

HYDROGEOLOGIC REPORT
1990 FIELD INVESTIGATION UPDATE
AC ROCHESTER
LEXINGTON AVENUE FACILITY
ROCHESTER, NEW YORK
VOLUME III OF III

by

H&A of New York
Rochester, New York

for

AC Rochester
Rochester, New York

File No. 70014-42

May 1991



APPENDIX D

Reports of Analyses of Groundwater
Samples for Appendix IX
Listed Compounds

- o Part 1 - 5 July 1990 Samples
- o Part 2 - 7 November 1990 Samples

Gilbert Lindsey
23800704

APPENDIX D
Part 1

Report of Analyses of 5 July Groundwater Samples

- A Introduction
- B Appendix IX Volatile Organics
- C Appendix IX Semi-Volatile Organics
- D Appendix IX Chlorinated Pesticides and PCBs
- E Appendix IX Total Metals
- F Appendix IX Dissolved Metals
- G Appendix IX Inorganics (total cyanide)
- H Appendix IX General Chemistry (total sulfide)
- I Appendix IX Dioxins/Furans

APPENDIX D
PART 1A

Introduction



RECEIVED

AUG 16 1990

August 15, 1990

H & A of New York

Mr. Jeff Loney
H & A of New York
189 N. Water Street
Rochester, NY 14604

Dear Jeff:

Enclosed are the results of the analyses performed on the six aqueous samples for AC Rochester, purchase order 31178 E. This project was received under chain of custody at Enseco - Erco Laboratory on July 6, 1989, and was processed for a 30-day turnaround time and in accordance with CLP analyses and reporting protocols, where applicable. This letter authorizes the release of the analytical results and should be considered an integral part of this report.

Please refer to this project by the Erco Laboratory Identification No. 006648 to help expedite any future discussions. We will be happy to answer any questions or concerns that you may have.

Sincerely,

Janet M. Sachs

Janet M. Sachs
Program Administrator

Encl.

April 1990

DELIVERABLES INDEX

Client: H & A of New York
Project Name: A.C. Rochester
Erco Project Number: 6648

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April 1990

DELIVERABLES INDEX (Cont.)

Client: H & A of New York
Project Name: A.C. Prochaska
Erco Project Number: 6648

Pages

III. SEMIVOLATILES DATA *→ See next Page*

A. QC Summary

1. Surrogate Percent Recovery Summary (Form II)
2. Matrix Spike/Matrix Spike Duplicate Summary (Form III)
3. Erco Method Blank Summary (Form IV)
4. GC/MS Tuning and Mass Calibration Summary (Form V)

B. Sample Data (Form I, Form I-TIC, and Raw Data)

C. Standards Data

1. Initial Calibration Data (Form VI)
2. Initial Calibration Standard Chromatograms
3. Continuing Calibration Data (Form VII)
4. Continuing Calibration Standard Chromatograms
5. Internal Standard Area Summary (Form VIII)

D. Raw QC Data

1. DFTPP Bar Graph and Mass Listing
2. Erco Blank Data
3. Matrix Spike/Matrix Spike Duplicate Data

IV. PESTICIDES/PCBs DATA *→ See next Page*

A. QC Summary

1. Surrogate Percent Recovery Summary (Form II)
2. Matrix Spike/Matrix Spike Duplicate Summary (Form III)
3. Erco Method Blank Summary (Form IV)

B. Sample Data (Form I and Raw Data)

- NA -

- NA -

- NA -

- NA -

- NA -

- NA -

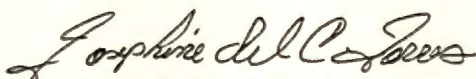
244-273

August 15, 1990

Case Narrative

Client: H & A of New York
Project Name: AC Rochester
Erco Project No.: 6648

1. This case consists of the results for 10 samples that were received at Enseco - Erco Laboratory on July 6, 1990. Please see the sample description information sheet for a list of samples.
2. Please note that there were air bubbles in 1 of the two containers for sample number SR103 for the volatiles analysis.
3. Please note that the container for sample number R-103 was received at Enseco - Erco Laboratory broken. However, a sample from another container was taken.
4. In the volatile fraction, all samples were analyzed outside of the CLP holding time due to instrument failure and sample backlog.
5. In the volatile fraction, the compound dichlorodifluoromethane was not standardized. All data should be considered invalid for this compound. The laboratory manager has authorized and released the data.
6. In the metals fraction, the compound mercury was analyzed within CLP holding time. However, it had to be reanalyzed to meet calibration criteria. The reanalysis was performed outside of holding time.


Josephine Torres
Data Control Technician

I. OVERVIEW

On July 6, 1990, Enseco-Erco received two aqueous samples from Haley and Aldrich, Inc.

This report presents the analytical results as well as supporting information to aid in the evaluation and interpretation of the data and is arranged in the following order:

- I. Overview
- II. Sample Description Information/Analytical Test Requests
- III. Analytical Results
- IV. Quality Control Report

The relative percent difference (RPD) of pentachlorophenol for the Duplicate Control Samples (DCS) 1 and 2 was beyond Enseco's established control limit. Since there were no compounds detected in samples 010297-0001 or -0002 which reference this compound for the semivolatile analysis, the original data has been reported.

Sample 010297-0001 for the herbicide analysis was repped outside of holding times due to problems encountered during the original prep stage. The original extract was analyzed as well as the repped extract and was determined to be acceptable. The original data has been reported and the repped data has been included to verify the original results.

GC/MS

Semivolatile Organics

- a) Benzo(b) and benzo(k) fluoranthene cannot be differentiated based on their mass spectra; retention times are almost identical. The isomer which is the closest in retention time to the sample is reported.
- b) 1,2-diphenylhydrazine is measured as azobenzene.
- c) N-Nitrosodiphenylamine decomposes in the gas chromatographic inlet to diphenylamine.

SAMPLE DESCRIPTION INFORMATION
for
H & A of New York

Lab ID	Client ID	Matrix	Sampled Date	Time	Received Date
006648-0001-SA	Well SR103	AQUEOUS	05 JUL 90	11:50	06 JUL 90
006648-0002-SA	Well SR103 (Diss.)	AQUEOUS	05 JUL 90	11:50	06 JUL 90
006648-0003-SA	Well R103	AQUEOUS	05 JUL 90	12:30	06 JUL 90
006648-0003-DU	Well R103	AQUEOUS	05 JUL 90	12:30	06 JUL 90
006648-0003-MS	Well R103	AQUEOUS	05 JUL 90	12:30	06 JUL 90
006648-0003-SD	Well R103	AQUEOUS	05 JUL 90	12:30	06 JUL 90
006648-0004-SA	Well R103 (Diss.)	AQUEOUS	05 JUL 90	12:30	06 JUL 90
006648-0004-DU	Well R103 (Diss.)	AQUEOUS	05 JUL 90	12:30	06 JUL 90
006648-0004-MS	Well R103 (Diss.)	AQUEOUS	05 JUL 90	12:30	06 JUL 90
006648-0005-SA	Well SR110	AQUEOUS	05 JUL 90	15:30	06 JUL 90
006648-0006-SA	Well SR110 (Diss.)	AQUEOUS	05 JUL 90	15:30	06 JUL 90
006648-0007-SA	Well R110	AQUEOUS	05 JUL 90	16:00	06 JUL 90
006648-0008-SA	Well R110 (Diss.)	AQUEOUS	05 JUL 90	16:00	06 JUL 90
006648-0009-SA	Field Blank	AQUEOUS	05 JUL 90	15:15	06 JUL 90
006648-0010-SA	Trip Blank	AQUEOUS	05 JUL 90	00:00	06 JUL 90

SAMPLE DESCRIPTION INFORMATION
for
H & A of New York

Lab ID	Client ID	Matrix	Sampled Date	Time	Received Date
008560-0001-SA	Well SR103	AQUEOUS	11 JUL 90	12:30	11 JUL 90
008560-0002-MS	Well R103	AQUEOUS	11 JUL 90	12:30	11 JUL 90
008560-0002-DU	Well R103	AQUEOUS	11 JUL 90	12:30	11 JUL 90
008560-0002-SA	Well R103	AQUEOUS	11 JUL 90	12:30	11 JUL 90

SAMPLE DESCRIPTION INFORMATION
for
H & A of New York

Lab ID	Client ID	Matrix	Sampled Date	Time	Received Date
053656-0001-SA	WELL SR103	AQUEOUS	05 JUL 90	11:50	06 JUL 90
053656-0001-MB	Method Blank	AQUEOUS			06 JUL 90
053656-0002-SA	WELL R103	AQUEOUS	05 JUL 90	12:30	06 JUL 90
053656-0002-DU	WELL R103	AQUEOUS	05 JUL 90	12:30	06 JUL 90
053656-0002-MS	WELL R103	AQUEOUS	05 JUL 90	12:30	06 JUL 90
053656-0002-SD	WELL R103	AQUEOUS	05 JUL 90	12:30	06 JUL 90

SAMPLE DESCRIPTION INFORMATION
for
Haley and Aldrich, Inc.

Lab ID	Client ID	Matrix	Sampled Date Time	Received Date
010297-0001-SA	Well SR103	AQUEOUS	05 JUL 90	06 JUL 90
010297-0002-SA	Well R103	AQUEOUS	05 JUL 90	06 JUL 90
010297-0002-DU	Well R103 (DUP)	AQUEOUS	05 JUL 90	06 JUL 90
010297-0002-MS	Well R103 (MS)	AQUEOUS	05 JUL 90	06 JUL 90
010297-0002-SD	Well R103 (MSD)	AQUEOUS	05 JUL 90	06 JUL 90

Enseco - Erco Laboratory

Sample Analysis Instrumentation Key for Organics (Page 1 of 2)

ID	Manufacturer	Model	Data System
GC/MS #S-1	Finnigan	4530	INCOS
GC/MS #S-2	Finnigan	4615B	INCOS
GC/MS #S-3	Finnigan	4530	INCOS
GC/MS #S-4	Hewlett Packard	MSD	RTE-A
GC/MS #S-5	Hewlett Packard	MSD	RTE-A
GC/MS #S-6	Finnigan	Incos 50	Incos
GC/MS #V1*	Hewlett Packard	5996	RTE-6
GC/MS #V2*	Hewlett Packard	5996	RTE-6
GC/MS #V3*	Hewlett Packard	5996	RTE-6
GC/MS #V4*	Hewlett Packard	5985	RTE-6
GC/MS #V5*	Hewlett Packard	MSD	RTE-6
GC/HECD/PID #G1*	Perkin-Elmer/Tracor/HNU	3920/700/PI-52	Beckman CALS/ HP-1000
GC/HECD #G2*	Hewlett Packard/OIC	5890/4420	HP-1000
GC/HECD/PID #G3*	Varian/OIC/HNU	3700/4420/PI-52-02	HP-1000
GC/HECD/PID #G4*	Hewlett Packard/OIC/HNU	5890/4420/PI-52-02	Beckman CALS/ HP-1000
GC/HECD/PID #G5*	Hewlett Packard/OIC/HNU	5890/4420/PI-52-02	Beckman CALS/ HP-1000
GC/FID #G19	Hewlett Packard	5880	Beckman CALS/ HP-1000
GC/ECD #G10	Hewlett Packard	5840	Beckman CALS/ HP-1000
GC/ECD #2	Hewlett Packard	5840	Beckman/HP-1000
GC/ECD #7	Hewlett Packard	5880	Beckman/HP-1000

*Purge-and-trap concentrators manufactured by Tekmar Company.

Enseco - Erco Laboratory

Sample Analysis Instrumentation Key for Organics (Page 2 of 2)

ID	Manufacturer	Model	Data System
GC/ECD #9	Hewlett Packard	5880	Beckman/HP-1000
GC/ECD #11	Hewlett Packard	5890	--
GC/ECD #12	Hewlett Packard	5890	--
GC/ECD #13	Hewlett Packard	5890	--
IR1	Perkin-Elmer	701N	--
GC/FID #14	Hewlett Packard	5880	Beckman/HP-1000
GC/FID #19	Hewlett Packard	5880	Beckman/HP-1000
GC/FID #28	Hewlett Packard	5890	Beckman/HP-1000

*Purge-and-trap concentrators manufactured by Tekmar Company.

INSTRUMENT DETECTION LIMITS

Volatile Compounds

Hewlett-Packard 5996 GC/MS V1, V2, V3, V4, V5

<u>CAS Number</u>	<u>Parameter</u>	<u>ng</u>
74-87-3	Chloromethane	2 μ
74-83-9	Bromomethane	2 μ
75-01-4	Vinyl chloride	2 μ
75-00-3	Chloroethane	2 μ
75-09-2	Methylene chloride	2 μ
67-64-1	Acetone	2 μ
75-15-0	Carbon disulfide	1 μ
75-35-4	1,1-Dichloroethene	1 μ
75-34-3	1,1-Dichloroethane	1 μ
156-60-5	trans-1,2-Dichloroethene	1 μ
67-66-3	Chloroform	1 μ
107-06-2	1,2-Dichloroethane	1 μ
78-93-3	2-Butanone	1 μ
71-55-6	1,1,1-Trichloroethane	1 μ
56-23-5	Carbon tetrachloride	1 μ
108-05-4	Vinyl acetate	2 μ
75-27-4	Bromodichloromethane	1 μ
79-34-5	1,1,2,2-Tetrachloroethane	1 μ
78-87-5	1,2-Dichloropropane	1 μ
10061-02-6	trans-1,3-Dichloropropene	1 μ
79-01-6	Trichloroethene	1 μ
124-48-1	Dibromochloromethane	1 μ
79-00-5	1,1,2-Trichloroethane	1 μ
71-43-2	Benzene	1 μ
10061-01-5	cis-1,3-Dichloropropene	1 μ
110-75-8	2-Chloroethylvinylether	2 μ
75-25-2	Bromoform	1 μ
591-78-6	2-Hexanone	2 μ
108-10-1	4-Methyl-2-pentanone	2 μ
127-18-4	Tetrachloroethene	1 μ
108-88-3	Toluene	1 μ
108-90-7	Chlorobenzene	1 μ
100-41-4	Ethylbenzene	1 μ
100-42-5	Styrene	1 μ
	Total xylenes	1 μ

INSTRUMENT DETECTION LIMITS

Semivolatile Compounds

Finnigan GC/MS S-1, S-2, and S-3

HP MSD GC/MS S4, S5

<u>CAS Number</u>	<u>Parameter</u>	<u>ng</u>
108-95-2	Phenol	5 µ
111-44-4	bis(2-Chloroethyl)ether	5 µ
95-57-8	2-Chlorophenol	5 µ
541-73-1	1,3-Dichlorobenzene	5 µ
106-46-7	1,4-Dichlorobenzene	5 µ
100-51-6	Benzyl alcohol	10 µ
95-50-1	1,2-Dichlorobenzene	5 µ
95-48-7	2-Methylphenol	5 µ
39638-32-9	bis(2-Chloroisopropyl)ether	5 µ
106-44-5	4-Methylphenol	5 µ
621-64-7	N-Nitroso-di-n-propylamine	10 µ
67-72-1	Hexachloroethane	10 µ
98-95-3	Nitrobenzene	5 µ
78-59-1	Isophorone	5 µ
88-75-5	2-Nitrophenol	10 µ
105-67-9	2,4-Dimethylphenol	10 µ
65-85-0	Benzoic acid	25 µ
111-91-1	bis(2-Chloroethoxy)methane	5 µ
120-83-2	2,4-Dichlorophenol	5 µ
120-82-1	1,2,4-Trichlorobenzene	5 µ
91-20-3	Naphthalene	3 µ
106-47-8	4-Chloroaniline	5 µ
87-68-3	Hexachlorobutadiene	5 µ
59-50-7	4-Chloro-3-methylphenol	10 µ
91-57-6	2-Methylnaphthalene	10 µ
77-47-4	Hexachlorocyclopentadiene	10 µ
88-06-2	2,4,6-Trichlorophenol	10 µ
95-95-4	2,4,5-Trichlorophenol	10 µ
91-58-7	2-Chloronaphthalene	4 µ
88-74-4	2-Nitroaniline	10 µ
131-11-3	Dimethyl phthalate	4 µ
208-96-8	Acenaphthylene	3 µ
99-09-2	3-Nitroaniline	10 µ
83-32-9	Acenaphthene	3 µ
51-289-5	2,4-Dinitrophenol	25 µ
100-02-7	4-Nitrophenol	15 µ
132-64-9	Dibenzofuran	4 µ

INSTRUMENT DETECTION LIMITS

Semivolatile Compounds

Finnigan GC/MS S-1, S-2, and S-3

HP MSD GC/MS S-4, S-5

<u>CAS Number</u>	<u>Parameter</u>	<u>ng</u>
121-14-2	2,4-Dinitrotoluene	10 µ
606-20-2	2,6-Dinitrotoluene	10 µ
84-66-2	Diethylphthalate	4 µ
7005-72-3	4-Chlorophenyl-phenylether	5 µ
86-73-7	Fluorene	4 µ
100-01-6	4-Nitroaniline	10 µ
534-52-1	4,6-Dinitro-2-methylphenol	15 µ
86-30-6	N-Nitrosodiphenylamine (1)	5 µ
101-55-3	4-Bromophenyl-phenylether	5 µ
118-74-1	Hexachlorobenzene	5 µ
87-86-5	Pentachlorophenol	10 µ
85-01-8	Phenanthrene	3 µ
120-12-7	Anthracene	3 µ
84-74-2	Di-n-butylphthalate	3 µ
206-44-0	Fluoranthene	3 µ
129-00-0	Pyrene	3 µ
85-68-7	Butylbenzylphthalate	5 µ
91-94-1	3,3-Dichlorobenzidine	5 µ
56-55-3	Benzo(a)anthracene	3 µ
117-81-7	bis(2-ethylhexyl)phthalate	4 µ
218-01-9	Chrysene	3 µ
117-84-0	Di-n-octyl phthalate	4 µ
205-99-2	Benzo(b)fluoranthene	5 µ
207-08-9	Benzo(k)fluoranthene	6 µ
50-32-8	Benzo(a)pyrene	3 µ
193-39-5	Indeno(1,2,3-c,d)pyrene	4 µ
53-70-3	Dibenzo(a,h)anthracene	4 µ
191-24-2	Benzo(g,h,i)perylene	4 µ

INSTRUMENT DETECTION LIMITS

Pesticide/PCB Compounds

Hewlett Packard 5880 No. 7 and No. 9 and No. 12

<u>CAS Number</u>	<u>Parameter</u>	<u>ng</u>
319-84-6	alpha-BHC	0.01 µ
319-85-7	beta-BHC	0.02 µ
319-86-8	delta-BHC	0.01 µ
58-89-9	gamma-BHC (Lindane)	0.01 µ
76-44-8	Heptachlor	0.01 µ
309-00-2	Aldrin	0.01 µ
1024-57-3	Heptachlor epoxide	0.01 µ
959-98-8	Endosulfan I	0.02 µ
60-57-1	Dieldrin	0.02 µ
72-55-9	4,4-DDE	0.02 µ
72-20-8	Endrin	0.05 µ
33213-65-9	Endosulfan II	0.02 µ
72-54-8	4,4-DDD	0.02 µ
1031-07-8	Endosulfan sulfate	0.08 µ
50-29-3	4,4-DDT	0.08 µ
72-43-5	Methoxychlor	0.06 µ
53494-70-5	Endrin ketone	0.08 µ
57-74-9	Chlordane	0.12 µ
8001-35-2	Toxaphene	0.40 µ
12674-11-2	Aroclor-1016	0.38 µ
11104-28-2	Aroclor-1221	0.29 µ
11141-16-5	Aroclor-1232	0.40 µ
53469-21-9	Aroclor-1242	0.45 µ
12672-29-6	Aroclor-1248	0.31 µ
11097-69-1	Aroclor-1254	0.42 µ
11096-82-5	Aroclor-1260	0.25 µ

KEY FOR SURROGATE AND INTERNAL STANDARDS

Acid/Base-Neutral Compounds

a - Fluorophenol	surrogate standard
b - d ₅ -Phenol	surrogate standard
c - d ₄ -Dichlorobenzene	internal standard
d - d ₅ -Nitrobenzene	surrogate standard
e - d ₈ -Naphthalene	internal standard
f - Fluorobiphenyl	surrogate standard
g - d ₁₀ -Acenaphthene	internal standard
h - Tribromophenol	surrogate standard
i - d ₁₀ -Phenanthrene	internal standard
j - d ₁₄ -O-terphenyl	surrogate standard
k - d ₁₂ -Chrysene	internal standard
l - d ₁₂ --Perylene	internal standard

Volatile Compounds

1 - Bromochloromethane	internal standard
2 - 1,2-Dichloroethane-d ₄	surrogate standard
3 - 1,4-Difluorobenzene	internal standard
4 - Toluene-d ₈	surrogate standard
5 - Chlorobenzene-d ₅	internal standard
6 - Bromofluorobenzene	surrogate standard

Enseco-Erco Laboratory

205 Alewife Brook Parkway
Cambridge, Massachusetts 02138
617/661-3111 Fax: 617/354-5258

Attn: Janet Sachs

Enseco Client AC ROCHESTER

Project 70014-42

Sampling Co. H & A of New York

Sampling Site AC ROCHESTER, LEXINGTON AVE. RCH, NY.

Team Leader TOM WELLS

CHAIN OF CUSTODY

SAMPLE SAFE™ CONDITIONS

No. 6636

- Packed by: M. Kusinski Seal # _____
- Seal Intact Upon Receipt by Sampling Co.: ☒ Yes ☐ No
- Condition of Contents: INTACT
- Sealed for Shipping by: T. Wells
- Initial Contents Temp.: 4 °C Seal # _____
- Sampling Status: ☒ Done ☐ Continuing Until _____
- Seal Intact Upon Receipt by Laboratory: ☐ Yes ☐ No
- Contents Temperature Upon Receipt by Lab: _____ °C
- Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/5/90	1150	Well SR103	WATER	3	624	
7/5/90	1150	Well SR103	WATER	2	625	
7/5/90	1150	Well SR103	WATER	2	608	
7/5/90	1150	Well SR103	WATER	2	615	
7/5/90	1150	Well SR103	WATER	2	Dioxins / Furans	
7/5/90	1150	Well SR103	WATER	1	TOTAL METALS	
7/5/90	1150	Well SR103	WATER	1	DISSOLVED METALS	
7/5/90	1150	Well SR103	WATER	1	CN	
7/5/90	1150	Well SR103	WATER	1	Sulfide	
7/5/90	1230	Well SR103	WATER	8	625	Duplicate, matrix spike, matrix spike dup & original sets taken

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) Thomas D Wells Received by: (signed) DAVE ROTCH Date 5 July 90 Time 6:50

1 _____
2 _____
3 _____

SHIPPING DETAILS

Delivered to Shipper by: Thomas D Wells 1244244 401
Method of Shipment: For Express Priority Airbill # 416
Received for Lab: ERCO Signed: E. Polley Date/Time 10:00 7/6/90
Enseco Project No. 6459

Enseco-Erco Laboratory

205 Alewife Brook Parkway
Cambridge, Massachusetts 02138
617/661-3111 Fax: 617/354-5258

Attn: Janet Sachs

Enseco Client AC ROCHESTER

Project 70014-42

Sampling Co. H4A of New York

Sampling Site AC ROCHESTER, LEXINGTON AVE. ROCHE, NY

Team Leader Tom Wells

CHAIN OF CUSTODY

SAMPLE SAFE™ CONDITIONS

No. 6640

- Packed by: M. Kosinski Seal # _____
- Seal Intact Upon Receipt by Sampling Co.: ☒ Yes No
- Condition of Contents: INTACT
- Sealed for Shipping by: T. Wells
- Initial Contents Temp.: 4 °C Seal # _____
- Sampling Status: ☒ Done Continuing Until _____
- Seal Intact Upon Receipt by Laboratory: Yes No
- Contents Temperature Upon Receipt by Lab: _____ °C
- Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/5/90	1230	Well R103	Water	^{SLB} 12	624	original, duplicate matrix spike and matrix spike duplicate sets taken
7/5/90	1230	Well R103	water	8	608	original, m.s. duplicate and m.s. duplicate
7/5/90	1230	Well R103	water	8	615	original, ms, dup and ms dup.
7/5/90	1230	Well R103	Water	8	DIOXINS/FURANS	original, dup, ms and ms dup.
7/5/90	1230	Well R103	Water	4	TOTAL METALS	original, ms, ms dup and dup. taken
7/5/90	1230	Well R103	WATER	4	Dissolved metals	original, dup, ms and ms dup. taken
7/5/90	1230	Well R103	WATER	4	CN	original, dup, ms and ms dup.
7/5/90	1230	Well R103	water	4	Sulfide	original, dup ms and ms dup.
7/5/90	1530	Well SR110	water	1	TOTAL METALS	(* See note on page 3)
7/5/90	1530	Well SR110	Water	1	Dissolved metals	

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed) Tom Wells Received by: (signed) DAVE RETELI Date 5 July 90 Time 1:30

1 Tom Wells 2 DAVE RETELI 3 _____

SHIPPING DETAILS

Delivered to Shipper by: Tom Wells 1244244 407

Method of Shipment: Fed Exp. Priority Overnight Bill # 416

Received for Lab: ERCO Signed: C. Holley Date/Time 7/4/90 10:00

Enseco Project No. _____

Enseco-Erco Laboratory

205 Alewife Brook Parkway
Cambridge, Massachusetts 02138
617/661-3111 Fax: 617/354-5258

Attn: Janet Sachs

Enseco Client AC ROCHESTER

Project 70014-42

Sampling Co. H & A of NY

Sampling Site AC ROCHESTER, LEXINGTON AVE, ROCH., NY

Team Leader TOM WELLS

CHAIN OF CUSTODY

SAMPLE SAFE™ CONDITIONS

No. 6634
Reg 07/3

1. Packed by: M. Kosinski Seal # _____
2. Seal Intact Upon Receipt by Sampling Co.: ☒ Yes ☐ No
3. Condition of Contents: INTACT
4. Sealed for Shipping by: T. Wells
5. Initial Contents Temp.: 4 °C Seal # _____
6. Sampling Status: ☒ Done ☐ Continuing Until _____
7. Seal Intact Upon Receipt by Laboratory: ☐ Yes ☐ No
8. Contents Temperature Upon Receipt by Lab: _____ °C
9. Condition of Contents: _____

Date	Time	Sample ID/Description	Sample Type	No. Containers	Analysis Parameters	Remarks
7/5/90	1600	Well R110	Water	1	TOTAL METALS	
7/5/90	1600	Well R110	water	1	Dissolved METALS	
7/5/90	1515	WELLS FIELD BLANK	water	1 2	624	
7/5/90		TRIP BLANK	water	2	624	
(*) Note: Please analyze with detection limits in conformance with NYS DEC and DOH target guidelines.						
Thanks, <u>Tom Wells</u>						

CUSTODY TRANSFERS PRIOR TO SHIPPING

Relinquished by: (signed)	Received by: (signed)	FDX	Date	Time
1 <u>Thomas D. Wells</u>	<u>Carole Rietel</u>	<u>104776</u>	<u>5 July</u>	<u>1750</u>
2 <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>
3 <u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>

SHIPPING DETAILS

Delivered to Shipper by: <u>Tom Wells</u>	1244244407
Method of Shipment: <u>Fed. Ex Priority Overnight</u>	410
Received for Lab: <u>ERCO</u>	425
Signed: <u>E. Volney</u>	437
Date/Time: <u>7/5/90 10:00</u>	443
Enseco Project No. <u>6459</u>	

Enseco Erco Laboratory
Internal Chain of Custody
Sample Control Tracking Log

Project #	Metals	Non-Metals	Prep	VOA-GC/MS	VOA-GC
6631					
6632					
6633					DP 7/18
6634					
6635			EU 7/6	AA 7/5/90	
6636	MM 7/20/90		K.S. 7-20	KK 7/19/90	
6637					
6638			EU 7/10	DP 7/9/90	
6639	MM 7/16/90	DP 7/16/90	AA 7-16	DP 7/16/90	
6640			AA 7/5/90	OO 7/6/90	
6641	DC 7/6/90	DP 7/13/90	EU 7/6	OO 7/6/90	
6642	WAC 7/6/90	DP 7/13/90	EU 7/6/90	OO 7/6/90	
6643	WAC 7/6/90	DP 7/13/90	EU 7/6	OO 7/6/90	
6644	DC 7/6/90	DP 7/13/90	EU 7/6		
6645	MM 7/16/90		MP 7-25-90	KK 7/25/90	
6646	MM 7/13/90	DP 7/16/90	AA 7/13	OO 7/12	
6647	MM 7/16/90			MM 7/6/90	
6648	MM 7/13/90	DP 7/11/90		EU 7/9	
6649			AA-7-10	DP 7/10	
6650	DC 7/6/90		AA-7-10	DP 7/10	
6651					OO 7/6/90
6652	MM 7/11/90		EU 7/10	DP 7/9	
6653	MM 7/18/90	DP 7/19/90	WGM 7/18	DP 7/18	

NOTE: Please sign name and date when samples are accepted by lab.

DATA REPORTING QUALIFIERS

The seven EPA-defined qualifers to be used are as follows:

- U - Indicates compound was analyzed for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture. For example, 10 U for phenol in water if the sample final volume is the protocol-specified final volume. If a 1 to 10 dilution of extract is necessary, the reported limit is 100 U. For a soil sample, the value must also be adjusted for percent moisture. For example, if the sample had 24% moisture and a 1 to 10 dilution factor, the sample quantitation limit for phenol (330 U) would be corrected to:

$$\frac{(330 \text{ U})}{D} \times df \quad \text{where } D = \frac{100 - \% \text{ moisture}}{100}$$

and df = dilution factor

$$\text{at 24\% moisture, } D = \frac{100-24}{100} = 0.76$$

$$\frac{(330 \text{ U})}{.76} \times 10 = 4300 \text{ U rounded to the appropriate number of significant figures}$$

For soil samples subjected to GPC clean-up procedures, the CRQL is also multiplied by 2, to account for the fact that only half of the extract is recovered.

- J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero. For example, if the sample quantitation limit is 10 µg/L, but a concentration of 3 µg/L is calculated, report it as 3J. The sample quantitation limit must be adjusted for both dilution and percent moisture as discussed for the U flag, so that if a sample with 24% moisture and a 1 to 10 dilution factor has a calculated concentration of 300 µg/L and a sample quantitation limit of 430 µg/kg, report the concentration as 300J on Form I.
- C - This flag applies to pesticide results where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/µl in the final extract shall be confirmed by GC/MS.

DATA REPORTING QUALIFIERS (CONT.)

- B - This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action. This flag must be used for a TIC as well as for a positively identified TCL compound.
- E - This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis. This flag will not apply to pesticides/PCBs analyzed by GC/EC methods. If one or more compounds have a response greater than full scale, the sample or extract must be diluted and reanalyzed according to the specifications in Exhibit D. All such compounds with a response greater than full scale should have the concentration flagged with an "E" on the Form I for the original analysis. If the dilution of the extract causes any compounds identified in the first analysis to be below the calibration range in the second analysis, then the results of both analyses shall be reported on separate Forms I. The Form I for the diluted sample shall have the "DL" suffix appended to the sample number.
- D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is reanalyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number of the Form I for the diluted sample, and all concentration values reported on that Form I are flagged with the "D" flag.
- A - This flag indicates that a TIC is a suspected aldol-condensation product.
- X - Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the Sample Data Summary Package and the Case Narrative. If more than one is required, use "Y" and "Z", as needed. If more than five qualifiers are required for a sample result, use the "X" flag to combine several flags, as needed. For instance, the "X" flag might combine the "A", "B", and "D" flags for some sample.

METALS AND CYANIDE

DATA REPORTING QUALIFIERS

FORM I-IN includes fields for three types of result qualifiers. These qualifiers must be completed as follows:

- C (Concentration) qualifier -- Enter "B" if the reported value is less than the Contract Required Detection Limit (CRDL) but greater than the Instrument Detection Limit (IDL). If the analyte was analyzed for but not detected, a "U" must be entered.
- Q qualifier -- Specified entries and their meanings are as follows:
 - E - The reported value is estimated because of the presence of interference. An explanatory note must be included under Comments on the Cover Page (if the problem applies to all samples) or on the specific FORM I-IN (if it is an isolated problem).
 - M - Duplicate injection precision not met.
 - N - Spiked sample recovery not within control limits.
 - S - The reported value was determined by the Method of Standard Additions (MSA).
 - W - Post-digestion spike for Furnace AA analysis is out of control limits (85-115%), while sample absorbance is less than 50% of spike absorbance. (See Exhibit E.)
 - * - Duplicate analysis not within control limits.
 - + - Correlation coefficient for the MSA is less than 0.995.

Entering "S", "W", or "+" is mutually exclusive. No combination of these qualifiers can appear in the same field for an analyte.
- M (Method) qualifier -- Enter:
 - "P" for ICP
 - "A" for Flame AA
 - "F" for Furnace AA
 - "CV" for Manual Cold Vapor AA
 - "AV" for Automated Cold Vapor AA
 - "AS" for Semiautomated Spectrophotometric
 - "C" for Manual Spectrophotometric
 - "T" for Titrimetric
 - "NR" if the analyte is not required to be analyzed.

APPENDIX D
PART 1B

Appendix IX Volatile Organics

APPENDIX IX VOLATILE ORGANICS

Method 624

Client Name: H & A of New York

Client ID: Well SR103

Lab ID: 006648-0001-SA

Matrix: AQUEOUS

Authorized: 06 JUL 90

Enseco ID: 2043507

Sampled: 05 JUL 90

Prepared: NA

Received: 06 JUL 90

Analyzed: 20 JUL 90

Parameter	Result	Units	Reporting Limit
Acetone	ND	ug/L	500
Acetonitrile	ND	ug/L	5000
Acrolein	ND	ug/L	5000
Acrylonitrile	ND	ug/L	5000
Allyl chloride	ND	ug/L	250
Benzene	ND	ug/L	250
Bromodichloromethane	ND	ug/L	250
Bromoform	ND	ug/L	250
Bromomethane	ND	ug/L	500
Carbon disulfide	ND	ug/L	250
Carbon tetrachloride	ND	ug/L	250
Chlorobenzene	ND	ug/L	250
Chloroprene	ND	ug/L	250
Chloroethane	ND	ug/L	500
Dibromochloromethane	ND	ug/L	250
Chloroform	ND	ug/L	250
Chloromethane	ND	ug/L	500
1,2-Dibromo-3-chloropropane	ND	ug/L	250
1,2-Dibromoethane	ND	ug/L	250
Dibromomethane	ND	ug/L	250
trans-1,4-Dichloro-2-butene	ND	ug/L	250
Dichlorodifluoromethane	ND	ug/L	500
1,1-Dichloroethane	ND	ug/L	250
1,2-Dichloroethane	ND	ug/L	250
1,2-Dichloroethene (total)	4600	ug/L	250
1,1-Dichloroethene	ND	ug/L	250
Dichloromethane	320	ug/L	250
1,2-Dichloropropane	ND	ug/L	250
cis-1,3-Dichloropropene	ND	ug/L	250
trans-1,3-Dichloropropene	ND	ug/L	250
1,4-Dioxane	ND	ug/L	5000
Ethylbenzene	ND	ug/L	250
Ethyl cyanide	ND	ug/L	250
2-Hexanone	ND	ug/L	500
Iodomethane	ND	ug/L	250
Isobutyl alcohol	ND	ug/L	1200
Methacrylonitrile	ND	ug/L	250
Methyl ethyl ketone (MEK)	ND	ug/L	1200
4-Methyl-2-pentanone	ND	ug/L	500

B

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Pam Burchard

Approved By: Charlene Livingston

APPENDIX IX VOLATILE ORGANICS (CONT.)

Method 624

Client Name: H & A of New York

Client ID: Well SR103

Lab ID: 006648-0001-SA

Matrix: AQUEOUS

Authorized: 06 JUL 90

Enseco ID: 2043507

Sampled: 05 JUL 90

Prepared: NA

Received: 06 JUL 90

Analyzed: 20 JUL 90

Parameter	Result	Units	Reporting Limit
Styrene	ND	ug/L	250
1,1,1,2-Tetrachloroethane	ND	ug/L	250
1,1,2,2-Tetrachloroethane	ND	ug/L	250
Tetrachloroethene	ND	ug/L	250
Toluene	ND	ug/L	250
1,1,1-Trichloroethane	ND	ug/L	250
1,1,2-Trichloroethane	ND	ug/L	250
Trichloroethene	660	ug/L	250
Trichlorofluoromethane	ND	ug/L	250
1,2,3-Trichloropropane	ND	ug/L	250
Vinyl acetate	ND	ug/L	500
Vinyl chloride	1300	ug/L	500
Xylenes (total)	ND	ug/L	250
1,2-Dichloroethane-d4	97	%	--
Toluene-d8	99	%	--
4-Bromofluorobenzene	99	%	--

Note B : Compound is also detected in the blank.

ND = Not detected

NA = Not applicable

Reported By: Pam Burchard

Approved By: Charlene Livingston

APPENDIX IX VOLATILE ORGANICS

Method 624

Client Name: H & A of New York

Client ID: Well R103

Lab ID: 006648-0003-SA

Matrix: AQUEOUS

Authorized: 06 JUL 90

Enseco ID: 2043509

Sampled: 05 JUL 90

Prepared: NA

Received: 06 JUL 90

Analyzed: 20 JUL 90

Parameter	Result	Units	Reporting Limit
Acetone	ND	ug/L	5000
Acetonitrile	ND	ug/L	50000
Acrolein	ND	ug/L	50000
Acrylonitrile	ND	ug/L	50000
Allyl chloride	ND	ug/L	2500
Benzene	ND	ug/L	2500
Bromodichloromethane	ND	ug/L	2500
Bromoform	ND	ug/L	2500
Bromomethane	ND	ug/L	5000
Carbon disulfide	ND	ug/L	2500
Carbon tetrachloride	ND	ug/L	2500
Chlorobenzene	ND	ug/L	2500
Chloroprene	ND	ug/L	2500
Chloroethane	ND	ug/L	5000
Dibromochloromethane	ND	ug/L	2500
Chloroform	ND	ug/L	2500
Chloromethane	ND	ug/L	5000
1,2-Dibromo-3-chloropropane	ND	ug/L	2500
1,2-Dibromoethane	ND	ug/L	2500
Dibromomethane	ND	ug/L	2500
trans-1,4-Dichloro-2-butene	ND	ug/L	2500
Dichlorodifluoromethane	ND	ug/L	5000
1,1-Dichloroethane	ND	ug/L	2500
1,2-Dichloroethane	ND	ug/L	2500
1,2-Dichloroethene (total)	24000	ug/L	2500
1,1-Dichloroethene	ND	ug/L	2500
Dichloromethane	2900	ug/L	2500
1,2-Dichloropropane	ND	ug/L	2500
cis-1,3-Dichloropropene	ND	ug/L	2500
trans-1,3-Dichloropropene	ND	ug/L	2500
1,4-Dioxane	ND	ug/L	50000
Ethylbenzene	ND	ug/L	2500
Ethyl cyanide	ND	ug/L	2500
2-Hexanone	ND	ug/L	5000
Iodomethane	ND	ug/L	2500
Isobutyl alcohol	ND	ug/L	12000
Methacrylonitrile	ND	ug/L	2500
Methyl ethyl ketone (MEK)	ND	ug/L	12000
4-Methyl-2-pentanone	ND	ug/L	5000

B

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Pam Burchard

Approved By: Charlene Livingston

APPENDIX IX VOLATILE ORGANICS (CONT.)

Method 624

Client Name: H & A of New York

Client ID: Well R103

Lab ID: 006648-0003-SA

Matrix: AQUEOUS

Authorized: 06 JUL 90

Enseco ID: 2043509

Sampled: 05 JUL 90

Prepared: NA

Received: 06 JUL 90

Analyzed: 20 JUL 90

Parameter	Result	Units	Reporting Limit
Styrene	ND	ug/L	2500
1,1,1,2-Tetrachloroethane	ND	ug/L	2500
1,1,2,2-Tetrachloroethane	ND	ug/L	2500
Tetrachloroethene	ND	ug/L	2500
Toluene	ND	ug/L	2500
1,1,1-Trichloroethane	ND	ug/L	2500
1,1,2-Trichloroethane	ND	ug/L	2500
Trichloroethene	25000	ug/L	2500
Trichlorofluoromethane	ND	ug/L	2500
1,2,3-Trichloropropane	ND	ug/L	2500
Vinyl acetate	ND	ug/L	5000
Vinyl chloride	1200	ug/L	5000
Xylenes (total)	ND	ug/L	2500
1,2-Dichloroethane-d4	98	%	--
Toluene-d8	100	%	--
4-Bromofluorobenzene	100	%	--

J

Note B : Compound is also detected in the blank.

Note J : Result is detected below the reporting limit or is an estimated concentration.

