel#: 1 Vial#: N.A.

AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1

SAMPLE WEIGHT = 1

AREA PERCENT REPORT

Peak No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	16.52	1,839.	1.2834	1	346.	10.182	5.3
2	17.82	939.	0.6557	1	108.	5.202	8.7
3	21.06	5,133.	3.5826	2	850.	28.424	6.0
4	21.31	897.	0.6263	2	117.	4.969	7.6
5	21.68	1,235.	0.8623	1	140.	6.842	8.8
6	24.38	967.	0.6753	1	170.	5.357	5.7
7	28.99	6,502.	4.5381	2	1,251.	36.005	5.2
8	29.21	14,171.	9.8913	2	2,674.	78.475	5.3
9	29.56	10,470.	7.3079	1	2,104.	57.979	5.0
10	30.56	2,151.	1.5016	1	401.	11.913	5.4
11	31.15	3,777.	2.6360	1	448.	20.913	8.4
12	31.75	858.	0.5987	1	159.	4.750	5.4
13	33.03	3,502.	2.4447	1	685.	19.396	5.1
14	33.38	9,429.	6.5817	2	1,612.	52.217	5.8
15	33.55	6,318.	4.4098	2	1,201.	34.986	5.3
16	34.39	3,047.	2.1268	1	573.	16.874	5.3
17	34.82	18,058.	12.6043	2	3,493.	100.000	5.2
18	35.15	602.	0.4203	2	106.	3.335	5.7
19	35.39	496.	0.3463	2	91.	2.747	5.5
20	35.77	410.	0.2860	1	88.	2.269	4.7
21	36.36	2,168.	1.5135	1	417.	12.008	5.2
22	36.82	2,205.	1.5390	2	286.	12.210	7.7
23	37.01	7,222.	5.0412	2	1,265.	39.996	5.7
24	37.14	1,671.	1.1666	2	307.	9.255	5.4
25	37.27	8,632.	6.0249	2	994.	47.800	8.7
26	37.83	577.	0.4028	1	124.	3.196	4.7
27	38.18	3,828.	2.6717	1	498.	21.196	7.7
28	38.56	5,978.	4.1725	1	1,153.	33.104	5.2
29	39.19	955.	0.6665	1	193.	5.288	5.0
30	39.80	3,182.	2.2213	1	572.	17.623	5.6
31	40.06	2,481.	1.7317	1	474.	13.739	5.2
32	40.31	463.	0.3232	2	90.	2.564	5.1
33	40.53	897.	0.6263	2	170.	4.969	5.3
34	40.86	404.	0.2822	1	81.	2.239	5.0
35	41.28	2,068.	1.4432	1	363.	11.450	5.7
36	41.57	856.	0.5973	1	170.	4.739	5.0
37	41.88	2,535.	1.7695	1	509.	14.038	5.0
38	42.72	1,790.	1.2493	2	187.	9.912	9.6
39	42.85	978.	0.6823	2	179.	5.413	5.5
40	43.42	907.	0.6333	1	140.	5.024	6.5
41	44.10	983.	0.6861	1	195.	5.443	5.0
42	45.32	588.	0.4105	1	115.	3.257	5.1
43	47.86	394.	0.2749	1	79.	2.181	5.0
44	48.70	704.	0.4913	1	134.	3.898	5.3

Operator: MR

Sample Name: W204052-02 602 1/10

Data File Name: A:BAR0814.ATB

Date Taken: 04-08-1992 22:25:05 dd Original Method:BCOL

Interface: 8 Cycle#: 14 Channel#: 1 Vial#: N.A.

AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1

SAMPLE WEIGHT = 1

INTERNAL STANDARD TABLE

ORIGINAL RECORDED DATA USED FOR THIS TABLE.

Data File Name: A:BAR0814.ATB Sample Name: W204052-02 602 1/10

Area reject: 1 Sample Amount: 1

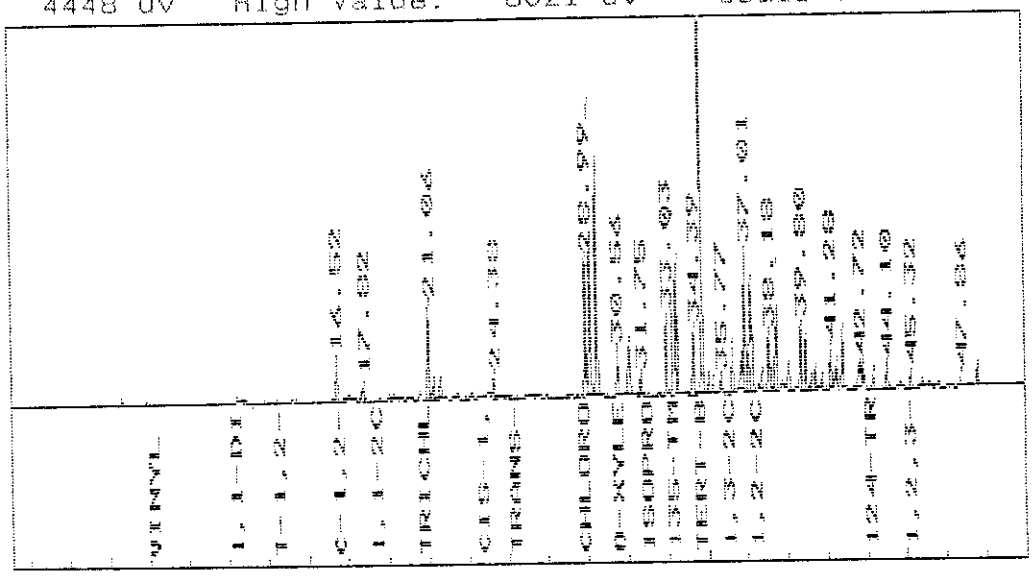
Amount injected: 1.00000 Dilution factor: 1.00000

Internal Standard Amount: 10

Sample Weight = 1

PK NUM	RET TIME	PEAK NAME	CONCENTRATION in PPB	NORMALIZED CONC%	AREA	AREA/ HEIGHT	HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
1	16.516	C-1,2-2CL-ETHENE	3.4510	5.6216%	1,839.	346.	5.3	1	NA	NA	-.5030	1.8769E-03
5	21.059	surrogate	10.3146	16.8022%	5,133.	850.	6.0	2	NA	NA	-.6304	2.0096E-03
6	24.382	TOLUENE	0.6174	1.0057%	967.	170.	5.7	1	NA	NA	-.7477	6.3816E-04
7	28.991	ETHYLBENZENE	4.4894	7.3131%	6,502.	1,251.	5.2	2	NA	NA	0	6.9049E-04
8	29.208	M,P-XYLENE	8.3488	13.5999%	14,171.	2,674.	5.3	2	NA	NA	.1144	5.8914E-04
9	29.559	1-CL-2-FL-BENZENE	10.0000	0.0000%	10,470.	2,104.	5.0	1	NA	NA	.5110	9.5512E-04
10	30.561	O-XYLENE	1.7588	2.8650%	2,151.	401.	5.4	1	NA	NA	0	8.1755E-04
11	31.747	ISOPROPYLBENZENE	~~0.8158~~	1.3289%	858.	159.	5.4	1	NA	NA	-.6272	9.5110E-04
13	33.033	NPROPYL;BROMOBENZE	~~1.2109~~	1.9725%	3,502.	685.	5.1	1	NA	NA	0	3.4573E-04
15	33.550	135-TMB;2CLTOLUENE	~~3.7276~~	6.0722%	6,318.	1,201.	5.3	2	NA	NA	.7522	5.9002E-04
17	34.820	124-3METHYL-BENZEN	~~12.3808~~	20.1680%	18,058.	3,493.	5.2	2	NA	NA	-.2869	6.8561E-04
19	35.387	SEC-BUTYLBENZENE	~~0.5162~~	0.8409%	496.	91.	5.5	2	NA	NA	.0944	1.0405E-03
20	35.771	P-ISOPROPYLTOLUENE	~~0.4001~~	0.6517%	410.	88.	4.7	1	NA	NA	.4690	9.7625E-04
21	36.356	1,4-2CL-BENZENE	~~1.7259~~	2.8115%	2,168.	417.	5.2	1	NA	NA	0	7.9598E-04
23	37.274	N-BUTYLBENZENE	~~8.1099~~	13.2108%	8,632.	994.	8.7	2	NA	NA	.1795	9.3954E-04
26	37.826	1,2-2CL-BENZENE	~~0.5695~~	0.9277%	577.	124.	4.7	1	NA	NA	.9358	9.8677E-04
30	43.420	124-TRICHLOROBENZE	~~1.2014~~	1.9570%	907.	140.	6.5	1	NA	NA	.4636	1.3241E-03
31	44.105	NAPHTHALENE	~~0.9941~~	1.6194%	983.	195.	5.0	1	NA	NA	.1896	1.0114E-03
32	45.324	1,2,3-3CL-BENZENE	0.7562	1.2318%	588.	115.	5.1	1	NA	NA	.1845	1.2857E-03
		TOTAL AMOUNT =	61.3884	ES								

Data File = A:BAR0814.PTS Printed on 04-13-1992 at 13:38:05
Start time: 0.00 min. Stop time: 51.00 min. Offset: 0 mv.
Low Value: 4448 uv High Value: 8021 uv Scale factor: 1.0



Sample Name: W204052-03 602 STRAIGHT TRIP BLANK Operator: MR

Data File Name: A:AAR0812.ATB

Date Taken: 04-08-1992 20:15:30 dd Original Method:ACOL

Interface: 8 Cycle#: 12 Channel#: 0 Vial#: N.A.

AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1

SAMPLE WEIGHT = 1

AREA PERCENT REPORT

Peak No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	5.74	5,354.	1.9418	1	933.	5.938	5.7
2	6.93	4,380.	1.5886	1	620.	4.858	7.1
3	10.85	5,813.	2.1083	1	615.	6.447	9.5
4	12.91	59,235.	21.4851	1	8,934.	65.703	6.6
5	17.94	3,045.	1.1045	1	413.	3.378	7.4
6	21.01	90,155.	32.7001	1	10,422.	100.000	8.7
7	25.47	67,256.	24.3944	1	9,410.	74.600	7.1
8	29.59	40,466.	14.6773	1	7,183.	44.884	5.6

Total Area: 275,704. Area Reject: 1

Sample Name: W204052-03 602 STRAIGHT TRIP BLANK Operator: MR

Data File Name: A:AAR0812.ATB

Date Taken: 04-08-1992 20:15:30 Original Method:ACOL

Interface: 8 Cycle#: 12 Channel#: 0 Vial#: N.A.

AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1

SAMPLE WEIGHT = 1

INTERNAL STANDARD TABLE

ORIGINAL RECORDED DATA USED FOR THIS TABLE.

Data File Name: A:AAR0812.ATB Sample Name: W204052-03 602 STRAIGHT TRIP BLANK

Area reject: 1 Sample Amount: 1

Amount injected: 1.00000 Dilution factor: 1.00000

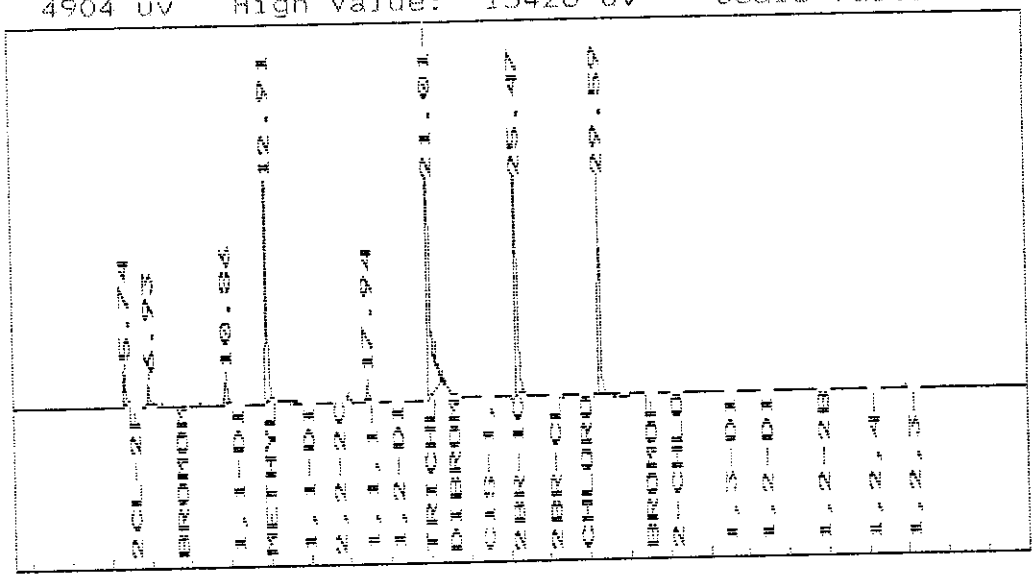
Internal Standard Amount: 10

Sample Weight = 1

4K NUM	RET TIME	PEAK NAME	CONCENTRATION in PPB	NORMALIZED CONC%	AREA	AREA/ HEIGHT	HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
2	6.930	CHLOROMETHANE	1.1725	6.0070%	4,380.	620.	7.1	1	NA	NA	-.2403	2.6770E-04
4	12.909	METHYLENE CHLORIDE	3.7211	19.0653%	59,235.	8,934.	6.6	1	NA	NA	-.5148	6.2820E-05
5	17.936	1,1,1-3CL-ETHANE	0.2025	1.0374%	3,045.	413.	7.4	1	NA	NA	-.8310	6.6495E-05
6	21.009	TRICHLOROETHENE	6.4277	32.9322%	50,155.	10,422.	8.7	1	NA	NA	.2390	7.1296E-05
7	25.468	2BR-1CL-PROPANE	10.0000	0.0000%	67,256.	9,410.	7.1	1	NA	NA	.2629	1.4869E-04
8	29.592	surrogate	7.9942	40.9581%	40,466.	7,183.	5.6	1	NA	NA	-.7838	1.9755E-04
		TOTAL AMOUNT :	19.5179									

ES

ata File = A:AAR0812.PTS Printed on 04-13-1992 at 13:32:35
Start time: 0.00 min. Stop time: 51.00 min. Offset: 0 mv.
ow Value: 4904 uv High Value: 15426 uv Scale factor: 1.0



Sample Name: W204052-03 602 STRAIGHT TRIP BLANK Operator: MR

Data File Name: A:BAR0812.ATB

Date Taken: 04-08-1992 20:15:30 Original Method:BCOL

Interface: 8 Cycle#: 12 Channel#: 1 Vial#: N.A.

AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1

SAMPLE WEIGHT = 1

AREA PERCENT REPORT

PK NO.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	13.56	645.	2.6456	1	78.	6.015	8.3
2	16.97	4,926.	20.1955	1	437.	45.918	11.3
3	21.06	5,352.	21.9415	1	895.	49.888	6.0
4	29.54	10,727.	43.9816	1	2,128.	100.000	5.0
5	31.13	1,813.	7.4316	1	215.	16.897	8.4
6	36.79	928.	3.8041	1	114.	8.649	8.1

Total Area: 24,391. Area Reject: 1

Sample Name: W204052-03 602 STRAIGHT TRIP BLANK Operator: MR
Data File Name: A:BAR0812.ATB
Date Taken: 04-08-1992 20:15:30 ES Original Method:BCOL
Interface: 8 Cycle#: 12 Channel#: 1 Vial#: N.A.

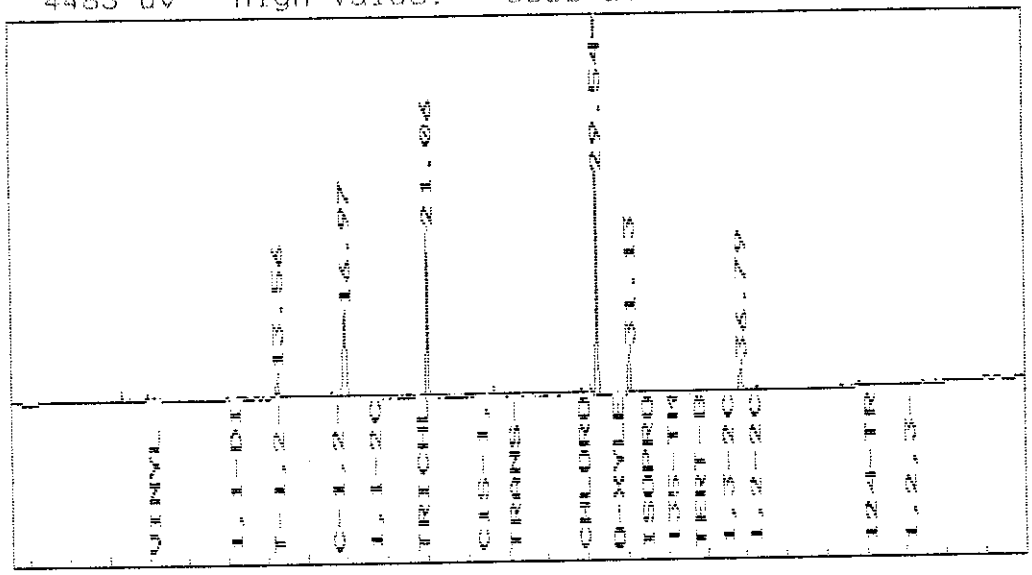
AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1
SAMPLE WEIGHT = 1

INTERNAL STANDARD TABLE

ORIGINAL RECORDED DATA USED FOR THIS TABLE.
Data File Name: A:BAR0812.ATB Sample Name: W204052-03 602 STRAIGHT TRIP BLANK
Area reject: 1 Sample Amount: 1
Amount injected: 1.00000 Dilution factor: 1.00000
Internal Standard Amount: 10
Sample Weight = 1

PK NUM	RET TIME	PEAK NAME	CONCENTRATION in PPB	NORMALIZED CONC%	AREA	AREA/ HEIGHT	HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
1	13.560	T-1,2-DICHLORDETHE	~~0.5802~~	4.9182%	645.	78.	8.3	1	NA	NA	-.2456	8.9916E-04
3	21.059	surrogate	10.4964	88.9719%	5,352.	895.	6.0	1	NA	NA	-.6304	1.9613E-03
4	29.542	1-CL-2-FL-BENZENE	10.0000	0.0000%	10,727.	2,128.	5.0	1	NA	NA	.4542	9.3219E-04
5	36.790	1,4-2CL-BENZENE	~~0.7208~~	6.1100%	928.	114.	8.1	1	NA	NA	1.287	7.7687E-04
		TOTAL AMOUNT :	11.7975	ES								

ata File = A:BAR0812.PTS Printed on 04-13-1992 at 13:36:20
art time: 0.00 min. Stop time: 51.00 min. Offset: 0 mv.
w Value: 4483 uv High Value: 6638 uv Scale factor: 1.0



Operator: MR

Sample Name: BLANK

Data File Name: A:AAR083.ATB 10:25 ds

Date Taken: 04-08-1992 ~~11:09:38~~ Original Method:ACOL

Interface: 8 Cycle#: 3 Channel#: 0 Vial#: N.A.

AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1

SAMPLE WEIGHT = 1

AREA PERCENT REPORT

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	5.86	15,625.	8.3855	1	2,677.	21.449	5.8
2	7.08	3,678.	1.9740	1	517.	5.049	7.1
3	10.99	8,037.	4.3132	1	788.	11.032	10.2
4	13.03	33,922.	18.2046	1	5,453.	46.564	6.2
5	17.10	7,288.	3.9110	1	1,177.	10.004	6.2
6	25.53	72,849.	39.0957	1	10,958.	100.000	6.6
7	29.64	44,937.	24.1160	1	7,614.	61.684	5.9

Total Area: 186,336. Area Reject: 1

Sample Name: BLANK Operator: MR

Data File Name: A:AAR083.ATB

Date Taken: 04-08-1992 ~~11:09:58~~ 10:25 Original Method:ACOL

Interface: 8 Cycle#: 3 Channel#: 0 Vial#: N.A.

AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1

SAMPLE WEIGHT = 1

INTERNAL STANDARD TABLE

ORIGINAL RECORDED DATA USED FOR THIS TABLE.

Data File Name: A:AAR083.ATB Sample Name: BLANK

Area reject: 1 Sample Amount: 1

Amount injected: 1.00000 Dilution factor: 1.00000

Internal Standard Amount: 10

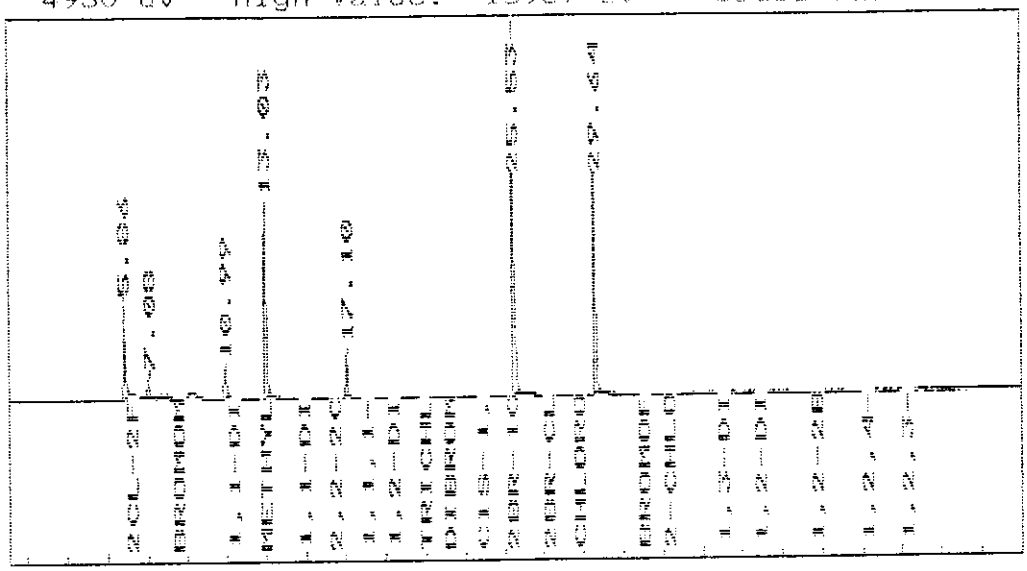
Sample Weight = 1

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in PPB	NORMALIZED CONC%	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
2	7.081	VINYL CHLORIDE	~~0.4891~~	4.1974%	3,678.	517.	7.1	1	NA	NA	-2.528	1.3297E-04
3	10.989	1,1-DICHLOROETHENE	~~0.6429~~	5.5176%	8,037.	788.	10.2	1	NA	NA	-3.519	7.9997E-05
4	13.026	METHYLENE CHLORIDE	1.9673	16.8835%	33,922.	5,453.	6.2	1	NA	NA	.3860	5.7997E-05
5	17.101	CHLOROFORM	~~0.3573~~	3.0663%	7,288.	1,177.	6.2	1	NA	NA	-.0975	4.9029E-05
6	25.534	2BR-1CL-PROPANE	10.0000	0.0000%	72,849.	10,958.	6.6	1	NA	NA	.5259	1.3727E-04
7	29.642	surrogate	8.1958	70.3353%	44,957.	7,614.	5.9	1	NA	NA	-.6158	1.8239E-04

TOTAL AMOUNT : 11.6525

ES

Data File = A:AAR083.PTS Printed on 04-13-1992 at 13:14:09
Start time: 0.00 min. Stop time: 51.00 min. Offset: 0 mv.
Low Value: 4930 uv High Value: 15937 uv Scale factor: 1.0



Operator: MR

Sample Name: BLANK

Data File Name: A:BAR083.ATB 10:25 AS

Date Taken: 04-08-1992 ~~11:09:38~~ Original Method:BCOL

Interface: 8 Cycle#: 3 Channel#: 1 Vial#: N.A.

AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1

SAMPLE WEIGHT = 1

AREA PERCENT REPORT

Pk No.	Ret Time	Peak Area	Area %	B L	Peak Ht.	Normalized %	Area/ Height
1	5.83	883.	1.9031	1	264.	4.098	3.3
2	8.52	21,542.	46.4422	1	213.	100.000	101.0
3	21.16	7,675.	16.5471	1	1,294.	35.630	5.9
4	24.47	691.	1.4905	1	125.	3.209	5.5
5	29.26	491.	1.0585	1	88.	2.279	5.6
6	29.61	15,102.	32.5585	1	3,053.	70.106	4.9

Total Area: 46,385. Area Reject: 1

****

* Sample Name: BLANK Operator: MR *
* Data File Name: A:BAR083.ATB 10:25 ES *
* Date Taken: 04-08-1992 ~~11:09:58~~ Original Method:8COL *
* Interface: 8 Cycle#: 3 Channel#: 1 Vial#: N.A. *

****

AMOUNT INJECTED = 1 DILUTION FACTOR = 1 SAMPLE AMOUNT = 1
SAMPLE WEIGHT = 1

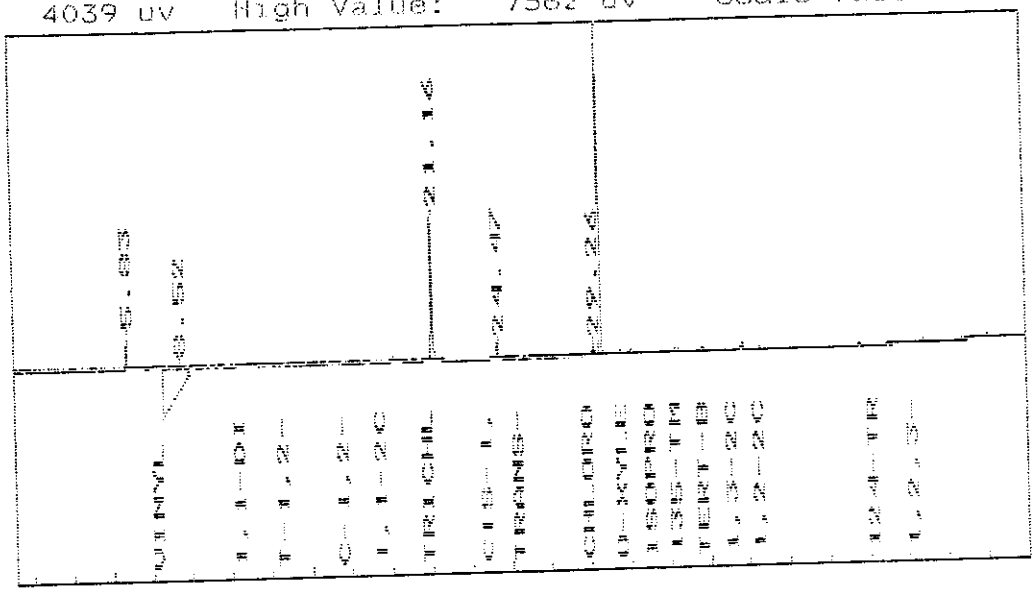
INTERNAL STANDARD TABLE

ORIGINAL RECORDED DATA USED FOR THIS TABLE.
Data File Name: A:BAR083.ATB Sample Name: BLANK
Area reject: 1 Sample Amount: 1
Amount injected: 1.00000 Dilution factor: 1.00000
Internal Standard Amount: 10
Sample Weight = 1

PEAK NUM	RET TIME	PEAK NAME	CONCENTRATION in PPB	NORMALIZED CONC%	AREA	HEIGHT	AREA/ HEIGHT	BL	REF PEAK	INT.STD PEAK	% DELTA RET TIME	CONC/AREA
3	21.159	surrogate	10.6931	95.4782%	7,675.	1,294.	5.9	1	NA	NA	-.1575	1.3935E-03
4	24.466	TOLUENE	~~0.3059~~	2.7312%	691.	125.	5.5	1	NA	NA	-.4078	4.4242E-04
5	29.258	M,P-XYLENE	~~0.2005~~	1.7906%	491.	89.	5.6	1	NA	NA	.2862	4.0844E-04
6	29.609	1-CL-2-FL-BENZENE	10.0000	0.0000	15,102.	3,053.	4.9	1	NA	NA	.6814	6.6216E-04

TOTAL AMOUNT = 11.1995 ES

Data File = A:BAR083.PTS Printed on 04-13-1992 at 13:17:19
Start time: 0.00 min. Stop time: 51.00 min. Offset: 0 mv.
Low Value: 4039 uv High Value: 7562 uv Scale factor: 1.0



WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

ANALYTICAL CHEMISTRY REPORT

SAMPLE IDENTIFICATION

LAB NUMBER: 9109402273

COLLECTED: 04/04/91 TIME: 12:45
COLLECTOR: B. WELTY
AGENCY : ROCKLAND CO. HEALTH DEPT.

RECEIVED ON: 04/04/91 TIME: 13:08
RECEIVED BY: BETTYE REID

SAMPLE LOC: L.A. WOMAN (BEFORE)MIRACL
180 RTE 59
NANUET NY

SAMPLING PT: WELL SPIGOT BEFORE FIL
SAMPLE TYPE: POTABLE

BOTTLE NUMBERS:

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
ORGANIC CHEMISTRY			
BROMOCHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
BROMODICHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
BROMOFORM	[LT 2.0]	ug/L	EPA 502
BROMOMETHANE	[LT 0.5]	ug/L	EPA 502
CARBON TETRACHLORIDE	[LT 0.5]	ug/L	EPA 502
CHLOROETHANE	[LT 0.5]	ug/L	EPA 502
CHLOROFORM	[LT 0.5]	ug/L	EPA 502
CHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
DIBROMOCHLOROMETHANE	[LT 2.0]	ug/L	EPA 502
DIBROMOMETHANE	[LT 0.5]	ug/L	EPA 502
DICHLORODIFLUOROMETHANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,2-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROETHENE	[31]	ug/L	EPA 502
CIS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
TRANS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
1,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
1,3-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
2,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502
CIS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502
TRANS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

LAB NUMBER: 9109402273

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
METHYLENE CHLORIDE	[LT 0.5]	ug/L	EPA 502
1,1,1,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1,2,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 502
TETRACHLOROETHENE	[1.5]	ug/L	EPA 502
1,1,1-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1,2-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
TRICHLOROETHENE	[5400]	ug/L	EPA 502
TRICHLOROFLUOROMETHANE	[LT 0.5]	ug/L	EPA 502
1,2,3-TRICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
VINYL CHLORIDE	[LT 0.5]	ug/L	EPA 502
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L	EPA 502
UNKNOWN(S)	[ND]	ug/L	EPA 502
BENZENE	[0.96]	ug/L	EPA 503
BROMOBENZENE	[LT 0.5]	ug/L	EPA 503
N-BUTYLBENZENE	[0.52]	ug/L	EPA 503
SEC-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
TERT-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
CHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
2-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 503
4-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 503
1,2-DICHLOROBENZENE	[1.5]	ug/L	EPA 503
1,3-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,4-DICHLOROBENZENE	[1.2]	ug/L	EPA 503
ETHYL BENZENE	[LT 0.5]	ug/L	EPA 503
HEXACHLOROBUTADIENE	[LT 0.5]	ug/L	EPA 503
ISOPROPYLBENZENE	[0.61]	ug/L	EPA 503
P-ISOPROPYLTOLUENE	[LT 0.5]	ug/L	EPA 503
N-PROPYLBENZENE	[LT 0.5]	ug/L	EPA 503
STYRENE	[1.7]	ug/L	EPA 503
TOLUENE	[LT 0.5]	ug/L	EPA 503
1,2,3-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,2,4-TRICHLOROBENZENE	[0.74]	ug/L	EPA 503
1,2,4-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 503
1,3,5-TRIMETHYLBENZENE	[1.8]	ug/L	EPA 503
M-XYLENE	[LT 0.5]	ug/L	EPA 503
O-XYLENE	[0.55]	ug/L	EPA 503
P-XYLENE	[LT 0.5]	ug/L	EPA 503
METHYL TERT BUTYL ETHER	[1.3]	ug/L	EPA 503
NAPHTHALENE	[N.A.]	ug/L	EPA 503
TRICHLOROETHENE	[SEE ABOVE]	ug/L	EPA 503
TETRACHLOROETHENE	[SEE ABOVE]	ug/L	EPA 503
GASOLINE	[ND]	ug/L	EPA 503

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS METHOD:
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L EPA 503
UNKNOWN(S)	[PRESENT]	ug/L EPA 503.

COMMENTS:

REPORTED BY: DAVID VINCI DATE: 04/08/91

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

Agency Collected For: FCHD

Collected By: B. Welty

Date/Time Collected: 4/4/91 12:45

Bottle Numbers: L.A. Woman (Before) / Miracle's Dance club RH

Sample Location: 180 Rt. 59 Nanuet

Sample Site: well spigot before filter

Type of Sample:

- [X] Potable Water
- [ ] Non-Potable Water
- [ ] Other: _____

POTABLE (DRINKING) WATER ANALYSES REQUESTED

[ ] Pesticides NYSDOH list	(509A)
[ ] Herbicides NYSDOH list	(509B)
[ ] Trihalomethanes	(501)
[X] Volatile Halocarbons	(502)
[X] Volatile Aromatics	(503)
[ ] Micro Extractables	(504)
[ ] GC/MS Volatiles	(524)
[ ] Phthalates	(606)
[ ] Pesticides	(608 list plus others)
[ ] PCBs	(608)
[ ] Polynuclear Aromatics	(610)
[ ] Herbicides	(615)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Acid Extractables	(625AE)
[ ] GC/MS Base Neutrals	(625BN)

NON-POTABLE WATER, WASTEWATER, SOLIDS, OTHER ANALYSES REQUESTED

[ ] Purgeable Halocarbons	(601, SW-846)
[ ] Purgeable Halocarbons (DEF)	(601, SW-846)
[ ] Purgeable Aromatics	(602, SW-846)
[ ] Purgeable Aromatics (DEF)	(602, SW-846)
[ ] Acrolein & Acrylonitrile	(603)
[ ] Phthalates	(606, SW-846)
[ ] Pesticides	(608, SW-846)
[ ] Pesticides (DEF)	(608, SW-846)
[ ] PCBs	(608, SW-846)
[ ] PCBs (DEF)	(610, SW-846)
[ ] Polynuclear Aromatics	(615, SW-846)
[ ] Herbicides	(310-13)
[ ] Petroleum Hydrocarbon Scan	(624, SW-846)
[ ] GC/MS Purgeables	(625, SW-846)
[ ] GC/MS Acid Extractables	(625, SW-846)
[ ] GC/MS Base Neutrals	
[ ] TCLP Pesticides/Herbicides	(SW-846)
[ ] TCLP Volatiles	(SW-846)

ENVIRONMENTAL ORGANIC CHEMISTRY SAMPLE SUBMISSION FORM

WESTCHESTER COUNTY DEPARTMENT OF LABORATORIES AND RESEARCH
Hammond House Road, Valhalla, New York 10595
Form A-71 (rev. 9/90

NYS-ELAP NO. 10108

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

ANALYTICAL CHEMISTRY REPORT

SAMPLE IDENTIFICATION

LAB NUMBER: 9108702114

COLLECTED: 03/28/91 TIME: 1:30P
COLLECTOR: JT DOREY
AGENCY : ROCKLAND CO. HEALTH DEPT.

RECEIVED ON: 03/28/91 TIME: 14:18
RECEIVED BY: BETTYE REID

SAMPLE LOC: LA WOMAN
RTE 59
NANUET NY

SAMPLING PT: SINK BEHIND BAR
SAMPLE TYPE: POTABLE

BOTTLE NUMBERS: K L M

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
ORGANIC CHEMISTRY			
BROMOCHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
BROMODICHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
BROMOFORM	[LT 2.0]	ug/L	EPA 502
BROMOMETHANE	[LT 0.5]	ug/L	EPA 502
CARBON TETRACHLORIDE	[LT 0.5]	ug/L	EPA 502
CHLOROETHANE	[LT 0.5]	ug/L	EPA 502
CHLOROFORM	[LT 0.5]	ug/L	EPA 502
CHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
DIBROMOCHLOROMETHANE	[LT 2.0]	ug/L	EPA 502
DIBROMOMETHANE	[LT 0.5]	ug/L	EPA 502
DICHLORODIFLUOROMETHANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,2-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROETHENE	[1.0]	ug/L	EPA 502
CIS-1,2-DICHLOROETHENE	[80]	ug/L	EPA 502
TRANS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
1,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
1,3-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
2,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502
CIS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502
TRANS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

LAB NUMBER: 9108702114

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
METHYLENE CHLORIDE	[LT 0.5]	ug/L	EPA 502
1,1,1,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1,2,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 502
TETRACHLOROETHENE	[8.9]	ug/L	EPA 502
1,1,1-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1,2-TRICHLOROETHANE	[0.73]	ug/L	EPA 502
TRICHLOROETHENE	[4600]	ug/L	EPA 502
TRICHLOROFLUOROMETHANE	[LT 0.5]	ug/L	EPA 502
1,2,3-TRICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
VINYL CHLORIDE	[LT 0.5]	ug/L	EPA 502
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L	EPA 502
UNKNOWN(S)	[ND]	ug/L	EPA 502
BENZENE	[LT 0.5]	ug/L	EPA 503
BROMOBENZENE	[LT 0.5]	ug/L	EPA 503
N-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
SEC-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
TERT-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
CHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
2-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 503
4-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 503
1,2-DICHLOROBENZENE	[1.1]	ug/L	EPA 503
1,3-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,4-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
ETHYL BENZENE	[LT 0.5]	ug/L	EPA 503
HEXACHLOROBUTADIENE	[LT 0.5]	ug/L	EPA 503
ISOPROPYLBENZENE	[LT 0.5]	ug/L	EPA 503
P-ISOPROPYLTOLUENE	[LT 0.5]	ug/L	EPA 503
N-PROPYLBENZENE	[LT 0.5]	ug/L	EPA 503
STYRENE	[LT 0.5]	ug/L	EPA 503
TOLUENE	[LT 0.5]	ug/L	EPA 503
1,2,3-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,2,4-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,2,4-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 503
1,3,5-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 503
M-XYLENE	[LT 0.5]	ug/L	EPA 503
O-XYLENE	[LT 0.5]	ug/L	EPA 503
P-XYLENE	[LT 1.0]	ug/L	EPA 503
METHYL TERT BUTYL ETHER	[N.A.]	ug/L	EPA 503
NAPHTHALENE	[SEE ABOVE]	ug/L	EPA 503
TRICHLOROETHENE	[SEE ABOVE]	ug/L	EPA 503
TETRACHLOROETHENE	[ND]	ug/L	EPA 503
GASOLINE			

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WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

LAB NUMBER: 9108702114

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L	EPA 503
UNKNOWN(S)	[ND]	ug/L	EPA 503
1,2-DIBROMOETHANE	[LT 0.02]	ug/L	EPA 504
1,2-DIBROMO-3-CHLOROPROPANE	[LT 0.02]	ug/L	EPA 504

COMMENTS:

REPORTED BY: SANDY FINAMORE DATE: 04/04/91

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

Agency Collected For (RCHD)

Collected By J Dozen

Date/Time Collected 3/28/91 1:30

Bottle Numbers: K, L, M

Sample Location: LA WOMAN
Rte 59
Nanuet N.Y.

Sample Site: Sink behind Bar w/F.B.

Type of Sample:

[X] Potable Water

[ ] Non-Potable Water

[ ] Other:

POTABLE (DRINKING) WATER ANALYSES REQUESTED

[ ] Pesticides NYSDOH list	(509A)
[ ] Herbicides NYSDOH list	(509B)
[ ] Trihalomethanes	(501)
[X] Volatile Halocarbons	(502)
[X] Volatile Aromatics	(503)
[X] Micro Extractables	(504)
[ ] GC/MS Volatiles	(524)
[ ] Phthalates	(606)
[ ] Pesticides	(608 list plus others)
[ ] PCBs	(608)
[ ] Polynuclear Aromatics	(610)
[ ] Herbicides	(615)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Acid Extractables	(625AE)
[ ] GC/MS Base Neutrals	(625BN)

NON-POTABLE WATER, WASTEWATER, SOLIDS, OTHER ANALYSES REQUESTED

[ ] Purgeable Halocarbons	(601, SW-846)
[ ] Purgeable Halocarbons (DEF)	(601, SW-846)
[ ] Purgeable Aromatics	(602, SW-846)
[ ] Purgeable Aromatics (DEF)	(602, SW-846)
[ ] Acrolein & Acrylonitrile	(603)
[ ] Phthalates	(606, SW-846)
[ ] Pesticides	(608, SW-846)
[ ] Pesticides (DEF)	(608, SW-846)
[ ] PCBs	(608, SW-846)
[ ] PCBs (DEF)	(608, SW-846)
[ ] Polynuclear Aromatics	(610, SW-846)
[ ] Herbicides	(615, SW-846)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Purgeables	(624, SW-846)
[ ] GC/MS Acid Extractables	(625, SW-846)
[ ] GC/MS Base Neutrals	(625, SW-846)
[ ] TCLP Pesticides/Herbicides	(SW-846)
[ ] TCLP Volatiles	(SW-846)

ENVIRONMENTAL ORGANIC CHEMISTRY SAMPLE SUBMISSION FORM

WESTCHESTER COUNTY DEPARTMENT OF LABORATORIES AND RESEARCH
Hammond House Road, Valhalla, New York 10595
Form A-71 (rev. 9/90

NYS-ELAP NO. 10108

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

ANALYTICAL CHEMISTRY REPORT

SAMPLE IDENTIFICATION

LAB NUMBER: 9110802620

COLLECTED: 04/17/91 TIME:
COLLECTOR: B. WELTY
AGENCY : ROCKLAND CO. HEALTH DEPT.

RECEIVED ON: 04/18/91 TIME: 12:22
RECEIVED BY: BETTYE REID

SAMPLE LOC: BROWN
42 DEMAREST MILL ROAD
NANUET NY

SAMPLING PT: KITCHEN
SAMPLE TYPE: POTABLE

BOTTLE NUMBERS:

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
ORGANIC CHEMISTRY			
BROMOFORM	[LT 2.0]	ug/L	EPA 524
BROMODICHLOROMETHANE	[LT 0.5]	ug/L	EPA 524
CHLOROFORM	[LT 0.5]	ug/L	EPA 524
DIBROMOCHLOROMETHANE	[LT 2.0]	ug/L	EPA 524
BROMOCHLOROMETHANE	[LT 0.5]	ug/L	EPA 524
BROMOMETHANE	[LT 0.5]	ug/L	EPA 524
CARBON TETRACHLORIDE	[LT 0.5]	ug/L	EPA 524
CHLOROETHANE	[LT 0.5]	ug/L	EPA 524
CHLOROMETHANE	[LT 0.5]	ug/L	EPA 524
DIBROMOMETHANE	[LT 0.5]	ug/L	EPA 524
DICHLORODIFLUOROMETHANE	[LT 0.5]	ug/L	EPA 524
1,1-DICHLOROETHANE	[T]	ug/L	EPA 524
1,2-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,1-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
CIS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
TRANS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
1,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
1,3-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
2,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
1,1-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 524
CIS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 524
TRANS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 524

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

LAB NUMBER: 9110802620

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
METHYLENE CHLORIDE	[LT 0.5]	ug/L	EPA 524
1,1,1,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,1,2,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 524
TETRACHLOROETHENE	[LT 0.5]	ug/L	EPA 524
1,1,1-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,1,2-TRICHLOROETHANE	[2.7]	ug/L	EPA 524
TRICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
TRICHLOROFLUOROMETHANE	[LT 0.5]	ug/L	EPA 524
1,2,3-TRICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
VINYL CHLORIDE	[LT 0.5]	ug/L	EPA 524
BENZENE	[LT 0.5]	ug/L	EPA 524
BROMOBENZENE	[LT 0.5]	ug/L	EPA 524
N-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 524
SEC-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 524
TERT-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 524
CHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
2-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 524
4-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 524
1,2-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,3-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,4-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
ETHYL BENZENE	[LT 0.5]	ug/L	EPA 524
HEXACHLOROBUTADIENE	[LT 0.5]	ug/L	EPA 524
ISOPROPYLBENZENE	[LT 0.5]	ug/L	EPA 524
P-ISOPROPYLTOLUENE	[LT 1.0]	ug/L	EPA 524
NAPHTHALENE	[LT 0.5]	ug/L	EPA 524
N-PROPYLBENZENE	[LT 0.5]	ug/L	EPA 524
STYRENE	[LT 0.5]	ug/L	EPA 524
TOLUENE	[LT 0.5]	ug/L	EPA 524
1,2,3-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,2,4-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,2,4-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 524
1,3,5-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 524
M-XYLENE	[LT 0.5]	ug/L	EPA 524
O-XYLENE	[LT 0.5]	ug/L	EPA 524
P-XYLENE	[NA]	ug/L	EPA 524
1,2-DIBROMOETHANE	[NA]	ug/L	EPA 524
1,2-DIBROMO-3-CHLOROPROPANE	[LT 1.0]	ug/L	EPA 524
METHYL TERT BUTYL ETHER	[ND]	ug/L	EPA 524
GASOLINE	[ND]	ug/L	EPA 524
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L	EPA 524
UNKNOWN(S)			

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

COMMENTS:

REPORTED BY: DAVID VINCI DATE: 04/29/91

Agency Collected For RCHD

Collected By B. Welty

Date/Time Collected 4/17/91

Bottle Numbers: Brown

Sample Location: 42 Demarest Mill Rd Nanuet Welty

Sample Site: Kitchen

Type of Sample:

[X] Potable Water

[ ] Non-Potable Water

[ ] Other: _____

POTABLE (DRINKING) WATER ANALYSES REQUESTED

[ ] Pesticides NYSDOH list	(509A)
[ ] Herbicides NYSDOH list	(509B)
[ ] Trihalomethanes	(501)
[X] Volatile Halocarbons	(502)
[X] Volatile Aromatics	(503)
[ ] Micro Extractables	(504)
[ ] GC/MS Volatiles	(524)
[ ] Phthalates	(606)
[ ] Pesticides	(608 list plus others)
[ ] PCBs	(608)
[ ] Polynuclear Aromatics	(610)
[ ] Herbicides	(615)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Acid Extractables	(625AE)
[ ] GC/MS Base Neutrals	(625BN)

NON-POTABLE WATER, WASTEWATER, SOLIDS, OTHER ANALYSES REQUESTED

[ ] Purgeable Halocarbons	(601,SW-846)
[ ] Purgeable Halocarbons (DEF)	(601,SW-846)
[ ] Purgeable Aromatics	(602,SW-846)
[ ] Purgeable Aromatics (DEF)	(602,SW-846)
[ ] Acrolein & Acrylonitrile	(603)
[ ] Phthalates	(606,SW-846)
[ ] Pesticides	(608,SW-846)
[ ] Pesticides (DEF)	(608,SW-846)
[ ] PCBs	(608,SW-846)
[ ] PCBs (DEF)	(608,SW-846)
[ ] Polynuclear Aromatics	(610,SW-846)
[ ] Herbicides	(615,SW-846)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Purgeables	(624,SW-846)
[ ] GC/MS Acid Extractables	(625,SW-846)
[ ] GC/MS Base Neutrals	(625,SW-846)
[ ] TCLP Pesticides/Herbicides	(SW-846)
[ ] TCLP Volatiles	(SW-846)

ENVIRONMENTAL ORGANIC CHEMISTRY SAMPLE SUBMISSION FORM

WESTCHESTER COUNTY DEPARTMENT OF LABORATORIES AND RESEARCH
Hammond House Road, Valhalla, New York 10595

NYS-ELAP NO. 10108

Form A-71 (rev. 9/90

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

ANALYTICAL CHEMISTRY REPORT

SAMPLE IDENTIFICATION

LAB NUMBER: 9110802622

COLLECTED: 04/17/91 TIME: 10:10
COLLECTOR: . GUIDICE
AGENCY : ROCKLAND CO. HEALTH DEPT.

RECEIVED ON: 04/18/91 TIME: 12:24
RECEIVED BY: BETTYE REID

SAMPLE LOC: SALERNO-NANUET CHRYSLER
DEMAREST MILL ROAD
BARDONIA NY

SAMPLING PT: PRIVATE HOUSE
SAMPLE TYPE: POTABLE

BOTTLE NUMBERS:

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
ORGANIC CHEMISTRY			
BROMOFORM	[LT 2.0]	ug/L	EPA 524
BROMODICHLOROMETHANE	[LT 0.5]	ug/L	EPA 524
CHLOROFORM	[LT 0.5]	ug/L	EPA 524
DIBROMOCHLOROMETHANE	[LT 2.0]	ug/L	EPA 524
BROMOCHLOROMETHANE	[LT 0.5]	ug/L	EPA 524
BROMOMETHANE	[LT 0.5]	ug/L	EPA 524
CARBON TETRACHLORIDE	[LT 0.5]	ug/L	EPA 524
CHLOROETHANE	[LT 0.5]	ug/L	EPA 524
CHLOROMETHANE	[LT 0.5]	ug/L	EPA 524
DIBROMOMETHANE	[LT 0.5]	ug/L	EPA 524
DICHLORODIFLUOROMETHANE	[LT 0.5]	ug/L	EPA 524
1,1-DICHLOROETHANE	[1.2]	ug/L	EPA 524
1,2-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,1-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
CIS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
TRANS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
1,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
1,3-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
2,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
1,1-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 524
CIS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 524
TRANS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 524

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

LAB NUMBER: 9110802622

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS METHOD:
METHYLENE CHLORIDE	[LT 0.5]	ug/L EPA 524
1,1,1,2-TETRACHLOROETHANE	[LT 0.5]	ug/L EPA 524
1,1,2,2-TETRACHLOROETHANE	[LT 0.5]	ug/L EPA 524
TETRACHLOROETHENE	[LT 0.5]	ug/L EPA 524
1,1,1-TRICHLOROETHANE	[LT 0.5]	ug/L EPA 524
1,1,2-TRICHLOROETHANE	[LT 0.5]	ug/L EPA 524
TRICHLOROETHENE	[LT 0.5]	ug/L EPA 524
TRICHLOROFLUOROMETHANE	[LT 0.5]	ug/L EPA 524
1,2,3-TRICHLOROPROPANE	[LT 0.5]	ug/L EPA 524
VINYL CHLORIDE	[LT 0.5]	ug/L EPA 524
BENZENE	[LT 0.5]	ug/L EPA 524
BROMOBENZENE	[LT 0.5]	ug/L EPA 524
N-BUTYLBENZENE	[LT 0.5]	ug/L EPA 524
SEC-BUTYLBENZENE	[LT 0.5]	ug/L EPA 524
TERT-BUTYLBENZENE	[LT 0.5]	ug/L EPA 524
CHLOROBENZENE	[LT 0.5]	ug/L EPA 524
2-CHLOROTOLUENE	[LT 0.5]	ug/L EPA 524
4-CHLOROTOLUENE	[LT 0.5]	ug/L EPA 524
1,2-DICHLOROBENZENE	[LT 0.5]	ug/L EPA 524
1,3-DICHLOROBENZENE	[LT 0.5]	ug/L EPA 524
1,4-DICHLOROBENZENE	[LT 0.5]	ug/L EPA 524
ETHYL BENZENE	[LT 0.5]	ug/L EPA 524
HEXACHLOROBUTADIENE	[LT 0.5]	ug/L EPA 524
ISOPROPYLBENZENE	[LT 0.5]	ug/L EPA 524
P-ISOPROPYLTOLUENE	[LT 0.5]	ug/L EPA 524
NAPHTHALENE	[LT 1.0]	ug/L EPA 524
N-PROPYLBENZENE	[LT 0.5]	ug/L EPA 524
STYRENE	[LT 0.5]	ug/L EPA 524
TOLUENE	[LT 0.5]	ug/L EPA 524
1,2,3-TRICHLOROBENZENE	[LT 0.5]	ug/L EPA 524
1,2,4-TRICHLOROBENZENE	[LT 0.5]	ug/L EPA 524
1,2,4-TRIMETHYLBENZENE	[LT 0.5]	ug/L EPA 524
1,3,5-TRIMETHYLBENZENE	[LT 0.5]	ug/L EPA 524
M-XYLENE	[LT 0.5]	ug/L EPA 524
O-XYLENE	[LT 0.5]	ug/L EPA 524
P-XYLENE	[NA]	ug/L EPA 524
1,2-DIBROMOETHANE	[NA]	ug/L EPA 524
1,2-DIBROMO-3-CHLOROPROPANE	[3.7]	ug/L EPA 524
METHYL TERT BUTYL ETHER	[ND]	ug/L EPA 524
GASOLINE	[ND]	ug/L EPA 524
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L EPA 524
UNKNOWN(S)		

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

COMMENTS:

REPORTED BY: DAVID VINCI DATE: 04/29/91

Agency Collected For RCHD

Collected By Guiliel

Date/Time Collected 4/17/91 10

Bottle Numbers: Salerno.

Sample Location: Salerno. — Type of Sample:

Naumel Chrysler. ... [X] Potable Water

Bardonia — [ ] Non-Potable Water

[ ] Other:

Sample Site: Private House.

POTABLE (DRINKING) WATER ANALYSES REQUESTED

[ ] Pesticides NYSDOH list (509A)
[ ] Herbicides NYSDOH list (509B)
[ ] Trihalomethanes (501)
[X] Volatile Halocarbons (502)
[X] Volatile Aromatics (503)
[ ] Micro Extractables (504)
[ ] GC/MS Volatiles (524)
[ ] Phthalates (606)
[ ] Pesticides (608 list plus others)
[ ] PCBs (608)
[ ] Polynuclear Aromatics (610)
[ ] Herbicides (615)
[ ] Petroleum Hydrocarbon Scan (310-13)
[ ] GC/MS Acid Extractables (625AE)
[ ] GC/MS Base Neutrals (625BN)

NON-POTABLE WATER, WASTEWATER, SOLIDS, OTHER ANALYSES REQUESTED

[ ] Purgeable Halocarbons (601,SW-846)
[ ] Purgeable Halocarbons (DEF) (601,SW-846)
[ ] Purgeable Aromatics (602,SW-846)
[ ] Purgeable Aromatics (DEF) (602,SW-846)
[ ] Acrolein & Acrylonitrile (603)
[ ] Phthalates (606,SW-846)
[ ] Pesticides (608,SW-846)
[ ] Pesticides (DEF) (608,SW-846)
[ ] PCBs (608,SW-846)
[ ] PCBs (DEF) (608,SW-846)
[ ] Polynuclear Aromatics (610,SW-846)
[ ] Herbicides (615,SW-846)
[ ] Petroleum Hydrocarbon Scan (310-13)
[ ] GC/MS Purgeables (624,SW-846)
[ ] GC/MS Acid Extractables (625,SW-846)
[ ] GC/MS Base Neutrals (625,SW-846)

[ ] TCLP Pesticides/Herbicides (SW-846)
[ ] TCLP Volatiles (SW-846)

ENVIRONMENTAL ORGANIC CHEMISTRY SAMPLE SUBMISSION FORM

WESTCHESTER COUNTY DEPARTMENT OF LABORATORIES AND RESEARCH
Hammond House Road, Valhalla, New York 10595
Form A-71 (rev. 9/90)

NYS-ELAP NO. 10108

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

ANALYTICAL CHEMISTRY REPORT

SAMPLE IDENTIFICATION

LAB NUMBER: 9109402272

COLLECTED: 04/04/91 TIME: 10:10
COLLECTOR: B. WELTY
AGENCY : ROCKLAND CO. HEALTH DEPT.

RECEIVED ON: 04/04/91 TIME: 13:08
RECEIVED BY: BETTYE REID

SAMPLE LOC: NANUET
STREAM BEHIND PATHMARK
NA NY

SAMPLING PT: AT CULVERT PIPE
SAMPLE TYPE: POTABLE

BOTTLE NUMBERS:

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
ORGANIC CHEMISTRY			
BROMOCHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
BROMODICHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
BROMOFORM	[LT 2.0]	ug/L	EPA 502
BROMOMETHANE	[LT 0.5]	ug/L	EPA 502
CARBON TETRACHLORIDE	[LT 0.5]	ug/L	EPA 502
CHLOROETHANE	[LT 0.5]	ug/L	EPA 502
CHLOROFORM	[LT 0.5]	ug/L	EPA 502
CHLOROMETHANE	[LT 2.0]	ug/L	EPA 502
DIBROMOCHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
DIBROMOMETHANE	[LT 0.5]	ug/L	EPA 502
DICHLORODIFLUOROMETHANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,2-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROETHENE	[4.7]	ug/L	EPA 502
CIS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
TRANS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
1,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
1,3-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
2,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502
CIS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502
TRANS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

LAB NUMBER: 9109402272

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
METHYLENE CHLORIDE	[LT 0.5]	ug/L	EPA 502
1,1,1,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1,2,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 502
TETRACHLOROETHENE	[LT 0.5]	ug/L	EPA 502
1,1,1-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1,2-TRICHLOROETHANE	[2.8]	ug/L	EPA 502
TRICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
TRICHLOROFLUOROMETHANE	[LT 0.5]	ug/L	EPA 502
1,2,3-TRICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
VINYL CHLORIDE	[ND]	ug/L	EPA 502
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L	EPA 502
UNKNOWN(S)	[LT 0.5]	ug/L	EPA 503
BENZENE	[LT 0.5]	ug/L	EPA 503
BROMOBENZENE	[LT 0.5]	ug/L	EPA 503
N-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
SEC-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
TERT-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
CHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
2-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 503
4-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 503
1,2-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,3-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,4-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
ETHYL BENZENE	[LT 0.5]	ug/L	EPA 503
HEXACHLOROBUTADIENE	[LT 0.5]	ug/L	EPA 503
ISOPROPYLBENZENE	[LT 0.5]	ug/L	EPA 503
P-ISOPROPYLTOLUENE	[LT 0.5]	ug/L	EPA 503
N-PROPYLBENZENE	[LT 0.5]	ug/L	EPA 503
STYRENE	[LT 0.5]	ug/L	EPA 503
TOLUENE	[LT 0.5]	ug/L	EPA 503
1,2,3-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,2,4-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,2,4-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 503
1,3,5-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 503
M-XYLENE	[LT 0.5]	ug/L	EPA 503
O-XYLENE	[LT 0.5]	ug/L	EPA 503
P-XYLENE	[7.9]	ug/L	EPA 503
METHYL TERT BUTYL ETHER	[N.A.]	ug/L	EPA 503
NAPHTHALENE	[SEE ABOVE]	ug/L	EPA 503
TRICHLOROETHENE	[N.A.]	ug/L	EPA 503
TETRACHLOROETHENE	[ND]	ug/L	EPA 503
GASOLINE			

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

LAB NUMBER: 9109402272

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
OTHER VOLATILE COMPOUND(S)	[PRESENT]	ug/L	EPA 503
UNKNOWN(S)	[ND]	ug/L	EPA 503,
METHYL ISOBUTYL KETONE	[2.6]	ug/L	EPA 503

COMMENTS:

REPORTED BY: DAVID VINCI DATE: 04/08/91

Agency Collected For RCHD

Collected By B. Welty

Date/Time Collected 4/4/91 10:10

Bottle Numbers: Stream Behind Pathmark

Sample Location: Nanuet

Sample Site: At culvert pipe

Type of Sample:

[X] Potable Water

[ ] Non-Potable Water

[ ] Other: _____

POTABLE (DRINKING) WATER ANALYSES REQUESTED

[ ] Pesticides NYSDOH list	(509A)
[ ] Herbicides NYSDOH list	(509B)
[ ] Trihalomethanes	(501)
[X] Volatile Halocarbons	(502)
[X] Volatile Aromatics	(503)
[ ] Micro Extractables	(504)
[ ] GC/MS Volatiles	(524)
[ ] Phthalates	(606)
[ ] Pesticides	(608 list plus others)
[ ] PCBs	(608)
[ ] Polynuclear Aromatics	(610)
[ ] Herbicides	(615)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Acid Extractables	(625AE)
[ ] GC/MS Base Neutrals	(625BN)

NON-POTABLE WATER, WASTEWATER, SOLIDS, OTHER ANALYSES REQUESTED

[ ] Purgeable Halocarbons	(601,SW-846)
[ ] Purgeable Halocarbons (DEF)	(601,SW-846)
[ ] Purgeable Aromatics	(602,SW-846)
[ ] Purgeable Aromatics (DEF)	(602,SW-846)
[ ] Acrolein & Acrylonitrile	(603)
[ ] Phthalates	(606,SW-846)
[ ] Pesticides	(608,SW-846)
[ ] Pesticides (DEF)	(608,SW-846)
[ ] PCBs	(608,SW-846)
[ ] PCBs (DEF)	(610,SW-846)
[ ] Polynuclear Aromatics	(615,SW-846)
[ ] Herbicides	(310-13)
[ ] Petroleum Hydrocarbon Scan	(624,SW-846)
[ ] GC/MS Purgeables	(625,SW-846)
[ ] GC/MS Acid Extractables	(625,SW-846)
[ ] GC/MS Base Neutrals	
[ ] TCLP Pesticides/Herbicides	(SW-846)
[ ] TCLP Volatiles	(SW-846)

ENVIRONMENTAL ORGANIC CHEMISTRY SAMPLE SUBMISSION FORM

WESTCHESTER COUNTY DEPARTMENT OF LABORATORIES AND RESEARCH
Hammond House Road, Valhalla, New York 10595

NYS-ELAP NO. 10108

Form A-71 (rev. 9/9

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

ANALYTICAL CHEMISTRY REPORT

SAMPLE IDENTIFICATION

LAB NUMBER: 9109402276

COLLECTED: 04/04/91 TIME: 11:25
COLLECTOR: B. WELTY
AGENCY : ROCKLAND CO. HEALTH DEPT.

RECEIVED ON: 04/04/91 TIME: 13:10
RECEIVED BY: BETTYE REID

SAMPLE LOC: STREAM OFF
WEST NYACK ROAD
NANUET NY

SAMPLING PT: STREAM
SAMPLE TYPE: POTABLE

BOTTLE NUMBERS:

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS METHOD:
ORGANIC CHEMISTRY		
BROMOCHLOROMETHANE	[LT 0.5]	ug/L EPA 502
BROMODICHLOROMETHANE	[LT 0.5]	ug/L EPA 502
BROMOFORM	[LT 2.0]	ug/L EPA 502
BROMOMETHANE	[LT 0.5]	ug/L EPA 502
CARBON TETRACHLORIDE	[LT 0.5]	ug/L EPA 502
CHLOROETHANE	[LT 0.5]	ug/L EPA 502
CHLOROFORM	[LT 0.5]	ug/L EPA 502
CHLOROMETHANE	[LT 0.5]	ug/L EPA 502
DIBROMOCHLOROMETHANE	[LT 2.0]	ug/L EPA 502
DIBROMOMETHANE	[LT 0.5]	ug/L EPA 502
DICHLORODIFLUOROMETHANE	[LT 0.5]	ug/L EPA 502
1,1-DICHLOROETHANE	[LT 0.5]	ug/L EPA 502
1,2-DICHLOROETHANE	[LT 0.5]	ug/L EPA 502
1,1-DICHLOROETHENE	[LT 0.5]	ug/L EPA 502
CIS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L EPA 502
TRANS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L EPA 502
1,2-DICHLOROPROPANE	[LT 0.5]	ug/L EPA 502
1,3-DICHLOROPROPANE	[LT 0.5]	ug/L EPA 502
2,2-DICHLOROPROPANE	[LT 0.5]	ug/L EPA 502
1,1-DICHLOROPROPENE	[LT 0.5]	ug/L EPA 502
CIS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L EPA 502
TRANS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L EPA 502

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

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HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

LAB NUMBER: 9109402276

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
METHYLENE CHLORIDE	[LT 0.5]	ug/L	EPA 502
1,1,1,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 502,
1,1,2,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 502
TETRACHLOROETHENE	[LT 0.5]	ug/L	EPA 502
1,1,1-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1,2-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
TRICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
TRICHLOROFLUOROMETHANE	[LT 0.5]	ug/L	EPA 502
1,2,3-TRICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
VINYL CHLORIDE	[LT 0.5]	ug/L	EPA 502
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L	EPA 502
UNKNOWN(S)	[ND]	ug/L	EPA 502
BENZENE	[LT 0.5]	ug/L	EPA 503
BROMOBENZENE	[LT 0.5]	ug/L	EPA 503
N-BUTYLBENZENE	[0.86]	ug/L	EPA 503
SEC-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
TERT-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
CHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
2-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 503
4-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 503
1,2-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,3-DICHLOROBENZENE	[0.63]	ug/L	EPA 503
1,4-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
ETHYL BENZENE	[4.4]	ug/L	EPA 503
HEXACHLOROBUTADIENE	[LT 0.5]	ug/L	EPA 503
ISOPROPYLBENZENE	[LT 0.5]	ug/L	EPA 503
P-ISOPROPYLTOLUENE	[LT 0.5]	ug/L	EPA 503
N-PROPYLBENZENE	[LT 0.5]	ug/L	EPA 503
STYRENE	[LT 0.5]	ug/L	EPA 503
TOLUENE	[LT 0.5]	ug/L	EPA 503
1,2,3-TRICHLOROBENZENE	[0.71]	ug/L	EPA 503
1,2,4-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,2,4-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 503
1,3,5-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 503
M-XYLENE	[LT 0.5]	ug/L	EPA 503
O-XYLENE	[LT 0.5]	ug/L	EPA 503
P-XYLENE	[12]	ug/L	EPA 503
METHYL TERT BUTYL ETHER	[1.1]	ug/L	EPA 503
NAPHTHALENE	[N.A.]	ug/L	EPA 503
TRICHLOROETHENE	[N.A.]	ug/L	EPA 503
TETRACHLOROETHENE	[ND]	ug/L	EPA 503
GASOLINE			

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

LAB NUMBER: 9109402276

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS METHOD:
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L EPA 503
UNKNOWN(S)	[PRESENT]	ug/L EPA 503,

COMMENTS:

METHOD: EPA 503
MIBK 2.3 UG/L

REPORTED BY: DAVID VINCI DATE: 04/08/91

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

Agency Collected For ~~[illegible]~~ 10   002[illegible]

REC'D BY: RK

Collected By B. Welty

Date/Time Collected 4/4/91 11:25

Bottle Numbers: Stream off W. Nyack Rd.

Sample Location: Nanuet

Type of Sample:

[X] Potable Water

[ ] Non-Potable Water

[ ] Other:

Sample Site:

POTABLE (DRINKING) WATER ANALYSES REQUESTED

[ ]	Pesticides NYSDOH list	(509A)
[ ]	Herbicides NYSDOH list	(509B)
[ ]	Trihalomethanes	(501)
[X]	Volatile Halocarbons	(502)
[X]	Volatile Aromatics	(503)
[ ]	Micro Extractables	(504)
[ ]	GC/MS Volatiles	(524)
[ ]	Phthalates	(606)
[ ]	Pesticides	(608 list plus others)
[ ]	PCBs	(608)
[ ]	Polynuclear Aromatics	(610)
[ ]	Herbicides	(615)
[ ]	Petroleum Hydrocarbon Scan	(310-13)
[ ]	GC/MS Acid Extractables	(625AE)
[ ]	GC/MS Base Neutrals	(625BN)

NON-POTABLE WATER, WASTEWATER, SOLIDS, OTHER ANALYSES REQUESTED

[ ]	Purgeable Halocarbons	(601,SW-846)
[ ]	Purgeable Halocarbons (DEF)	(601,SW-846)
[ ]	Purgeable Aromatics	(602,SW-846)
[ ]	Purgeable Aromatics (DEF)	(602,SW-846)
[ ]	Acrolein & Acrylonitrile	(603)
[ ]	Phthalates	(606,SW-846)
[ ]	Pesticides	(608,SW-846)
[ ]	Pesticides (DEF)	(608,SW-846)
[ ]	PCBs	(608,SW-846)
[ ]	PCBs (DEF)	(608,SW-846)
[ ]	Polynuclear Aromatics	(610,SW-846)
[ ]	Herbicides	(615,SW-846)
[ ]	Petroleum Hydrocarbon Scan	(310-13)
[ ]	GC/MS Purgeables	(624,SW-846)
[ ]	GC/MS Acid Extractables	(625,SW-846)
[ ]	GC/MS Base Neutrals	(625,SW-846)
[ ]	TCLP Pesticides/Herbicides	(SW-846)
[ ]	TCLP Volatiles	(SW-846)

ENVIRONMENTAL ORGANIC CHEMISTRY SAMPLE SUBMISSION FORM

WESTCHESTER COUNTY DEPARTMENT OF LABORATORIES AND RESEARCH
Hammond House Road, Valhalla, New York 10595

Form A-71 (rev. 9/90)

NYS-ELAP NO. 10108

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

ANALYTICAL CHEMISTRY REPORT

SAMPLE IDENTIFICATION

LAB NUMBER: 9109902363

COLLECTED: 04/09/91 TIME:
COLLECTOR: B. WELTY
AGENCY : ROCKLAND CO. HEALTH DEPT.

RECEIVED ON: 04/09/91 TIME: 12:57
RECEIVED BY: SALLY TEDRICK

SAMPLE LOC: ROCKLAND BAKERY
DEMAREST MILL RD.
NANUET NY

SAMPLING PT: MENS RM-BEF.FILTER
SAMPLE TYPE: POTABLE

BOTTLE NUMBERS:

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
ORGANIC CHEMISTRY			
BROMOFORM	[LT 2.0]	ug/L	EPA 524
BROMODICHLOROMETHANE	[LT 0.5]	ug/L	EPA 524
CHLOROFORM	[LT 0.5]	ug/L	EPA 524
DIBROMOCHLOROMETHANE	[LT 2.0]	ug/L	EPA 524
BROMOCHLOROMETHANE	[LT 0.5]	ug/L	EPA 524
BROMOMETHANE	[LT 0.5]	ug/L	EPA 524
CARBON TETRACHLORIDE	[LT 0.5]	ug/L	EPA 524
CHLOROETHANE	[LT 0.5]	ug/L	EPA 524
CHLOROMETHANE	[LT 0.5]	ug/L	EPA 524
DIBROMOMETHANE	[LT 0.5]	ug/L	EPA 524
DICHLORODIFLUOROMETHANE	[0.56]	ug/L	EPA 524
1,1-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,2-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,1-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
CIS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
TRANS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
1,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
1,3-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
2,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
1,1-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 524
CIS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 524
TRANS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 524

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

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HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
METHYLENE CHLORIDE	[LT 0.5]	ug/L	EPA 524
1,1,1,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,1,2,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 524
TETRACHLOROETHENE	[LT 0.5]	ug/L	EPA 524
1,1,1-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,1,2-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
TRICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
TRICHLOROFLUOROMETHANE	[LT 0.5]	ug/L	EPA 524
1,2,3-TRICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
VINYL CHLORIDE	[LT 0.5]	ug/L	EPA 524
BENZENE	[LT 0.5]	ug/L	EPA 524
BROMOBENZENE	[LT 0.5]	ug/L	EPA 524
N-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 524
SEC-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 524
TERT-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 524
CHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
2-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 524
4-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 524
1,2-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,3-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,4-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
ETHYL BENZENE	[LT 0.5]	ug/L	EPA 524
HEXACHLOROBUTADIENE	[LT 0.5]	ug/L	EPA 524
ISOPROPYLBENZENE	[LT 0.5]	ug/L	EPA 524
P-ISOPROPYLTOLUENE	[LT 0.5]	ug/L	EPA 524
NAPHTHALENE	[LT 1.0]	ug/L	EPA 524
N-PROPYLBENZENE	[LT 0.5]	ug/L	EPA 524
STYRENE	[LT 0.5]	ug/L	EPA 524
TOLUENE	[LT 0.5]	ug/L	EPA 524
1,2,3-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,2,4-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,2,4-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 524
1,3,5-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 524
M-XYLENE	[LT 0.5]	ug/L	EPA 524
O-XYLENE	[LT 0.5]	ug/L	EPA 524
P-XYLENE	[NA]	ug/L	EPA 524
1,2-DIBROMOETHANE	[NA]	ug/L	EPA 524
1,2-DIBROMO-3-CHLOROPROPANE	[LT 1.0]	ug/L	EPA 524
METHYL TERT BUTYL ETHER	[ND]	ug/L	EPA 524
GASOLINE	[ND]	ug/L	EPA 524
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L	EPA 524
UNKNOWN(S)			

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

COMMENTS:

REPORTED BY: DAVID VINCI DATE: 04/19/91

Agency Collected For RCHD

Collected By B. Weitz

Date/Time Collected 4/9/91

Bottle Numbers: Rockland Bakery

Sample Location: Demarest Mill Rd Nanuet

Well-Before Softener/Filter

Sample Site: Mens Room Sink

'91 APR -9 P 12:57

00343

RECD BY:

Type of Sample:

[X] Potable Water

[ ] Non-Potable Water

[ ] Other:

POTABLE (DRINKING) WATER ANALYSES REQUESTED

[ ] Pesticides NYSDOH list	(509A)
[ ] Herbicides NYSDOH list	(509B)
[ ] Trihalomethanes	(501)
[ ] Volatile Halocarbons	(502)
[X] Volatile Aromatics	(503)
[X] Micro Extractables	(504)
[ ] GC/MS Volatiles	(524)
[ ] Phthalates	(606)
[ ] Pesticides	(608 list plus others)
[ ] PCBs	(608)
[ ] Polynuclear Aromatics	(610)
[ ] Herbicides	(615)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Acid Extractables	(625AE)
[ ] GC/MS Base Neutrals	(625BN)

NON-POTABLE WATER, WASTEWATER, SOLIDS, OTHER ANALYSES REQUESTED

[ ] Purgeable Halocarbons	(601,SW-846)
[ ] Purgeable Halocarbons (DEF)	(601,SW-846)
[ ] Purgeable Aromatics	(602,SW-846)
[ ] Purgeable Aromatics (DEF)	(602,SW-846)
[ ] Acrolein & Acrylonitrile	(603)
[ ] Phthalates	(606,SW-846)
[ ] Pesticides	(608,SW-846)
[ ] Pesticides (DEF)	(608,SW-846)
[ ] PCBs	(608,SW-846)
[ ] PCBs (DEF)	(610,SW-846)
[ ] Polynuclear Aromatics	(615,SW-846)
[ ] Herbicides	(310-13)
[ ] Petroleum Hydrocarbon Scan	(624,SW-846)
[ ] GC/MS Purgeables	(625,SW-846)
[ ] GC/MS Acid Extractables	(625,SW-846)
[ ] GC/MS Base Neutrals	
[ ] TCLP Pesticides/Herbicides	(SW-846)
[ ] TCLP Volatiles	(SW-846)

ENVIRONMENTAL ORGANIC CHEMISTRY SAMPLE SUBMISSION FORM

WESTCHESTER COUNTY DEPARTMENT OF LABORATORIES AND RESEARCH
Hammond House Road, Valhalla, New York 10595

Form A-71 (rev. 9/90

NYS-ELAP NO. 10108

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

ANALYTICAL CHEMISTRY REPORT

SAMPLE IDENTIFICATION

LAB NUMBER: 9109402278

COLLECTED: 04/04/91 TIME: 12:20
COLLECTOR: B. WELTY
AGENCY : ROCKLAND CO. HEALTH DEPT.

RECEIVED ON: 04/04/91 . TIME: 13:10
RECEIVED BY: BETTYE REID

SAMPLE LOC: ROCKLAND BAKERY
94 DEMAREST MILL ROAD
NANUET NY

SAMPLING PT: BATHROOM SINK
SAMPLE TYPE: POTABLE

BOTTLE NUMBERS:

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
ORGANIC CHEMISTRY			
BROMOCHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
BROMODICHLOROMETHANE	[0.72]	ug/L	EPA 502
BROMOFORM	[T]	ug/L	EPA 502
BROMOMETHANE	[LT 0.5]	ug/L	EPA 502
CARBON TETRACHLORIDE	[LT 0.5]	ug/L	EPA 502
CHLOROETHANE	[LT 0.5]	ug/L	EPA 502
CHLOROFORM	[T]	ug/L	EPA 502
CHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
DIBROMOCHLOROMETHANE	[T]	ug/L	EPA 502
DIBROMOMETHANE	[LT 0.5]	ug/L	EPA 502
DICHLORODIFLUOROMETHANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,2-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
CIS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
TRANS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
1,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
1,3-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
2,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502
CIS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502
TRANS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA,N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
METHYLENE CHLORIDE	[LT 0.5]	ug/L	EPA 502
1,1,1,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1,2,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 502
TETRACHLOROETHENE	[T]	ug/L	EPA 502
1,1,1-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1,2-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
TRICHLOROETHENE	[T]	ug/L	EPA 502
TRICHLOROFLUOROMETHANE	[LT 0.5]	ug/L	EPA 502
1,2,3-TRICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
VINYL CHLORIDE	[LT 0.5]	ug/L	EPA 502
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L	EPA 502
UNKNOWN(S)	[ND]	ug/L	EPA 502
BENZENE	[LT 0.5]	ug/L	EPA 503
BROMOBENZENE	[LT 0.5]	ug/L	EPA 503
N-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
SEC-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
TERT-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
CHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
2-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 503
4-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 503
1,2-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,3-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,4-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
ETHYL BENZENE	[LT 0.5]	ug/L	EPA 503
HEXACHLOROBUTADIENE	[LT 0.5]	ug/L	EPA 503
ISOPROPYLBENZENE	[LT 0.5]	ug/L	EPA 503
P-ISOPROPYLTOLUENE	[LT 0.5]	ug/L	EPA 503
N-PROPYLBENZENE	[LT 0.5]	ug/L	EPA 503
STYRENE	[LT 0.5]	ug/L	EPA 503
TOLUENE	[LT 0.5]	ug/L	EPA 503
1,2,3-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,2,4-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,2,4-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 503
1,3,5-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 503
M-XYLENE	[LT 0.5]	ug/L	EPA 503
O-XYLENE	[LT 0.5]	ug/L	EPA 503
P-XYLENE	[LT 1.0]	ug/L	EPA 503
METHYL TERT BUTYL ETHER	[N.A.]	ug/L	EPA 503
NAPHTHALENE	[N.A.]	ug/L	EPA 503
TRICHLOROETHENE	[N.A.]	ug/L	EPA 503
TETRACHLOROETHENE	[ND]	ug/L	EPA 503
GASOLINE			

LT. = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

LAB NUMBER: 9109402278

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS METHOD:
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L EPA 503
UNKNOWN(S)	[ND]	ug/L EPA 503
1,2-DIBROMOETHANE	[LT 0.02]	ug/L EPA 504
1,2-DIBROMO-3-CHLOROPROPANE	[LT 0.02]	ug/L EPA 504

COMMENTS:

REPORTED BY: DAVID VINCI DATE: 04/19/91

LT. = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

Agency Collected For RCHD

Collected By B. Weiss -- P 1:10

Date/Time Collected 4/4/91 12:20

Bottle Numbers: Rockland Bakery

Sample Location: 94 Demarest Mill Rd. Nanuet Well

Sample Site: Bathroom Sink

Type of Sample:

[X] Potable Water

[ ] Non-Potable Water

[ ] Other: _____

POTABLE (DRINKING) WATER ANALYSES REQUESTED

[ ] Pesticides NYSDOH list	(509A)
[ ] Herbicides NYSDOH list	(509B)
[ ] Trihalomethanes	(501)
[X] Volatile Halocarbons	(502)
[X] Volatile Aromatics	(503)
[X] Micro Extractables	(504)
[ ] GC/MS Volatiles	(524)
[ ] Phthalates	(606)
[ ] Pesticides	(608 list plus others)
[ ] PCBs	(608)
[ ] Polynuclear Aromatics	(610)
[ ] Herbicides	(615)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Acid Extractables	(625AE)
[ ] GC/MS Base Neutrals	(625BN)

NON-POTABLE WATER, WASTEWATER, SOLIDS, OTHER ANALYSES REQUESTED

[ ] Purgeable Halocarbons	(601,SW-846)
[ ] Purgeable Halocarbons (DEF)	(601,SW-846)
[ ] Purgeable Aromatics	(602,SW-846)
[ ] Purgeable Aromatics (DEF)	(602,SW-846)
[ ] Acrolein & Acrylonitrile	(603)
[ ] Phthalates	(606,SW-846)
[ ] Pesticides	(608,SW-846)
[ ] Pesticides (DEF)	(608,SW-846)
[ ] PCBs	(608,SW-846)
[ ] PCBs (DEF)	(608,SW-846)
[ ] Polynuclear Aromatics	(610,SW-846)
[ ] Herbicides	(615,SW-846)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Purgeables	(624,SW-846)
[ ] GC/MS Acid Extractables	(625,SW-846)
[ ] GC/MS Base Neutrals	(625,SW-846)
[ ] TCLP Pesticides/Herbicides	(SW-846)
[ ] TCLP Volatiles	(SW-846)

ENVIRONMENTAL ORGANIC CHEMISTRY SAMPLE SUBMISSION FORM

WESTCHESTER COUNTY DEPARTMENT OF LABORATORIES AND RESEARCH
Hammond House Road, Valhalla, New York 10595
NYS-ELAP NO. 10108

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

ANALYTICAL CHEMISTRY REPORT

SAMPLE IDENTIFICATION

LAB NUMBER: 9110902663

COLLECTED: 02/18/91 TIME: 10:45
COLLECTOR: J.T. DOREY
AGENCY : ROCKLAND CO. HEALTH DEPT.

RECEIVED ON: 04/19/91 TIME: 13:09
RECEIVED BY: BETTYE REID

SAMPLE LOC: RESIDENCE
144 WEST NYACK ROAD
NANUET NY

SAMPLING PT: HAND PUMP
SAMPLE TYPE: POTABLE

BOTTLE NUMBERS: K L M

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
ORGANIC CHEMISTRY			
1,2-DIBROMOETHANE	[LT 0.02]	ug/L	EPA 504
1,2-DIBROMO-3-CHLOROPROPANE	[LT 0.02]	ug/L	EPA 504
BROMOFORM	[LT 2.0]	ug/L	EPA 524
BROMODICHLOROMETHANE	[LT 0.5]	ug/L	EPA 524
CHLOROFORM	[LT 0.5]	ug/L	EPA 524
DIBROMOCHLOROMETHANE	[LT 2.0]	ug/L	EPA 524
BROMOCHLOROMETHANE	[LT 0.5]	ug/L	EPA 524
BROMOMETHANE	[LT 0.5]	ug/L	EPA 524
CARBON TETRACHLORIDE	[LT 0.5]	ug/L	EPA 524
CHLOROETHANE	[LT 0.5]	ug/L	EPA 524
CHLOROMETHANE	[LT 0.5]	ug/L	EPA 524
DIBROMOMETHANE	[LT 0.5]	ug/L	EPA 524
DICHLORODIFLUOROMETHANE	[LT 0.5]	ug/L	EPA 524
1,1-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,2-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,1-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
CIS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
TRANS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
1,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
1,3-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
2,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
1,1-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 524

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
CIS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 524
TRANS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 524
METHYLENE CHLORIDE	[LT 0.5]	ug/L	EPA 524
1,1,1,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,1,2,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 524
TETRACHLOROETHENE	[LT 0.5]	ug/L	EPA 524
1,1,1-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,1,2-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
TRICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
TRICHLOROFLUOROMETHANE	[LT 0.5]	ug/L	EPA 524
1,2,3-TRICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
VINYL CHLORIDE	[LT 0.5]	ug/L	EPA 524
BENZENE	[LT 0.5]	ug/L	EPA 524
BROMOBENZENE	[LT 0.5]	ug/L	EPA 524
N-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 524
SEC-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 524
TERT-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 524
CHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
2-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 524
4-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 524
1,2-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,3-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,4-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
ETHYL BENZENE	[LT 0.5]	ug/L	EPA 524
HEXACHLOROBUTADIENE	[LT 0.5]	ug/L	EPA 524
ISOPROPYLBENZENE	[LT 0.5]	ug/L	EPA 524
P-ISOPROPYLTOLUENE	[LT 0.5]	ug/L	EPA 524
NAPHTHALENE	[LT 1.0]	ug/L	EPA 524
N-PROPYLBENZENE	[LT 0.5]	ug/L	EPA 524
STYRENE	[LT 0.5]	ug/L	EPA 524
TOLUENE	[LT 0.5]	ug/L	EPA 524
1,2,3-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,2,4-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,2,4-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 524
1,3,5-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 524
M-XYLENE	[LT 0.5]	ug/L	EPA 524
O-XYLENE	[LT 0.5]	ug/L	EPA 524
P-XYLENE	[LT 0.5]	ug/L	EPA 524
1,2-DIBROMOETHANE	[NA]	ug/L	EPA 524
1,2-DIBROMO-3-CHLOROPROPANE	[NA]	ug/L	EPA 524
METHYL TERT BUTYL ETHER	[LT 1.0]	ug/L	EPA 524
GASOLINE	[ND]	ug/L	EPA 524

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA,N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

LAB NUMBER:9110902663 PAGE : 3

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L	EPA 524
UNKNOWN(S)	[ND]	ug/L	EPA 524

COMMENTS:

REPORTED BY: DAVID VINCI DATE: 05/03/91

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

Agency Collected For RCHD

Collected By J. T. Dorey

Date/Time Collected 1/18/91 10:45

Bottle Numbers: K L M

Sample Location: 1 #144 West Nyack Rd NANUET NY

Sample Site: HAND PUMP

Type of Sample:

[ ] Potable Water

[X] Non-Potable Water

[ ] Other: _____

POTABLE (DRINKING) WATER ANALYSES REQUESTED

[ ] Pesticides NYSDOH list	(509A)
[ ] Herbicides NYSDOH list	(509B)
[ ] Trihalomethanes	(501)
[X] Volatile Halocarbons	(502)
[X] Volatile Aromatics	(503)
[X] Micro Extractables	(504)
[ ] GC/MS Volatiles	(524)
[ ] Phthalates	(606)
[ ] Pesticides	(608 list plus others)
[ ] PCBs	(608)
[ ] Polynuclear Aromatics	(610)
[ ] Herbicides	(615)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Acid Extractables	(625AE)
[ ] GC/MS Base Neutrals	(625BN)

NON-POTABLE WATER, WASTEWATER, SOLIDS, OTHER ANALYSES REQUESTED

[ ] Purgeable Halocarbons	(601,SW-846)
[ ] Purgeable Halocarbons (DEF)	(601,SW-846)
[ ] Purgeable Aromatics	(602,SW-846)
[ ] Purgeable Aromatics (DEF)	(602,SW-846)
[ ] Acrolein & Acrylonitrile	(603)
[ ] Phthalates	(606,SW-846)
[ ] Pesticides	(608,SW-846)
[ ] Pesticides (DEF)	(608,SW-846)
[ ] PCBs	(608,SW-846)
[ ] PCBs (DEF)	(608,SW-846)
[ ] Polynuclear Aromatics	(610,SW-846)
[ ] Herbicides	(615,SW-846)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Purgeables	(624,SW-846)
[ ] GC/MS Acid Extractables	(625,SW-846)
[ ] GC/MS Base Neutrals	(625,SW-846)
[ ] TCLP Pesticides/Herbicides	(SW-846)
[ ] TCLP Volatiles	(SW-846)

ENVIRONMENTAL ORGANIC CHEMISTRY SAMPLE SUBMISSION FORM

WESTCHESTER COUNTY DEPARTMENT OF LABORATORIES AND RESEARCH
Hammond House Road, Valhalla, New York 10595

NYS-ELAP NO. 10108

Form A-71 (rev. 9/90)

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

ANALYTICAL CHEMISTRY REPORT

SAMPLE IDENTIFICATION

LAB NUMBER: 9110902665

COLLECTED: 04/18/91 TIME:
COLLECTOR: B. WELTY
AGENCY : ROCKLAND CO. HEALTH DEPT.

RECEIVED ON: 04/19/91 TIME: 13:09
RECEIVED BY: BETTYE REID

SAMPLE LOC: B. KERBSTAT
36 ROSS ROAD
W. NYACK NY

SAMPLING PT: KITCHEN
SAMPLE TYPE: POTABLE

BOTTLE NUMBERS:

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
ORGANIC CHEMISTRY			
BROMOFORM	[LT 2.0]	ug/L	EPA 524
BROMODICHLOROMETHANE	[LT 0.5]	ug/L	EPA 524
CHLOROFORM	[LT 0.5]	ug/L	EPA 524
DIBROMOCHLOROMETHANE	[LT 2.0]	ug/L	EPA 524
BROMOCHLOROMETHANE	[LT 0.5]	ug/L	EPA 524
BROMOMETHANE	[LT 0.5]	ug/L	EPA 524
CARBON TETRACHLORIDE	[LT 0.5]	ug/L	EPA 524
CHLOROETHANE	[LT 0.5]	ug/L	EPA 524
CHLOROMETHANE	[LT 0.5]	ug/L	EPA 524
DIBROMOMETHANE	[LT 0.5]	ug/L	EPA 524
DICHLORODIFLUOROMETHANE	[LT 0.5]	ug/L	EPA 524
1,1-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,2-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,1-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
CIS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
TRANS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
1,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
1,3-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
2,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
1,1-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 524
CIS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 524
TRANS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 524

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA,N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

LAB NUMBER:9110902665 PAGE : 2

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
METHYLENE CHLORIDE	[LT 0.5]	ug/L	EPA 524
1,1,1,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,1,2,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 524
TETRACHLOROETHENE	[LT 0.5]	ug/L	EPA 524
1,1,1-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,1,2-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
TRICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
TRICHLOROFLUOROMETHANE	[LT 0.5]	ug/L	EPA 524
1,2,3-TRICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
VINYL CHLORIDE	[LT 0.5]	ug/L	EPA 524
BENZENE	[LT 0.5]	ug/L	EPA 524
BROMOBENZENE	[LT 0.5]	ug/L	EPA 524
N-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 524
SEC-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 524
TERT-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 524
CHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
2-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 524
4-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 524
1,2-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,3-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,4-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
ETHYL BENZENE	[LT 0.5]	ug/L	EPA 524
HEXACHLOROBUTADIENE	[LT 0.5]	ug/L	EPA 524
ISOPROPYLBENZENE	[LT 0.5]	ug/L	EPA 524
P-ISOPROPYLTOLUENE	[LT 0.5]	ug/L	EPA 524
NAPHTHALENE	[LT 1.0]	ug/L	EPA 524
N-PROPYLBENZENE	[LT 0.5]	ug/L	EPA 524
STYRENE	[LT 0.5]	ug/L	EPA 524
TOLUENE	[LT 0.5]	ug/L	EPA 524
1,2,3-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,2,4-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,2,4-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 524
1,3,5-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 524
M-XYLENE	[LT 0.5]	ug/L	EPA 524
O-XYLENE	[LT 0.5]	ug/L	EPA 524
P-XYLENE	[LT 0.5]	ug/L	EPA 524
1,2-DIBROMOETHANE	[NA]	ug/L	EPA 524
1,2-DIBROMO-3-CHLOROPROPANE	[NA]	ug/L	EPA 524
METHYL TERT BUTYL ETHER	[LT 1.0]	ug/L	EPA 524
GASOLINE	[ND]	ug/L	EPA 524
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L	EPA 524
UNKNOWN(S)	[ND]	ug/L	EPA 524

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

==========

COMMENTS:

REPORTED BY: DAVID VINCI DATE: 05/03/91

Collected For RCHD

Collected By B. Welty

Date/Time Collected 4/18/91

Bottle Numbers: B. Kerbstat

Sample Location: 36 Rose Rd. W. Nyack Well

Sample Site: Kitchen

Type of Sample:

[X] Potable Water

[ ] Non-Potable Water

[ ] Other: _____

POTABLE (DRINKING) WATER ANALYSES REQUESTED

[ ] Pesticides NYSDOH list	(509A)
[ ] Herbicides NYSDOH list	(509B)
[ ] Trihalomethanes	(501)
[X] Volatile Halocarbons	(502)
[X] Volatile Aromatics	(503)
[ ] Micro Extractables	(504)
[ ] GC/MS Volatiles	(524)
[ ] Phthalates	(606)
[ ] Pesticides	(608 list plus others)
[ ] PCBs	(608)
[ ] Polynuclear Aromatics	(610)
[ ] Herbicides	(615)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Acid Extractables	(625AE)
[ ] GC/MS Base Neutrals	(625BN)

NON-POTABLE WATER, WASTEWATER, SOLIDS, OTHER ANALYSES REQUESTED

[ ] Purgeable Halocarbons	(601,SW-846)
[ ] Purgeable Halocarbons (DEF)	(601,SW-846)
[ ] Purgeable Aromatics	(602,SW-846)
[ ] Purgeable Aromatics (DEF)	(602,SW-846)
[ ] Acrolein & Acrylonitrile	(603)
[ ] Phthalates	(606,SW-846)
[ ] Pesticides	(608,SW-846)
[ ] Pesticides (DEF)	(608,SW-846)
[ ] PCBs	(608,SW-846)
[ ] PCBs (DEF)	(608,SW-846)
[ ] Polynuclear Aromatics	(610,SW-846)
[ ] Herbicides	(615,SW-846)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Purgeables	(624,SW-846)
[ ] GC/MS Acid Extractables	(625,SW-846)
[ ] GC/MS Base Neutrals	(625,SW-846)
[ ] TCLP Pesticides/Herbicides	(SW-846)
[ ] TCLP Volatiles	(SW-846)

ENVIRONMENTAL ORGANIC CHEMISTRY SAMPLE SUBMISSION FORM

WESTCHESTER COUNTY DEPARTMENT OF LABORATORIES AND RESEARCH
Hammond House Road, Valhalla, New York 10595

NYS-ELAP NO. 10108

Form A-71 (rev. 9/90)

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

ANALYTICAL CHEMISTRY REPORT

SAMPLE IDENTIFICATION

LAB NUMBER: 9110902666

COLLECTED: 04/18/91 TIME:
COLLECTOR: B. WELTY
AGENCY : ROCKLAND CO. HEALTH DEPT.

RECEIVED ON: 04/19/91 TIME: 13:09
RECEIVED BY: BETTYE REID

SAMPLE LOC: M. FROHLING
93 SMITH STREET
NANUET NY

SAMPLING PT: WELL
SAMPLE TYPE: POTABLE

BOTTLE NUMBERS:

CG-
These are the rest of the private well test results from near LA Woman Miracles.