ND = Not detected

NA = Not applicable

Reported By: Pam Burchard

Approved By: Charlene Livingston

APPENDIX IX VOLATILE ORGANICS

Method 624

Client Name: H & A of New York

Client ID: Well R103

Lab ID: 006648-0003-DU

Matrix: AQUEOUS

Authorized: 06 JUL 90

Enseco ID: 2043510

Sampled: 05 JUL 90

Prepared: NA

Received: 06 JUL 90

Analyzed: 20 JUL 90

Parameter	Result	Units	Reporting Limit
Acetone	ND	ug/L	5000
Acetonitrile	ND	ug/L	50000
Acrolein	ND	ug/L	50000
Acrylonitrile	ND	ug/L	50000
Allyl chloride	ND	ug/L	2500
Benzene	ND	ug/L	2500
Bromodichloromethane	ND	ug/L	2500
Bromoform	ND	ug/L	2500
Bromomethane	ND	ug/L	5000
Carbon disulfide	ND	ug/L	2500
Carbon tetrachloride	ND	ug/L	2500
Chlorobenzene	ND	ug/L	2500
Chloroprene	ND	ug/L	2500
Chloroethane	ND	ug/L	5000
Dibromochloromethane	ND	ug/L	2500
Chloroform	ND	ug/L	2500
Chloromethane	ND	ug/L	5000
1,2-Dibromo-3-chloropropane	ND	ug/L	2500
1,2-Dibromoethane	ND	ug/L	2500
Dibromomethane	ND	ug/L	2500
trans-1,4-Dichloro-2-butene	ND	ug/L	2500
Dichlorodifluoromethane	ND	ug/L	5000
1,1-Dichloroethane	ND	ug/L	2500
1,2-Dichloroethane	ND	ug/L	2500
1,2-Dichloroethene (total)	27000	ug/L	2500
1,1-Dichloroethene	ND	ug/L	2500
Dichloromethane	1400	ug/L	2500
1,2-Dichloropropane	ND	ug/L	2500
cis-1,3-Dichloropropene	ND	ug/L	2500
trans-1,3-Dichloropropene	ND	ug/L	2500
1,4-Dioxane	ND	ug/L	50000
Ethylbenzene	ND	ug/L	2500
Ethyl cyanide	ND	ug/L	2500
2-Hexanone	ND	ug/L	5000
Iodomethane	ND	ug/L	2500
Isobutyl alcohol	ND	ug/L	12000
Methacrylonitrile	ND	ug/L	2500
Methyl ethyl ketone (MEK)	ND	ug/L	12000
4-Methyl-2-pentanone	ND	ug/L	5000

JB

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Pam Burchard

Approved By: Charlene Livingston

APPENDIX IX VOLATILE ORGANICS (CONT.)

Method 624

Client Name: H & A of New York

Client ID: Well R103

Lab ID: 006648-0003-DU

Matrix: AQUEOUS

Authorized: 06 JUL 90

Enseco ID: 2043510

Sampled: 05 JUL 90

Prepared: NA

Received: 06 JUL 90

Analyzed: 20 JUL 90

Parameter	Result	Units	Reporting Limit	
Styrene	ND	ug/L	2500	
1,1,1,2-Tetrachloroethane	ND	ug/L	2500	
1,1,2,2-Tetrachloroethane	ND	ug/L	2500	
Tetrachloroethene	86	ug/L	2500	J
Toluene	ND	ug/L	2500	
1,1,1-Trichloroethane	ND	ug/L	2500	
1,1,2-Trichloroethane	ND	ug/L	2500	
Trichloroethene	29000	ug/L	2500	
Trichlorofluoromethane	ND	ug/L	2500	
1,2,3-Trichloropropane	ND	ug/L	2500	
Vinyl acetate	ND	ug/L	5000	
Vinyl chloride	1100	ug/L	5000	J
Xylenes (total)	ND	ug/L	2500	
1,2-Dichloroethane-d4	99	%	--	
Toluene-d8	98	%	--	
4-Bromofluorobenzene	102	%	--	

Note J : Result is detected below the reporting limit or is an estimated concentration.

Note B : Compound is also detected in the blank.

ND = Not detected
NA = Not applicable

Reported By: Pam Burchard

Approved By: Charlene Livingston

APPENDIX IX VOLATILE ORGANICS

Method 624

Client Name: H & A of New York

Client ID: Field Blank

Lab ID: 006648-0009-SA

Matrix: AQUEOUS

Authorized: 06 JUL 90

Enseco ID: 2043520

Sampled: 05 JUL 90

Prepared: NA

Received: 06 JUL 90

Analyzed: 20 JUL 90

Parameter	Result	Units	Reporting Limit
Acetone	ND	ug/L	10
Acetonitrile	ND	ug/L	100
Acrolein	ND	ug/L	100
Acrylonitrile	ND	ug/L	100
Allyl chloride	ND	ug/L	5.0
Benzene	ND	ug/L	5.0
Bromodichloromethane	ND	ug/L	5.0
Bromoform	ND	ug/L	5.0
Bromomethane	ND	ug/L	10
Carbon disulfide	ND	ug/L	5.0
Carbon tetrachloride	ND	ug/L	5.0
Chlorobenzene	ND	ug/L	5.0
Chloroprene	ND	ug/L	5.0
Chloroethane	ND	ug/L	10
Dibromochloromethane	ND	ug/L	5.0
Chloroform	ND	ug/L	5.0
Chloromethane	ND	ug/L	10
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0
1,2-Dibromoethane	ND	ug/L	5.0
Dibromomethane	ND	ug/L	5.0
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0
Dichlorodifluoromethane	ND	ug/L	10
1,1-Dichloroethane	ND	ug/L	5.0
1,2-Dichloroethane	ND	ug/L	5.0
1,2-Dichloroethene (total)	ND	ug/L	5.0
1,1-Dichloroethene	ND	ug/L	5.0
Dichloromethane	10	ug/L	5.0
1,2-Dichloropropane	ND	ug/L	5.0
cis-1,3-Dichloropropene	ND	ug/L	5.0
trans-1,3-Dichloropropene	ND	ug/L	5.0
1,4-Dioxane	ND	ug/L	100
Ethylbenzene	ND	ug/L	5.0
Ethyl cyanide	ND	ug/L	5.0
2-Hexanone	ND	ug/L	10
Iodomethane	ND	ug/L	5.0
Isobutyl alcohol	ND	ug/L	25
Methacrylonitrile	ND	ug/L	5.0
Methyl ethyl ketone (MEK)	ND	ug/L	25
4-Methyl-2-pentanone	ND	ug/L	10

B

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Pam Burchard

Approved By: Charlene Livingston

APPENDIX IX VOLATILE ORGANICS (CONT.)

Method 624

Client Name: H & A of New York

Client ID: Field Blank

Lab ID: 006648-0009-SA

Matrix: AQUEOUS

Authorized: 06 JUL 90

Enseco ID: 2043520

Sampled: 05 JUL 90

Prepared: NA

Received: 06 JUL 90

Analyzed: 20 JUL 90

Parameter	Result	Units	Reporting Limit
Styrene	ND	ug/L	5.0
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0
Tetrachloroethene	ND	ug/L	5.0
Toluene	ND	ug/L	5.0
1,1,1-Trichloroethane	ND	ug/L	5.0
1,1,2-Trichloroethane	ND	ug/L	5.0
Trichloroethene	ND	ug/L	5.0
Trichlorofluoromethane	ND	ug/L	5.0
1,2,3-Trichloropropane	ND	ug/L	5.0
Vinyl acetate	ND	ug/L	10
Vinyl chloride	ND	ug/L	10
Xylenes (total)	ND	ug/L	5.0
1,2-Dichloroethane-d4	99	%	--
Toluene-d8	96	%	--
4-Bromofluorobenzene	103	%	--

Note B : Compound is also detected in the blank.

ND = Not detected

NA = Not applicable

Reported By: Pam Burchard

Approved By: Charlene Livingston

APPENDIX IX VOLATILE ORGANICS

Method 624

Client Name: H & A of New York

Client ID: Trip Blank

Lab ID: 006648-0010-SA

Matrix: AQUEOUS

Authorized: 06 JUL 90

Enseco ID: 2043521

Sampled: 05 JUL 90

Prepared: NA

Received: 06 JUL 90

Analyzed: 19 JUL 90

Parameter	Result	Units	Reporting Limit
Acetone	ND	ug/L	10
Acetonitrile	ND	ug/L	100
Acrolein	ND	ug/L	100
Acrylonitrile	ND	ug/L	100
Allyl chloride	ND	ug/L	5.0
Benzene	ND	ug/L	5.0
Bromodichloromethane	ND	ug/L	5.0
Bromoform	ND	ug/L	5.0
Bromomethane	ND	ug/L	10
Carbon disulfide	ND	ug/L	5.0
Carbon tetrachloride	ND	ug/L	5.0
Chlorobenzene	ND	ug/L	5.0
Chloroprene	ND	ug/L	5.0
Chloroethane	ND	ug/L	10
Dibromochloromethane	ND	ug/L	5.0
Chloroform	ND	ug/L	5.0
Chloromethane	ND	ug/L	10
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0
1,2-Dibromoethane	ND	ug/L	5.0
Dibromomethane	ND	ug/L	5.0
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0
Dichlorodifluoromethane	ND	ug/L	10
1,1-Dichloroethane	ND	ug/L	5.0
1,2-Dichloroethane	ND	ug/L	5.0
1,2-Dichloroethene (total)	ND	ug/L	5.0
1,1-Dichloroethene	ND	ug/L	5.0
Dichloromethane	4.2	ug/L	5.0
1,2-Dichloropropane	ND	ug/L	5.0
cis-1,3-Dichloropropene	ND	ug/L	5.0
trans-1,3-Dichloropropene	ND	ug/L	5.0
1,4-Dioxane	ND	ug/L	100
Ethylbenzene	ND	ug/L	5.0
Ethyl cyanide	ND	ug/L	5.0
2-Hexanone	ND	ug/L	10
Iodomethane	ND	ug/L	5.0
Isobutyl alcohol	ND	ug/L	25
Methacrylonitrile	ND	ug/L	5.0
Methyl ethyl ketone (MEK)	ND	ug/L	25
4-Methyl-2-pentanone	ND	ug/L	10

JB

(continued on following page)

 ND = Not detected
 NA = Not applicable

Reported By: Pam Burchard

Approved By: Charlene Livingston

APPENDIX IX VOLATILE ORGANICS (CONT.)

Method 624

Client Name: H & A of New York

Client ID: Trip Blank

Lab ID: 006648-0010-SA

Matrix: AQUEOUS

Authorized: 06 JUL 90

Enseco ID: 2043521

Sampled: 05 JUL 90

Prepared: NA

Received: 06 JUL 90

Analyzed: 19 JUL 90

Parameter	Result	Units	Reporting Limit
Styrene	ND	ug/L	5.0
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0
Tetrachloroethene	ND	ug/L	5.0
Toluene	ND	ug/L	5.0
1,1,1-Trichloroethane	ND	ug/L	5.0
1,1,2-Trichloroethane	ND	ug/L	5.0
Trichloroethene	ND	ug/L	5.0
Trichlorofluoromethane	ND	ug/L	5.0
1,2,3-Trichloropropane	ND	ug/L	5.0
Vinyl acetate	ND	ug/L	10
Vinyl chloride	ND	ug/L	10
Xylenes (total)	ND	ug/L	5.0
1,2-Dichloroethane-d4	96	%	--
Toluene-d8	96	%	--
4-Bromofluorobenzene	101	%	--

Note J : Result is detected below the reporting limit or is an estimated concentration.

Note B : Compound is also detected in the blank.

ND = Not detected

NA = Not applicable

Reported By: Pam Burchard

Approved By: Charlene Livingston

METHOD BLANK REPORT
Volatile Organics by GC/MS

Analyte	Result	Units	Reporting Limit
Test: 624-AP9-A			
Matrix: AQUEOUS			
QC Lot: 18 JUL 90-V2A QC Run: 19 JUL 90-V2B			
Acetone	ND	ug/L	10
Acetonitrile	ND	ug/L	100
Acrolein	ND	ug/L	100
Acrylonitrile	ND	ug/L	100
Allyl chloride	ND	ug/L	5.0
Benzene	ND	ug/L	5.0
Bromodichloromethane	ND	ug/L	5.0
Bromoform	ND	ug/L	5.0
Bromomethane	ND	ug/L	10
Carbon disulfide	ND	ug/L	5.0
Carbon tetrachloride	ND	ug/L	5.0
Chlorobenzene	ND	ug/L	5.0
Chloroprene	ND	ug/L	5.0
Chloroethane	ND	ug/L	10
Dibromochloromethane	ND	ug/L	5.0
Chloroform	ND	ug/L	5.0
Chloromethane	ND	ug/L	10
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0
1,2-Dibromoethane	ND	ug/L	5.0
Dibromomethane	ND	ug/L	5.0
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0
Dichlorodifluoromethane	ND	ug/L	10
1,1-Dichloroethane	ND	ug/L	5.0
1,2-Dichloroethane	ND	ug/L	5.0
1,2-Dichloroethene (total)	ND	ug/L	5.0
1,1-Dichloroethene	ND	ug/L	5.0
Dichloromethane	6.8	ug/L	5.0
1,2-Dichloropropane	ND	ug/L	5.0
cis-1,3-Dichloropropene	ND	ug/L	5.0
trans-1,3-Dichloropropene	ND	ug/L	5.0
1,4-Dioxane	ND	ug/L	100
Ethylbenzene	ND	ug/L	5.0
Ethyl cyanide	ND	ug/L	5.0
2-Hexanone	ND	ug/L	10
Iodomethane	ND	ug/L	5.0
Isobutyl alcohol	ND	ug/L	25
Methacrylonitrile	ND	ug/L	5.0
Methyl ethyl ketone (MEK)	ND	ug/L	25
4-Methyl-2-pentanone	ND	ug/L	10

METHOD BLANK REPORT
 Volatile Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
Test: 624-AP9-A			
Matrix: AQUEOUS			
QC Lot: 18 JUL 90-V2A QC Run: 19 JUL 90-V2B			
Styrene	ND	ug/L	5.0
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0
Tetrachloroethene	ND	ug/L	5.0
Toluene	ND	ug/L	5.0
1,1,1-Trichloroethane	ND	ug/L	5.0
1,1,2-Trichloroethane	ND	ug/L	5.0
Trichloroethene	ND	ug/L	5.0
Trichlorofluoromethane	ND	ug/L	5.0
1,2,3-Trichloropropane	ND	ug/L	5.0
Vinyl acetate	ND	ug/L	10
Vinyl chloride	ND	ug/L	10
Xylenes (total)	ND	ug/L	5.0

Test: 624-AP9-A
 Matrix: AQUEOUS
 QC Lot: 18 JUL 90-V2A QC Run: 20 JUL 90-V2B

Acetone	ND	ug/L	10
Acetonitrile	ND	ug/L	100
Acrolein	ND	ug/L	100
Acrylonitrile	ND	ug/L	100
Allyl chloride	ND	ug/L	5.0
Benzene	ND	ug/L	5.0
Bromodichloromethane	ND	ug/L	5.0
Bromoform	ND	ug/L	5.0
Bromomethane	ND	ug/L	10
Carbon disulfide	ND	ug/L	5.0
Carbon tetrachloride	ND	ug/L	5.0
Chlorobenzene	ND	ug/L	5.0
Chloroprene	ND	ug/L	5.0
Chloroethane	ND	ug/L	10
Dibromochloromethane	ND	ug/L	5.0
Chloroform	ND	ug/L	5.0
Chloromethane	ND	ug/L	10
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0
1,2-Dibromoethane	ND	ug/L	5.0
Dibromomethane	ND	ug/L	5.0
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0

METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
Test: 624-AP9-A			
Matrix: AQUEOUS			
QC Lot: 18 JUL 90-V2A QC Run: 20 JUL 90-V2B			
Dichlorodifluoromethane	ND	ug/L	10
1,1-Dichloroethane	ND	ug/L	5.0
1,2-Dichloroethane	ND	ug/L	5.0
1,2-Dichloroethene			
(total)	ND	ug/L	5.0
1,1-Dichloroethene	ND	ug/L	5.0
Dichloromethane	5.9	ug/L	5.0
1,2-Dichloropropane	ND	ug/L	5.0
cis-1,3-Dichloropropene	ND	ug/L	5.0
trans-1,3-Dichloropropene	ND	ug/L	5.0
1,4-Dioxane	ND	ug/L	100
Ethylbenzene	ND	ug/L	5.0
Ethyl cyanide	ND	ug/L	5.0
2-Hexanone	ND	ug/L	10
Iodomethane	ND	ug/L	5.0
Isobutyl alcohol	ND	ug/L	25
Methacrylonitrile	ND	ug/L	5.0
Methyl ethyl ketone (MEK)	ND	ug/L	25
4-Methyl-2-pentanone	ND	ug/L	10
Styrene	ND	ug/L	5.0
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0
Tetrachloroethene	ND	ug/L	5.0
Toluene	ND	ug/L	5.0
1,1,1-Trichloroethane	ND	ug/L	5.0
1,1,2-Trichloroethane	ND	ug/L	5.0
Trichloroethene	ND	ug/L	5.0
Trichlorofluoromethane	ND	ug/L	5.0
1,2,3-Trichloropropane	ND	ug/L	5.0
Vinyl acetate	ND	ug/L	10
Vinyl chloride	ND	ug/L	10
Xylenes (total)	ND	ug/L	5.0

METHOD BLANK REPORT
 Volatile Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
Test: 624-AP9-A			
Matrix: AQUEOUS			
QC Lot: 18 JUL 90-V2A QC Run: 18 JUL 90-V2B			
Acetone	ND	ug/L	10
Acetonitrile	ND	ug/L	100
Acrolein	ND	ug/L	100
Acrylonitrile	ND	ug/L	100
Allyl chloride	ND	ug/L	5.0
Benzene	ND	ug/L	5.0
Bromodichloromethane	ND	ug/L	5.0
Bromoform	ND	ug/L	5.0
Bromomethane	ND	ug/L	10
Carbon disulfide	ND	ug/L	5.0
Carbon tetrachloride	ND	ug/L	5.0
Chlorobenzene	ND	ug/L	5.0
Chloroprene	ND	ug/L	5.0
Chloroethane	ND	ug/L	10
Dibromochloromethane	ND	ug/L	5.0
Chloroform	ND	ug/L	5.0
Chloromethane	ND	ug/L	10
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0
1,2-Dibromoethane	ND	ug/L	5.0
Dibromomethane	ND	ug/L	5.0
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0
Dichlorodifluoromethane	ND	ug/L	10
1,1-Dichloroethane	ND	ug/L	5.0
1,2-Dichloroethane	ND	ug/L	5.0
1,2-Dichloroethene (total)	ND	ug/L	5.0
1,1-Dichloroethene	ND	ug/L	5.0
Dichloromethane	3.8	ug/L	5.0
1,2-Dichloropropane	ND	ug/L	5.0
cis-1,3-Dichloropropene	ND	ug/L	5.0
trans-1,3-Dichloropropene	ND	ug/L	5.0
1,4-Dioxane	ND	ug/L	100
Ethylbenzene	ND	ug/L	5.0
Ethyl cyanide	ND	ug/L	5.0
2-Hexanone	ND	ug/L	10
Iodomethane	ND	ug/L	5.0
Isobutyl alcohol	ND	ug/L	25
Methacrylonitrile	ND	ug/L	5.0
Methyl ethyl ketone (MEK)	ND	ug/L	25
4-Methyl-2-pentanone	ND	ug/L	10
Styrene	ND	ug/L	5.0
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0
Tetrachloroethene	ND	ug/L	5.0
Toluene	ND	ug/L	5.0
1,1,1-Trichloroethane	ND	ug/L	5.0

METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
Test: 624-AP9-A			
Matrix: AQUEOUS			
QC Lot: 18 JUL 90-V2A QC Run: 18 JUL 90-V2B			
1,1,2-Trichloroethane	ND	ug/L	5.0
Trichloroethene	ND	ug/L	5.0
Trichlorofluoromethane	ND	ug/L	5.0
1,2,3-Trichloropropane	ND	ug/L	5.0
Vinyl acetate	ND	ug/L	10
Vinyl chloride	ND	ug/L	10
Xylenes (total)	ND	ug/L	5.0

MATRIX DUPLICATE REPORT
Volatile Organics by GC/MS

Analyte	Concentration		% RPD
	Sample	Matrix Duplicate	
Test: 624-AP9-A			
Matrix AQUEOUS			
Sample: 006648-0003			
Units: ug/L			
Acetone	ND	ND	NC
Acetonitrile	ND	ND	NC
Acrolein	ND	ND	NC
Acrylonitrile	ND	ND	NC
Allyl chloride	ND	ND	NC
Benzene	ND	ND	NC
Bromodichloromethane	ND	ND	NC
Bromoform	ND	ND	NC
Bromomethane	ND	ND	NC
Carbon disulfide	ND	ND	NC
Carbon tetrachloride	ND	ND	NC
Chlorobenzene	ND	ND	NC
Chloroprene	ND	ND	NC
Chloroethane	ND	ND	NC
Dibromochloromethane	ND	ND	NC
Chloroform	ND	ND	NC
Chloromethane	ND	ND	NC
1,2-Dibromo-3-chloropropane	ND	ND	NC
1,2-Dibromoethane	ND	ND	NC
Dibromomethane	ND	ND	NC
trans-1,4-Dichloro			
2-butene	ND	ND	NC
Dichlorodifluoromethane	ND	ND	NC
1,1-Dichloroethane	ND	ND	NC
1,2-Dichloroethane	ND	ND	NC
1,2-Dichloroethen			
(total)	24000	27000	13
1,1-Dichloroethene	ND	ND	NC
Dichloromethane	2900	1400J	72
1,2-Dichloropropane	ND	ND	NC
cis-1,3-Dichloropropene	ND	ND	NC
trans-1,3-Dichloropropene	ND	ND	NC
1,4-Dioxane	ND	ND	NC
Ethylbenzene	ND	ND	NC
Ethyl cyanide	ND	ND	NC
2-Hexanone	ND	ND	NC
Iodomethane	ND	ND	NC
Isobutyl alcohol	ND	ND	NC
Methacrylonitrile	ND	ND	NC

J = Result is detected below the reporting limit or is an estimated concentration.

ND = Not detected

NC = Not calculated, calculation not applicable.

All calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX DUPLICATE REPORT
Volatile Organics by GC/MS (cont.)

Analyte	Concentration		% RPD
	Sample	Matrix Duplicate	
Methyl ethyl ketone (MEK)	ND	ND	NC
4-Methyl-2-pentanone	ND	ND	NC
Styrene	ND	ND	NC
1,1,1,2-Tetrachloroethane	ND	ND	NC
1,1,2,2-Tetrachloroethane	ND	ND	NC
Tetrachloroethene	ND	86J	NC
Toluene	ND	ND	NC
1,1,1-Trichloroethane	ND	ND	NC
1,1,2-Trichloroethane	ND	ND	NC
Trichloroethene	25000	29000	15
Trichlorofluoromethane	ND	ND	NC
1,2,3-Trichloropropane	ND	ND	NC
Vinyl acetate	ND	ND	NC
Vinyl chloride	1200J	1100J	4.6
Xylenes (total)	ND	ND	NC
1,2-Dichloroethane-d4	98	99	1.0
Toluene-d8	100	98	2.2
4-Bromofluorobenzene	100	102	2.0

J = Result is detected below the reporting limit or is an estimated concentration.

ND = Not detected

NC = Not calculated, calculation not applicable.

All calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPECIFIC QC
ASSIGNMENT REPORT
Volatile Organics by GC/MS

QC SAMPLE TYPE	TEST	LABORATORY SAMPLE NUMBER	QC LOT
MATRIX DUPLICATE	624-AP9-A	006648-0003-DU	18 JUL 90-V2A
MATRIX SPIKE DUPLICATE	624-AP9-A	006648-0003-SD	18 JUL 90-V2A
MATRIX SPIKE	624-AP9-A	006648-0003-MS	18 JUL 90-V2A

MATRIX SPIKE / MATRIX SPIKE DUPLICATE REPORT
Volatile Organics by GC/MS

Analyte	Concentration				Spiked		%Recovery		% RPD
	Sample	Matrix Spike	Matrix Spike	Dup	MS	MSD	MS	MSD	
Test: 624-AP9-A									
Matrix AQUEOUS									
Sample: 006648-0003									
Units: ug/L									
Benzene	ND	19000	21000	25000	25000	25000	78	85	10
Chlorobenzene	ND	21000	23000	25000	25000	25000	85	93	9
1,1-Dichloroethene	ND	20000	21000	25000	25000	25000	80	85	6
Toluene	ND	20000	22000	25000	25000	25000	78	86	10
Trichloroethene	25000	45000	52000	25000	25000	25000	79	109	32

ND = Not detected

NC = Not calculated, calculation not applicable.

All calculations are performed before rounding to avoid round-off errors in calculated results.

APPENDIX D
PART 1C

Appendix IX Semi-Volatile Organics

Semivolatile Organics
Appendix IX List
Method 8270

Client Name: Haley and Aldrich, Inc.

Client ID: Well SR103

Lab ID: 010297-0001-SA

Matrix: AQUEOUS

Authorized: 09 JUL 90

Enseco ID: 1082358

Sampled: 05 JUL 90

Prepared: 10 JUL 90

Received: 06 JUL 90

Analyzed: 31 JUL 90

Parameter	Result	Units	Reporting Limit
Acenaphthene	ND	ug/L	10
Acenaphthylene	ND	ug/L	10
Acetophenone	ND	ug/L	10
2-Acetylaminofluorene	ND	ug/L	100
4-Aminobiphenyl	ND	ug/L	10
Aniline	ND	ug/L	10
Anthracene	ND	ug/L	10
Aramite	ND	ug/L	10
Benzo(a)anthracene	ND	ug/L	10
Benzo(b)fluoranthene	ND	ug/L	10
Benzo(k)fluoranthene	ND	ug/L	10
Benzo(g,h,i)perylene	ND	ug/L	10
Benzo(a)pyrene	ND	ug/L	10
Benzyl alcohol	ND	ug/L	10
4-Bromophenyl			
phenyl ether	ND	ug/L	10
Butyl benzyl phthalate	ND	ug/L	10
2-sec-Butyl-4,6-dinitro-			
phenol	ND	ug/L	10
4-Chloroaniline	ND	ug/L	10
bis(2-Chloroethoxy)-			
methane	ND	ug/L	10
bis(2-Chloroethyl) ether	ND	ug/L	10
bis(2-Chloroisopropyl)-			
ether	ND	ug/L	10
4-Chloro-3-methylphenol	ND	ug/L	10
2-Chloronaphthalene	ND	ug/L	10
2-Chlorophenol	ND	ug/L	10
4-Chlorophenyl			
phenyl ether	ND	ug/L	10
Chrysene	ND	ug/L	10
Dibenz(a,h)anthracene	ND	ug/L	10
Dibenzofuran	ND	ug/L	10
Di-n-butyl phthalate	ND	ug/L	10
1,2-Dichlorobenzene	ND	ug/L	10
1,3-Dichlorobenzene	ND	ug/L	10
1,4-Dichlorobenzene	ND	ug/L	10
3,3'-Dichlorobenzidine	ND	ug/L	20
2,4-Dichlorophenol	ND	ug/L	10
2,6-Dichlorophenol	ND	ug/L	10
Diethyl phthalate	ND	ug/L	10

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Semivolatile Organics
Appendix IX List (CONT.)
Method 8270

Client Name: Haley and Aldrich, Inc.

Client ID: Well SR103

Lab ID: 010297-0001-SA

Matrix: AQUEOUS

Authorized: 09 JUL 90

Enseco ID: 1082358

Sampled: 05 JUL 90

Prepared: 10 JUL 90

Received: 06 JUL 90

Analyzed: 31 JUL 90

Parameter	Result	Units	Reporting Limit
Dimethoate	ND	ug/L	--
p-Dimethylaminoazobenzene	ND	ug/L	10
7,12-Dimethylbenz(a)-anthracene	ND	ug/L	10
3,3'-Dimethylbenzidine	ND	ug/L	10
a,a-Dimethylphenethylamine	ND	ug/L	10
2,4-Dimethylphenol	ND	ug/L	10
Dimethyl phthalate	ND	ug/L	10
1,3-Dinitrobenzene	ND	ug/L	10
4,6-Dinitro-2-methylphenol	ND	ug/L	50
2,4-Dinitrophenol	ND	ug/L	50
2,4-Dinitrotoluene	ND	ug/L	10
2,6-Dinitrotoluene	ND	ug/L	10
Di-n-octyl phthalate	ND	ug/L	10
Diphenylamine	ND	ug/L	10
Disulfoton	ND	ug/L	50
bis(2-Ethylhexyl)phthalate	ND	ug/L	10
Ethyl methanesulfonate	ND	ug/L	10
Famphur	ND	ug/L	--
Fluoranthene	ND	ug/L	10
Fluorene	ND	ug/L	10
Hexachlorobenzene	ND	ug/L	10
Hexachlorobutadiene	ND	ug/L	10
Hexachlorocyclopentadiene	ND	ug/L	10
Hexachloroethane	ND	ug/L	10
Hexachlorophene	ND	ug/L	--
Hexachloropropene	ND	ug/L	10
Indeno(1,2,3-cd)pyrene	ND	ug/L	10
Isophorone	ND	ug/L	10
Isosafrole	ND	ug/L	20
Methapyrilene	ND	ug/L	10
3-Methylcholanthrene	ND	ug/L	10
Methyl methanesulfonate	ND	ug/L	10
2-Methylnaphthalene	ND	ug/L	10
Methyl parathion	ND	ug/L	50
2-Methylphenol	ND	ug/L	10
3/4-Methylphenol	ND	ug/L	10
Naphthalene	ND	ug/L	10

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Semivolatile Organics
Appendix IX List (CONT.)
Method 8270

Client Name: Haley and Aldrich, Inc.

Client ID: Well SR103

Lab ID: 010297-0001-SA

Matrix: AQUEOUS

Authorized: 09 JUL 90

Enseco ID: 1082358

Sampled: 05 JUL 90

Prepared: 10 JUL 90

Received: 06 JUL 90

Analyzed: 31 JUL 90

Parameter	Result	Units	Reporting Limit
1,4-Naphthoquinone	ND	ug/L	10
1-Naphthylamine	ND	ug/L	10
2-Naphthylamine	ND	ug/L	10
2-Nitroaniline	ND	ug/L	50
3-Nitroaniline	ND	ug/L	50
4-Nitroaniline	ND	ug/L	50
Nitrobenzene	ND	ug/L	10
2-Nitrophenol	ND	ug/L	10
4-Nitrophenol	ND	ug/L	50
4-Nitroquinoline-1-oxide	ND	ug/L	--
N-Nitroso-di-n-butylamine	ND	ug/L	10
N-Nitrosodiethylamine	ND	ug/L	10
N-Nitrosodimethylamine	ND	ug/L	10
N-Nitrosodiphenylamine	ND	ug/L	10
N-Nitroso-di-n-propylamine	ND	ug/L	10
N-Nitrosomethylethylamine	ND	ug/L	10
N-Nitrosomorpholine	ND	ug/L	10
N-Nitrosopiperidine	ND	ug/L	10
N-Nitrosopyrrolidine	ND	ug/L	10
5-Nitro-o-toluidine	ND	ug/L	10
Parathion	ND	ug/L	50
Pentachlorobenzene	ND	ug/L	10
Pentachloroethane	ND	ug/L	10
Pentachloronitrobenzene	ND	ug/L	50
Pentachlorophenol	ND	ug/L	50
Phenacetin	ND	ug/L	10
Phenanthrene	ND	ug/L	10
Phenol	ND	ug/L	10
4-Phenylenediamine	ND	ug/L	--
Phorate	ND	ug/L	100
2-Picoline	ND	ug/L	10
Pronamide	ND	ug/L	10
Pyrene	ND	ug/L	10
Pyridine	ND	ug/L	20
Safrole	ND	ug/L	10
Sulfotepp	ND	ug/L	50
1,2,4,5-Tetrachloro-benzene	ND	ug/L	10
2,3,4,6-Tetrachlorophenol	ND	ug/L	50
Thionazin	ND	ug/L	50

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Semivolatile Organics
Appendix IX List (CONT.)
Method 8270

Client Name: Haley and Aldrich, Inc.

Client ID: Well SR103

Lab ID: 010297-0001-SA

Matrix: AQUEOUS

Authorized: 09 JUL 90

Enseco ID: 1082358

Sampled: 05 JUL 90

Prepared: 10 JUL 90

Received: 06 JUL 90

Analyzed: 31 JUL 90

Parameter	Result	Units	Reporting Limit
2-Toluidine	ND	ug/L	10
1,2,4-Trichlorobenzene	ND	ug/L	10
2,4,5-Trichlorophenol	ND	ug/L	50
2,4,6-Trichlorophenol	ND	ug/L	10
0,0,0-Triethylphosphoro- thioate	ND	ug/L	10
1,3,5-Trinitrobenzene	ND	ug/L	10
Nitrobenzene-d5	72	%	--
2-Fluorobiphenyl	74	%	--
Terphenyl-d14	54	%	--
Phenol-d5	76	%	--
2-Fluorophenol	72	%	--
2,4,6-Tribromophenol	84	%	--

ND = Not detected

NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Semivolatile Organics
Appendix IX List
Method 8270

Client Name: Haley and Aldrich, Inc.

Client ID: Well R103

Lab ID: 010297-0002-SA

Matrix: AQUEOUS

Authorized: 09 JUL 90

Enseco ID: 1082359

Sampled: 05 JUL 90

Prepared: 10 JUL 90

Received: 06 JUL 90

Analyzed: 31 JUL 90

Parameter	Result	Units	Reporting Limit
Acenaphthene	ND	ug/L	10
Acenaphthylene	ND	ug/L	10
Acetophenone	ND	ug/L	10
2-Acetylaminofluorene	ND	ug/L	100
4-Aminobiphenyl	ND	ug/L	10
Aniline	ND	ug/L	10
Anthracene	ND	ug/L	10
Aramite	ND	ug/L	10
Benzo(a)anthracene	ND	ug/L	10
Benzo(b)fluoranthene	ND	ug/L	10
Benzo(k)fluoranthene	ND	ug/L	10
Benzo(g,h,i)perylene	ND	ug/L	10
Benzo(a)pyrene	ND	ug/L	10
Benzyl alcohol	ND	ug/L	10
4-Bromophenyl			
phenyl ether	ND	ug/L	10
Butyl benzyl phthalate	ND	ug/L	10
2-sec-Butyl-4,6-dinitro-			
phenol	ND	ug/L	10
4-Chloroaniline	ND	ug/L	10
bis(2-Chloroethoxy)-			
methane	ND	ug/L	10
bis(2-Chloroethyl) ether	ND	ug/L	10
bis(2-Chloroisopropyl)-			
ether	ND	ug/L	10
4-Chloro-3-methylphenol	ND	ug/L	10
2-Chloronaphthalene	ND	ug/L	10
2-Chlorophenol	ND	ug/L	10
4-Chlorophenyl			
phenyl ether	ND	ug/L	10
Chrysene	ND	ug/L	10
Dibenz(a,h)anthracene	ND	ug/L	10
Dibenzofuran	ND	ug/L	10
Di-n-butyl phthalate	ND	ug/L	10
1,2-Dichlorobenzene	ND	ug/L	10
1,3-Dichlorobenzene	ND	ug/L	10
1,4-Dichlorobenzene	ND	ug/L	10
3,3'-Dichlorobenzidine	ND	ug/L	20
2,4-Dichlorophenol	ND	ug/L	10
2,6-Dichlorophenol	ND	ug/L	10
Diethyl phthalate	ND	ug/L	10

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Semivolatile Organics
Appendix IX List (CONT.)
Method 8270

Client Name: Haley and Aldrich, Inc.

Client ID: Well R103

Lab ID: 010297-0002-SA

Matrix: AQUEOUS

Authorized: 09 JUL 90

Enseco ID: 1082359

Sampled: 05 JUL 90

Prepared: 10 JUL 90

Received: 06 JUL 90

Analyzed: 31 JUL 90

Parameter	Result	Units	Reporting Limit
Dimethoate	ND	ug/L	--
p-Dimethylaminoazobenzene	ND	ug/L	10
7,12-Dimethylbenz(a)-anthracene	ND	ug/L	10
3,3'-Dimethylbenzidine	ND	ug/L	10
a,a-Dimethylphenethylamine	ND	ug/L	10
2,4-Dimethylphenol	ND	ug/L	10
Dimethyl phthalate	ND	ug/L	10
1,3-Dinitrobenzene	ND	ug/L	10
4,6-Dinitro-2-methylphenol	ND	ug/L	50
2,4-Dinitrophenol	ND	ug/L	50
2,4-Dinitrotoluene	ND	ug/L	10
2,6-Dinitrotoluene	ND	ug/L	10
Di-n-octyl phthalate	ND	ug/L	10
Diphenylamine	ND	ug/L	10
Disulfoton	ND	ug/L	50
bis(2-Ethylhexyl) phthalate	ND	ug/L	10
Ethyl methanesulfonate	ND	ug/L	10
Famphur	ND	ug/L	--
Fluoranthene	ND	ug/L	10
Fluorene	ND	ug/L	10
Hexachlorobenzene	ND	ug/L	10
Hexachlorobutadiene	ND	ug/L	10
Hexachlorocyclopentadiene	ND	ug/L	10
Hexachloroethane	ND	ug/L	10
Hexachlorophene	ND	ug/L	--
Hexachloropropene	ND	ug/L	10
Indeno(1,2,3-cd)pyrene	ND	ug/L	10
Isophorone	ND	ug/L	10
Isosafrole	ND	ug/L	20
Methapyrilene	ND	ug/L	10
3-Methylcholanthrene	ND	ug/L	10
Methyl methanesulfonate	ND	ug/L	10
2-Methylnaphthalene	ND	ug/L	10
Methyl parathion	ND	ug/L	50
2-Methylphenol	ND	ug/L	10
3/4-Methylphenol	ND	ug/L	10
Naphthalene	ND	ug/L	10

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Semivolatile Organics
Appendix IX List (CONT.)
Method 8270

Client Name: Haley and Aldrich, Inc.

Client ID: Well R103

Lab ID: 010297-0002-SA

Matrix: AQUEOUS

Authorized: 09 JUL 90

Enseco ID: 1082359

Sampled: 05 JUL 90

Prepared: 10 JUL 90

Received: 06 JUL 90

Analyzed: 31 JUL 90

Parameter	Result	Units	Reporting Limit
1,4-Naphthoquinone	ND	ug/L	10
1-Naphthylamine	ND	ug/L	10
2-Naphthylamine	ND	ug/L	10
2-Nitroaniline	ND	ug/L	50
3-Nitroaniline	ND	ug/L	50
4-Nitroaniline	ND	ug/L	50
Nitrobenzene	ND	ug/L	10
2-Nitrophenol	ND	ug/L	10
4-Nitrophenol	ND	ug/L	50
4-Nitroquinoline-1-oxide	ND	ug/L	--
N-Nitroso-di-n-butylamine	ND	ug/L	10
N-Nitrosodiethylamine	ND	ug/L	10
N-Nitrosodimethylamine	ND	ug/L	10
N-Nitrosodiphenylamine	ND	ug/L	10
N-Nitroso-di-n-propylamine	ND	ug/L	10
N-Nitrosomethylethylamine	ND	ug/L	10
N-Nitrosomorpholine	ND	ug/L	10
N-Nitrosopiperidine	ND	ug/L	10
N-Nitrosopyrrolidine	ND	ug/L	10
5-Nitro-o-toluidine	ND	ug/L	10
Parathion	ND	ug/L	50
Pentachlorobenzene	ND	ug/L	10
Pentachloroethane	ND	ug/L	10
Pentachloronitrobenzene	ND	ug/L	50
Pentachlorophenol	ND	ug/L	50
Phenacetin	ND	ug/L	10
Phenanthrene	ND	ug/L	10
Phenol	ND	ug/L	10
4-Phenylenediamine	ND	ug/L	--
Phorate	ND	ug/L	100
2-Picoline	ND	ug/L	10
Pronamide	ND	ug/L	10
Pyrene	ND	ug/L	10
Pyridine	ND	ug/L	20
Safrole	ND	ug/L	10
Sulfotepp	ND	ug/L	50
1,2,4,5-Tetrachloro-benzene	ND	ug/L	10
2,3,4,6-Tetrachlorophenol	ND	ug/L	50
Thionazin	ND	ug/L	50

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

Semivolatile Organics
Appendix IX List (CONT.)
Method 8270

Client Name: Haley and Aldrich, Inc.