JL

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNIT	
ORGANIC CHEMISTRY			
BROMOFORM	[LT 2.0]	ug/l	
BROMODICHLOROMETHANE	[LT 0.5]	ug/l	
CHLOROFORM	[LT 0.5]	ug/l	
DIBROMOCHLOROMETHANE	[LT 2.0]	ug/l	
BROMOCHLOROMETHANE	[LT 0.5]	ug/l	
BROMOMETHANE	[LT 0.5]	ug/l	
CARBON TETRACHLORIDE	[LT 0.5]	ug/L	EPA 524
CHLOROETHANE	[LT 0.5]	ug/L	EPA 524
CHLOROMETHANE	[LT 0.5]	ug/L	EPA 524
DIBROMOMETHANE	[LT 0.5]	ug/L	EPA 524
DICHLORODIFLUOROMETHANE	[LT 0.5]	ug/L	EPA 524
1,1-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,2-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,1-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
CIS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
TRANS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
1,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
1,3-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
2,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
1,1-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 524
CIS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 524
TRANS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 524

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORI
NYS ELAP NO: 10108
914-524-5575

LAB NUMBER: 9110902666

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
METHYLENE CHLORIDE	[LT 0.5]	ug/L	EPA 524
1,1,1,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,1,2,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 524
TETRACHLOROETHENE	[LT 0.5]	ug/L	EPA 524
1,1,1-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,1,2-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
TRICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
TRICHLOROFLUOROMETHANE	[LT 0.5]	ug/L	EPA 524
1,2,3-TRICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
VINYL CHLORIDE	[LT 0.5]	ug/L	EPA 524
BENZENE	[LT 0.5]	ug/L	EPA 524
BROMOBENZENE	[LT 0.5]	ug/L	EPA 524
N-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 524
SEC-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 524
TERT-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 524
CHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
2-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 524
4-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 524
1,2-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,3-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,4-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
ETHYL BENZENE	[LT 0.5]	ug/L	EPA 524
HEXACHLOROBUTADIENE	[LT 0.5]	ug/L	EPA 524
ISOPROPYLBENZENE	[LT 0.5]	ug/L	EPA 524
P-ISOPROPYLTOLUENE	[LT 1.0]	ug/L	EPA 524
NAPHTHALENE	[LT 0.5]	ug/L	EPA 524
N-PROPYLBENZENE	[LT 0.5]	ug/L	EPA 524
STYRENE	[LT 0.5]	ug/L	EPA 524
TOLUENE	[LT 0.5]	ug/L	EPA 524
1,2,3-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,2,4-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,2,4-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 524
1,3,5-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 524
M-XYLENE	[LT 0.5]	ug/L	EPA 524
O-XYLENE	[LT 0.5]	ug/L	EPA 524
P-XYLENE	[NA]	ug/L	EPA 524
1,2-DIBROMOETHANE	[NA]	ug/L	EPA 524
1,2-DIBROMO-3-CHLOROPROPANE	[LT 1.0]	ug/L	EPA 524
METHYL TERT BUTYL ETHER	[ND]	ug/L	EPA 524
GASOLINE	[ND]	ug/L	EPA 524
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L	EPA 524
UNKNOWN(S)			

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

Agency Collected For RCHD

Collected By B. Welty

Date/Time Collected 4/19/91

Bottle Numbers: M. Frohling

Sample Location: 93 Smith St. Nanuet well

Sample Site: ~~kit~~

Type of Sample:

[X] Potable Water

[ ] Non-Potable Water

[ ] Other: _____

POTABLE (DRINKING) WATER ANALYSES REQUESTED

[ ] Pesticides NYSDOH list	(509A)
[ ] Herbicides NYSDOH list	(509B)
[ ] Trihalomethanes	(501)
[X] Volatile Halocarbons	(502)
[X] Volatile Aromatics	(503)
[ ] Micro Extractables	(504)
[ ] GC/MS Volatiles	(524)
[ ] Phthalates	(606)
[ ] Pesticides	(608 list plus others)
[ ] PCBs	(608)
[ ] Polynuclear Aromatics	(610)
[ ] Herbicides	(615)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Acid Extractables	(625AE)
[ ] GC/MS Base Neutrals	(625BN)

NON-POTABLE WATER, WASTEWATER, SOLIDS, OTHER ANALYSES REQUESTED

[ ] Purgeable Halocarbons	(601,SW-846)
[ ] Purgeable Halocarbons (DEF)	(601,SW-846)
[ ] Purgeable Aromatics	(602,SW-846)
[ ] Purgeable Aromatics (DEF)	(602,SW-846)
[ ] Acrolein & Acrylonitrile	(603)
[ ] Phthalates	(606,SW-846)
[ ] Pesticides	(608,SW-846)
[ ] Pesticides (DEF)	(608,SW-846)
[ ] PCBs	(608,SW-846)
[ ] PCBs (DEF)	(608,SW-846)
[ ] Polynuclear Aromatics	(610,SW-846)
[ ] Herbicides	(615,SW-846)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Purgeables	(624,SW-846)
[ ] GC/MS Acid Extractables	(625,SW-846)
[ ] GC/MS Base Neutrals	(625,SW-846)
[ ] TCLP Pesticides/Herbicides	(SW-846)
[ ] TCLP Volatiles	(SW-846)

ENVIRONMENTAL ORGANIC CHEMISTRY SAMPLE SUBMISSION FORM

WESTCHESTER COUNTY DEPARTMENT OF LABORATORIES AND RESEARCH
Hammond House Road, Valhalla, New York 10595

Form A-71 (rev. 9/90)

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

ANALYTICAL CHEMISTRY REPORT

SAMPLE IDENTIFICATION

LAB NUMBER: 9114803570

COLLECTED: 05/23/91 TIME: 300PM
COLLECTOR: HUNDERFUND
AGENCY : ROCKLAND CO. HEALTH DEPT.

RECEIVED ON: 05/23/91 TIME: 12:45
RECEIVED BY: SALLY TEDRICK

SAMPLE LOC: NA
W. NYACK RD.
NANUET NY

SAMPLING PT: STREAM
SAMPLE TYPE: NON POTABLE

BOTTLE NUMBERS: RC1A RC1B

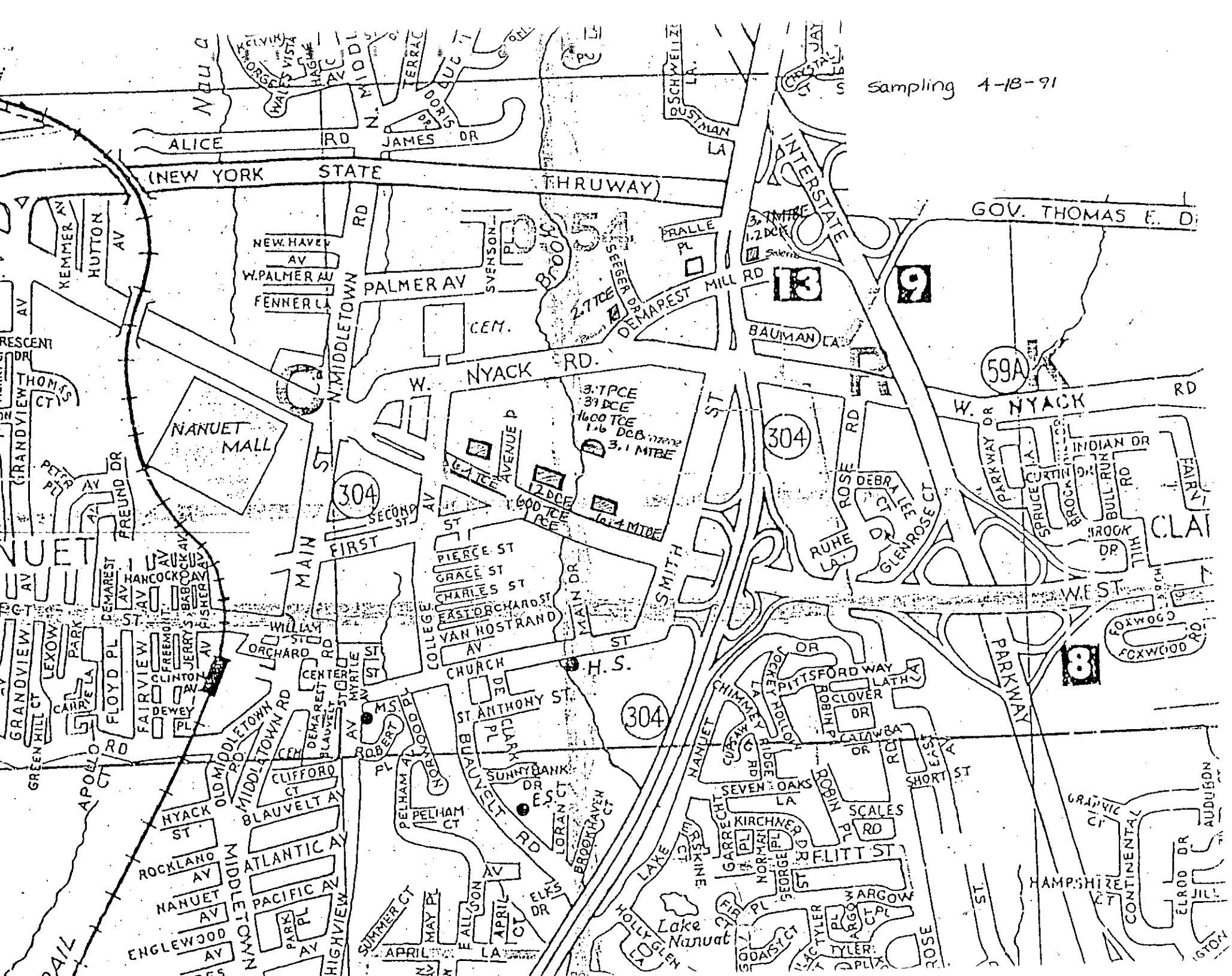
RESULTS OF ANALYSIS

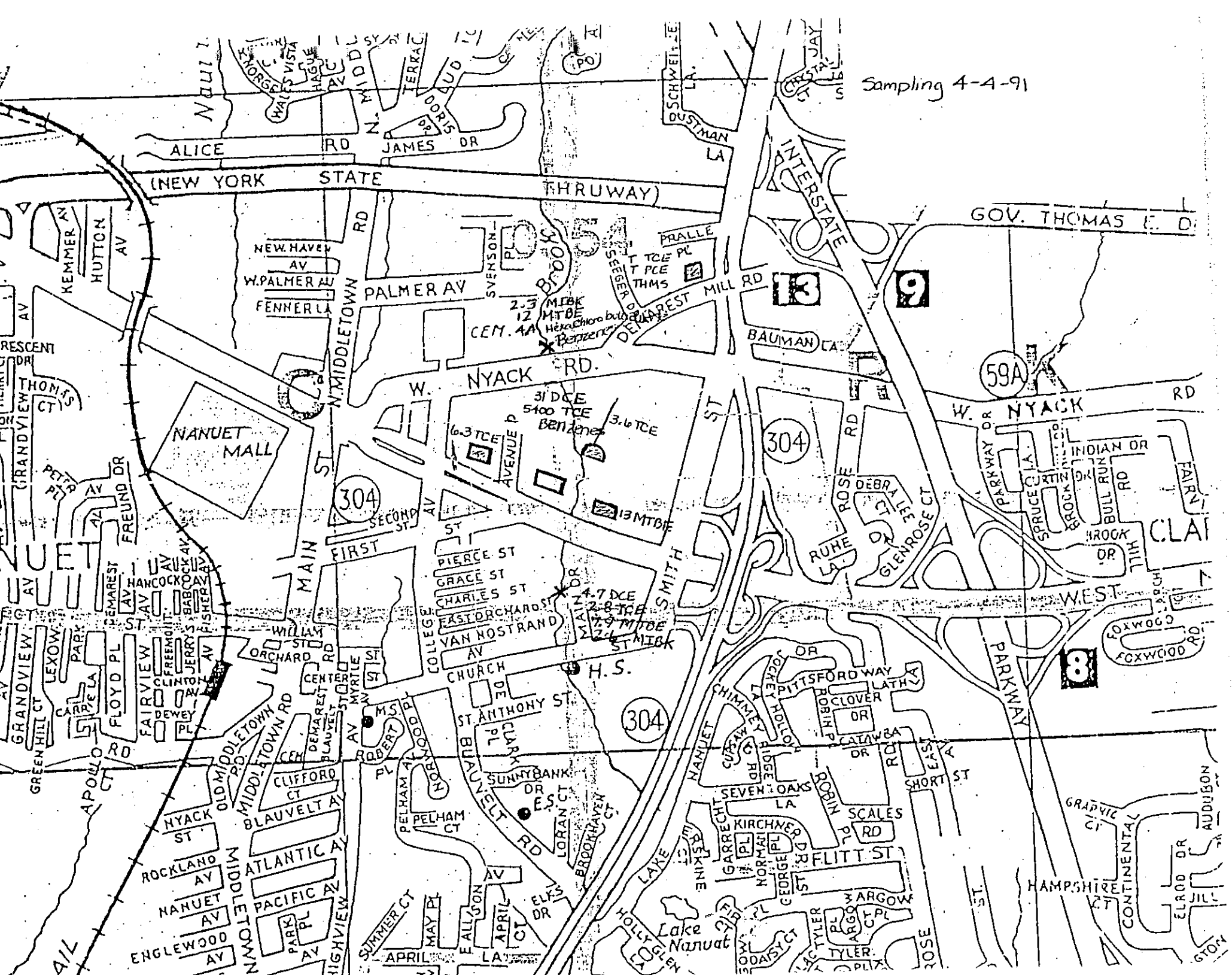
PARAMETER:	RESULT:	UNITS	METHOD:
ORGANIC CHEMISTRY			
BENZENE	[0.94]	ug/L	EPA 602
CHLOROBENZENE	[LT 0.5]	ug/L	EPA 602
1,2-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 602
1,3-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 602
1,4-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 602
ETHYL BENZENE	[7.3]	ug/L	EPA 602
TOLUENE	[8.7]	ug/L	EPA 602
TOTAL XYLENES	[51]	ug/L	EPA 602
METHYL TERT BUTYL ETHER	[1.2]	ug/L	EPA 602
GASOLINE	[ND]	ug/L	EPA 602
OTHER PURGEABLE COMPOUND(S)	[PRESENT]	ug/L	EPA 602
UNKNOWN(S)	[PRESENT]	ug/L	EPA 602
METHYL ISOBUTYL KETONE	[3.7]	ug/L	EPA 602

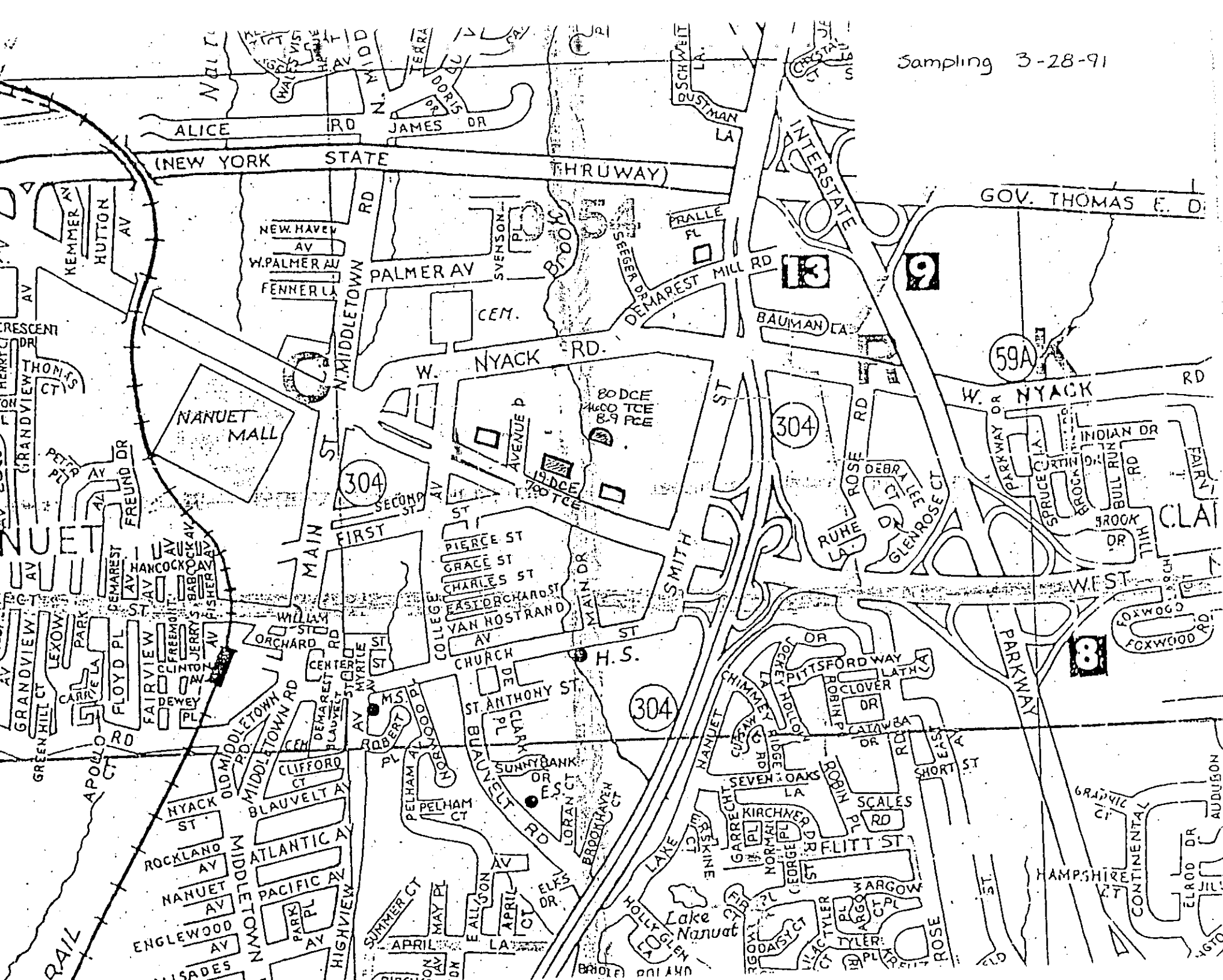
COMMENTS:

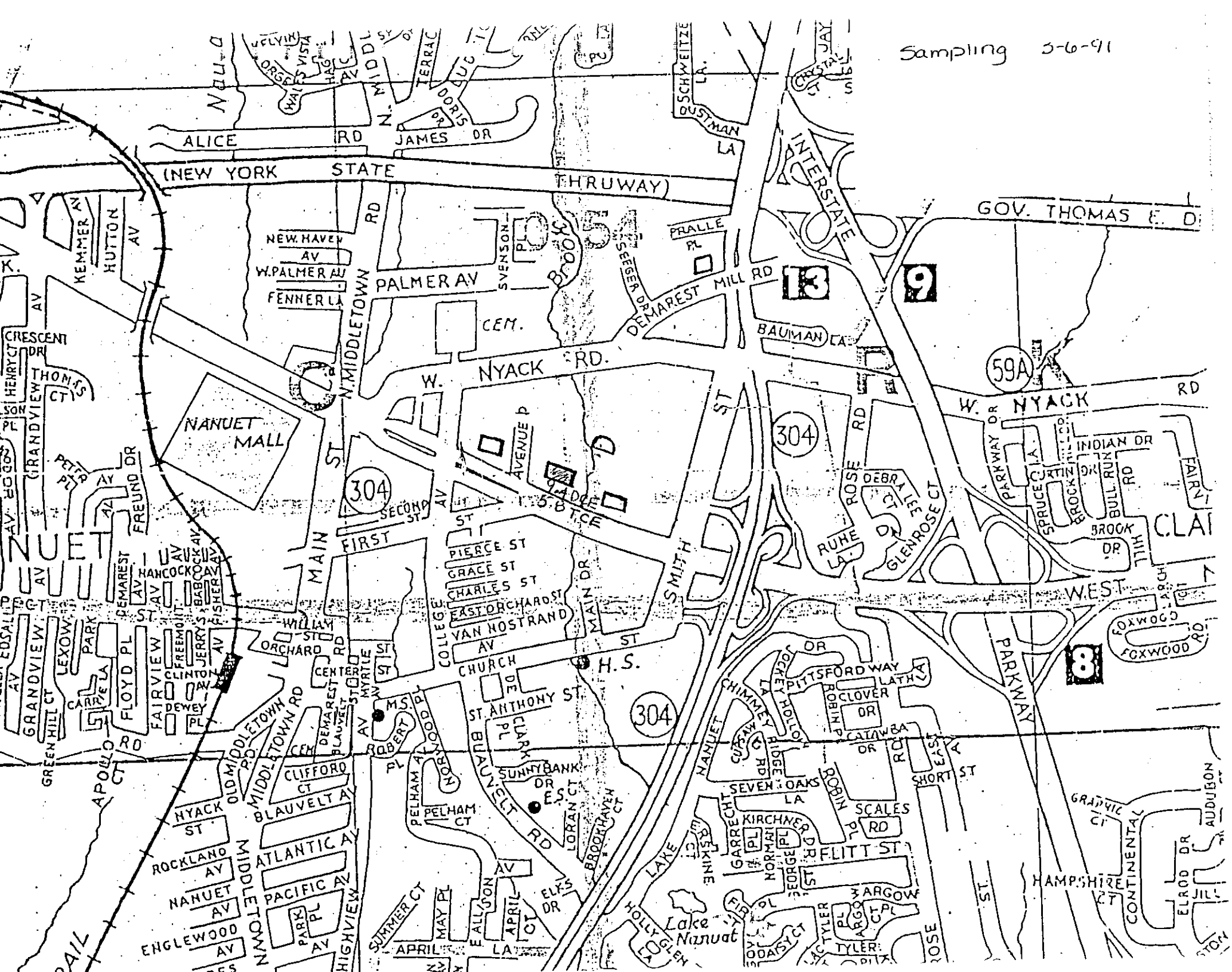
METHOD: EPA 602
THIS SAMPLE CONTAINS NUMEROUS COMPOUNDS, PERHAPS INDICATING THE PRESENCE OF A PETROLEUM PRODUCT. ALSO PRESENT IN TRACE AMOUNTS ARE TRICHLOROETHENE AND TETRACHLOROETHENE. D. VINCI

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT


Sampling 4-18-91
(NEW YORK STATE THRUWAY)
ALICE RD
JAMES DR
INTERSTATE
GOV. THOMAS E. D
NEW HAVEN AV
W. PALMER AV
PALMER AV
FENNER LA
CEM.
DEMAREST MILL RD
BAUMAN LA
W. NYACK RD.
NANUET MALL
N. MAIN ST
SECOND ST
FIRST ST
PIERCE ST
GRACE ST
CHARLES ST
EAST ORCHARD ST
VAN HOSTRAND AV
CHURCH ST
H.S.
COLLEGE AV
MAIN DR
SMITH ST
ORCHARD ST
CENTER ST
MYRTLE AV
WILLIAM ST
ST ANTHONY ST
MS
ROBERT PL
NORWOOD PL
BLAUVELT RD
CLARK PL
SUNNYBANK DR
ESC
LORAN CT
BROOKHAVEN CT
PELHAM CT
PELHAM AV
OLD MIDDLETOWN RD
CLIFFORD CT
DEMAREST AV
BLAUVELT AV
HYACK ST
ROCKLAND AV
NANUET AV
ATLANTIC AV
PACIFIC AV
ENGLEWOOD AV
PARK PL
HIGHVIEW AV
MIDDLETOWN RD
SUMMER CT
MAY PL
ALLISON AV
APRIL CT
APRIL LA
ELKS DR
APOLLO CT
GREEN HILL CT
GRANDVIEW AV
THOMAS CT
CRESCENT DR
KEMMER AV
HUTTON AV
HANCOCK AV
BABCOCK AV
FISHER AV
JERRY'S PL
CLINTON AV
DEWEY PL
FREEMONT
FREUND DR
PETER PL
LEXOW AV
PARK LA
CARPE LA
FLOYD PL
FAIRVIEW AV
DEMAREST AV
LAKE AVENUE D
3.7 PCE
3.1 DCE
1600 TCE
1.6 DCB
3.1 MTBE
6.4 TCE
1.2 DCE
1600 TCE
1.4 MTBE
2.7 TCE
3.7 MTBE
1.2 DCE
Solvents
TRALLE PL
SEEGER DR
SVENSON PL
BROOK ST
DUSTMAN LA
DOORIS DR
N. MIDDLETOWN RD
MIDDLE TERRACE
KELVIN
HALF MOON VISTA
CRYSTAL JAY
DEBRA CT
ROSE LA
RUHE DR
GLENROSE CT
PARKWAY DR
SPRUCE LA
BROOKSIDE DR
INDIAN DR
BULL RUN RD
BROOK HILL DR
FAIRWAY
FOXWOOD RD
PARKWAY
PITTSFORD WAY
JOCKEY HOLLOW
CHIMNEY RIDGE RD
CUPSAW LA
NIBOCLOVER DR
CATAWBA DR
SEVEN OAKS LA
ROBIN RD
SCALES RD
SHORT ST
FLITT ST
GARRECHT KIRCHNER DR
NORMAN PL
GEORGE PL
LAKE RISE CT
HOLLY GLEN LA
Lake Nanuat
GODASY CT
TYLER PL
ARGOW CT
ARGOW PL
HAMPSHIRE CT
CONTINENTAL
ELROD DR
AUDUBON
GRAPHIC CT
13
9
8
59A
304
304
304


Sampling 4-4-91
ALICE RD
JAMES DR
(NEW YORK STATE THRUWAY)
INTERSTATE
GOV. THOMAS E. D
N. MIDDLETOWN RD
PALMER AV
NEW HAVEN AV
W. PALMER AV
FENNER LA
CEM. 4A
2,3 MTBE
12 MTBE
Hexachloro benzene
Benzene
DEERFOREST MILL RD
BAUMAN LA
W. NYACK RD.
31 DCE
5100 TCE
3.6 TCE
6.3 TCE
13 MTBE
NANUET MALL
MAIN ST
SECOND ST
FIRST ST
AVENUE D
PIERCE ST
GRACE ST
CHARLES ST
EAST ORCHARD ST
VAN NOSTRAND AV
4.7 DCE
2.8 TCE
1.9 MTBE
2.4 MTBE
SMITH ST
CHURCH ST
H.S.
ST. ANTHONY ST
BLAUVELT RD
SUNNYBANK DR
ESTATE CT
LORAN CT
BROOKHAVEN CT
PELHAM CT
PELHAM ALWOOD PL
NORWOOD PL
CLARK PL
COLLEGE PL
MYRTLE ST
WILLIAM ST
ORCHARD RD
CENTER ST
DEMAREST AV
BLAUVELT AV
CLIFFORD CT
OLD MIDDLETOWN RD
MIDDLETOWN RD
NYACK ST
ROCKLAND AV
NANUET AV
ENGLEWOOD AV
ATLANTIC AV
PACIFIC AV
PARK PL
HIGHVIEW AV
SUMMER CT
MAY PL
APRIL LA
APRIL CT
E ALLISON AV
ELKS DR
APOLLO CT
GREEN HILL CT
GRANDVIEW AV
LEXOW PL
FLOYD PL
FAIRVIEW AV
CLINTON AV
DEWEY PL
CARL PL
PARK LA
FREEMONT
JERRYS
FISHER AV
BABCOCK AV
HANCOCK AV
DEMAREST AV
FREUND DR
PETTY PLD
THOMAS CT
CRESCENT DR
KEMMER AV
HUTTON AV
NAUIL
MIDDLE ST
TERRACE
DOORIS AV
WALDEN VISTA
HAGUE AV
DUSTMAN LA
OSCHWEILER LA
CRYSTAL CT
JAY
PRALLE
SEEGER DR
BROOK
SVENSON PL
TCE PL
TCE
THMS
59A
RUHE LA
ROSE DR
DEBRA CT
GLENROSE CT
PARKWAY DR
SPRUCE LA
BROOKSIDE DR
INDIAN DR
BULL RUN RD
FAIRWAY
WEST
FOXWOOD
FOXWOOD RD
PARKWAY
PITTSFORD WAY
LATHAM LA
CLOVER DR
CATAWBA DR
SHORT ST
SEVEN OAKS LA
ROBIN RD
SCALES RD
FLITT ST
GARRECHT PL
NORMAN PL
GEORGE PL
KIRCHNER PL
ERSKINE RD
LAKE
Lake Nanuet
HOLLYGLEN LA
TYLER PL
WARGO PL
WARGO CT
ODAS CT
HAMPSHIRE CT
CONTINENTAL
ELROD DR
AUDUBON
GRADVIC CT
CHIMNEY LA
POCKET HOLLOW RD
CUSHMAN RD
13
9
8
304


Sampling 3-28-91
(NEW YORK STATE THRUWAY)
ALICE RD
JAMES DR
INTERSTATE
GOV. THOMAS E. D
NEW HAVEN AV
W. PALMER AV
PALMER AV
FENNER LA
N. MIDDLETOWN RD
CEM.
DEMAREST MILL RD
BAUMAN LA
W. NYACK RD.
59A
NANUET MALL
MAIN ST
304
FIRST ST
SECOND ST
80 DCE
14 CO TCE
8.9 PCE
10 DCE
10 TCE
PIERCE ST
GRACE ST
CHARLES ST
EAST ORCHARD ST
VAN HOSTRAND AV
CHURCH ST
H.S.
M.S.
COLLEGE
MAIN DR
SMITH
ROSE RD
DEBRA CT
GLENROSE CT
RUKE LA
PARKWAY DR
SPRUCE CT
INDIAN DR
BULL RUN RD
BROOK DR
HILL
W. NYACK RD
W. ST
FOXWOOD CT
FOXWOOD RD
PARKWAY
8
13
9
KEMMER AV
HUTTON AV
CRESCENT DR
GRANDVIEW AV
THOMAS CT
FREUND DR
DEMAREST AV
HANCOCK AV
BABCOCK AV
FISHER AV
LEXOW AV
PARK LA
FLOYD PL
FAIRVIEW AV
DEWEY PL
GREENHILL CT
APOLLO CT
OLD MIDDLETOWN RD
MIDDLETOWN RD
CEM.
CLIFFORD CT
DEMAREST AV
BLAUVELT AV
NYACK ST
ROCKLAND AV
NANUET AV
ENGLEWOOD AV
PALISADES
ATLANTIC AV
PACIFIC AV
PARK PL
HIGHVIEW AV
RAIL
WILLIAM ST
ORCHARD RD
CENTER ST
MYRTLE ST
ROBERT PL
NORWOOD PL
PELHAM AV
PELHAM CT
SUNNYBANK DR
E.S.
CLARK PL
ST. ANTHONY ST
BLAUVELT RD
LORAN CT
BROOKHAVEN CT
ELKS DR
E ALLISON AV
APRIL CT
APRIL LA
MAY PL
SUMMER CT
BRIDLE
POLAND
HOLLY GLEN LA
Lake Nanuat
LAKE
ERSKINE
GARRECHT PL
KIRCHNER PL
NORMAN PL
GEORGE PL
FLITT ST
ARGOW PL
TYLER CT
TYLER PL
ROSE
DAISY CT
SEVEN OAKS LA
SCALES RD
ROBIN PL
CHIMNEY ROCK RD
NANUET
CURTAIN
HOLLOW
HOCKEY LA
PITTSFORD WAY
LATHAM
CLOVER DR
ROBIN DR
CATAWBA RD
SHORT ST
EAST A
HAMPSHIRE CT
CONTINENTAL
AUDUBON
GRANVIL CT
ELROD DR
JILL
AGTON


Sampling 5-6-91
ALICE RD
JAMES DR
(NEW YORK STATE THRUWAY)
INTERSTATE
GOV. THOMAS E. D
NEW HAVEN AV
W. PALMER AV
PALMER AV
FENNER LA
CEM.
PRALLE PL
DEMAREST MILL RD
BAUMAN LA
W. NYACK RD.
N. MIDDLETOWN RD
NANUET MALL
MAIN ST
FIRST ST
SECOND ST
AVENUE D
S. ADDE
PIERCE ST
GRACE ST
CHARLES ST
EAST ORCHARD ST
VAN HOSTRAND AV
CHURCH ST
COLLEGE
MAIN DR
SMITH
H.S.
M.S.
ROSE RD
DEBRA LEE CT
GLENROSE CT
RUHE LA
PARKWAY
INDIAN DR
BULL RUN RD
BROOK HILL DR
FOXWOOD RD
WEST
CRESCENT DR
GRANDVIEW AV
FREUND DR
HANCOCK AV
FISHER AV
FREEMONT
CLINTON
DEWEY
JERRY'S
LEXOW
PARK
FLOYD PL
FAIRVIEW
GREEN HILL CT
APOLLO RD
OLD MIDDLETOWN RD
MIDDLETOWN RD
ORCHARD RD
CENTER ST
MYRTLE AV
DEMAREST
BLAUVELT
CLIFFORD CT
CEM
ROBERT PL
NORWOOD
PELHAM AV
PELHAM CT
ST. ANTHONY ST
CURRY PL
BLAUVELT RD
SUNNYBANK DR
E.S.
LORAN CT
BROOKHAVEN CT
NYACK ST
ROCKLAND AV
NANUET AV
ATLANTIC AV
PACIFIC AV
PARK PL
ENGLEWOOD AV
HIGHVIEW
SUMMER CT
MAY PL
ALLISON AV
APRIL CT
APRIL LA
ELKS DR
LAKE
ROSKINE CT
HOLLYGLEN
Lake Nanuet
GARRECHT
KIRCHNER PL
NORMAN PL
GEORGE ST
FLITT ST
SEVEN OAKS LA
SCALES RD
ROBIN RD
SHORT ST
EAST A ST
CHIMNEY HILL RD
CUTAWAY RD
PITTSFORD WAY
JOCKEY HOLLOW LA
LATHA LA
CLOVER DR
CATAWBA DR
HAMPSHIRE CT
CONTINENTAL
GRANVIL CT
AUDUBON
ELROD DR
ARGO
TYLER
DAISY CT
13
9
59A
304
8

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

ANALYTICAL CHEMISTRY REPORT

SAMPLE IDENTIFICATION

LAB NUMBER: 9110802624

COLLECTED: 04/17/91 TIME:
COLLECTOR: B. WELTY
AGENCY : ROCKLAND CO. HEALTH DEPT.

RECEIVED ON: 04/18/91 TIME: 12:24
RECEIVED BY: BETTYE REID

SAMPLE LOC: CULINARY DELI
134 1/2 E. RT. 59
NANUET NY

SAMPLING PT: KITCHEN
SAMPLE TYPE: POTABLE

BOTTLE NUMBERS:

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
ORGANIC CHEMISTRY			
BROMOFORM	[LT 2.0]	ug/L	EPA 524
BROMODICHLOROMETHANE	[LT 0.5]	ug/L	EPA 524
CHLOROFORM	[LT 0.5]	ug/L	EPA 524
DIBROMOCHLOROMETHANE	[LT 2.0]	ug/L	EPA 524
BROMOCHLOROMETHANE	[LT 0.5]	ug/L	EPA 524
BROMOMETHANE	[LT 0.5]	ug/L	EPA 524
CARBON TETRACHLORIDE	[LT 0.5]	ug/L	EPA 524
CHLOROETHANE	[LT 0.5]	ug/L	EPA 524
CHLOROMETHANE	[LT 0.5]	ug/L	EPA 524
DIBROMOMETHANE	[LT 0.5]	ug/L	EPA 524
DICHLORODIFLUOROMETHANE	[LT 0.5]	ug/L	EPA 524
1,1-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,2-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,1-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
CIS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
TRANS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
1,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
1,3-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
2,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
1,1-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 524
CIS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 524
TRANS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 524

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

LAB NUMBER: 9110802624

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
METHYLENE CHLORIDE	[LT 0.5]	ug/L	EPA 524
1,1,1,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,1,2,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 524
TETRACHLOROETHENE	[LT 0.5]	ug/L	EPA 524
1,1,1-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,1,2-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
TRICHLOROETHENE	[6.4]	ug/L	EPA 524
TRICHLOROFLUOROMETHANE	[LT 0.5]	ug/L	EPA 524
1,2,3-TRICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
VINYL CHLORIDE	[LT 0.5]	ug/L	EPA 524
BENZENE	[LT 0.5]	ug/L	EPA 524
BROMOBENZENE	[LT 0.5]	ug/L	EPA 524
N-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 524
SEC-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 524
TERT-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 524
CHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
2-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 524
4-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 524
1,2-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,3-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,4-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
ETHYL BENZENE	[LT 0.5]	ug/L	EPA 524
HEXACHLOROBUTADIENE	[LT 0.5]	ug/L	EPA 524
ISOPROPYLBENZENE	[LT 0.5]	ug/L	EPA 524
P-ISOPROPYLTOLUENE	[LT 0.5]	ug/L	EPA 524
NAPHTHALENE	[LT 1.0]	ug/L	EPA 524
N-PROPYLBENZENE	[LT 0.5]	ug/L	EPA 524
STYRENE	[LT 0.5]	ug/L	EPA 524
TOLUENE	[LT 0.5]	ug/L	EPA 524
1,2,3-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,2,4-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,2,4-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 524
1,3,5-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 524
M-XYLENE	[LT 0.5]	ug/L	EPA 524
O-XYLENE	[LT 0.5]	ug/L	EPA 524
P-XYLENE	[LT 0.5]	ug/L	EPA 524
1,2-DIBROMOETHANE	[NA]	ug/L	EPA 524
1,2-DIBROMO-3-CHLOROPROPANE	[NA]	ug/L	EPA 524
METHYL TERT BUTYL ETHER	[LT 1.0]	ug/L	EPA 524
GASOLINE	[ND]	ug/L	EPA 524
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L	EPA 524
UNKNOWN(S)	[ND]	ug/L	EPA 524

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

COMMENTS:

REPORTED BY: DAVID VINCI DATE: 04/29/91

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

Agency Collected For ACHD

Collected By B. Welty

Date/Time Collected 4/17/91

Bottle Numbers: Culinary Deli

Sample Location: 134½ E. Rt. 59 Nanuet Well

Sample Site: Kitchen

ECM

Type of Sample:

[X] Potable Water

[ ] Non-Potable Water

[ ] Other: _____

POTABLE (DRINKING) WATER ANALYSES REQUESTED

[ ] Pesticides NYSDOH list	(509A)
[ ] Herbicides NYSDOH list	(509B)
[ ] Trihalomethanes	(501)
[X] Volatile Halocarbons	(502)
[X] Volatile Aromatics	(503)
[ ] Micro Extractables	(504)
[ ] GC/MS Volatiles	(524)
[ ] Phthalates	(606)
[ ] Pesticides	(608 list plus others)
[ ] PCBs	(608)
[ ] Polynuclear Aromatics	(610)
[ ] Herbicides	(615)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Acid Extractables	(625AE)
[ ] GC/MS Base Neutrals	(625BN)

NON-POTABLE WATER, WASTEWATER, SOLIDS, OTHER ANALYSES REQUESTED

[ ] Purgeable Halocarbons	(601,SW-846)
[ ] Purgeable Halocarbons (DEF)	(601,SW-846)
[ ] Purgeable Aromatics	(602,SW-846)
[ ] Purgeable Aromatics (DEF)	(602,SW-846)
[ ] Acrolein & Acrylonitrile	(603)
[ ] Phthalates	(606,SW-846)
[ ] Pesticides	(608,SW-846)
[ ] Pesticides (DEF)	(608,SW-846)
[ ] PCBs	(608,SW-846)
[ ] PCBs (DEF)	(608,SW-846)
[ ] Polynuclear Aromatics	(610,SW-846)
[ ] Herbicides	(615,SW-846)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Purgeables	(624,SW-846)
[ ] GC/MS Acid Extractables	(625,SW-846)
[ ] GC/MS Base Neutrals	(625,SW-846)
[ ] TCLP Pesticides/Herbicides	(SW-846)
[ ] TCLP Volatiles	(SW-846)

ENVIRONMENTAL ORGANIC CHEMISTRY SAMPLE SUBMISSION FORM

WESTCHESTER COUNTY DEPARTMENT OF LABORATORIES AND RESEARCH
Hammond House Road, Valhalla, New York 10595
Form A-71 (rev. 9/90)

NYS-ELAP NO. 10108

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

ANALYTICAL CHEMISTRY REPORT

SAMPLE IDENTIFICATION

LAB NUMBER: 9109802325

COLLECTED: 04/08/91 TIME:
COLLECTOR: B. WELTY
AGENCY : ROCKLAND CO. HEALTH DEPT.

RECEIVED ON: 04/08/91 TIME: 12:16
RECEIVED BY: BETTYE REID

SAMPLE LOC: CULINARY CREATIONS
134 1/2 E. RT 59
NANUET NY

SAMPLING PT: KITCHEN TAP
SAMPLE TYPE: POTABLE

BOTTLE NUMBERS:

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
ORGANIC CHEMISTRY			
BROMOCHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
BROMODICHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
BROMOFORM	[LT 2.0]	ug/L	EPA 502
BROMOMETHANE	[LT 0.5]	ug/L	EPA 502
CARBON TETRACHLORIDE	[LT 0.5]	ug/L	EPA 502
CHLOROETHANE	[LT 0.5]	ug/L	EPA 502
CHLOROFORM	[LT 0.5]	ug/L	EPA 502
CHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
DIBROMOCHLOROMETHANE	[LT 2.0]	ug/L	EPA 502
DIBROMOMETHANE	[LT 0.5]	ug/L	EPA 502
DICHLORODIFLUOROMETHANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,2-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
CIS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
TRANS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
1,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
1,3-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
2,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502
CIS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502
TRANS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
METHYLENE CHLORIDE	[LT 0.5]	ug/L	EPA 502
1,1,1,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1,2,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 502
TETRACHLOROETHENE	[LT 0.5]	ug/L	EPA 502
1,1,1-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1,2-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
TRICHLOROETHENE	[6.0]	ug/L	EPA 502
TRICHLOROFLUOROMETHANE	[LT 0.5]	ug/L	EPA 502
1,2,3-TRICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
VINYL CHLORIDE	[LT 0.5]	ug/L	EPA 502
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L	EPA 502
UNKNOWN(S)	[ND]	ug/L	EPA 502
BENZENE	[LT 0.5]	ug/L	EPA 503
BROMOBENZENE	[LT 0.5]	ug/L	EPA 503
N-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
SEC-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
TERT-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
CHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
2-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 503
4-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 503
1,2-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,3-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,4-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
ETHYL BENZENE	[LT 0.5]	ug/L	EPA 503
HEXACHLOROBUTADIENE	[LT 0.5]	ug/L	EPA 503
ISOPROPYLBENZENE	[LT 0.5]	ug/L	EPA 503
P-ISOPROPYLTOLUENE	[LT 0.5]	ug/L	EPA 503
N-PROPYLBENZENE	[LT 0.5]	ug/L	EPA 503
STYRENE	[LT 0.5]	ug/L	EPA 503
TOLUENE	[LT 0.5]	ug/L	EPA 503
1,2,3-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,2,4-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,2,4-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 503
1,3,5-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 503
M-XYLENE	[LT 0.5]	ug/L	EPA 503
O-XYLENE	[LT 0.5]	ug/L	EPA 503
P-XYLENE	[LT 0.5]	ug/L	EPA 503
METHYL TERT BUTYL ETHER	[LT 1.0]	ug/L	EPA 503
NAPHTHALENE	[N.A.]	ug/L	EPA 503
TRICHLOROETHENE	[SEE ABOVE]	ug/L	EPA 503
TETRACHLOROETHENE	[N.A.]	ug/L	EPA 503
GASOLINE	[ND]	ug/L	EPA 503

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L	EPA 503
UNKNOWN(S)	[ND]	ug/L	EPA 503

COMMENTS:

REPORTED BY: SANDY FINAMORE DATE: 04/16/91

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

Agency Collected For Welty

Collected By B. Welty

Date/Time Collected 4/8/91

Bottle Numbers: Culinary Creations

Sample Location: 134 1/2 E. Rt. 59 Type of Sample:

Nanuet [X] Potable Water

Re-Sample [ ] Non-Potable Water

Sample Site: Kitchen Tap [ ] Other: _____

I-T 5

POTABLE (DRINKING) WATER ANALYSES REQUESTED

[ ] Pesticides NYSDOH list	(509A)
[ ] Herbicides NYSDOH list	(509B)
[ ] Trihalomethanes	(501)
[X] Volatile Halocarbons	(502)
[X] Volatile Aromatics	(503)
[ ] Micro Extractables	(504)
[ ] GC/MS Volatiles	(524)
[ ] Phthalates	(606)
[ ] Pesticides	(608 list plus others)
[ ] PCBs	(608)
[ ] Polynuclear Aromatics	(610)
[ ] Herbicides	(615)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Acid Extractables	(625AE)
[ ] GC/MS Base Neutrals	(625BN)

NON-POTABLE WATER, WASTEWATER, SOLIDS, OTHER ANALYSES REQUESTED

[ ] Purgeable Halocarbons	(601,SW-846)
[ ] Purgeable Halocarbons (DEF)	(601,SW-846)
[ ] Purgeable Aromatics	(602,SW-846)
[ ] Purgeable Aromatics (DEF)	(602,SW-846)
[ ] Acrolein & Acrylonitrile	(603)
[ ] Phthalates	(606,SW-846)
[ ] Pesticides	(608,SW-846)
[ ] Pesticides (DEF)	(608,SW-846)
[ ] PCBs	(608,SW-846)
[ ] PCBs (DEF)	(608,SW-846)
[ ] Polynuclear Aromatics	(610,SW-846)
[ ] Herbicides	(615,SW-846)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Purgeables	(624,SW-846)
[ ] GC/MS Acid Extractables	(625,SW-846)
[ ] GC/MS Base Neutrals	(625,SW-846)
[ ] TCLP Pesticides/Herbicides	(SW-846)
[ ] TCLP Volatiles	(SW-846)

ENVIRONMENTAL ORGANIC CHEMISTRY SAMPLE SUBMISSION FORM

WESTCHESTER COUNTY DEPARTMENT OF LABORATORIES AND RESEARCH
Hammond House Road, Valhalla, New York 10595

NYS-ELAP NO. 10108

Form A-71 (rev. 9/90)

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

ANALYTICAL CHEMISTRY REPORT

SAMPLE IDENTIFICATION

LAB NUMBER: 9109402277

COLLECTED: 04/04/91 TIME: 11:50
COLLECTOR: B. WELTY
AGENCY : ROCKLAND CO. HEALTH DEPT.

RECEIVED ON: 04/04/91 TIME: 13:10
RECEIVED BY: BETTYE REID

SAMPLE LOC: CULINARY CREATIONS
134 1/2 RT. 59
NANUET NY

SAMPLING PT: KITCHEN
SAMPLE TYPE: POTABLE

BOTTLE NUMBERS:

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
ORGANIC CHEMISTRY			
BROMOCHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
BROMODICHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
BROMOFORM	[LT 2.0]	ug/L	EPA 502
BROMOMETHANE	[LT 0.5]	ug/L	EPA 502
CARBON TETRACHLORIDE	[LT 0.5]	ug/L	EPA 502
CHLOROETHANE	[LT 0.5]	ug/L	EPA 502
CHLOROFORM	[LT 0.5]	ug/L	EPA 502
CHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
DIBROMOCHLOROMETHANE	[LT 2.0]	ug/L	EPA 502
DIBROMOMETHANE	[LT 0.5]	ug/L	EPA 502
DICHLORODIFLUOROMETHANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,2-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
CIS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
TRANS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
1,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
1,3-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
2,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502
CIS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502
TRANS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
METHYLENE CHLORIDE	[LT 0.5]	ug/L	EPA 502
1,1,1,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1,2,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 502
TETRACHLOROETHENE	[LT 0.5]	ug/L	EPA 502
1,1,1-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1,2-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
TRICHLOROETHENE	[6.3]	ug/L	EPA 502
TRICHLOROFLUOROMETHANE	[LT 0.5]	ug/L	EPA 502
1,2,3-TRICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
VINYL CHLORIDE	[LT 0.5]	ug/L	EPA 502
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L	EPA 502
UNKNOWN(S)	[ND]	ug/L	EPA 502
BENZENE	[LT 0.5]	ug/L	EPA 503
BROMOBENZENE	[LT 0.5]	ug/L	EPA 503
N-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
SEC-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
TERT-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
CHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
2-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 503
4-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 503
1,2-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,3-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,4-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
ETHYL BENZENE	[LT 0.5]	ug/L	EPA 503
HEXACHLOROBUTADIENE	[LT 0.5]	ug/L	EPA 503
ISOPROPYLBENZENE	[LT 0.5]	ug/L	EPA 503
P-ISOPROPYLTOLUENE	[LT 0.5]	ug/L	EPA 503
N-PROPYLBENZENE	[LT 0.5]	ug/L	EPA 503
STYRENE	[LT 0.5]	ug/L	EPA 503
TOLUENE	[LT 0.5]	ug/L	EPA 503
1,2,3-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,2,4-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,2,4-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 503
1,3,5-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 503
M-XYLENE	[LT 0.5]	ug/L	EPA 503
O-XYLENE	[LT 0.5]	ug/L	EPA 503
P-XYLENE	[LT 0.5]	ug/L	EPA 503
METHYL TERT BUTYL ETHER	[LT 1.0]	ug/L	EPA 503
NAPHTHALENE	[N.A.]	ug/L	EPA 503
TRICHLOROETHENE	[N.A.]	ug/L	EPA 503
TETRACHLOROETHENE	[N.A.]	ug/L	EPA 503
GASOLINE	[ND]	ug/L	EPA 503

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L	EPA 503
UNKNOWN(S)	[ND]	ug/L	EPA 503
1,2-DIBROMOETHANE	[LT 0.02]	ug/L	EPA 504
1,2-DIBROMO-3-CHLOROPROPANE	[LT 0.02]	ug/L	EPA 504

COMMENTS:

REPORTED BY: DAVID VINCI DATE: 04/19/91

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

Agency Collected For KC (71)

Collected By B. Weltx

Date/Time Collected 4/4/91 11:50

Bottle Numbers: Culinary Creations

Sample Location: 134 1/2 Rt. 59 Nanuet well

Sample Site: Kitchen

Type of Sample:

[X] Potable Water

[ ] Non-Potable Water

[ ] Other: _____

POTABLE (DRINKING) WATER ANALYSES REQUESTED

[ ] Pesticides NYSDOH list	(509A)
[ ] Herbicides NYSDOH list	(509B)
[ ] Trihalomethanes	(501)
[X] Volatile Halocarbons	(502)
[X] Volatile Aromatics	(503)
[X] Micro Extractables	(504)
[ ] GC/MS Volatiles	(524)
[ ] Phthalates	(606)
[ ] Pesticides	(608 list plus others)
[ ] PCBs	(608)
[ ] Polynuclear Aromatics	(610)
[ ] Herbicides	(615)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Acid Extractables	(625AE)
[ ] GC/MS Base Neutrals	(625BN)

NON-POTABLE WATER, WASTEWATER, SOLIDS, OTHER ANALYSES REQUESTED

[ ] Purgeable Halocarbons	(601,SW-846)
[ ] Purgeable Halocarbons (DEF)	(601,SW-846)
[ ] Purgeable Aromatics	(602,SW-846)
[ ] Purgeable Aromatics (DEF)	(602,SW-846)
[ ] Acrolein & Acrylonitrile	(603)
[ ] Phthalates	(606,SW-846)
[ ] Pesticides	(608,SW-846)
[ ] Pesticides (DEF)	(608,SW-846)
[ ] PCBs	(608,SW-846)
[ ] PCBs (DEF)	(608,SW-846)
[ ] Polynuclear Aromatics	(610,SW-846)
[ ] Herbicides	(615,SW-846)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Purgeables	(624,SW-846)
[ ] GC/MS Acid Extractables	(625,SW-846)
[ ] GC/MS Base Neutrals	(625,SW-846)
[ ] TCLP Pesticides/Herbicides	(SW-846)
[ ] TCLP Volatiles	(SW-846)

ENVIRONMENTAL ORGANIC CHEMISTRY SAMPLE SUBMISSION FORM

WESTCHESTER COUNTY DEPARTMENT OF LABORATORIES AND RESEARCH
Hammond House Road, Valhalla, New York 10595

NYS-ELAP NO. 10108

Form A-71 (rev. 9/90)

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

ANALYTICAL CHEMISTRY REPORT

SAMPLE IDENTIFICATION

LAB NUMBER: 9110802623

COLLECTED: 04/17/91 TIME:
COLLECTOR: B. WELTY
AGENCY : ROCKLAND CO. HEALTH DEPT.

RECEIVED ON: 04/18/91 TIME: 12:24
RECEIVED BY: BETTYE REID

SAMPLE LOC: MR. ARCADE
210 E. RT. 59
NANUET NY

SAMPLING PT: KITCHEN
SAMPLE TYPE: POTABLE

BOTTLE NUMBERS:

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
ORGANIC CHEMISTRY			
BROMOFORM	[LT 2.0]	ug/L	EPA 524
BROMODICHLOROMETHANE	[LT 0.5]	ug/L	EPA 524
CHLOROFORM	[LT 0.5]	ug/L	EPA 524
DIBROMOCHLOROMETHANE	[LT 2.0]	ug/L	EPA 524
BROMOCHLOROMETHANE	[LT 0.5]	ug/L	EPA 524
BROMOMETHANE	[LT 0.5]	ug/L	EPA 524
CARBON TETRACHLORIDE	[LT 0.5]	ug/L	EPA 524
CHLOROETHANE	[LT 0.5]	ug/L	EPA 524
CHLOROMETHANE	[LT 0.5]	ug/L	EPA 524
DIBROMOMETHANE	[LT 0.5]	ug/L	EPA 524
DICHLORODIFLUOROMETHANE	[LT 0.5]	ug/L	EPA 524
1,1-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,2-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,1-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
CIS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
TRANS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
1,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
1,3-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
2,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
1,1-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 524
CIS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 524
TRANS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 524

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

LAB NUMBER: 9110802623 PAGE : 2

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
METHYLENE CHLORIDE	[LT 0.5]	ug/L	EPA 524
1,1,1,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,1,2,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 524
TETRACHLOROETHENE	[LT 0.5]	ug/L	EPA 524
1,1,1-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,1,2-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
TRICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
TRICHLOROFLUOROMETHANE	[LT 0.5]	ug/L	EPA 524
1,2,3-TRICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
VINYL CHLORIDE	[LT 0.5]	ug/L	EPA 524
BENZENE	[LT 0.5]	ug/L	EPA 524
BROMOBENZENE	[LT 0.5]	ug/L	EPA 524
N-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 524
SEC-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 524
TERT-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 524
CHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
2-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 524
4-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 524
1,2-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,3-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,4-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
ETHYL BENZENE	[LT 0.5]	ug/L	EPA 524
HEXACHLOROBUTADIENE	[LT 0.5]	ug/L	EPA 524
ISOPROPYLBENZENE	[LT 0.5]	ug/L	EPA 524
P-ISOPROPYLTOLUENE	[LT 0.5]	ug/L	EPA 524
NAPHTHALENE	[LT 1.0]	ug/L	EPA 524
N-PROPYLBENZENE	[LT 0.5]	ug/L	EPA 524
STYRENE	[LT 0.5]	ug/L	EPA 524
TOLUENE	[LT 0.5]	ug/L	EPA 524
1,2,3-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,2,4-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,2,4-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 524
1,3,5-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 524
M-XYLENE	[LT 0.5]	ug/L	EPA 524
O-XYLENE	[LT 0.5]	ug/L	EPA 524
P-XYLENE	[LT 0.5]	ug/L	EPA 524
1,2-DIBROMOETHANE	[NA]	ug/L	EPA 524
1,2-DIBROMO-3-CHLOROPROPANE	[NA]	ug/L	EPA 524
METHYL TERT BUTYL ETHER	[6.4]	ug/L	EPA 524
GASOLINE	[ND]	ug/L	EPA 524
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L	EPA 524
UNKNOWN(S)	[ND]	ug/L	EPA 524

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

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COMMENTS:

REPORTED BY: DAVID VINCI DATE: 04/29/91

Agency Collected For RCHD

Collected By B. Welty

Date/Time Collected 4/17/91

Bottle Numbers: Mr. Arcade

Sample Location: 210 E. Rt. 59 Nanuet Well

Sample Site: Kitchen

Type of Sample:

[X] Potable Water

[ ] Non-Potable Water

[ ] Other: _____

POTABLE (DRINKING) WATER ANALYSES REQUESTED

[ ] Pesticides NYSDOH list	(509A)
[ ] Herbicides NYSDOH list	(509B)
[ ] Trihalomethanes	(501)
[X] Volatile Halocarbons	(502)
[X] Volatile Aromatics	(503)
[ ] Micro Extractables	(504)
[ ] GC/MS Volatiles	(524)
[ ] Phthalates	(606)
[ ] Pesticides	(608 list plus others)
[ ] PCBs	(608)
[ ] Polynuclear Aromatics	(610)
[ ] Herbicides	(615)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Acid Extractables	(625AE)
[ ] GC/MS Base Neutrals	(625BN)

NON-POTABLE WATER, WASTEWATER, SOLIDS, OTHER ANALYSES REQUESTED

[ ] Purgeable Halocarbons	(601,SW-846)
[ ] Purgeable Halocarbons (DEF)	(601,SW-846)
[ ] Purgeable Aromatics	(602,SW-846)
[ ] Purgeable Aromatics (DEF)	(602,SW-846)
[ ] Acrolein & Acrylonitrile	(603)
[ ] Phthalates	(606,SW-846)
[ ] Pesticides	(608,SW-846)
[ ] Pesticides (DEF)	(608,SW-846)
[ ] PCBs	(608,SW-846)
[ ] PCBs (DEF)	(608,SW-846)
[ ] Polynuclear Aromatics	(610,SW-846)
[ ] Herbicides	(615,SW-846)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Purgeables	(624,SW-846)
[ ] GC/MS Acid Extractables	(625,SW-846)
[ ] GC/MS Base Neutrals	(625,SW-846)
[ ] TCLP Pesticides/Herbicides	(SW-846)
[ ] TCLP Volatiles	(SW-846)

ENVIRONMENTAL ORGANIC CHEMISTRY SAMPLE SUBMISSION FORM

WESTCHESTER COUNTY DEPARTMENT OF LABORATORIES AND RESEARCH
Hammond House Road, Valhalla, New York 10595

NYS-ELAP NO. 10108

Form A-71 (rev. 9/90)

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

ANALYTICAL CHEMISTRY REPORT

SAMPLE IDENTIFICATION

LAB NUMBER: 9109402275

COLLECTED: 04/04/91 TIME: 10:25
COLLECTOR: B. WELTY
AGENCY : ROCKLAND CO. HEALTH DEPT.

RECEIVED ON: 04/04/91 TIME: 13:10
RECEIVED BY: BETTYE REID

SAMPLE LOC: MR. ARCADE
210 E. RT. 59
NANUET NY

SAMPLING PT: WELL-KITCHEN
SAMPLE TYPE: POTABLE

BOTTLE NUMBERS:

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
ORGANIC CHEMISTRY			
BROMOCHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
BROMODICHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
BROMOFORM	[LT 2.0]	ug/L	EPA 502
BROMOMETHANE	[LT 0.5]	ug/L	EPA 502
CARBON TETRACHLORIDE	[LT 0.5]	ug/L	EPA 502
CHLOROETHANE	[LT 0.5]	ug/L	EPA 502
CHLOROFORM	[LT 0.5]	ug/L	EPA 502
CHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
DIBROMOCHLOROMETHANE	[LT 2.0]	ug/L	EPA 502
DIBROMOMETHANE	[LT 0.5]	ug/L	EPA 502
DICHLORODIFLUOROMETHANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,2-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
CIS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
TRANS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
1,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
1,3-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
2,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502
CIS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502
TRANS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

LAB NUMBER: 9109402275

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
METHYLENE CHLORIDE	[LT 0.5]	ug/L	EPA 502
1,1,1,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1,2,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 502
TETRACHLOROETHENE	[LT 0.5]	ug/L	EPA 502
1,1,1-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1,2-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
TRICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
TRICHLOROFLUOROMETHANE	[LT 0.5]	ug/L	EPA 502
1,2,3-TRICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
VINYL CHLORIDE	[LT 0.5]	ug/L	EPA 502
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L	EPA 502
UNKNOWN(S)	[ND]	ug/L	EPA 502
BENZENE	[LT 0.5]	ug/L	EPA 503
BROMOBENZENE	[LT 0.5]	ug/L	EPA 503
N-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
SEC-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
TERT-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
CHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
2-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 503
4-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 503
1,2-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,3-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,4-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
ETHYL BENZENE	[LT 0.5]	ug/L	EPA 503
HEXACHLOROBUTADIENE	[LT 0.5]	ug/L	EPA 503
ISOPROPYLBENZENE	[LT 0.5]	ug/L	EPA 503
P-ISOPROPYLTOLUENE	[LT 0.5]	ug/L	EPA 503
N-PROPYLBENZENE	[LT 0.5]	ug/L	EPA 503
STYRENE	[LT 0.5]	ug/L	EPA 503
TOLUENE	[LT 0.5]	ug/L	EPA 503
1,2,3-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,2,4-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,2,4-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 503
1,3,5-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 503
M-XYLENE	[LT 0.5]	ug/L	EPA 503
O-XYLENE	[LT 0.5]	ug/L	EPA 503
P-XYLENE	[LT 0.5]	ug/L	EPA 503
METHYL TERT BUTYL ETHER	[13]	ug/L	EPA 503
NAPHTHALENE	[N.A.]	ug/L	EPA 503
TRICHLOROETHENE	[N.A.]	ug/L	EPA 503
TETRACHLOROETHENE	[N.A.]	ug/L	EPA 503
GASOLINE	[ND]	ug/L	EPA 503

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
METHYLENE CHLORIDE	[LT 0.5]	ug/L	EPA 502
1,1,1,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1,2,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 502
TETRACHLOROETHENE	[LT 0.5]	ug/L	EPA 502
1,1,1-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1,2-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
TRICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
TRICHLOROFLUOROMETHANE	[LT 0.5]	ug/L	EPA 502
1,2,3-TRICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
VINYL CHLORIDE	[LT 0.5]	ug/L	EPA 502
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L	EPA 502
UNKNOWN(S)	[ND]	ug/L	EPA 502
BENZENE	[LT 0.5]	ug/L	EPA 503
BROMOBENZENE	[LT 0.5]	ug/L	EPA 503
N-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
SEC-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
TERT-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
CHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
2-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 503
4-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 503
1,2-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,3-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,4-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
ETHYL BENZENE	[LT 0.5]	ug/L	EPA 503
HEXACHLOROBUTADIENE	[LT 0.5]	ug/L	EPA 503
ISOPROPYLBENZENE	[LT 0.5]	ug/L	EPA 503
P-ISOPROPYLTOLUENE	[LT 0.5]	ug/L	EPA 503
N-PROPYLBENZENE	[LT 0.5]	ug/L	EPA 503
STYRENE	[LT 0.5]	ug/L	EPA 503
TOLUENE	[LT 0.5]	ug/L	EPA 503
1,2,3-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,2,4-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,2,4-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 503
1,3,5-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 503
M-XYLENE	[LT 0.5]	ug/L	EPA 503
O-XYLENE	[LT 0.5]	ug/L	EPA 503
P-XYLENE	[LT 0.5]	ug/L	EPA 503
METHYL TERT BUTYL ETHER	[13]	ug/L	EPA 503
NAPHTHALENE	[N.A.]	ug/L	EPA 503
TRICHLOROETHENE	[N.A.]	ug/L	EPA 503
TETRACHLOROETHENE	[N.A.]	ug/L	EPA 503
GASOLINE	[ND]	ug/L	EPA 503

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

LAB NUMBER: 9109402275

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L	EPA 503
UNKNOWN(S)	[ND]	ug/L	EPA 503
1,2-DIBROMOETHANE	[LT 0.02]	ug/L	EPA 504
1,2-DIBROMO-3-CHLOROPROPANE	[LT 0.02]	ug/L	EPA 504

COMMENTS:

REPORTED BY: DAVID VINCI

DATE: 04/19/91

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

Agency Collected For: RCHD

Collected By: B. Welty

Date/Time Collected: 4/4/91 10:25

Bottle Numbers: Mr. Arcade

Sample Location: 210 E. Rt. 59 Nanuet Well

Sample Site: Kitchen

Type of Sample:

[X] Potable Water

[ ] Non-Potable Water

[ ] Other: _____

POTABLE (DRINKING) WATER ANALYSES REQUESTED

[ ] Pesticides NYSDOH list	(509A)
[ ] Herbicides NYSDOH list	(509B)
[ ] Trihalomethanes	(501)
[X] Volatile Halocarbons	(502)
[X] Volatile Aromatics	(503)
[X] Micro Extractables	(504)
[ ] GC/MS Volatiles	(524)
[ ] Phthalates	(606)
[ ] Pesticides	(608 list plus others)
[ ] PCBs	(608)
[ ] Polynuclear Aromatics	(610)
[ ] Herbicides	(615)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Acid Extractables	(625AE)
[ ] GC/MS Base Neutrals	(625BN)

NON-POTABLE WATER, WASTEWATER, SOLIDS, OTHER ANALYSES REQUESTED

[ ] Purgeable Halocarbons	(601,SW-846)
[ ] Purgeable Halocarbons (DEF)	(601,SW-846)
[ ] Purgeable Aromatics	(602,SW-846)
[ ] Purgeable Aromatics (DEF)	(602,SW-846)
[ ] Acrolein & Acrylonitrile	(603)
[ ] Phthalates	(606,SW-846)
[ ] Pesticides	(608,SW-846)
[ ] Pesticides (DEF)	(608,SW-846)
[ ] PCBs	(608,SW-846)
[ ] PCBs (DEF)	(608,SW-846)
[ ] Polynuclear Aromatics	(610,SW-846)
[ ] Herbicides	(615,SW-846)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Purgeables	(624,SW-846)
[ ] GC/MS Acid Extractables	(625,SW-846)
[ ] GC/MS Base Neutrals	(625,SW-846)
[ ] TCLP Pesticides/Herbicides	(SW-846)
[ ] TCLP Volatiles	(SW-846)

ENVIRONMENTAL ORGANIC CHEMISTRY SAMPLE SUBMISSION FORM

WESTCHESTER COUNTY DEPARTMENT OF LABORATORIES AND RESEARCH
Hammond House Road, Valhalla, New York 10595

Form A-71 (rev. 9/90)

NYS-ELAP NO. 10108

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

ANALYTICAL CHEMISTRY REPORT

SAMPLE IDENTIFICATION

LAB NUMBER: 9109802324

COLLECTED: 04/08/91 TIME:
COLLECTOR: B. WELTY
AGENCY : ROCKLAND CO. HEALTH DEPT.

RECEIVED ON: 04/08/91 TIME: 12:16
RECEIVED BY: BETTYE REID

SAMPLE LOC: MR ARCADE
210 E. RT. 59
NANUET NY

SAMPLING PT: KITCHEN TAP
SAMPLE TYPE: POTABLE

BOTTLE NUMBERS:

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
ORGANIC CHEMISTRY			
BROMOCHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
BROMODICHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
BROMOFORM	[LT 2.0]	ug/L	EPA 502
BROMOMETHANE	[LT 0.5]	ug/L	EPA 502
CARBON TETRACHLORIDE	[LT 0.5]	ug/L	EPA 502
CHLOROETHANE	[LT 0.5]	ug/L	EPA 502
CHLOROFORM	[LT 0.5]	ug/L	EPA 502
CHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
DIBROMOCHLOROMETHANE	[LT 2.0]	ug/L	EPA 502
DIBROMOMETHANE	[LT 0.5]	ug/L	EPA 502
DICHLORODIFLUOROMETHANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,2-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
CIS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
TRANS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
1,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
1,3-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
2,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502
CIS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502
TRANS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA,N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
METHYLENE CHLORIDE	[LT 0.5]	ug/L	EPA 502
1,1,1,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1,2,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 502
TETRACHLOROETHENE	[LT 0.5]	ug/L	EPA 502
1,1,1-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1,2-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
TRICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
TRICHLOROFLUOROMETHANE	[LT 0.5]	ug/L	EPA 502
1,2,3-TRICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
VINYL CHLORIDE	[LT 0.5]	ug/L	EPA 502
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L	EPA 502
UNKNOWN(S)	[ND]	ug/L	EPA 502
BENZENE	[LT 0.5]	ug/L	EPA 503
BROMOBENZENE	[LT 0.5]	ug/L	EPA 503
N-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
SEC-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
TERT-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
CHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
2-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 503
4-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 503
1,2-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,3-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,4-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
ETHYL BENZENE	[LT 0.5]	ug/L	EPA 503
HEXACHLOROBUTADIENE	[LT 0.5]	ug/L	EPA 503
ISOPROPYLBENZENE	[LT 0.5]	ug/L	EPA 503
P-ISOPROPYLTOLUENE	[LT 0.5]	ug/L	EPA 503
N-PROPYLBENZENE	[LT 0.5]	ug/L	EPA 503
STYRENE	[LT 0.5]	ug/L	EPA 503
TOLUENE	[LT 0.5]	ug/L	EPA 503
1,2,3-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,2,4-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,2,4-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 503
1,3,5-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 503
M-XYLENE	[LT 0.5]	ug/L	EPA 503
O-XYLENE	[LT 0.5]	ug/L	EPA 503
P-XYLENE	[LT 0.5]	ug/L	EPA 503
METHYL TERT BUTYL ETHER	[8.2]	ug/L	EPA 503
NAPHTHALENE	[N.A.]	ug/L	EPA 503
TRICHLOROETHENE	[N.A.]	ug/L	EPA 503
TETRACHLOROETHENE	[N.A.]	ug/L	EPA 503
GASOLINE	[ND]	ug/L	EPA 503

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

LAB NUMBER: 9109802324

RESULTS OF ANALYSIS

PARAMETER:	RESULT:		UNITS	METHOD:
OTHER VOLATILE COMPOUND(S)	[ND	]	ug/L	EPA 503
UNKNOWN(S)	[ND	]	ug/L	EPA 503

COMMENTS:

REPORTED BY: SANDY FINAMORE DATE: 04/16/91

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

Agency Collected For RCHD

Collected By B. Welty 91 MAY -9 P 12:16

Date/Time Collected 4/8/91

Bottle Numbers: Mr. Arcade

Sample Location: 210 E. Rt. 59 Nanuet Resample.

Sample Site: Kitchen Tap

Type of Sample:

[X] Potable Water

[ ] Non-Potable Water

[ ] Other: _____

002326

I.74

POTABLE (DRINKING) WATER ANALYSES REQUESTED

[ ] Pesticides NYSDOH list	(509A)
[ ] Herbicides NYSDOH list	(509B)
[ ] Trihalomethanes	(501)
[X] Volatile Halocarbons	(502)
[X] Volatile Aromatics	(503)
[ ] Micro Extractables	(504)
[ ] GC/MS Volatiles	(524)
[ ] Phthalates	(606)
[ ] Pesticides	(608 list plus others)
[ ] PCBs	(608)
[ ] Polynuclear Aromatics	(610)
[ ] Herbicides	(615)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Acid Extractables	(625AE)
[ ] GC/MS Base Neutrals	(625BN)

NON-POTABLE WATER, WASTEWATER, SOLIDS, OTHER ANALYSES REQUESTED

[ ] Purgeable Halocarbons	(601,SW-846)
[ ] Purgeable Halocarbons (DEF)	(601,SW-846)
[ ] Purgeable Aromatics	(602,SW-846)
[ ] Purgeable Aromatics (DEF)	(602,SW-846)
[ ] Acrolein & Acrylonitrile	(603)
[ ] Phthalates	(606,SW-846)
[ ] Pesticides	(608,SW-846)
[ ] Pesticides (DEF)	(608,SW-846)
[ ] PCBs	(608,SW-846)
[ ] PCBs (DEF)	(608,SW-846)
[ ] Polynuclear Aromatics	(610,SW-846)
[ ] Herbicides	(615,SW-846)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Purgeables	(624,SW-846)
[ ] GC/MS Acid Extractables	(625,SW-846)
[ ] GC/MS Base Neutrals	(625,SW-846)
[ ] TCLP Pesticides/Herbicides	(SW-846)
[ ] TCLP Volatiles	(SW-846)

ENVIRONMENTAL ORGANIC CHEMISTRY SAMPLE SUBMISSION FORM

WESTCHESTER COUNTY DEPARTMENT OF LABORATORIES AND RESEARCH
Hammond House Road, Valhalla, New York 10595

Form A-71 (rev. 9/90)

NYS-ELAP NO. 10108

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

ANALYTICAL CHEMISTRY REPORT

SAMPLE IDENTIFICATION

LAB NUMBER: 9110802619

COLLECTED: 04/18/91 TIME:
COLLECTOR: B. WELTY
AGENCY : ROCKLAND CO. HEALTH DEPT.

RECEIVED ON: 04/18/91 TIME: 12:22
RECEIVED BY: BETTYE REID

SAMPLE LOC: STERLING OPTICAL
164 RT. 95
NANUET NY

SAMPLING PT: MENS ROOM SINK
SAMPLE TYPE: POTABLE

BOTTLE NUMBERS:

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
ORGANIC CHEMISTRY			
BROMOFORM	[LT 2.0]	ug/L	EPA 524
BROMODICHLOROMETHANE	[LT 0.5]	ug/L	EPA 524
CHLOROFORM	[LT 0.5]	ug/L	EPA 524
DIBROMOCHLOROMETHANE	[LT 2.0]	ug/L	EPA 524
BROMOCHLOROMETHANE	[LT 0.5]	ug/L	EPA 524
BROMOMETHANE	[LT 0.5]	ug/L	EPA 524
CARBON TETRACHLORIDE	[LT 0.5]	ug/L	EPA 524
CHLOROETHANE	[LT 0.5]	ug/L	EPA 524
CHLOROMETHANE	[LT 0.5]	ug/L	EPA 524
DIBROMOMETHANE	[LT 0.5]	ug/L	EPA 524
DICHLORODIFLUOROMETHANE	[LT 0.5]	ug/L	EPA 524
1,1-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,2-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,1-DICHLOROETHENE	[12]	ug/L	EPA 524
CIS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
TRANS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
1,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
1,3-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
2,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
1,1-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 524
CIS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 524
TRANS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 524

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

LAB NUMBER: 9110802619

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS METHOD:
METHYLENE CHLORIDE	[LT 0.5]	ug/L EPA 524
1,1,1,2-TETRACHLOROETHANE	[LT 0.5]	ug/L EPA 524
1,1,2,2-TETRACHLOROETHANE	[LT 0.5]	ug/L EPA 524
TETRACHLOROETHENE	[1.0]	ug/L EPA 524
1,1,1-TRICHLOROETHANE	[LT 0.5]	ug/L EPA 524
1,1,2-TRICHLOROETHANE	[LT 0.5]	ug/L EPA 524
TRICHLOROETHENE	[600]	ug/L EPA 524
TRICHLOROFLUOROMETHANE	[LT 0.5]	ug/L EPA 524
1,2,3-TRICHLOROPROPANE	[LT 0.5]	ug/L EPA 524
VINYL CHLORIDE	[LT 0.5]	ug/L EPA 524
BENZENE	[LT 0.5]	ug/L EPA 524
BROMOBENZENE	[LT 0.5]	ug/L EPA 524
N-BUTYLBENZENE	[LT 0.5]	ug/L EPA 524
SEC-BUTYLBENZENE	[LT 0.5]	ug/L EPA 524
TERT-BUTYLBENZENE	[LT 0.5]	ug/L EPA 524
CHLOROBENZENE	[LT 0.5]	ug/L EPA 524
2-CHLOROTOLUENE	[LT 0.5]	ug/L EPA 524
4-CHLOROTOLUENE	[LT 0.5]	ug/L EPA 524
1,2-DICHLOROBENZENE	[LT 0.5]	ug/L EPA 524
1,3-DICHLOROBENZENE	[LT 0.5]	ug/L EPA 524
1,4-DICHLOROBENZENE	[LT 0.5]	ug/L EPA 524
ETHYL BENZENE	[LT 0.5]	ug/L EPA 524
HEXACHLOROBUTADIENE	[LT 0.5]	ug/L EPA 524
ISOPROPYLBENZENE	[LT 0.5]	ug/L EPA 524
P-ISOPROPYLTOLUENE	[LT 1.0]	ug/L EPA 524
NAPHTHALENE	[LT 0.5]	ug/L EPA 524
N-PROPYLBENZENE	[LT 0.5]	ug/L EPA 524
STYRENE	[LT 0.5]	ug/L EPA 524
TOLUENE	[LT 0.5]	ug/L EPA 524
1,2,3-TRICHLOROBENZENE	[LT 0.5]	ug/L EPA 524
1,2,4-TRICHLOROBENZENE	[LT 0.5]	ug/L EPA 524
1,2,4-TRIMETHYLBENZENE	[LT 0.5]	ug/L EPA 524
1,3,5-TRIMETHYLBENZENE	[LT 0.5]	ug/L EPA 524
M-XYLENE	[LT 0.5]	ug/L EPA 524
O-XYLENE	[LT 0.5]	ug/L EPA 524
P-XYLENE	[NA]	ug/L EPA 524
1,2-DIBROMOETHANE	[NA]	ug/L EPA 524
1,2-DIBROMO-3-CHLOROPROPANE	[LT 1.0]	ug/L EPA 524
METHYL TERT BUTYL ETHER	[ND]	ug/L EPA 524
GASOLINE	[ND]	ug/L EPA 524
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L EPA 524
UNKNOWN(S)		

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

COMMENTS:

REPORTED BY: DAVID VINCI DATE: 04/29/91

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

Agency Collected For RCHD

Collected By B. Welty

Date/Time Collected 4/17/91

Bottle Numbers: Sterling Optical

Sample Location: 164 Rt. 95 Nanuet Well

Sample Site: Mens Room Sink

Type of Sample:

[X] Potable Water

[ ] Non-Potable Water

[ ] Other: _____

POTABLE (DRINKING) WATER ANALYSES REQUESTED

[ ] Pesticides NYSDOH list	(509A)
[ ] Herbicides NYSDOH list	(509B)
[ ] Trihalomethanes	(501)
[X] Volatile Halocarbons	(502)
[X] Volatile Aromatics	(503)
[ ] Micro Extractables	(504)
[ ] GC/MS Volatiles	(524)
[ ] Phthalates	(606)
[ ] Pesticides	(608 list plus others)
[ ] PCBs	(608)
[ ] Polynuclear Aromatics	(610)
[ ] Herbicides	(615)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Acid Extractables	(625AE)
[ ] GC/MS Base Neutrals	(625BN)

NON-POTABLE WATER, WASTEWATER, SOLIDS, OTHER ANALYSES REQUESTED

[ ] Purgeable Halocarbons	(601,SW-846)
[ ] Purgeable Halocarbons (DEF)	(601,SW-846)
[ ] Purgeable Aromatics	(602,SW-846)
[ ] Purgeable Aromatics (DEF)	(602,SW-846)
[ ] Acrolein & Acrylonitrile	(603)
[ ] Phthalates	(606,SW-846)
[ ] Pesticides	(608,SW-846)
[ ] Pesticides (DEF)	(608,SW-846)
[ ] PCBs	(608,SW-846)
[ ] PCBs (DEF)	(610,SW-846)
[ ] Polynuclear Aromatics	(615,SW-846)
[ ] Herbicides	(310-13)
[ ] Petroleum Hydrocarbon Scan	(624,SW-846)
[ ] GC/MS Purgeables	(625,SW-846)
[ ] GC/MS Acid Extractables	(625,SW-846)
[ ] GC/MS Base Neutrals	
[ ] TCLP Pesticides/Herbicides	(SW-846)
[ ] TCLP Volatiles	(SW-846)

ENVIRONMENTAL ORGANIC CHEMISTRY SAMPLE SUBMISSION FORM

WESTCHESTER COUNTY DEPARTMENT OF LABORATORIES AND RESEARCH
Hammond House Road, Valhalla, New York 10595

Form A-71 (rev. 9/9

NYS-ELAP NO. 10108

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

ANALYTICAL CHEMISTRY REPORT

SAMPLE IDENTIFICATION

LAB NUMBER: 9108702112

COLLECTED: 03/28/91 TIME:
COLLECTOR: B. WELTY
AGENCY : ROCKLAND CO. HEALTH DEPT.

RECEIVED ON: 03/28/91 TIME: 14:15
RECEIVED BY: BETTYE REID

SAMPLE LOC: STERLING OPTICAL
RT. 59
NANUET NY

SAMPLING PT: MENS ROOM SINK
SAMPLE TYPE: POTABLE

BOTTLE NUMBERS:

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
ORGANIC CHEMISTRY			
BROMOCHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
BROMODICHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
BROMOFORM	[LT 2.0]	ug/L	EPA 502
BROMOMETHANE	[LT 0.5]	ug/L	EPA 502
CARBON TETRACHLORIDE	[LT 0.5]	ug/L	EPA 502
CHLOROETHANE	[LT 0.5]	ug/L	EPA 502
CHLOROFORM	[LT 0.5]	ug/L	EPA 502
CHLOROMETHANE	[LT 2.0]	ug/L	EPA 502
DIBROMOCHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
DIBROMOMETHANE	[LT 0.5]	ug/L	EPA 502
DICHLORODIFLUOROMETHANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,2-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROETHENE	[19]	ug/L	EPA 502
CIS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
TRANS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
1,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
1,3-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
2,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502
CIS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502
TRANS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

LAB NUMBER: 9108702112

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
METHYLENE CHLORIDE	[LT 0.5]	ug/L	EPA 502
1,1,1,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1,2,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 502
TETRACHLOROETHENE	[1.3]	ug/L	EPA 502
1,1,1-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1,2-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
TRICHLOROETHENE	[700]	ug/L	EPA 502
TRICHLOROFLUOROMETHANE	[LT 0.5]	ug/L	EPA 502
1,2,3-TRICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
VINYL CHLORIDE	[LT 0.5]	ug/L	EPA 502
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L	EPA 502
UNKNOWN(S)	[ND]	ug/L	EPA 502

COMMENTS:

DATE: 04/02/91

REPORTED BY: SANDY FINAMORE

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

Agency Collected For RCHD

Collected By B. Welty

Date/Time Collected 3/28/91

Bottle Numbers: Sterling optical

Sample Location: Rt. 59 Nanuet

Sample Site: Mens room Sink

Type of Sample:

[X] Potable Water

[ ] Non-Potable Water

[ ] Other: W/F.B.:

POTABLE (DRINKING) WATER ANALYSES REQUESTED

[ ] Pesticides NYSDOH list	(509A)
[ ] Herbicides NYSDOH list	(509B)
[ ] Trihalomethanes	(501)
[X] Volatile Halocarbons	(502)
[ ] Volatile Aromatics	(503)
[ ] Micro Extractables	(504)
[ ] GC/MS Volatiles	(524)
[ ] Phthalates	(606)
[ ] Pesticides	(608 list plus others)
[ ] PCBs	(608)
[ ] Polynuclear Aromatics	(610)
[ ] Herbicides	(615)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Acid Extractables	(625AE)
[ ] GC/MS Base Neutrals	(625BN)

NON-POTABLE WATER, WASTEWATER, SOLIDS, OTHER ANALYSES REQUESTED

[ ] Purgeable Halocarbons	(601,SW-846)
[ ] Purgeable Halocarbons (DEF)	(601,SW-846)
[ ] Purgeable Aromatics	(602,SW-846)
[ ] Purgeable Aromatics (DEF)	(602,SW-846)
[ ] Acrolein & Acrylonitrile	(603)
[ ] Phthalates	(606,SW-846)
[ ] Pesticides	(608,SW-846)
[ ] Pesticides (DEF)	(608,SW-846)
[ ] PCBs	(608,SW-846)
[ ] PCBs (DEF)	(610,SW-846)
[ ] Polynuclear Aromatics	(615,SW-846)
[ ] Herbicides	(310-13)
[ ] Petroleum Hydrocarbon Scan	(624,SW-846)
[ ] GC/MS Purgeables	(625,SW-846)
[ ] GC/MS Acid Extractables	(625,SW-846)
[ ] GC/MS Base Neutrals	
[ ] TCLP Pesticides/Herbicides	(SW-846)
[ ] TCLP Volatiles	(SW-846)

ENVIRONMENTAL ORGANIC CHEMISTRY SAMPLE SUBMISSION FORM

WESTCHESTER COUNTY DEPARTMENT OF LABORATORIES AND RESEARCH
Hammond House Road, Valhalla, New York 10595

Form A-71 (rev. 9/90)

NYS-ELAP NO. 10108

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

ANALYTICAL CHEMISTRY REPORT

SAMPLE IDENTIFICATION

LAB NUMBER: 9106501624

COLLECTED: 03/05/91 TIME:
COLLECTOR: B. WELTY
AGENCY : ROCKLAND CO. HEALTH DEPT.

RECEIVED ON: 03/06/91 TIME: 13:36
RECEIVED BY: SALLY TEDRICK

SAMPLE LOC: STERLING OPTICAL
164 RT. 59
NANUET NY

SAMPLING PT: MENS ROOM
SAMPLE TYPE: POTABLE

BOTTLE NUMBERS:

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
ORGANIC CHEMISTRY			
1,2-DIBROMOETHANE	[LT 0.02]	ug/L	EPA 504
1,2-DIBROMO-3-CHLOROPROPANE	[LT 0.02]	ug/L	EPA 504
BROMOFORM	[LT 2.0]	ug/L	EPA 524
BROMODICHLOROMETHANE	[LT 0.5]	ug/L	EPA 524
CHLOROFORM	[LT 0.5]	ug/L	EPA 524
DIBROMOCHLOROMETHANE	[LT 2.0]	ug/L	EPA 524
BROMOCHLOROMETHANE	[LT 0.5]	ug/L	EPA 524
BROMOMETHANE	[LT 0.5]	ug/L	EPA 524
CARBON TETRACHLORIDE	[LT 0.5]	ug/L	EPA 524
CHLOROETHANE	[LT 0.5]	ug/L	EPA 524
CHLOROMETHANE	[LT 0.5]	ug/L	EPA 524
DIBROMOMETHANE	[LT 0.5]	ug/L	EPA 524
DICHLORODIFLUOROMETHANE	[LT 0.5]	ug/L	EPA 524
1,1-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,2-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,1-DICHLOROETHENE	[9.4]	ug/L	EPA 524
CIS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
TRANS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
1,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
1,3-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
2,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
1,1-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 524

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
CIS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 524
TRANS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 524
METHYLENE CHLORIDE	[LT 0.5]	ug/L	EPA 524
1,1,1,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,1,2,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 524
TETRACHLOROETHENE	[1.8]	ug/L	EPA 524
1,1,1-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,1,2-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
TRICHLOROETHENE	[5.8]	ug/L	EPA 524
TRICHLOROFLUOROMETHANE	[LT 0.5]	ug/L	EPA 524
1,2,3-TRICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
VINYL CHLORIDE	[LT 0.5]	ug/L	EPA 524
BENZENE	[LT 0.5]	ug/L	EPA 524
BROMOBENZENE	[LT 0.5]	ug/L	EPA 524
N-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 524
SEC-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 524
TERT-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 524
CHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
2-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 524
4-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 524
1,2-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,3-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,4-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
ETHYL BENZENE	[LT 0.5]	ug/L	EPA 524
HEXACHLOROBUTADIENE	[LT 0.5]	ug/L	EPA 524
ISOPROPYLBENZENE	[LT 0.5]	ug/L	EPA 524
P-ISOPROPYLTOLUENE	[LT 0.5]	ug/L	EPA 524
NAPHTHALENE	[LT 1.0]	ug/L	EPA 524
N-PROPYLBENZENE	[LT 0.5]	ug/L	EPA 524
STYRENE	[LT 0.5]	ug/L	EPA 524
TOLUENE	[LT 0.5]	ug/L	EPA 524
1,2,3-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,2,4-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,2,4-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 524
1,3,5-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 524
M-XYLENE	[LT 0.5]	ug/L	EPA 524
O-XYLENE	[LT 0.5]	ug/L	EPA 524
P-XYLENE	[LT 0.5]	ug/L	EPA 524
1,2-DIBROMOETHANE	[NA]	ug/L	EPA 524
1,2-DIBROMO-3-CHLOROPROPANE	[NA]	ug/L	EPA 524
METHYL TERT BUTYL ETHER	[LT 1.0]	ug/L	EPA 524
GASOLINE	[ND]	ug/L	EPA 524

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

LAB NUMBER: 9106501624 PAGE : 3

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L	EPA 524
UNKNOWN(S)	[ND]	ug/L	EPA 524,,

COMMENTS:

REPORTED BY: DAVID VINCI DATE: 03/26/91

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

Agency Collected For RCHD

Collected By B. Wellx

Date/Time Collected 3/5/91

Bottle Numbers: Sterling optical

Sample Location: 164 Rt. 59 Nanuet well

Sample Site: Mens Room Sink

001626

Type of Sample:

[X] Potable Water

[ ] Non-Potable Water

[ ] Other: _____

POTABLE (DRINKING) WATER ANALYSES REQUESTED

[ ] Pesticides NYSDOH list	(509A)
[ ] Herbicides NYSDOH list	(509B)
[ ] Trihalomethanes	(501)
[X] Volatile Halocarbons	(502)
[X] Volatile Aromatics	(503)
[X] Micro Extractables	(504)
[ ] GC/MS Volatiles	(524)
[ ] Phthalates	(606)
[ ] Pesticides	(608 list plus others)
[ ] PCBs	(608)
[ ] Polynuclear Aromatics	(610)
[ ] Herbicides	(615)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Acid Extractables	(625AE)
[ ] GC/MS Base Neutrals	(625BN)

NON-POTABLE WATER, WASTEWATER, SOLIDS, OTHER ANALYSES REQUESTED

[ ] Purgeable Halocarbons	(601,SW-846)
[ ] Purgeable Halocarbons (DEF)	(601,SW-846)
[ ] Purgeable Aromatics	(602,SW-846)
[ ] Purgeable Aromatics (DEF)	(602,SW-846)
[ ] Acrolein & Acrylonitrile	(603)
[ ] Phthalates	(606,SW-846)
[ ] Pesticides	(608,SW-846)
[ ] Pesticides (DEF)	(608,SW-846)
[ ] PCBs	(608,SW-846)
[ ] PCBs (DEF)	(608,SW-846)
[ ] Polynuclear Aromatics	(610,SW-846)
[ ] Herbicides	(615,SW-846)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Purgeables	(624,SW-846)
[ ] GC/MS Acid Extractables	(625,SW-846)
[ ] GC/MS Base Neutrals	(625,SW-846)
[ ] TCLP Pesticides/Herbicides	(SW-846)
[ ] TCLP Volatiles	(SW-846)

ENVIRONMENTAL ORGANIC CHEMISTRY SAMPLE SUBMISSION FORM

WESTCHESTER COUNTY DEPARTMENT OF LABORATORIES AND RESEARCH
Hammond House Road, Valhalla, New York 10595

NYS-ELAP NO. 10108

Form A-71 (rev. 9/90)

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

ANALYTICAL CHEMISTRY REPORT

SAMPLE IDENTIFICATION

LAB NUMBER: **9110902664**

COLLECTED: 02/19/91 TIME:
COLLECTOR: B. WELTY
AGENCY : ROCKLAND CO. HEALTH DEPT.

RECEIVED ON: 04/19/91 TIME: 13:09
RECEIVED BY: BETTYE REID

SAMPLE LOC: MIRACLES/LA WOMAN
180 RT, 59YACK ROAD
NANUET NY

SAMPLING PT: SPIGOT BEFORE FILTER
SAMPLE TYPE: POTABLE

BOTTLE NUMBERS:

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
ORGANIC CHEMISTRY			
BROMOFORM	[LT 2.0]	ug/L	EPA 524
BROMODICHLOROMETHANE	[LT 0.5]	ug/L	EPA 524
CHLOROFORM	[LT 0.5]	ug/L	EPA 524
DIBROMOCHLOROMETHANE	[LT 2.0]	ug/L	EPA 524
BROMOCHLOROMETHANE	[LT 0.5]	ug/L	EPA 524
BROMOMETHANE	[LT 0.5]	ug/L	EPA 524
CARBON TETRACHLORIDE	[LT 0.5]	ug/L	EPA 524
CHLOROETHANE	[LT 0.5]	ug/L	EPA 524
CHLOROMETHANE	[LT 0.5]	ug/L	EPA 524
DIBROMOMETHANE	[LT 0.5]	ug/L	EPA 524
DICHLORODIFLUOROMETHANE	[LT 0.5]	ug/L	EPA 524
1,1-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,2-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,1-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
CIS-1,2-DICHLOROETHENE	[39]	ug/L	EPA 524
TRANS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 524
1,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
1,3-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
2,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
1,1-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 524
CIS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 524
TRANS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 524

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

LAB NUMBER: 9110902664 PAGE : 2

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
METHYLENE CHLORIDE	[LT 0.5]	ug/L	EPA 524
1,1,1,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 524
1,1,2,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 524
TETRACHLOROETHENE	[3.7]	ug/L	EPA 524
1,1,1-TRICHLOROETHANE	[ ]	ug/L	EPA 524
1,1,2-TRICHLOROETHANE	[ ]	ug/L	EPA 524
TRICHLOROETHENE	[1600]	ug/L	EPA 524
TRICHLOROFLUOROMETHANE	[LT 0.5]	ug/L	EPA 524
1,2,3-TRICHLOROPROPANE	[LT 0.5]	ug/L	EPA 524
VINYL CHLORIDE	[LT 0.5]	ug/L	EPA 524
BENZENE	[LT 0.5]	ug/L	EPA 524
BROMOBENZENE	[LT 0.5]	ug/L	EPA 524
N-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 524
SEC-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 524
TERT-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 524
CHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
2-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 524
4-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 524
1,2-DICHLOROBENZENE	[1.6]	ug/L	EPA 524
1,3-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,4-DICHLOROBENZENE	[T]	ug/L	EPA 524
ETHYL BENZENE	[LT 0.5]	ug/L	EPA 524
HEXACHLOROBUTADIENE	[LT 0.5]	ug/L	EPA 524
ISOPROPYLBENZENE	[LT 0.5]	ug/L	EPA 524
P-ISOPROPYLTOLUENE	[LT 0.5]	ug/L	EPA 524
NAPHTHALENE	[LT 1.0]	ug/L	EPA 524
N-PROPYLBENZENE	[LT 0.5]	ug/L	EPA 524
STYRENE	[LT 0.5]	ug/L	EPA 524
TOLUENE	[LT 0.5]	ug/L	EPA 524
1,2,3-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,2,4-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 524
1,2,4-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 524
1,3,5-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 524
M-XYLENE	[LT 0.5]	ug/L	EPA 524
O-XYLENE	[LT 0.5]	ug/L	EPA 524
P-XYLENE	[LT 0.5]	ug/L	EPA 524
1,2-DIBROMOETHANE	[NA]	ug/L	EPA 524
1,2-DIBROMO-3-CHLOROPROPANE	[NA]	ug/L	EPA 524
METHYL TERT BUTYL ETHER	[3.1]	ug/L	EPA 524
GASOLINE	[ND]	ug/L	EPA 524
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L	EPA 524
UNKNOWN(S)	[ND]	ug/L	EPA 524

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

LAB NUMBER: 9110902664 PAGE : 3

COMMENTS:

REPORTED BY: DAVID VINCI DATE: 05/06/91

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

ANALYTICAL CHEMISTRY REPORT

SAMPLE IDENTIFICATION

LAB NUMBER: 9109402273

COLLECTED: 04/04/91 TIME: 12:45
COLLECTOR: B. WELTY
AGENCY : ROCKLAND CO. HEALTH DEPT.