Client ID: Well R103

Lab ID: 010297-0002-SA

Matrix: AQUEOUS

Authorized: 09 JUL 90

Enseco ID: 1082359

Sampled: 05 JUL 90

Prepared: 10 JUL 90

Received: 06 JUL 90

Analyzed: 31 JUL 90

Parameter	Result	Units	Reporting Limit
2-Toluidine	ND	ug/L	10
1,2,4-Trichlorobenzene	ND	ug/L	10
2,4,5-Trichlorophenol	ND	ug/L	50
2,4,6-Trichlorophenol	ND	ug/L	10
0,0,0-Triethylphosphoro- thioate	ND	ug/L	10
1,3,5-Trinitrobenzene	ND	ug/L	10
Nitrobenzene-d5	71	%	--
2-Fluorobiphenyl	66	%	--
Terphenyl-d14	71	%	--
Phenol-d5	72	%	--
2-Fluorophenol	65	%	--
2,4,6-Tribromophenol	72	%	--

ND = Not detected
NA = Not applicable

Reported By: Angie Poturalski

Approved By: Jeff Lowry

QC LOT ASSIGNMENT REPORT
Semivolatile Organics by GC/MS

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
010297-0001-SA	AQUEOUS	625-A	10 JUL 90-A	10 JUL 90-B
010297-0002-SA	AQUEOUS	625-A	10 JUL 90-A	10 JUL 90-B
010297-0002-DU	AQUEOUS	625-A	10 JUL 90-A	10 JUL 90-B
010297-0002-MS	AQUEOUS	625-A	10 JUL 90-A	10 JUL 90-B
010297-0002-SD	AQUEOUS	625-A	10 JUL 90-A	10 JUL 90-B

DUPLICATE CONTROL SAMPLE REPORT Semivolatile Organics by GC/MS

Analyte	Spiked	Concentration		Measured DCS2	AVG	Accuracy Average(%)		Precision (RPD)	
		DCS1				DCS	Limits	DCS	Limit
Category: 625-A									
Matrix: AQUEOUS									
QC Lot: 10 JUL 90-A									
Concentration Units: ug/L									
Phenol	100	64.5		69.9	67.2	67	12- 89	8.0	42
2-Chlorophenol	100	78.7		87.0	82.8	83	27-123	10	40
1,4-Dichlorobenzene	50.0	20.2		22.1	21.2	42	36- 97	9.0	28
N-Nitroso-di- n-propylamine	50.0	35.9		39.6	37.8	76	41-116	9.8	38
1,2,4-Trichlorobenzene	50.0	21.8		23.8	22.8	46	39- 98	8.8	28
4-Chloro-3-methylphenol	100	73.4		85.4	79.4	79	23- 97	15	42
Acenaphthene	50.0	25.7		28.2	27.0	54	46-118	9.3	31
4-Nitrophenol	100	63.7		78.4	71.0	71	10- 80	21	50
2,4-Dinitrotoluene	50.0	37.0		41.8	39.4	79	24- 96	12	38
Pentachlorophenol	100	43.8		88.7	66.2	66	9-103	68	50
Pyrene	50.0	31.2		35.5	33.4	67	26-127	13	31

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT
Semivolatile Organics by GC/MS

Analyte	Concentration		Accuracy(%)	
	Spiked	Measured	SCS	Limits
Category: 625-A				
Matrix: AQUEOUS				
QC Lot: 10 JUL 90-A QC Run: 10 JUL 90-B				
Concentration Units: ug/L				
Nitrobenzene-d5	100	70.1	70	35-114
2-Fluorobiphenyl	100	67.3	67	43-116
Terphenyl-d14	100	79.4	79	33-141
2-Fluorophenol	200	121	60	21-100
Phenol-d5	200	108	54	10- 94
2,4,6-Tribromophenol	200	195	98	10-123

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX DUPLICATE REPORT Semivolatile Organics by GC/MS

Analyte	Concentration		% RPD
	Sample	Matrix Duplicate	
Test: 8270CP-AP9-A			
Matrix AQUEOUS			
Sample: 010297-0002			
Units: ug/L			
Acenaphthene	ND	ND	NC
Acenaphthylene	ND	ND	NC
Acetophenone	ND	ND	NC
2-Acetylaminofluorene	ND	ND	NC
4-Aminobiphenyl	ND	ND	NC
Aniline	ND	ND	NC
Anthracene	ND	ND	NC
Aramite	ND	ND	NC
Benzo(a)anthracene	ND	ND	NC
Benzo(b)fluoranthene	ND	ND	NC
Benzo(k)fluoranthene	ND	ND	NC
Benzo(g,h,i)perylene	ND	ND	NC
Benzo(a)pyrene	ND	ND	NC
Benzyl alcohol	ND	ND	NC
4-Bromopheny			
phenyl ether	ND	ND	NC
Butyl benzyl phthalate	ND	ND	NC
2-sec-Butyl-4,6-dinitro			
phenol	ND	ND	NC
4-Chloroaniline	ND	ND	NC
bis(2-Chloroethoxy)			
methane	ND	ND	NC
bis(2-Chloroethyl) ether	ND	ND	NC
bis(2-Chloroisopropyl)			
ether	ND	ND	NC
4-Chloro-3-methylphenol	ND	ND	NC
2-Chloronaphthalene	ND	ND	NC
2-Chlorophenol	ND	ND	NC
4-Chloropheny			
phenyl ether	ND	ND	NC
Chrysene	ND	ND	NC
Dibenz(a,h)anthracene	ND	ND	NC
Dibenzofuran	ND	ND	NC
Di-n-butyl phthalate	ND	ND	NC
1,2-Dichlorobenzene	ND	ND	NC
1,3-Dichlorobenzene	ND	ND	NC
1,4-Dichlorobenzene	ND	ND	NC
3,3'-Dichlorobenzidine	ND	ND	NC
2,4-Dichlorophenol	ND	ND	NC

ND = Not detected

NC = Not calculated, calculation not applicable

All calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX DUPLICATE REPORT
Semivolatile Organics by GC/MS (cont.)

Analyte	Concentration		% RPD
	Sample	Matrix Duplicate	
2,6-Dichlorophenol	ND	ND	NC
Diethyl phthalate	ND	ND	NC
Dimethoate	ND	ND	NC
p-Dimethylaminoazobenzene	ND	ND	NC
7,12-Dimethylbenz(a) anthracene	ND	ND	NC
3,3'-Dimethylbenzidine	ND	ND	NC
a,a-Dimethylphenethyl amine	ND	ND	NC
2,4-Dimethylphenol	ND	ND	NC
Dimethyl phthalate	ND	ND	NC
1,3-Dinitrobenzene	ND	ND	NC
4,6-Dinitro 2-methylphenol	ND	ND	NC
2,4-Dinitrophenol	ND	ND	NC
2,4-Dinitrotoluene	ND	ND	NC
2,6-Dinitrotoluene	ND	ND	NC
Di-n-octyl phthalate	ND	ND	NC
Diphenylamine	ND	ND	NC
Disulfoton	ND	ND	NC
bis(2-Ethylhexyl phthalate	ND	ND	NC
Ethyl methanesulfonate	ND	ND	NC
Famphur	ND	ND	NC
Fluoranthene	ND	ND	NC
Fluorene	ND	ND	NC
Hexachlorobenzene	ND	ND	NC
Hexachlorobutadiene	ND	ND	NC
Hexachlorocyclopentadiene	ND	ND	NC
Hexachloroethane	ND	ND	NC
Hexachlorophene	ND	ND	NC
Hexachloropropene	ND	ND	NC
Indeno(1,2,3-cd)pyrene	ND	ND	NC
Isophorone	ND	ND	NC
Isosafrole	ND	ND	NC
Methapyrilene	ND	ND	NC
3-Methylcholanthrene	ND	ND	NC
Methyl methanesulfonate	ND	ND	NC
2-Methylnaphthalene	ND	ND	NC
Methyl parathion	ND	ND	NC
2-Methylphenol	ND	ND	NC
3/4-Methylphenol	ND	ND	NC
Naphthalene	ND	ND	NC
1,4-Naphthoquinone	ND	ND	NC
1-Naphthylamine	ND	ND	NC
2-Naphthylamine	ND	ND	NC

ND = Not detected

NC = Not calculated, calculation not applicable

All calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX DUPLICATE REPORT

Semivolatile Organics by GC/MS (cont.)

Analyte	Concentration		% RPD
	Sample	Matrix Duplicate	
2-Nitroaniline	ND	ND	NC
3-Nitroaniline	ND	ND	NC
4-Nitroaniline	ND	ND	NC
Nitrobenzene	ND	ND	NC
2-Nitrophenol	ND	ND	NC
4-Nitrophenol	ND	ND	NC
4-Nitroquinoline-1-oxide	ND	ND	NC
N-Nitroso-di-n-butylamine	ND	ND	NC
N-Nitrosodiethylamine	ND	ND	NC
N-Nitrosodimethylamine	ND	ND	NC
N-Nitrosodiphenylamine	ND	ND	NC
N-Nitroso-di n-propylamine	ND	ND	NC
N-Nitrosomethylethylamine	ND	ND	NC
N-Nitrosomorpholine	ND	ND	NC
N-Nitrosopiperidine	ND	ND	NC
N-Nitrosopyrrolidine	ND	ND	NC
5-Nitro-o-toluidine	ND	ND	NC
Parathion	ND	ND	NC
Pentachlorobenzene	ND	ND	NC
Pentachloroethane	ND	ND	NC
Pentachloronitrobenzene	ND	ND	NC
Pentachlorophenol	ND	ND	NC
Phenacetin	ND	ND	NC
Phenanthrene	ND	ND	NC
Phenol	ND	ND	NC
4-Phenylenediamine	ND	ND	NC
Phorate	ND	ND	NC
2-Picoline	ND	ND	NC
Pronamide	ND	ND	NC
Pyrene	ND	ND	NC
Pyridine	ND	ND	NC
Safrole	ND	ND	NC
Sulfotepp	ND	ND	NC
1,2,4,5-Tetrachloro benzene	ND	ND	NC
2,3,4,6-Tetrachlorophenol	ND	ND	NC
Thionazin	ND	ND	NC
2-Toluidine	ND	ND	NC
1,2,4-Trichlorobenzene	ND	ND	NC
2,4,5-Trichlorophenol	ND	ND	NC
2,4,6-Trichlorophenol	ND	ND	NC
0,0,0-Triethylphosphoro thioate	ND	ND	NC
1,3,5-Trinitrobenzene	ND	ND	NC
Nitrobenzene-d5	71	70	2.3

ND = Not detected

NC = Not calculated, calculation not applicable

All calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX DUPLICATE REPORT
Semivolatile Organics by GC/MS (cont.)

Analyte	Concentration		% RPD
	Sample	Matrix Duplicate	
2-Fluorobiphenyl	66	71	6.8
Terphenyl-d14	71	79	10
Phenol-d5	72	70	2.8
2-Fluorophenol	65	62	3.9
2,4,6-Tribromophenol	72	82	13

All calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE / MATRIX SPIKE DUPLICATE REPORT Semivolatile Organics by GC/MS

Analyte	Concentration			Spiked		%Recovery		% RPD
	Sample	Matrix Spike	Matrix Spike Dup	MS	MSD	MS	MSD	
Test: 8270CP-AP9-A								
Matrix AQUEOUS								
Sample: 010297-0002								
Units: ug/L								
Acenaphthene	ND	30	31	47	47	64	66	3
4-Chloro-3-methylphenol	ND	83	83	94	94	88	88	0
2-Chlorophenol	ND	78	80	94	94	83	85	3
1,4-Dichlorobenzene	ND	26	27	47	47	55	57	4
2,4-Dinitrotoluene	ND	40	42	47	47	85	89	5
4-Nitrophenol	ND	70	58	94	94	74	62	19
N-Nitroso-di n-propylamine	ND	46	48	47	47	98	102	4
Pentachlorophenol	ND	84	79	94	94	89	84	6
Phenol	ND	70	74	94	94	74	79	6
Pyrene	ND	31	39	47	47	66	83	23
1,2,4-Trichlorobenzene	ND	27	28	47	47	57	60	4

ND = Not detected

NC = Not calculated, calculation not applicable

All calculations are performed before rounding to avoid round-off errors in calculated results.

APPENDIX D
PART 1D

Appendix IX Chlorinated Pesticides and PCBs

Chlorinated Pesticides and PCB's
 Appendix IX List
 Method 8080

Client Name: Haley and Aldrich, Inc.

Client ID: Well SR103

Lab ID: 010297-0001-SA

Matrix: AQUEOUS

Authorized: 09 JUL 90

Enseco ID: 1082358

Sampled: 05 JUL 90

Prepared: 10 JUL 90

Received: 06 JUL 90

Analyzed: 17 JUL 90

Parameter	Result	Units	Reporting Limit
Aldrin	ND	ug/L	0.050
Aroclor 1016	ND	ug/L	1.0
Aroclor 1221	ND	ug/L	1.0
Aroclor 1232	ND	ug/L	1.0
Aroclor 1242	ND	ug/L	1.0
Aroclor 1248	ND	ug/L	1.0
Aroclor 1254	ND	ug/L	1.0
Aroclor 1260	ND	ug/L	1.0
alpha-BHC	ND	ug/L	0.050
beta-BHC	ND	ug/L	0.050
delta-BHC	ND	ug/L	0.050
gamma-BHC (Lindane)	ND	ug/L	0.050
alpha-Chlordane	ND	ug/L	0.050
gamma-Chlordane	ND	ug/L	0.050
Chlorobenzilate	ND	ug/L	0.10
4,4'-DDD	ND	ug/L	0.10
4,4'-DDE	ND	ug/L	0.10
4,4'-DDT	ND	ug/L	0.10
Diallate	ND	ug/L	1.0
Dieldrin	ND	ug/L	0.10
Endosulfan I	ND	ug/L	0.050
Endosulfan II	ND	ug/L	0.10
Endosulfan sulfate	ND	ug/L	0.10
Endrin	ND	ug/L	0.10
Endrin aldehyde	ND	ug/L	0.10
Heptachlor	ND	ug/L	0.050
Heptachlor epoxide	ND	ug/L	0.050
Isodrin	ND	ug/L	0.10
Kepone	ND	ug/L	1.0
Methoxychlor	ND	ug/L	0.50
Toxaphene	ND	ug/L	5.0
Dibutyl chlorendate	68	%	--

ND = Not detected
 NA = Not applicable

Reported By: William Sullivan

Approved By: Stephanie Boehnke

Chlorinated Pesticides and PCB's
Appendix IX List
Method 8080

Client Name: Haley and Aldrich, Inc.

Client ID: Well R103

Lab ID: 010297-0002-SA

Matrix: AQUEOUS

Authorized: 09 JUL 90

Enseco ID: 1082359

Sampled: 05 JUL 90

Prepared: 10 JUL 90

Received: 06 JUL 90

Analyzed: 17 JUL 90

Parameter	Result	Units	Reporting Limit
Aldrin	ND	ug/L	0.050
Aroclor 1016	ND	ug/L	1.0
Aroclor 1221	ND	ug/L	1.0
Aroclor 1232	ND	ug/L	1.0
Aroclor 1242	ND	ug/L	1.0
Aroclor 1248	ND	ug/L	1.0
Aroclor 1254	ND	ug/L	1.0
Aroclor 1260	ND	ug/L	1.0
alpha-BHC	ND	ug/L	0.050
beta-BHC	ND	ug/L	0.050
delta-BHC	ND	ug/L	0.050
gamma-BHC (Lindane)	ND	ug/L	0.050
alpha-Chlordane	ND	ug/L	0.050
gamma-Chlordane	ND	ug/L	0.050
Chlorobenzilate	ND	ug/L	0.10
4,4'-DDD	ND	ug/L	0.10
4,4'-DDE	ND	ug/L	0.10
4,4'-DDT	ND	ug/L	0.10
Diallate	ND	ug/L	1.0
Dieldrin	ND	ug/L	0.10
Endosulfan I	ND	ug/L	0.050
Endosulfan II	ND	ug/L	0.10
Endosulfan sulfate	ND	ug/L	0.10
Endrin	ND	ug/L	0.10
Endrin aldehyde	ND	ug/L	0.10
Heptachlor	ND	ug/L	0.050
Heptachlor epoxide	ND	ug/L	0.050
Isodrin	ND	ug/L	0.10
Kepone	ND	ug/L	1.0
Methoxychlor	ND	ug/L	0.50
Toxaphene	ND	ug/L	5.0
Dibutyl chlorendate	86	%	--

ND = Not detected
NA = Not applicable

Reported By: William Sullivan

Approved By: Stephanie Boehnke

APPENDIX D
PART 1E

Appendix IX Total Metals

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

ROW No.: 7/87

Lab Sample No.

Client Sample ID.

664801

WELL SR103

664803

WELL R103

664803D

WELL R103

664803S

WELL R103

664805

WELL SR110

664807

WELL R110

Were ICP interelement corrections applied?

Yes/No YES

Were ICP background corrections applied?
If yes-were raw data generated before
application of background corrections?

Yes/No YES

Yes/No NO

Comments:

FOUR AQUEOUS TOTAL SAMPLES FOR METALS ANALYSIS. AS REQUESTED,
DUPLICATE AND MATRIX SPIKE ANALYSIS WAS PERFORMED ON ONE OF THE
SAMPLES.

Release of the data contained in this hardcopy data package and in the
computer readable data submitted on floppy diskette have been authorized by
the Laboratory Manager or the Manager's designee, as verified by the
following signature.

Lab Manager:

Anthony M. Nace *AN*

Date: 08/08/90

1
INORGANIC ANALYSIS DATA SHEET

LAB SAMPLE NO.

664801

Lab Name: ENSECO - ERCO LABORATORY Project No.: 6648

Matrix (soil/water): WATER

Client Sample ID: WELL SR103

Level (low/med): LOW

Date Received: 07/06/90

Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		
7440-36-0	Antimony	19.0	U		P
7440-38-2	Arsenic	10.0			F
7440-39-3	Barium	52.0	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	3.0	U	N	P
7440-70-2	Calcium				
7440-47-3	Chromium	7.2	B		P
7440-48-4	Cobalt	3.1	B		P
7440-50-8	Copper	7.2	B		P
7439-89-6	Iron				
7439-92-1	Lead	7.4		S+	F
7439-95-4	Magnesium				
7439-96-5	Manganese				
7439-97-6	Mercury	0.2	U		CV
7440-02-0	Nickel				
7440-09-7	Potassium	3900	B		P
7482-49-2	Selenium	2.0	U	N	F
7440-22-4	Silver	2.0	U		P
7440-23-5	Sodium				
7440-28-0	Thallium	3.0	U	W	F
7440-62-2	Vanadium	3.0	U		P
7440-66-6	Zinc	42.1			P
	Cyanide	10.0	U		AS
7440-31-5	Tin	17.0	U		P

Color Before: COLORLESS
Color After: YELLOW

Clarity Before: CLEAR
Clarity After: CLEAR

Texture: _____
Artifacts: _____

Comments:

1
INORGANIC ANALYSIS DATA SHEET

LAB SAMPLE NO.

664803

Lab Name: ENSECO - ERCO LABORATORY Project No.: 6648

Matrix (soil/water): WATER

Client Sample ID: WELL R103

Level (low/med): LOW

Date Received: 07/06/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		
7440-36-0	Antimony	19.0	U		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	51.8	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	3.0	U	N	P
7440-70-2	Calcium				
7440-47-3	Chromium	3.0	U		P
7440-48-4	Cobalt	3.0	U		P
7440-50-8	Copper	7.5	B		P
7439-89-6	Iron				
7439-92-1	Lead	4.6	B		F
7439-95-4	Magnesium		-		
7439-96-5	Manganese				
7439-97-6	Mercury	0.2	U		CV
7440-02-0	Nickel		-		
7440-09-7	Potassium	14900	-		P
7482-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	2.0	U		P
7440-23-5	Sodium				
7440-28-0	Thallium	3.0	U	W	F
7440-62-2	Vanadium	3.6	B		P
7440-66-6	Zinc	6.0	U		P
	Cyanide	10.0	U		AS
7440-31-5	Tin	17.0	U		P

Color Before: COLORLESS

Clarity Before: CLEAR

Texture: _____

Color After: YELLOW

Clarity After: CLEAR

Artifacts: _____

Comments:

1
INORGANIC ANALYSIS DATA SHEET

LAB SAMPLE NO.

664805

Lab Name: ENSECO - ERCO LABORATORY Project No.: 6648

Matrix (soil/water): WATER

Client Sample ID: WELL SR110

Level (low/med): LOW

Date Received: 07/06/90

Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				
7440-36-0	Antimony	19.0	U		P
7440-38-2	Arsenic	5.8	B		F
7440-39-3	Barium	255			P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	3.0	U	N	P
7440-70-2	Calcium				
7440-47-3	Chromium	81.7			P
7440-48-4	Cobalt	6.1	B		P
7440-50-8	Copper	93.5			P
7439-89-6	Iron				
7439-92-1	Lead	21.9			F
7439-95-4	Magnesium				
7439-96-5	Manganese				
7439-97-6	Mercury	4.6			CV
7440-02-0	Nickel				
7440-09-7	Potassium	43800			P
7482-49-2	Selenium	2.0	U	N	F
7440-22-4	Silver	2.0	U		P
7440-23-5	Sodium				
7440-28-0	Thallium	3.0	U	W	F
7440-62-2	Vanadium	12.0	B		P
7440-66-6	Zinc	88.5			P
	Cyanide				NR
7440-31-5	Tin	24.3			P

Color Before: GREY
Color After: YELLOW

Clarity Before: OPAQUE
Clarity After: CLEAR

Texture: _____
Artifacts: _____

Comments:

1
INORGANIC ANALYSIS DATA SHEET

LAB SAMPLE NO.

664807

Lab Name: ENSECO - ERCO LABORATORY Project No.: 6648

Matrix (soil/water): WATER

Client Sample ID: WELL R110

Level (low/med): LOW

Date Received: 07/06/90

Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		
7440-36-0	Antimony	57.0	U		P
7440-38-2	Arsenic	10.0	U	W	F
7440-39-3	Barium	7.3	B		P
7440-41-7	Beryllium	3.0	U		P
7440-43-9	Cadmium	9.0	U	N	P
7440-70-2	Calcium				
7440-47-3	Chromium	12.8	B		P
7440-48-4	Cobalt	9.0	U		P
7440-50-8	Copper	20.6	B		P
7439-89-6	Iron				
7439-92-1	Lead	10.0	U		F
7439-95-4	Magnesium				
7439-96-5	Manganese				
7439-97-6	Mercury	0.2	U		CV
7440-02-0	Nickel				
7440-09-7	Potassium	56400			P
7482-49-2	Selenium	10.0	U	WN	F
7440-22-4	Silver	6.0	U		P
7440-23-5	Sodium				
7440-28-0	Thallium	3.0	U	W	F
7440-62-2	Vanadium	9.0	U		P
7440-66-6	Zinc	35.3	B		P
	Cyanide				NR
7440-31-5	Tin	18.6			P

Color Before: BROWN
Color After: YELLOW

Clarity Before: OPAQUE
Clarity After: CLEAR

Texture: _____
Artifacts: _____

Comments:

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

Initial Calibration Source: EPA-LV

Continuing Calibration Source: SPEX, FISHER

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony	978.0	1000.00	102.2	1000.0	995.00	99.5	964.00	96.4	P
Arsenic									
Barium	1960.0	1960.00	100.0	1000.0	1010.00	101.0	972.00	97.2	P
Beryllium	483.0	466.00	96.5	1000.0	973.00	97.3	944.00	94.4	P
Cadmium	502.0	485.00	96.6	1000.0	1010.00	101.0	981.00	98.1	P
Calcium									
Chromium	510.0	490.00	96.1	1000.0	1040.00	104.0	1010.00	101.0	P
Cobalt	502.0	478.00	95.2	1000.0	1020.00	102.0	998.00	99.8	P
Copper	515.0	511.00	99.2	1000.0	1030.00	103.0	996.00	99.6	P
Iron									
Lead									
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium	49000.0	48700.00	99.4	10000.0	9720.00	97.2	9660.00	96.6	P
Selenium									
Silver	500.0	499.00	99.8	1000.0	1030.00	103.0	1000.00	100.0	P
Sodium									
Thallium									
Vanadium	488.0	468.00	95.9	1000.0	1000.00	100.0	985.00	98.5	P
Zinc	3100.0	2850.00	91.9	1000.0	994.00	99.4	984.00	98.4	P
Cyanide									
				1000.0	1048.00	104.8	1019.00	101.9	P

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

Initial Calibration Source: EPA-LV

Continuing Calibration Source: SPEX, FISHER

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony				1000.0	975.00	97.5	979.00	97.9	P
Arsenic									
Barium				1000.0	997.00	99.7	1010.00	101.0	P
Beryllium				1000.0	964.00	96.4	973.00	97.3	P
Cadmium				1000.0	1010.00	101.0	1010.00	101.0	P
Calcium									
Chromium				1000.0	1030.00	103.0	1050.00	105.0	P
Cobalt				1000.0	1010.00	101.0	1020.00	102.0	P
Copper				1000.0	1020.00	102.0	1040.00	104.0	P
Iron									
Lead									
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium				10000.0	9060.00	90.6	9330.00	93.3	P
Selenium									
Silver				1000.0	1020.00	102.0	1040.00	104.0	P
Sodium									
Thallium									
Vanadium				1000.0	991.00	99.1	995.00	99.5	P
Zinc				1000.0	994.00	99.4	1020.00	102.0	P
Cyanide									
Tin				1000.0	989.80	99.0	1018.00	101.8	P

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

Initial Calibration Source: EPA-LV

Continuing Calibration Source: SPEX, FISHER

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony				1000.0	975.00	97.5			P
Arsenic									
Barium				1000.0	1010.00	101.0			P
Beryllium				1000.0	962.00	96.2			P
Cadmium				1000.0	1000.00	100.0			P
Calcium									
Chromium				1000.0	1030.00	103.0			P
Cobalt				1000.0	1000.00	100.0			P
Copper				1000.0	1030.00	103.0			P
Iron									
Lead									
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium				10000.0	9340.00	93.4			P
Selenium									
Silver				1000.0	1020.00	102.0			P
Sodium									
Thallium									
Vanadium				1000.0	984.00	98.4			P
Zinc				1000.0	981.00	98.1			P
Cyanide									
Tin				1000.0	1000.00	100.0			P

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

Initial Calibration Source: EPA-LV

Continuing Calibration Source: SPEX, FISHER

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic	47.4	46.00	97.0	50.0	48.00	96.0	47.50	95.0	F
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	97.5	91.00	93.3	50.0	48.60	97.2	51.30	102.6	F
Magnesium									
Manganese									
Mercury	5.0	5.00	100.0	1.0	1.00	100.0	0.98	98.0	CV
Nickel									
Potassium									
Selenium	52.6	50.60	96.2	50.0	48.20	96.4	47.10	94.2	F
Silver									
Sodium									
Thallium	97.0	98.00	101.0	50.0	50.40	100.8	51.50	103.0	F
Vanadium									
Zinc									
Cyanide	250.0	216.00	86.4	250.0	257.00	102.8	252.00	100.8	AS

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

Initial Calibration Source: EPA-LV

Continuing Calibration Source: SPEX, FISHER

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Mercury				1.0	1.00	100.0			CV
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium				50.0	54.10	108.2	51.80	103.6	F
Vanadium									
Zinc									
Cyanide									

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

Initial Calibration Source: EPA-LV

Continuing Calibration Source: SPEX, FISHER

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium				50.0	51.50	103.0	52.70	105.4	F
Vanadium									
Zinc									
Cyanide									

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

Initial Calibration Source: EPA-LV

Continuing Calibration Source: SPEX, FISHER

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic	47.4	47.70	100.6	50.0	49.90	99.8	52.00	104.0	F
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	97.5	99.00	101.5	50.0	48.50	97.0	48.60	97.2	F
Magnesium									
Manganese									
Mercury	5.0	5.04	101.0	1.0	1.06	106.0	1.05	105.0	CV
Nickel									
Potassium									
Selenium	52.6	47.70	90.7	50.0	45.70	91.4	49.40	98.8	F
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

Initial Calibration Source: EPA-LV

Continuing Calibration Source: SPEX, FISHER

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	50.40	100.8	50.60	101.2	F
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

Initial Calibration Source: EPA-LV

Continuing Calibration Source: SPEX, FISHER

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	97.5	102.00	104.6	50.0	50.70	101.4	49.80	99.6	F
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

Initial Calibration Source: EPA-LV

Continuing Calibration Source: SPEX, FISHER

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	50.20	100.4			F
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

2B
CRDL STANDARD FOR AA AND ICP

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

AA CRDL Standard Source: FISHER

ICP CRDL Standard Source: BAKER

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	True	Initial Found	%R	Final Found	%R
Aluminum				120.0	92.50	77.1	117.00	97.5
Antimony								
Arsenic	10.0	8.60	86.0					
Barium								
Beryllium				10.0	10.50	105.0	9.80	98.0
Cadmium				10.0	8.60	86.0	9.10	91.0
Calcium								
Chromium				20.0	20.80	104.0	21.20	106.0
Cobalt				100.0	96.60	96.6	95.90	95.9
Copper				50.0	52.40	104.8	51.10	102.2
Iron								
Lead	5.0	4.10	82.0					
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium	5.0	5.30	106.0					
Silver				20.0	19.80	99.0	19.00	95.0
Sodium								
Thallium	10.0	10.50	105.0					
Vanadium				100.0	99.70	99.7	96.90	96.9
Zinc				40.0	39.50	98.8	44.30	110.8

2B
CRDL STANDARD FOR AA AND ICP

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

AA CRDL Standard Source: FISHER

ICP CRDL Standard Source: BAKER

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	True	Initial Found	%R	Final Found	%R
Aluminum								
Antimony								
Arsenic	10.0	9.20	92.0					
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead	5.0	3.20	64.0					
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium	5.0	4.70	94.0					
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

2B
CRDL STANDARD FOR AA AND ICP

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

AA CRDL Standard Source: FISHER

ICP CRDL Standard Source: BAKER

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	True	Initial Found	%R	Final Found	%R
Aluminum								
Antimony								
Arsenic								
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead	5.0	6.10	122.0					
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

3
BLANKS

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
		C	1	C	2	C	3	C		C	
Aluminum											
Antimony	19.0	U	19.0	U	19.0	U	-22.0	B	19.0	U	P
Arsenic											
Barium	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	P
Beryllium	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	P
Cadmium	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	P
Calcium											
Chromium	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	P
Cobalt	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	P
Copper	3.0	U	3.0	U	3.0	U	3.0	U	6.6	B	P
Iron											
Lead											
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium	428.0	U	428.0	U	428.0	U	428.0	U	428.0	U	P
Selenium											
Silver	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	P
Sodium											
Thallium											
Vanadium	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	P
Zinc	6.0	U	6.0	U	6.0	U	6.0	U	13.8	B	P
Cyanide											
tin	17.0	U	17.0	U	17.0	U	17.0	U	17.0	U	P

3
BLANKS

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Prepa- ration Blank	C	M
			1	C	2	C	3	C			
Aluminum											
Antimony			-30.7	B	19.0	U					P
Arsenic											
Barium			1.0	U	1.0	U					P
Beryllium			1.0	U	1.0	U					P
Cadmium			3.0	U	3.0	U					P
Calcium											
Chromium			3.0	U	3.0	U					P
Cobalt			3.0	U	3.0	U					P
Copper			3.0	U	3.0	U					P
Iron											
Lead											
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium			428.0	U	-484.0	B					P
Selenium											
Silver			2.0	U	2.0	U					P
Sodium											
Thallium											
Vanadium			3.0	U	3.0	U					P
Zinc			6.0	U	6.0	U					P
Cyanide											
Tin			17.0	U	17.0	U					P

3
BLANKS

Lab Name: ENSECO - ERCO LABORATORY Project No.: 6648

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M.
		C	1	C	2	C	3	C		C	
Aluminum		—		—		—		—		—	
Antimony		—		—		—		—		—	
Arsenic	2.0	U	2.0	U	2.0	U		—	2.0	U	F
Barium		—		—		—		—		—	
Beryllium		—		—		—		—		—	
Cadmium		—		—		—		—		—	
Calcium		—		—		—		—		—	
Chromium		—		—		—		—		—	
Cobalt		—		—		—		—		—	
Copper		—		—		—		—		—	
Iron		—		—		—		—		—	
Lead	2.0	U	2.0	U	2.0	U		—	2.0	U	F
Magnesium		—		—		—		—		—	
Manganese		—		—		—		—		—	
Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	CV
Nickel		—		—		—		—		—	
Potassium		—		—		—		—		—	
Selenium	2.0	U	2.0	U	2.0	U		—	2.0	U	F
Silver		—		—		—		—		—	
Sodium		—		—		—		—		—	
Thallium	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	F
Vanadium		—		—		—		—		—	
Zinc		—		—		—		—		—	
Cyanide	10.0	U	10.0	U	10.0	U		—	10.0	U	AS

3
BLANKS

Lab Name: ENSECO - ERCO LABORATORY Project No.: 6648

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Prepa- ration Blank	C	M
			1	C	2	C	3	C			
Aluminum											
Antimony											
Arsenic											
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead											
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium											
Silver											
Sodium											
Thallium			3.0	U	3.0	U	3.0	U			F
Vanadium											
Zinc											
Cyanide											

3
BLANKS

Lab Name: ENSECO - ERCO LABORATORY Project No.: 6648

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
		C	1	C	2	C	3	C		C	
Aluminum											
Antimony											
Arsenic	2.0	U	2.0	U	2.0	U					F
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead	2.0	U	2.0	U	2.0	U	2.0	U			F
Magnesium											
Manganese											
Mercury	0.2	U	0.2	U	0.2	U			0.2	U	CV
Nickel											
Potassium											
Selenium	2.0	U	2.0	U	2.0	U					F
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

3
BLANKS

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						Prepa- ration Blank	C	M
			1	C	2	C	3	C			
Aluminum											
Antimony											
Arsenic											
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead			2.0	U							F
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium											
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

3
BLANKS

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
		C	1	C	2	C	3	C		C	
Aluminum											
Antimony											
Arsenic											
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead	2.0	U	2.0	U	2.0	U	2.0	U			F
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium											
Selenium											
Silver											
Sodium											
Thallium											
Vanadium											
Zinc											
Cyanide											

6
DUPLICATES

LAB SAMPLE NO.

664803D

Lab Name: ENSECO - ERCO LABORATORY Project No.: 6648

Matrix (soil/water): WATER

Level (low/med): LOW

% Solids for Sample: 0.0

% Solids for Duplicate: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								
Antimony		19.0	U	20.8	B	200.0		P
Arsenic		2.0	U	2.0	B	200.0		F
Barium		51.8	B	51.5	B	0.6		P
Beryllium		1.0	U	1.0	U			P
Cadmium		3.0	U	3.0	U			P
Calcium								
Chromium		3.0	U	3.0	U			P
Cobalt		3.0	U	3.3	B	200.0		P
Copper		7.5	B	4.3	B	54.2		P
Iron								
Lead		4.6	B	3.1	B	39.0		F
Magnesium								
Manganese								
Mercury		0.2	U	0.2	U			CV
Nickel								
Potassium	5000	14900		15000		0.7		P
Selenium		2.0	U	2.0	U			F
Silver		2.0	U	2.0	U			P
Sodium								
Thallium		3.0	U	3.0	U			F
Vanadium		3.6	B	3.0	U	200.0		P
Zinc		6.0	U	6.0	U			P
Cyanide		10.0	U	10.0	U			AS
Tin		17.0	U	17.0	U			NR

4
ICP INTERFERENCE CHECK SAMPLE

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

ICP ID Number: JA61

ICS Source: EPA-LV-0387

Concentration Units: ug/L

Analyte	True		Initial Found			Final Found		
	Sol. A	Sol. AB	Sol. A	Sol. AB	%R	Sol. A	Sol. AB	%R
Aluminum								
Antimony			26	50.0		-6		
Arsenic								
Barium		466	-0	474.0	101.7	1	485.0	104.1
Beryllium		472	-0	454.0	96.2	-0	458.0	97.0
Cadmium		900	-4	945.0	105.0	-0	959.0	106.6
Calcium								
Chromium	53	532	51	516.0	97.0	50	520.0	97.7
Cobalt		469	-3	447.0	95.3	-0	443.0	94.5
Copper		515	6	513.0	99.6	10	520.0	101.0
Iron								
Lead								
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium			-272	59.7		-67	-336.0	
Selenium								
Silver		1010	-6	936.0	92.7	-6	946.0	93.7
Sodium								
Thallium								
Vanadium		487	-1	471.0	96.7	1	466.0	95.7
Zinc		976	-21	830.0	85.0	-26	826.0	84.6

5A
SPIKE SAMPLE RECOVERY

LAB SAMPLE NO.

664803S

Lab Name: ENSECO - ERCO LABORATORY Project No.: 6648

Matrix (soil/water): WATER

Level (low/med): LOW

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum							
Antimony	75-125	415	19.0	500.0	83.0		P
Arsenic	75-125	31.7	2.0	40.0	79.3		F
Barium	75-125	1670	51.8	2000.0	80.9		P
Beryllium	75-125	39.9	1.0	50.0	79.8		P
Cadmium	75-125	37.2	3.0	50.0	74.4	N	P
Calcium							
Chromium	75-125	158	3.0	200.0	79.0		P
Cobalt	75-125	415	3.0	500.0	83.0		P
Copper	75-125	220	7.5	250.0	85.0		P
Iron							
Lead	75-125	20.1	4.6	20.0	77.5		F
Magnesium							
Manganese							
Mercury	75-125	0.9	0.2	1.0	87.0		CV
Nickel							
Potassium		14700	14900				NR
Selenium	75-125	5.4	2.0	10.0	54.0	N	F
Silver	75-125	44.7	2.0	50.0	89.4		P
Sodium							
Thallium	75-125	55.4	3.0	50.0	110.8		F
Vanadium	75-125	390	3.6	500.0	77.3		P
Zinc	75-125	397	6.0	500.0	79.4		P
Cyanide	75-125	107	10.0	100.0	107.0		AS

Comments:

5B
POST DIGEST SPIKE SAMPLE RECOVERY

LAB SAMPLE NO.

664803A

Lab Name: ENSECO - ERCO LABORATORY Project No.: 6648

Matrix (soil/water): WATER

Level (low/med): LOW

Concentration Units: ug/L

Analyte	Control Limit %R	Spiked Sample Result (SSR) C	Sample Result (SR) C	Spike Added (SA)	%R	Q	M
Aluminum							
Antimony							NR
Arsenic							NR
Barium							NR
Beryllium							NR
Cadmium		10.00	3.00 U	200.0	5.0		P
Calcium							
Chromium							NR
Cobalt							NR
Copper							NR
Iron							
Lead							NR
Magnesium							
Manganese							
Mercury							NR
Nickel							
Potassium							NR
Selenium							NR
Silver							NR
Sodium							
Thallium							NR
Vanadium							NR
Zinc							NR
Cyanide							NR

Comments:

6
DUPLICATES

LAB SAMPLE NO.

664803D

Lab Name: ENSECO - ERCO LABORATORY Project No.: 6648

Matrix (soil/water): WATER

Level (low/med): LOW

% Solids for Sample: 0.0

% Solids for Duplicate: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								
Antimony		19.0	U	20.8	B	200.0		P
Arsenic		2.0	U	2.0	B	200.0		F
Barium		51.8	B	51.5	B	0.6		P
Beryllium		1.0	U	1.0	U			P
Cadmium		3.0	U	3.0	U			P
Calcium								
Chromium		3.0	U	3.0	U			P
Cobalt		3.0	U	3.3	B	200.0		P
Copper		7.5	B	4.3	B	54.2		P
Iron								
Lead		4.6	B	3.1	B	39.0		F
Magnesium								
Manganese								
Mercury		0.2	U	0.2	U			CV
Nickel								
Potassium	5000	14900		15000		0.7		P
Selenium		2.0	U	2.0	U			F
Silver		2.0	U	2.0	U			P
Sodium								
Thallium		3.0	U	3.0	U			F
Vanadium		3.6	B	3.0	U	200.0		P
Zinc		6.0	U	6.0	U			P
Cyanide		10.0	U	10.0	U			AS
tin		17.0	U	17.0	U			NR

FORM VI - IN

7/87

7
LABORATORY CONTROL SAMPLE

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

Solid LCS Source: EPA-LV-0287

Aqueous LCS Source: EPA-LV

Analyte	Aqueous (ug/L)			Solid (mg/kg)					%R
	True	Found	%R(1)	True	Found	C	Limits		
Aluminum									
Antimony	978.0	978.00	100.0						
Arsenic									
Barium	1960.0	1950.00	99.5						
Beryllium	483.0	483.00	100.0						
Cadmium	502.0	480.00	95.6						
Calcium									
Chromium	510.0	485.00	95.1						
Cobalt	502.0	471.00	93.8						
Copper	515.0	514.00	99.8						
Iron									
Lead									
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium	49000.0	47600.00	97.1						
Selenium									
Silver	500.0	485.00	97.0						
Sodium									
Thallium									
Vanadium	488.0	467.00	95.7						
Zinc	3100.0	2800.00	90.3						
Cyanide									

7
LABORATORY CONTROL SAMPLE

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

Solid LCS Source: EPA-LV-0287

Aqueous LCS Source: EPA-LV

Analyte	Aqueous (ug/L)			Solid (mg/kg)				
	True	Found	%R(1)	True	Found	C	Limits	%R
Aluminum								
Antimony								
Arsenic	47.4	48.30	101.9					
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead	97.5	100.00	102.6					
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium	104.0	45.00	43.3					
Silver								
Sodium								
Thallium	97.0	97.40	100.4					
Vanadium								
Zinc								
Cyanide	224.0	219.00	97.8					

8

Project No.: 6648

Concentration Units: ug/L

[illegible]

9
ICP SERIAL DILUTIONS

LAB SAMPLE NO.