RECEIVED ON: 04/04/91 TIME: 13:08
RECEIVED BY: BETTYE REID

SAMPLE LOC: L.A. WOMAN (BEFORE)MIRACL
180 RTE 59
NANUET NY

SAMPLING PT: WELL SPIGOT BEFORE FIL
SAMPLE TYPE: POTABLE

BOTTLE NUMBERS:

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
ORGANIC CHEMISTRY			
BROMOCHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
BROMODICHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
BROMOFORM	[LT 2.0]	ug/L	EPA 502
BROMOMETHANE	[LT 0.5]	ug/L	EPA 502
CARBON TETRACHLORIDE	[LT 0.5]	ug/L	EPA 502
CHLOROETHANE	[LT 0.5]	ug/L	EPA 502
CHLOROFORM	[LT 0.5]	ug/L	EPA 502
CHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
DIBROMOCHLOROMETHANE	[LT 2.0]	ug/L	EPA 502
DIBROMOMETHANE	[LT 0.5]	ug/L	EPA 502
DICHLORODIFLUOROMETHANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,2-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROETHENE	[31]	ug/L	EPA 502
CIS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
TRANS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
1,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
1,3-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
2,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502
CIS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502
TRANS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA,N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
METHYLENE CHLORIDE	[LT 0.5]	ug/L	EPA 502
1,1,1,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1,2,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 502
TETRACHLOROETHENE	[1.5]	ug/L	EPA 502
1,1,1-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1,2-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
TRICHLOROETHENE	[5400]	ug/L	EPA 502
TRICHLOROFLUOROMETHANE	[LT 0.5]	ug/L	EPA 502
1,2,3-TRICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
VINYL CHLORIDE	[LT 0.5]	ug/L	EPA 502
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L	EPA 502
UNKNOWN(S)	[ND]	ug/L	EPA 502
BENZENE	[0.96]	ug/L	EPA 503
BROMOBENZENE	[LT 0.5]	ug/L	EPA 503
N-BUTYLBENZENE	[0.52]	ug/L	EPA 503
SEC-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
TERT-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
CHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
2-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 503
4-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 503
1,2-DICHLOROBENZENE	[1.5]	ug/L	EPA 503
1,3-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,4-DICHLOROBENZENE	[1.2]	ug/L	EPA 503
ETHYL BENZENE	[LT 0.5]	ug/L	EPA 503
HEXACHLOROBUTADIENE	[LT 0.5]	ug/L	EPA 503
ISOPROPYLBENZENE	[0.61]	ug/L	EPA 503
P-ISOPROPYLTOLUENE	[LT 0.5]	ug/L	EPA 503
N-PROPYLBENZENE	[LT 0.5]	ug/L	EPA 503
STYRENE	[1.7]	ug/L	EPA 503
TOLUENE	[LT 0.5]	ug/L	EPA 503
1,2,3-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,2,4-TRICHLOROBENZENE	[0.74]	ug/L	EPA 503
1,2,4-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 503
1,3,5-TRIMETHYLBENZENE	[1.8]	ug/L	EPA 503
M-XYLENE	[LT 0.5]	ug/L	EPA 503
O-XYLENE	[0.55]	ug/L	EPA 503
P-XYLENE	[LT 0.5]	ug/L	EPA 503
METHYL TERT BUTYL ETHER	[1.3]	ug/L	EPA 503
NAPHTHALENE	[N.A.]	ug/L	EPA 503
TRICHLOROETHENE	[SEE ABOVE]	ug/L	EPA 503
TETRACHLOROETHENE	[SEE ABOVE]	ug/L	EPA 503
GASOLINE	[ND]	ug/L	EPA 503

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA,N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L	EPA 503
UNKNOWN(S)	[PRESENT]	ug/L	EPA 503

COMMENTS:

REPORTED BY: DAVID VINCI DATE: 04/08/91

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

Agency Collected For RCHD

Collected By B. Weltz

Date/Time Collected 4/4/91 12:45

Bottle Numbers: L.A. Worrian (Before) / Miracles Dance club R/K

Sample Location: 180 Rt. 59 Nanuet

Sample Site: ~~kitchen~~ spigot before filter

Type of Sample:

[X] Potable Water

[ ] Non-Potable Water

[ ] Other: _____

POTABLE (DRINKING) WATER ANALYSES REQUESTED

[ ] Pesticides NYSDOH list	(509A)
[ ] Herbicides NYSDOH list	(509B)
[ ] Trihalomethanes	(501)
[X] Volatile Halocarbons	(502)
[X] Volatile Aromatics	(503)
[ ] Micro Extractables	(504)
[ ] GC/MS Volatiles	(524)
[ ] Phthalates	(606)
[ ] Pesticides	(608 list plus others)
[ ] PCBs	(608)
[ ] Polynuclear Aromatics	(610)
[ ] Herbicides	(615)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Acid Extractables	(625AE)
[ ] GC/MS Base Neutrals	(625BN)

NON-POTABLE WATER, WASTEWATER, SOLIDS, OTHER ANALYSES REQUESTED

[ ] Purgeable Halocarbons	(601,SW-846)
[ ] Purgeable Halocarbons (DEF)	(601,SW-846)
[ ] Purgeable Aromatics	(602,SW-846)
[ ] Purgeable Aromatics (DEF)	(602,SW-846)
[ ] Acrolein & Acrylonitrile	(603)
[ ] Phthalates	(606,SW-846)
[ ] Pesticides	(608,SW-846)
[ ] Pesticides (DEF)	(608,SW-846)
[ ] PCBs	(608,SW-846)
[ ] PCBs (DEF)	(610,SW-846)
[ ] Polynuclear Aromatics	(615,SW-846)
[ ] Herbicides	(310-13)
[ ] Petroleum Hydrocarbon Scan	(624,SW-846)
[ ] GC/MS Purgeables	(625,SW-846)
[ ] GC/MS Acid Extractables	(625,SW-846)
[ ] GC/MS Base Neutrals	
[ ] TCLP Pesticides/Herbicides	(SW-846)
[ ] TCLP Volatiles	(SW-846)

ENVIRONMENTAL ORGANIC CHEMISTRY SAMPLE SUBMISSION FORM

WESTCHESTER COUNTY DEPARTMENT OF LABORATORIES AND RESEARCH
Hammond House Road, Valhalla, New York 10595

Form A-71 (rev. 9/90)

NYS-ELAP NO. 10108

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

ANALYTICAL CHEMISTRY REPORT

SAMPLE IDENTIFICATION

LAB NUMBER: 9108702114

COLLECTED: 03/28/91 TIME: 1:30P
COLLECTOR: JT DOREY
AGENCY : ROCKLAND CO. HEALTH DEPT.

RECEIVED ON: 03/28/91 TIME: 14:18
RECEIVED BY: BETTYE REID

SAMPLE LOC: LA WOMAN
RTE 59
NANUET NY

SAMPLING PT: SINK BEHIND BAR
SAMPLE TYPE: POTABLE

BOTTLE NUMBERS: K L M

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
ORGANIC CHEMISTRY			
BROMOCHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
BROMODICHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
BROMOFORM	[LT 2.0]	ug/L	EPA 502
BROMOMETHANE	[LT 0.5]	ug/L	EPA 502
CARBON TETRACHLORIDE	[LT 0.5]	ug/L	EPA 502
CHLOROETHANE	[LT 0.5]	ug/L	EPA 502
CHLOROFORM	[LT 0.5]	ug/L	EPA 502
CHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
DIBROMOCHLOROMETHANE	[LT 2.0]	ug/L	EPA 502
DIBROMOMETHANE	[LT 0.5]	ug/L	EPA 502
DICHLORODIFLUOROMETHANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,2-DICHLOROETHANE	[1.0]	ug/L	EPA 502
1,1-DICHLOROETHENE	[80]	ug/L	EPA 502
CIS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
TRANS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
1,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
1,3-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
2,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502
CIS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502
TRANS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

LAB NUMBER: 9108702114

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
METHYLENE CHLORIDE	[LT 0.5]	ug/L	EPA 502
1,1,1,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1,2,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 502
TETRACHLOROETHENE	[8.9]	ug/L	EPA 502
1,1,1-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1,2-TRICHLOROETHANE	[0.73]	ug/L	EPA 502
TRICHLOROETHENE	[4600]	ug/L	EPA 502
TRICHLOROFLUOROMETHANE	[LT 0.5]	ug/L	EPA 502
1,2,3-TRICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
VINYL CHLORIDE	[LT 0.5]	ug/L	EPA 502
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L	EPA 502
UNKNOWN(S)	[ND]	ug/L	EPA 502
BENZENE	[LT 0.5]	ug/L	EPA 503
BROMOBENZENE	[LT 0.5]	ug/L	EPA 503
N-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
SEC-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
TERT-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
CHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
2-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 503
4-CHLOROTOLUENE	[1.1]	ug/L	EPA 503
1,2-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,3-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,4-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
ETHYL BENZENE	[LT 0.5]	ug/L	EPA 503
HEXACHLOROBUTADIENE	[LT 0.5]	ug/L	EPA 503
ISOPROPYLBENZENE	[LT 0.5]	ug/L	EPA 503
P-ISOPROPYLTOLUENE	[LT 0.5]	ug/L	EPA 503
N-PROPYLBENZENE	[LT 0.5]	ug/L	EPA 503
STYRENE	[LT 0.5]	ug/L	EPA 503
TOLUENE	[LT 0.5]	ug/L	EPA 503
1,2,3-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,2,4-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,2,4-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 503
1,3,5-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 503
M-XYLENE	[LT 0.5]	ug/L	EPA 503
O-XYLENE	[LT 0.5]	ug/L	EPA 503
P-XYLENE	[LT 1.0]	ug/L	EPA 503
METHYL TERT BUTYL ETHER	[N.A.]	ug/L	EPA 503
NAPHTHALENE	[SEE ABOVE]	ug/L	EPA 503
TRICHLOROETHENE	[SEE ABOVE]	ug/L	EPA 503
TETRACHLOROETHENE	[ND]	ug/L	EPA 503
GASOLINE			

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L	EPA 503
UNKNOWN(S)	[ND]	ug/L	EPA 503
1,2-DIBROMOETHANE	[LT 0.02]	ug/L	EPA 504
1,2-DIBROMO-3-CHLOROPROPANE	[LT 0.02]	ug/L	EPA 504

COMMENTS:

REPORTED BY: SANDY FINAMORE DATE: 04/04/91

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

Agency Collected For RCHD

Collected By J. Dorey

Date/Time Collected 3/28/94 1 30

Bottle Numbers: K, L, M

Sample Location: LA WOMAN
Rte 59
Nanuet N.Y.

Sample Site: Sink behind Bar

Type of Sample:

[X] Potable Water

[ ] Non-Potable Water

[ ] Other: _____

w/F.B.

POTABLE (DRINKING) WATER ANALYSES REQUESTED

[ ] Pesticides NYSDOH list	(509A)
[ ] Herbicides NYSDOH list	(509B)
[ ] Trihalomethanes	(501)
[X] Volatile Halocarbons	(502)
[X] Volatile Aromatics	(503)
[X] Micro Extractables	(504)
[ ] GC/MS Volatiles	(524)
[ ] Phthalates	(606)
[ ] Pesticides	(608 list plus others)
[ ] PCBs	(608)
[ ] Polynuclear Aromatics	(610)
[ ] Herbicides	(615)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Acid Extractables	(625AE)
[ ] GC/MS Base Neutrals	(625BN)

NON-POTABLE WATER, WASTEWATER, SOLIDS, OTHER ANALYSES REQUESTED

[ ] Purgeable Halocarbons	(601,SW-846)
[ ] Purgeable Halocarbons (DEF)	(601,SW-846)
[ ] Purgeable Aromatics	(602,SW-846)
[ ] Purgeable Aromatics (DEF)	(602,SW-846)
[ ] Acrolein & Acrylonitrile	(603)
[ ] Phthalates	(606,SW-846)
[ ] Pesticides	(608,SW-846)
[ ] Pesticides (DEF)	(608,SW-846)
[ ] PCBs	(608,SW-846)
[ ] PCBs (DEF)	(608,SW-846)
[ ] Polynuclear Aromatics	(610,SW-846)
[ ] Herbicides	(615,SW-846)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Purgeables	(624,SW-846)
[ ] GC/MS Acid Extractables	(625,SW-846)
[ ] GC/MS Base Neutrals	(625,SW-846)
[ ] TCLP Pesticides/Herbicides	(SW-846)
[ ] TCLP Volatiles	(SW-846)

ENVIRONMENTAL ORGANIC CHEMISTRY SAMPLE SUBMISSION FORM

WESTCHESTER COUNTY DEPARTMENT OF LABORATORIES AND RESEARCH
Hammond House Road, Valhalla, New York 10595

File

COUNTY OF ROCKLAND

ROCKLAND COUNTY DEPARTMENT OF HEALTH

The Dr. Robert L. Yeager Health Center
Pomona, New York 10970
(914)354-0200
(914)354-3547 (Fax)

JOHN T. GRANT
County Executive

MARVIN THALENBERG, M.D.
Commissioner of Health

April 16, 1991

Mr. Ram Pergadia
NYSDEC
21 South Putt Corners Road
New Paltz, New York 12561

Re: TCE Contamination of
Public Water Supply Wells
Route 59, Nanuet, New York

Dear Sir:

Pursuant to our conversation, attached are two site maps and sampling results indicative of the above referenced problem (note 5400 ppb TCE at "Miracles"). The sampling site is a Non-Community Public Water Supply (NCPWS) Well. Two adjacent wells (NCPWS also) have been found to contain TCE at lower levels but in violation of New York State Health Department standards.

Connection to the Spring Valley Water Company Supply is being pursued. In the interim, all measures have been taken to minimize exposure to the contaminated well water. The area within a half mile radius is being surveyed by this Department for private wells and for potential sources.

Benzene compounds and MTBE have been detected (less than 5ppb) in two wells and a nearby stream. This Department hereby requests sampling assistance for at least one more round of samples.

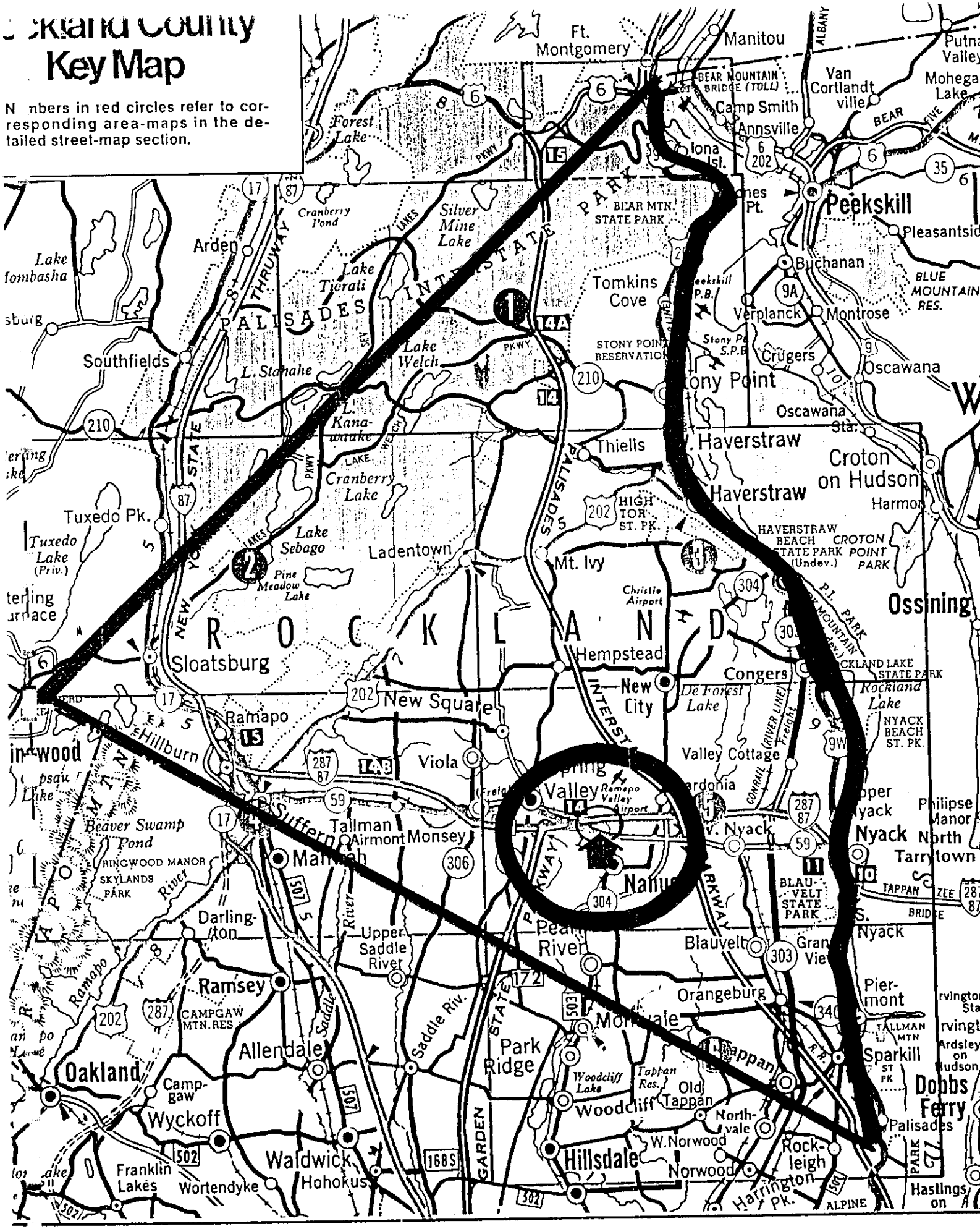
This Department also requests assistance for source identification/elimination, plume definition, and aquifer restoration. Please advise us as soon as possible so that we may discuss options available, including petitioning an EPA response.

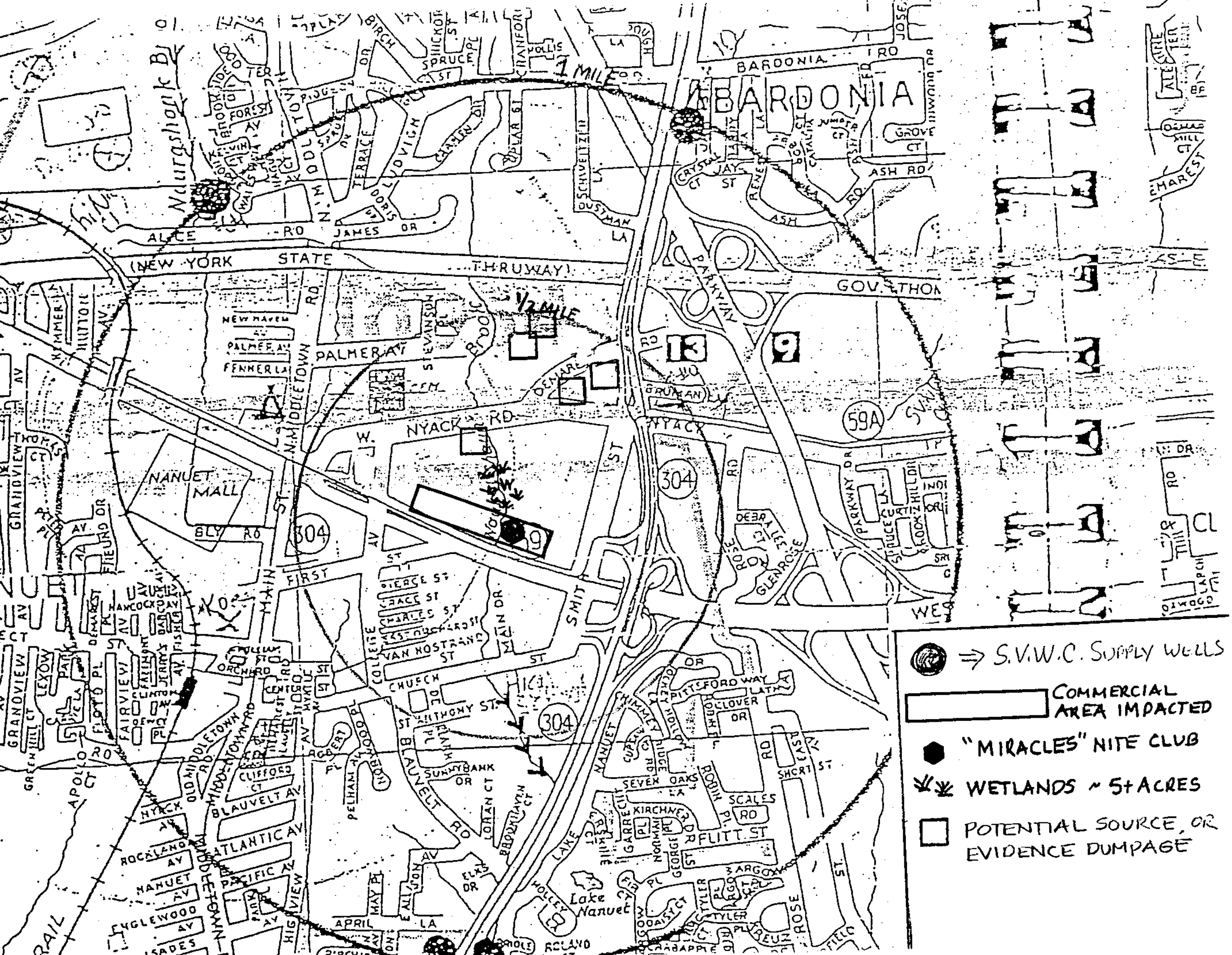
Very truly yours,

C M Quinn

Catherine M. Quinn
Senior Public Health Engineer

CMQ/tkp
Attachments (2)


Rockland County
Key Map
Numbers in red circles refer to corresponding area-maps in the detailed street-map section.
ROCKLAND
PALISADES INTERSTATE PARK
NEW YORK STATE THRUWAY
PALISADES INTERSTATE PKWY.
GARDEN STATE PKWY.
HARRIMAN
Ft. Montgomery
Manitou
Bear Mountain Bridge (Toll)
Camp Smith
Annsville
Iona Isl.
Peekskill
Van Cortlandtville
Mohegan Lake
Putnam Valley
Forest Lake
Cranberry Pond
Silver Mine Lake
Bear Mtn. State Park
Arden
Lake Tiorati
Lake Tombasha
Tomkins Cove
Buchanan
Verplanck
Montrose
Blue Mountain Res.
Stony Point Reservation
Stony Point S.P.B.
Crugers
Oscawana
Oscawana Sta.
Lake Welch
L. Stahahe
L. Kanawauke
Cranberry Lake
Thiells
Haverstraw
Croton on Hudson
Harmon
Haverstraw Beach State Park (Undev.)
Croton Point Park
High Tor St. Pk.
Tuxedo Pk.
Tuxedo Lake (Priv.)
Lake Sebago
Pine Meadow Lake
Ladentown
Mt. Ivy
Christie Airport
Ossining
Sloatsburg
Hempstead
Congers
New City
New Square
Ramapo
Hillburn
Viola
Valley Cottage
De Forest Lake
Rockland Lake
Nyack Beach St. Pk.
Rockland Lake State Park
Ramapo Valley Airport
Nyack
Philipse Manor
North Tarrytown
Tallman Mtn. State Park
Beaver Swamp
Ringwood Manor
Skylands Park
Ramapo River
Darlington
Upper Saddle River
Pearl River
Blauvelt
Blauvelt State Park
Orangeburg
Piermont
Ramsey
Campgaw Mtn. Res.
Saddle River
Allendale
Park Ridge
Montvale
Sparkill
Oakland
Campgaw
Wyckoff
Woodcliff Lake
Tappan Res.
Old Tappan
Woodcliff
Northvale
Dobbs Ferry
Palisades
Franklin Lakes
Wortendyke
Waldwick
Hohokus
Hillsdale
W. Norwood
Norwood
Rockleigh
Harrington Pk.
Hastings on Hudson
Alpine



⇒ S.V.W.C. SUPPLY WELLS
COMMERCIAL AREA IMPACTED
"MIRACLES" NITE CLUB
WETLANDS ~ 5+ ACRES
POTENTIAL SOURCE, OR EVIDENCE DUMPAGE
1 MILE
1/2 MILE
BARDONIA
NANUET MALL
NEW YORK STATE THRUWAY
PALMER AV
NYACK RD
MAIN ST
304
59A
13
9
Lake Nanuet

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

ANALYTICAL CHEMISTRY REPORT

SAMPLE IDENTIFICATION

LAB NUMBER: 9109402273

COLLECTED: 04/04/91 TIME: 12:45
COLLECTOR: B. WELTY
AGENCY : ROCKLAND CO. HEALTH DEPT.

RECEIVED ON: 04/04/91 TIME: 13:08
RECEIVED BY: BETTYE REID

SAMPLE LOC: L.A. WOMAN (BEFORE)MIRACL
180 RTE 59
NANUET NY

SAMPLING PT: WELL SPIGOT BEFORE FIL
SAMPLE TYPE: POTABLE

BOTTLE NUMBERS:

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
ORGANIC CHEMISTRY			
BROMOCHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
BROMODICHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
BROMOFORM	[LT 2.0]	ug/L	EPA 502
BROMOMETHANE	[LT 0.5]	ug/L	EPA 502
CARBON TETRACHLORIDE	[LT 0.5]	ug/L	EPA 502
CHLOROETHANE	[LT 0.5]	ug/L	EPA 502
CHLOROFORM	[LT 0.5]	ug/L	EPA 502
CHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
DIBROMOCHLOROMETHANE	[LT 2.0]	ug/L	EPA 502
DIBROMOMETHANE	[LT 0.5]	ug/L	EPA 502
DICHLORODIFLUOROMETHANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,2-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROETHENE	[31]	ug/L	EPA 502
CIS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
TRANS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
1,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
1,3-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
2,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502
CIS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502
TRANS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
METHYLENE CHLORIDE	[LT 0.5]	ug/L	EPA 502
1,1,1,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1,2,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 502
TETRACHLOROETHENE	[1.5]	ug/L	EPA 502
1,1,1-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1,2-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
TRICHLOROETHENE	[5400]	ug/L	EPA 502
TRICHLOROFLUOROMETHANE	[LT 0.5]	ug/L	EPA 502
1,2,3-TRICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
VINYL CHLORIDE	[LT 0.5]	ug/L	EPA 502
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L	EPA 502
UNKNOWN(S)	[ND]	ug/L	EPA 502
BENZENE	[0.96]	ug/L	EPA 503
BROMOBENZENE	[LT 0.5]	ug/L	EPA 503
N-BUTYLBENZENE	[0.52]	ug/L	EPA 503
SEC-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
TERT-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
CHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
2-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 503
4-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 503
1,2-DICHLOROBENZENE	[1.5]	ug/L	EPA 503
1,3-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,4-DICHLOROBENZENE	[1.2]	ug/L	EPA 503
ETHYL BENZENE	[LT 0.5]	ug/L	EPA 503
HEXACHLOROBUTADIENE	[LT 0.5]	ug/L	EPA 503
ISOPROPYLBENZENE	[0.61]	ug/L	EPA 503
P-ISOPROPYLTOLUENE	[LT 0.5]	ug/L	EPA 503
N-PROPYLBENZENE	[LT 0.5]	ug/L	EPA 503
STYRENE	[1.7]	ug/L	EPA 503
TOLUENE	[LT 0.5]	ug/L	EPA 503
1,2,3-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,2,4-TRICHLOROBENZENE	[0.74]	ug/L	EPA 503
1,2,4-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 503
1,3,5-TRIMETHYLBENZENE	[1.8]	ug/L	EPA 503
M-XYLENE	[LT 0.5]	ug/L	EPA 503
O-XYLENE	[0.55]	ug/L	EPA 503
P-XYLENE	[LT 0.5]	ug/L	EPA 503
METHYL TERT BUTYL ETHER	[1.3]	ug/L	EPA 503
NAPHTHALENE	[N.A.]	ug/L	EPA 503
TRICHLOROETHENE	[SEE ABOVE]	ug/L	EPA 503
TETRACHLOROETHENE	[SEE ABOVE]	ug/L	EPA 503
GASOLINE	[ND]	ug/L	EPA 503

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

LAB NUMBER: 9109402273

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS METHOD:
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L EPA 503
UNKNOWN(S)	[PRESENT]	ug/L EPA 503

COMMENTS:

REPORTED BY: DAVID VINCI DATE: 04/08/91

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

Agency Collected For RCHD

Collected By B. Welty

Date/Time Collected 4/4/91 12:35

Bottle Numbers: L.A. Woman (Before) / Miracles Dance club RK

Sample Location: 180 Rt. 59 Nanuet

Sample Site: ~~kitchen~~ spigot before filter

Type of Sample:

- [X] Potable Water
- [ ] Non-Potable Water
- [ ] Other: _____

POTABLE (DRINKING) WATER ANALYSES REQUESTED

[ ] Pesticides NYSDOH list	(509A)
[ ] Herbicides NYSDOH list	(509B)
[ ] Trihalomethanes	(501)
[X] Volatile Halocarbons	(502)
[X] Volatile Aromatics	(503)
[ ] Micro Extractables	(504)
[ ] GC/MS Volatiles	(524)
[ ] Phthalates	(606)
[ ] Pesticides	(608 list plus others)
[ ] PCBs	(608)
[ ] Polynuclear Aromatics	(610)
[ ] Herbicides	(615)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Acid Extractables	(625AE)
[ ] GC/MS Base Neutrals	(625BN)

NON-POTABLE WATER, WASTEWATER, SOLIDS, OTHER ANALYSES REQUESTED

[ ] Purgeable Halocarbons	(601,SW-846)
[ ] Purgeable Halocarbons (DEF)	(601,SW-846)
[ ] Purgeable Aromatics	(602,SW-846)
[ ] Purgeable Aromatics (DEF)	(602,SW-846)
[ ] Acrolein & Acrylonitrile	(603)
[ ] Phthalates	(606,SW-846)
[ ] Pesticides	(608,SW-846)
[ ] Pesticides (DEF)	(608,SW-846)
[ ] PCBs	(608,SW-846)
[ ] PCBs (DEF)	(610,SW-846)
[ ] Polynuclear Aromatics	(615,SW-846)
[ ] Herbicides	(310-13)
[ ] Petroleum Hydrocarbon Scan	(624,SW-846)
[ ] GC/MS Purgeables	(625,SW-846)
[ ] GC/MS Acid Extractables	(625,SW-846)
[ ] GC/MS Base Neutrals	
[ ] TCLP Pesticides/Herbicides	(SW-846)
[ ] TCLP Volatiles	(SW-846)

ENVIRONMENTAL ORGANIC CHEMISTRY SAMPLE SUBMISSION FORM

WESTCHESTER COUNTY DEPARTMENT OF LABORATORIES AND RESEARCH
Hammond House Road, Valhalla, New York 10595
Form A-71 (rev. 9/90)

NYS-ELAP NO. 10108

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

ANALYTICAL CHEMISTRY REPORT

SAMPLE IDENTIFICATION

LAB NUMBER: 9108702114

COLLECTED: 03/28/91 TIME: 1:30P
COLLECTOR: JT DOREY
AGENCY : ROCKLAND CO. HEALTH DEPT.

RECEIVED ON: 03/28/91 TIME: 14:18
RECEIVED BY: BETTYE REID

SAMPLE LOC: LA WOMAN
RTE 59
NANUET NY

SAMPLING PT: SINK BEHIND BAR
SAMPLE TYPE: POTABLE

BOTTLE NUMBERS: K L M

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
ORGANIC CHEMISTRY			
BROMOCHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
BROMODICHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
BROMOFORM	[LT 2.0]	ug/L	EPA 502
BROMOMETHANE	[LT 0.5]	ug/L	EPA 502
CARBON TETRACHLORIDE	[LT 0.5]	ug/L	EPA 502
CHLOROETHANE	[LT 0.5]	ug/L	EPA 502
CHLOROFORM	[LT 0.5]	ug/L	EPA 502
CHLOROMETHANE	[LT 2.0]	ug/L	EPA 502
DIBROMOCHLOROMETHANE	[LT 0.5]	ug/L	EPA 502
DIBROMOMETHANE	[LT 0.5]	ug/L	EPA 502
DICHLORODIFLUOROMETHANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,2-DICHLOROETHANE	[1.0]	ug/L	EPA 502
1,1-DICHLOROETHENE	[80]	ug/L	EPA 502
CIS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
TRANS-1,2-DICHLOROETHENE	[LT 0.5]	ug/L	EPA 502
1,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
1,3-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
2,2-DICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
1,1-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502
CIS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502
TRANS-1,3-DICHLOROPROPENE	[LT 0.5]	ug/L	EPA 502

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

LAB NUMBER: 9108702114

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
METHYLENE CHLORIDE	[LT 0.5]	ug/L	EPA 502
1,1,1,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1,2,2-TETRACHLOROETHANE	[LT 0.5]	ug/L	EPA 502
TETRACHLOROETHENE	[8.9]	ug/L	EPA 502
1,1,1-TRICHLOROETHANE	[LT 0.5]	ug/L	EPA 502
1,1,2-TRICHLOROETHANE	[0.73]	ug/L	EPA 502
TRICHLOROETHENE	[4600]	ug/L	EPA 502
TRICHLOROFLUOROMETHANE	[LT 0.5]	ug/L	EPA 502
1,2,3-TRICHLOROPROPANE	[LT 0.5]	ug/L	EPA 502
VINYL CHLORIDE	[LT 0.5]	ug/L	EPA 502
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L	EPA 502
UNKNOWN(S)	[ND]	ug/L	EPA 503
BENZENE	[LT 0.5]	ug/L	EPA 503
BROMOBENZENE	[LT 0.5]	ug/L	EPA 503
N-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
SEC-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
TERT-BUTYLBENZENE	[LT 0.5]	ug/L	EPA 503
CHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
2-CHLOROTOLUENE	[LT 0.5]	ug/L	EPA 503
4-CHLOROTOLUENE	[1.1]	ug/L	EPA 503
1,2-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,3-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,4-DICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
ETHYL BENZENE	[LT 0.5]	ug/L	EPA 503
HEXACHLOROBUTADIENE	[LT 0.5]	ug/L	EPA 503
ISOPROPYLBENZENE	[LT 0.5]	ug/L	EPA 503
P-ISOPROPYLTOLUENE	[LT 0.5]	ug/L	EPA 503
N-PROPYLBENZENE	[LT 0.5]	ug/L	EPA 503
STYRENE	[LT 0.5]	ug/L	EPA 503
TOLUENE	[LT 0.5]	ug/L	EPA 503
1,2,3-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,2,4-TRICHLOROBENZENE	[LT 0.5]	ug/L	EPA 503
1,2,4-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 503
1,3,5-TRIMETHYLBENZENE	[LT 0.5]	ug/L	EPA 503
M-XYLENE	[LT 0.5]	ug/L	EPA 503
O-XYLENE	[LT 0.5]	ug/L	EPA 503
P-XYLENE	[LT 1.0]	ug/L	EPA 503
METHYL TERT BUTYL ETHER	[N.A.]	ug/L	EPA 503
NAPHTHALENE	[SEE ABOVE]	ug/L	EPA 503
TRICHLOROETHENE	[SEE ABOVE]	ug/L	EPA 503
TETRACHLOROETHENE	[ND]	ug/L	EPA 503
GASOLINE			

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

WESTCHESTER COUNTY

DEPARTMENT OF LABORATORIES & RESEARCH
HAMMOND HOUSE ROAD
VALHALLA, N.Y. 10595

ENVIRONMENTAL LABORATORIES
NYS ELAP NO: 10108
914-524-5575

LAB NUMBER: 9108702114

RESULTS OF ANALYSIS

PARAMETER:	RESULT:	UNITS	METHOD:
OTHER VOLATILE COMPOUND(S)	[ND]	ug/L	EPA 503
UNKNOWN(S)	[ND]	ug/L	EPA 503
1,2-DIBROMOETHANE	[LT 0.02]	ug/L	EPA 504
1,2-DIBROMO-3-CHLOROPROPANE	[LT 0.02]	ug/L	EPA 504

COMMENTS:

REPORTED BY: SANDY FINAMORE DATE: 04/04/91

LT = LESS THAN NA = NOT ANALYZED ND = NOT DETECTED LA = LAB ACCIDENT

Agency Collected For RCHD

Collected By J. T. Doran

Date/Time Collected 3/28/91 1130

Bottle Numbers: K, L, M

Sample Location: LA WOMAN
Rte 59
Nanuet N.Y.

Sample Site: Sink behind Bar

Type of Sample:

[X] Potable Water

[ ] Non-Potable Water

[ ] Other: W/F 13.

POTABLE (DRINKING) WATER ANALYSES REQUESTED

[ ] Pesticides NYSDOH list	(509A)
[ ] Herbicides NYSDOH list	(509B)
[ ] Trihalomethanes	(501)
[X] Volatile Halocarbons	(502)
[X] Volatile Aromatics	(503)
[X] Micro Extractables	(504)
[ ] GC/MS Volatiles	(524)
[ ] Phthalates	(606)
[ ] Pesticides	(608 list plus others)
[ ] PCBs	(608)
[ ] Polynuclear Aromatics	(610)
[ ] Herbicides	(615)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Acid Extractables	(625AE)
[ ] GC/MS Base Neutrals	(625BN)

NON-POTABLE WATER, WASTEWATER, SOLIDS, OTHER ANALYSES REQUESTED

[ ] Purgeable Halocarbons	(601,SW-846)
[ ] Purgeable Halocarbons (DEF)	(601,SW-846)
[ ] Purgeable Aromatics	(602,SW-846)
[ ] Purgeable Aromatics (DEF)	(602,SW-846)
[ ] Acrolein & Acrylonitrile	(603)
[ ] Phthalates	(606,SW-846)
[ ] Pesticides	(608,SW-846)
[ ] Pesticides (DEF)	(608,SW-846)
[ ] PCBs	(608,SW-846)
[ ] PCBs (DEF)	(608,SW-846)
[ ] Polynuclear Aromatics	(610,SW-846)
[ ] Herbicides	(615,SW-846)
[ ] Petroleum Hydrocarbon Scan	(310-13)
[ ] GC/MS Purgeables	(624,SW-846)
[ ] GC/MS Acid Extractables	(625,SW-846)
[ ] GC/MS Base Neutrals	(625,SW-846)
[ ] TCLP Pesticides/Herbicides	(SW-846)
[ ] TCLP Volatiles	(SW-846)

ENVIRONMENTAL ORGANIC CHEMISTRY SAMPLE SUBMISSION FORM

WESTCHESTER COUNTY DEPARTMENT OF LABORATORIES AND RESEARCH
Hammond House Road, Valhalla, New York 10595

NYS-ELAP NO. 10108

Form A-71 (rev. 9/90)

THE FED REPORT

REPORT PROPERTY ADDRESS:

SWIVELIER COMPANY
33 ROUTE 304
NANUET, NY 10954
County: ROCKLAND

	Section
SUMMARY	I
FEDERAL REPORTS	
NPL	II.1
FINDS	II.2
CERCLIS	II.3
RCRA FACILITIES	II.4
OPEN DUMP	II.5
EMERGENCY RESPONSE NOTIFICATION SYSTEM.	II.6
MISIDENTIFIED RECORDS SEARCH	III

Appendix

R

[redacted]

I. SUMMARY

This Report is a compilation of federal environmental data which identifies environmental problem sites and activities from the records of the United States Environmental Protection Agency (US EPA). The data contained in this Report is the result of a search by EAI's Environmental Data Systems of the following US EPA records:

1. National Priorities List (NPL)
2. Facility Index System (FINDS)
3. Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS)
4. Resource Conservation and Recovery Act (RCRA) Notification System
5. Solid Waste Facilities Not In Compliance with RCRA Subtitle D Criteria (OPEN DUMP SITES)
6. Emergency Response Notification System (ERNS)

A search of these databases identified: 0 NPL sites, 41 FINDS sites, 1 CERCLIS sites, 37 RCRA facilities, 0 OPEN DUMP Sites, and 0 ERNS sites.

The records of each of the foregoing sites and operators are contained in Section II of this report. The listed Sites are located within the zip code area or city stated at the beginning of each report sub-section. Section III contains 0 misidentified records of sites which appear to be located on or near the subject property.

II. REGULATORY INFORMATION
1. US EPA NPL DATABASE

SWIVELIER COMPANY
33 ROUTE 304
NANUET, NY 10954
County: ROCKLAND

The National Priorities (Superfund) List (NPL) is EPA's database of uncontrolled or abandoned hazardous waste sites identified for priority remedial actions under the Superfund Program. A site, to be included on the NPL, must either meet or surpass a predetermined hazard ranking systems score, or be chosen as a state's top-priority site, or meet all three of the following criteria: (1) the US Department of Health and Human Services issues a health advisory recommending that people be removed from the site to avoid exposure; (2) EPA determines that the site represents a significant threat; and (3) EPA determines that remedial action is more cost-effective than removal action.

A search of the 1991 National Priorities List revealed the following Superfund sites located within the stated zip code areas:
10954

0 Sites found for the area specified.

FINDS DATABASE

II. REGULATORY INFORMATION
2. US EPA FINDS DATABASE
SWIVELIER COMPANY
33 ROUTE 304
NANUET, NY 10954
County: ROCKLAND

The Facility Index System (FINDS) is a compilation of any property or site which the EPA has investigated, reviewed or been made aware of in connection with its various regulatory programs. Each record indicates the EPA Program Office that may have files on the site or facility.

A search of the 1991 FINDS Database revealed the following sites located within the stated zip code areas:
10954

FINDS Sites

FACILITY ADDRESS	EPA ID#
ALL TRANSMISSION 18 OLD TNPK RD NANUET, NY 10954 Region: 02 EPA Responsible Office(s): Hazardous Waste Data Management System, Office of Solid Waste(RCRA) Program ID # : NYD986885499	NYD986885499
AUTO EXPRESS INC 10 OLD TNPK NANUET, NY 10954 Region: 02 EPA Responsible Office(s): Hazardous Waste Data Management System, Office of Solid Waste(RCRA) Program ID # : NYD986952844	NYD986952844
B J B FILM PROCESSOR SERVICE 10 ORCHARD ST NANUET, NY 10954 Region: 02 EPA Responsible Office(s): Hazardous Waste Data Management System, Office of Solid Waste(RCRA) Program ID # : NYD982797185	NYD982797185

FACILITY ADDRESS — EPA ID#

CLARKSTOWN CENT. SCH DIST. BAR — NYD982729535
BARDONIA ROAD
BARDONIA, NY 10954
Region: 02
EPA Responsible Office(s):
Hazardous Waste Data Management System, Office of Solid Waste(RCRA)
Program ID # : NYD982729535

CLASSIC AUTO BODY REPAIR SHOP — NYD048395909
128 W NYACK RD
NANUET, NY 10954
Region: 02
EPA Responsible Office(s):
Hazardous Waste Data Management System, Office of Solid Waste(RCRA)
Program ID # : NYD048395909

CLEANIQUE CLEANERS INC — NYD986890051
5355 BARDONIA RD
ROCKLAND, NY 10954
Region: 02
EPA Responsible Office(s):
Hazardous Waste Data Management System, Office of Solid Waste(RCRA)
Program ID # : NYD986890051

CLEANIQUE CLEANERS LTD — NYD982536567
53-55 BARDONIA ROAD
BARDONIA, NY 10954
Region: 02
EPA Responsible Office(s):
Hazardous Waste Data Management System, Office of Solid Waste(RCRA)
Program ID # : NYD982536567

DONOVANS AUTO BODY — NYD982717894
132 EAST ROUTE 59
NANUET, NY 10954
Region: 02
EPA Responsible Office(s):
Hazardous Waste Data Management System, Office of Solid Waste(RCRA)
Program ID # : NYD982717894

FACILITY ADDRESS — EPA ID#

JACK PARKER CONST CO — NYD982739807
SMITH RD NANUET AIRPORT
NANUET, NY 10954
Region: 02
EPA Responsible Office(s):
Hazardous Waste Data Management System, Office of Solid Waste(RCRA)
Program ID # : NYD982739807

JOLENE CLEANERS INC — NJD012920906
243 S MIDDLETOWN ROAD
NANUET, NJ 10954
Region: 02

JOLENE CLEANERS INC — NYD012920906
243 S MIDDLETOWN RD
NANUET, NY 10954
Region: 02
EPA Responsible Office(s):
Hazardous Waste Data Management System, Office of Solid Waste(RCRA)
Program ID # : NYD012920906

JU-EL CLEANERS — NYD030475099
65 ROCKLAND PLAZA
NANUET, NY 10954
Region: 02
EPA Responsible Office(s):
Hazardous Waste Data Management System, Office of Solid Waste(RCRA)
Program ID # : NYD030475099

KEA MOTOR CAR CORP — NYD075432229
99 RTE 304
NANUET, NY 10954
Region: 02
EPA Responsible Office(s):
Hazardous Waste Data Management System, Office of Solid Waste(RCRA)
Program ID # : NYD075432229

KURLAND CADILLAC - OLDSMOBILE — NYD012984282
32 ROUTE 304
NANUET, NY 10954
Region: 02
EPA Responsible Office(s):

FACILITY ADDRESS — EPA ID#

NANUET MILLER ELEMENTARY (CONT'D)

Hazardous Waste Data Management System, Office of Solid Waste(RCRA)
Program ID # : NYD982282113

NANUET SENIOR HIGH SCHOOL — NYD980541627
103 CHURCH STREET
NANUET, NY 10954
Region: 02
EPA Responsible Office(s):
Hazardous Waste Data Management System, Office of Solid Waste(RCRA)
Program ID # : NYD980541627

PASCACK BROOK AT CONVENT RD — NYD980768766
OF CONVERT RD & PASCACK BK
NANUET, NY 10954
Region: 02
Latitude: 410510 Longitude: 0740201
EPA Responsible Office(s):
Superfund - Hazardous Waste-Superfund
Program ID # : NYD980768766

PRIMROSE CLEANERS — NYD143832863
43 E RTE #59
NANUET, NY 10954
Region: 02
EPA Responsible Office(s):
Hazardous Waste Data Management System, Office of Solid Waste(RCRA)
Program ID # : NYD143832863

PRIMROSE CLEANERS YOU MA INC — NYD981086614
43 ROUTE 59
NANUET, NY 10954
Region: 02
EPA Responsible Office(s):
Hazardous Waste Data Management System, Office of Solid Waste(RCRA)
Program ID # : NYD981086614

ROCKLAND PAPER CO — NYD982176711
4 W. PROSPECT AVE
NANUET, NY 10954
Region: 02

FINDS Sites

FACILITY ADDRESS — EPA ID#

SUPER VALUE SERVICE STATION — NYD986886992
249 S MIDDLETOWN RD
NANUET, NY 10954
Region: 02
EPA Responsible Office(s):
Hazardous Waste Data Management System, Office of Solid Waste(RCRA)
Program ID # : NYD986886992

SWIVELIER CO INC — NYD001250653
33 RTE #304
NANUET, NY 10954
Region: 02
Latitude: 410555 Longitude: 0735959
EPA Responsible Office(s):
Hazardous Waste Data Management System, Office of Solid Waste(RCRA)
Program ID # : NYD001250653
Compliance Data System, Office of Air and Radiation
Program ID # : 3608700025

WARGO REALTY INC — NYD986952422
315 W RTE 59
NANUET, NY 10954
Region: 02
EPA Responsible Office(s):
Hazardous Waste Data Management System, Office of Solid Waste(RCRA)
Program ID # : NYD986952422

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41 Sites found for the area specified.