664805L

Lab Name: ENSECO - ERCO LABORATORY Project No.: 6648

Matrix (soil/water): WATER

Level (low/med): LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Differ- ence	Q	M
Aluminum							
Antimony	19.0	U	95.0	U			NR
Arsenic							F
Barium	255		273	B	7.1		P
Beryllium	1.0	U	5.0	U			NR
Cadmium	3.0	U	15.0	U			NR
Calcium							
Chromium	81.7		101		23.6		P
Cobalt	6.1	B	15.0	U	100.0		NR
Copper	93.5		111	B	18.7		P
Iron							
Lead							F
Magnesium							
Manganese							
Mercury							CV
Nickel							
Potassium	43773		45842		4.7		P
Selenium							F
Silver	2.0	U	10.0	U			NR
Sodium							
Thallium							F
Vanadium	12.0	B	15.0	U	100.0		NR
Zinc	88.5		91.6	B	3.5		P

10
HOLDING TIMES

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

[illegible]

664805 - rerun
for
dilution
overcalibration

8/8/90

33

11
INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

ICP ID Number: JA61

Date: 06/30/90

Flame AA ID Number: _____

Furnace AA ID Number: _____

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200		
Antimony	206.84		60	19.0	P
Arsenic			10		
Barium	493.41		200	1.0	P
Beryllium	313.04		5	1.0	P
Cadmium	228.80		5	3.0	P
Calcium			5000		
Chromium	267.72		10	3.0	P
Cobalt	228.62		50	3.0	P
Copper	324.75		25	3.0	P
Iron			100		
Lead	220.35		5	19.0	P
Magnesium			5000		
Manganese			15		
Mercury			0.2		
Nickel			40		
Potassium	766.49		5000	428	P
Selenium			5		
Silver	328.07		10	2.0	P
Sodium			5000		
Thallium			10		
Vanadium	292.40		50	3.0	P
Zinc	213.80		20	6.0	P

Comments:

11
INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

ICP ID Number: JA61

Date: 06/30/90

Flame AA ID Number: _____

Furnace AA ID Number: _____

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200		
Antimony			60		
Arsenic			10		
Barium			200		
Beryllium			5		
Cadmium			5		
Calcium			5000		
Chromium			10		
Cobalt			50		
Copper			25		
Iron			100		
Lead			5		
Magnesium			5000		
Manganese			15		
Mercury	253.70	BD	0.2	0.2	CV
Nickel			40		
Potassium			5000		
Selenium			5		
Silver			10		
Sodium			5000		
Thallium			10		
Vanadium			50		
Zinc			20		

Comments:

11
INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

ICP ID Number: JA61

Date: 06/30/90

Flame AA ID Number: _____

Furnace AA ID Number: PE-5100/3030

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200		
Antimony			60		
Arsenic	193.70	BZ	10	2.0	F
Barium			200		
Beryllium			5		
Cadmium			5		
Calcium			5000		
Chromium			10		
Cobalt			50		
Copper			25		
Iron			100		
Lead	283.31	BZ	5	2.0	F
Magnesium			5000		
Manganese			15		
Mercury			0.2		
Nickel			40		
Potassium			5000		
Selenium	196.03	BZ	5	2.0	F
Silver			10		
Sodium			5000		
Thallium	276.86	BZ	10	3.0	F
Vanadium			50		
Zinc			20		

Comments:

12A
ICP INTERELEMENT CORRECTION FACTORS (QUARTERLY)

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6649

ICP ID Number: JA61

Date: 06/30/90

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		<u>Al</u>	<u>Ca</u>	<u>Fe</u>	<u>Mg</u>	<u>As</u>
Aluminum	308.21					
Antimony	206.84		0.0000900			
Arsenic		0.0053098				
Barium	493.41			0.0000070		
Beryllium	313.04		0.0000011	0.0000035	-0.0000010	
Cadmium	228.80	0.0000083		-0.0000210		0.0107630
Calcium	315.89					
Chromium	267.72					
Cobalt	228.62			-0.0000640		
Copper	324.75	-0.0000040		-0.0001340		
Iron	259.84					
Lead	220.35	0.0009215				
Magnesium	279.08					
Manganese	257.61			-0.0001590	-0.0000050	
Mercury	253.70					
Nickel	231.60					
Potassium	766.49					
Selenium				-0.0069550		
Silver	328.07	0.0000061		-0.0002420		
Sodium	589.24					
Thallium		-0.0002820	-0.0001020	0.0192603		
Vanadium	292.40			0.0002633	-0.0000110	
Zinc	213.80				-0.0000260	

Comments:

12B
ICP INTERELEMENT CORRECTION FACTORS (QUARTERLY)

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

ICP ID Number: JA61

Date: 06/30/90

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		<u>Ba</u>	<u>Be</u>	<u>Cd</u>	<u>Cr</u>	<u>Co</u>
Aluminum	308.21					-0.0183270
Antimony	206.84				0.0020273	-0.0025430
Arsenic					0.0015000	
Barium	493.41					
Beryllium	313.04				-0.0000050	
Cadmium	228.80		0.0048780		-0.0000150	0.0000890
Calcium	315.89					0.0034490
Chromium	267.72					
Cobalt	228.62	0.0005720		0.0003970	-0.0000280	
Copper	324.75					-0.0008550
Iron	259.84					
Lead	220.35				0.0003581	-0.0317300
Magnesium	279.08				0.0005223	
Manganese	257.61					
Mercury	253.70					
Nickel	231.60					
Potassium	766.49					
Selenium						-0.0038410
Silver	328.07					
Sodium	589.24					
Thallium						0.0038500
Vanadium	292.40				0.0000610	
Zinc	213.80				-0.0000630	

Comments:

12B
ICP INTERELEMENT CORRECTION FACTORS (QUARTERLY)

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6642

ICP ID Number: JA61

Date: 06/30/90

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Mn	Mo	Ni	Sb	Sn
Aluminum	308.21		0.0169000			
Antimony	206.84	-0.0027580	0.0061420	-0.0048930		0.0030890
Arsenic		0.0005376		0.0007100		
Barium	493.41					
Beryllium	313.04					
Cadmium	228.80			-0.0001700		
Calcium	315.89		-0.0106770		0.0000864	
Chromium	267.72	-0.0000370	-0.0021640			
Cobalt	228.62			0.0002790		
Copper	324.75		0.0005010			
Iron	259.84	-0.0001190				
Lead	220.35			0.0003290	-0.0014510	
Magnesium	279.08	-0.0033510				
Manganese	257.61		-0.0003770			
Mercury	253.70					
Nickel	231.60					
Potassium	766.49					
Selenium			-0.0098400			
Silver	328.07	-0.0000290				
Sodium	589.24					
Thallium		0.0016787				
Vanadium	292.40	-0.0001530	-0.0034190			
Zinc	213.80					

Comments:

12B
ICP INTERELEMENT CORRECTION FACTORS (QUARTERLY)

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 10648

ICP ID Number: JA61

Date: 06/30/90

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		<u>Sr</u>	<u>Ti</u>	<u>V</u>	<u>Zn</u>	<u>Y</u>
Aluminum	308.21			-0.0027530		
Antimony	206.84		0.0016840	-0.0004410	-0.0003280	
Arsenic				0.0010118		
Barium	493.41	0.0000920				
Beryllium	313.04			0.0007068		-0.0009210
Cadmium	228.80					
Calcium	315.89					
Chromium	267.72		0.0000483	0.0002480		
Cobalt	228.62		0.0017500			
Copper	324.75		0.0000895			
Iron	259.84		-0.0019380			
Lead	220.35					
Magnesium	279.08			-0.0011170		
Manganese	257.61			-0.0000980		
Mercury	253.70					
Nickel	231.60					
Potassium	766.49					
Selenium						
Silver	328.07		-0.0025340	-0.0000730		0.0005560
Sodium	589.24					
Thallium				0.0029600		
Vanadium	292.40		0.0009880			
Zinc	213.80					

Comments:

12B
ICP INTERELEMENT CORRECTION FACTORS (QUARTERLY)

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 60418

ICP ID Number: JA61

Date: 06/30/90

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		Zr	—	—	—	—
Aluminum	308.21					
Antimony	206.84					
Arsenic						
Barium	493.41					
Beryllium	313.04	-0.0018580				
Cadmium	228.80					
Calcium	315.89					
Chromium	267.72					
Cobalt	228.62					
Copper	324.75					
Iron	259.84					
Lead	220.35					
Magnesium	279.08					
Manganese	257.61					
Mercury	253.70					
Nickel	231.60					
Potassium	766.49					
Selenium						
Silver	328.07	0.0044540				
Sodium	589.24					
Thallium						
Vanadium	292.40	-0.0045450				
Zinc	213.80					

Comments:

13
ICP LINEAR RANGES (QUARTERLY)

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

ICP ID Number: JA61

Date: 06/30/90

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	M
Aluminum			
Antimony	5.00	100000.0	
Arsenic	5.00	100000.0	
Barium	5.00	50000.0	
Beryllium	5.00	10000.0	
Cadmium	5.00	100000.0	
Calcium			
Chromium	5.00	100000.0	
Cobalt	5.00	100000.0	
Copper	5.00	100000.0	
Iron			
Lead	5.00	100000.0	
Magnesium			
Manganese			
Mercury			NR
Nickel			
Potassium	5.00	500000.0	
Selenium			NR
Silver	5.00	50000.0	
Sodium			
Thallium			NR
Vanadium	5.00	50000.0	
Zinc	5.00	100000.0	

Comments:

APPENDIX D
PART 1F

Appendix IX Dissolved Metals

COVER PAGE - INORGANIC ANALYSES DATA PACKAGE

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

ROW No.: 7/87

Lab Sample No.

Client Sample ID.

664802

WELL SR103 DISC

664804

WELL R103 DISC

664804D

WELL R103 DISC

664804S

WELL R103 DISC

664806

WELL SR110 DISC

664808

WELL R110 DISC

Were ICP interelement corrections applied?

Yes/No YES

Were ICP background corrections applied?
If yes-were raw data generated before
application of background corrections?

Yes/No YES

Yes/No NO

Comments:

FOUR AQUEOUS DISSOLVED SAMPLES FOR METALS ANALYSIS. DUPLICATE AND
MATRIX SPIKE ANALYSIS WAS PERFORMED ON ONE SAMPLE, AS REQUESTED.

Release of the data contained in this hardcopy data package and in the
computer readable data submitted on floppy diskette have been authorized by
the Laboratory Manager or the Manager's designee, as verified by the
following signature.

Lab Manager:

Anthony M. Nove / MAC

Date: 08/08/90

1
INORGANIC ANALYSIS DATA SHEET

LAB SAMPLE NO.

664802

Lab Name: ENSECO - ERCO LABORATORY Project No.: 6648

Matrix (soil/water): WATER

Client Sample ID: WELL SR10301

Level (low/med): LOW

Date Received: 07/06/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		
7440-36-0	Antimony	46.4	B		P
7440-38-2	Arsenic	2.6	B		F
7440-39-3	Barium	48.3	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	3.0	U		P
7440-70-2	Calcium				
7440-47-3	Chromium	3.0	U		P
7440-48-4	Cobalt	3.0	U		P
7440-50-8	Copper	7.5	B		P
7439-89-6	Iron				
7439-92-1	Lead	2.0	U		F
7439-95-4	Magnesium				
7439-96-5	Manganese				
7439-97-6	Mercury	0.2	U		CV
7440-02-0	Nickel				
7440-09-7	Potassium	4030	B		P
7482-49-2	Selenium	2.0	U	N	F
7440-22-4	Silver	2.0	U		P
7440-23-5	Sodium				
7440-28-0	Thallium	3.0	U	W	F
7440-62-2	Vanadium	3.0	U		P
7440-66-6	Zinc	48.1			P
	Cyanide				NR
7440-31-5	Tin	17.0	U		P

Color Before: COLORLESS
Color After: COLORLESS

Clarity Before: CLEAR
Clarity After: CLEAR

Texture: _____
Artifacts: _____

Comments:

1
INORGANIC ANALYSIS DATA SHEET

LAB SAMPLE NO.

664804

Lab Name: ENSECO - ERCO LABORATORY Project No.: 6648

Matrix (soil/water): WATER

Client Sample ID: WELL R103D16

Level (low/med): LOW

Date Received: 07/06/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		
7440-36-0	Antimony	31.4	B		P
7440-38-2	Arsenic	2.0	U		F
7440-39-3	Barium	49.4	B		P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	3.0	U		P
7440-70-2	Calcium		-		
7440-47-3	Chromium	3.0	U		P
7440-48-4	Cobalt	3.0	U		P
7440-50-8	Copper	5.2	B		P
7439-89-6	Iron		-		
7439-92-1	Lead	2.0	U		F
7439-95-4	Magnesium		-		
7439-96-5	Manganese		-		
7439-97-6	Mercury	0.2	U		CV
7440-02-0	Nickel		-		
7440-09-7	Potassium	14400	-		P
7482-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	2.0	U		P
7440-23-5	Sodium		-		
7440-28-0	Thallium	15.0	U	W	F
7440-62-2	Vanadium	3.0	U		P
7440-66-6	Zinc	47.7	-		P
	Cyanide		-		NR
7440-31-5	Tin	17.0	U		P

Color Before: YELLOW

Clarity Before: CLEAR

Texture: _____

Color After: COLORLESS

Clarity After: CLEAR

Artifacts: _____

Comments:

FOUR SEPARATE BOTTLES OF THIS SAMPLE WERE RECEIVED, BUT ONE OF THE BOTTLES DID NOT APPEAR TO HAVE BEEN FILTERED (SEDIMENT AT BOTTOM). FOR MERCURY ANALYSIS, AN ALIQUOT WAS TAKEN FROM THREE SEPARATE BOTTLES. ALL OTHER ANALYSES USED ALIQUOTS FROM THE FOURTH BOTTLE.

1
INORGANIC ANALYSIS DATA SHEET

LAB SAMPLE NO.

664806

Lab Name: ENSECO - ERCO LABORATORY Project No.: 6648

Matrix (soil/water): WATER

Client Sample ID: WELL SR110

Level (low/med): LOW

Date Received: 07/06/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				
7440-36-0	Antimony	30.5	B		P
7440-38-2	Arsenic	2.2	B		F
7440-39-3	Barium	240			P
7440-41-7	Beryllium	1.0	U		P
7440-43-9	Cadmium	3.0	U		P
7440-70-2	Calcium				
7440-47-3	Chromium	3.0	U		P
7440-48-4	Cobalt	3.0	U		P
7440-50-8	Copper	13.9	B		P
7439-89-6	Iron				
7439-92-1	Lead	2.0	U	W	F
7439-95-4	Magnesium				
7439-96-5	Manganese				
7439-97-6	Mercury	0.2	U		CV
7440-02-0	Nickel				
7440-09-7	Potassium	45500			P
7482-49-2	Selenium	2.0	U	WN	F
7440-22-4	Silver	2.3	B		P
7440-23-5	Sodium				
7440-28-0	Thallium	15.0	U	W	F
7440-62-2	Vanadium	3.0	U		P
7440-66-6	Zinc	38.9			P
	Cyanide				NR
7440-31-5	Tin	17.0	U		P

Color Before: COLORLESS

Clarity Before: CLEAR

Texture: _____

Color After: COLORLESS

Clarity After: CLEAR

Artifacts: _____

Comments:

1
INORGANIC ANALYSIS DATA SHEET

LAB SAMPLE NO.

664808

Lab Name: ENSECO - ERCO LABORATORY Project No.: 6648

Matrix (soil/water): WATER

Client Sample ID: WELL R110D

Level (low/med): LOW

Date Received: 07/06/90

% Solids: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum		-		
7440-36-0	Antimony	64.9	B		P
7440-38-2	Arsenic	10.0	U	W	F
7440-39-3	Barium	5.4	B		P
7440-41-7	Beryllium	3.0	U		P
7440-43-9	Cadmium	9.0	U		P
7440-70-2	Calcium				
7440-47-3	Chromium	9.0	U		P
7440-48-4	Cobalt	9.0	U		P
7440-50-8	Copper	9.0	U		P
7439-89-6	Iron				
7439-92-1	Lead	10.0	U	W	F
7439-95-4	Magnesium		-		
7439-96-5	Manganese				
7439-97-6	Mercury	0.2	U		CV
7440-02-0	Nickel		-		
7440-09-7	Potassium	53500			P
7482-49-2	Selenium	10.0	U	WN	F
7440-22-4	Silver	6.0	U		P
7440-23-5	Sodium				
7440-28-0	Thallium	15.0	U	W	F
7440-62-2	Vanadium	9.0	U		P
7440-66-6	Zinc	18.0	U		P
	Cyanide				NR
7440-31-5	Tin	17.0	U		P

Color Before: COLORLESS
Color After: COLORLESS

Clarity Before: CLEAR
Clarity After: CLEAR

Texture: _____
Artifacts: _____

Comments:

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
RUN #1

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

Initial Calibration Source: EPA-LV

Continuing Calibration Source: SPEX, FISHER

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony	978.0	1000.00	102.2	1000.0	1020.00	102.0	1000.00	100.0	P
Arsenic									
Barium	1960.0	1970.00	100.5	1000.0	982.00	98.2	1010.00	101.0	P
Beryllium	483.0	476.00	98.6	1000.0	958.00	95.8	990.00	99.0	P
Cadmium	502.0	501.00	99.8	1000.0	987.00	98.7	999.00	99.9	P
Calcium									
Chromium	510.0	500.00	98.0	1000.0	1020.00	102.0	1040.00	104.0	P
Cobalt	502.0	492.00	98.0	1000.0	1020.00	102.0	1040.00	104.0	P
Copper	515.0	516.00	100.2	1000.0	1010.00	101.0	1050.00	105.0	P
Iron									
Lead									
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium	49000.0	49000.00	100.0	10000.0	9440.00	94.4	9560.00	95.6	P
Selenium									
Silver	500.0	499.00	99.8	1000.0	988.00	98.8	1010.00	101.0	P
Sodium									
Thallium									
Vanadium	488.0	475.00	97.3	1000.0	968.00	96.8	969.00	96.9	P
Zinc	3100.0	2980.00	96.1	1000.0	981.00	98.1	1000.00	100.0	P
Cyanide									
Tin				1000.0	1059.00	105.9	1066.00	106.6	P

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

Initial Calibration Source: EPA-LV

Continuing Calibration Source: SPEX, FISHER

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony				1000.0	975.00	97.5			P
Arsenic									
Barium				1000.0	960.00	96.0			P
Beryllium				1000.0	944.00	94.4			P
Cadmium				1000.0	972.00	97.2			P
Calcium									
Chromium				1000.0	1010.00	101.0			P
Cobalt				1000.0	996.00	99.6			P
Copper				1000.0	997.00	99.7			P
Iron									
Lead									
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium				10000.0	8810.00	88.1			P
Selenium									
Silver				1000.0	972.00	97.2			P
Sodium									
Thallium									
Vanadium				1000.0	932.00	93.2			P
Zinc				1000.0	992.00	99.2			P
Cyanide									
tin				1000.0	1017.00	101.7			

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION
RUN #2

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

Initial Calibration Source: EPA-LV

Continuing Calibration Source: SPEX, FISHER

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony	978.0	997.00	101.9	1000.0	1000.00	100.0	943.00	94.3	P
Arsenic									
Barium	1960.0	1910.00	97.4	1000.0	984.00	98.4	909.00	90.9	P
Beryllium	483.0	454.00	94.0	1000.0	957.00	95.7	904.00	90.4	P
Cadmium	502.0	483.00	96.2	1000.0	994.00	99.4	951.00	95.1	P
Calcium									
Chromium	510.0	481.00	94.3	1000.0	1020.00	102.0	963.00	96.3	P
Cobalt	502.0	473.00	94.2	1000.0	1020.00	102.0	961.00	96.1	P
Copper	515.0	497.00	96.5	1000.0	1020.00	102.0	946.00	94.6	P
Iron									
Lead									
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium	49000.0	48800.00	99.6	10000.0	9490.00	94.9	8560.00	85.6	P
Selenium									
Silver	500.0	484.00	96.8	1000.0	1010.00	101.0	945.00	94.5	P
Sodium									
Thallium									
Vanadium	488.0	452.00	92.6	1000.0	968.00	96.8	911.00	91.1	P
Zinc	3100.0	2830.00	91.3	1000.0	1000.00	100.0	964.00	96.4	P
Cyanide									
Tin				1000.0	1021.00	102.1	970.50	97.0	P

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

RUN #1

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

Initial Calibration Source: EPA-LV

Continuing Calibration Source: SPEX, FISHER

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic	47.4	45.80	96.6	50.0	45.50	91.0	46.80	93.6	F
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	97.5	99.00	101.5	50.0	48.50	97.0	48.60	97.2	F
Magnesium									
Manganese									
Mercury	5.0	5.00	100.0	1.0	1.00	100.0	0.98	98.0	CV
Nickel									
Potassium									
Selenium	52.6	47.70	90.7	50.0	45.70	91.4	46.50	93.0	F
Silver									
Sodium									
Thallium	97.0	98.00	101.0	50.0	50.40	100.8	51.50	103.0	F
Vanadium									
Zinc									
Cyanide									

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

Initial Calibration Source: EPA-LV

Continuing Calibration Source: SPEX, FISHER

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic				50.0	47.30	94.6			F
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead				50.0	50.40	100.8	50.60	101.2	F
Magnesium									
Manganese									
Mercury				1.0	1.00	100.0			CV
Nickel									
Potassium									
Selenium				50.0	47.00	94.0	49.60	99.2	F
Silver									
Sodium									
Thallium				50.0	54.10	108.2	51.80	103.6	F
Vanadium									
Zinc									
Cyanide									

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

Initial Calibration Source: EPA-LV

Continuing Calibration Source: SPEX, FISHER

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic									
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead									
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium				50.0	51.50	103.0	52.70	105.4	F
Vanadium									
Zinc									
Cyanide									

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

2A
INITIAL AND CONTINUING CALIBRATION VERIFICATION

RUN #2

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

Initial Calibration Source: EPA-LV

Continuing Calibration Source: SPEX, FISHER

Concentration Units: ug/L

Analyte	Initial Calibration			Continuing Calibration					M
	True	Found	%R(1)	True	Found	%R(1)	Found	%R(1)	
Aluminum									
Antimony									
Arsenic	47.4	47.30	99.8	50.0	47.20	94.4	46.70	93.4	F
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	97.5	102.00	104.6	50.0	48.80	97.6	46.90	93.8	F
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium									
Silver									
Sodium									
Thallium									
Vanadium									
Zinc									
Cyanide									

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

RUN#1

2B
CRDL STANDARD FOR AA AND ICP

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

AA CRDL Standard Source: FISHER

ICP CRDL Standard Source: BAKER

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	True	Initial Found	%R	Final Found	%R
Aluminum								
Antimony				120.0	127.00	105.8	131.00	109.2
Arsenic	10.0	9.30	93.0					
Barium								
Beryllium				10.0	9.70	97.0	9.50	95.0
Cadmium				10.0	8.50	85.0	7.00	70.0
Calcium								
Chromium				20.0	21.50	107.5	21.70	108.5
Cobalt				100.0	96.40	96.4	95.40	95.4
Copper				50.0	49.60	99.2	49.00	98.0
Iron								
Lead	5.0	3.20	64.0					
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium	5.0	4.70	94.0					
Silver				20.0	19.90	99.5	20.30	101.5
Sodium								
Thallium	10.0	10.50	105.0					
Vanadium				100.0	99.50	99.5	92.40	92.4
Zinc				40.0	51.80	129.5	45.70	114.3

RUN#2

2B
CRDL STANDARD FOR AA AND ICP

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

AA CRDL Standard Source: FISHER

ICP CRDL Standard Source: BAKER

Concentration Units: ug/L

Analyte	CRDL Standard for AA			CRDL Standard for ICP				
	True	Found	%R	True	Initial Found	%R	Final Found	%R
Aluminum								
Antimony								
Arsenic	10.0	9.60	96.0					
Barium								
Beryllium								
Cadmium								
Calcium								
Chromium								
Cobalt								
Copper								
Iron								
Lead	5.0	6.10	122.0					
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium								
Selenium								
Silver								
Sodium								
Thallium								
Vanadium								
Zinc								

3
BLANKS
RUN # 1

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
		C	1	C	2	C	3	C		C	
Aluminum		U		U		U		U		U	
Antimony	19.0	U	19.0	U	19.0	U	19.0	U	19.0	U	P
Arsenic		U		U		U		U		U	
Barium	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	P
Beryllium	1.0	U	1.0	U	1.0	U	1.0	U	1.0	U	P
Cadmium	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	P
Calcium		U		U		U		U		U	
Chromium	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	P
Cobalt	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	P
Copper	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	P
Iron		-		-		-		-		-	
Lead		-		-		-		-		-	
Magnesium		-		-		-		-		-	
Manganese		-		-		-		-		-	
Mercury		-		-		-		-		-	
Nickel		-		-		-		-		-	
Potassium	428.0	U	428.0	U	428.0	U	442.0	B	428.0	U	P
Selenium		U		U		U		U		U	
Silver	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	P
Sodium		-		-		-		-		-	
Thallium		-		-		-		-		-	
Vanadium	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	P
Zinc	6.0	U	6.0	U	6.0	U	6.0	U	6.0	U	P
Cyanide		U		U		U		U		U	
Tin	17.0	U	17.0	U	17.0	U	17.0	U	17.0	U	P

3
BLANKS
RUN #2

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
		C	1	C	2	C	3	C		C	
Aluminum											
Antimony	19.0	U	19.0	U	19.0	U					P
Arsenic											
Barium	1.0	U	1.0	U	1.0	U					P
Beryllium	1.0	U	1.0	U	1.0	U					P
Cadmium	-4.5	B	3.0	U	3.0	U					P
Calcium											
Chromium	3.0	U	3.0	U	3.0	U					P
Cobalt	3.0	U	3.0	U	3.0	U					P
Copper	-3.3	B	3.0	U	3.0	U					P
Iron											
Lead											
Magnesium											
Manganese											
Mercury											
Nickel											
Potassium	428.0	U	-429.0	B	428.0	U					P
Selenium											
Silver	2.0	U	2.0	U	2.0	U					P
Sodium											
Thallium											
Vanadium	3.0	U	3.0	U	3.0	U					P
Zinc	6.0	U	6.0	U	-6.3	B					P
Cyanide											
Tin	17.0	U	17.0	U	17.0	U					P

3
BLANKS

Run #1

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank		M
		C	1	C	2	C	3	C		C	
Aluminum											
Antimony											
Arsenic	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	F
Barium											
Beryllium											
Cadmium											
Calcium											
Chromium											
Cobalt											
Copper											
Iron											
Lead	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	F
Magnesium											
Manganese											
Mercury	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	CV
Nickel											
Potassium											
Selenium	2.0	U	2.0	U	2.0	U	2.0	U	2.0	U	F
Silver											
Sodium											
Thallium	3.0	U	3.0	U	3.0	U	3.0	U	3.0	U	F
Vanadium											
Zinc											
Cyanide											

3
BLANKS

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

Preparation Blank Matrix (soil/water): WATER

Preparation Blank Concentration Units (ug/L or mg/kg): UG/L

Analyte	Initial Calib. Blank (ug/L)	C	Continuing Calibration Blank (ug/L)						C	Prepa- ration Blank	C	M
			1	C	2	C	3	C				
Aluminum												
Antimony												
Arsenic												
Barium												
Beryllium												
Cadmium												
Calcium												
Chromium												
Cobalt												
Copper												
Iron												
Lead			2.0	U								F
Magnesium												
Manganese												
Mercury												
Nickel												
Potassium												
Selenium			2.0	U								F
Silver												
Sodium												
Thallium			3.0	U	3.0	U	3.0	U				F
Vanadium												
Zinc												
Cyanide												

6
DUPLICATES

LAB SAMPLE NO.

664804D

Lab Name: ENSECO - ERCO LABORATORY Project No.: 6648

Matrix (soil/water): WATER

Level (low/med): LOW

% Solids for Sample: 0.0

% Solids for Duplicate: 0.0

Concentration Units (ug/L or mg/kg dry weight): UG/L

Analyte	Control Limit	Sample (S)	C	Duplicate (D)	C	RPD	Q	M
Aluminum								
Antimony		31.4	B	32.8	B	4.4		P
Arsenic		2.0	U	2.0	U			F
Barium		49.4	B	51.4	B	4.0		P
Beryllium		1.0	U	1.0	U			P
Cadmium		3.0	U	3.0	U			P
Calcium								
Chromium		3.0	U	3.0	U			P
Cobalt		3.0	U	3.0	U			P
Copper		5.2	B	5.9	B	12.6		P
Iron								
Lead		2.0	U	2.0	U			F
Magnesium								
Manganese								
Mercury		0.2	U	0.2	U			CV
Nickel								
Potassium	5000	14400		14800		2.7		P
Selenium		2.0	U	2.0	U			F
Silver		2.0	U	2.0	U			P
Sodium								
Thallium		15.0	U	15.0	U			F
Vanadium		3.0	U	3.0	U			P
Zinc	20.0	47.7		61.8		25.8		P
Cyanide								NR
Tin		17.0	U	17.0	U			P

7
LABORATORY CONTROL SAMPLE

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

Solid LCS Source: EPA-LV-0287

Aqueous LCS Source: EPA-LV

Analyte	Aqueous (ug/L)			Solid (mg/kg)				
	True	Found	%R(1)	True	Found	C	Limits	%R
Aluminum								
Antimony	978.0	1050.00	107.4					
Arsenic								
Barium	1960.0	1970.00	100.5					
Beryllium	483.0	477.00	98.8					
Cadmium	502.0	500.00	99.6					
Calcium								
Chromium	510.0	498.00	97.6					
Cobalt	502.0	489.00	97.4					
Copper	515.0	518.00	100.6					
Iron								
Lead								
Magnesium								
Manganese								
Mercury								
Nickel								
Potassium	49000.0	48000.00	98.0					
Selenium								
Silver	500.0	495.00	99.0					
Sodium								
Thallium								
Vanadium	488.0	464.00	95.1					
Zinc	3100.0	3010.00	97.1					
Cyanide								

7
LABORATORY CONTROL SAMPLE

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

Solid LCS Source: EPA-LV-0287

Aqueous LCS Source: EPA-LV

Analyte	Aqueous (ug/L)			Solid (mg/kg)					%R
	True	Found	%R(1)	True	Found	C	Limits		
Aluminum									
Antimony									
Arsenic	47.4	43.60	92.0						
Barium									
Beryllium									
Cadmium									
Calcium									
Chromium									
Cobalt									
Copper									
Iron									
Lead	97.5	102.00	104.6						
Magnesium									
Manganese									
Mercury									
Nickel									
Potassium									
Selenium	104.0	50.50	48.6						
Silver									
Sodium									
Thallium	97.0	100.00	103.1						
Vanadium									
Zinc									
Cyanide									

8 STANDARD ADDITION RESULTS

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

Concentration Units: ug/L

[illegible]

9
ICP SERIAL DILUTIONS

LAB SAMPLE NO.

664806L

Lab Name: ENSECO - ERCO LABORATORY Project No.: 6648

Matrix (soil/water): WATER

Level (low/med): LOW

Concentration Units: ug/L

Analyte	Initial Sample Result (I)	C	Serial Dilution Result (S)	C	% Differ- ence	Q	M
Aluminum							
Antimony	30.5	B	67.5	B	75.5		P
Arsenic							F
Barium	240		220		8.7		P
Beryllium	1.0	U	5.0	U			NR
Cadmium	3.0	U	15.0	U			NR
Calcium							
Chromium	3.0	U	15.0	U			NR
Cobalt	3.0	U	15.0	U			NR
Copper	13.9	B	125.0	U			NR
Iron							
Lead	Q.M. 8 AUG 90 2.0	U					F
Magnesium							
Manganese							
Mercury							CV
Nickel							
Potassium	45500		42400		7.1		P
Selenium							F
Silver	2.3	B	50.0	U			NR
Sodium							
Thallium							F
Vanadium	3.0	U	250.0	U			NR
Zinc	38.9						
Tin	17.0	U	23.4	B			NR

11
INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

ICP ID Number: JA61

Date: 06/30/90

Flame AA ID Number: _____

Furnace AA ID Number: _____

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200		
Antimony	206.84		60	19.0	P
Arsenic			10		
Barium	493.41		200	1.0	P
Beryllium	313.04		5	1.0	P
Cadmium	228.80		5	3.0	P
Calcium			5000		
Chromium	267.72		10	3.0	P
Cobalt	228.62		50	3.0	P
Copper	324.75		25	3.0	P
Iron			100		
Lead	220.35		5	19.0	P
Magnesium			5000		
Manganese			15		
Mercury			0.2		
Nickel			40		
Potassium	766.49		5000	428	P
Selenium			5		
Silver	328.07		10	2.0	P
Sodium			5000		
Thallium			10		
Vanadium	292.40		50	3.0	P
Zinc	213.80		20	6.0	P
Tin	189.99		40	17.0	P

Comments:

11
INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

ICP ID Number: JA61

Date: 06/30/90

Flame AA ID Number: _____

Furnace AA ID Number: PE-5100/3030

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200		
Antimony			60		
Arsenic	193.70	BZ	10	2.0	F
Barium			200		
Beryllium			5		
Cadmium			5		
Calcium			5000		
Chromium			10		
Cobalt			50		
Copper			25		
Iron			100		
Lead	283.31	BZ	5	2.0	F
Magnesium			5000		
Manganese			15		
Mercury			0.2		
Nickel			40		
Potassium			5000		
Selenium	196.03	BZ	5	2.0	F
Silver			10		
Sodium			5000		
Thallium	276.86	BZ	10	3.0	F
Vanadium			50		
Zinc			20		
Tin			40		

Comments:

11
INSTRUMENT DETECTION LIMITS (QUARTERLY)

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

ICP ID Number: JA61

Date: 06/30/90

Flame AA ID Number: _____

Furnace AA ID Number: _____

Analyte	Wave-length (nm)	Back-ground	CRDL (ug/L)	IDL (ug/L)	M
Aluminum			200		
Antimony			60		
Arsenic			10		
Barium			200		
Beryllium			5		
Cadmium			5		
Calcium			5000		
Chromium			10		
Cobalt			50		
Copper			25		
Iron			100		
Lead			5		
Magnesium			5000		
Manganese			15		
Mercury	253.70	BD	0.2	0.2	CV
Nickel			40		
Potassium			5000		
Selenium			5		
Silver			10		
Sodium			5000		
Thallium			10		
Vanadium			50		
Zinc			20		
Tin			40		

Comments:

12A
ICP INTERELEMENT CORRECTION FACTORS (QUARTERLY)
Run #1

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

ICP ID Number: JA61

Date: 06/30/90

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		<u>Al</u>	<u>Ca</u>	<u>Fe</u>	<u>Mg</u>	<u>As</u>
Aluminum	308.21					
Antimony	206.84		0.0000900			
Arsenic		0.0053098				
Barium	493.41			0.0000070		
Beryllium	313.04		0.0000011	0.0000035	-0.0000010	
Cadmium	228.80	0.0000083		-0.0000210		0.0107630
Calcium	315.89					
Chromium	267.72					
Cobalt	228.62			-0.0000640		
Copper	324.75	-0.0000040		-0.0001340		
Iron	259.84					
Lead	220.35	0.0009215				
Magnesium	279.08					
Manganese	257.61			-0.0001590	-0.0000050	
Mercury	253.70					
Nickel	231.60					
Potassium	766.49					
Selenium				-0.0069550		
Silver	328.07	0.0000061		-0.0002420		
Sodium	589.24					
Thallium		-0.0002820	-0.0001020	0.0192603		
Vanadium	292.40			0.0002633	-0.0000110	
Zinc	213.80				-0.0000260	

Comments:

12B
ICP INTERELEMENT CORRECTION FACTORS (QUARTERLY)

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

ICP ID Number: JA61

Date: 06/30/90

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		<u>Ba</u>	<u>Be</u>	<u>Cd</u>	<u>Cr</u>	<u>Co</u>
Aluminum	308.21					-0.0183270
Antimony	206.84				0.0020273	-0.0025430
Arsenic					0.0015000	
Barium	493.41					
Beryllium	313.04				-0.0000050	
Cadmium	228.80		0.0048780		-0.0000150	0.0000890
Calcium	315.89					0.0034490
Chromium	267.72					
Cobalt	228.62	0.0005720		0.0003970	-0.0000280	
Copper	324.75					-0.0008550
Iron	259.84					
Lead	220.35				0.0003581	-0.0317300
Magnesium	279.08				0.0005223	
Manganese	257.61					
Mercury	253.70					
Nickel	231.60					
Potassium	766.49					
Selenium						-0.0038410
Silver	328.07					
Sodium	589.24					
Thallium						0.0038500
Vanadium	292.40				0.0000610	
Zinc	213.80				-0.0000630	

Comments:

12B
ICP INTERELEMENT CORRECTION FACTORS (QUARTERLY)

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6643

ICP ID Number: JA61

Date: 06/30/90

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		<u>Mn</u>	<u>Mo</u>	<u>Ni</u>	<u>Sb</u>	<u>Sn</u>
Aluminum	308.21		0.0169000			
Antimony	206.84	-0.0027580	0.0061420	-0.0048930		0.0030890
Arsenic		0.0005376		0.0007100		
Barium	493.41					
Beryllium	313.04					
Cadmium	228.80			-0.0001700		
Calcium	315.89		-0.0106770		0.0000864	
Chromium	267.72	-0.0000370	-0.0021640			
Cobalt	228.62			0.0002790		
Copper	324.75		0.0005010			
Iron	259.84	-0.0001190				
Lead	220.35			0.0003290	-0.0014510	
Magnesium	279.08	-0.0033510				
Manganese	257.61		-0.0003770			
Mercury	253.70					
Nickel	231.60					
Potassium	766.49					
Selenium			-0.0098400			
Silver	328.07	-0.0000290				
Sodium	589.24					
Thallium		0.0016787				
Vanadium	292.40	-0.0001530	-0.0034190			
Zinc	213.80					

Comments:

12B
ICP INTERELEMENT CORRECTION FACTORS (QUARTERLY)

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 16642

ICP ID Number: JA61

Date: 06/30/90

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		<u>Sr</u>	<u>Ti</u>	<u>V</u>	<u>Zn</u>	<u>Y</u>
Aluminum	308.21			-0.0027530		
Antimony	206.84		0.0016840	-0.0004410	-0.0003280	
Arsenic				0.0010118		
Barium	493.41	0.0000920				
Beryllium	313.04			0.0007068		-0.0009210
Cadmium	228.80					
Calcium	315.89					
Chromium	267.72		0.0000483	0.0002480		
Cobalt	228.62		0.0017500			
Copper	324.75		0.0000895			
Iron	259.84		-0.0019380			
Lead	220.35					
Magnesium	279.08			-0.0011170		
Manganese	257.61			-0.0000980		
Mercury	253.70					
Nickel	231.60					
Potassium	766.49					
Selenium						
Silver	328.07		-0.0025340	-0.0000730		0.0005560
Sodium	589.24					
Thallium				0.0029600		
Vanadium	292.40		0.0009880			
Zinc	213.80					

Comments:

12A
ICP INTERELEMENT CORRECTION FACTORS (QUARTERLY)
RUN #2

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

ICP ID Number: JA61

Date: 06/30/90

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		<u>Al</u>	<u>Ca</u>	<u>Fe</u>	<u>Mg</u>	<u>As</u>
Aluminum						
Antimony	206.84		0.0001649			
Arsenic		0.0058998		0.0062278		
Barium	493.41	0.0000023		0.0000070		
Beryllium	313.04		0.0000011	-0.0000010	-0.0000010	
Cadmium	228.80	-0.0063530		-0.0000080	-0.0000020	0.0107630
Calcium						
Chromium	267.72					
Cobalt	228.62			-0.0000640		
Copper	324.75	0.0000183		-0.0001190	0.0000052	
Iron						
Lead	220.35	0.0009763		0.0001589		
Magnesium						
Manganese						
Mercury	253.70					
Nickel						
Potassium	766.49				-0.0009310	
Selenium				-0.0019690		
Silver	328.07	0.0000030		-0.0002520		
Sodium						
Thallium		-0.0002820	-0.0001020	0.0238158	-0.0000990	
Vanadium	292.40			0.0001914	-0.0000110	
Zinc	213.80				-0.0000960	