CERCLIS DATABASE

II. REGULATORY INFORMATION
3. US EPA CERCLIS DATABASE
SWIVELIER COMPANY
33 ROUTE 304
NANUET, NY 10954
County: ROCKLAND

The CERCLIS List is a compilation by EPA of the sites which EPA has investigated or is currently investigating for a release or threatened release of hazardous substances pursuant to the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (Superfund Act).

A search of the 1991 CERCLIS Database revealed the following sites within the stated zip code areas:
10954

CERCLIS Sites

FACILITY ADDRESS	EPA ID#
PASCACK BROOK AT CONVENT RD X OF CONVENT RD & PASCACK BK NANUET, NY 10954 County: ROCKLAND	NYD980768766

Facility Type:	Not A Federal Facility
Ownership Indicator:	Other
Classification:	No Determination
Entry Source:	EPA Files
Status:	Has Never Been on the Proposed Final NPL
Latitude:	4105108
Longitude:	07402017
Event Discovery:	State, Fund Financed Actual Completion Date: 04/01/83
Preliminary Assessment:	EPA, Fund Financed Actual Completion Date: 09/01/83
Screening Site Inspection:	State, Fund Financed Actual Start Date: 0/40/183 Actual Completion Date: 09/01/83

1 Sites found for the area specified.

RCRA DATABASE

II. REGULATORY INFORMATION
4. US EPA RCRA DATABASE
SWIVELIER COMPANY
33 ROUTE 304
NANUET, NY 10954
County: ROCKLAND

The EPA's Resource Conservation and Recovery Act (RCRA) Program identifies and tracks hazardous waste from the point of generation to the point of disposal. The RCRA Facilities database is a compilation by EPA of reporting facilities that generate, store, transport, treat or dispose of hazardous waste.

A search of the 1991 RCRA Database revealed the following facilities located within the stated zip code area(s):
10954

RCRA Sites

FACILITY ADDRESS	EPA ID#
ALL TRANSMISSION 18 OLD TNPK RD NANUET, NY 10954 County: ROCKLAND	NYD986885499

This facility generates at least 1000 kg/mo of non-acutely hazardous waste or 1 kg/mo of acutely hazardous waste.

B J B FILM PROCESSOR SERVICE INC — NYD982797185
10 ORCHARD ST
NANUET, NY 10954
County: ROCKLAND

This facility generates at least 1000 kg/mo of non-acutely hazardous waste or 1 kg/mo of acutely hazardous waste.

BASE LOCK RUBBER TYPE CO INC — NYD001346212
SOUTH SIDE FIRST STREET
NANUET, NY 10954
County: ROCKLAND
SIC Code: 3953

FACILITY ADDRESS EPA ID#

CLARKSTOWN CENT. SCH DIST. BARDONIA ELEM (CONT'D)

This facility generates at least 100 kg/mo, but less than 1000 kg/mo of non-acutely hazardous waste.

CLASSIC AUTO BODY REPAIR SHOP INC NYD048395909
128 W NYACK RD
NANUET, NY 10954
County: ROCKLAND

This facility generates at least 100 kg/mo, but less than 1000 kg/mo of non-acutely hazardous waste.

CLEANIQUE CLEANERS INC NYD986890051
5355 BARDONIA RD
ROCKLAND, NY 10954
County: ROCKLAND

This facility generates at least 100 kg/mo, but less than 1000 kg/mo of non-acutely hazardous waste.

CLEANIQUE CLEANERS LTD NYD982536567
53-55 BARDONIA ROAD
BARDONIA, NY 10954
County: ROCKLAND

This facility generates at least 100 kg/mo, but less than 1000 kg/mo of non-acutely hazardous waste.

DONOVANS AUTO BODY NYD982717894
132 EAST ROUTE 59
NANUET, NY 10954
County: ROCKLAND

This facility generates at least 100 kg/mo, but less than 1000 kg/mo of non-acutely hazardous waste.

FACILITY ADDRESS | EPA ID#

JOLENE CLEANERS INC (CONT'D)

This facility generates at least 1000 kg/mo of non-acutely hazardous waste or 1 kg/mo of acutely hazardous waste.

JU-EL CLEANERS — NYD030475099
65 ROCKLAND PLAZA
NANUET, NY 10954
County: ROCKLAND

This facility generates at least 1000 kg/mo of non-acutely hazardous waste or 1 kg/mo of acutely hazardous waste.

KEA MOTOR CAR CORP. — NYD075432229
99 ROUTE 30A
NANUET, NY 10954
County: ROCKLAND

This facility generates at least 1000 kg/mo of non-acutely hazardous waste or 1 kg/mo of acutely hazardous waste.

KURLAND CADILLAC-OLDSMOBIL INC — NYD012984282
32 ROUTE 304
NANUET, NY 10954
County: ROCKLAND

This facility generates at least 100 kg/mo, but less than 1000 kg/mo of non-acutely hazardous waste.

MIDTOWN CLEANERS & SHOE REPAIR INC — NYD986908358
402 NANUET MALL SOUTH
NANUET, NY 10954
County: ROCKLAND

This facility generates at least 100 kg/mo, but less than 1000 kg/mo of non-acutely hazardous waste.

PRIMROSE CLEANERS (CONT'D)

This facility generates at least 1000 kg/mo of non-acutely hazardous waste or 1 kg/mo of acutely hazardous waste.

PRIMROSE CLEANERS YOU NA INC NYD981086614
43 ROUTE 59
MANUET, NY 10954
County: ROCKLAND

This facility generates at least 1000 kg/mo of non-acutely hazardous waste or 1 kg/mo of acutely hazardous waste.

ROADWAY EXPRESS NYD092722339
80 WEST NYACK ROAD
NANUET, NY 10954
County: ROCKLAND

This facility generates at least 100 kg/mo, but less than 1000 kg/mo of non-acutely hazardous waste.

SCHULTZ FORD INC. NYD013025382
80 RT 304
NANUET, NY 10954
County: ROCKLAND

This facility generates at least 100 kg/mo, but less than 1000 kg/mo of non-acutely hazardous waste.

SEARS ROEBUCK AND CO RETAIL STORE NYD981077852
100 NANUET MALL RTS 59 & 304
NANUET, NY 10954
County: ROCKLAND

This facility generates at least 100 kg/mo, but less than 1000 kg/mo of non-acutely hazardous waste.

FACILITY ADDRESS EPA ID#

SUPER VALUE SERVICE STATION (CONT'D)

This facility generates at least 1000 kg/mo of non-acutely hazardous waste or 1 kg/mo of acutely hazardous waste.

SWIVELIER COMPANY INC NYD001250653
33 ROUTE #304
NANUET, NY 10954
County: ROCKLAND
SIC Code: 3645

This facility generates at least 1000 kg/mo of non-acutely hazardous waste or 1 kg/mo of acutely hazardous waste.

YOUNG'S GENTLE TOUCH CLEANERS INC. NYD981081748
228 RT 59 EAST CALDOR SHP CNTR
NANUET, NY 10954
County: ROCKLAND

This facility generates at least 1000 kg/mo of non-acutely hazardous waste or 1 kg/mo of acutely hazardous waste.

---

37 Sites found for the area specified.

OPEN DUMP

II. REGULATORY INFORMATION
5. US EPA OPEN DUMP SITES
SWIVELIER COMPANY
33 ROUTE 304
NANUET, NY 10954
County: ROCKLAND

A search of the 1989 OPEN DUMP inventory of facilities that do not comply with the Environmental Protection Agency's Criteria for Classification of Solid Waste Disposal Facilities and Practices; revealed the following facilities located within the below listed city. An additional search conducted revealed the following facilities located within the below listed county for which no city location information was available: NANUET NY

0 Sites found for the area specified.

0 Possibly Misidentified Sites found for the area specified.

ERNS DATABASE

II. REGULATORY INFORMATION
6. ERNS DATABASE

SWIVELIER COMPANY
33 ROUTE 304
NANUET, NY 10954
County: ROCKLAND

The Emergency Response Notification System (ERNS) is a national database used to collect information on reported releases of oil and hazardous substances. The database contains information from spill reports made to federal authorities including the EPA, the US Coast Guard, the National Response Center and the Department of Transportation.

A search of the Database records for the period of 1987 - 1991 revealed the following information regarding reported spills of oil or hazardous substances in the stated zip code area(s). Only records with spill incident location zip codes or fixed facility discharger zip codes for that city are included. Also included are sites with incomplete zip code information that are listed as being located within the search city. There are additional records in the database with inadequate location information that are not included in this report.

Zipcode(s): 10954

0 ERNS sites found for the area specified.

0 ERNS Misidentified sites found for the area specified.

MISIDENTIFIED SITES

III. MISIDENTIFIED SITES

SWIVELIER COMPANY
33 ROUTE 304
NANUET, NY 10954
County: ROCKLAND

Aside from the databases searched in section II of this Report, EPA records also contain sites and facilities which cannot be located in those databases because they are misidentified in the EPA records or lack sufficient information to identify the sites correctly. EAI Environmental Data Systems is designed to search these miscellaneous records for misidentified or incorrectly catalogued sites and facilities in the area specified.

Although this search may identify additional sites or facilities on or near the subject property, there is no guarantee that all such sites contained in the miscellaneous records have been identified.

The EAI systems search of the EPA miscellaneous records identified the following sites or facilities which appear to be located on or near the subject property.

0 Total Misidentified sites found for the area specified

THE STATE REPORT

REPORT PROPERTY ADDRESS:

SWILVELIER COMPANY
33 ROUTE 304
NANUET, NEW YORK 10954
County: ROCKLAND

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I. STATE DATABASE INFORMATION

1. State Priority List

2. Underground Storage Tank Facility Information

I. STATE DATABASE INFORMATION
SWILVELIER COMPANY
33 ROUTE 304
NANUET, NEW YORK 10954
County: ROCKLAND
1. State Priority List

The New York State Department of Environmental Conservation (DEC) is responsible for the investigation and cleanup of inactive hazardous waste disposal sites throughout the state of New York. The DEC maintains an inventory of all actual or suspected inactive hazardous waste sites known as the New York State Registry of Inactive Hazardous Waste Disposal Sites ("Registry"). A review of the 1991 Registry revealed no sites located within the search zip code area(s). For historical reference, formerly listed sites located in the search county, and the reasons for delisting, are presented at the end of this report.

Search zip code : 10954

DELISTED SITES

Delisted Sites in the search county which have completed remedial actions with no further action anticipated:

SITE CODE # EPA ID #	FACILITY NAME/LOCATION
344017	Seymour Rapkin Prop. Address Unavailable Rockland County, NY
344032	Lovett Gas Regulating Station Address Unavailable Rockland County, NY

0 Sites found for the area specified.

2 Possibly Misidentified Sites found for the area specified.

NY UST

II. REGULATORY INFORMATION

SWIVELIER COMPANY
33 ROUTE 304
NANUET, NY 10954
County: ROCKLAND

A search of the New York Underground Storage Tank Database, provided by the New York State Department of Environmental Conservation, revealed the following facilities located within the stated zip code areas:

10954

Underground Storage Tank Sites

FACILITY ADDRESS		ID#
NANUET SALES BRANCH 99 WEST NYACK RD NANUET, NY 10954		3-000976
County:	ROCKLAND	
Facility Phone:	(914) 623-3000	
Tanks:	2	
Date Listed:	05/06/86	
COATTIS S/SINC 366 SO MIDDLETOWN RD NANUET, NY 10954		3-003307
County:	ROCKLAND	
Facility Phone:	(914) 623-2663	
Tanks:	4	
Date Listed:	05/23/86	
TAG AUTO 286 W RT 59 NANUET, NY 10954		3-002553
County:	ROCKLAND	
Facility Phone:	(914) 623-3377	
Tanks:	4	
Date Listed:	05/08/86	

Underground Storage Tank Sites

FACILITY ADDRESS		ID#
06-831 275 EAST RT 59 NANUET, NY 10954		3-001407
County:	ROCKLAND	
Facility Phone:	(914) 328-6000	
Tanks:	1	
Date Listed:	05/08/86	
MOBIL S/S 06-831 MOBIL SOI CAR W 275 EAST ROUTE 59 MANUET, NY 10954		3-002429
County:	ROCKLAND	
Facility Phone:	(914) 623-6285	
Tanks:	3	
Date Listed:	05/08/86	
NANUET CHRYSLER PLYMOUTH INC 60 RTE 304 NANUET, NY 10954		3-000045
County:	ROCKLAND	
Facility Phone:	(914) 623-0810	
Tanks:	5	
Date Listed:	03/10/86	
NANUET FIRE HOUSE 7 PROSPECT STREET NANUET, NY 10954		3-002956
County:	ROCKLAND	
Facility Phone:	(914) 623-9690	
Tanks:	1	
Date Listed:	05/16/86	
A MAC ARTHUR BARR MIDDLE SCH 143 CHURCH ST NANUET, NY 10954		3-001898
County:	ROCKLAND	
Facility Phone:	(914) 623-1432	
Tanks:	1	
Date Listed:	05/08/86	

Underground Storage Tank Sites

FACILITY ADDRESS		ID#
NEW YORK TELEPHONE 58584 58 DEMAREST MILL RD NANUET, NY 10954		3-002802
County:	ROCKALND	
Facility Phone:	(718) 330-8387	
Tanks:	3	
Date Listed:	05/08/86	
OLORI CRANE SERVICE INC 11 SEEGER DR NANVET, NY 10954		3-000244
County:	ROCKLAND	
Facility Phone:	( ) -	
Tanks:	2	
Date Listed:	04/02/86	
GETTY RTE 304 NANUET, NY 10954		3-002675
County:	ROCKLAND	
Facility Phone:	(914) 623-7091	
Tanks:	4	
Date Listed:	05/08/86	
GETTY 169 MIDDLETOWN RD NANUET, NY 10954		3-002704
County:	ROCKLAND	
Facility Phone:	(914) 623-9572	
Tanks:	4	
Date Listed:	05/08/86	
ROADWAY EXPRESS INC 80 WEST NYACK RD NANUET, NY 10954		3-001910
County:	ROCKLAND	
Facility Phone:	(914) 623-1410	
Tanks:	1	
Date Listed:	05/08/86	

Underground Storage Tank Sites

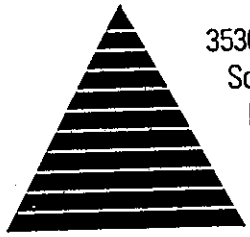
FACILITY ADDRESS		ID#
SKYVIEW SERVICE INC 370 SO MIDDLETOWN RD NANUET, NY 10954		3-002303
County:	ROCKLAND	
Facility Phone:	(914) 623-1247	
Tanks:	4	
Date Listed:	05/08/86	
STAR VOLVO 10 RT 304 NANUET, NY 10954		3-003689
County:	ROCKLAND	
Facility Phone:	(914) 624-8700	
Tanks:	3	
Date Listed:	06/27/86	
SUPER SERVICE STATION 169 MAIN ST NANVET, NY 10954		3-002881
County:	ROCKLAND	
Facility Phone:	(914) 623-9572	
Tanks:	1	
Date Listed:	05/08/86	
T L SCHULTZ LEASING & RENT A CAR 80 ROUTE 304 NANUET, NY 10954		3-001929
County:	ROCKLAND	
Facility Phone:	(914) 623-9499	
Tanks:	1	
Date Listed:	05/08/86	
CLARKSTOWN HIGHWAY COMPLEX SEEGER DRIVE NANUET, NY 10954		3-000500
County:	ROCKLAND	
Facility Phone:	(914) 623-7500	
Tanks:	5	
Date Listed:	04/22/86	

HAZ-SEARCH/PLUS™ REPORT

Toxicheck®

A Service of Environmental Data Resources

The Source For Environmental Risk Management Data



3530 Boston Post Road
Southport, Connecticut 06490
FAX 255-1976

Nationwide Customer Service
1(800) 352-0050

SWIVELIER
33 ROUTE 304

NANUET, NY 10954

Latitude : 41.0982
Longitude: 73.9981

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3. HAZ-SEARCH/PLUS REPORT SUMMARY
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5. FEDERAL HAZ-SITE REPORT FOR TARGET PROPERTY (IF AVAILABLE)

IF YOU HAVE ANY QUESTIONS OR COMMENTS, CALL EDR/TOXICHECK AT 1-800-352-0050.

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IF YOU HAVE ANY QUESTIONS OR COMMENTS, CALL EDR/TOXICHECK AT 1-800-352-0050.

1. What is the HAZ-SEARCH/PLUS™ Report?

The HAZ-SEARCH/PLUS™ Report is a radius search report which focuses on both a target property and adjoining or nearby sites which may impact the target property. The search distance for specific government records varies according to the requirements of the draft ASTM Standard, and/or client specifications.

The HAZ-SEARCH/PLUS™ Report contains five sections:

SECTION 1 and SECTION 2: What is the HAZ-SEARCH/PLUS™ Report, and Description of Government Records Searched (and the dates of these records) are self explanatory.

SECTION 3: The Summary provides a quick overview of the findings within the specified search distances.

SECTION 4: The Detailed Radius Search contains identified information on the target property and sites surrounding the target property (in order of proximity) including, where possible, distance and direction from the target property.

SECTION 5: If the target property is listed in the HAZ-SEARCH/PLUS™ Report, its associated HAZ-SITE Report (containing detailed environmental information from federal and state government records on the site) is included at the end of this report.

A note about geocoding accuracy: Each site identified in the radius search has been assigned a geocoding accuracy flag. This flag reflects the accuracy to which a particular site can be assigned a latitude and longitude based upon its specified address in the government record. The flags used include: EDR Verified, Block Face, Block Group and Orphan. The latter refers to sites where a latitude/longitude cannot be assigned.

EDR Verified and Block Face have the highest level of accuracy, i.e., within approximately +/- 250 feet of the true geographic location at 99% and 95% confidence levels, respectively.

Block Group accuracy is approximately +/- 3,700 feet with a 90% confidence level in an urban area. Outside an urban area, the variance will be even greater. Due to this higher variance, EDR has included Block Group sites in a separate section, without reference to the direction from the target property. The distance searched for Block Group-designated sites is 1 mile plus the maximum variance, i.e., 1.7 miles total. Hence, sites outside the specified search radius may be listed in this group.

Sites with incomplete addresses in the government records are included in EDR's Orphan Lists. If the zip code of an orphan site can be ascertained and it is in the same zip code as the target property, the orphan site is included in EDR's Orphan List - Zip Code. If the zip code cannot be ascertained, but the city and/or county is the same as that of the target property, then the orphan list is included in EDR's Orphan List - Other.

Only EDR verified and Block Face-designated sites meet EDR's stringent quality criteria for assigning a distance and direction from the target property.

2. NEDIS FEDERAL AND STATE RECORDS SEARCHED

NPL National Priorities List (Superfund)

The NPL is a subset of CERCLIS and identifies over 1200 sites for priority cleanup under the Superfund Program. Sites are added from the CERCLIS list according to a hazard ranking system which seeks to identify high priority sites. To maintain currency, EDR contacts the agency on a quarterly basis.

Date of Government Version in NEDIS: 02/15/92
Date of Last EDR Contact with Government: 09/18/92

CERCLIS Comprehensive Environmental Response, Compensation and Liability Information System

CERCLIS contains information on over 34,000 sites identified by EPA as abandoned, inactive or uncontrolled hazardous waste sites which may require cleanup. To maintain currency, EDR contacts the agency on a monthly basis.

Date of Government Version in NEDIS: 05/15/92
Date of Last EDR Contact with Government: 09/20/92

RCRA/HWDMS RCRA Hazardous Waste Data Management System
RCRIS Resource Conservation and Recovery Information System

RCRA/HWDMS includes selective information on over 324,000 sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Records available in HWDMS will eventually be transferred to the RCRIS database. To maintain currency, EDR contacts the agency on a quarterly basis.

Date of Government Version in NEDIS: 04/19/91
Date of Last EDR Contact with Government: 06/03/92

SHWS State Hazardous Waste Sites

State hazardous waste site records are the states' equivalent to CERCLIS. These sites may or may not already be listed on the federal CERCLIS list. Priority sites planned for cleanup using state funds (state equivalent of NPL) are identified along with sites where cleanup will be paid for by potentially responsible parties. Available information varies by state. To maintain currency, EDR contacts the agency on a quarterly basis.

Date of Government Version in NEDIS: 04/15/91
Date of Last EDR Contact with Government: 09/08/92

SWF/LS Solid Waste Facilities/Landfill Sites

SWF/LS type records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. Depending on the state, these may be active or inactive facilities or open dumps (that failed to meet RCRA Section 2004 criteria for solid waste landfills or disposal sites). To maintain currency, EDR contacts the agency on a quarterly basis.

Date of Government Version in NEDIS: 03/15/92
Date of Last EDR Contact with Government: 07/28/92

LUST Leaking Underground Storage Tank Incident Reports

LUST records contain an inventory of reported leaking underground storage tank incidents. Not all states maintain these records, and the information stored varies by state. To maintain currency, EDR contacts the agency on a quarterly basis.

Date of Government Version in NEDIS: 02/29/92
Date of Last EDR Contact with Government: 09/18/92

ERNS Emergency Response Notification System

ERNS contains over 25,000 spill records and stores information on reported releases of oil and hazardous substances. The data are collected from spills reported to EPA and the Coast Guard (National Response Center). To maintain currency, EDR contacts the agency on a quarterly basis.

Date of Government Version in NEDIS: 10/09/91
Date of Last EDR Contact with Government: 08/31/92

HMIRS Hazardous Materials Incident Report System

HMIRS contains hazardous material spill incidents reported to the Department of Transportation. These spill incidents are not necessarily listed in ERNS. To maintain currency, EDR contacts the agency on a quarterly basis.

Date of Government Version in NEDIS: 12/15/91
Date of Last EDR Contact with Government: 09/23/92

TRIS Toxic Release Inventory System

TRIS includes all facilities which use toxic chemicals in reportable quantities under SARA (Superfund Amendments and Reauthorization Act of 1986), Title III, Section 313 and their releases of such chemicals to the aire, water and land. Reporting covers approximately 20,000 sites and is required (Form R) each July 1st for the previous year. To maintain currency, EDR contacts the agency on a quarterly basis.

Date of Government Version in NEDIS: 12/31/89
Date of Last EDR Contact with Government: 06/29/92

UST Registered Underground Storage Tanks

USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA) and must be registered with the state department responsible for administering the UST program. Information in NEDIS varies by state program. To maintain currency, EDR contacts the agency on a quarterly basis.

Date of Government Version in NEDIS: 03/27/92
Date of Last EDR Contact with Government: 09/16/92

PADS PCB Activity Database

EPA regulates under TSCA the storage and disposal of PCBs. Those who handle PCBs (generators, transporters, commercial storers and/or brokers and disposers) are required to notify EPA of their PCB waste activities. PADS contains this list of notifiers. To maintain currency, EDR contacts the agency on a quarterly basis.

Date of Government Version in NEDIS: 01/31/92
Date of Last EDR Contact with Government: 09/10/92

TSCA Toxic Substances Control Act

TSCA promulgated a rule requiring manufacturers and importers of certain chemical substances included on the TSCA Chemical Substance Inventory list to report current data on the production volume of these substances by plant site After initial reporting in 1986, recurring reporting is required every 4 years. To maintain currency, EDR contacts the agency on a quarterly basis.

Date of Government Version in NEDIS: 05/15/86
Date of Last EDR Contact with Government: 09/22/92

FINDS Facility Index System

FINDS provides EPA with an inventory of almost 500,000 facilities. FINDS contains both facility information and "pointers" to other sources of information that contain more detailed information about the faciltiy. Other sources of information include: HWDMS/RCRIS, PCS, AIRS, FATES (FTTS), CERCLIS, DOCKET, FURS (Federal Underground Injection Control), FRDS, SIA (Surface Impoundments), CICIS (TSCA Chemicals in Commerce Information System), PADS, RCRA-J (medical waste transporters/disposers), TRIS and TSCA. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version in NEDIS: 03/24/92
Date of Last EDR Contact with Government: 09/21/92

3. HAZ-SEARCH/PLUS REPORT SUMMARY

BLOCK FACE ACCURACY

Number of Sites in Database*

Database	Target Property	Search Distance (Mi)	0-1/8	1/8-1/4	1/4-1/2	1/2-1	Total
NPL-Superfund Sites	( )	1.000	0	0	0	0	0
RCRIS-TSDF (Treatment, Storage or Disposal Facility)	( )	1.000	0	0	0	0	0
State Hazardous Waste Sites (SHWS)	( )	1.000	0	0	0	0	0
CERCLIS Sites	( )	1.000	0	0	0	0	0
Solid Waste Facility/ Landfills (SWF/LS)	( )	1.000	0	0	0	0	0
LUST	(X)	1.000	1	0	2	3	6
UST	( )	1.000	0	0	0	0	0
RCRIS-LQG (Large Quantity Generators)	(X)	1.000	0	0	0	4	4
RCRIS-SQG (Small Quantity Generators)	( )	1.000	0	0	2	5	7
Spills Reported to EPA (ERNS)	( )	1.000	0	0	0	0	0
Spills Reported to DOT (HMIRS)	( )	1.000	0	0	0	0	0
TRIS	( )	1.000	0	0	0	0	0
TSCA	( )	1.000	0	0	0	0	0
PADS	( )	1.000	0	0	0	0	0
FINDS	(X)	1.000	0	0	2	9	11

*Sites may be listed in more than one database
NR = Not requested to be included in the search radius

BLOCK GROUP ACCURACY

Database	Number of Sites in Database*		
	Search Distance (Mi)	Within 1 Miles	Total
NPL-Superfund Sites	1.000	0	0
RCRIS-TSDF (Treatment Storage or Disposal Facility	1.000	0	0
State Hazardous Waste Sites (SHWS)	1.000	0	0
CERCLIS Sites	1.000	0	0
Solid Waste Facility/ Landfills (SWF/LS)	1.000	0	0
LUST	1.000	14	14
UST	1.000	0	0
RCRIS-LQG (Large Quantity Generators)	1.000	2	2
RCRIS-SQG (Small Quantity Generators)	1.000	10	10
Spills Reported to EPA (ERNS)	1.000	0	0
Spills Reported to DOT (HMIRS)	1.000	0	0
TRIS	1.000	0	0
TSCA	1.000	0	0
PADS	1.000	0	0
FINDS	1.000	12	12

*Sites may be listed in more than one database
NR = Not requested to be included in the search radius

ORPHAN GROUP

Number of Sites in Database*

Database	Zip Code	Other	Total
NPL-Superfund Sites	0	0	0
RCRIS-TSDF (Treatment Storage or Disposal Facility	1	0	1
State Hazardous Waste Sites (SHWS)	0	0	0
CERCLIS Sites	1	0	1
Solid Waste Facility/ Landfills (SWF/LS)	0	5	5
LUST	32	6	38
UST	0	0	0
RCRIS-LQG (Large Quantity Generators)	8	0	8
RCRIS-SQG (Small Quantity Generators)	6	0	6
Spills Reported to EPA (ERNS)	0	0	0
Spills Reported to DOT (HMIRS)	0	2	2
TRIS	0	0	0
TSCA	0	0	0
PADS	0	0	0
FINDS	26	0	0

*Sites may be listed in more than one database

NR = Not requested to be included in the search radius

4. HAZ-SEARCH/PLUS REPORT FINDINGS

Site	Database Code(s)	Approximate Distance From Target Property (Miles)	Direction From Target Property	Geocoding Accuracy Flag
*SWIVELIER COMPANY INC 33 ROUTE #304 NANUET, NY 10954 (914) 623-3471 EPA ID: NYD001250653 EDR ID: 1000429993	Q,I	TARGET PROPERTY	N/A	BF
*NARBAR/SWIVELIER(PAS MON) 33 RT. 304 NANUET, NY 10954 EDR ID: S100140246	K	TARGET PROPERTY	N/A	BF
*SWIVELER 33 RTE 304 NANUET, NY 10954 EDR ID: S100138780	K	TARGET PROPERTY	N/A	BF

OTHER PERTINENT ENVIRONMENTAL ACTIVITIES IDENTIFIED AT SITE:
- facility has an emission permit under the Clean Air Act

LUST

Facility ID: 8707447
Date Spilled: 11/19/87
Chemical: Gasoline
Quantity: Not Reported
Date Cleaned: Not Reported

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)	Approximate Distance From Target Property (Miles)	Direction From Target Property	Geocoding Accuracy Flag
SWIVELER-S100138780 cont...				
LUST Facility ID: 8604893 Date Spilled: 10/30/86 Chemical: XYLENE Quantity: Not Reported Date Cleaned: 03/11/87				
*NY TELPHONE, NANUET 58 DEMEREST MILL RD NANUET, NY 10954 EDR ID: S100140029	K	0 - 1/8	WNW	BF
LUST Facility ID: 8708001 Date Spilled: 12/15/87 Chemical: Gasoline Quantity: Not Reported Date Cleaned: 07/27/88				
*DONOVANS AUTO BODY 132 EAST ROUTE 59 NANUET, NY 10954 (914) 623-2200 EPA ID: NYD982717894 EDR ID: 1000343598	G,I	1/4 - 1/2	WSW	BF

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)	Approximate Distance From Target Property (miles)	Direction From Target Property	Geocoding Accuracy Flag
*FROHLING SIGN CO 419 E RTE 59 NANUET, NY 10954 EPA ID: NYD986931418 EDR ID: 1000457862	G,I	1/4 - 1/2	SSW	BF
*MIRADES DANCE CLUB 180 E. RT. 59 NANUET, NY 10954 EDR ID: S100142231 LUST Facility ID: 9100228 Date Spilled: 04/03/91 Chemical: Not Reported Quantity: Not Reported Date Cleaned: Not Reported	K	1/4 - 1/2	SW	BF
*MOBIL 275 E RTE 59 NANUET, NY 10954 EDR ID: S100165344 LUST Facility ID: 8606972 Date Spilled: 02/14/87	K	1/4 - 1/2	SW	BF

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)	Approximate Distance From Target Property (Miles)	Direction From Target Property	Geocoding Accuracy Flag
MOBIL-S100165344 cont... Chemical: Gasoline Quantity: Not Reported Date Cleaned: 03/13/87				
*B J B FILM PROCESSOR SERVICE INC 10 ORCHARD ST NANUET, NY 10954 (914) 623-2825 EPA ID: NYD982797185 EDR ID: 1000103643	Q,I	1/2 - 1	SW	BF
*BENSON CORP 35 N. MIDDLETOWN ROAD NANUET, NY 10954 EDR ID: S100137522 LUST Facility ID: 8810051 Date Spilled: 03/28/89 Chemical: Gasoline Quantity: Not Reported Date Cleaned: 11/15/89	K	1/2 - 1	W	BF

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

BLOCK FACE

Site	Database Code(s)	Approximate Distance From Target Property (miles)	Direction From Target Property	Geocoding Accuracy Flag
*BENZIN CORP. 35 N. MIDDLETOWN RD. NANUET, NY 10954 EDR ID: S100137841 LUST Facility ID: 8903667 Date Spilled: 07/11/89 Chemical: Gasoline Quantity: Not Reported Date Cleaned: 07/12/89	K	1/2 - 1	W	BF
*CIRCLE CAR PAINTERS 1 ORCHARD STREET NANUET, NY 10954 (914) 623-7507 EPA ID: NYD070563754 EDR ID: 1000173936	G,I	1/2 - 1	SW	BF
*CLEANIQUE CLEANERS LTD 53-55 BARDONIA ROAD BARDONIA, NY 10954 (914) 623-6680 EPA ID: NYD982536567 EDR ID: 1000152640	G,I	1/2 - 1	NNE	BF

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

BLOCK FACE

Site	Database Code(s)	Approximate Distance From Target Property (miles)	Direction From Target Property	Geocoding Accuracy Flag
*HARRY GOLDMANN 12 N. MIDDLETOWN RD NANUET, NY 10954 (914) 623-6191 EPA ID: NYD981874043 EDR ID: 1000372275	Q,I	1/2 - 1	W	BF
*NANUET MIDDLE SCHOOL 143 CHURCH STREET NANUET, NY 10954 (914) 623-4615 EPA ID: NYD980541619 EDR ID: 1000424682	G,I	1/2 - 1	SSW	BF
*NANUET MILLER ELEMENTARY 50 BLAUVELT ROAD NANUET, NY 10954 (914) 623-4615 EPA ID: NYD982282113 EDR ID: 1000424685	G,I	1/2 - 1	SSW	BF
*NANUET SENIOR HIGH SCHOOL 103 CHURCH STREET NANUET, NY 10954 (914) 623-4615 EPA ID: NYD980541627 EDR ID: 1000424683	G,I	1/2 - 1	SSW	BF

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

BLOCK FACE

Site	Database Code(s)	Approximate Distance From Target Property (miles)	Direction From Target Property	Geocoding Accuracy Flag
*PRIMROSE CLEANERS 43 EAST ROUTE 59 NANUET, NY 10954 (914) 623-3542 EPA ID: NYD143832863 EDR ID: 1000303014	Q,I	1/2 - 1	WSW	BF
*SIGNS LETTERS & NAMEPLATES INC 8 ORCHARD STREET NANUET, NY 10954 (914) 623-7600 EPA ID: NYD067558205 EDR ID: 1000319327	Q,I	1/2 - 1	SW	BF
*SUPER VALUE 59 S.MIDDLETOWN ROAD NANUET, NY 10954 EDR ID: S100164936	K	1/2 - 1	WSW	BF

LUST

Facility ID: 8910383
Date Spilled: 01/29/90
Chemical: Gasoline
Quantity: Not Reported
Date Cleaned: 02/01/90

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

The Following list of sites are geocoded at the accuracy level associated with "Block Group". This means there is a 90% confidence the sites are within 3700 feet of their true location. Providing distance and direction could result in misleading information and is therefore not appropriate for these sites. EDR is continuously working to obtain better locational information on these sites.

Site	Database Code(s)
*ACCIDENT 140 WEST NYACK NANUET, NY 10954 EDR ID: S100166432	K

LUST

Facility ID: 9011551
Date Spilled: 02/02/91
Chemical: #2 Fuel
Quantity: Not Reported
Date Cleaned: Not Reported

Site	Database Code(s)
*AUGIE'S AUTO ELEC. SALES 69 EAST RT. 59A NANUET, NY 10954 EDR ID: S100142278	K

LUST

Facility ID: 9100723
Date Spilled: 04/18/91
Chemical: Gasoline
Quantity: Not Reported
Date Cleaned: Not Reported

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)
AUGIE'S AUTO ELEC. SALES-S100142278 cont...	
*BRENNAN WEST NYACK RD WEST NYACK, NY 10994 EDR ID: S100139308 LUST Facility ID: 8702968 Date Spilled: 07/13/87 Chemical: Unknown Quantity: Not Reported Date Cleaned: 10/02/87	K
*CARRIAGE HOUSE AUTO BODY INC 210 W NYACK RD WEST NYACK, NY 10994 EPA ID: NYD986943314 EDR ID: 1000458448	G,I
*CHAS. FREIHOFER BAKING CO. INC. 99 WEST NYACK ROAD NANUET, NY 10954 (914) 623-3000 EPA ID: NYD116005489 EDR ID: 1000376432	G,I

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)
*CLARKSTOWN CENT SCH DIST STRAWTOWN ELEM STRAWTOWN RD WEST NYACK, NY 10994 (914) 634-8127 EPA ID: NYD982729626 EDR ID: 1000363777	G,I
*CLARKSTOWN CENT SCH DIST WEST NYACK ELEM 661 WEST NYACK RD WEST NYACK, NY 10994 (914) 634-8127 EPA ID: NYD982729642 EDR ID: 1000363779	G,I
*CLARKSTOWN CENT. SCH DIST. BIRCHWOOD SCH 214 SICKLETOWN RD WEST NYACK, NY 10994 (914) 634-8127 EPA ID: NYD982729543 EDR ID: 1000363769	G,I
*CLASSIC AUTO BODY REPAIR SHOP INC 128 W NYACK RD NANUET, NY 10954 (914) 623-3269 EPA ID: NYD048395909 EDR ID: 1000386456	G,I

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)
*CRESCO SALES 250 WEST NYACK RD WEST NYACK, NY 10994 EDR ID: S100138586 LUST Facility ID: 8602509 Date Spilled: 07/16/86 Chemical: Gasoline Quantity: Not Reported Date Cleaned: 03/16/86	K
*G & B AUTO BODY 17 SEEGER DR NANUET, NY 10954 (914) 623-9560 EPA ID: NYD986887982 EDR ID: 1000103513	G,I
*JU-EL CLEANERS 65 ROCKLAND PLAZA NANUET, NY 10954 (914) 623-9795 EPA ID: NYD030475099 EDR ID: 1000203360	Q,I

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)
*MIDTOWN CLEANERS & SHOE REPAIR INC 402 NANUET MALL SOUTH NANUET, NY 10954 (914) 624-0530 EPA ID: NYD986908358 EDR ID: 1000446303	G,I
*NANUET POST OFFICE PROSPECT STREET NANUET, NY 10954 EDR ID: S100141452 LUST Facility ID: 9005678 Date Spilled: 08/22/90 Chemical: Unknown Quantity: Not Reported Date Cleaned: Not Reported	K
*OLD SHELL S/S 520 WEST NYACK ROAD WEST NYACK, NY 10994 EDR ID: S100177332 LUST Facility ID: 9104670 Date Spilled: 07/31/91	K

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)
OLD SHELL S/S-S100177332 cont... Chemical: Gasoline Quantity: Not Reported Date Cleaned: Not Reported	
*ROADWAY EXPRESS 80 WEST NYACK ROAD NANUET, NY 10954 (914) 623-1410 EPA ID: NYD092722339 EDR ID: 1000193259 LUST Facility ID: 9002677 Date Spilled: 06/06/90 Chemical: Gasoline Quantity: Not Reported Date Cleaned: 11/30/90	G,I,K
*ROCKLAND BAKERY 94 DEMEREST AVE.& MILL RD NANUET, NY 10954 EDR ID: S100153718 LUST Facility ID: 9103190	K

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)
ROCKLAND BAKERY-S100153718 cont... Date Spilled: 06/19/91 Chemical: #2 Fuel Quantity: Not Reported Date Cleaned: Not Reported	
*ROCKLAND CORP. PARK WEST NYACK RD. WEST NYACK, NY 10994 EDR ID: S100137614 LUST Facility ID: 8900783 Date Spilled: 04/25/89 Chemical: Diesel Quantity: Not Reported Date Cleaned: 05/22/89	K
*SCHETTINO CARTERS CO. PROSPECT AVE. NANUET, NY 10954 EDR ID: S100142088 LUST Facility ID: 9012190 Date Spilled: 02/22/91	K

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)
SCHETTINO CARTERS CO.-S100142088 cont... Chemical: Diesel Quantity: Not Reported Date Cleaned: Not Reported	
*SCHETTINO SERVICE CORP. 230 WEST NYACK ROAD WEST NYACK, NY 10994 EDR ID: S100141309 LUST Facility ID: 9004326 Date Spilled: 07/18/90 Chemical: Diesel Quantity: Not Reported Date Cleaned: 12/30/90	K
*SEARS 100 NANUET MALL RT. 59 NANUET, NY 10954 EDR ID: S100166511 LUST Facility ID: 9100574 Date Spilled: 04/14/91 Chemical: Waste Oil	K

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)
SEARS-S100166511 cont... Quantity: Not Reported Date Cleaned: Not Reported	
*SEARS (VES) 100 RT. 59-NANUET MALL NANUET, NY 10954 EDR ID: S100140232 LUST Facility ID: 8707067 Date Spilled: 11/17/87 Chemical: Gasoline Quantity: Not Reported Date Cleaned: Not Reported	K
*SEARS ROEBUCK AND CO RETAIL STORE 100 NANUET MALL RTS 59 & 304 NANUET, NY 10954 (914) 623-9100 EPA ID: NYD981077852 EDR ID: 1000369163	G,I
*SPACE AGE AVIATION 165 WEST NYACK ROAD WEST NYACK, NY 10994 EDR ID: S100142332	K

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)

SPACE AGE AVIATION-S100142332
cont...

LUST

Facility ID: 9101349
Date Spilled: 05/02/91
Chemical: Gasoline
Quantity: Not Reported
Date Cleaned: Not Reported
Facility ID: 9101349
Date Spilled: 05/02/91
Chemical: Gasoline
Quantity: Not Reported
Date Cleaned: Not Reported

*ST REGIS PAPER CO Q,I
WEST NYACK ROAD
WEST NYACK, NY 10994
(914) 624-3000
EPA ID: NYD072720162
EDR ID: 1000355395

OTHER PERTINENT ENVIRONMENTAL ACTIVITIES IDENTIFIED AT SITE:
- facility has an emission permit under the Clean Air Act

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

ADDITIONAL INFORMATION

The following list contains sites with high potential liability, i.e., Superfund Sites (NPL), Hazardous Waste Treatment, Storage or Disposal Facilities (TSDF), CERCLIS Hazardous Waste Sites, State Hazardous Waste Sites (SHWS) and landfills (SWF/LS), which are located outside the radius search, but are within the zip code of the target property. These sites may actually, due to geocoding tolerance, be closer to the target property.

Site	Database Code(s)

NO SITES FOUND

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

ORPHAN LIST - ZIP CODE

The orphan list (zip code) contains sites which, for whatever reason, could not be geocoded to a level more accurate that zip code centroid. The most common reason is lack of a valid street address within the reported zip code. These sites may or may not be within close proximity of the target property; however all have the same zip code as the target property

Site	Database Code(s)
*	K
10 RT. 304 NANUET, NY 10954 EDR ID: S100164535	
LUST	
Facility ID: 8809657 Date Spilled: 03/15/89 Chemical: Waste Oil Quantity: Not Reported Date Cleaned: 05/22/89	
*ALBERTIS MAGNESS SCHOOL 304 GERMAN ROAD BARDONIA, NY 10954 EDR ID: S100136630	K
LUST	
Facility ID: 8800233 Date Spilled: 04/07/88 Chemical: #4 Fuel	

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)
ALBERTIS MAGNESS SCHOOL-S100136630 cont... Quantity: Not Reported Date Cleaned: 04/03/89	
*AUTO EXPRESS INC 10 OLD TNPK NANUET, NY 10954 EDR ID: 1000552879	I
*BABYET NAKK RT. 59 NANUET, NY 10954 EDR ID: S100137211 LUST Facility ID: 8806813 Date Spilled: 11/15/88 Chemical: #2 Fuel Quantity: Not Reported Date Cleaned: 11/15/89	K
*BARDONIA ELEM SCHOOL BARDONIA ROAD BARDONIA, NY 10954 EDR ID: S100136988 LUST Facility ID: 8803998	K

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)
BARDONIA ELEM SCHOOL-S100136988 cont... Date Spilled: 08/05/88 Chemical: #2 Fuel Quantity: Not Reported Date Cleaned: 08/09/88	
*BASE LOCK RUBBER TYPE CO INC SOUTH SIDE FIRST STREET NANUET, NY 10954 EPA ID: NYD001346212 EDR ID: 1000197410	G,I
*BOUTONS BUSINESS MACHINES INC 95 RTE 304 NANUET, NY 10954 (914) 623-7200 EPA ID: NYD986891836 EDR ID: 1000417613	Q,T,I
*CHEVRON RTE 59 NANUET, NY 10954 EDR ID: S100165445 LUST Facility ID: 8503867	K

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)

CHEVRON-S100165445
cont...
Date Spilled: 01/31/86
Chemical: Gasoline
Quantity: Not Reported
Date Cleaned: 11/01/89

*CLARKSTOWN CENT. SCH DIST. BARDONIA ELEM — G,I
BARDONIA ROAD
BARDONIA, NY 10954
(914) 634-8127
EPA ID: NYD982729535
EDR ID: 1000363768

*CLARKSTOWN TOWN OF — I
12 SEEGER DR
NANUET, NY 10954
EDR ID: 1000553925

*CLEANIQUE CLEANERS INC — G,I
5355 BARDONIA RD
ROCKLAND, NY 10954
(914) 623-6680
EPA ID: NYD986890051
EDR ID: 1000152641

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)
*COATTI'S S/S 366 MIDDLETOWN RD NANUET, NY 10954 EDR ID: S100139744 LUST Facility ID: 8708088 Date Spilled: 12/17/87 Chemical: Gasoline Quantity: Not Reported Date Cleaned: 03/30/88	K
*COITTI TEXACO HOVEN CAMP ROAD NANUET, NY 10954 EDR ID: S100153888 LUST Facility ID: 9102026 Date Spilled: 05/21/91 Chemical: Gasoline Quantity: Not Reported Date Cleaned: Not Reported	K
*CORPORATE PROPERTY INVEST RT. 59 & MIDDLETOWN RD. NANUET, NY 10954 EDR ID: S100142062	K

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)

CORPORATE PROPERTY INVEST-S100142062
cont...

LUST

Facility ID: 9011972
Date Spilled: 02/14/91
Chemical: Not Reported
Quantity: Not Reported
Date Cleaned: Not Reported

*DAYS INN — K
RT. 59 EX.14 THRUWAY
NANUET, NY 10954
EDR ID: S100141256

LUST

Facility ID: 9003767
Date Spilled: 07/03/90
Chemical: Unknown
Quantity: Not Reported
Date Cleaned: 07/10/90

*DRY CLEANER THE — I
27 N MIDDLETOWN RD
NANUET, NY 10954
EDR ID: 1000553621

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

ORPHAN LIST - ZIP CODE

Site	Database Code(s)
*EXXON CO USA #32808 16 RTE 304 & 59A BARDONIA, NY 10954 EDR ID: 1000553159	I
*EXXON CO USA #38490 RTE 59 & 10 S MIDDLETON NANUET, NY 10954 EDR ID: 1000552905 LUST Facility ID: 9104896 Date Spilled: 08/06/91 Chemical: Gasoline Quantity: Not Reported Date Cleaned: Not Reported Facility ID: 9104896 Date Spilled: 08/06/91 Chemical: Gasoline Quantity: Not Reported Date Cleaned: Not Reported	I,K
*EXXON CO USA 37490 286 W & RTE 59 NANUET, NY 10954 EDR ID: 1000553088	I

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)
*GALAXY CLEANERS MITHUIR ENT 250 W. ROUTE 59 A&H MALL NANUET, NY 10954 EPA ID: NYD982275091 EDR ID: 1000160728	G,I
*GETTY (KOESTNERS, VES) 169 MIDDLETOWN RD NANUET, NY 10954 EDR ID: S100140574 LUST Facility ID: 8606522 Date Spilled: 01/21/87 Chemical: Gasoline Quantity: Not Reported Date Cleaned: Not Reported	K
*GETTY GAS STATION 20 RT. 304 NANUET, NY 10954 EDR ID: S100164568 LUST Facility ID: 8900128 Date Spilled: 04/05/89 Chemical: Diesel	K

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)
GETTY GAS STATION-S100164568 cont... Quantity: Not Reported Date Cleaned: 11/15/89	
*GETTY RT 304 NANUET RT. 304 NANUET, NY 10954 EDR ID: S100141168 LUST Facility ID: 9003048 Date Spilled: 06/16/90 Chemical: Diesel Quantity: Not Reported Date Cleaned: Not Reported	K
*GETTY SERVICE STATION 20 RTE 304 NANUET, NY 10954 EDR ID: 1000554144 LUST Facility ID: 8700418 Date Spilled: 04/14/87 Chemical: Gasoline Quantity: Not Reported	I,K

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)

GETTY SERVICE STATION-1000554144
cont...
Date Cleaned: 11/15/89
Facility ID: 9001496
Date Spilled: 05/08/90
Chemical: Gasoline
Quantity: Not Reported
Date Cleaned: Not Reported
Facility ID: 9102405
Date Spilled: 05/30/91
Chemical: Gasoline
Quantity: Not Reported
Date Cleaned: Not Reported
Facility ID: 9104513
Date Spilled: 07/26/91
Chemical: Gasoline
Quantity: Not Reported
Date Cleaned: Not Reported

*GRANDVIEW AVE. K
GRADVIEW AVE.
NANUET, NY 10954
EDR ID: S100137858

LUST

Facility ID: 8903848
Date Spilled: 07/10/89
Chemical: Unknown
Quantity: Not Reported

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)
GRANDVIEW AVE.-S100137858 cont... Date Cleaned: 11/15/89	
*HESS RT.59 NEAR RT.303 NANUET, NY 10954 EDR ID: S100166012 LUST Facility ID: 8908553 Date Spilled: 11/29/89 Chemical: Gasoline Quantity: Not Reported Date Cleaned: Not Reported	K
*JACK PARKER CONST CO SMITH ROAD/NANUET AIRPORT NANUET, NY 10954 (718) 275-3600 EPA ID: NYD982739807 EDR ID: 1000266944	Q,I
*KEA MOTOR CAR CORP. 99 ROUTE 30A NANUET, NY 10954 (914) 623-1200 EPA ID: NYD075432229 EDR ID: 1000124625	Q,I,K

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)

KEA MOTOR CAR CORP.-1000124625
cont...

LUST

Facility ID: 8806452
Date Spilled: 11/01/88
Chemical: #2 Fuel
Quantity: Not Reported
Date Cleaned: 05/22/89
Facility ID: 8703766
Date Spilled: 08/06/87
Chemical: #2 Fuel
Quantity: Not Reported
Date Cleaned: 03/30/88

*KOESTERS SUPER SERVICE — I
169 MAIN ST
NANUET, NY 10954
EDR ID: 1000556762

*KURLAND CADILLAC-OLDSMOBIL INC — G,I
32 ROUTE 304
NANUET, NY 10954
(914) 623-6060
EPA ID: NYD012984282
EDR ID: 1000276701

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)
*MOBIL OIL CORP SS #831 275 E RTE 59 NANUET, NY 10954 EDR ID: 1000553459	I
*MOBIL RT. 59 NANUET RT. 59 NANUET, NY 10954 EDR ID: S100140566 LUST Facility ID: 8903098 Date Spilled: 06/24/89 Chemical: Gasoline Quantity: Not Reported Date Cleaned: Not Reported	K
*MOBIL S/S & CARWASH 275 RT 59 NANUET, NY 10954 EDR ID: S100140564 LUST Facility ID: 8903010 Date Spilled: 06/22/89 Chemical: Gasoline Quantity: Not Reported	K

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)

MOBIL S/S & CARWASH-S100140564
cont...
Date Cleaned: Not Reported

*NANUET MALL — K
ROUTE 59
NANUET, NY 10954
EDR ID: S100137846

LUST

Facility ID: 8903723
Date Spilled: 07/12/89
Chemical: Unknown
Quantity: Not Reported
Date Cleaned: 12/01/89

*NORMANDY VILL.APT.COMPLEX — K
OFF OF COLLEGE AVE.
NANUET, NY 10954
EDR ID: S100140869

LUST

Facility ID: 9000383
Date Spilled: 04/11/90
Chemical: Non-PCB Oil
Quantity: Not Reported
Date Cleaned: 04/30/90

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)

NORMANDY VILL.APT.COMPLEX-S100140869
cont...

*O&R
RTE 59
NANUET, NY 10954
EDR ID: S100165526

Database Code(s): K

LUST

Facility ID: 8701750
Date Spilled: 05/29/87
Chemical: Non-PCB Oil
Quantity: Not Reported
Date Cleaned: 06/01/87

*PASCACK BROOK AT CONVENT RD
X OF CONVENT RD & PASCACK BK
NANUET, NY 10954
EPA ID: NYD980768766
EDR ID: 1000166086

Database Code(s): C,I

CERCLIS

Site Status :This site is currently under investigation by the government to assess the extent of further action.
Last Assessment:Preliminary on-site assessment was dictated Completed - 09/01/83

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

ORPHAN LIST - ZIP CODE

Site	Database Code(s)
*PAUL RICH S/S 330 RT. 304 BARDONIA, NY 10954 EDR ID: S100137659	K

LUST

Facility ID: 8901342
Date Spilled: 05/10/89
Chemical: Unknown
Quantity: Not Reported
Date Cleaned: 11/15/89

*PAULRICH SERVICE CENTER 330 RT. 304 BARDONIA, NY 10954 EDR ID: S100137751	K

LUST

Facility ID: 8902535
Date Spilled: 06/09/89
Chemical: Gasoline
Quantity: Not Reported
Date Cleaned: 11/15/89

*PETES SERVICE STATION RT 59 NANUET, NY 10954 EDR ID: S100136707	K

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)

PETES SERVICE STATION-S100136707
cont...

LUST

Facility ID: 8801002
Date Spilled: 04/30/88
Chemical: Gasoline
Quantity: Not Reported
Date Cleaned: 05/22/89

*POSA-POSA — K
RT 59, BEHIND POSA-POSA.
NANUET, NY 10954
EDR ID: S100139834

LUST

Facility ID: 8708906
Date Spilled: 01/19/88
Chemical: Gasoline
Quantity: Not Reported
Date Cleaned: 01/28/88

*PRIMROSE CLEANERS YOU NA INC — Q,I
43 ROUTE 59
MANUET, NY 10954
(914) 623-3542
EPA ID: NYD981086614
EDR ID: 1000303015

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)
*RINALDI TRUCK RENTAL RT 59 NANUET, NY 10954 EDR ID: S100139976	K

LUST

Facility ID: 8709833
Date Spilled: 02/19/88
Chemical: Gasoline
Quantity: Not Reported
Date Cleaned: 05/22/89

*RINALDI TRUCK RENTAL AGNC RT. 59 NANUET, NY 10954 EDR ID: S100137490	K

LUST

Facility ID: 8809757
Date Spilled: 03/20/89
Chemical: Unknown
Quantity: Not Reported
Date Cleaned: 03/20/89

*ROCKLAND PAPER CO 4 W. PROSPECT AVE NANUET, NY 10954 EDR ID: 1000549698	I

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)

ROCKLAND PAPER CO-1000549698
cont...

OTHER PERTINENT ENVIRONMENTAL ACTIVITIES IDENTIFIED AT SITE:
- facility is involved with pesticide production

*SCHULTZ FORD INC. G,I
80 RT 304
NANUET, NY 10954
(914) 624-3600
EPA ID: NYD013025382
EDR ID: 1000425554

*SEARS AUTO CENTER K
RT. 59
NANUET, NY 10954
EDR ID: S100164722

LUST

Facility ID: 8903294
Date Spilled: 06/29/89
Chemical: Diesel
Quantity: Not Reported
Date Cleaned: 06/29/89

*SEARS AUTO CENTER K
RT. 59 NANUET MALL
NANUET, NY 10954
EDR ID: S100166132

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)
SEARS AUTO CENTER-S100166132 cont... LUST Facility ID: 9002840 Date Spilled: 06/08/90 Chemical: Waste Oil Quantity: Not Reported Date Cleaned: 06/12/90	
*STAR MOTOR CORPORATION 10 RT. 304 NANUET, NY 10954 (914) 624-8700 EPA ID: NYD131802894 EDR ID: 1000351549	Q,I
*SUNOCO SERVICE STATION MAIN ST ROUTE 304 BARDONIA, NY 10954 (215) 688-8200 EPA ID: NYD000707687 EDR ID: 1000328891	Q,I
*SUNOCO SERVICE STATION 370 MIDDLETOWN RD NANUET, NY 10954 (215) 688-8200 EPA ID: NYD000707703 EDR ID: 1000328893	Q,I

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)
*TOWN LINE TOWN LINE RD.& CARD DR. NANUET, NY 10954 EDR ID: S100142089	K

LUST

Facility ID: 9012206
Date Spilled: 02/23/91
Chemical: Non-PCB Oil
Quantity: Not Reported
Date Cleaned: 02/26/91

*TOWN LINE ROAD BET.PEACH ST. & PALISADES NANUET, NY 10954 EDR ID: S100142175	K

LUST

Facility ID: 9012991
Date Spilled: 02/20/91
Chemical: Unknown
Quantity: Not Reported
Date Cleaned: Not Reported

*WARGO REALTY INC 315 W RTE 59 NANUET, NY 10954 EDR ID: 1000552837	I

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)
*YOUNG'S GENTLE TOUCH CLEANERS INC. 228 RT 59 EAST CALDOR SHP CNTR NANUET, NY 10954 (914) 623-4764 EPA ID: NYD981081748 EDR ID: 1000314964	Q,I

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

ORPHAN LIST - OTHER

The orphan list (other) contains sites which, for whatever reason, could not be geocoded. Common reasons may include lack of a valid street address or an unidentifiable city or state. These sites may or may not be within close proximity of the target property; however, all are contained within the same city (or cities) or county as the target property's zip code.

Site	Database Code(s)
*	D
PARKING LOT OFF WEST NYACK ST NANUET, NY EDR ID: 91020288	
*	D
W NYACK RD NANUET, NY EDR ID: 91060190	
*AUGIES	K
WEST NYACK RD. NANUET/CLARKSTOWN, NY EDR ID: S100138561	

LUST

Facility ID: 8600952
Date Spilled: 05/06/86
Chemical: Gasoline
Quantity: Not Reported
Date Cleaned: 03/25/87

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)
*CLARKSTOWN COMPOST SITE 2 Rockland County, EDR ID: S100116969 LANDFILL Status: Not available	L
*CLARKSTOWN RECY CENTER TS Rockland County, EDR ID: S100116967 LANDFILL Status: Not available	L
*GURNEE PARK LEAF COMPOST Rockland County, EDR ID: S100116970 LANDFILL Status: Not available	L
*KAKIAT JR. HIGH SCHOOL BIOLA ROAD ROCKLAND County, NY EDR ID: S100139476	K

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)

KAKIAT JR. HIGH SCHOOL-S100139476
cont...

LUST

Facility ID: 8704852
Date Spilled: 09/10/87
Chemical: #2 Fuel
Quantity: Not Reported
Date Cleaned: 11/15/89

*MERRIMACK VALLEY T.S. L

Rockland County,
EDR ID: S100116968

LANDFILL

Status: Not available

*RAMAPO T.S. L

Rockland County,
EDR ID: S100116966

LANDFILL

Status: Not available

*ROCKLAND CO SD#1 K
SADDLE RIVER PUMP STATION
ROCKLAND County, NY
EDR ID: S100165221

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)
ROCKLAND CO SD#1-S100165221 cont...	
LUST Facility ID: 8602105 Date Spilled: 06/27/86 Chemical: Diesel Quantity: Not Reported Date Cleaned: 03/25/87	
*SPARK HILL SPARK HILL ROCKLAND County, NY EDR ID: S100138590	K
LUST Facility ID: 8602238 Date Spilled: 07/06/86 Chemical: Unknown Quantity: Not Reported Date Cleaned: 03/11/87	
*ST AUGUSTINE SCHOOL MAIN ST ROCKLAND County, NY EDR ID: S100137249	K
LUST Facility ID: 8807445	

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

Site	Database Code(s)

ST AUGUSTINE SCHOOL-S100137249
cont...
Date Spilled: 12/08/88
Chemical: #4 Fuel
Quantity: Not Reported
Date Cleaned: 04/03/89

*TWAY-SLOATSBURGH K
SLOATSBURGH
ROCKLAND County, NY
EDR ID: S100140421

LUST

Facility ID: 8402984
Date Spilled: Not Reported
Chemical: Gasoline
Quantity: Not Reported
Date Cleaned: Not Reported

Database Codes

B =	PADS	E =	ERNS	I =	FINDS	N =	NPL	T =	RCRIS-TSDF
C =	CERCLIS	G =	RCRIS-SQG	K =	LUST	Q =	RCRIS-LQG	U =	UST
D =	HMIRS	H =	SHWS	L =	SWF/LS	S =	TRIS	X =	TSCA

Geocoding Accuracy:

EDR = EDR Verified BF = Block Face CUS = Customer Provided Lat/Long

5. FEDERAL HAZ-SITE REPORT ON TARGET PROPERTY

SWIVELIER COMPANY INC
33 ROUTE #304
NANUET, NY 10954

EDR-ID: 1000429993

HWDMS RECORD
==========
This site is listed in the federal HWDMS record as a site which generates hazardous wastes. This record was last updated by the government on 03/27/87.

RCRA Facility Name: SWIVELIER COMPANY INC
33 ROUTE #304
NY 10954
ROCKLAND COUNTY

Contact : GERARD PHELAN MANAGER
(914) 623-3471

EPA-ID : NYD001250653

Classification : This facility generates at least 2,200 pounds per month of non-acutely hazardous wastes or 2.2 pounds per month of acutely hazardous waste.

SIC Code(s) : 3645

Facility Type : Not classified.

Legal Status : Not classified.

Own/Oper Status : Not classified.

Owner : SWIVELIER CO INC

ANNUAL WASTE HANDLED

Waste Number	Amount in Metric Tons	TSD Process Used
F017	not reported	not a TSD facility

FINDS DATABASE
==========
This site is listed in the federal FINDS database. Please note that the FINDS database may contain government records which are included in your particular report and may reference an out-of-date record formally associated with the site. The government last updated this specific record on 02-19-92.

FINDS Name :SWIVELIER CO INC
33 RTE #304
NY 10954

EPA-ID :NYD001250653

Latitude :410555

Longitude :0735959

Owner Type :PRIVATE

Operator Type:Not provided

Sic Code :3646 - COMMERCIAL LIGHTING FIXTURES
3645 - RESIDENTIAL LIGHTING FIXTURES

EPA Notes :No comments on file

EPA Records Indicate Facility Is Listed In:

HAZARDOUS WASTE DATA MANAGEMENT SYSTEM (HWDMS)

FACILITY ID :NYD001250653

GOVERNING LEGISLATION :THE RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) OF 1976, HAZARDOUS SOLID WASTE AMENDMENTS (HSWA). THIS LEGISLATION COVERS: HAZARDOUS WASTE GENERATORS, TRANSPORTERS, TREATMENT, STORAGE OR DISPOSAL FACILITIES (TSDFs). IMPLEMENTING THE LEGISLATION IS THE RESPONSIBILITY OF EPA'S: OFFICE OF SOLID WASTE

AEROMATIC INFORMATION RETRIEVAL SYSTEM (AIRS)

FACILITY ID :3608700025

GOVERNING LEGISLATION :CLEAN AIR ACT. THIS LEGISLATION COVERS: FACILITIES WHICH ARE MONITORED OR PERMITTED FOR AIR EMISSIONS UNDER THE CLEAN AIR ACT. IMPLEMENTING THE LEGISLATION IS THE RESPONSIBILITY OF EPA'S: OFFICE OF AIR QUALITY PLANNING AND STANDARDS

Dissolution of Dense Chlorinated Solvents into Ground Water: 1. Dissolution from a Well-Defined Residual Source

by Michael R. Anderson[a], Richard L. Johnson[b], and James F. Pankow[b]

Abstract

When found dissolved in ground water, chlorinated hydrocarbon (CHC) solvents such as tetrachloroethylene (PCE) are nearly always encountered at concentrations far below their solubilities. This is true even in cases when it is known or at least strongly suspected that actual liquid solvent is present in the aquifer. In contrast, laboratory studies using columns packed with porous media containing various organic fluids have indicated that when water is forced to flow *through* a zone containing an immobile organic fluid, saturation concentrations can be achieved rapidly. This study investigated the concentrations and mass removal rates obtainable when simulated ground water is free to flow at least partially *around* a zone of porous medium that contains solvent in a state of stable, residual saturation. Reductions in the mass removal rate due to reduced permeability in the solvent zone were found to be minimal under the conditions of the experiment. Thus, near the source the plume was essentially the same width as the source zone, and PCE concentrations in the center of the plume were at or near saturation, even at water velocities of 100 cm/day. The fact that CHC aqueous concentrations in ground-water samples are typically far below saturation is, therefore, likely not due to limited dissolution from the fingers of residual solvent. Probable explanations include the preferential formation of thin pools rather than fingers of CHC, dispersion during transport, and dilution by uncontaminated water in monitoring or pumping wells.

Introduction

A number of chlorinated hydrocarbons (CHCs) are common ground-water contaminants. Since their drinking water concentration limits have been set at very low levels [e.g. 0.005 mg/l for trichloroethylene (TCE), Table 1], and due to their widespread usage, CHC solvents pose a threat to many important ground-water supplies. A survey of 3000 drinking water wells in California found that 18% were contaminated with organic compounds, the most common of which were CHC solvents (American Chemical Society, 1986). In nearly all of the cases, observed concentrations were in the 0.001-1 mg/l range, even at sites where the presence of liquid solvent in the aquifer is known or strongly suspected. Since the solubilities of the important CHC solvents are in the 100-10,000 mg/l range (Table 1), it has not been clear why ground-water concentrations of these solvents are typically so low.

Even when a liquid CHC solvent phase might have been able to penetrate the water table due to its denser-than-water nature, observed aqueous concentrations might tend to be low for several reasons, including: (1) mass-transfer limitations on the dissolution process as water passes through the residual zone; (2) flow of the ground water around, rather than through, the residual zone; (3) the tendency of such fluids to form flat pools on top of bedding planes, thereby presenting very low cross-sectional source areas to the oncoming ground-water flow; (4) dilution of small aqueous plumes by dispersion downgradient from the source; and/or (5) dilution of thin or narrow contaminant plumes by uncontaminated water in monitoring and pumping wells which are screened over several meters.

Prior laboratory studies of the dissolution of immiscible liquids have emphasized one-dimensional columns packed with glass beads or sand. Van der Waarden et al. (1971) examined 2-isopropylphenol and o-xylene dissolved in a hydrocarbon oil. The oil was injected into the column and allowed to disperse until it became immobilized. Water was then passed slowly through the column. The effluent contained concentrations that were equal to the expected equilibrium concentrations. Fried et al. (1979) performed similar experiments using toluene/isooctane mixtures dispersed in columns of sand. By varying the column length, they concluded that at normal aquifer velocities, a contact distance on the order of 10 centimeters would be sufficient to produce equilibrium solute concentrations. Laboratory sand column studies with the CHC solvent tetrachloroethylene (PCE) also produced equilibrium values (Schwille, 1984). Miller et al. (1990) examined the dissolution process in porous media as a function of velocity and fluid saturation. Their results indicate that equilibration between two fluid phases was achieved rapidly over a wide range of conditions.

In each of the prior laboratory studies, water was forced to flow in a column through the zone of porous medium containing the organic liquid. In real situations involving a dense solvent phase below the water table, however, the water would be free to flow at least partially around that zone. Indeed, the permeability of a zone of porous medium containing some solvent can inhibit dissolution by reducing the water flow through the zone.

Background

When a fixed volume of dense CHC solvent is spilled near ground level, it will begin to move downward into the vadose zone. Some of the liquid will pinch off into small droplets and be left behind in the pores, some of the liquid will continue to move downwards, and some will evaporate. The maximum percentage of the pore space that can be stably occupied by the liquid is referred to as the "residual saturation" (R_s, %). The residual saturation of a largely immiscible liquid will tend to increase as the grain size and permeability of the porous medium decrease. For any given type of porous medium, the residual saturation will be different in the vadose and saturated zones.

Depending on the size of the spill, the depth to ground water, and the residual saturation capabilities of the vadose zone, the solvent may reach the fully water-saturated pores at the capillary fringe. If it is denser than water, it may enter those pores and penetrate the capillary fringe. For penetration to occur, however, the solvent must be able to overcome the capillary pressure barrier between it and the pore water. Since the barrier will increase as the grain size decreases (Villaume et al., 1983), saturated silts and clays can present significant barriers to the infiltration of immiscible liquids.

Most CHC solvents are less viscous than water. When such solvents are displacing water from the saturated zone, the interface between the solvent and the displaced water will be unstable. This instability causes solvents to infiltrate the saturated zone as "fingers," rather than along the type of uniform front that is possible in the vadose zone (Saffman and Taylor, 1958; Homsy, 1987; and Chouke et al., 1959). Thus, if the solvent can build a sufficient pressure head to penetrate the capillary fringe, infiltration will occur as multiple fingers. However, due in part to small-scale heterogeneities in the medium, the locations and diameters of the infiltrating fingers are extremely unpredictable. Finger diameters at the top of the capillary fringe as well as further down in the saturated zone can be remarkably narrow. Anderson et al. (1987) has reported finger diameters in model sand tanks that approach single pore throats and that the diameter and horizontal location of the finger can vary greatly along the length of the finger.

Once in the aquifer, if a downward-moving finger encounters a layer of finer-grained material, it will not be able to penetrate that layer unless it can overcome that new capillary pressure barrier. Oftentimes, lateral spreading and pooling will occur, and sufficient solvent pressure head to penetrate the layer will never develop. Lateral spreading may continue until the finer-grained layer ends, at which point the solvent will be able to spill over the edge. One or more new fingers of solvent may then continue downwards (Schwille, 1988). The solvent may ultimately reach the confining layer at the bottom of the aquifer and accumulate there as a pool.

The tendency of CHC solvents to form fingers and pools in the saturated zone can have several very important implications. Firstly, when fingers are present in the saturated zone and when significant pools do not form, then the depth of penetration of the solvent will be substantially greater than if infiltration occurred as a uniform front. Secondly, when ground water moves past/through the fingers and above any pools in the saturated zone, contamination will emanate from a number of thin sources that are separated by regions of clean water. Consequently, there may be no single contaminant plume, but rather a number of plumes that are thin in either the horizontal or vertical direction. Thirdly, because of the unpredictability of the locations of the fingers and pools, it will generally be very difficult and costly to locate and remediate CHC solvent contamination in the saturated zone.

The solvent at residual saturation in the fingers will reduce the permeability within those fingers (Scheidegger, 1974). The ratio of the water permeability in the presence of the solvent to that in the absence of the solvent is referred to as the relative permeability (k_r). The effect of solvent residuals on permeability can be estimated by assuming that residual saturations for solvents in a finger will be in the range of 15-40% measured by Wilson and Conrad (1984) for hydrocarbons. Kueper and Frind (1992) estimated the corresponding k_r values for the PCE-water system at those residual saturations to be in the range of 0.8-0.3 in a medium sand.

Reduced k_r values for a finger will cause a divergence of flow upgradient of the finger, and a convergence downgradient of the finger. Since dissolution occurs after the divergence of flow and before the convergence, the net result is a reduction in the effective width of the finger source zone. For a circular cross section with a given value of k_r, Wheatcraft and Winterberg (1985) have shown theoretically

Table 1. EPA Maximum Contaminant Levels (MCLs) and Aqueous Solubilities for Selected Solvents

Compound	*MCL*[a] *(mg/l)*	*Solubility*[b] *(mg/l)*
Benzene	0.005	1780 (25°C)
Carbon tetrachloride	0.005	785 (20°C)
p-Dichlorobenzene	0.075	79 (25°C)
1,2-Dichloroethane	0.005	8690 (25°C)
1,1-Dichloroethylene	0.007	400 (20°C)
Tetrachloroethylene		200 (20°C)
1,1,1-Trichloroethane	0.2	720 (25°C)
Trichloroethylene	0.005	1100 (20°C)
Vinyl chloride	0.002	2700 (25°C)

[a] Code of Federal Regulations, 1989.
[b] Mabey et al., 1982.

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that the fraction of the flow (F) passing through that cross section can be calculated according to

$$F = \frac{2k_r}{1 + k_r} \qquad (1)$$

Note that when $k_r = 1$, then $F = 1$. According to equation (1), k_r values of 0.3 to 0.8 will result in F values of 0.38 to 0.89. When $F = 0.38$, reduced permeability will cause a 2.5-fold reduction in the rate at which water is advected in the zone of residual saturation, and therefore also the rate at which dissolved CHC solvent can leave the finger.

Experimental

A three-dimensional (3-D) model aquifer was constructed to study the dissolution of residual solvents under conditions where water would be free to flow around the residual zone. Construction details can be found in Anderson (1988). Briefly, the model was a glass and Lucite tank constructed inside a steel frame. The tank measured 1 m long by 0.75 m wide by 1 m deep. At each end of the tank, a rigid screen was placed to form a 1.2 cm thick reservoir to ensure uniform flow through the tank (Figure 1). To create a single cylindrical finger source surrounded by uncontaminated porous medium, a 1 m length of 15.2 cm i.d. sheet-metal cylinder was placed vertically into the center of the tank and sealed at the bottom with silicone caulk. A 0.32 cm (0.125 inch) o.d. nylon tube for adding and removing fluids extended to the bottom of the sheet-metal tube. The end of the nylon tube was equipped with a 10 μm pore size filter. The tank and cylinder were then both filled with 92 cm of medium/coarse sand (Flintshot 2.8, Ottawa Industrial Sand Co., Ottawa, IL). The sand was gently placed into the tank in shallow lifts to minimize size segregation during packing.

Eighty-one sampling ports were installed in the effluent end of the tank. For each port, a 5.0 cm long, 20-gauge stainless-steel hypodermic needle was sealed in the Lucite. Each needle extended ~ 2.5 cm into the sand. When not in use for sampling, the Luer hub of each needle was sealed with a teflon plug. The ports were installed in three horizontal rows and one vertical column. The three rows were located approximately 20, 40, and 60 cm from the bottom of the tank, respectively (Figure 2).

The water level in the tank was controlled by a constant-head reservoir at the effluent end of the tank. The flow of simulated ground water through the tank was controlled by a peristaltic pump at the influent end of the tank. Prior to use, the water temperature was adjusted to 20° C and sparged with helium to remove dissolved air. A sampling port in the effluent line was used to monitor solvent concentration in order to calculate total mass flow from the tank. Prior to initiating the experiments, the porous medium was flushed with water until trapped gas bubbles were completely dissolved. The constant-head reservoir was then lowered and the water table was set at 74 cm above the bottom of the tank.

To help make it more visible in the sand, the PCE was dyed red by adding 1 g/l of Oil Red EGN (Aldrich Chemical

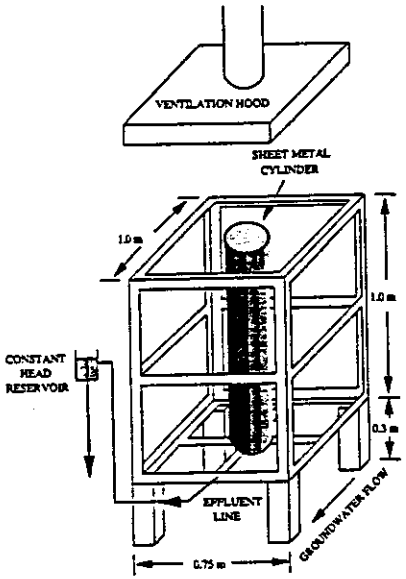

Fig. 1. Schematic drawing of the three-dimensional physical model showing the position of the cylinder containing the source.

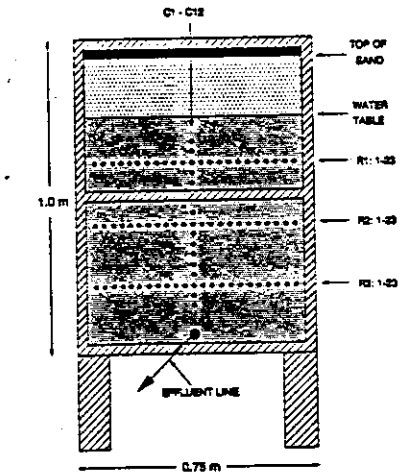

Fig. 2. Locations of the sampling ports at the effluent end of the tank. (Ground-water flow is coming out of the page.)

Co., Milwaukee, WI). This dye is nearly insoluble in water and is brightly colored only when dissolved in solvent. To produce the residual solvent zone, the sand within the cylinder was first flooded with water from below through the nylon tube, then drained from the bottom through the same tube. The cylinder was then flooded from the bottom again, this time with PCE. The PCE filled the sand to a height of 74 cm. All mobile solvent was then siphoned out of the cylinder. Water was then added again from the bottom to produce a zone of sand which contained residual solvent in an otherwise water-saturated region. Mass balance calculations indicated that this procedure produced an average residual saturation of 13%. The distribution was probably more uniform than would result from spillage into a saturated medium. However, it was also probably more representative than what would be obtained by mechanical mixing of solvent and medium.

With water flowing at a mean velocity of ~ 30 cm/day, the sheet-metal cylinder was pulled upwards and out of the tank; the disturbance of the sand was minimal. Water samples were collected and analyzed at two-hour intervals from several centrally located sampling points. Samples from the tank effluent line were also collected and analyzed at regular intervals. Once the contaminant plume reached steady-state, samples from all of the ports were collected and analyzed. The mean water velocity was then increased to 60 cm/day. Once again, the plume was checked periodically until it reached a new steady-state. Another complete series of samples was then collected. This procedure was repeated for velocities of 100 cm/day and then 10 cm/day. The model aquifer was then excavated to examine the distribution of the residual and the effects of dissolution on the morphology of the "finger." The presence of the red dye in the PCE helped to make those effects more visible.

During each experiment, water samples were withdrawn from the sampling ports using gas-tight syringes (Hamilton Co., Reno, NV). To take a sample, the teflon plug was first removed from one of the needles, and several drops of water were allowed to flow out in order to fill the needle with fresh sample. The syringe was then attached to the needle. The desired sample volume (0.25-2.0 ml) was then withdrawn, and placed in a 3.5 ml amber screw-cap septum vial. Samples with volumes smaller than 2.0 ml were placed in vials containing sufficient water so that the total volume equalled 2.0 ml. The sample vials were shaken vigorously and placed in a 20° C water bath. The vials were then shaken three more times at 10 minute intervals. Test results indicated that this was sufficient for PCE to achieve gas/liquid equilibrium. Aqueous-phase concentrations were then determined by headspace analysis.

Headspace analyses were carried out by gas chromatography (GC) on a Hewlett-Packard 5890A (Hewlett-Packard Co., Avondale, PA) instrument equipped with a flame ionization detector. A 30 m by 0.75 mm i.d. SPB-1 glass capillary column (Supelco, Inc., Bellefonte, PA) was used at a carrier gas flow rate of 6 ml/min. Data were collected, stored, and analyzed using a Nelson Analytical 3000 Series data system (Nelson Analytical, Inc., Cupertino, CA). Calibration standards were prepared by dilution from

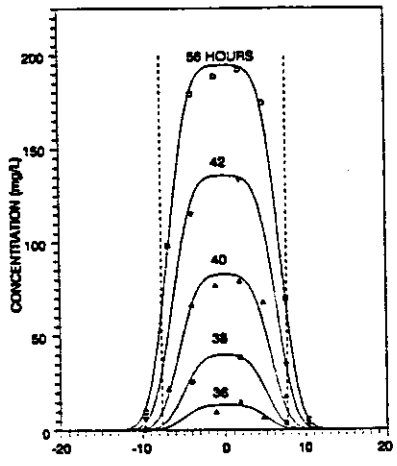

Fig. 3. The evolution of the PCE contaminant plume as measured across the middle row of sampling ports (R2) for experiment 1 at 30 cm/day velocity.

saturated PCE stock solutions, and analyzed employing the same headspace method used for the samples.

Results and Discussion

With the water flowing at 30 cm/day, the first measurable PCE concentrations were observed at the effluent end 34 hours after the cylinder was first pulled from the tank. During the next 22 hours, the concentrations measured in the central, vertical column of ports (C1.1-C1.12) rose rapidly from less than 1 ppm to over 190 ppm. Since the solubility of PCE at 20° C has been reported as ~ 200 ppm, the water at the center of the tank was essentially saturated with PCE. The evolution of the plume as measured across the middle horizontal row of sampling ports (R2.1-R2.23) is shown in Figure 3. The concentration profiles for the top horizontal row of ports (R1.1-R1.23) and for the bottom horizontal row of ports (R3.1-R3.23) were very similar to that shown for the middle horizontal row. Maximum concentrations for the top and bottom horizontal rows were also essentially saturated at 194 and 181 ppm, respectively.

After increasing the mean water velocity from 30 to 60 cm/day, the concentrations along R2 were monitored regularly for signs of change. After 48 hours it became clear that the concentrations had undergone small but definite changes. In particular, the concentration profile along the row became slightly sharper. Although the transverse dispersion coefficient was undoubtedly increased by the increase in velocity, the residence time in the tank was decreased significantly. The overall result was a reduction in the effects of transverse dispersion as measured at the efflu-

ent end of the tank. Once the new steady-state was reached, the concentrations were again measured at all points. The R2 concentration profile is plotted in Figure 4. The R1 and R3 concentration profiles were very similar to those along R2.

Increasing the mean water velocity to 100 cm/day did not appear to have any further effect on the shape of the steady-state profile (Figure 4). However, decreasing the water velocity to 10 cm/day did make the profile even broader than was observed at 30 cm/day (Figure 4). Good reproducibility was obtained when the flow through the tank was cycled again through the four different velocities.

Modeling

Assuming that the dissolved PCE in the model aquifer was not subject to any chemical or biological reactions, then its transport was controlled entirely by advection and hydrodynamic dispersion. Under steady, uniform flow in a homogeneous, isotropic medium, transport of a stable tracer from a vertical line source can be described by the advection-dispersion equation:

$$\frac{\partial C}{\partial t} = D_L \frac{\partial^2 C}{\partial x^2} + D_h \frac{\partial^2 C}{\partial y^2} - \bar{v} \frac{\partial C}{\partial x} \qquad (2)$$

where C is the solute concenration, $\bar{v}$ is the mean water velocity, and D_L and D_h are the coefficients of longitudinal and transverse dispersion, respectively (Freeze and Cherry, 1979).

Once steady-state has been reached, transverse dispersion will control the width of the plume (Harleman and Rumer, 1963), in which case the plume width will increase steadily with distance from the source. If the ground-water flow rate is constant, then the shape of the plume can also be related to the transport time from the source. Under those conditions and for a source with half width = h, the concentration profile across the plume at any time "t" can be described by (Crank, 1975):

$$C = \left(\frac{C_o}{2}\right)\left[\operatorname{erf}\left(\frac{h-y}{2\sqrt{D_h t}}\right) + \operatorname{erf}\left(\frac{h+y}{2\sqrt{D_h t}}\right)\right] \qquad (3)$$

where y is the lateral distance from the center of the plume, and C_o in this case is the saturation concentration. Equation (3) can also be expressed in terms of distance (x) from the source:

$$C(x,y) = \left(\frac{C_o}{2}\right)\left[\operatorname{erf}\left(\frac{h-y}{2\sqrt{D_h x/\bar{v}}}\right) + \operatorname{erf}\left(\frac{h+y}{2\sqrt{D_h x/\bar{v}}}\right)\right] \qquad (4)$$

The concentration profiles measured along R2 for each of the eight steady-state plumes were fitted to equation (3) using the Levenberg-Marquardt method of nonlinear least-squares fitting (Press et al., 1986). Although the half-width of the residual zone itself was known, the half-width of the plume near the source is likely to have been less than the half-width of the source due to flow convergence downgradient of the source as caused by the reduced permeability within the source. Therefore, it was necessary to fit values for both D_h and h simultaneously. The results for the eight experiments are given in Table 2. Each t value given was calculated by dividing the distance between the downgradient end of the source and the inlet side of the C row of sampling needles by the appropriate water velocity. Representative steady-state plume cross sections generated by using the best-fit parameters for equation (3) are plotted in Figure 5 together with the corresponding experimental data.

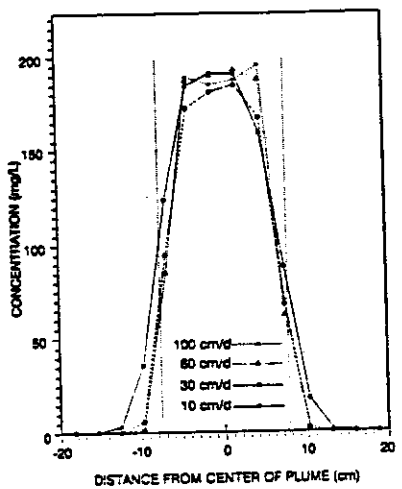

Fig. 4. Steady-state concentrations of PCE across the middle row of sampling ports (R2) for experiment 1 at 10, 30, 60, and 100 cm/day.

The values obtained for D_h are within the range usually observed in laboratory experiments (Anderson, 1979). Analysis of the data by means of an F-test shows that the increase in the value of D_h with increasing velocity is highly significant. The fact that a tenfold increase in the velocity only resulted in about a threefold increase in the value of D_h confirms that the conditions in the model aquifer were such that dispersive transport was affected by both molecular diffusion and mechanical dispersion according to the relationship $D_h = D^* + \alpha_h \bar{v}$ where D^* is the molecular diffusion coefficient, α_h is the transverse dispersivity, and $\bar{v}$ is the velocity.

Table 2. Values of h and D_h from the Nonlinear Fitting of the Experimental Data to Equation (3)

Steady-state plume[a]	Time (hours)	h (cm)	D_h (cm^2/s)
10-1	114.3	7.24	0.78×10^{-5}
10-2	114.3	7.18	0.79×10^{-5}
30-1	40.8	6.58	1.44×10^{-5}
30-2	40.8	7.07	1.03×10^{-5}
60-1	20.9	6.65	1.41×10^{-5}
60-2	20.9	6.82	1.87×10^{-5}
100-1	12.1	6.74	2.28×10^{-5}
100-2	12.1	6.62	2.68×10^{-5}

[a] The plume number indicates the nominal mean water velocity in cm/day and specifies whether it was the initial steady-state value (−1) or the repeat (−2).

Examination of the best-fit values of h listed in Table 2 indicates a slight decrease in h with increasing mean water velocity. However, this trend was not statistically significant. The mean value for h was 6.89 cm. Twice this half-width is 13.8 cm, which is 90% of the inside diameter (i.d.) of the sheet-metal cylinder used to generate the residual zone (15.2 cm). Application of equation (1) with F = 0.90 indicates that a relative permeability of 0.82 would narrow the streamlines to this extent. This is very consistent with the k_r value that would be expected for an R_t of 13% (Kueper and Frind, 1992).

Conclusions

Five possible explanations for commonly observed low-concentration CHC plumes were proposed at the outset of this work. Data from the physical model studies reported here allow two of those explanations to be eliminated. First, flow through the residual zone does not appear to be strongly affected by the presence of pure CHC phase. Indeed, fingers of CHC solvent in the saturated zone will generally create plumes of solvent-contaminated water which possess initial widths that are similar to the widths of the fingers themselves. Second, the dissolved concentration of PCE flowing through a residual zone can be expected to rise quickly to near-saturation values. Thus, the typically low ground-water concentrations observed in the field are not likely due to limited dissolution from zones where PCE is at residual saturation. Elimination of these two possibilities leaves three potential reasons for low aqueous-phase concentrations: (1) the tendency of the majority of a dense solvent fluid to accumulate on the tops of bedding planes in the saturated zone and form one or more flat source zones that present very low cross-sectional areas to the oncoming ground-water flow; (2) dispersion in the zone downgradient of the source; and/or (3) dilution of thin and/or narrow plumes by uncontaminated water in monitoring and pumping wells which are screened over several meters. Theoretical and experimental examinations of these last three possibilities are discussed elsewhere (Anderson et al., 1992; Johnson and Pankow, 1992).

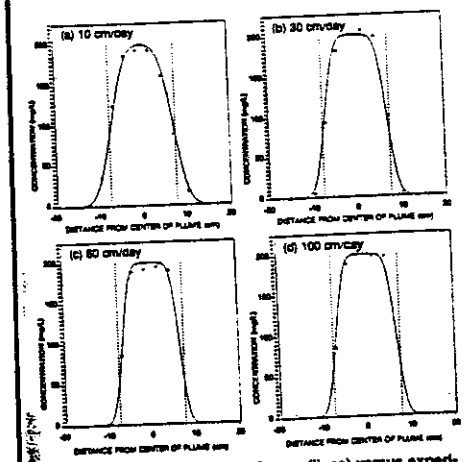

Fig. 5. Modeled steady-state plumes (lines) versus experiment 1 results (triangles).

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The Behavior of Dense, Nonaqueous Phase Liquids in Fractured Clay and Rock

by Bernard H. Kueper[a] and David B. McWhorter[b]

Abstract

This paper examines the behavior of dense, nonaqueous phase liquids (DNAPLs) in fractured clay and rock. The conditions under which a DNAPL will enter an initially water-saturated, rough-walled fracture are outlined and expressed in a number of ways, including the height to which a DNAPL pool can accumulate above a fracture prior to initial entry. To study the behavior of DNAPL in a rough-walled fracture following initial entry, numerical simulations are carried out both in the plane of a fracture using a discrete representation of fracture roughness, and at a larger scale of averaging using an equivalent homogeneous porous media approach. The simulations illustrate that DNAPL will migrate through the larger aperture regions of a fracture plane, and that the DNAPL has the potential to enter progressively smaller aperture fractures with depth as it migrates. Additional numerical simulations indicate that the time taken for a nonaqueous phase liquid to traverse a fractured aquitard is inversely proportional to the fracture aperture, the fracture dip from the horizontal, and the height of the pool collected above the aquitard. It is also demonstrated that upward hydraulic gradients across a fractured aquitard can significantly slow the downward rate of DNAPL migration while downward water gradients enhance the rate of DNAPL migration across the aquitard.

Introduction

Dense, nonaqueous phase liquids (DNAPLs) such as chlorinated solvents, creosotes, and PCB oils are a common cause of ground-water contamination in many industrialized areas. These compounds are relatively inexpensive to produce and have a wide variety of uses in a large number of industries. The potential for ground-water contamination by DNAPLs is high because their high rates of production and high frequency of handling increase the likelihood of spills or uncontrolled releases. DNAPLs also typically give rise to ground-water contamination as a result of leaking storage and waste disposal facilities, as well as through negligent disposal practices.

Dense, nonaqueous phase liquids are heavier than water and often less viscous than water. They are usually introduced into the subsurface environment as a separate liquid where they partition to the air, water, and solid phases, often giving rise to dissolved levels of contamination orders of magnitude greater than drinking-water guidelines imposed by regulatory agencies. Schwille (1988) lists the physical and chemical properties of many DNAPLs of concern to contaminant hydrogeologists. Figure 1 illustrates schematically an accidental release of DNAPL at the ground surface. Shown is a DNAPL that has migrated through unconsolidated sediments, and is pooling on the surface of a fractured clay aquitard. If DNAPL enters open fractures that may exist in the aquitard, it may be transmitted to a lower aquifer in the system. Remediation efforts carried out in the upper aquifer may be successful in removing much of the DNAPL contamination locally, but will have little effect in removing contamination from either the fractured clay unit, or from the lower aquifer. Note that the fractures provide not only a pathway for the migration of liquid phase DNAPL, but also for the migration of dissolved phase DNAPL originating in both the upper aquifer and the fractured aquitard.

Figure 2 illustrates a second common ground-water contamination scenario involving the migration of DNAPL through a fractured clay liner. Shown is a clay-lined waste disposal pond constructed in a surficial, unconfined aquifer. The fractures that exist in the clay liner may have been the result of inadequate construction practices, or possibly the result of desiccation prior to the use of the facility. Also, lateral stresses imposed on the liner after intial use of the pond may have resulted in the propagation of fractures. In other instances, the disposal pond may have been excavated into a natural deposit of fractured clay. Various studies (e.g., Sabourin, 1989; D'Astous et al., 1989) have illustrated that it cannot be assumed that naturally occurring clay is devoid of fractures, even at substantial depths below the water table.

The purpose of this paper is to outline the conditions under which a dense, nonaqueous phase liquid can enter a rough-walled, initially water-saturated fracture, and to examine through the use of numerical modeling the subsequent behavior of this liquid within the fracture. A rough-walled fracture is defined in this context as a fracture exhibiting a spatially variable aperture distribution. An analysis is also carried out to investigate the sensitivity to physical and hydraulic properties on the migration rate of DNAPL through fractures.

Entry Conditions

In a multiphase system, it is instructive to envision an infinitesimally thin interface separating mutually immiscible liquids. Molecules present on this interface will be preferentially attracted to molecules of their own type present in the respective bulk volumes of liquid. The result is that the interface is in a state of tension, and that it seeks a state of minimum area. The liquid on the concave side of the interface exists at a pressure greater than that of the liquid on the convex side of the interface such that the system is at equilibrium with the contracting force exerted by the interface. The pressure drop which exists between the fluids on either side of the interface is referred to as the capillary pressure.

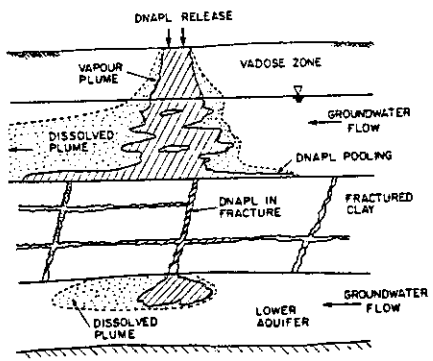

Fig. 1. Schematic contamination scenario arising from a spill of dense, nonaqueous phase liquid.