Comments:

12B
ICP INTERELEMENT CORRECTION FACTORS (QUARTERLY)
RUN #2

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

ICP ID Number: JA61

Date: 06/30/90

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		<u>Ba</u>	<u>Be</u>	<u>Cd</u>	<u>Cr</u>	<u>Co</u>
Aluminum						
Antimony	206.84				0.0020273	-0.0025430
Arsenic					0.0015000	
Barium	493.41					
Beryllium	313.04				-0.0000050	
Cadmium	228.80		0.0048780		-0.0000150	0.0000890
Calcium						
Chromium	267.72					
Cobalt	228.62	0.0005720		0.0003970	-0.0000280	
Copper	324.75					-0.0008550
Iron						
Lead	220.35				0.0003581	-0.0317300
Magnesium						
Manganese						
Mercury	253.70					
Nickel						
Potassium	766.49					
Selenium						-0.0038410
Silver	328.07					
Sodium						
Thallium						0.0038500
Vanadium	292.40				0.0000610	
Zinc	213.80				-0.0000630	

Comments:

12B
ICP INTERELEMENT CORRECTION FACTORS (QUARTERLY)
RUN #2

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

ICP ID Number: JA61

Date: 06/30/90

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		<u>Mn</u>	<u>Mo</u>	<u>Ni</u>	<u>Sb</u>	<u>Sn</u>
Aluminum						
Antimony	206.84	-0.0027580	0.0061420	-0.0048930		0.0030890
Arsenic		0.0005376		0.0007100		
Barium	493.41					
Beryllium	313.04					
Cadmium	228.80			-0.0001700		
Calcium						
Chromium	267.72	-0.0000370	-0.0021640			
Cobalt	228.62			0.0002790		
Copper	324.75		0.0005010			
Iron						
Lead	220.35			0.0003290	-0.0014510	
Magnesium						
Manganese						
Mercury	253.70					
Nickel						
Potassium	766.49					
Selenium			-0.0098400			
Silver	328.07	-0.0000290				
Sodium						
Thallium		0.0016787				
Vanadium	292.40	-0.0001530	-0.0034190			
Zinc	213.80					

Comments:

12B
ICP INTERELEMENT CORRECTION FACTORS (QUARTERLY)
RUN #2

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

ICP ID Number: JA61

Date: 06/30/90

Analyte	Wave-length (nm)	Interelement Correction Factors for:				
		<u>Sr</u>	<u>Ti</u>	<u>V</u>	<u>Zn</u>	<u>Y</u>
Aluminum						
Antimony	206.84		0.0016840	-0.0004410	-0.0003280	
Arsenic				0.0010118		
Barium	493.41	0.0000920				
Beryllium	313.04			0.0007068		-0.0009210
Cadmium	228.80					
Calcium						
Chromium	267.72		0.0000483	0.0002480		
Cobalt	228.62		0.0017500			
Copper	324.75		0.0000895			
Iron						
Lead	220.35					
Magnesium						
Manganese						
Mercury	253.70					
Nickel						
Potassium	766.49					
Selenium						
Silver	328.07		-0.0025340	-0.0000730		0.0005560
Sodium						
Thallium				0.0029600		
Vanadium	292.40		0.0009880			
Zinc	213.80					

Comments:

12B
ICP INTERELEMENT CORRECTION FACTORS (QUARTERLY)
RUN #2

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

ICP ID Number: JA61

Date: 06/30/90

Analyte	Wave-length (nm)	Interelement Correction Factors for:			
		Zr	—	—	—
Aluminum					
Antimony	206.84				
Arsenic					
Barium	493.41				
Beryllium	313.04	-0.0018580			
Cadmium	228.80				
Calcium					
Chromium	267.72				
Cobalt	228.62				
Copper	324.75				
Iron					
Lead	220.35				
Magnesium					
Manganese					
Mercury	253.70				
Nickel					
Potassium	766.49				
Selenium					
Silver	328.07	0.0044540			
Sodium					
Thallium					
Vanadium	292.40	-0.0045450			
Zinc	213.80				

Comments:

13
ICP LINEAR RANGES (QUARTERLY)

Lab Name: ENSECO - ERCO LABORATORY

Project No.: 6648

ICP ID Number: JA61

Date: 06/30/90

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	M
Aluminum			
Antimony	5.00	100000.0	
Arsenic	5.00	100000.0	
Barium	5.00	50000.0	
Beryllium	5.00	10000.0	
Cadmium	5.00	100000.0	
Calcium			
Chromium	5.00	100000.0	
Cobalt	5.00	100000.0	
Copper	5.00	100000.0	
Iron			
Lead	5.00	100000.0	
Magnesium			
Manganese			
Mercury			NR
Nickel			
Potassium	5.00	500000.0	
Selenium			NR
Silver	5.00	50000.0	
Sodium			
Thallium			NR
Vanadium	5.00	50000.0	
Zinc	5.00	100000.0	

Comments:

Appendix IX Inorganics (total cyanide)

APPENDIX D
PART 1G

INORGANICS

Client Name: H & A of New York

Client ID: Well SR103

Lab ID: 006648-0001-SA

Matrix: AQUEOUS

Authorized: 06 JUL 90

Enseco ID: 2043507

Sampled: 05 JUL 90

Prepared: See Below

Received: 06 JUL 90

Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Cyanide, Total	ND	mg/L	0.010	335.2	03 JUL 90	18 JUL 90

ND = Not detected
NA = Not applicable

Reported By: John Poirier

Approved By: Deborah Roskos

INORGANICS

Client Name: H & A of New York

Client ID: Well R103

Lab ID: 006648-0003-SA

Matrix: AQUEOUS

Authorized: 06 JUL 90

Enseco ID: 2043509

Sampled: 05 JUL 90

Prepared: See Below

Received: 06 JUL 90

Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Cyanide, Total	ND	mg/L	0.010	335.2	03 JUL 90	18 JUL 90

ND = Not detected

NA = Not applicable

Reported By: John Poirier

Approved By: Deborah Roskos

INORGANICS

Client Name: H & A of New York

Client ID: Well R103

Lab ID: 006648-0003-DU

Matrix: AQUEOUS

Authorized: 06 JUL 90

Enseco ID: 2043510

Sampled: 05 JUL 90

Prepared: See Below

Received: 06 JUL 90

Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Cyanide, Total	ND	mg/L	0.010	335.2	03 JUL 90	18 JUL 90

ND = Not detected

NA = Not applicable

Reported By: John Poirier

Approved By: Deborah Roskos

INORGANICS

Client Name: H & A of New York

Client ID: Well R103

Lab ID: 006648-0003-MS

Matrix: AQUEOUS

Authorized: 06 JUL 90

Enseco ID: 2043511

Sampled: 05 JUL 90

Prepared: See Below

Received: 06 JUL 90

Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Cyanide, Total	0.11	mg/L	0.10	335.2	03 JUL 90	18 JUL 90

ND = Not detected
NA = Not applicable

Reported By: John Poirier

Approved By: Deborah Roskos

QC LOT ASSIGNMENT REPORT
Non-Metals

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
006648-0001-SA	AQUEOUS	CN-T	12 JUL 90-41	12 JUL 90-41
006648-0003-SA	AQUEOUS	CN-T	12 JUL 90-41	12 JUL 90-41
006648-0003-DU	AQUEOUS	CN-T	12 JUL 90-41	12 JUL 90-41
006648-0003-MS	AQUEOUS	CN-T	12 JUL 90-41	12 JUL 90-41

DUPLICATE CONTROL SAMPLE REPORT Non-Metals

Analyte	Spiked	Concentration		Measured DCS2	AVG	Accuracy Average(%)		Precision (RPD)	
		DCS1				DCS	Limits	DCS	Limit
Category: CN-T Matrix: AQUEOUS QC Lot: 12 JUL 90-41 Concentration Units: mg/L									
Cyanide, Total	0.224	0.216		0.219	0.218	97	80-120	1.4	20

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT
Non-Metals

Analyte	Result	Units	Reporting Limit
Test: CN-AT			
Matrix: AQUEOUS			
QC Lot: 12 JUL 90-41 QC Run: 12 JUL 90-41			
Cyanide, Total	ND	mg/L	0.010

Appendix IX General Chemistry (total sulfide)

APPENDIX D
PART 1H

General Chemistry

Client Name: H & A of New York

Client ID: Well SR103

Lab ID: 008560-0001-SA

Matrix: AQUEOUS

Authorized: 13 JUL 90

Enseco ID: 3026096

Sampled: 11 JUL 90

Prepared: See Below

Received: 11 JUL 90

Analyzed: See Below

Parameter	Result	Units	Reporting Limit	Analytical Method	Prepared Date	Analyzed Date
Sulfide, Total	ND	mg/L	0.050	376.2	NA	16 JUL 90

ND = Not detected
NA = Not applicable

Reported By: Kim Brandon

Approved By: Deborah Kay

QC LOT ASSIGNMENT REPORT
Wet Chemistry Analysis and Preparation

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
008560-0001-SA	AQUEOUS	S-A	16 JUL 90-A	-
008560-0002-MS	AQUEOUS	S-A	16 JUL 90-A	-
008560-0002-DU	AQUEOUS	S-A	16 JUL 90-A	-
008560-0002-SA	AQUEOUS	S-A	16 JUL 90-A	-

DUPLICATE CONTROL SAMPLE REPORT
 Wet Chemistry Analysis and Preparation

Analyte	Spiked	Concentration		Measured DCS2	AVG	Accuracy Average(%)		Precision (RPD)	
		DCS1				DCS	Limits	DCS	Limit
Category: S-A Matrix: AQUEOUS QC Lot: 16 JUL 90-A Concentration Units: mg/L									
Sulfide, Total	0.5	0.434		0.440	0.437	87	80-120	1.4	20

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPECIFIC QC
ASSIGNMENT REPORT
Wet Chemistry Analysis and Preparation

QC SAMPLE TYPE	TEST	LABORATORY SAMPLE NUMBER	QC LOT
MATRIX DUPLICATE	STOT-SPEC-AT	008560-0002-DU	16 JUL 90-A
MATRIX SPIKE	STOT-SPEC-AT	008560-0002-MS	16 JUL 90-A

MATRIX DUPLICATE REPORT
Wet Chemistry Analysis and Preparation

Analyte	Concentration		% RPD
	Sample	Matrix Duplicate	
Test: STOT-SPEC-AT			
Matrix AQUEOUS			
Sample: 008560-0002			
Units: mg/L			
Sulfide, Total	ND	ND	NC

ND = Not detected.

NC = Not calculated; calculation not applicable.

All calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE REPORT
Wet Chemistry Analysis and Preparation

Analyte	Sample	Concentration Matrix Spike	Amount Spiked	% Rec
Test: STOT-SPEC-AT				
Matrix AQUEOUS				
Sample: 008560-0002				
Units: mg/L				
Sulfide, Total	ND	0.40	0.50	80

ND = Not detected.

NC = Not calculated; calculation not applicable.

All calculations are performed before rounding to avoid round-off errors in calculated results.

APPENDIX D
PART 1I

Appendix IX Dioxins/Furans

DUPLICATE CONTROL SAMPLE REPORT
Special Services by LOW RESOLUTION

Analyte	Spiked	Concentration		Accuracy(%)		Limits	Precision(RPD)	
		Measured	DCS2	DCS1	DCS2		DCS	Limits
		DCS1						
Category: DXNFUR-AP9-A								
Matrix: AQUEOUS								
QC Lot: 05 JUL 90-A								
Concentration Units: ng								
2378-TCDF	10	10	10	100	100	60-140	0	50
23478-PECDF	10	8.2	8.4	82	84	60-140	2.4	50
123478-HXCDF	10	9.8	10	98	100	60-140	2.0	50
1234678-HPCDF	10	9.1	9.6	91	96	60-140	5.3	50
12345678-OCDF	50	56	56	112	112	60-140	0	50
2378-TCDD	10	9.9	11	99	110	60-140	10	50
12378-PECDD	10	9.3	9.5	93	95	60-140	2.1	50
123478-HXCDD	10	9.2	9.9	92	99	60-140	7.3	50
1234678-HPCDD	10	11	11	110	110	60-140	0	50
12345678-OCDD	50	63	63	126	126	60-140	0	50

APPENDIX IX DIOXINS/FURANS

LOW RESOLUTION

Client Name: H & A of New York
Client ID: Method Blank
Lab ID: 053656-0001-MB
Matrix: AQUEOUS
Authorized: 11 JUL 90

Enseco ID: 155340
Sampled: NA
Prepared: 18 JUL 90

Received: NA
Analyzed: 23 JUL 90

Sample Amount 1.0L
Column Type DB-5

Parameter	Result	Units	Detection Limit	Data Qualifiers
Furans				
TCDFs (total)	ND	ng/L	0.030	
PeCDFs (total)	ND	ng/L	0.057	
HxCDFs (total)	ND	ng/L	0.10	
Dioxins				
TCDDs (total)	ND	ng/L	0.053	
2,3,7,8-TCDD	ND	ng/L	0.053	
PeCDDs (total)	ND	ng/L	0.23	
HxCDDs (total)	ND	ng/L	0.21	
% Recovery				
13C-2,3,7,8-TCDF	59			
13C-2,3,7,8-TCDD	65			
13C-1,2,3,7,8-PeCDD	81			
13C-1,2,3,6,7,8-HxCDD	70			

ND = Not detected
NA = Not applicable

Reported By: Dan Vickers

Approved By: Mike Filigenzi

The cover letter is an integral part of this report.
Rev 230787

APPENDIX IX DIOXINS/FURANS

LOW RESOLUTION

Client Name: H & A of New York

Client ID: WELL SR103

Lab ID: 053656-0001-SA

Matrix: AQUEOUS

Authorized: 11 JUL 90

Enseco ID: 155338

Sampled: 05 JUL 90

Prepared: 18 JUL 90

Received: 06 JUL 90

Analyzed: 23 JUL 90

Sample Amount 1.0L

Column Type DB-5

Parameter	Result	Units	Detection Limit	Data Qualifiers
-----------	--------	-------	-----------------	-----------------

Furans

TCDFs (total)	ND	ng/L	0.029	
PeCDFs (total)	ND	ng/L	0.038	
HxCDFs (total)	ND	ng/L	0.071	

Dioxins

TCDDs (total)	ND	ng/L	0.035	
2,3,7,8-TCDD	ND	ng/L	0.035	
PeCDDs (total)	ND	ng/L	0.19	
HxCDDs (total)	ND	ng/L	0.22	

% Recovery

13C-2,3,7,8-TCDF	50
13C-2,3,7,8-TCDD	59
13C-1,2,3,7,8-PeCDD	73
13C-1,2,3,6,7,8-HxCDD	60

ND = Not detected
NA = Not applicable

Reported By: Dan Vickers

Approved By: Mike Filigenzi

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APPENDIX IX DIOXINS/FURANS

LOW RESOLUTION

Client Name: H & A of New York

Client ID: WELL R103

Lab ID: 053656-0002-SA

Matrix: AQUEOUS

Authorized: 11 JUL 90

Enseco ID: 155339

Sampled: 05 JUL 90

Prepared: 18 JUL 90

Received: 06 JUL 90

Analyzed: 23 JUL 90

Sample Amount 1.0L

Column Type DB-5

Parameter	Result	Units	Detection Limit	Data Qualifiers
-----------	--------	-------	-----------------	-----------------

Furans

TCDFs (total)	ND	ng/L	0.059	
PeCDFs (total)	ND	ng/L	0.060	
HxCDFs (total)	ND	ng/L	0.10	

Dioxins

TCDDs (total)	ND	ng/L	0.078	
2,3,7,8-TCDD	ND	ng/L	0.078	
PeCDDs (total)	ND	ng/L	0.18	
HxCDDs (total)	ND	ng/L	0.21	

% Recovery

13C-2,3,7,8-TCDF	41
13C-2,3,7,8-TCDD	50
13C-1,2,3,7,8-PeCDD	61
13C-1,2,3,6,7,8-HxCDD	53

ND = Not detected
NA = Not applicable

Reported By: Dan Vickers

Approved By: Mike Filigenzi

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APPENDIX IX DIOXINS/FURANS

LOW RESOLUTION

Client Name: H & A of New York

Client ID: WELL R103

Lab ID: 053656-0002-DU

Matrix: AQUEOUS

Authorized: 11 JUL 90

Enseco ID: 155341

Sampled: 05 JUL 90

Prepared: 18 JUL 90

Received: 06 JUL 90

Analyzed: 23 JUL 90

Sample Amount 1.0L

Column Type DB-5

Parameter	Result	Units	Detection Limit	Data Qualifiers
-----------	--------	-------	-----------------	-----------------

Furans

TCDFs (total)	ND	ng/L	0.025	
PeCDFs (total)	ND	ng/L	0.062	
HxCDFs (total)	ND	ng/L	0.094	

Dioxins

TCDDs (total)	ND	ng/L	0.052	
2,3,7,8-TCDD	ND	ng/L	0.052	
PeCDDs (total)	ND	ng/L	0.21	
HxCDDs (total)	ND	ng/L	0.22	

% Recovery

13C-2,3,7,8-TCDF	57
13C-2,3,7,8-TCDD	63
13C-1,2,3,7,8-PeCDD	73
13C-1,2,3,6,7,8-HxCDD	59

ND = Not detected
NA = Not applicable

Reported By: Dan Vickers

Approved By: Mike Filigenzi

The cover letter is an integral part of this report.
Rev 230787

POLYCHLORINATED DIOXINS/FURANS

QUALITY CONTROL SUMMARY

Client Name: H & A of New York
 Client ID: WELL R103 Matrix Spike
 Lab ID: 053656-0002 MS Enseco ID: 155342
 Matrix: AQUEOUS Sampled: 05 JUL 90 Received: 06 JUL 90
 Authorized: 11 JUL 90 Prepared: 18 JUL 90 Analyzed: 23 JUL 90

Sample Amount: 1.0 L
 Column Type: DB-5

Parameters	ng/L Found in Sample	ng/L Spiked	ng/L Found in MS Sample	% Recovery
Furans				
TCDFs (total)	ND	10	8.8	88
PeCDFs (total)	ND	10	7.8	78
HxCDFs (total)	ND	10	9.7	97
Dioxins				
TCDDs (total)	ND	10	10	100
PeCDDs (total)	ND	10	8.8	88
HxCDDs (total)	ND	10	9.2	92

% Recovery

13C-2,3,7,8-TCDF	52
13C-2,3,7,8-TCDD	63
13C-1,2,3,7,8-PeCDD	79
13C-1,2,3,4,7,8-HxCDD	63

ND=Not Detected
 NA=Not Applicable

Reported by: Dan Vickers

Approved by: Mike Filigenzi

The cover letter is an integral part of this report.
 Version 070187

POLYCHLORINATED DIOXINS/FURANS

QUALITY CONTROL SUMMARY

Client Name: H & A of New York
 Client ID: WELL R103 Matrix Spike Duplicate
 Lab ID: 053656-0002 MSD Enseco ID: 155343
 Matrix: AQUEOUS Sampled: 06 JUL 90 Received: 06 JUL 90
 Authorized: 11 JUL 90 Prepared: 18 JUL 90 Analyzed: 23 JUL 90

Sample Amount: 1.0 L
 Column Type: DB-5

Parameters	ng/L Found in Sample	ng/L Spiked	ng/L Found in MS Sample	% Recovery
Furans				
TCDFs (total)	ND	10	9.1	91
PeCDFs (total)	ND	10	8.3	83
HxCDFs (total)	ND	10	9.4	94
Dioxins				
TCDDs (total)	ND	10	12	120
PeCDDs (total)	ND	10	8.7	87
HxCDDs (total)	ND	10	9.1	91

% Recovery

13C-2,3,7,8-TCDF	63
13C-2,3,7,8-TCDD	67
13C-1,2,3,7,8-PeCDD	87
13C-1,2,3,4,7,8-HxCDD	71

ND=Not Detected
 NA=Not Applicable

Reported by: Dan Vickers

Approved by: Mike Filigenzi

The cover letter is an integral part of this report.
 Version 070187

APPENDIX D
PART 2

Report of Analyses of 7 November 1990 Samples

- o Introduction and Appendix IX Volatile Organics
Analyses



RECEIVED

DEC 26 1990

H & A of New York

December 21, 1990

Mr. Jeffrey Loney
H & A of New York
189 N. Water Street
Rochester, NY 14604

Dear Jeffrey:

Enclosed are the results of the analyses for 'AC ROCHESTER 70014-42 (70014-42 AC Rochester 11/08/90). This project was received at Enseco - Erco Laboratory on November 8, 1990, and was processed for a 35 day turnaround time and in accordance with CLP analyses and reporting protocols, where applicable. This letter authorizes the release of the analytical results and should be considered an integral part of this report.

Please refer to this project by the Enseco project number 007494 to expedite any further discussions. I will be happy to address any questions or concerns that you may have.

Sincerely,

Mary Ford
Program Administrator

Encl.

April 1990

DELIVERABLES INDEX

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Project Name: 70014-42 AC Rochester 11/8/90
Erco Project Number: 007494

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NA = Not applicable

December 19, 1990

Project Narrative

Client: H & A of New York
Project Name: 70014-42 AC Rochester 11/08/90
Erco Project No.: 007494

1. This project consists of the results for samples received at Enseco - Erco Laboratory on November 8, 1990. Please see the sample description information sheet for a list of samples.
2. Temperature of cooler upon receipt was 13.3 C.
Bottles were not broken in transit.
Bottles were properly labeled.
Samples agree with Chain-of-Custody.
Samples were properly preserved.
VOA Vials were properly preserved.
VOA Vials did not contain headspace.
3. In the volatiles fraction please note that sample -01(SR-103) missed holding time because the sample needed to be run at a dilution. The first run was within holding time and will be reported. Also sample -04(trip blank) had a surrogate recovery outside of acceptable limits. The laboratory released the analytical data.

SAMPLE DESCRIPTION INFORMATION
for
H & A of New York

Lab ID	Client ID	Matrix	Sampled Date	Time	Received Date
007494-0001-SA	SR-103	AQUEOUS	07 NOV 90	10:30	08 NOV 90
007494-0002-SA	R-103	AQUEOUS	07 NOV 90	11:00	08 NOV 90
007494-0002-MS	R-103 MS	AQUEOUS	07 NOV 90	11:00	08 NOV 90
007494-0002-SD	R-103 MSD	AQUEOUS	07 NOV 90	11:00	08 NOV 90
007494-0002-DU	R-103 DUP	AQUEOUS	07 NOV 90	11:00	08 NOV 90
007494-0003-SA	Field Blank	AQUEOUS	07 NOV 90	12:00	08 NOV 90
007494-0004-SA	Trip Blank	AQUEOUS	07 NOV 90	12:00	08 NOV 90

Enseco - Erco Laboratory

Sample Analysis Instrumentation Key for Organics (Page 1 of 2)

ID	Manufacturer	Model	Data System
GC/MS #S-1	Finnigan	4530	INCOS
GC/MS #S-2	Finnigan	4615B	INCOS
GC/MS #S-3	Finnigan	4530	INCOS
GC/MS #S-4	Hewlett Packard	MSD	RTE-A
GC/MS #S-5	Hewlett Packard	MSD	RTE-A
GC/MS #S-6	Finnigan	Incos 50	Incos
GC/MS #V1*	Hewlett Packard	5996	RTE-6
GC/MS #V2*	Hewlett Packard	5996	RTE-6
GC/MS #V3*	Hewlett Packard	5996	RTE-6
GC/MS #V4*	Hewlett Packard	5985	RTE-6
GC/MS #V5*	Hewlett Packard	MSD	RTE-6
GC/HECD/PID #G1*	Perkin-Elmer/Tracor/HNU	3920/700/PI-52	Beckman CALS/ HP-1000
GC/HECD #G2*	Hewlett Packard/OIC	5890/4420	HP-1000
GC/HECD/PID #G3*	Varian/OIC/HNU	3700/4420/PI-52-02	HP-1000
GC/HECD/PID #G4*	Hewlett Packard/OIC/HNU	5890/4420/PI-52-02	Beckman CALS/ HP-1000
GC/HECD/PID #G5*	Hewlett Packard/OIC/HNU	5890/4420/PI-52-02	Beckman CALS/ HP-1000
GC/FID #G19	Hewlett Packard	5880	Beckman CALS/ HP-1000
GC/ECD #G10	Hewlett Packard	5840	Beckman CALS/ HP-1000
GC/ECD #2	Hewlett Packard	5840	Beckman/HP-1000
GC/ECD #7	Hewlett Packard	5880	Beckman/HP-1000

*Purge-and-trap concentrators manufactured by Tekmar Company.

Enseco - Erco Laboratory

Sample Analysis Instrumentation Key for Organics (Page 2 of 2)

ID	Manufacturer	Model	Data System
GC/ECD #9	Hewlett Packard	5880	Beckman/HP-1000
GC/ECD #11	Hewlett Packard	5890	--
GC/ECD #12	Hewlett Packard	5890	--
GC/ECD #13	Hewlett Packard	5890	--
IR1	Perkin-Elmer	701N	--
GC/FID #14	Hewlett Packard	5880	Beckman/HP-1000
GC/FID #19	Hewlett Packard	5880	Beckman/HP-1000
GC/FID #28	Hewlett Packard	5890	Beckman/HP-1000
GC/PID #28	HNU Systems	P152	Beckman/HP-1000

*Purge-and-trap concentrators manufactured by Tekmar Company.

DATA REPORTING QUALIFIERS

The seven EPA-defined qualifers to be used are as follows:

- U - Indicates compound was analyzed for but not detected. The sample quantitation limit must be corrected for dilution and for percent moisture. For example, 10 U for phenol in water if the sample final volume is the protocol-specified final volume. If a 1 to 10 dilution of extract is necessary, the reported limit is 100 U. For a soil sample, the value must also be adjusted for percent moisture. For example, if the sample had 24% moisture and a 1 to 10 dilution factor, the sample quantitation limit for phenol (330 U) would be corrected to:

$$\frac{(330 \text{ U})}{D} \times df \quad \text{where } D = \frac{100 - \% \text{ moisture}}{100}$$

and df = dilution factor

$$\text{at 24\% moisture, } D = \frac{100-24}{100} = 0.76$$

$$\frac{(330 \text{ U})}{.76} \times 10 = 4300 \text{ U rounded to the appropriate number of significant figures}$$

For soil samples subjected to GPC clean-up procedures, the CRQL is also multiplied by 2, to account for the fact that only half of the extract is recovered.

- J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero. For example, if the sample quantitation limit is 10 µg/L, but a concentration of 3 µg/L is calculated, report it as 3J. The sample quantitation limit must be adjusted for both dilution and percent moisture as discussed for the U flag, so that if a sample with 24% moisture and a 1 to 10 dilution factor has a calculated concentration of 300 µg/L and a sample quantitation limit of 430 µg/kg, report the concentration as 300J on Form I.
- C - This flag applies to pesticide results where the identification has been confirmed by GC/MS. Single component pesticides ≥ 10 ng/µl in the final extract shall be confirmed by GC/MS.

DATA REPORTING QUALIFIERS (CONT.)

- B - This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action. This flag must be used for a TIC as well as for a positively identified TCL compound.
- E - This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis. This flag will not apply to pesticides/PCBs analyzed by GC/EC methods. If one or more compounds have a response greater than full scale, the sample or extract must be diluted and reanalyzed according to the specifications in Exhibit D. All such compounds with a response greater than full scale should have the concentration flagged with an "E" on the Form I for the original analysis. If the dilution of the extract causes any compounds identified in the first analysis to be below the calibration range in the second analysis, then the results of both analyses shall be reported on separate Forms I. The Form I for the diluted sample shall have the "DL" suffix appended to the sample number.
- D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is reanalyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number of the Form I for the diluted sample, and all concentration values reported on that Form I are flagged with the "D" flag.
- A - This flag indicates that a TIC is a suspected aldol-condensation product.
- X - Other specific flags and footnotes may be required to properly define the results. If used, they must be fully described and such description attached to the Sample Data Summary Package and the Case Narrative. If more than one is required, use "Y" and "Z", as needed. If more than five qualifiers are required for a sample result, use the "X" flag to combine several flags, as needed. For instance, the "X" flag might combine the "A", "B", and "D" flags for some sample.

APPENDIX IX VOLATILE ORGANICS

Method 624

Client Name: H & A of New York

Client ID: SR-103

Lab ID: 007494-0001-SA

Matrix: AQUEOUS

Authorized: 08 NOV 90

Enseco ID: 2050262

Sampled: 07 NOV 90

Prepared: NA

Received: 08 NOV 90

Analyzed: 21 NOV 90

Parameter	Result	Units	Reporting Limit	
Acetone	ND	ug/L	10	
Acetonitrile	ND	ug/L	100	
Acrolein	ND	ug/L	100	
Acrylonitrile	ND	ug/L	100	
Allyl chloride	ND	ug/L	5.0	
Benzene	2.3	ug/L	5.0	J
Bromodichloromethane	ND	ug/L	5.0	
Bromoform	ND	ug/L	5.0	
Bromomethane	ND	ug/L	10	
Carbon disulfide	1.2	ug/L	5.0	JB
Carbon tetrachloride	ND	ug/L	5.0	
Chlorobenzene	ND	ug/L	5.0	
Chloroprene	ND	ug/L	5.0	
Chloroethane	ND	ug/L	10	
Dibromochloromethane	ND	ug/L	5.0	
Chloroform	ND	ug/L	5.0	
Chloromethane	ND	ug/L	10	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	
1,2-Dibromoethane	ND	ug/L	5.0	
Dibromomethane	ND	ug/L	5.0	
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	
Dichlorodifluoromethane	ND	ug/L	10	
1,1-Dichloroethane	ND	ug/L	5.0	
1,2-Dichloroethane	ND	ug/L	5.0	
1,2-Dichloroethene (total)	3900	ug/L	5.0	m
1,1-Dichloroethene	14	ug/L	5.0	
Dichloromethane	7.6	ug/L	5.0	J
1,2-Dichloropropane	ND	ug/L	5.0	
cis-1,3-Dichloropropene	ND	ug/L	5.0	
trans-1,3-Dichloropropene	ND	ug/L	5.0	
1,4-Dioxane	ND	ug/L	100	
Ethylbenzene	ND	ug/L	5.0	
Ethyl cyanide	ND	ug/L	5.0	
2-Hexanone	ND	ug/L	10	
Iodomethane	ND	ug/L	5.0	
Isobutyl alcohol	ND	ug/L	25	
Methacrylonitrile	ND	ug/L	5.0	
Methyl ethyl ketone (MEK)	ND	ug/L	25	
4-Methyl-2-pentanone	ND	ug/L	10	

(continued on following page)

ND = Not detected

NA = Not applicable

Reported By: Teresa Harris

Approved By: Charlene Livingston

APPENDIX IX VOLATILE ORGANICS (CONT.)

Method 624

Client Name: H & A of New York
 Client ID: SR-103
 Lab ID: 007494-0001-SA
 Matrix: AQUEOUS
 Authorized: 08 NOV 90

Enseco ID: 2050262
 Sampled: 07 NOV 90
 Prepared: NA

Received: 08 NOV 90
 Analyzed: 21 NOV 90

Parameter	Result	Units	Reporting Limit	
Styrene	ND	ug/L	5.0	
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0	
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0	
Tetrachloroethene	ND	ug/L	5.0	
Toluene	ND	ug/L	5.0	
1,1,1-Trichloroethane	ND	ug/L	5.0	
1,1,2-Trichloroethane	ND	ug/L	5.0	
Trichloroethene	320	ug/L	5.0	m
Trichlorofluoromethane	ND	ug/L	5.0	
1,2,3-Trichloropropane	ND	ug/L	5.0	
Vinyl acetate	ND	ug/L	10	
Vinyl chloride	1000	ug/L	10	m
Xylenes (total)	ND	ug/L	5.0	

Parameter	Result	Units	Reporting Limit
1,2-Dichloroethane-d4	107	%	--
Toluene-d8	104	%	--
4-Bromofluorobenzene	99	%	--

Note J : Result is detected below the reporting limit or is an estimated concentration.

Note B : Compound is also detected in the blank.

Note m : Compound exceeded standard calibration range in the original analysis and was rerun with a dilution.

ND = Not detected
 NA = Not applicable

Reported By: Teresa Harris

Approved By: Charlene Livingston

APPENDIX IX VOLATILE ORGANICS (CONT.)

Method 624

Client Name: H & A of New York

Client ID: R-103

Lab ID: 007494-0002-SA

Matrix: AQUEOUS

Authorized: 08 NOV 90

Enseco ID: 2050263

Sampled: 07 NOV 90

Prepared: NA

Received: 08 NOV 90

Analyzed: 21 NOV 90

Parameter	Result	Units	Reporting Limit
Styrene	ND	ug/L	1000
1,1,1,2-Tetrachloroethane	ND	ug/L	1000
1,1,2,2-Tetrachloroethane	ND	ug/L	1000
Tetrachloroethene	ND	ug/L	1000
Toluene	ND	ug/L	1000
1,1,1-Trichloroethane	ND	ug/L	1000
1,1,2-Trichloroethane	ND	ug/L	1000
Trichloroethene	18000	ug/L	1000
Trichlorofluoromethane	ND	ug/L	1000
1,2,3-Trichloropropane	ND	ug/L	1000
Vinyl acetate	ND	ug/L	2000
Vinyl chloride	1300	ug/L	2000
Xylenes (total)	ND	ug/L	1000

J

Parameter	Result	Units	Reporting Limit
1,2-Dichloroethane-d4	111	%	--
Toluene-d8	104	%	--
4-Bromofluorobenzene	102	%	--

Note J : Result is detected below the reporting limit or is an estimated concentration.

Note B : Compound is also detected in the blank.

ND = Not detected
NA = Not applicable

Reported By: Teresa Harris

Approved By: Charlene Livingston

APPENDIX IX VOLATILE ORGANICS

Method 624

Client Name: H & A of New York
 Client ID: Field Blank
 Lab ID: 007494-0003-SA
 Matrix: AQUEOUS
 Authorized: 08 NOV 90

Enseco ID: 2050269
 Sampled: 07 NOV 90
 Prepared: NA

Received: 08 NOV 90
 Analyzed: 21 NOV 90

Parameter	Result	Units	Reporting Limit	
Acetone	ND	ug/L	10	
Acetonitrile	ND	ug/L	100	
Acrolein	ND	ug/L	100	
Acrylonitrile	ND	ug/L	100	
Allyl chloride	ND	ug/L	5.0	
Benzene	ND	ug/L	5.0	
Bromodichloromethane	ND	ug/L	5.0	
Bromoform	ND	ug/L	5.0	
Bromomethane	ND	ug/L	10	
Carbon disulfide	1.5	ug/L	5.0	J
Carbon tetrachloride	ND	ug/L	5.0	
Chlorobenzene	ND	ug/L	5.0	
Chloroprene	ND	ug/L	5.0	
Chloroethane	ND	ug/L	10	
Dibromochloromethane	ND	ug/L	5.0	
Chloroform	ND	ug/L	5.0	
Chloromethane	ND	ug/L	10	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	
1,2-Dibromoethane	ND	ug/L	5.0	
Dibromomethane	ND	ug/L	5.0	
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	
Dichlorodifluoromethane	ND	ug/L	10	
1,1-Dichloroethane	ND	ug/L	5.0	
1,2-Dichloroethane	ND	ug/L	5.0	
1,2-Dichloroethene (total)	8.4	ug/L	5.0	
1,1-Dichloroethene	ND	ug/L	5.0	
Dichloromethane	7.4	ug/L	5.0	J
1,2-Dichloropropane	ND	ug/L	5.0	
cis-1,3-Dichloropropene	ND	ug/L	5.0	
trans-1,3-Dichloropropene	ND	ug/L	5.0	
1,4-Dioxane	ND	ug/L	100	
Ethylbenzene	ND	ug/L	5.0	
Ethyl cyanide	ND	ug/L	5.0	
2-Hexanone	ND	ug/L	10	
Iodomethane	ND	ug/L	5.0	
Isobutyl alcohol	ND	ug/L	25	
Methacrylonitrile	ND	ug/L	5.0	
Methyl ethyl ketone (MEK)	ND	ug/L	25	
4-Methyl-2-pentanone	ND	ug/L	10	

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Teresa Harris

Approved By: Charlene Livingston

APPENDIX IX VOLATILE ORGANICS (CONT.)

Method 624

Client Name: H & A of New York

Client ID: Field Blank

Lab ID: 007494-0003-SA

Matrix: AQUEOUS

Authorized: 08 NOV 90

Enseco ID: 2050269

Sampled: 07 NOV 90

Prepared: NA

Received: 08 NOV 90

Analyzed: 21 NOV 90

Parameter	Result	Units	Reporting Limit
Styrene	ND	ug/L	5.0
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0
Tetrachloroethene	ND	ug/L	5.0
Toluene	ND	ug/L	5.0
1,1,1-Trichloroethane	ND	ug/L	5.0
1,1,2-Trichloroethane	ND	ug/L	5.0
Trichloroethene	2.9	ug/L	5.0
Trichlorofluoromethane	ND	ug/L	5.0
1,2,3-Trichloropropane	ND	ug/L	5.0
Vinyl acetate	ND	ug/L	10
Vinyl chloride	ND	ug/L	10
Xylenes (total)	ND	ug/L	5.0

Parameter	Result	Units	Reporting Limit
1,2-Dichloroethane-d4	112	%	--
Toluene-d8	105	%	--
4-Bromofluorobenzene	98	%	--

Note J : Result is detected below the reporting limit or is an estimated concentration.

ND = Not detected
NA = Not applicable

Reported By: Teresa Harris

Approved By: Charlene Livingston

APPENDIX IX VOLATILE ORGANICS

Method 624

Client Name: H & A of New York

Client ID: Trip Blank

Lab ID: 007494-0004-SA

Matrix: AQUEOUS

Authorized: 08 NOV 90

Enseco ID: 2050270

Sampled: 07 NOV 90

Prepared: NA

Received: 08 NOV 90

Analyzed: 21 NOV 90

Parameter	Result	Units	Reporting Limit	
Acetone	ND	ug/L	10	
Acetonitrile	ND	ug/L	100	
Acrolein	ND	ug/L	100	
Acrylonitrile	ND	ug/L	100	
Allyl chloride	ND	ug/L	5.0	
Benzene	1.2	ug/L	5.0	J
Bromodichloromethane	ND	ug/L	5.0	
Bromoform	ND	ug/L	5.0	
Bromomethane	ND	ug/L	10	
Carbon disulfide	1.2	ug/L	5.0	J
Carbon tetrachloride	ND	ug/L	5.0	
Chlorobenzene	ND	ug/L	5.0	
Chloroprene	ND	ug/L	5.0	
Chloroethane	ND	ug/L	10	
Dibromochloromethane	ND	ug/L	5.0	
Chloroform	ND	ug/L	5.0	
Chloromethane	ND	ug/L	10	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	
1,2-Dibromoethane	ND	ug/L	5.0	
Dibromomethane	ND	ug/L	5.0	
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0	
Dichlorodifluoromethane	ND	ug/L	10	
1,1-Dichloroethane	ND	ug/L	5.0	
1,2-Dichloroethane	ND	ug/L	5.0	
1,2-Dichloroethene (total)	2.1	ug/L	5.0	J
1,1-Dichloroethene	ND	ug/L	5.0	
Dichloromethane	6.9	ug/L	5.0	
1,2-Dichloropropane	ND	ug/L	5.0	
cis-1,3-Dichloropropene	ND	ug/L	5.0	
trans-1,3-Dichloropropene	ND	ug/L	5.0	
1,4-Dioxane	ND	ug/L	100	
Ethylbenzene	ND	ug/L	5.0	
Ethyl cyanide	ND	ug/L	5.0	
2-Hexanone	ND	ug/L	10	
Iodomethane	ND	ug/L	5.0	
Isobutyl alcohol	ND	ug/L	25	
Methacrylonitrile	ND	ug/L	5.0	
Methyl ethyl ketone (MEK)	ND	ug/L	25	
4-Methyl-2-pentanone	ND	ug/L	10	

(continued on following page)

 ND = Not detected
 NA = Not applicable

Reported By: Teresa Harris

Approved By: Charlene Livingston

APPENDIX IX VOLATILE ORGANICS (CONT.)