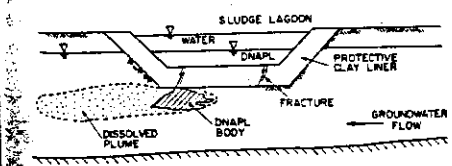

Fig. 2. Schematic representation of dense, nonaqueous phase liquid leaking from a liquid disposal pond.

In the presence of a solid surface, one fluid will preferentially "wet" the surface. For the case of a two-liquid system, the angle between the interface separating the two liquids and the solid surface is referred to as the contact angle. The liquid through which the contact angle is measured to be less than 90 degrees is by definition the wetting liquid. If the contact angle is zero, this liquid is said to "perfectly" wet the solid. The wetting liquid is present on the convex side of any curved interface separating immiscible liquids. The fluid present on the concave side of the interface is referred to as the nonwetting fluid. Throughout this paper it is assumed that the fractures of interest are initially completely saturated with water, and that water is perfectly wetting with respect to DNAPL on the fracture. The reader is referred to Vold and Vold (1983) for a further discussion of interfacial tension and contact angle.

As described above, interfacial tension forces give rise to a pressure discontinuity across any curved interface separating two mutually immiscible liquids. This pressure difference is referred to as the capillary pressure, and is defined as (Bear, 1972):

$$P_C = P_{NW} - P_W \tag{1}$$

where P_C is the capillary pressure [Pa], P_{NW} is the nonwetting phase (DNAPL) pressure [Pa], and P_W is the wetting phase (water) pressure [Pa]. In order for DNAPL to enter an open fracture, the capillary pressure at the entrance to the fracture must exceed the entry pressure of the fracture such that the curvature of the DNAPL-water interface allows this interface to physically penetrate the fracture. The entry pressure of a fracture is a function of the geometry of the opening exposed to DNAPL. As is illustrated in Figure 3, for a rough-walled fracture with a variable distribution of apertures, this opening will be irregular in shape. If we assume that locally this irregular opening takes the shape of two parallel plates, then a force balance yields the following entry pressure:

$$P_E = \frac{2\sigma \cos\theta}{e} \tag{2}$$

where P_E is the entry pressure of the fracture [Pa], σ is the interfacial tension between the DNAPL and water [N/m], θ is the contact angle measured through the wetting phase, and e is the fracture aperture [m]. If, on the other hand, we assume that locally the fracture opening is circular in shape, we arrive at the following expression for the entry pressure:

$$P_E = \frac{4\sigma \cos\theta}{e} \tag{3}$$

As with equation (2), equation (3) shows that the larger aperture regions of a fracture exhibit the lowest entry pressures to the entry of DNAPL. Also, the entry pressure of a

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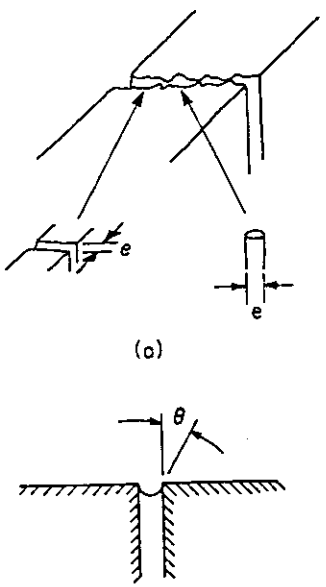

Fig. 3. (a) Entrance geometry of a rough-walled fracture along with two possible idealizations of this geometry; (b) contact angle and position of interface upon initial entry.

fracture is seen to be directly proportional to the interfacial tension between the liquids of concern. In this study it is assumed that water is perfectly wetting with respect to DNAPL such that $\cos\theta = 1$.

Equations (2) and (3) represent extremes for the fracture entry pressure. In practice, the initial entry of DNAPL into a fracture will take place through an irregular shaped opening with an associated entry pressure between the two values above. It is likely, however, that locally the DNAPL-water interface at the entrance of a fracture will be elongated in shape, parallel to the fracture plane. Hence, the actual entry pressure of a fracture will most often approach that given by equation (2). In this study we will be conservative and assume that the fracture entry pressure is given by this relation, which is the lower of the two extremes presented.

As previously stated, the capillary pressure of the DNAPL-water system immediately above the fracture must exceed the entry pressure of the fracture in order for penetration to occur. The capillary pressure immediately above the fracture may be expressed as a height of DNAPL pooled if we assume static equilibrium. Figure 4(a) (on the left) illustrates DNAPL pooled above a fracture at the base of a sludge pond. Figure 4(b) (center) presents the associated equilibrium pressure profiles in both the DNAPL and water phases. The slope of the DNAPL pressure profile is proportional to the density of the DNAPL. The height of pool required to bring about initial entry into the exposed fracture is given by:

$$H_D = \frac{2\sigma}{\Delta\rho g e} \qquad (4)$$

where H_D is the height of DNAPL pooled [m], $\Delta\rho$ is the density difference between the DNAPL and water [kg/m^3], and g is gravity [m/s^2]. Recall that equation (4) was arrived at using a fracture entry pressure given by equation (2).

For the case of a DNAPL ponded on top of a fracture in a porous medium, the identical pressure profiles as those in Figure 4(b) and pool height as in equation (4) are obtained if it is assumed that the top of the DNAPL pool exists at zero capillary pressure. This will be the case if the top of the pool has last existed under imbibition conditions, such as when residual is formed at the trailing edge of a sinking DNAPL body. If, however, the top of the DNAPL pool exists under drainage conditions, then the capillary

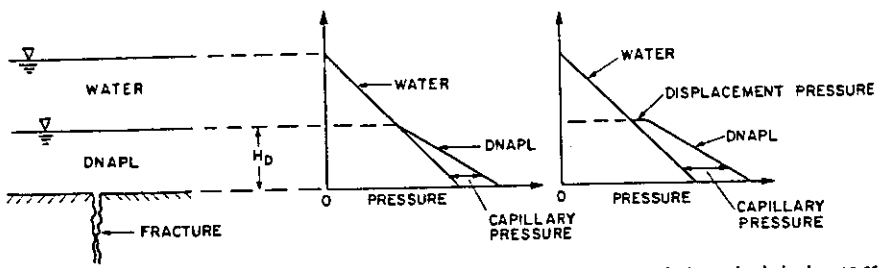

Fig. 4. (a) DNAPL pooled above a fracture; (b) equilibrium profiles for the case of DNAPL at the base of a sludge lagoon or DNAPL in a porous medium where the top of the pool exists under imbibition conditions; (c) equilibrium pressure profiles for the case of DNAPL pooled in a porous medium where the top of the pool exists under drainage conditions.

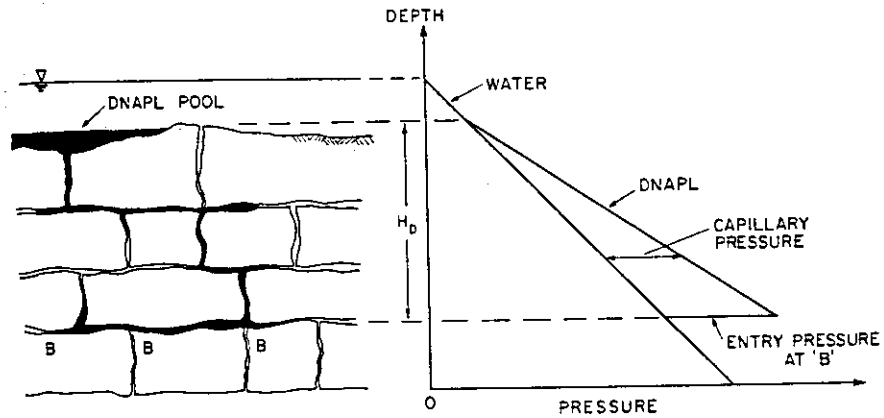

Fig. 5. Pressure profiles for DNAPL at hydrostatic equilibrium in a network of fractures.

pressure at the top of the pool will equal the displacement pressure of the porous medium. The displacement pressure of a porous medium is analogous to the entry pressure of a fracture in that it is the threshold capillary pressure required to bring about initial entry of a nonwetting liquid. In such cases, the equilibrium pressure profiles illustrated in Figure 4(c) (on the right) apply, and the height of pool that can exist prior to the initial entry of DNAPL into the exposed fracture is given by:

$$H_D = \frac{2\sigma}{\Delta\rho g e} - \frac{P_D}{\Delta\rho g} \qquad (5)$$

where P_D is the displacement pressure of the porous medium [Pa]. For coarse-grained materials and those containing root and worm holes, P_D will be negligible and the expression in equation (5) will approximately equal that in equation (4). On the other hand, fine-grained materials void of preferential pathways are likely to exhibit a distinct displacement pressure, and for the conditions outlined will lead to a shorter height of DNAPL pool that can exist prior to initial entry than for imbibition conditions.

It should be noted that the expressions for H_D given above are independent of the depth below the water table. It should also be noted that these expressions assume that the water in the fracture is in hydraulic connection with the water above the DNAPL pool for the case of the sludge pond, and with the water within the DNAPL pool for the case of a porous medium overlying the fracture. If this is not the case, then the expressions in equations (4) and (5) must be derived for the new wetting phase pressure within the fracture. Examples of where the water pressure in the fracture will not be at hydrostatic equilibrium with the water outside the fracture include cases of ground-water pumping from below the DNAPL pool, and cases where the water table outside a sludge lagoon does not correspond to the water level within. In such cases, the wetting phase pressure within a fracture immediately below a DNAPL pool may be less than that illustrated in Figure 4, and a shorter pool height will be supported prior to entry due to the increased capillary pressure at the entrance of the fracture. It follows that pumping of ground water from below a fractured aquitard may induce DNAPL pooled above the aquitard to enter previously uninvaded fractures.

The pressure profiles presented in Figure 4 also can be developed for a fractured medium already invaded by DNAPL. Figure 5 illustrates a network of fractures containing DNAPL where the vertical extent of migration has been halted due to a narrowing of the fractures with depth. The case of zero capillary pressure at the top of the DNAPL pool has been chosen for illustration. Only those fractures with entry pressures less than the capillary pressure of the DNAPL-water system are invaded. If we assume that both the DNAPL and water are at hydrostatic equilibrium, then the pressure profiles in Figure 5 illustrate that the DNAPL has the potential to invade progressively smaller aperture fractures with depth. With H_D taken as the distance from the top of the DNAPL pool to the intersecting fracture of interest, equations (4) and (5) can be used to estimate the minimum aperture potentially invaded.

Figure 6 illustrates the height of DNAPL pooled versus fracture aperture invaded using the results of equation (4). The figure was constructed using a variety of interfacial tensions and an assumed DNAPL density of 1600 kg/m^3. This DNAPL density corresponds to that of tetrachloroethylene, a common industrial solvent. As shown, the height of pool required to invade a given aperture fracture varies extensively depending upon the value of interfacial tension. For the outlined conditions, shallow pools are capable of

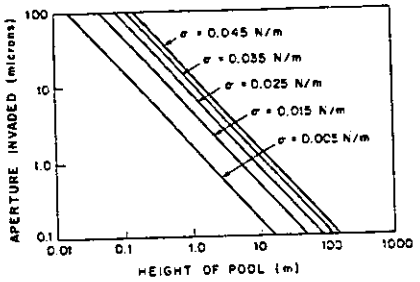

Fig. 6. Height of pool versus aperture invaded assuming a DNAPL density of 1600 kg/m^3 and that the top of the pool exists under imbibition conditions.

invading fractures as small as 100 microns, while relatively high pools are required to invade the extremely small apertures. In practice, a relatively high pool of DNAPL can only collect above a fracture if there are lateral restrictions to flow in the medium immediately above the fracture. Examples of such conditions include depressions in a bedrock or clay surface and the lateral confining walls of a sludge lagoon.

In practice, the height of a DNAPL pool cannot always be measured or estimated, but undisturbed bulk porous media samples can be obtained from the base of a porous medium where DNAPL is thought to be pooled above fractures. The percentage of pore space occupied by a DNAPL in a porous medium is a function of the capillary

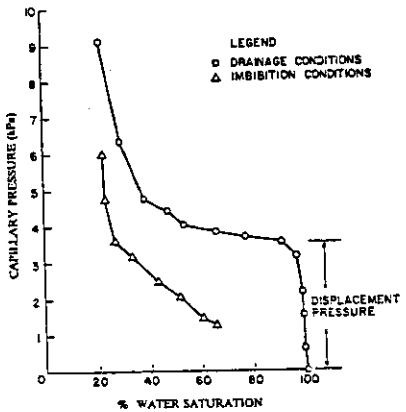

Fig. 7. Tetrachloroethylene-water capillary pressure-saturation curve for #70 silica sand (from Kueper and Frind, 1988). Water saturation is expressed as a percentage of pore space.

pressure at which the DNAPL and water exist. Since this capillary pressure determines whether or not the fracture entry pressure has been exceeded, an estimate of whether or not a given aperture fracture has been invaded can be made given knowledge of DNAPL saturation immediately above the fracture.

The relationship between capillary pressure and DNAPL saturation for a porous medium is best expressed through the use of a capillary pressure-saturation curve, which is easily measured in the laboratory (Corey, 1986). An example of such a curve is given in Figure 7. The illustrated curve presents the main drainage and main wetting portions of a tetrachloroethylene-water capillary pressure curve measured in a well-sorted, fine-grained sand. It can be seen that higher capillary pressures correspond to higher nonwetting phase saturations (in accordance with the fact that higher capillary pressures are required to invade progressively smaller pore throats). DNAPL at higher saturation in saturated porous media overlying fractured material therefore has the potential to invade progressively smaller aperture fractures. Given knowledge of this curve for a practical case, and knowledge of DNAPL saturation in an obtained sample, a minimum aperture invaded can be approximated using equation (2). The reader is referred to Corey (1986) for further discussion of porous media capillary pressure-saturation curves.

The capillary pressure curve illustrated in Figure 7 is for a fine-grained sand. Lower permeability sands will in general exhibit capillary pressure curves shifted vertically upwards, while higher permeability materials will generally exhibit a vertical downward shift of the curves shown. For a given fracture entry pressure, it follows that lower DNAPL saturations are required above a fracture in a lower permeability sand to bring about invasion into a given aperture fracture. The relationship between capillary pressure and porous media permeability can be approximated by a variety of expressions including that of Leverett (1941):

$$Pc_D = \frac{Pc}{\sigma}\left(\frac{k}{\phi}\right)^{\alpha} \qquad (6)$$

where Pc_D is a dimensionless capillary pressure, Pc is the capillary pressure of interest [Pa], σ is the interfacial tension [N/m], k is the porous media permeability [m^2], ϕ is the media porosity, and α is a curve-fitting parameter obtained by fitting the above relationship to laboratory-obtained capillary pressure-saturation measurements. In addition to the relationship between capillary pressure and permeability, various empirical expressions have been suggested to relate capillary pressure to saturation for porous media (Brooks and Corey, 1964; Su and Brooks, 1975; van Genuchten, 1980). The relationship of Brooks and Corey (1964) is particularly well-suited to describe the main drainage portion of the capillary pressure-saturation curve for materials void of preferential pathways such as root or worm holes. This relationship is given by (Brooks and Corey, 1964):

$$S_e = \left(\frac{Pc}{P_D}\right)^{-\lambda} \qquad (7)$$

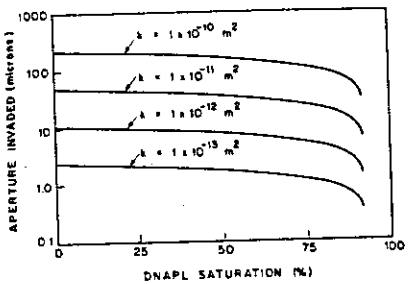

Fig. 8. Saturation of tetrachloroethylene versus aperture invaded for sands investigated by Kueper (1989). Degree of saturation is expressed as a percentage of pore space. The figure utilizes σ = 0.0045 N/m, ϕ = 0.034, α = 0.65, P_{cD} = 0.00558, λ = 2.45, and S_r = 0.0078.

where Pc is the capillary pressure of interest [Pa], P_D is the displacement pressure [Pa] of the porous medium giving rise to the initial entry of nonwetting liquid, λ is a pore-size distribution index reflecting grain sorting, and S_e is an effective wetting phase saturation given by:

$$S_e = \frac{S_w - S_r}{1 - S_r}, \qquad 0 \le S_e \le 1 \qquad (8)$$

where S_w is the wetting phase saturation, and S_r is a curve-fitting parameter intended to represent residual wetting phase saturation.

If we substitute equations (7) and (8) into equation (6), and utilize the expression for fracture entry pressure given by equation (2), we can construct a graph relating DNAPL saturation in a porous medium overlying a fracture versus minimum fracture aperture invaded. Figure 8 illustrates such a graph for the sands investigated by Kueper and Frind (1991b). The parameters used to construct the graph are given in the figure caption. It should be pointed out that Figure 8 is unique to the sands investigated by Kueper and Frind (1991b), and that the parameters required in equations (6)-(8) will be site-specific. The figure clearly shows that a given degree of DNAPL saturation corresponds to potential invasion of smaller aperture fractures if the DNAPL is present in lower permeability media.

DNAPL Migration Following Initial Entry

General

Once having entered a fracture network or individual fracture, DNAPL will migrate through the largest aperture pathways available at the advancing DNAPL front. Intersecting fractures will be invaded if the capillary pressure of the DNAPL-water system exceeds the required entry pressure. The DNAPL will in general prefer to migrate vertically downwards in response to gravity forces, but will exhibit significant lateral flow if vertical migration pathways are incapable of accepting the incoming flux of DNAPL, or are nonexistent. It is important to note that DNAPL will not invade all fractures in the vicinity of a release, but only those fractures which exhibit entry pressures less than the capillary pressure of the DNAPL-water system. Also, because DNAPL is heavier than water, it will have the potential to enter dead-end vertical or high-angle fractures which are not part of the active ground-water flow system. DNAPL having entered such fractures is extremely difficult to remove by hydraulic means. DNAPL present in such isolated fractures is also difficult to contact with circulating waters, thereby limiting the effectiveness of any remedial technology based on the injection of chemical agents.

Following a finite volume release of DNAPL into fractured media, residual DNAPL will be formed at the trailing edge of the migrating body. This residual may take the form of small, disconnected blobs and filaments trapped against the smaller aperture regions of a fracture plane, or it may take the form of large pools occupying several interconnected fractures. The large pools are potentially mobile and will flow into open boreholes. These pools may also mobilize in response to changes in formation-water pressure brought about by drilling or pumping, and in such cases may migrate into previously uninvaded fractures resulting in a worsening of the extent of DNAPL contamination. It should also be mentioned that DNAPL which enters an open borehole at a given elevation will have the potential to exit the bottom of the borehole upon accumulation. The minimum fracture aperture invaded at the bottom of the well can be calculated given knowledge of the height of DNAPL accumulated and use of the equations presented in the previous section.

Numerical Simulation of DNAPL Behavior in a Rough-Walled Fracture Plane

To demonstrate that DNAPL will preferentially migrate through a fracture along the larger aperture pathways, numerical simulations are carried out here in a single, rough-walled fracture plane. In a rough-walled fracture, the nonwetting phase will not displace the wetting phase in a piston-like manner. Rather, there will be a simultaneous flow of both liquids with the nonwetting liquid occupying the larger aperture flow channels. Higher capillary pressures will result in the invasion of progressively smaller aperture regions of the fracture plane, and the displacement of greater amounts of wetting liquid. The movement of two mutually immiscible liquids through a rough-walled fracture is analogous to the movement of such liquids through porous media, where the distribution of apertures within the fracture parallels the distribution of pores and pore throats in a porous medium.

The movement of DNAPL and water through a rough-walled fracture can be treated mathematically as a case of two-phase flow. In a two-dimensional cartesian coordinate system (x, z) in the plane of a fracture, we can write an expression of mass conservation for the wetting and nonwetting phases, averaged over the aperture of the fracture as:

$$-\frac{\partial(\rho_w q_{w,i} e)}{\partial x_i} = \frac{\partial(\phi S_w \rho_w)}{\partial t} e, \quad i, j = x, z \quad (9)$$

$$-\frac{\partial(\rho_{NW} q_{NW,i} e)}{\partial x_i} = \frac{\partial(\phi S_{NW} \rho_{NW})}{\partial t} e, \quad i, j = x, z \quad (10)$$

where ρ_w and ρ_{NW} are the densities of the wetting and nonwetting phases respectively [kg/m^3], $q_{w,i}$ and $q_{NW,i}$ are the fluxes of the wetting and nonwetting phases respectively [m/s], S_w and S_{NW} are the wetting and nonwetting phase saturations respectively, ϕ is the porosity, e is the fracture aperture [m], and t is time [s]. Assuming that both the wetting and nonwetting phases occupy their own set of flow channels within the fracture plane, and taking z in the vertical direction, we can represent the wetting and nonwetting phase fluxes by Darcy's law as follows:

$$q_{w_i} = -\frac{k_{ij}\, k_{rw}}{\mu_w}\left(\frac{\partial P_w}{\partial x_j} + \rho_w g \frac{\partial z}{\partial x_j}\right), \quad i, j = x, z \quad \ldots (11)$$

$$q_{NW_i} = -\frac{k_{ij}\, k_{rNW}}{\mu_{NW}}\left(\frac{\partial P_{NW}}{\partial x_j} + \rho_{NW} g \frac{\partial z}{\partial x_j}\right), \quad i, j = x, z \quad \ldots (12)$$

where k is the permeability of the fracture [m^2], k_{rw} and k_{rNW} are the relative permeabilities to the wetting and nonwetting phases respectively, μ_w and μ_{NW} are the viscosities of the wetting and nonwetting phases respectively [Pa · s], and g is gravity [m/s^2]. If we assume that both the fracture and the fluids are incompressible, and if we substitute Darcy's law for the fluid fluxes q_w and q_{NW} into equations (9) and (10), we arrive at the following continuity equations:

$$\frac{\partial}{\partial x_i}\left[\frac{e k_{ij}\, k_{rw}}{\mu_w}\left(\frac{\partial P_w}{\partial x_j} + \rho_w g \frac{\partial z}{\partial x_j}\right)\right] = e\phi \frac{\partial S_w}{\partial t}, \quad i, j = x, z \quad (13)$$

$$\frac{\partial}{\partial x_i}\left[\frac{e k_{ij}\, k_{rNW}}{\mu_{NW}}\left(\frac{\partial P_{NW}}{\partial x_j} + \rho_{NW} g \frac{\partial z}{\partial x_j}\right)\right] = e\phi \frac{\partial S_{NW}}{\partial t}, \quad i, j = x, z \quad (14)$$

These two equations are coupled through the capillary pressure relation given by equation (1), and are subject to:

$$S_w + S_{NW} = 1.0 \quad (15)$$

In typical contaminant hydrogeology applications, the fracture of interest is initially void of nonwetting fluid. Even after invasion by nonwetting fluid, there will be regions of the fracture plane occupied only by wetting fluid. To incorporate these physical conditions into the mathematical formulation, we substitute the capillary pressure relation given by equation (1) and the saturation constraint given by equation (15) into equation (14). We will also assume locally isotropic conditions, allowing us to neglect the cross-derivative terms in equations (11) and (12). Following these substitutions, the final continuity equations governing the flow of two immiscible liquids through a two-dimensional fracture plane written in terms of the spatial coordinates x and z are:

$$\frac{\partial}{\partial x}\left[\frac{ekk_{rw}}{\mu_w}\left(\frac{\partial P_w}{\partial x}\right)\right] + \frac{\partial}{\partial z}\left[\frac{ekk_{rw}}{\mu_w}\left(\frac{\partial P_w}{\partial z} + \rho_w g \frac{\partial z}{\partial z}\right)\right] = \phi e \frac{\partial S_w}{\partial t} \quad (16)$$

$$\frac{\partial}{\partial x}\left[\frac{ekk_{rNW}}{\mu_{NW}}\left(\frac{\partial (P_w + P_c)}{\partial x}\right)\right] + \frac{\partial}{\partial z}\left[\frac{ekk_{rNW}}{\mu_{NW}}\left(\frac{\partial (P_w + P_c)}{\partial z} + \rho_{NW} g \frac{\partial z}{\partial z}\right)\right] = -\phi e \frac{\partial S_w}{\partial t} \quad \ldots (17)$$

The dependent variables in equations (16) and (17) are the wetting phase pressure and the wetting phase saturation, each of which is continuous throughout the solution domain regardless of whether one or two fluid phases are present. The equations include two strong nonlinearities, the dependence of the relative permeabilities, k_{rw} and k_{rNW} on saturation, and the dependence of P_c on saturation.

To complete the numerical formulation, boundary conditions must be specified along all edges of the solution domain. These can take the form of specification of the dependent variables, P_w and S_w, or specification of the first derivative of the dependent variable normal to the boundary. At least one form of boundary condition must be specified for each dependent variable describing the state of the system at $t = 0$.

Equations (16) and (17) are solved here using a block-centered finite difference scheme (Aziz and Settari, 1979; Peaceman, 1977). The scheme is fully implicit with second-order accurate spatial operators and a first-order accurate time derivative. The intrinsic permeabilities are defined using harmonic means, and the relative permeabilities are defined based on saturation at the upstream node (Aziz and Settari, 1979). The nonlinear nature of the governing equations is dealt with using full Newton-Raphson iteration. The resulting set of matrix equations is solved with an iterative solver (Letniowski, 1988) utilizing Orthomin acceleration (Vinsome, 1976) and block DKR preconditioning (Dupont et al., 1968). The numerical solution of the governing equations outlined is similar to that used by Kueper and Frind (1991a) to solve the equations governing two-phase flow in porous media.

To demonstrate the behavior of DNAPL in a rough-walled fracture, the numerical model is applied in the solution domain illustrated in Figure 9 (a). The solution domain is a 4.5 m wide by 1.5 m high fracture plane exposed to a 6.7 cm high pool of trichloroethylene, a common industrial solvent. The fluid properties assigned are listed in Table 1. The fracture plane is discretized into 16,875 finite-difference cells with a nodal spacing of 2.0 cm in the x and z directions. The contours shown in Figure 9 (a) represent the heterogeneous distribution of nodal apertures.

The fracture apertures were numerically generated using the Turningbands method (Mantoglou and Wilson, 1981), assuming that the apertures follow a lognormally distributed, two-dimensional, spatially correlated random field. A lognormal distribution of apertures within a single fracture has been suggested by various workers including Gale et al. (1987) who measured such distributions in fractured crystalline rock. The aperture field generated here is characterized by a mean aperture of −1.759 (ln mm) and a standard deviation of 0.734. These statistics are similar to those obtained by Gale et al. (1987). There is, however, a scarcity of data in the published literature regarding the spatial correlation of apertures within a fracture plane. Gelhar (1987) presents a stochastic analysis of single phase flow and transport in a rough-walled fracture, and through comparison to various field tracer tests, suggests that the fractures studied exhibited aperture correlation lengths generally less than a meter. Tsang and Tsang (1989), who treat the void space of a fracture as a two-dimensional heterogeneous system, circumvent the need to specify a physical correlation length by carrying out their work in a fracture plane whose correlation lengths are fractions of the domain size. In this study, we assume that the aperture distribution follows a stationary, exponential autocorrela-

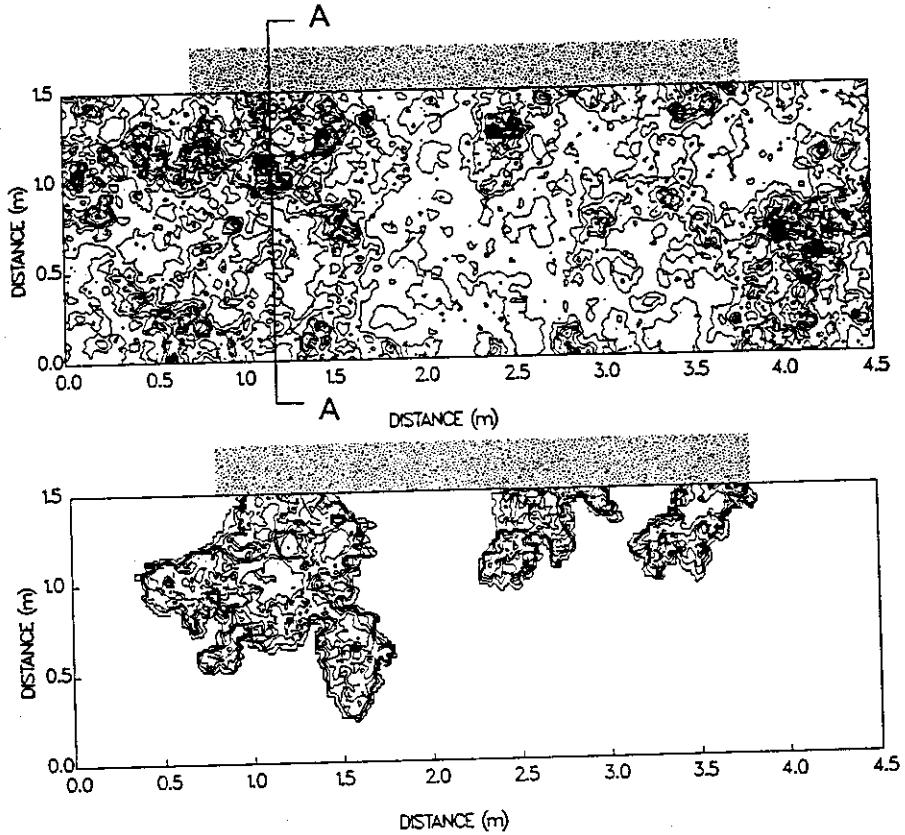

Fig. 9. (a) Solution domain of fracture plane simulation. Contours represent fracture aperture, with a spacing of 100 microns. The apertures shown range from 10 to 2010 microns with the dark regions of closely spaced contours corresponding to the highest aperture regions of the fracture. The shaded area above the fracture plane represents pooled DNAPL. The cross section A-A is presented in Figure 10; (b) distribution of trichloroethylene in fracture plane at t = 40.35 seconds. The outermost contour represents 2% saturation of trichloroethylene, with a contour spacing of 15% saturation.

tion characterized by principal correlation lengths of 0.20 m in the x and z directions. It should be noted that although the aperture distribution generated here yields points in certain regions of the fracture plane with extremely small apertures, actual closure at these points is not attained.

Figure 10 (a) shows a cross section through the fracture plane along a vertical transect 1.2 m from the left-hand side of the solution domain. This transect corresponds to the 60th column of nodes. The heterogeneous nature of the rough-walled fracture is clearly illustrated. Figure 10 (b) is an enlargement of a 0.2 m long portion from near the top of the transect, and shows the nodal discretization used. At this scale of discretization, the fracture is assumed to behave as a set of parallel plates such that the nodal permeabilities can be calculated as (Marsily, 1986):

$$k = \frac{e^2}{12} \tag{18}$$

where e is the specified nodal aperture [m]. A porosity of 1.0 is assigned to each computational cell, and an entry pressure calculated using equation (2).

In addition to a suite of apertures, permeabilities, and porosities, the developed numerical model requires that the functional relationships between capillary pressure and saturation, and between relative permeability and saturation, be specified. Various authors have proposed such relationships for porous media (Brooks and Corey, 1964; Su and Brooks, 1975; van Genuchten, 1980). Eaton and Bixler (1987), in their study of air-water behavior in a fractured volcanic tuff, chose to use the theory of van Genuchten (1980) to construct the functional relationships required for the individual fracture planes incorporated into their numerical simulations. In keeping with the analogy of the simultaneous flow of immiscible liquids through a rough-walled fracture and a porous medium, we adopt here the model of Brooks and Corey (1964). This model has been chosen since it easily allows incorporation of fracture entry pressures defined by fracture apertures.

The Brooks-Corey capillary pressure-saturation model is given by equations (7) and (8). For use in a fracture plane the medium displacement pressure, P_D, is set equal to P_E given by equation (2). The relative permeability to the wetting phase is given by:

$$k_{rw} = S_e^{(2+3\lambda)/\lambda} \tag{19}$$

and the relative permeability to the nonwetting phase as:

$$k_{rNw} = (1 - S_e)^2 (1 - S_e^{(2+3\lambda)/\lambda}) \tag{20}$$

The relationships in equations (18) through (20) are taken to be representative of fluid behavior within an individual computational cell. Since the nodal discretization chosen is below the scale of correlation for the fracture aperture distribution, we assign S_r a relatively small value of 0.01. Conceptually, this corresponds to a microscale roughness of the fracture walls at a scale below that of the nodal discretization, as is illustrated in Figure 10 (c). Brown et al. (1986) measured the roughness of a naturally fractured granodiorite by taking measurements every 0.05 mm along

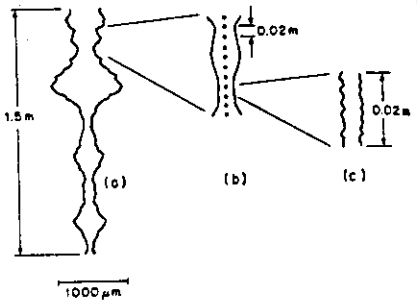

Fig. 10. (a) Vertical cross section through fracture plane 1.2 m from left edge of solution domain; (b) a 0.2 m long portion from near the top of the section showing the scale of nodal discretization; (c) microscale roughness.

various transects of an exposed fracture, and observed a submillimeter scale roughness as that attributed to the fractures studied here. In keeping with this conceptualization, we assign λ a value of 2.0.

Figure 10 (b) illustrates the distribution of trichloroethylene in the solution domain at a time of 40.35 seconds. We see that the 6.7 cm high pool of trichloroethylene could only generate a capillary pressure sufficient to penetrate certain regions of the top of the fracture. The 6.7 cm high pool corresponds to a capillary pressure of 300 Pa, which results in all regions along the top of the fracture with apertures greater than 300 microns being invaded. All regions along the top of the fracture exposed to the DNAPL pool having apertures less than 300 microns are not invaded by DNAPL at any stage of the simulation. The trichloroethylene is migrating through the larger aperture regions of the fracture, entering only those regions where the capillary pressure exceeds the local entry pressure. Although the pool height of trichloroethylene is sufficient to only invade apertures greater than 300 microns along the top of the exposed fracture plane, apertures less than this value are invaded at greater depths in the plane of the fracture since the migrating trichloroethylene body has the potential to generate a maximum capillary pressure at the advancing front proportional to its depth of penetration into the fracture.

Sensitivity to Fracture Properties

In this section, we perform a sensitivity analysis illustrating the influence of various parameters on the time taken for DNAPL to traverse a fractured aquitard separating two aquifers. The one-dimensional form of equations (16) and (17) are solved for in the solution domain illustrated in Figure 11. The one-dimensional form of the governing equations assumes an averaging within the plane of the fracture per unit depth normal to the axis of the fracture. Figure 11 shows DNAPL pooling above an aquitard containing a single, 5 m long rough-walled fracture at an angle α to the

horizontal. The water table in the upper aquifer is 2 m above the surface of the aquitard.

The fracture of interest is discretized using a nodal spacing of 0.25 m. Since this scale of discretization is assumed to be greater than the aperture correlation scale, and since the governing equations represent an averaging across the plane of the fracture, we calculate the nodal permeabilities as (Marsily, 1986):

$$k = \frac{e^2}{12(1.0 + 8.8R_r^{1.5})} \tag{21}$$

where R_r is a relative roughness coefficient imparting a reduction in permeability due to the variation in fracture aperture at the scale of nodal discretization. We assign a value of 0.1 to R_r, representative of a moderately rough fracture plane (Marsily, 1986). It should be noted that equation (21) is only one of a variety of ways of estimating an effective permeability for a rough-walled fracture. The reader is referred to Brown (1987) for a discussion of other methods.

Equation (21) and the functional relationship in equation (7) requires that nodal fracture apertures be specified. Since we are averaging within the plane of the fracture at a scale greater than the aperture correlation scale, this aperture represents an effective value used to define an average entry pressure of the fracture. In the simulations presented here, we assume that the fracture is homogeneous with respect to this effective aperture, and that its value is used to define both the fracture entry pressure given by equation (2), and the fracture permeability given by equation (21).

In addition to an effective large-scale aperture, the mathematical formulation employed requires that appropriate relative permeability-saturation and capillary pressure-saturation functions be specified. Pruess and Tsang (1989) present a method for constructing relative permeability-saturation curves for a rough-walled fracture plane at a scale larger than the correlation scale of the aperture distribution. By conceptualizing the fracture plane as a two-dimensional heterogeneous porous medium, and by approximating the simultaneous flow of both liquids in the fracture plane as two independent single-phase flow events, the authors numerically construct relative permeability curves as a function of saturation. The method employs an accessibility criterion whereby a region of the fracture characterized by a given aperture cannot be invaded by nonwetting liquid until all regions of the fracture with apertures greater than this value are occupied by nonwetting liquid. The curves constructed are similar to those for a porous medium, but they do not attribute a permeability to the nonwetting phase until extremely large values of nonwetting phase saturation have been attained. While this behavior may well be approached in a horizontal fracture, gravity driving forces in a vertical fracture may allow the nonwetting phase to invade smaller aperture regions of the fracture plane without having to first invade all large aperture regions. This would bring about continuous pathways of nonwetting phase liquid at intermediate wetting phase saturations.

We assume here that the flow of two liquids through the one-dimensional fracture plane is again analogous to the flow of two liquids through porous media. As a result, we adopt the same functional relationships as those used in the fracture plane simulations, but we assign λ a value of 1.0, φ a value of 0.80, and S_r a value of 0.10. Because the published literature at present does not appear to provide values for these parameters based on actual field or laboratory measurements, we select these here on the basis of judgment alone.

To illustrate the sensitivity of various parameters to DNAPL migration through the aquitard, the nonwetting fluid is assigned the properties of trichloroethylene. These fluid properties are identical to those used in the fracture plane simulations, and are listed in Table 1. Figure 12 shows the relationship between pool height and the time taken for

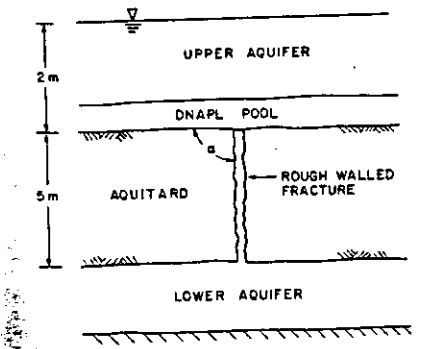

Fig. 11. Solution domain for sensitivity analysis.

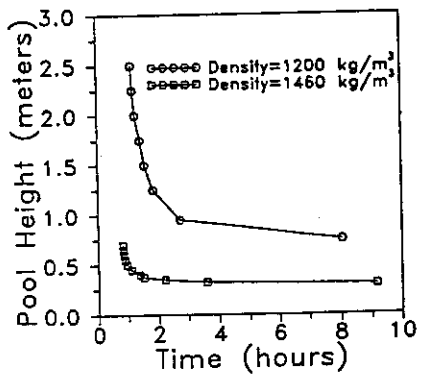

Fig. 12. Pool height versus time for trichloroethylene to first reach lower aquifer. Initial water distribution hydrostatic.

Table 1. Fluid Properties Assigned Numerical Simulations

Wetting phase viscosity (Pa · s)	0.001
Nonwetting phase viscosity (Pa · s)	0.00057
Wetting phase density (kg/m^3)	1000.0
Nonwetting phase density (kg/m^3)	1460.0
Interfacial tension (N/m)	0.045

trichloroethylene to reach the lower aquitard. The time taken for first arrival is based on a minimum of 2% trichloroethylene saturation having reached the lowermost node of the solution domain. The results illustrated in Figure 12 were obtained using an effective aperture of 75 microns, and an initially hydrostatic distribution of wetting phase pressure. The figure shows that shorter times are required for DNAPL to traverse the fracture for higher pool heights. This is due to the fact that a higher pool height results in an increased capillary pressure at the base of the pool, and a correspondingly higher nonwetting phase relative permeability in accordance with higher proportions of the fracture invaded. The curve approaches an asymptote at a pool height of 0.27 m, which is the minimum height required to invade the 75 micron fracture.

Figure 13 illustrates the time taken for trichloroethylene to reach the lower aquifer as a function of the effective aperture of the fracture. The simulation results were obtained for a pool height of 0.5 m. The figure shows that the time required to traverse the fracture is extremely sensitive to fracture aperture, in accordance with the fact that the fracture transmissivity is proportional to the cube of the aperture (Marsily, 1986). The curve illustrated in the figure approaches an asymptote at an aperture of 39.9 microns, which is the smallest aperture invaded by the 0.5 m high pool of trichloroethylene.

Figure 14 illustrates the time taken for trichloroethylene to reach the lower aquifer as a function of the dip of the

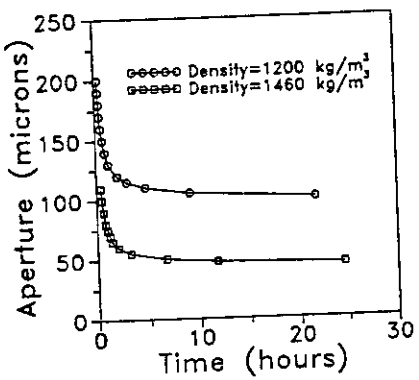

Fig. 13. Aperture versus time for trichloroethylene to first reach lower aquifer for a constant pool height of 0.5 m.

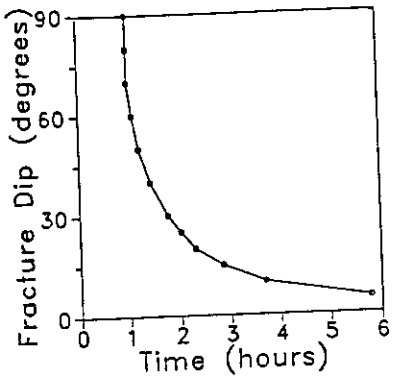

Fig. 14. Fracture dip versus time for trichloroethylene to first reach lower aquifer for a constant pool height of 0.5 m.

fracture. A pool height of 0.5 m was assigned and an effective aperture of 75 microns. The fracture length was held constant at 5.0 m for each simulation, implying a smaller aquitard thickness for a shallower dip of the fracture. The figure shows that the gravity driving force is reduced along shallow dipping fractures, leading to an increase in the time for first arrival at the lower aquifer.

The flux of trichloroethylene entering the top of the fracture versus time is illustrated in Figure 15 for a variety of wetting phase gradients across the aquitard. This set of

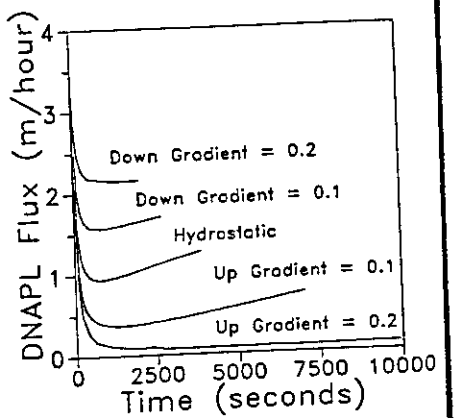

Fig. 15. Flux of nonwetting fluid entering top of fracture versus time for a variety of wetting phase gradients across the aquitard. A negative gradient corresponds to a downward flow of water across the aquitard, a positive gradient to an upward flow of water across the aquitard.

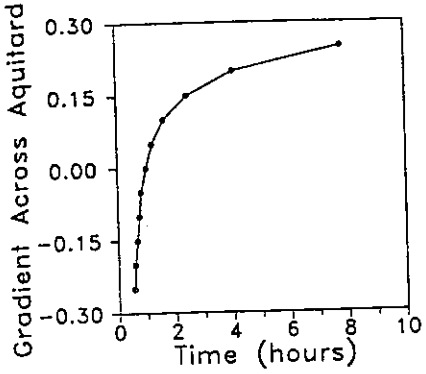

Fig. 16. Wetting phase gradient across aquitard versus time taken for trichloroethylene to reach lower aquifer. A negative gradient corresponds to a downward flow of water across the aquitard, a positive gradient to an upward flow of water across the aquitard.

simulations was performed with a pool height of 0.5 m and an effective fracture aperture of 75 microns. We see that for each case, the flux of nonwetting fluid is greatest at early time, decreasing to a minimum value followed by a gradual increase. As nonwetting fluid enters the fracture, the wetting phase pressure in the fracture rises. The maximum increase in wetting phase pressure occurs at the leading edge of the migrating nonwetting body, with water flowing away from this region both up out the top of the fracture and out the bottom of the fracture. The time at which the flux of nonwetting fluid is minimal corresponds to the time at which the advancing front is located in the fracture such that the resistance imposed by the wetting fluid is greatest. It is important to note that this water displaced by liquid phase trichloroethylene may be contaminated by dissolved phase trichloroethylene and that this water can enter small fractures intersecting the conducting fracture which have an entry pressure too high to allow invasion by the nonwetting fluid.

Figure 16 illustrates the time taken for trichloroethylene to reach the lower aquifer as a function of the hydraulic gradient across the aquitard. We see that upward water movement slows the rate of trichloroethylene migration through the fracture, with an increase in the rate of migration for downward water movement. The influence of the wetting phase gradient on the migration of the nonwetting phase is a result of the changes in capillary pressure brought about by the increased wetting phase pressure. The curve in Figure 16 approaches a horizontal asymptote which corresponds to the critical hydraulic gradient required to completely arrest the flow of DNAPL along the fracture. It is clear from this figure that upward gradients can greatly increase the time that DNAPL is mobile in a fractured system following a finite volume release.

Summary

In this paper, the entry pressure for the initial invasion of a dense, nonaqueous phase liquid (DNAPL) into a water-wet fracture is outlined. The entry pressure is directly proportional to the interfacial tension between the liquids of concern, and inversely proportional to the fracture aperture. The entry pressure of a fracture determines the height of DNAPL that may pool above a water-saturated fracture prior to entry. The height of the pool that will form prior to entry is proportional to the interfacial tension, inversely proportional to the density difference between the liquids, and independent of the depth below the water table.

Numerical simulations are conducted in a rough-walled fractured plane assuming that the apertures are log-normally distributed and follow an isotropic, exponential autocorrelation. The simulations show that pooled DNAPL will enter a fracture at the points of largest aperture, and will continue to migrate through the larger aperture regions of the fracture. The result is that certain regions of the fracture may remain void of DNAPL at all times. The ability for DNAPL to enter the smaller aperture regions of a fracture depends upon whether or not the capillary pressure at the advancing front exceeds the local entry pressure of the fracture. This ability increases as a function of the depth of penetration into the fracture since this depth determines the maximum capillary pressure that can be generated at the advancing front.

Additional numerical simulations are performed illustrating the influence of fracture and fluid properties on the time taken for trichloroethylene to traverse a 5 meter thick fractured aquitard. The simulations show that the time taken for DNAPL to traverse a fractured aquitard is inversely proportional to the height of DNAPL pooled above the fracture, the aperture of the fracture, and the dip of the fracture from the horizontal. It is also shown that the flux of DNAPL entering the top of a fracture is greater for downward water gradients across the aquitard, resulting in quicker first arrival times at the lower aquifer. Conversely, it is shown that upward water gradients slow the rate of downward DNAPL migration through a fracture.

Acknowledgments

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