Method 624

Client Name: H & A of New York

Client ID: Trip Blank

Lab ID: 007494-0004-SA

Matrix: AQUEOUS

Authorized: 08 NOV 90

Enseco ID: 2050270

Sampled: 07 NOV 90

Prepared: NA

Received: 08 NOV 90

Analyzed: 21 NOV 90

Parameter	Result	Units	Reporting Limit
Styrene	ND	ug/L	5.0
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0
Tetrachloroethene	ND	ug/L	5.0
Toluene	ND	ug/L	5.0
1,1,1-Trichloroethane	ND	ug/L	5.0
1,1,2-Trichloroethane	ND	ug/L	5.0
Trichloroethene	2.0	ug/L	5.0
Trichlorofluoromethane	ND	ug/L	5.0
1,2,3-Trichloropropane	ND	ug/L	5.0
Vinyl acetate	ND	ug/L	10
Vinyl chloride	ND	ug/L	10
Xylenes (total)	ND	ug/L	5.0

J

Parameter	Result	Units	Reporting Limit
1,2-Dichloroethane-d4	119	%	--
Toluene-d8	104	%	--
4-Bromofluorobenzene	104	%	--

Note J : Result is detected below the reporting limit or is an estimated concentration.

ND = Not detected
 NA = Not applicable

Reported By: Teresa Harris

Approved By: Charlene Livingston

DUPLICATE CONTROL SAMPLE REPORT
Volatile Organics by GC/MS

Analyte	Spiked	Concentration		Measured DCS2	AVG	Accuracy Average(%)		Precision (RPD)	
		DCS1				DCS	Limits	DCS	Limit
Category: 624-A									
Matrix: AQUEOUS									
QC Lot: 26 NOV 90-V3A									
Concentration Units: ug/L									
1,1-Dichloroethene	50	31.1		32.9	32.0	64	61-145	5.6	14
Trichloroethene	50	40.7		42.4	41.6	83	71-120	4.1	14
Chlorobenzene	50	43.2		46.2	44.7	89	75-130	6.7	13
Toluene	50	40.8		43.8	42.3	85	76-125	7.1	13
Benzene	50	42.4		43.1	42.8	86	76-127	1.6	11

Category: 624-A
 Matrix: AQUEOUS
 QC Lot: 19 NOV 90-V2A
 Concentration Units: ug/L

1,1-Dichloroethene	50	41.4	38.1	39.8	80	61-145	8.3	14	
Trichloroethene	50	54.6	52.0	53.3	107	71-120	4.9	14	
Chlorobenzene	50	53.3	52.5	52.9	106	75-130	1.5	13	
Toluene	50	49.8	47.8	48.8	98	76-125	4.1	13	
Benzene	50	51.8	50.5	51.2	102	76-127	2.5	11	

Calculations are performed before rounding to avoid round-off errors in calculated results.

SINGLE CONTROL SAMPLE REPORT
Volatile Organics by GC/MS

Analyte	Concentration		Accuracy(%)	
	Spiked	Measured	SCS	Limits

Category: 624-A
Matrix: AQUEOUS
QC Lot: 26 NOV 90-V3A QC Run: 27 NOV 90-V3B
Concentration Units: ug/L

1,2-Dichloroethane-d4	50.0	52.1	104	76-114
Toluene-d8	50.0	52.8	106	88-110
4-Bromofluorobenzene	50.0	51.8	104	86-115

Category: 624-A
Matrix: AQUEOUS
QC Lot: 19 NOV 90-V2A QC Run: 21 NOV 90-V2A
Concentration Units: ug/L

1,2-Dichloroethane-d4	50.0	52.2	104	76-114
Toluene-d8	50.0	50.5	101	88-110
4-Bromofluorobenzene	50.0	48.5	97	86-115

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT
Volatile Organics by GC/MS

Analyte	Result	Units	Reporting Limit
Test: 624-AP9-A			
Matrix: AQUEOUS			
QC Lot: 26 NOV 90-V3A QC Run: 27 NOV 90-V3B			
Acetone	ND	ug/L	10
Acetonitrile	ND	ug/L	100
Acrolein	ND	ug/L	100
Acrylonitrile	ND	ug/L	100
Allyl chloride	ND	ug/L	5.0
Benzene	ND	ug/L	5.0
Bromodichloromethane	ND	ug/L	5.0
Bromoform	ND	ug/L	5.0
Bromomethane	ND	ug/L	10
Carbon disulfide	ND	ug/L	5.0
Carbon tetrachloride	ND	ug/L	5.0
Chlorobenzene	ND	ug/L	5.0
Chloroprene	ND	ug/L	5.0
Chloroethane	ND	ug/L	10
Dibromochloromethane	ND	ug/L	5.0
Chloroform	ND	ug/L	5.0
Chloromethane	ND	ug/L	10
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0
1,2-Dibromoethane	ND	ug/L	5.0
Dibromomethane	ND	ug/L	5.0
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0
Dichlorodifluoromethane	ND	ug/L	10
1,1-Dichloroethane	ND	ug/L	5.0
1,2-Dichloroethane	ND	ug/L	5.0
1,2-Dichloroethene (total)	ND	ug/L	5.0
1,1-Dichloroethene	ND	ug/L	5.0
Dichloromethane	18	ug/L	5.0
1,2-Dichloropropane	ND	ug/L	5.0
cis-1,3-Dichloropropene	ND	ug/L	5.0
trans-1,3-Dichloropropene	ND	ug/L	5.0
1,4-Dioxane	ND	ug/L	100
Ethylbenzene	ND	ug/L	5.0
Ethyl cyanide	ND	ug/L	5.0
2-Hexanone	ND	ug/L	10
Iodomethane	ND	ug/L	5.0
Isobutyl alcohol	ND	ug/L	25
Methacrylonitrile	ND	ug/L	5.0
Methyl ethyl ketone (MEK)	ND	ug/L	25
4-Methyl-2-pentanone	ND	ug/L	10

METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
Test: 624-AP9-A			
Matrix: AQUEOUS			
QC Lot: 26 NOV 90-V3A QC Run: 27 NOV 90-V3B			
Styrene	ND	ug/L	5.0
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0
Tetrachloroethene	ND	ug/L	5.0
Toluene	ND	ug/L	5.0
1,1,1-Trichloroethane	ND	ug/L	5.0
1,1,2-Trichloroethane	ND	ug/L	5.0
Trichloroethene	ND	ug/L	5.0
Trichlorofluoromethane	ND	ug/L	5.0
1,2,3-Trichloropropane	ND	ug/L	5.0
Vinyl acetate	ND	ug/L	10
Vinyl chloride	ND	ug/L	10
Xylenes (total)	ND	ug/L	5.0

Test: 624-AP9-A
 Matrix: AQUEOUS
 QC Lot: 19 NOV 90-V2A QC Run: 21 NOV 90-V2A

Acetone	ND	ug/L	10
Acetonitrile	ND	ug/L	100
Acrolein	ND	ug/L	100
Acrylonitrile	ND	ug/L	100
Allyl chloride	ND	ug/L	5.0
Benzene	ND	ug/L	5.0
Bromodichloromethane	ND	ug/L	5.0
Bromoform	ND	ug/L	5.0
Bromomethane	ND	ug/L	10
Carbon disulfide	1.3	ug/L	5.0
Carbon tetrachloride	ND	ug/L	5.0
Chlorobenzene	ND	ug/L	5.0
Chloroprene	ND	ug/L	5.0
Chloroethane	ND	ug/L	10
Dibromochloromethane	ND	ug/L	5.0
Chloroform	ND	ug/L	5.0
Chloromethane	ND	ug/L	10
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0
1,2-Dibromoethane	ND	ug/L	5.0
Dibromomethane	ND	ug/L	5.0
trans-1,4-Dichloro-2-butene	ND	ug/L	5.0

Note J : Result is detected below the reporting limit or is an estimated concentration.

METHOD BLANK REPORT
Volatile Organics by GC/MS (cont.)

Analyte	Result	Units	Reporting Limit
Test: 624-AP9-A			
Matrix: AQUEOUS			
QC Lot: 19 NOV 90-V2A QC Run: 21 NOV 90-V2A			
Dichlorodifluoromethane	ND	ug/L	10
1,1-Dichloroethane	ND	ug/L	5.0
1,2-Dichloroethane	ND	ug/L	5.0
1,2-Dichloroethene			
(total)	ND	ug/L	5.0
1,1-Dichloroethene	ND	ug/L	5.0
Dichloromethane	ND	ug/L	5.0
1,2-Dichloropropane	ND	ug/L	5.0
cis-1,3-Dichloropropene	ND	ug/L	5.0
trans-1,3-Dichloropropene	ND	ug/L	5.0
1,4-Dioxane	ND	ug/L	100
Ethylbenzene	ND	ug/L	5.0
Ethyl cyanide	ND	ug/L	5.0
2-Hexanone	ND	ug/L	10
Iodomethane	ND	ug/L	5.0
Isobutyl alcohol	ND	ug/L	25
Methacrylonitrile	ND	ug/L	5.0
Methyl ethyl ketone (MEK)	4.8	ug/L	25
4-Methyl-2-pentanone	ND	ug/L	10
Styrene	ND	ug/L	5.0
1,1,1,2-Tetrachloroethane	ND	ug/L	5.0
1,1,2,2-Tetrachloroethane	ND	ug/L	5.0
Tetrachloroethene	ND	ug/L	5.0
Toluene	ND	ug/L	5.0
1,1,1-Trichloroethane	ND	ug/L	5.0
1,1,2-Trichloroethane	ND	ug/L	5.0
Trichloroethene	ND	ug/L	5.0
Trichlorofluoromethane	ND	ug/L	5.0
1,2,3-Trichloropropane	ND	ug/L	5.0
Vinyl acetate	ND	ug/L	10
Vinyl chloride	ND	ug/L	10
Xylenes (total)	ND	ug/L	5.0

Note J : Result is detected below the reporting limit or is an estimated concentration.

APPENDIX IX VOLATILE ORGANICS

Method 624

Client Name: H & A of New York
 Client ID: R-103 MS
 Lab ID: 007494-0002-MS
 Matrix: AQUEOUS
 Authorized: 08 NOV 90

Enseco ID: 2050264
 Sampled: 07 NOV 90
 Prepared: NA

Received: 08 NOV 90
 Analyzed: 21 NOV 90

Parameter	Result	Units	Reporting Limit
Benzene	11000	ug/L	10000
Chlorobenzene	ND	ug/L	10000
1,1-Dichloroethene	ND	ug/L	10000
Toluene	ND	ug/L	10000
Trichloroethene	36000	ug/L	10000

Parameter	Result	Units	Reporting Limit
1,2-Dichloroethane-d4	114	%	--
Toluene-d8	102	%	--
4-Bromofluorobenzene	100	%	--

ND = Not detected
 NA = Not applicable

Reported By: Teresa Harris

Approved By: Charlene Livingston

APPENDIX IX VOLATILE ORGANICS

Method 624

Client Name: H & A of New York

Client ID: R-103 DUP

Lab ID: 007494-0002-DU

Matrix: AQUEOUS

Authorized: 08 NOV 90

Enseco ID: 2050267

Sampled: 07 NOV 90

Prepared: NA

Received: 08 NOV 90

Analyzed: 21 NOV 90

Parameter	Result	Units	Reporting Limit	
Acetone	ND	ug/L	2000	
Acetonitrile	ND	ug/L	20000	
Acrolein	ND	ug/L	20000	
Acrylonitrile	ND	ug/L	20000	
Allyl chloride	ND	ug/L	1000	
Benzene	ND	ug/L	1000	
Bromodichloromethane	ND	ug/L	1000	
Bromoform	ND	ug/L	1000	
Bromomethane	ND	ug/L	2000	
Carbon disulfide	240	ug/L	1000	JB
Carbon tetrachloride	ND	ug/L	1000	
Chlorobenzene	ND	ug/L	1000	
Chloroprene	ND	ug/L	1000	
Chloroethane	ND	ug/L	2000	
Dibromochloromethane	ND	ug/L	1000	
Chloroform	ND	ug/L	1000	
Chloromethane	ND	ug/L	2000	
1,2-Dibromo-3-chloropropane	ND	ug/L	1000	
1,2-Dibromoethane	ND	ug/L	1000	
Dibromomethane	ND	ug/L	1000	
trans-1,4-Dichloro-2-butene	ND	ug/L	1000	
Dichlorodifluoromethane	ND	ug/L	2000	
1,1-Dichloroethane	260	ug/L	1000	J
1,2-Dichloroethane	ND	ug/L	1000	
1,2-Dichloroethene (total)	45000	ug/L	1000	
1,1-Dichloroethene	ND	ug/L	1000	
Dichloromethane	450	ug/L	1000	J
1,2-Dichloropropane	ND	ug/L	1000	
cis-1,3-Dichloropropene	ND	ug/L	1000	
trans-1,3-Dichloropropene	ND	ug/L	1000	
1,4-Dioxane	ND	ug/L	20000	
Ethylbenzene	ND	ug/L	1000	
Ethyl cyanide	ND	ug/L	1000	
2-Hexanone	ND	ug/L	2000	
Iodomethane	ND	ug/L	1000	
Isobutyl alcohol	ND	ug/L	5000	
Methacrylonitrile	ND	ug/L	1000	
Methyl ethyl ketone (MEK)	1200	ug/L	5000	JB
4-Methyl-2-pentanone	ND	ug/L	2000	

(continued on following page)

ND = Not detected
 NA = Not applicable

Reported By: Teresa Harris

Approved By: Charlene Livingston

APPENDIX IX VOLATILE ORGANICS (CONT.)

Method 624

Client Name: H & A of New York

Client ID: R-103 DUP

Lab ID: 007494-0002-DU

Matrix: AQUEOUS

Authorized: 08 NOV 90

Enseco ID: 2050267

Sampled: 07 NOV 90

Prepared: NA

Received: 08 NOV 90

Analyzed: 21 NOV 90

Parameter	Result	Units	Reporting Limit
Styrene	ND	ug/L	1000
1,1,1,2-Tetrachloroethane	ND	ug/L	1000
1,1,2,2-Tetrachloroethane	ND	ug/L	1000
Tetrachloroethene	ND	ug/L	1000
Toluene	ND	ug/L	1000
1,1,1-Trichloroethane	ND	ug/L	1000
1,1,2-Trichloroethane	ND	ug/L	1000
Trichloroethene	25000	ug/L	1000
Trichlorofluoromethane	ND	ug/L	1000
1,2,3-Trichloropropane	ND	ug/L	1000
Vinyl acetate	ND	ug/L	2000
Vinyl chloride	1900	ug/L	2000
Xylenes (total)	ND	ug/L	1000

J

Parameter	Result	Units	Reporting Limit
1,2-Dichloroethane-d4	113	%	--
Toluene-d8	105	%	--
4-Bromofluorobenzene	101	%	--

Note J : Result is detected below the reporting limit or is an estimated concentration.

Note B : Compound is also detected in the blank.

ND = Not detected
NA = Not applicable

Reported By: Teresa Harris

Approved By: Charlene Livingston

APPENDIX IX VOLATILE ORGANICS

Method 624

Client Name: H & A of New York

Client ID: R-103 MSD

Lab ID: 007494-0002-SD

Matrix: AQUEOUS

Authorized: 08 NOV 90

Enseco ID: 2050265

Sampled: 07 NOV 90

Prepared: NA

Received: 08 NOV 90

Analyzed: 21 NOV 90

Parameter	Result	Units	Reporting Limit
Benzene	11000	ug/L	10000
Chlorobenzene	11000	ug/L	10000
1,1-Dichloroethene	ND	ug/L	10000
Toluene	10000	ug/L	10000
Trichloroethene	35000	ug/L	10000

Parameter	Result	Units	Reporting Limit
1,2-Dichloroethane-d4	112	%	--
Toluene-d8	104	%	--
4-Bromofluorobenzene	98	%	--

ND = Not detected
NA = Not applicable

Reported By: Teresa Harris

Approved By: Charlene Livingston

APPENDIX E

Reports of Analyses of Test Boring
Soil and Water Samples

- o B-105-C
- o B-106
- o B-129
- o B-130
- o B-131
- o B-131-A
- o B-132



FREE-COL LABORATORIES, INC.

P.O. Box 557, Cotton Road
Meadville, Pennsylvania 16335-0557
Phone: Area Code 814/724-6242
FAX: Area Code 814/333-1466



ENVIRONMENTAL
OCCUPATIONAL HEALTH
FOOD SCIENCE
SPECIALISTS

AC ROCHESTER DIVISION
GENERAL MOTORS CORPORATION

B-129,S7

SAMPLE DATE: 07/30/90

FREE-COL LABORATORIES, INC.

P.O. BOX 557, COTTON ROAD
MEADVILLE, PENNSYLVANIA 16335
PHONE: (814) 724-6242
FAX: (814) 333-1466

5815 AIRPORT ROAD
ROANOKE, VIRGINIA 24012
PHONE: (703) 265-2544
FAX: (703) 362-1663

08/10/90

JOHN RICHARD WOHLER, Ph.D.
LABORATORY DIRECTOR

TO: AC ROCHESTER DIV.-GMC
ATTN: MR. RICK EISENMAN
1000 LEXINGTON AVE., DEPT. 12820
ROCHESTER NY 14606

P.O. # 31423-E 8147

ACCOUNT NO. 01267

ANALYTICAL REPORT FORM

PAGE 1

SAMPLE ID : B-129,S7
07/30/90

LAB ID 00802410
DATE RECEIVED: 08/02/90

PARAMETER

VOLATILE COMPOUNDS

UNITS = MG/KG

CHLOROMETHANE	<0.010
BROMOMETHANE	<0.010
VINYL CHLORIDE	<0.010
CHLOROETHANE	<0.010
METHYLENE CHLORIDE	<0.05
ACETONE	<0.10
CARBON DISULFIDE	<0.005
1,1,-DICHLOROETHENE	<0.005
1,1,-DICHLOROETHANE	<0.005
TRANS-1,2-DICHLORO*	<0.005
CHLOROFORM	<0.005
1,2-DICHLOROETHANE	<0.005
2-BUTANONE	<0.10
1,1,1-TRICHLOROETHA*	<0.005
CARBON TETRACHLORIDE	<0.005
VINYL ACETATE	<0.050
BROMODICHLOROMETHANE	<0.005
1,1,2,2-TETRACHLORO*	<0.005
1,2-DICHLOROPROPANE	<0.005
TRANS-1,3-DICHLOROP*	<0.005
TRICHLOROETHENE	<0.005
DIBROMOCHLOROMETHANE	<0.005
1,1,2-TRICHLOROETHA*	<0.005
BENZENE	<0.005
CIS-1,3-DICHLOROPRO*	<0.005

*Some of the above names have been abbreviated. Please reference the enclosed list for their complete names.

ALA. Accreditation No. 98
U.S. Public Health Services Approved Facility
PA D.E.R. Laboratory I.D. No. 20-073
F.D. Dept. of Agriculture Approved Dairy Laboratory
NC Dept. of Health Laboratory I.D. No. 10552
NY Dept. of Env. Conservation Approved Facility

MD Dept. of Health Cert. No. 130
VA Dept. of Health Laboratory I.D. No. 00145
WV Dept. of Health Certification No. 21-R
NJ Dept. of Env. Protection Lab I.D. No. 77613
NVLAP Natl. Voluntary Lab. Accred. Cert. No. 1023

NC Dept. of Natural Resources Cert. No. 236
NC Dept. of Env., Health & Nat. Res. I.D. No. 42700
SC Dept. of Health Laboratory I.D. No. 89004
MI Dept. of Public Health Approved Facility
U.S. Office of Surface Mining Approved Facility

KEY:

< = LESS THAN

> = GREATER THAN

w.f. = WILL FOLLOW

FREE-COL LABORATORIES, INC.

P.O. BOX 557, COTTON ROAD
MEADVILLE, PENNSYLVANIA 16335
PHONE: (814) 724-6242
FAX: (814) 333-1466

5815 AIRPORT ROAD
ROANOKE, VIRGINIA 24012
PHONE: (703) 265-2544
FAX: (703) 362-1663

CHARD WOHLER, Ph.D.
LABORATORY DIRECTOR

08/10/90

TO: AC ROCHESTER DIV.-GMC
ATTN: MR. RICK EISENMAN
1000 LEXINGTON AVE., DEPT. 12820
ROCHESTER NY 14606

P.O. # 31423-E 8147

ACCOUNT NO. 01267

ANALYTICAL REPORT FORM

PAGE 2

SAMPLE ID : B-129,S7
07/30/90

LAB ID 00802410
PARAMETER DATE RECEIVED: 08/02/90

VOLATILE COMPOUNDS UNITS = MG/KG

2-CHLOR* VINYL ETHER	<0.010
BROMOFORM	<0.005
2-HEXANONE	<0.050
4-METHYL-2-PENTANONE	<0.050
TETRACHLOROETHENE	<0.005
TOLUENE	<0.005
CHLOROBENZENE	<0.005
ETHYL BENZENE	<0.005
STYRENE	<0.005
TOTAL XYLENES	<0.005

DATE and ANALYST
08/09/90 BEERS

Volatile Compounds - Method 8240

"Test Methods for Evaluating Solid Waste, Physical and Chemical Methods", SW-846,
Third Edition, U.S. Environmental Protection Agency. Revised 1986.

This complete report is two (2) pages.

*Some of the above names have been abbreviated. Please
reference the enclosed list for their complete names.

John Paraska
LABORATORY SUPERVISOR

A.C.H.A. Accreditation No. 98
U.S. Public Health Services Approved Facility
PA D.E.R. Laboratory I.D. No. 20-073
Dept. of Agriculture Approved Dairy Laboratory
Dept. of Health Laboratory I.D. No. 10552
NY Dept. of Env. Conservation Approved Facility

MD Dept. of Health Cert. No. 130
VA Dept. of Health Laboratory I.D. No. 00145
WV Dept. of Health Certification No. 21-R
NJ Dept. of Env. Protection Lab I.D. No. 77613
Natl. Voluntary Lab. Accred. Cert. No. 1023

NC Dept. of Natural Resources Cert. No. 236
NC Dept. of Env., Health & Nat. Res. I.D. No. 42700
SC Dept. of Health Laboratory I.D. No. 89004
MI Dept. of Public Health Approved Facility
U.S. Office of Surface Mining Approved Facility

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FREE-COL LABORATORIES, INC.

P.O. BOX 557, COTTON ROAD
MEADVILLE, PENNSYLVANIA 16335
PHONE: (814) 724-6242
FAX: (814) 333-1466

J. RICHARD WOHLER, Ph.D.
LABORATORY DIRECTOR



TO:

ANALYTICAL REPORT FORM

Results expressed in MG/KG are calculated on an as received weight basis.

CODE B: A blank value over the detection limit of the test was subtracted from this result.

CODE D: Detection limit change due to a dilution.

CODE S: This result was obtained by the Method of Standard Additions.

ND = Not Detectable

NA = Not Applicable

VOID = The sample plus spike concentration exceeded the linear range of the standard curve. No result could be obtained.

A.I.H.A. Accreditation No. 98
HEW/CLIA Lic. No. 37-1129
U.S. Public Health Services Approved Facility
PA D.E.R. Laboratory I.D. No. 20-073
PA Dept. of Health Cert. No. 000021
PA Dept. of Agriculture Approved Dairy Laboratory

NY Dept. of Health Laboratory I.D. No. 10552
NY Dept. of Env. Conservation Approved Facility
MD Dept. of Health Cert. No. 130
VA Dept. of Health Laboratory I.D. No. 00145
WV Dept. of Health Certification No. 21-R
NJ Dept. of Env. Protection Lab I.D. No. 77613

NC Dept. of Natural Resources Cert. No.
SC Dept. of Health Laboratory I.D. No. 8
GA Dept. of Natural Resources Cert. No.
MI Dept. of Public Health Approved Fac
U.S. Office of Surface Mining Approvec

KEY:

< = LESS THAN

> = GREATER THAN

w.f. = WILL FOLLOW



Unabbreviated Listing of Hazardous Substance List Compounds

VOLATILE COMPOUNDS

Bromodichloromethane

1,1,2,2-Tetrachloroethane

1,2-Dichloropropane

trans-1,3-Dichloropropene

Trichloroethene

Dibromochloromethane

1,1,2-Trichloroethane

Benzene

cis-1,3-Dichloropropene

2-Chloroethyl Vinyl Ether

Bromoform

2-Hexanone

4-Methyl-2-pentanone

Tetrachloroethene

Toluene

Chlorobenzene

FREE-COL LABORATORIES
A Division of Freeport Brick Co.
P O. Box 557, Cotton Road
Meadville, Pennsylvania 16335-0557
Phone: Area Code 814/724-6242



ENVIRONMENTAL
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Unabbreviated Listing of Hazardous Substance List Compounds

VOLATILE COMPOUNDS

Ethyl Benzene

Styrene

Total Xylenes

PHONE: (814) 724-6242

FAX: (814) 333-1466

CHAIN-OF-CUSTODY RECORD

COMPANY NAME AC Rochester Division - GMC CONTACT PERSON Rick Eisenman
ADDRESS Lexington Avenue CITY Rochester STATE NY ZIP 14606
PHONE NO. 716647 4766 FAX NO. _____ PURCHASE ORDER # 31423-E
SAMPLE TYPE: _____ COMPLIANCE _____ PWS (PUBLIC WATER SUPPLY) ID _____ NON-COMPLIANCE _____
SAMPLE SOURCE: _____ NPDES _____ WASTEWATER _____ DRINKING WATER _____ MONITORING WELLS X SOIL _____
OTHER _____ SLUDGE _____ SOLID WASTE _____ OIL _____ INDUSTRIAL HYGIENE _____

SAMPLING POINT	ANALYSIS REQUESTED	C or G	SAMPLER	DATE SAMPLED	TIME
<u>B-129,57</u>	<u>8240</u>	<u>C</u> <u>(G)</u>	<u>T. Wells</u>	<u>7/30/90</u>	<u>1030</u>
_____	_____	C/G	_____	_____	_____
_____	_____	C/G	_____	_____	_____
_____	_____	C/G	_____	_____	_____
_____	_____	C/G	_____	_____	_____
_____	_____	C/G	_____	_____	_____
_____	_____	C/G	_____	_____	_____
_____	_____	C/G	_____	_____	_____
_____	_____	C/G	_____	_____	_____

* CIRCLE "C" FOR COMPOSITE SAMPLE OR "G" FOR A GRAB SAMPLE.

	SIGNATURE	ORGANIZATION	INCLUSIVE DATES
1.	<u>Thomas D. Wells</u>	<u>H&A of New York</u>	<u>7/30/90 - 8/2/90</u>
2.	<u>Jim Curran</u>	<u>AC Rochester</u>	<u>8-2-90</u>
3.	<u>Wm F. Slats</u>	<u>Free-Col Laboratories</u>	<u>8-2-90</u>

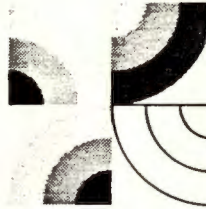
----- DO NOT WRITE BELOW THIS LINE -----
DATE OF ARRIVAL 8/2/90 TIME OF ARRIVAL 1740 MEANS OF DELIVERY TO LAB Tech Service
WAS (HERE) SAMPLE(S) UNDER REFRIGERATION AT TIME OF ARRIVAL Yes

1.	FREE-COL'S DRIVER SIGNATURE	INCLUSIVE DATES	2.	<u>Audrey Mayer</u>	FREE-COL'S CHECK-IN SIGNATURE	INCLUSIVE DATES
3.	RECEIVED BY LAB (WALK-IN)	DATE	4.	<u>[Signature]</u>	FREE-COL'S SIGN-OFF SIGNATURE	DATE

8/2/90 AUG 10 1990

FREE-COL LABORATORIES, INC.

P.O. Box 557, Cotton Road
Meadville, Pennsylvania 16335-0557
Phone: Area Code 814/724-6242
FAX: Area Code 814/333-1466



ENVIRONMENTAL
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QUALITY CONTROL INFORMATION

Free-Col Laboratories analyzes control samples at specified frequencies during the analysis of samples submitted by clients in order to evaluate and document the precision and accuracy of the results which are reported. The attached quality control data records, prepared by the analytical staff at the time of analysis, show the results obtained for different types of control samples during the analysis of the batch of samples described as follows:

General Motors Sample Identification

Free-Col ID

B-129,S7 07/30/90

00802410

Special Notes:

1. The results on the analytical report may be given as mg/kg and related control value results may be given on the quality control data sheet as mg/L. The reason for this difference is that many control values are expressed in terms of the final concentration of the solvent or acid extract of a solid waste or oil sample.

Limits in effect as of June 11, 1990

FREE-COL LABORATORIES, INC.
VOA REPEAT CONTROL INFORMATION
(CLP - DUPLICATE SAMPLE LIMITS)

Date 8-9-90 Analyst G. BUN

Samples associated with this repeat control:

008-02-410

Sample used as repeat control: 008-02-410

AD = Absolute Difference

RPD = Relative Percent Difference

Parameter	Samp. Value	Repeat Value	Accept AD	Accept RPD	Assayd AD/RPD	File
Units = <u>mg/kg</u>						
Chloromethane	<0.010	<0.010			—	820
Bromomethane					—	819
Vinyl chloride				27	—	828
Chloroethane					—	807
Methylene chloride	<0.005	<0.005			—	821
Acrolein	N/A	N/A		17	— N/A	800
Acrylonitrile	N/A	N/A			— N/A	801
1,1-Dichloroethene	<0.005	<0.005			—	813
1,1-Dichloroethane				52	—	811
trans-1,2-Dichloroethene				26	—	814
Chloroform				19	—	809
1,2-Dichloroethane					—	812
1,1,1-Trichloroethane				27	—	825
Carbon tetrachloride					—	804
Bromodichloromethane				79	—	810
1,2-Dichloropropane					—	815
trans-1,3-Dichloropropene					—	817
Trichloroethene				32	—	827
Benzene				49	—	802
Dibromochloromethane				28	—	806
1,1,2-Trichloroethane					—	826
cis-1,3-Dichloropropene					—	816
2-Chloroethyl vinyl ether	<0.010	<0.010			—	808
Bromoform	<0.005	<0.005			—	803
Tetrachloroethene				42	—	823
1,1,2,2-Tetrachloroethane					—	822
Toluene				38	—	824
Chlorobenzene				24	—	805
Ethyl benzene				5	—	818
1,3-Dichlorobenzene	N/A	N/A			— N/A	830
1,2-Dichlorobenzene	N/A	N/A			— N/A	829
1,4-Dichlorobenzene	N/A	N/A		36	— N/A	831
Acetone	<0.1	<0.1		26	—	836
VINYL ACETATE	<0.050	<0.050				
STYRENE	<0.005	<0.005				
CARBON DISULFIDE	<0.005	<0.005				
MEK	<0.1	<0.1				
MBK	<0.050	<0.050				
MIBK	<0.050	<0.050				
XYLENES	<0.005	<0.005				

Limits in effect as of June 11, 1990

FREE-COL LABORATORIES, INC.
VOA SPIKED CONTROL INFORMATION
(CLP - ANALYTICAL SPIKED SAMPLE LIMITS)

Date 8-9-90 Analyst C. Bell
Samples associated with this spiked control:
008-02-410

Sample used as spiked control: 008-02-410

PARAMETER	SPIKE ADDED UG/L	SPIKED RESULT UG/L	SAMPLE RESULT UG/L	ACCEPT. LIMITS % REC.	ASSYD % REC.	FILE
Chloromethane	20	18.5	<10	32-168	92	520
Bromomethane	20	22.3		23-233	112	519
Vinyl chloride	20	20.1		31-181	100	528
Chloroethane	20	20.3	✓	51-174	102	507
Methylene chloride	20	22.2	LS	50-175	111	521
Acrolein	62	N/A	N/A	6-204	N/A	500
Acrylonitrile	58	N/A	N/A	44-177	N/A	501
1,1-Dichloroethene	20	19.9	LS	67-157	100	513
1,1-Dichloroethane	20	14.8		65-159	74	511
trans-1,2-Dichloroethene	20	12.3		75-153	92	514
Chloroform	20	20.6		70-151	103	509
1,2-Dichloroethane	20	20.6		63-159	103	512
1,1,1-Trichloroethane	20	21.8		69-150	109	525
Carbon tetrachloride	20	20.0		47-152	100	504
Bromodichloromethane	20	22.1		54-143	110	510
1,2-Dichloropropane	20	20.7		72-150	104	515
trans-1,3-Dichloropropene	20	20.0		65-134	100	517
Trichloroethene	20	23.8		71-146	119	527
Benzene	20	20.8		76-145	104	502
Dibromochloromethane	20	22.9		39-149	117	506
1,1,2-Trichloroethane	20	21.2	✓	64-152	106	526
cis-1,3-Dichloropropene	20	21.6	✓	56-152	108	516
2-Chloroethyl vinyl ether	20	21.2	<10	25-187	106	508
Bromoform	20	24.6	LS	17-163	123	503
Tetrachloroethene	20	21.2		60-168	106	523
1,1,2,2-Tetrachloroethane	20	20.9		58-157	107	522
Toluene	20	20.9		69-151	107	524
Chlorobenzene	20	21.0	✓	69-146	105	505
Ethyl benzene	20	20.6	✓	65-150	103	518
1,3-Dichlorobenzene	26	25.9 N/A	N/A	66-158	N/A	530
1,2-Dichlorobenzene	26	24.9 N/A	N/A	56-155	N/A	529
1,4-Dichlorobenzene	20	19.2 N/A	N/A	56-165	N/A	531
Diethyl Benzene	44	N/A	N/A	71-137	N/A	533
Ethyl Ether	35	N/A	N/A	62-160	N/A	532
Xylenes	44	39.4	LS	71-133	90	534
MEK	20	24.1	<100	60-182	120	536

Limits in effect as of June 11, 1990

FREE-COL LABORATORIES, INC.
VOA SPIKED CONTROL INFORMATION
(CLP - ANALYTICAL SPIKED SAMPLE LIMITS)

Date 8-9-90 Analyst G. Bell

Samples associated with this spiked control:

008-02-410

Sample used as spiked control: 008-02-410

PARAMETER	SPIKE ADDED UG/L	SPIKED RESULT UG/L	SAMPLE RESULT UG/L	ACCEPT. LIMITS % REC.	ASSYD % REC.	FILE
Acetone	20	28.1	<100	54-171	140	538
MIBK	20	21.2	<50	67-148	106	539
Ethyl Acetate	45	N/A	N/A	72-137	N/A	535
Vinyl Acetate	20	17.0	<50		85	
Carbon Disulfide	20	27.4	<5		137	
DBP	20	20.9	<50		104	
STYRENE	20	18.6	<5		93	

Limits in effect as of June 11, 1990

FREE-COL LABORATORIES, INC.
VOA REFERENCE CONTROL INFORMATION
(CLP - CALIBRATION VERIFICATION LIMITS)

Date 8-9-90 Analyst G. Bell

Samples associated with this reference control:

008-02-410

<u>Parameter</u>	<u>Target Value ug/L</u>	<u>Acceptance Limits ug/L</u>	<u>Assayed Value ug/L</u>	<u>File#</u>
Chloromethane	20	3.4-36.3	19.5	223
Bromomethane	20	9.1-29.5	21.5	222
Vinyl chloride	20	2.7-43.0	18.7	232
Chloroethane	20	9.7-35.9	20.0	209
Methylene chloride	20	12.9-36.1	21.2	224
Acrolein	62	6.1-106.1	N/A	201
Acrylonitrile	58	10.4-116.5	N/A	202
1,1-Dichloroethene	20	14.1-31.6	21.9	216
1,1-Dichloroethane	20	15.7-29.4	20.9	214
trans-1,2-Dichloroethene	20	14.5-29.9	20.1	217
Chloroform	20	15.3-29.7	20.5	211
1,2-Dichloroethane	20	14.2-30.5	20.7	215
1,1,1-Trichloroethane	20	14.5-29.6	21.0	228
Carbon tetrachloride	20	9.1-29.5	18.6	206
Bromodichloromethane	20	11.0-29.3	20.3	212
1,2-Dichloropropane	20	14.4-30.5	20.6	218
trans-1,3-Dichloropropene	20	12.0-26.9	20.2	220
Trichloroethene	20	13.8-30.9	21.0	230
Benzene	20	16.1-28.5	20.9	203
Dibromochloromethane	20	3.9-31.1	20.3	208
1,1,2-Trichloroethane	20	14.3-30.4	20.8	229
cis-1,3-Dichloropropene	20	10.7-28.6	21.6	219
2-Chloroethyl vinyl ether	20	10.9-34.3	21.3	210
Bromoform	20	3.3-31.2	19.5	205
Tetrachloroethene	20	13.8-31.5	21.3	226
1,1,2,2-Tetrachloroethane	20	14.4-28.5	21.7	225
Toluene	20	16.5-27.8	20.6	227
Chlorobenzene	20	13.0-29.8	20.9	207
Ethyl benzene	20	14.3-29.3	20.5	221
1,3-Dichlorobenzene	N/A for 268240	18.6-36.5	25.8	234
1,2-Dichlorobenzene	26	16.2-38.7	25.9	233
1,4-Dichlorobenzene	20	11.1-32.0	20.2	235
Diethyl Benzene	44	25.9-62.9	N/A	237
Ethyl Ether	35	26.9-49.4	N/A	236
Xylene	44	22.6-66.1	43.6	238
MEK	20	10.9-36.7	25.6	240
Acetone	20	5.1-41.3	23.2	242

FREE-COL LABORATORIES, INC.
VOA REFERENCE CONTROL INFORMATION
(CLP - CALIBRATION VERIFICATION LIMITS)

Date 8-9-40 Analyst G. J. [illegible]
Samples associated with this reference control:

008-02-410

<u>Parameter</u>	<u>Target Value</u> <u>ug/L</u>	<u>Acceptance Limits</u> <u>ug/L</u>	<u>Assayed Value</u> <u>ug/L</u>	<u>File#</u>
MIBK	20	15.4-30.5	20.9	243
Tetrahydrofuran	45	33.9-60.0	N/A	244
Carbondisulfide	20	8.4-34.0	19.5	245
Styrene	20	10.3-32.6	20.8	246
Vinyl Acetate	20	6.1-32.3	19.4	247
Amyl Acetate	44	9.5-68.2	N/A	248
Methyl Butyl Ketone	20	7.9-38.1	21.7	249

Limits in effect as of June 11, 1990

FREE-COL LABORATORIES, INC.
SURROGATE SPIKE INFORMATION

Date 8-9-90 Analyst G. Reim

Target Value = 0.050 mg/L
Units = mg/L

<u>Free-Col ID</u>	<u>1,2-Di- chloro- ethane-d4</u>	<u>Toluene-d8</u>	<u>Bromo- fluoro- benzene</u>	<u>Fluoro- benzene</u>
<u>(Limits)</u>	0.033-0.064	0.041-0.062	0.039-0.064	0.044-0.058
<u>(File #)</u>	700	701	702	708

[illegible]

FREE-COL LABORATORIES
VOA BLANK INFORMATION
(CLP - CALABRATION BLANK LIMITS)

Date 8-9-90 Analyst G. BULL

Samples associated with this blank:

008-02-410

Parameter

Blank Value

Units = mg/L

Chloromethane	<0.005
Bromomethane	
Vinyl Chloride	
Chloroethane	
Methylene Chloride	0.004
Acrolein	N/A
Acrylonitrile	N/A
1,1-Dichloroethene	<0.002
1,1-Dichloroethane	
Trans-1,2-Dichloroethene	
Chloroform	
1,2-Dichloroethane	
1,1,1-Trichloroethane	
Carbon tetrachloride	
Bromodichloromethane	
1,2-Dichloropropane	
Trans-1,3-Dichloropropene	
Trichloroethene	
Benzene	
Dibromochloromethane	
1,1,2-Trichloroethane	
Cis-1,2-Dichloropropene	
2-Chloroethyl vinyl ether	<0.005
Bromoform	<0.002
Tetrachloroethene	
1,1,2,2-Tetrachloroethane	
Toluene	
Chlorobenzene	
Ethylbenzene	
1,3-Dichlorobenzene	
1,2-Dichlorobenzene	
1,4-Dichlorobenzene	
Xylene	<0.005
2-Butanone - MEK	<0.010
4-Methyl-2-pentanone	<0.010
Acetone	<0.010
Styrene	<0.005
Carbon Disulfide	<0.005
Vinyl Acetate	<0.010
2-Hexanone - MBK	<0.010

FREE-COL LABORATORIES, INC.

P.O. Box 557, Cotton Road
Meadville, Pennsylvania 16335-0557
Phone: Area Code 814/724-6242
FAX: Area Code 814/333-1466



ENVIRONMENTAL
OCCUPATIONAL HEALTH
FOOD SCIENCE
SPECIALISTS

AC ROCHESTER DIVISION
GENERAL MOTORS CORPORATION

B-130,S3
B-130,S6

SAMPLE DATE: 08/08/90

FREE-COL LABORATORIES, INC.

P.O. BOX 557, COTTON ROAD
MEADVILLE, PENNSYLVANIA 16335
PHONE: (814) 724-6242
FAX: (814) 333-1466

5815 AIRPORT ROAD
ROANOKE, VIRGINIA 24012
PHONE: (703) 265-2544
FAX: (703) 362-1663

08/14/90



J. RICHARD WOHLER, Ph.D.
LABORATORY DIRECTOR

TO: AC ROCHESTER DIV.-GMC
ATTN: MR. RICK EISENMAN
1000 LEXINGTON AVE., DEPT. 12820
ROCHESTER NY 14606

P.O. # 31423E 81

ACCOUNT NO. 01267

ANALYTICAL REPORT FORM PAGE 1

SAMPLE ID : B-130,S3 B-130,S6
08/08/90 08/08/90

LAB ID 00809421 00809422
DATE RECEIVED: 08/09/90 08/09/90

VOLATILE COMPOUNDS

UNITS = MG/KG

CHLOROMETHANE	<0.010	<0.010
BROMOMETHANE	<0.010	<0.010
VINYL CHLORIDE	<0.010	<0.010
CHLOROETHANE	<0.010	<0.010
METHYLENE CHLORIDE	<0.005	<0.005
ACETONE	<0.10	<0.10
CARBON DISULFIDE	<0.005	<0.005
1,1,-DICHOROETHENE	<0.005	<0.005
1,1,-DICHOROETHANE	<0.005	<0.005
TRANS-1,2-DICHLORO*	<0.005	<0.005
CHLOROFORM	<0.005	<0.005
1,2-DICHLOROETHANE	<0.005	<0.005
2-BUTANONE	<0.10	<0.10
1,1,1-TRICHLOROETHA*	<0.005	<0.005
CARBON TETRACHLORIDE	<0.005	<0.005
VINYL ACETATE	<0.050	<0.050
BROMODICHLOROMETHANE	<0.005	<0.005
1,1,2,2-TETRACHLORO*	<0.005	<0.005
1,2-DICHLOROPROPANE	<0.005	<0.005
TRANS-1,3-DICHLOROP*	<0.005	<0.005
TRICHLOROETHENE	<0.005	<0.005
DIBROMOCHLOROMETHANE	<0.005	<0.005
1,1,2-TRICHLOROETHA*	<0.005	<0.005
BENZENE	<0.005	<0.005
CIS-1,3-DICHLOROPRO*	<0.005	<0.005

*Some of the above names have been abbreviated. Please reference the enclosed list for their complete names.

A.I.H.A. Accreditation No. 98
U.S. Public Health Services Approved Facility
P.E.R. Laboratory I.D. No. 20-073
Dept. of Agriculture Approved Dairy Laboratory
NC Dept. of Health Laboratory I.D. No. 10552
NY Dept. of Env. Conservation Approved Facility

MD Dept. of Health Cert. No. 130
VA Dept. of Health Laboratory I.D. No. 00145
WV Dept. of Health Certification No. 21-R
NJ Dept. of Env. Protection Lab I.D. No. 77613
Natl. Voluntary Lab. Accred. Cert. No. 1023

NC Dept. of Natural Resources Cert. No. 236
NC Dept. of Env., Health & Nat. Res. I.D. No. 42700
SC Dept. of Health Laboratory I.D. No. 89004
MI Dept. of Public Health Approved Facility
U.S. Office of Surface Mining Approved Facility

KEY:

< = LESS THAN

> = GREATER THAN

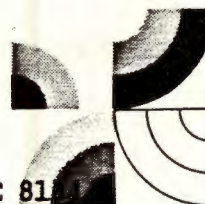
w.f. = WILL FOLLOW

FREE-COL LABORATORIES, INC.

P.O. BOX 557, COTTON ROAD
MEADVILLE, PENNSYLVANIA 16335
PHONE: (814) 724-6242
FAX: (814) 333-1466

5815 AIRPORT ROAD
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08/14/90



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TO: AC ROCHESTER DIV.-GMC
ATTN: MR. RICK EISENMAN
1000 LEXINGTON AVE., DEPT. 12820
ROCHESTER NY 14606

P.O. # 31423E 81

ACCOUNT NO. 01267

ANALYTICAL REPORT FORM

PAGE 2

SAMPLE ID	:	B-130,S3	B-130,S6
		08/08/90	08/08/90
LAB ID		00809421	00809422
PARAMETER	DATE RECEIVED:	08/09/90	08/09/90

VOLATILE COMPOUNDS UNITS = MG/KG

2-CHLOR* VINYL ETHER	<0.010	<0.010
BROMOFORM	<0.005	<0.005
2-HEXANONE	<0.050	<0.050
4-METHYL-2-PENTANONE	<0.050	<0.050
TETRACHLOROETHENE	<0.005	<0.005
TOLUENE	<0.005	<0.005
CHLOROBENZENE	<0.005	<0.005
ETHYL BENZENE	<0.005	<0.005
STYRENE	<0.005	<0.005
TOTAL XYLENES	<0.005	<0.005

HVOA - Method 8240

"Test Methods for Evaluating Solid Waste, Physical and Chemical Methods", SW-846
Third Edition, U.S. Environmental Protection Agency. Revised 1986.

DATE and ANALYST
08/10/90 BEERS/ECKLUND

J. R. Wohler Ph.D.
PRESIDENT/DIRECTOR

This complete report is two (2) pages.

*Some of the above names have been abbreviated. Please
reference the enclosed list for their complete names.

A.I.H.A. Accreditation No. 98
J.S. Public Health Services Approved Facility
D.E.R. Laboratory I.D. No. 20-073
Dept. of Agriculture Approved Dairy Laboratory
NY Dept. of Health Laboratory I.D. No. 10552
NY Dept. of Env. Conservation Approved Facility

MD Dept. of Health Cert. No. 130
VA Dept. of Health Laboratory I.D. No. 00145
WV Dept. of Health Certification No. 21-R
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Natl. Voluntary Lab. Accred. Cert. No. 1023

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MI Dept. of Public Health Approved Facility
U.S. Office of Surface Mining Approved Facility

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MEADVILLE, PENNSYLVANIA 16335
PHONE: (814) 724-6242
FAX: (814) 333-1466

J. RICHARD WOHLER, Ph.D.
LABORATORY DIRECTOR



TO:

ANALYTICAL REPORT FORM

Results expressed as MG/KG or % are calculated on an as received weight basis.

CODE B: A blank value over the detection limit of the test was subtracted from this result.

CODE D: Detection limit change due to a dilution.

CODE R: The percent recovery on the spiked sample associated with this sample was not within the acceptance limits of 75% - 125%. This matter is under consideration at the laboratory.

CODE S: This result was obtained by the Method of Standard Additions.

ND = Not Detectable

NA = Not Applicable

VOID = The sample plus spike concentration exceeded the linear range of the standard curve. No result could be obtained.

PRC = Preparation Reference Control

A.I.H.A. Accreditation No. 98
HEW/CLIA Lic. No. 37-1129
U.S. Public Health Services Approved Facility
PA D.E.R. Laboratory I.D. No. 20-073
PA Dept. of Health Cert. No. 000021
PA Dept. of Agriculture Approved Dairy Laboratory

NY Dept. of Health Laboratory I.D. No. 10552
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WV Dept. of Health Certification No. 21-R
NJ Dept. of Env. Protection Lab I.D. No. 77613

NC Dept. of Natural Resources Cert. No.
SC Dept. of Health Laboratory I.D. No. 8
GA Dept. of Natural Resources Cert. No.
MI Dept. of Public Health Approved Fac
U.S. Office of Surface Mining Approved

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FREE-COL LABORATORIES, INC.

P.O. Box 557, Cotton Road
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FAX: Area Code 814/333-1466



ENVIRONMENTAL
OCCUPATIONAL HEALTH
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Unabbreviated Listing of Hazardous Substance List Compounds

VOLATILE COMPOUNDS

Chloromethane	Bromodichloromethane
Bromomethane	1,1,2,2-Tetrachloroethane
Vinyl Chloride	1,2-Dichloropropane
Chloroethane	trans-1,3-Dichloropropene
Methylene Chloride	Trichloroethene
Acetone	Dibromochloromethane
Carbon Disulfide	1,1,2-Trichloroethane
1,1-Dichloroethene	Benzene
1,1-Dichloroethane	cis-1,3-Dichloropropene
trans-1,2-Dichloroethene	2-Chloroethyl Vinyl Ether
Chloroform	Bromoform
1,2-Dichloroethane	2-Hexanone
2-Butanone	4-Methyl-2-pentanone
1,1,1-Trichloroethane	Tetrachloroethene
Carbon Tetrachloride	Toluene
Vinyl Acetate	Chlorobenzene
Ethyl Benzene	
Styrene	
Total Xylenes	

FREE-COL LABORATORIES, INC. P. O. BOX 557 COTTON ROAD, MEADVILLE, PA 16335

PHONE: (814) 724-6242

FAX: (814) 333-1466

CHAIN-OF-CUSTODY RECORD

COMPANY NAME AC Rochester Division - GRAC CONTACT PERSON RICK EISENMAN
ADDRESS Lexington Avenue CITY Rochester STATE NY ZIP 14606
PHONE NO. _____ FAX NO. _____ PURCHASE ORDER # 31423-E
SAMPLE TYPE: _____ COMPLIANCE _____ PWS (PUBLIC WATER SUPPLY) ID _____ NON-COMPLIANCE
SAMPLE SOURCE: _____ NPDES _____ WASTEWATER _____ DRINKING WATER _____ MONITORING WELLS X SOIL
_____ OTHER _____ SLUDGE _____ SOLID WASTE _____ OIL _____ INDUSTRIAL HYGIENE

SAMPLING POINT	ANALYSIS REQUESTED	QC or C	SAMPLER	DATE SAMPLED	TIME
<u>-130, S3</u>	<u>8240</u>	<u>C/G</u>	<u>W. L. G. H. K.</u>	<u>8/8/90</u>	<u>0900</u>
<u>-130, S6</u>	<u>8240</u>	<u>C/G</u>	<u>W. L. G. H. K.</u>	<u>8/8/90</u>	<u>0930</u>
_____	_____	<u>C/G</u>	_____	_____	_____
_____	_____	<u>C/G</u>	_____	_____	_____
_____	_____	<u>C/G</u>	_____	_____	_____
_____	_____	<u>C/G</u>	_____	_____	_____
_____	_____	<u>C/G</u>	_____	_____	_____
_____	_____	<u>C/G</u>	_____	_____	_____
_____	_____	<u>C/G</u>	_____	_____	_____

CIRCLE "C" FOR COMPOSITE SAMPLE OR "G" FOR A GRAB SAMPLE.

SIGNATURE	ORGANIZATION	INCLUSIVE DATES
<u>Walter Cook</u>	<u>H&B of NY</u>	<u>8/8/90</u>
<u>Jim Curran</u>	<u>AC Rochester</u>	<u>8-8 / 8-9-90</u>
<u>Gregory D. Barr</u>	<u>Free-Col</u>	<u>8-9-90</u>

DATE OF ARRIVAL 8/9/90 TIME OF ARRIVAL 1930 MEANS OF DELIVERY TO LAB Driver

AS (HERE) SAMPLE(S) UNDER REFRIGERATION AT TIME OF ARRIVAL yes

FREE-COL'S DRIVER SIGNATURE _____ INCLUSIVE DATES _____

RECEIVED BY LAB (WALK-IN) _____ DATE _____

2. Andrew Meyer 8/9/90
FREE-COL'S CHECK-IN SIGNATURE _____ INCLUSIVE DATES _____
4. Andrew Meyer 8/9/90
FREE-COL'S SIGN-OFF SIGNATURE _____ DATE AUG 9 1990

FREE-COL LABORATORIES, INC.

P.O. Box 557, Cotton Road
Meadville, Pennsylvania 16335-0557
Phone: Area Code 814/724-6242
FAX: Area Code 814/333-1466



ENVIRONMENTAL
OCCUPATIONAL HEALTH
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SPECIALISTS

QUALITY CONTROL INFORMATION

Free-Col Laboratories analyzes control samples at specified frequencies during the analysis of samples submitted by clients in order to evaluate and document the precision and accuracy of the results which are reported. The attached quality control data records, prepared by the analytical staff at the time of analysis, show the results obtained for different types of control samples during the analysis of the batch of samples described as follows:

General Motors Sample Identification

B-130,S3 08/08/90
B-130,S6 08/08/90

Free-Col ID

00809421
00809422

Limits in effect as of June 11, 1990

FREE-COL LABORATORIES, INC.
SURROGATE SPIKE INFORMATION

Date 8-10-90 Analyst G. Bess

Target Value = 0.050 mg/L
Units = mg/L

<u>Free-Col ID</u>	<u>1,2-Di- chloro- ethane-d4</u>	<u>Toluene-d8</u>	<u>Bromo- fluoro- benzene</u>	<u>Fluoro- benzene</u>
<u>(Limits)</u>	0.033-0.064	0.041-0.062	0.039-0.064	0.044-0.058
<u>(File #)</u>	700	701	702	708

008-09-421	0.052	0.052	0.056
008-09-422	0.052	0.052	0.061
008-09-423	0.053	0.051	0.041

Limits in effect as of June 11, 1990

FREE-COL LABORATORIES, INC.
SURROGATE SPIKE INFORMATION

Date 8/10/90 Analyst G. Burns / A. Ecklund

Target Value = 0.050 mg/L
Units = mg/L

<u>Free-Col ID</u>	<u>1,2-Di- chloro- ethane-d4</u>	<u>Toluene-d8</u>	<u>Bromo- fluoro- benzene</u>	<u>Fluoro- benzene</u>
(Limits)	0.033-0.064	0.041-0.062	0.039-0.064	0.044-0.058
(File #)	700	701	702	708

002-09 - 410	0.060	0.050	0.051
411	0.059	0.052	0.057
412	0.057	0.053	0.053
413	0.049	0.046	0.047

FREE-COL LABORATORIES
VOA BLANK INFORMATION
(CLP - CALABRATION BLANK LIMITS)

Date 8-10-90 Analyst G. Beers

Samples associated with this blank:

008-09-421

008-09-410 7 413

008-09-422

008-09-423

Parameter

Blank Value

Units =

mg/L

Chloromethane

<0.010

Bromomethane

Vinyl Chloride

Chloroethane

Methylene Chloride

<0.005

Acrolein

N/A

Acrylonitrile

N/A

1,1-Dichloroethene

<0.005

1,1-Dichloroethane

Trans-1,2-Dichloroethene

Chloroform

1,2-Dichloroethane

1,1,1-Trichloroethane

Carbon tetrachloride

Bromodichloromethane

1,2-Dichloropropane

Trans-1,3-Dichloropropene

Trichloroethene

Benzene

Dibromochloromethane

1,1,2-Trichloroethane

Cis-1,2-Dichloropropene

2-Chloroethyl vinyl ether

<0.010

Bromoform

<0.005

Tetrachloroethene

1,1,2,2-Tetrachloroethane

Toluene

Chlorobenzene

Ethylbenzene

1,3-Dichlorobenzene

N/A

1,2-Dichlorobenzene

1,4-Dichlorobenzene

Xylene

<0.005

2-Butanone - MEK

<0.1

4-Methyl-2-pentanone

<0.050

Acetone

<0.10

Styrene

<0.005

Carbon Disulfide

<0.005

Vinyl Acetate

<0.050

2-Hexanone - MBK

<0.050

Limits in effect as of June 11, 1990

FREE-COL LABORATORIES, INC.
VOA REPEAT CONTROL INFORMATION
(CLP - DUPLICATE SAMPLE LIMITS)

Date 8-9-90

Analyst G. BUN

Samples associated with this repeat control:

005-02-410

008-09-421

008-09-410 → 413

008-09-422

008-09-423

Sample used as repeat control: 008-02-410

AD = Absolute Difference

RPD = Relative Percent Difference

Parameter	Samp. Value	Repeat Value	Accept AD	Accept RPD	Assayd AD/RPD	File
Units = <u>mg/kg</u>						
Chloromethane	<0.010	<0.010			—	820
Bromomethane					—	819
Vinyl chloride				27	—	828
Chloroethane					—	807
Methylene chloride	<0.005	<0.005			—	821
Acrolein	N/A	N/A		17	N/A	800
Acrylonitrile	N/A	N/A			N/A	801
1,1-Dichloroethene	<0.005	<0.005			—	813
1,1-Dichloroethane				52	—	811
trans-1,2-Dichloroethene				26	—	814
Chloroform				19	—	809
1,2-Dichloroethane					—	812
1,1,1-Trichloroethane				27	—	825
Carbon tetrachloride					—	804
Bromodichloromethane				79	—	810
1,2-Dichloropropane					—	815
trans-1,3-Dichloropropene					—	817
Trichloroethene				32	—	827
Benzene				49	—	802
Dibromochloromethane				28	—	806
1,1,2-Trichloroethane					—	826
cis-1,3-Dichloropropene					—	816
2-Chloroethyl vinyl ether	<0.010	<0.010			—	808
Bromoform	<0.005	<0.005			—	803
Tetrachloroethene				42	—	823
1,1,2,2-Tetrachloroethane					—	822
Toluene				38	—	824
Chlorobenzene				24	—	805
Ethyl benzene				5	—	818
1,3-Dichlorobenzene	N/A	N/A			N/A	830
1,2-Dichlorobenzene	N/A	N/A			N/A	829
1,4-Dichlorobenzene	N/A	N/A		36	N/A	831
Acetone	<0.1	<0.1		26	—	836
VINYL ACETATE	<0.050	<0.050				
STYRENE	<0.005	<0.005				
CARBON DISULFIDE	<0.005	<0.005				
MEK	<0.1	<0.1				
MBK	<0.050	<0.050				
MIBK	<0.050	<0.050				
XYLENES	<0.005	<0.005				

Limits in effect as of June 11, 1990

FREE-COL LABORATORIES, INC.
VOA REFERENCE CONTROL INFORMATION
(CLP - CALIBRATION VERIFICATION LIMITS)

Date 8-9-90 Analyst G. Beers

Samples associated with this reference control:

008-09-421 008-09-410 $\Rightarrow$ 413

008-09-422

008-09-423

<u>Parameter</u>	<u>Target Value ug/L</u>	<u>Acceptance Limits ug/L</u>	<u>Assayed Value ug/L</u>	<u>File#</u>
Chloromethane	20	3.4-36.3	18.9	223
Bromomethane	20	9.1-29.5	23.1	222
Vinyl chloride	20	2.7-43.0	20.1	232
Chloroethane	20	9.7-35.9	20.5	209
Methylene chloride	20	12.9-36.1	20.4	224
Acrolein	62	6.1-106.1	62.9	201
Acrylonitrile	58	10.4-116.5	58.0	202
1,1-Dichloroethene	20	14.1-31.6	19.0	216
1,1-Dichloroethane	20	15.7-29.4	19.0	214
trans-1,2-Dichloroethene	20	14.5-29.9	20.0	217
Chloroform	20	15.3-29.7	19.9	211
1,2-Dichloroethane	20	14.2-30.5	20.1	215
1,1,1-Trichloroethane	20	14.5-29.6	20.3	228
Carbon tetrachloride	20	9.1-29.5	17.0	206
Bromodichloromethane	20	11.0-29.3	20.6	212
1,2-Dichloropropane	20	14.4-30.5	19.6	218
trans-1,3-Dichloropropene	20	12.0-26.9	19.3	220
Trichloroethene	20	13.8-30.9	19.6	230
Benzene	20	16.1-28.5	19.7	203
Dibromochloromethane	20	3.9-31.1	18.8	208
1,1,2-Trichloroethane	20	14.3-30.4	19.7	229
cis-1,3-Dichloropropene	20	10.7-28.6	20.2	219
2-Chloroethyl vinyl ether	20	10.9-34.3	19.6	210
Bromoform	20	3.3-31.2	19.3	205
Tetrachloroethene	20	13.8-31.5	19.9	226
1,1,2,2-Tetrachloroethane	20	14.4-28.5	19.6	225
Toluene	20	16.5-27.8	19.6	227
Chlorobenzene	20	13.0-29.8	19.6	207
Ethyl benzene	20	14.3-29.3	19.6	221
1,3-Dichlorobenzene	26	18.6-36.5	N/A	234
1,2-Dichlorobenzene	26	16.2-38.7	↓	233
1,4-Dichlorobenzene	20	11.1-32.0	↓	235
Diethyl Benzene	44	25.9-62.9	N/A	237
Ethyl Ether	35	26.9-49.4	N/A	236
Xylene	44	22.6-66.1	42.0	238
MEK	20	10.9-36.7	22.1	240
Acetone	20	5.1-41.3	22.2	242

FREE-COL LABORATORIES, INC.
VOA REFERENCE CONTROL INFORMATION
(CLP - CALIBRATION VERIFICATION LIMITS)

Date 8-1-70 Analyst Gravel
Samples associated with this reference control:

<u>Parameter</u>	<u>Target Value</u> <u>ug/L</u>	<u>Acceptance Limits</u> <u>ug/L</u>	<u>Assayed Value</u> <u>ug/L</u>	<u>File#</u>
MIBK	20	15.4-30.5	18.8	243
Tetrahydrofuran	45	33.9-60.0	N/A	244
Carbondisulfide	20	8.4-34.0	18.8	245
Styrene	20	10.3-32.6	19.2	246
Vinyl Acetate	20	6.1-32.3	16.9	247
Amyl Acetate	44	9.5-68.2	N/A	248
Methyl Butyl Ketone	20	7.9-38.1	18.9	249

Limits in effect as of June 11, 1990

FREE-COL LABORATORIES, INC.
VOA SPIKED CONTROL INFORMATION
(CLP - ANALYTICAL SPIKED SAMPLE LIMITS)

Date 5-9-90 Analyst C. Bell
Samples associated with this spiked control:

008-02-410

008-09-421

008-09-410 → 413

008-09-422

008-09-423

Sample used as spiked control: 008-02-410

PARAMETER	SPIKE ADDED UG/L	SPIKED RESULT UG/L	SAMPLE RESULT UG/L	ACCEPT. LIMITS % REC.	ASSYD % REC.	FILE
Chloromethane	20	18.5	<10	32-168	92	520
Bromomethane	20	22.3		23-233	112	519
Vinyl chloride	20	20.1		31-181	100	528
Chloroethane	20	20.3	↓	51-174	102	507
Methylene chloride	20	22.2	LS	50-175	111	521
Acrolein	62	N/A	N/A	6-204	N/A	500
Acrylonitrile	58	N/A	N/A	44-177	N/A	501
1,1-Dichloroethene	20	19.9	LS	67-157	100	513
1,1-Dichloroethane	20	14.8		65-159	74	511
trans-1,2-Dichloroethene	20	18.9		75-153	92	514
Chloroform	20	20.6		70-151	103	509
1,2-Dichloroethane	20	20.6		63-159	103	512
1,1,1-Trichloroethane	20	21.8		69-150	109	525
Carbon tetrachloride	20	20.0		47-152	100	504
Bromodichloromethane	20	22.1		54-143	110	510
1,2-Dichloropropane	20	20.7		72-150	109	515
trans-1,3-Dichloropropene	20	20.0		65-134	100	517
Trichloroethene	20	23.8		71-146	119	527
Benzene	20	20.8		76-145	104	502
Dibromochloromethane	20	22.9		39-149	117	506
1,1,2-Trichloroethane	20	21.2	↓	64-152	106	526
cis-1,3-Dichloropropene	20	21.6	↓	56-152	108	516
2-Chloroethyl vinyl ether	20	21.2	<10	25-187	106	508
Bromoform	20	24.6	LS	17-163	123	503
Tetrachloroethene	20	21.2		60-168	106	523
1,1,2,2-Tetrachloroethane	20	20.9		58-157	107	522
Toluene	20	20.9		69-151	107	524
Chlorobenzene	20	21.0	↓	69-146	105	505
Ethyl benzene	20	20.6	↓	65-150	103	518
1,3-Dichlorobenzene	26	25.9 N/A	N/A	66-158	N/A	530
1,2-Dichlorobenzene	26	24.9 N/A	N/A	56-155	N/A	529
1,4-Dichlorobenzene	20	19.2 N/A	N/A	56-165	N/A	531
Diethyl Benzene	44	N/A	N/A	71-137	N/A	533
Ethyl Ether	35	N/A	N/A	62-160	N/A	532
Xylenes	44	32.4	LS	71-133	90	534
MEK	20	24.1	<100	60-182	120	536

Limits in effect as of June 11, 1990

FREE-COL LABORATORIES, INC.
VOA SPIKED CONTROL INFORMATION
(CLP - ANALYTICAL SPIKED SAMPLE LIMITS)

Date 8-9-90 Analyst G. BELL

Samples associated with this spiked control:

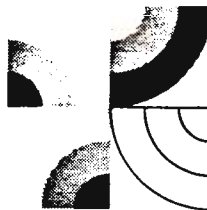
008-02-410

Sample used as spiked control: 008-02-410

PARAMETER	SPIKE ADDED UG/L	SPIKED RESULT UG/L	SAMPLE RESULT UG/L	ACCEPT. LIMITS % REC.	ASSYD % REC.	FILE
Acetone	20	28.1	<100	54-171	140	538
MIBK	20	21.2	<50	67-148	106	539
Ethyl Acetate	45	N/A	N/A	72-137	N/A	535
Vinyl Acetate	20	17.0	<50		85	
Carbon Disulfide	20	27.4	<5		137	
MBK	20	20.9	<50		104	
STYRENE	20	18.6	<5		93	

FREE-COL LABORATORIES, INC.

P.O. Box 557, Cotton Road
Meadville, Pennsylvania 16335-0557
Phone: Area Code 814/724-6242
FAX: Area Code 814/333-1466



ENVIRONMENTAL
OCCUPATIONAL HEALTH
FOOD SCIENCE
SPECIALISTS

AC ROCHESTER DIVISION
GENERAL MOTORS CORPORATION

B-106,S3

SAMPLE DATE: 08/09/90

FREE-COL LABORATORIES, INC.

P.O. BOX 557, COTTON ROAD
MEADVILLE, PENNSYLVANIA 16335
PHONE: (814) 724-6242
FAX: (814) 333-1466

5815 AIRPORT ROAD
ROANOKE, VIRGINIA 24012
PHONE: (703) 265-2544
FAX: (703) 362-1663

08/14/90

JOHN CHARD WOHLER, Ph.D.
LABORATORY DIRECTOR

TO: AC ROCHESTER DIV.-GMC
ATTN: MR. RICK EISENMAN
1000 LEXINGTON AVE., DEPT. 12820
ROCHESTER NY 14606

P.O. # 31423E 81

ACCOUNT NO. 01267

ANALYTICAL REPORT FORM

PAGE 1

SAMPLE ID : B-106,S3
08/09/90

LAB ID 00809423
DATE RECEIVED: 08/09/90

PARAMETER	RESULTS	UNITS	DATE AND	ANALYST
<u>VOLATILE COMPOUNDS</u>				
Chloromethane	<0.010	MG/KG	08/10/90	BEERS/ ECKLUND
Bromomethane	<0.010			
Vinyl Chloride	<0.010			
Chloroethane	<0.010			
Methylene Chloride	<0.005			
Acetone	<0.10			
Carbon Disulfide	<0.005			
1,1-Dichloroethene	<0.005			
1,1-Dichloroethane	<0.005			
trans-1,2-Dichloroethene	<0.005			
Chloroform	<0.005			
1,2-Dichloroethane	<0.005			
2-Butanone	<0.10			
1,1,1-Trichloroethane	<0.005			
Carbon Tetrachloride	<0.005			
Vinyl Acetate	<0.050			
Bromodichloromethane	<0.005			
1,1,2,2-Tetrachloroethane	<0.005			
1,2-Dichloropropane	<0.005			
trans-1,3-Dichloropropene	<0.005			
Trichloroethene	<0.005			
Dibromochloromethane	<0.005			
1,1,2-Trichloroethane	<0.005			

A.I.H.A. Accreditation No. 98
U.S. Public Health Services Approved Facility
D.E.R. Laboratory I.D. No. 20-073
Dept. of Agriculture Approved Dairy Laboratory
NY Dept. of Health Laboratory I.D. No. 10552
NY Dept. of Env. Conservation Approved Facility

MD Dept. of Health Cert. No. 130
VA Dept. of Health Laboratory I.D. No. 00145
WV Dept. of Health Certification No. 21-R
NJ Dept. of Env. Protection Lab I.D. No. 77613
Natl. Voluntary Lab. Accred. Cert. No. 1023

NC Dept. of Natural Resources Cert. No. 236
NC Dept. of Env., Health & Nat. Res. I.D. No. 42700
SC Dept. of Health Laboratory I.D. No. 89004
MI Dept. of Public Health Approved Facility
U.S. Office of Surface Mining Approved Facility

KEY:

< = LESS THAN

> = GREATER THAN

w.f. = WILL FOLLOW

FREE-COL LABORATORIES, INC.

P.O. BOX 557, COTTON ROAD
MEADVILLE, PENNSYLVANIA 16335
PHONE: (814) 724-6242
FAX: (814) 333-1466

5815 AIRPORT ROAD
ROANOKE, VIRGINIA 24012
PHONE: (703) 265-2544
FAX: (703) 362-1663

CHARD WOHLER, Ph.D.
LABORATORY DIRECTOR

08/14/90

TO: AC ROCHESTER DIV.-GMC
ATTN: MR. RICK EISENMAN
1000 LEXINGTON AVE., DEPT. 12820
ROCHESTER NY 14606

P.O. # 31423E 8151

ACCOUNT NO. 01267

ANALYTICAL REPORT FORM

PAGE 2

SAMPLE ID : B-106,S3
08/09/90

LAB ID 00809423
DATE RECEIVED: 08/09/90

PARAMETER	RESULTS	UNITS	DATE	AND	ANALYST
<u>VOLATILE COMPOUNDS</u> Continued					
Benzene	<0.005	MG/KG	08/10/90		BEERS/ ECKLUND
cis-1,3-Dichloropropene	<0.005				
2-Chloroethylvinyl Ether	<0.010				
Bromoform	<0.005				
2-Hexanone	<0.050				
4-Methyl-2-pentanone	<0.050				
Tetrachloroethene	<0.005				
Toluene	<0.005				
Chlorobenzene	<0.005				
Ethylbenzene	<0.005				
Styrene	<0.005				
Total Xylenes	<0.005				

J. R. Wohler Ph.D.
PRESIDENT/DIRECTOR

HVOA - Method 8240

"Test Methods for Evaluating Solid Waste, Physical and Chemical Methods", SW-846
Third Edition, U.S. Environmental Protection Agency. Revised 1986.

This complete report is two (2) pages.

A.I.H.A. Accreditation No. 98
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D.E.R. Laboratory I.D. No. 20-073
Dept. of Agriculture Approved Dairy Laboratory
NY Dept. of Health Laboratory I.D. No. 10552
NY Dept. of Env. Conservation Approved Facility

MD Dept. of Health Cert. No. 130
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WV Dept. of Health Certification No. 21-R
NJ Dept. of Env. Protection Lab I.D. No. 77613
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NC Dept. of Natural Resources Cert. No. 236
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MI Dept. of Public Health Approved Facility
U.S. Office of Surface Mining Approved Facility

KEY:

< = LESS THAN

> = GREATER THAN

w.f. = WILL FOLLOW

FREE-COL LABORATORIES, INC. P.O. BOX 557 COTTON ROAD, MEADVILLE, PA 16335

PHONE: (814) 724-6242

FAX: (814) 333-1466

CHAIN-OF-CUSTODY RECORD

COMPANY NAME AC ROCHESTER DIVISION - GNC CONTACT PERSON Rick Eisenmohr
 ADDRESS Lexington Ave CITY Rochester STATE NY ZIP 14606
 PHONE NO. (716) 647-4766 FAX NO. _____ PURCHASE ORDER # 31423-E
 SAMPLE TYPE: _____ COMPLIANCE _____ PWS (PUBLIC WATER SUPPLY) ID _____ NON-COMPLIANCE _____
 SAMPLE SOURCE: _____ NPDES _____ WASTEWATER _____ DRINKING WATER _____ MONITORING WELLS X SOIL
 _____ OTHER _____ SLUDGE _____ SOLID WASTE _____ OIL _____ INDUSTRIAL HYGIENE _____

SAMPLING POINT	ANALYSIS REQUESTED	*C or G	SAMPLER	DATE SAMPLED	TIME
B106, S3	8240	C/G	W. Lank	8/7/90	0915
_____	_____	C/G	_____	_____	_____
_____	_____	C/G	_____	_____	_____
_____	_____	C/G	_____	_____	_____
_____	_____	C/G	_____	_____	_____
_____	_____	C/G	_____	_____	_____
_____	_____	C/G	_____	_____	_____
_____	_____	C/G	_____	_____	_____
_____	_____	C/G	_____	_____	_____

* CIRCLE "C" FOR COMPOSITE SAMPLE OR "G" FOR A GRAB SAMPLE.

SIGNATURE	ORGANIZATION	INCLUSIVE DATES
1. <u>Walter G. Galt</u>	<u>HRA of NY</u>	<u>8/4/90</u>
2. <u>Jim Simon</u>	<u>AC Rochester</u>	<u>8/9/90</u>
3. <u>Gregory J. Barr</u>	<u>Free-Col</u>	<u>8-9-90</u>

----- DO NOT WRITE BELOW THIS LINE -----
 DATE OF ARRIVAL 8/9/90 TIME OF ARRIVAL 19:30 MEANS OF DELIVERY TO LAB Driver
 WAS (WERE) SAMPLE(S) UNDER REFRIGERATION AT TIME OF ARRIVAL yes

1. FREE-COL'S DRIVER SIGNATURE _____	INCLUSIVE DATES _____	2. <u>Audrey Moyer</u>	FREE-COL'S CHECK-IN SIGNATURE _____	INCLUSIVE DATES <u>8/9/90</u>
3. RECEIVED BY LAB (WALK-IN) _____	DATE _____	4. <u>Michael</u>	FREE-COL'S SIGN-OFF SIGNATURE _____	DATE <u>8/9/90</u> AUG 14 1990

FREE-COL LABORATORIES, INC.

P.O. Box 557, Cotton Road
Meadville, Pennsylvania 16335-0557
Phone: Area Code 814/724-6242
FAX: Area Code 814/333-1466



ENVIRONMENTAL
OCCUPATIONAL HEALTH
FOOD SCIENCE
SPECIALISTS

QUALITY CONTROL INFORMATION

Free-Col Laboratories analyzes control samples at specified frequencies during the analysis of samples submitted by clients in order to evaluate and document the precision and accuracy of the results which are reported. The attached quality control data records, prepared by the analytical staff at the time of analysis, show the results obtained for different types of control samples during the analysis of the batch of samples described as follows:

General Motors Sample Identification

B-106, SE 08/09/90

Free-Col ID

00809423

Limits in effect as of June 11, 1990

FREE-COL LABORATORIES, INC.
SURROGATE SPIKE INFORMATION

Date 8-10-90 Analyst G. Bell

Target Value = 0.050 mg/L
Units = mg/L

<u>Free-Col ID</u>	<u>1,2-Di- chloro- ethane-d4</u>	<u>Toluene-d8</u>	<u>Bromo- fluoro- benzene</u>	<u>Fluoro- benzene</u>
<u>(Limits)</u>	0.033-0.064	0.041-0.062	0.039-0.064	0.044-0.058
<u>(File #)</u>	700	701	702	708

008-09-421	0.052	0.052	0.056
008-09-422	0.052	0.052	0.061
008-09-423	0.058	0.051	0.041

Limits in effect as of June 11, 1990

FREE-COL LABORATORIES, INC.
SURROGATE SPIKE INFORMATION

Date 8/10/90 Analyst G. Burs / R. Ecklund

Target Value = 0.050 mg/L
Units = mg/L

<u>Free-Col ID</u>	<u>1,2-Di- chloro- ethane-d4</u>	<u>Toluene-d8</u>	<u>Bromo- fluoro- benzene</u>	<u>Fluoro- benzene</u>
(Limits)	0.033-0.064	0.041-0.062	0.039-0.064	0.044-0.058
(File #)	700	701	702	708

002-09-410	0.060	0.050	0.051
411	0.059	0.052	0.057
412	0.057	0.053	0.053
413	0.049	0.046	0.047

FREE-COL LABORATORIES
VOA BLANK INFORMATION
(CLP - CALABRATION BLANK LIMITS)

Date 8-10-90 Analyst G. Beers

Samples associated with this blank:

008-09-421

008-09-410 & 413

008-09-422

008-09-423

Parameter

Blank Value

Units =

mg/L

Chloromethane

<0.010

Bromomethane

Vinyl Chloride

Chloroethane

Methylene Chloride

<0.005

Acrolein

N/A

Acrylonitrile

N/A

1,1-Dichloroethene

<0.005

1,1-Dichloroethane

Trans-1,2-Dichloroethene

Chloroform

1,2-Dichloroethane

1,1,1-Trichloroethane

Carbon tetrachloride

Bromodichloromethane

1,2-Dichloropropane

Trans-1,3-Dichloropropene

Trichloroethene

Benzene

Dibromochloromethane

1,1,2-Trichloroethane

Cis-1,2-Dichloropropene

2-Chloroethyl vinyl ether

<0.010

Bromoform

<0.005

Tetrachloroethene

1,1,2,2-Tetrachloroethane

Toluene

Chlorobenzene

Ethylbenzene

1,3-Dichlorobenzene

N/A

1,2-Dichlorobenzene

1,4-Dichlorobenzene

Xylene

<0.005

2-Butanone - MEK

<0.1

4-Methyl-2-pentanone

<0.050

Acetone

<0.10

Styrene

<0.005

Carbon Disulfide

<0.005

Vinyl Acetate

<0.050

2-Hexanone - MBK

<0.050

Limits in effect as of June 11, 1990

FREE-COL LABORATORIES, INC.
VOA REPEAT CONTROL INFORMATION
(CLP - DUPLICATE SAMPLE LIMITS)

Date 8-9-90

Analyst G. BULL

Samples associated with this repeat control:

008-02-410
008-09-421 008-09-410 → 413
008-09-422
008-09-423

Sample used as repeat control: 008-02-410

AD = Absolute Difference

RPD = Relative Percent Difference

Parameter	Samp. Value	Repeat Value	Accept AD	Accept RPD	Assayd AD/RPD	File
-----------	-------------	--------------	-----------	------------	---------------	------

Units = mg/kg

Chloromethane	<0.010	<0.010			—	820
Bromomethane					—	819
Vinyl chloride				27	—	828
Chloroethane					—	807
Methylene chloride	<0.005	<0.005			—	821
Acrolein	N/A	N/A		17	— N/A	800
Acrylonitrile	N/A	N/A			— N/A	801
1,1-Dichloroethene	<0.005	<0.005			—	813
1,1-Dichloroethane				52	—	811
trans-1,2-Dichloroethene				26	—	814
Chloroform				19	—	809
1,2-Dichloroethane					—	812
1,1,1-Trichloroethane				27	—	825
Carbon tetrachloride					—	804
Bromodichloromethane				79	—	810
1,2-Dichloropropane					—	815
trans-1,3-Dichloropropene					—	817
Trichloroethene				32	—	827
Benzene				49	—	802
Dibromochloromethane				28	—	806
1,1,2-Trichloroethane					—	826
cis-1,3-Dichloropropene					—	816
2-Chloroethyl vinyl ether	<0.010	<0.010			—	808
Bromoform	<0.005	<0.005			—	803
Tetrachloroethene				42	—	823
1,1,2,2-Tetrachloroethane					—	822
Toluene				38	—	824
Chlorobenzene				24	—	805
Ethyl benzene				5	—	818
1,3-Dichlorobenzene	N/A	N/A			— N/A	830
1,2-Dichlorobenzene	N/A	N/A			— N/A	829
1,4-Dichlorobenzene	N/A	N/A		36	— N/A	831
Acetone	<0.1	<0.1		26	—	836
VINYL ACETATE	<0.050	<0.050				
STYRENE	<0.005	<0.005				
CARBON DISULFIDE	<0.005	<0.005				
MEK	<0.1	<0.1				
MBK	<0.050	<0.050				
MIBK	<0.050	<0.050				
XYLENES	<0.005	<0.005				

Limits in effect as of June 11, 1990

FREE-COL LABORATORIES, INC.
VOA REFERENCE CONTROL INFORMATION
(CLP - CALIBRATION VERIFICATION LIMITS)

Date 8-9-90 Analyst G. Beers

Samples associated with this reference control:

008-09-421 008-09-410 ⇒ 413

008-09-422

008-09-423

<u>Parameter</u>	<u>Target Value</u> <u>ug/L</u>	<u>Acceptance Limits</u> <u>ug/L</u>	<u>Assayed Value</u> <u>ug/L</u>	<u>File#</u>
Chloromethane	20	3.4-36.3	18.9	223
Bromomethane	20	9.1-29.5	23.1	222
Vinyl chloride	20	2.7-43.0	20.1	232
Chloroethane	20	9.7-35.9	20.5	209
Methylene chloride	20	12.9-36.1	20.4	224
Acrolein	62	6.1-106.1	62.9	201
Acrylonitrile	58	10.4-116.5	58.0	202
1,1-Dichloroethene	20	14.1-31.6	19.0	216
1,1-Dichloroethane	20	15.7-29.4	19.0	214
trans-1,2-Dichloroethene	20	14.5-29.9	20.0	217
Chloroform	20	15.3-29.7	19.9	211
1,2-Dichloroethane	20	14.2-30.5	20.1	215
1,1,1-Trichloroethane	20	14.5-29.6	20.3	228
Carbon tetrachloride	20	9.1-29.5	17.0	206
Bromodichloromethane	20	11.0-29.3	20.6	212
1,2-Dichloropropane	20	14.4-30.5	19.6	218
trans-1,3-Dichloropropene	20	12.0-26.9	19.3	220
Trichloroethene	20	13.8-30.9	19.6	230
Benzene	20	16.1-28.5	19.7	203
Dibromochloromethane	20	3.9-31.1	18.8	208
1,1,2-Trichloroethane	20	14.3-30.4	19.7	229
cis-1,3-Dichloropropene	20	10.7-28.6	20.2	219
2-Chloroethyl vinyl ether	20	10.9-34.3	19.6	210
Bromoform	20	3.3-31.2	19.3	205
Tetrachloroethene	20	13.8-31.5	19.9	226
1,1,2,2-Tetrachloroethane	20	14.4-28.5	19.6	225
Toluene	20	16.5-27.8	19.6	227
Chlorobenzene	20	13.0-29.8	19.6	207
Ethyl benzene	20	14.3-29.3	19.6	221
1,3-Dichlorobenzene	26	18.6-36.5	N/A	234
1,2-Dichlorobenzene	26	16.2-38.7	↓	233
1,4-Dichlorobenzene	20	11.1-32.0	↓	235
Diethyl Benzene	44	25.9-62.9	N/A	237
Ethyl Ether	35	26.9-49.4	N/A	236
Xylene	44	22.6-66.1	42.0	238
MEK	20	10.9-36.7	22.1	240
Acetone	20	5.1-41.3	22.2	242

FREE-COL LABORATORIES, INC.
VOA REFERENCE CONTROL INFORMATION
(CLP - CALIBRATION VERIFICATION LIMITS)

Date 8-1-70 Analyst Grady
Samples associated with this reference control:

<u>Parameter</u>	<u>Target Value</u> <u>ug/L</u>	<u>Acceptance Limits</u> <u>ug/L</u>	<u>Assayed Value</u> <u>ug/L</u>	<u>File#</u>
MIBK	20	15.4-30.5	18.8	243
Tetrahydrofuran	45	33.9-60.0	N/A	244
Carbondisulfide	20	8.4-34.0	18.8	245
Styrene	20	10.3-32.6	19.2	246
Vinyl Acetate	20	6.1-32.3	16.9	247
Amyl Acetate	44	9.5-68.2	N/A	248
Methyl Butyl Ketone	20	7.9-38.1	18.9	249

Limits in effect as of June 11, 1990

FREE-COL LABORATORIES, INC.
VOA SPIKED CONTROL INFORMATION
(CLP - ANALYTICAL SPIKED SAMPLE LIMITS)

Date 8-9-90 Analyst G. Bell
Samples associated with this spiked control:

008-02-410

008-09-421

008-09-410 → 413

008-09-422

008-09-423

Sample used as spiked control: 008-02-410

PARAMETER	SPIKE ADDED UG/L	SPIKED RESULT UG/L	SAMPLE RESULT UG/L	ACCEPT. LIMITS % REC.	ASSYD % REC.	FILE
Chloromethane	20	18.5	<10	32-168	92	520
Bromomethane	20	22.3		23-233	112	519
Vinyl chloride	20	20.1		31-181	100	528
Chloroethane	20	20.3	↓	51-174	102	507
Methylene chloride	20	22.2	LS	50-175	111	521
Acrolein	62	N/A	N/A	6-204	N/A	500
Acrylonitrile	58	N/A	N/A	44-177	N/A	501
1,1-Dichloroethene	20	19.9	LS	67-157	100	513
1,1-Dichloroethane	20	14.8		65-159	74	511
trans-1,2-Dichloroethene	20	18.3		75-153	92	514
Chloroform	20	20.6		70-151	103	509
1,2-Dichloroethane	20	20.6		63-159	103	512
1,1,1-Trichloroethane	20	21.8		69-150	109	525
Carbon tetrachloride	20	20.0		47-152	100	504
Bromodichloromethane	20	22.1		54-143	110	510
1,2-Dichloropropane	20	20.7		72-150	104	515
trans-1,3-Dichloropropene	20	20.0		65-134	100	517
Trichloroethene	20	23.8		71-146	119	527
Benzene	20	20.8		76-145	104	502
Dibromochloromethane	20	22.9		39-149	114	506
1,1,2-Trichloroethane	20	21.2		64-152	106	526
cis-1,3-Dichloropropene	20	21.6	↓	56-152	108	516
2-Chloroethyl vinyl ether	20	21.2	<10	25-187	106	508
Bromoform	20	24.6	LS	17-163	123	503
Tetrachloroethene	20	21.2		60-168	106	523
1,1,2,2-Tetrachloroethane	20	20.9		58-157	107	522
Toluene	20	20.9		69-151	107	524
Chlorobenzene	20	21.0	↓	69-146	103	505
Ethyl benzene	20	20.6	↓	65-150	103	518
1,3-Dichlorobenzene	26	25.9 N/A	N/A	66-158	N/A	530
1,2-Dichlorobenzene	26	24.9 N/A	N/A	56-155	N/A	529
1,4-Dichlorobenzene	20	19.2 N/A	N/A	56-165	N/A	531
Diethyl Benzene	44	N/A	N/A	71-137	N/A	533
Ethyl Ether	35	N/A	N/A	62-160	N/A	532
Xylenes	44	32.4	LS	71-133	90	534
MEK	20	24.1	<100	60-182	120	536

Limits in effect as of June 11, 1990

FREE-COL LABORATORIES, INC.
VOA SPIKED CONTROL INFORMATION
(CLP - ANALYTICAL SPIKED SAMPLE LIMITS)

Date 8-9-90 Analyst G. BULL

Samples associated with this spiked control:

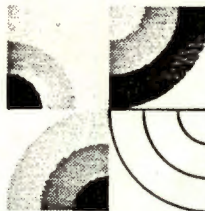
008-02-410

Sample used as spiked control: 008-02-410

PARAMETER	SPIKE ADDED UG/L	SPIKED RESULT UG/L	SAMPLE RESULT UG/L	ACCEPT. LIMITS % REC.	ASSYD % REC.	FILE
Acetone	20	28.1	<100	54-171	140	538
MIBK	20	21.2	<50	67-148	106	539
Ethyl Acetate	45	N/A	N/A	72-137	N/A	535
Vinyl Acetate	20	17.0	<50		85	
Carbon Disulfide	20	27.4	<5		137	
MBK	20	20.9	<50		104	
STYRENE	20	18.6	<5		93	

FREE-COL LABORATORIES, INC.

P.O. Box 557, Cotton Road
Meadville, Pennsylvania 16335-0557
Phone: Area Code 814/724-6242
FAX: Area Code 814/333-1466



ENVIRONMENTAL
OCCUPATIONAL HEALTH
FOOD SCIENCE
SPECIALISTS

**AC ROCHESTER DIVISION
GENERAL MOTORS CORPORATION**

**B-131,S5
B-131,S6
B-131,S7**

SAMPLE DATE: 08/14/90

FREE-COL LABORATORIES, INC.

P.O. BOX 557, COTTON ROAD
MEADVILLE, PENNSYLVANIA 16335
PHONE: (814) 724-6242
FAX: (814) 333-1466

5815 AIRPORT ROAD
ROANOKE, VIRGINIA 24012
PHONE: (703) 265-2544
FAX: (703) 362-1663

RICHARD WOHLER, Ph.D.
LABORATORY DIRECTOR

08/27/90

TO: AC ROCHESTER DIV.-GMC
ATTN: MR. RICK EISENMAN
1000 LEXINGTON AVE., DEPT. 12820
ROCHESTER NY 14606

P.O. # 31423E

ACCOUNT NO. 01267

ANALYTICAL REPORT FORM

PAGE 1

	SAMPLE ID	: B-131,S5	B-131,S6
		08/14/90	08/14/90
	LAB ID	00816432	00816433
PARAMETER	DATE RECEIVED:	08/16/90	08/16/90

COMPOSITE PREP X X

A.I.H.A. Accreditation No. 98
U.S. Public Health Services Approved Facility
PA D.E.R. Laboratory I.D. No. 20-073
PA Dept. of Agriculture Approved Dairy Laboratory
NY Dept. of Health Laboratory I.D. No. 10552
NY Dept. of Env. Conservation Approved Facility

MD Dept. of Health Cert. No. 130
VA Dept. of Health Laboratory I.D. No. 00145
WV Dept. of Health Certification No. 21-R
NJ Dept. of Env. Protection Lab I.D. No. 77613
Natl. Voluntary Lab. Accred. Cert. No. 1023

NC Dept. of Natural Resources Cert. No. 236
NC Dept. of Env., Health & Nat. Res. I.D. No. 42700
SC Dept. of Health Laboratory I.D. No. 89004
MI Dept. of Public Health Approved Facility
U.S. Office of Surface Mining Approved Facility

KEY:

< = LESS THAN

> = GREATER THAN

w.f. = WILL FOLLOW

FREE-COL LABORATORIES, INC.

P.O. BOX 557, COTTON ROAD
MEADVILLE, PENNSYLVANIA 16335
PHONE: (814) 724-8242
FAX: (814) 333-1486

5815 AIRPORT ROAD
ROANOKE, VIRGINIA 24012
PHONE: (703) 265-2544
FAX: (703) 362-1863

RICHARD WOHLER, Ph.D.
LABORATORY DIRECTOR

08/27/90

TO: AC ROCHESTER DIV.-GMC
ATTN: MR. RICK EISENMAN
1000 LEXINGTON AVE., DEPT. 12820
ROCHESTER NY 14606

P.O. # 31423E

ACCOUNT NO. 01267

ANALYTICAL REPORT FORM

PAGE 2

SAMPLE ID : B-131, S5&6
08/14/90
COMP. PREP
LAB ID 00816434
DATE RECEIVED: 08/16/90

PARAMETER	RESULTS	UNITS	DATE	AND ANALYST
<u>VOLATILE COMPOUNDS</u>				
Chloromethane	<0.010	MG/KG	08/23/90	BEERS/ ECKLUND
Bromomethane	<0.010			
Vinyl Chloride	<0.010			
Chloroethane	<0.010			
Methylene Chloride	<0.005			
Acetone	<0.10			
Carbon Disulfide	<0.005			
1,1-Dichloroethene	<0.005			
1,1-Dichloroethane	<0.005			
trans-1,2-Dichloroethene	0.005			
Chloroform	<0.005			
1,2-Dichloroethane	<0.005			
2-Butanone	<0.10			
1,1,1-Trichloroethane	<0.005			
Carbon Tetrachloride	<0.005			
Vinyl Acetate	<0.050			
Bromodichloromethane	<0.005			
1,1,2,2-Tetrachloroethane	<0.005			
1,2-Dichloropropane	<0.005			
trans-1,3-Dichloropropene	<0.005			
Trichloroethene	<0.005			
Dibromochloromethane	<0.005			
1,1,2-Trichloroethane	<0.005			

H.A. Accreditation No. 88

Public Health Services Approved Facility

D.E.R. Laboratory I.D. No. 20-073

PA Dept. of Agriculture Approved Dairy Laboratory

NY Dept. of Health Laboratory I.D. No. 10552

Dept. of Env. Conservation Approved Facility

MD Dept. of Health Cert. No. 130

VA Dept. of Health Laboratory I.D. No. 00146

WV Dept. of Health Certification No. 21-A

NJ Dept. of Env. Protection Lab I.D. No. 77813

Natl. Voluntary Lab. Accred. Cert. No. 1023

NC Dept. of Natural Resources Cert. No. 236

NC Dept. of Env., Health & Nat. Res. I.D. No. 42700

SC Dept. of Health Laboratory I.D. No. 89004

MI Dept. of Public Health Approved Facility

U.S. Office of Surface Mining Approved Facility

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FREE-COL LABORATORIES, INC.

J. RICHARD WOHLER, Ph.D.
LABORATORY DIRECTOR

P.O. BOX 557, COTTON ROAD
MEADVILLE, PENNSYLVANIA 16335
PHONE: (814) 724-6242
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5815 AIRPORT ROAD
ROANOKE, VIRGINIA 24012
PHONE: (703) 265-2544
FAX: (703) 362-1663

08/27/90



TO: AC ROCHESTER DIV.-GMC
ATTN: MR. RICK EISENMAN
1000 LEXINGTON AVE., DEPT. 12820
ROCHESTER NY 14606

P.O. # 31423E

ACCOUNT NO. 01267

ANALYTICAL REPORT FORM

PAGE 3

SAMPLE ID : B-131, S5&6
08/14/90
COMP. PREP
LAB ID 00816434
DATE RECEIVED: 08/16/90

PARAMETER	RESULTS	UNITS	DATE AND	ANALYST
<u>VOLATILE COMPOUNDS</u> Continued				
Benzene	<0.005	MG/KG	08/23/90	BEERS/ ECKLUND
cis-1,3-Dichloropropene	<0.005			
2-Chloroethylvinyl Ether	<0.010			
Bromoform	<0.005			
2-Hexanone	<0.050			
4-Methyl-2-pentanone	<0.050			
Tetrachloroethene	<0.005			
Toluene	<0.005			
Chlorobenzene	<0.005			
Ethylbenzene	<0.005			
Styrene	<0.005			
Total Xylenes	<0.005			

A.I.H.A. Accreditation No. 98
U.S. Public Health Services Approved Facility
PA D.E.R. Laboratory I.D. No. 20-073
PA Dept. of Agriculture Approved Dairy Laboratory
NY Dept. of Health Laboratory I.D. No. 10552
NY Dept. of Env. Conservation Approved Facility

MD Dept. of Health Cert. No. 130
VA Dept. of Health Laboratory I.D. No. 00145
WV Dept. of Health Certification No. 21-R
NJ Dept. of Env. Protection Lab I.D. No. 77613
Natl. Voluntary Lab. Accred. Cert. No. 1023

NC Dept. of Natural Resources Cert. No. 236
NC Dept. of Env., Health & Nat. Res. I.D. No. 42700
SC Dept. of Health Laboratory I.D. No. 89004
MI Dept. of Public Health Approved Facility
U.S. Office of Surface Mining Approved Facility

KEY:

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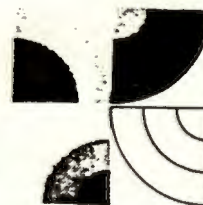
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J. RICHARD WOHLER, Ph.D.
LABORATORY DIRECTOR

FREE-COL LABORATORIES, INC.

P.O. BOX 557, COTTON ROAD
MEADVILLE, PENNSYLVANIA 16335
PHONE: (814) 724-6242
FAX: (814) 333-1466



TO:

ANALYTICAL REPORT FORM

Results expressed as MG/KG or % are calculated on an as received weight basis.

CODE B: A blank value over the detection limit of the test was subtracted from this result.

CODE D: Detection limit change due to a dilution.

CODE R: The percent recovery on the spiked sample associated with this sample was not within the acceptance limits of 75% - 125%. This matter is under consideration at the laboratory.

CODE S: This result was obtained by the Method of Standard Additions.

ND = Not Detectable

NA = Not Applicable

VOID = The sample plus spike concentration exceeded the linear range of the standard curve. No result could be obtained.

PRC = Preparation Reference Control

A.I.H.A. Accreditation No. 98
HEW/CLIA Lic. No. 37-1129
U.S. Public Health Services Approved Facility
PA D.E.R. Laboratory I.D. No. 20-073
PA Dept. of Health Cert. No. 000021
PA Dept. of Agriculture Approved Dairy Laboratory

NY Dept. of Health Laboratory I.D. No. 10552
NY Dept. of Env. Conservation Approved Facility
MD Dept. of Health Cert. No. 130
VA Dept. of Health Laboratory I.D. No. 00145
WV Dept. of Health Certification No. 21-R
NJ Dept. of Env. Protection Lab I.D. No. 77613

NC Dept. of Natural Resources Cert. N
SC Dept. of Health Laboratory I.D. No. 8
GA Dept. of Natural Resources Cert. N.
MI Dept. of Public Health Approved Fac
U.S. Office of Surface Mining Approvec

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J. RICHARD WOHLER, Ph.D.
LABORATORY DIRECTOR

FREE-COL LABORATORIES, INC.
P.O. BOX 557, COTTON ROAD
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5815 AIRPORT ROAD
ROANOKE, VIRGINIA 24012
PHONE: (703) 265-2544
FAX: (703) 362-1663

08/27/90

TO: AC ROCHESTER DIV.-GMC
ATTN: MR. RICK EISENMAN
1000 LEXINGTON AVE., DEPT. 12820
ROCHESTER NY 14606

P.O. # 31423E

ACCOUNT NO. 01267

ANALYTICAL REPORT FORM

PAGE 4

SAMPLE ID : B-131,S7
08/14/90

LAB ID 00816435
DATE RECEIVED: 08/16/90

PARAMETER	RESULTS	UNITS	DATE	AND ANALYST
<u>VOLATILE COMPOUNDS</u>				
Chloromethane	<0.010	MG/L	08/23/90	BEERS/ ECKLUND
Bromomethane	<0.010			
Vinyl Chloride	0.051			
Chloroethane	<0.010			
Methylene Chloride	<0.005			
Acetone	<0.10			
Carbon Disulfide	<0.005			
1,1-Dichloroethene	<0.005			
1,1-Dichloroethane	<0.005			
trans-1,2-Dichloroethene	0.042			
Chloroform	<0.005			
1,2-Dichloroethane	<0.005			
2-Butanone	<0.10			
1,1,1-Trichloroethane	<0.005			
Carbon Tetrachloride	<0.005			
Vinyl Acetate	<0.050			
Bromodichloromethane	<0.005			
1,1,2,2-Tetrachloroethane	<0.005			
1,2-Dichloropropane	<0.005			
trans-1,3-Dichloropropene	<0.005			
Trichloroethene	<0.005			
Dibromochloromethane	<0.005			
1,1,2-Trichloroethane	<0.005			

A.I.H.A. Accreditation No. 98
U.S. Public Health Services Approved Facility
PA D.E.R. Laboratory I.D. No. 20-073
PA Dept. of Agriculture Approved Dairy Laboratory
NY Dept. of Health Laboratory I.D. No. 10552
NY Dept. of Env. Conservation Approved Facility

MD Dept. of Health Cert. No. 130
VA Dept. of Health Laboratory I.D. No. 00145
WV Dept. of Health Certification No. 21-R
NJ Dept. of Env. Protection Lab I.D. No. 77613
NVLAP Natl. Voluntary Lab. Accred. Cert. No. 1023

NC Dept. of Natural Resources Cert. No. 236
NC Dept. of Env., Health & Nat. Res. I.D. No. 42700
SC Dept. of Health Laboratory I.D. No. 89004
MI Dept. of Public Health Approved Facility
U.S. Office of Surface Mining Approved Facility

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FREE-COL LABORATORIES, INC.

J. RICHARD WOHLER, Ph.D.
LABORATORY DIRECTOR

P.O. BOX 557, COTTON ROAD
MEADVILLE, PENNSYLVANIA 16335
PHONE: (814) 724-6242
FAX: (814) 333-1466

5815 AIRPORT ROAD
ROANOKE, VIRGINIA 24012
PHONE: (703) 265-2544
FAX: (703) 362-1663

08/27/90



TO: AC ROCHESTER DIV.-GMC
ATTN: MR. RICK EISENMAN
1000 LEXINGTON AVE., DEPT. 12820
ROCHESTER NY 14606

P.O. # 31423E

ACCOUNT NO. 01267

ANALYTICAL REPORT FORM

PAGE 5

SAMPLE ID : B-131,S7
08/14/90

LAB ID 00816435
DATE RECEIVED: 08/16/90

PARAMETER	RESULTS	UNITS	DATE	AND	ANALYST
<u>VOLATILE COMPOUNDS</u> Continued					
Benzene	0.007	MG/L	08/23/90		BEERS/ ECKLUND
cis-1,3-Dichloropropene	<0.005				
2-Chloroethylvinyl Ether	<0.010				
Bromoform	<0.005				
2-Hexanone	<0.050				
4-Methyl-2-pentanone	<0.050				
Tetrachloroethene	<0.005				
Toluene	<0.005				
Chlorobenzene	<0.005				
Ethylbenzene	<0.005				
Styrene	<0.005				
Total Xylenes	<0.005				

Volatiles - Method 8240

"Test Methods for Evaluating Solid Waste: Physical/Chemical Methods", SW-846,
Third Edition, U.S. Environmental Protection Agency. Revised 1986.

This complete report is five (5) pages.

Diane A. Tracy

QUALITY ASSURANCE SUPERVISOR

ALHA Accreditation No. 98
U.S. Public Health Services Approved Facility
PA D.E.R. Laboratory I.D. No. 20-073
PA Dept. of Agriculture Approved Dairy Laboratory
NY Dept. of Health Laboratory I.D. No. 10552
NY Dept. of Env. Conservation Approved Facility

MD Dept. of Health Cert. No. 130
VA Dept. of Health Laboratory I.D. No. 00145
WV Dept. of Health Certification No. 21-R
NJ Dept. of Env. Protection Lab I.D. No. 77613
Natl. Voluntary Lab. Accred. Cert. No. 1023

NC Dept. of Natural Resources Cert. No. 236
NC Dept. of Env., Health & Nat. Res. I.D. No. 42700
SC Dept. of Health Laboratory I.D. No. 89004
MI Dept. of Public Health Approved Facility
U.S. Office of Surface Mining Approved Facility

KEY:

< = LESS THAN

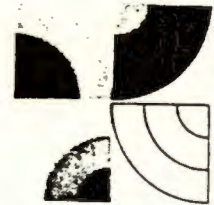
> = GREATER THAN

w.f. = WILL FOLLOW

FREE-COL LABORATORIES, INC.

P.O. BOX 557, COTTON ROAD
MEADVILLE, PENNSYLVANIA 16335
PHONE: (814) 724-6242
FAX: (814) 333-1466

J. RICHARD WOHLER, Ph.D.
LABORATORY DIRECTOR



TO:

ANALYTICAL REPORT FORM

Results expressed as MG/KG or % are calculated on an as received weight basis.

CODE B: A blank value over the detection limit of the test was subtracted from this result.

CODE D: Detection limit change due to a dilution.

CODE R: The percent recovery on the spiked sample associated with this sample was not within the acceptance limits of 75% - 125%. This matter is under consideration at the laboratory.

CODE S: This result was obtained by the Method of Standard Additions.

ND = Not Detectable

NA = Not Applicable

VOID = The sample plus spike concentration exceeded the linear range of the standard curve. No result could be obtained.

PRC = Preparation Reference Control

A.I.H.A. Accreditation No. 98
HEW/CLIA Lic. No. 37-1129
U.S. Public Health Services Approved Facility
PA D.E.R. Laboratory I.D. No. 20-073
PA Dept. of Health Cert. No. 000021
PA Dept. of Agriculture Approved Dairy Laboratory

NY Dept. of Health Laboratory I.D. No. 10552
NY Dept. of Env. Conservation Approved Facility
MD Dept. of Health Cert. No. 130
VA Dept. of Health Laboratory I.D. No. 00145
WV Dept. of Health Certification No. 21-R
NJ Dept. of Env. Protection Lab I.D. No. 77613

NC Dept. of Natural Resources Cert. No.
SC Dept. of Health Laboratory I.D. No. 85
GA Dept. of Natural Resources Cert. No.
MI Dept. of Public Health Approved Facility
U.S. Office of Surface Mining Approved Facility

KEY:

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PHONE: (814) 724-6242

FAX: (814) 333-1466

CHAIN-OF-CUSTODY RECORD

rick EISENHAN

COMPANY NAME AC Rochester CONTACT PERSON Dr. C. H. Hanks
 ADDRESS 1000 Lexington Ave CITY Rochester STATE NY ZIP 14606
 PHONE NO. (716) - 647-4766 FAX NO. (716) - 647-4417 PURCHASE ORDER # 31423-E
 SAMPLE TYPE: ☐ COMPLIANCE ☐ PWS (PUBLIC WATER SUPPLY) ID ☐ NON-COMPLIANCE
 SAMPLE SOURCE: ☐ NPOES ☐ WASTEWATER ☒ DRINKING WATER ☒ MONITORING WELLS ☐ SOIL
☐ OTHER ☐ SLUDGE ☐ SOLID WASTE ☐ OIL ☐ INDUSTRIAL HYGIENE

SAMPLING POINT

ANALYSIS REQUESTED

GC or C

SAMPLER

DATE SAMPLED

TIME

B-131, 55 + 56 (make composite) 8240 C G T. Wells 14 Aug 90 10:00
B-131, 57 (water) 8240 C G T. Wells 14 Aug 90 10:30
B-131, 57 (water) 8240 C G T. Wells 14 Aug 90 10:30
B-131, 57 (water) 8240 C G T. Wells 14 Aug 90 10:30
B-131, 57 (water) 8240 C G T. Wells 14 Aug 90 10:30
B-131, 57 (water) 8240 C G T. Wells 14 Aug 90 10:30

* CIRCLE "C" FOR COMPOSITE SAMPLE OR "G" FOR A GRAB SAMPLE.

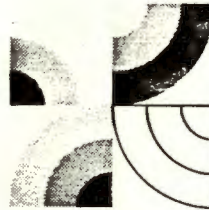
1. <u>Thomas D. Wells</u>	<u>H+A of New York</u>	<u>14 Aug 1990</u>
2. <u>Jim Curren</u>	<u>AC Tech</u>	<u>8-14 / 8-16-90</u>
3. <u>Gregory D. Bear</u>	<u>Free-Col</u>	<u>8-16-90</u>

DO NOT WRITE BELOW THIS LINE

DATE OF ARRIVAL 8/16/90 TIME OF ARRIVAL 1530 MEANS OF DELIVERY TO LAB Tech Services
 WAS (HERE) SAMPLE(S) UNDER REFRIGERATION AT TIME OF ARRIVAL Yes
 1. Thomas D. Wells INCLUSIVE DATES 8/16/90
 FREE-COL'S DRIVER SIGNATURE
 2. Thomas D. Wells INCLUSIVE DATES 8/16/90
 FREE-COL'S CHECK-IN SIGNATURE
 3. Gregory D. Bear INCLUSIVE DATES 8/16/90 - 8/27/90
 RECEIVED BY LAB (WALK-IN) DATE
 4. Gregory D. Bear INCLUSIVE DATES 8/16/90 - 8/27/90
 FREE-COL'S SIGN-OFF SIGNATURE DATE

FREE-COL LABORATORIES, INC.

P.O. Box 557, Cotton Road
Meadville, Pennsylvania 16335-0557
Phone: Area Code 814/724-6242
FAX: Area Code 814/333-1466



ENVIRONMENTAL
OCCUPATIONAL HEALTH
FOOD SCIENCE
SPECIALISTS

QUALITY CONTROL INFORMATION

Free-Col Laboratories analyzes control samples at specified frequencies during the analysis of samples submitted by clients in order to evaluate and document the precision and accuracy of the results which are reported. The attached quality control data records, prepared by the analytical staff at the time of analysis, show the results obtained for different types of control samples during the analysis of the batch of samples described as follows:

<u>General Motors Sample Identification</u>	<u>Free-Col ID</u>
B-131,S5 08/14/90	00816432
B-131,S6 08/14/90	00816433
B-131,S5&6 08/14/90 COMP. PREP	00816434
B-131,S7 08/14/90	00816435

Special Notes:

1. The results on the analytical report may be given as mg/kg and related control value results may be given on the quality control data sheet as mg/L. The reason for this difference is that many control values are expressed in terms of the final concentration of the solvent or acid extract of a solid waste or oil sample.

Limits in effect as of June 11, 1990

FREE-COL LABORATORIES, INC.
SURROGATE SPIKE INFORMATION

Date 8/23/90 Analyst Beers

Target Value = 0.050 mg/L
Units = mg/L

<u>Free-Col ID</u>	<u>1,2-Di- chloro- ethane-d4</u>	<u>Toluene-d8</u>	<u>Bromo- fluoro- benzene</u>	<u>Fluoro- benzene</u>
(Limits)	0.033-0.064	0.041-0.062	0.039-0.064	0.044-0.058
(File #)	700	701	702	708

008-16-434	0.050	0.049	0.055
-435	0.050	0.052	0.057

008-16-430	0.051	0.050	0.050
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FREE-COL LABORATORIES
VOA BLANK INFORMATION
(CLP - CALABRATION BLANK LIMITS)

Date 8-23-90 Analyst G. BULL

Samples associated with this blank:

Method 8240 HVOA

008-16-430

003-16-434/435

Parameter

Blank Value

Units = mg/L

Chloromethane	<0.010
Bromomethane	
Vinyl Chloride	
Chloroethane	
Methylene Chloride	<0.005
Acrolein	N/A
Acrylonitrile	N/A
1,1-Dichloroethene	<0.005
1,1-Dichloroethane	
Trans-1,2-Dichloroethene	
Chloroform	
1,2-Dichloroethane	
1,1,1-Trichloroethane	
Carbon tetrachloride	
Bromodichloromethane	
1,2-Dichloropropane	
Trans-1,3-Dichloropropene	
Trichloroethene	
Benzene	
Dibromochloromethane	
1,1,2-Trichloroethane	
Cis-1,2-Dichloropropene	
2-Chloroethyl vinyl ether	<0.010
Bromoform	<0.005
Tetrachloroethene	
1,1,2,2-Tetrachloroethane	
Toluene	
Chlorobenzene	
Ethylbenzene	
1,3-Dichlorobenzene	
1,2-Dichlorobenzene	
1,4-Dichlorobenzene	
Xylene	
2-Butanone - MEK	<0.100
4-Methyl-2-pentanone	<0.050
Acetone	<0.100
Styrene	<0.005
Carbon Disulfide	<0.005
Vinyl Acetate	<0.050
2-Hexanone - MBK	<0.050

Limits in effect as of June 11, 1990

FREE-COL LABORATORIES, INC.
VOA REFERENCE CONTROL INFORMATION
(CLP - CALIBRATION VERIFICATION LIMITS)

Date 8-23-90 Analyst G. Bell

Samples associated with this reference control:

002-16-430

002-434/435

Parameter	Target Value ug/L	Acceptance Limits ug/L	Assayed Value ug/L	File#
Chloromethane	20	3.4-36.3	20.0	223
Bromomethane	20	9.1-29.5	22.1	222
Vinyl chloride	20	2.7-43.0	20.2	232
Chloroethane	20	9.7-35.9	19.9	209
Methylene chloride	20	12.9-36.1	20.5	224
Acrolein	62	6.1-106.1	N/A	201
Acrylonitrile	58	10.4-116.5	N/A	202
1,1-Dichloroethene	20	14.1-31.6	21.1	216
1,1-Dichloroethane	20	15.7-29.4	21.0	214
trans-1,2-Dichloroethene	20	14.5-29.9	20.7	217
Chloroform	20	15.3-29.7	20.9	211
1,2-Dichloroethane	20	14.2-30.5	20.4	215
1,1,1-Trichloroethane	20	14.5-29.6	20.7	228
Carbon tetrachloride	20	9.1-29.5	17.1	206
Bromodichloromethane	20	11.0-29.3	19.0	212
1,2-Dichloropropane	20	14.4-30.5	20.0	218
trans-1,3-Dichloropropene	20	12.0-26.9	20.6	220
Trichloroethene	20	13.8-30.9	21.1	230
Benzene	20	16.1-28.5	20.6	203
Dibromochloromethane	20	3.9-31.1	15.6	208
1,1,2-Trichloroethane	20	14.3-30.4	20.0	229
cis-1,3-Dichloropropene	20	10.7-28.6	18.9	219
2-Chloroethyl vinyl ether	20	10.9-34.3	20.6	210
Bromoform	20	3.3-31.2	9.8	205
Tetrachloroethene	20	13.8-31.5	20.8	226
1,1,2,2-Tetrachloroethane	20	14.4-28.5	20.4	225
Toluene	20	16.5-27.8	20.7	227
Chlorobenzene	20	13.0-29.8	20.2	207
Ethyl benzene	20	14.3-29.3	20.8	221
1,3-Dichlorobenzene	26	18.6-36.5	28.1	234
1,2-Dichlorobenzene	26	16.2-38.7	29.0	233
1,4-Dichlorobenzene	20	11.1-32.0	20.6	235
Diethyl Benzene	44	25.9-62.9	N/A	237
Ethyl Ether	35	26.9-49.4	N/A	236
Xylene	44	22.6-66.1	43.7	238
MEK	20	10.9-36.7	24.4	240
Acetone	20	5.1-41.3	21.2	242

Limits in effect as of June 11, 1990

FREE-COL LABORATORIES, INC.
VOA REFERENCE CONTROL INFORMATION
(CLP - CALIBRATION VERIFICATION LIMITS)

Date 5-23-90 Analyst G. Berry

Date 8-25-70 Analyst GR/200
Samples associated with this reference control:

<u>Parameter</u>	<u>Target Value</u> <u>ug/L</u>	<u>Acceptance Limits</u> <u>ug/L</u>	<u>Assayed Value</u> <u>ug/L</u>	<u>File #</u>
MIBK	20	15.4-30.5	20.9	243
Tetrahydrofuran	45	33.9-60.0	N/A	244
Carbondisulfide	20	8.4-34.0	20.8	245
Styrene	20	10.3-32.6	20.7	246
Vinyl Acetate	20	6.1-32.3	18.2	247
Amyl Acetate	44	9.5-68.2	N/A	248
Methyl Butyl Ketone	20	7.9-38.1	21.2	249

Limits in effect as of June 11, 1990

FREE-COL LABORATORIES, INC.
VOA SPIKED CONTROL INFORMATION
(CLP - ANALYTICAL SPIKED SAMPLE LIMITS)

Date 8/23/90 Analyst Burns/Ecklund

Samples associated with this spiked control:

008-16-430

008-16-434/435

Sample used as spiked control: 008-16-430

PARAMETER	SPIKE ADDED UG/L	SPIKED RESULT UG/L	SAMPLE RESULT UG/L	ACCEPT. LIMITS % REC.	ASSYD % REC.	FILE
Chloromethane	20	21	<10	32-168	105	520
Bromomethane	20	22		23-233	110	519
Vinyl chloride	20	28		31-181	140	528
Chloroethane	20	20	↓	51-174	100	507
Methylene chloride	20	23	<5	50-175	115	521
Acrolein	62	N/A	N/A	6-204	N/A	500
Acrylonitrile	58	N/A	N/A	44-177	N/A	501
1,1-Dichloroethene	20	18	<5	67-157	90	513
1,1-Dichloroethane	20	21	<5	65-159	105	511
trans-1,2-Dichloroethene	20	65	46	75-153	95	514
Chloroform	20	22	<5	70-151	110	509
1,2-Dichloroethane	20	17		63-159	85	512
1,1,1-Trichloroethane	20	19		69-150	95	525
Carbon tetrachloride	20	15		47-152	75	504
Bromodichloromethane	20	16		54-143	80	510
1,2-Dichloropropane	20	20	↓	72-150	100	515
trans-1,3-Dichloropropene	20	20	↓	65-134	100	517
Trichloroethene	20	46	31	71-146	75	527
Benzene	20	20	<5	76-145	100	502
Dibromochloromethane	20	14		39-149	70	506
1,1,2-Trichloroethane	20	21	↓	64-152	105	526
cis-1,3-Dichloropropene	20	19	↓	56-152	95	516
2-Chloroethyl vinyl ether	20	26	<10	25-187	130	508
Bromoform	20	11	<5	17-163	55	503
Tetrachloroethene	20	20		60-168	100	523
1,1,2,2-Tetrachloroethane	20	16		58-157	80	522
Toluene	20	19		69-151	95	524
Chlorobenzene	20	18	↓	69-146	90	505
Ethyl benzene	20	25	↓	65-150	125	518
1,3-Dichlorobenzene	26	N/A	N/A	66-158	N/A	530
1,2-Dichlorobenzene	26	N/A	N/A	56-155		529
1,4-Dichlorobenzene	20	N/A	N/A	56-165		531
Diethyl Benzene	44	N/A	N/A	71-137	↓	533
Ethyl Ether	35	N/A	N/A	62-160	↓	532
Xylenes	44	44	<5	71-133	100	534
MEK	20	25	<100	60-182	125	536

Limits in effect as of June 11, 1990

FREE-COL LABORATORIES, INC.
VOA SPIKED CONTROL INFORMATION
(CLP - ANALYTICAL SPIKED SAMPLE LIMITS)

Date 8/23/90 Analyst BEERS/SUCKLUND

Samples associated with this spiked control:

008-16-430

Sample used as spiked control: 008-16-430

PARAMETER	SPIKE ADDED UG/L	SPIKED RESULT UG/L	SAMPLE RESULT UG/L	ACCEPT. LIMITS % REC.	ASSYD % REC.	FILE
Acetone	20	25	<100	54-171	125	538
MIBK	20	25	<50	67-148	125	539
Ethyl Acetate	45	N/A	N/A	72-137	N/A	535
MBK	20	19	<50		95	
Vinyl Acetate	20	21	<50		105	
Carbon disulfide	20	18	<5		90	
Styrene	20	17	<5		85	

Limits in effect as of June 11, 1990

FREE-COL LABORATORIES, INC.
VOA REPEAT CONTROL INFORMATION
(CLP - DUPLICATE SAMPLE LIMITS)

Date 8-23-90 Analyst G. Reel

Samples associated with this repeat control:

Method 8240 HVOA

008-16-430

008-16-434/435

Sample used as repeat control: 008-16-435

AD = Absolute Difference

RPD = Relative Percent Difference

Parameter	Samp. Value	Repeat Value	Accept AD	Accept RPD	Assayd AD/RPD	File
-----------	-------------	--------------	-----------	------------	---------------	------

Units = mg/L

Chloromethane	<0.010	<0.010			—	820
Bromomethane	<0.010	<0.010			—	819
Vinyl chloride	0.051	0.052		27	2	828
Chloroethane	<0.010	<0.010			—	807
Methylene chloride	<0.005	<0.005			—	821
Acrolein	↓	↓		17	—	800
Acrylonitrile	↓	↓			—	801
1,1-Dichloroethene	↓	↓			—	813
1,1-Dichloroethane	↓	↓		52	—	811
trans-1,2-Dichloroethene	0.042	0.046		26	9.17%	814
Chloroform	<0.005	<0.005		19	—	809
1,2-Dichloroethane	↓	↓			—	812
1,1,1-Trichloroethane	↓	↓		27	—	825
Carbon tetrachloride	↓	↓			—	804
Bromodichloromethane	↓	↓		79	—	810
1,2-Dichloropropane	↓	↓			—	815
trans-1,3-Dichloropropene	↓	↓			—	817
Trichloroethene	↓	↓		32	—	827
Benzene	0.007	0.007		49	0	802
Dibromochloromethane	<0.005	<0.005		28	—	806
1,1,2-Trichloroethane	↓	↓			—	826
cis-1,3-Dichloropropene	↓	↓			—	816
2-Chloroethyl vinyl ether	<0.010	<0.010			—	808
Bromoform	<0.005	<0.005			—	803
Tetrachloroethene	↓	↓		42	—	823
1,1,2,2-Tetrachloroethane	↓	↓			—	822
Toluene	↓	↓		38	—	824
Chlorobenzene	↓	↓		24	—	805
Ethyl benzene	↓	↓		5	—	818
1,3-Dichlorobenzene	N/A	N/A			—	830
1,2-Dichlorobenzene	N/A	N/A			—	829
1,4-Dichlorobenzene	N/A	N/A		36	—	831
Acetone	<0.10	<0.10		26	—	836
Xylenes	<0.005	<0.005			—	
CARBON DISULFIDE	<0.005	<0.005			—	
STYRENE	<0.005	<0.005			—	
MEK	<0.10	<0.10			—	
MBR	<0.050	<0.050			—	
MIBK	<0.050	<0.050			—	
VINYL ACETATE	<0.050	<0.050			—	

FREE-COL LABORATORIES, INC.

P.O. Box 557, Cotton Road
Meadville, Pennsylvania 16335-0557
Phone: Area Code 814/724-6242
FAX: Area Code 814/333-1466



ENVIRONMENTAL
OCCUPATIONAL HEALTH
FOOD SCIENCE
SPECIALISTS

AC ROCHESTER DIVISION
GENERAL MOTORS CORPORATION

B-132, S5

SAMPLE DATE: 08/15/90

FREE-COL LABORATORIES, INC.

J. RICHARD WOHLER, Ph.D.
LABORATORY DIRECTOR

P.O. BOX 557, COTTON ROAD
MEADVILLE, PENNSYLVANIA 16335
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ROANOKE, VIRGINIA 24012
PHONE: (703) 265-2544
FAX: (703) 362-1663

08/27/90



TO: AC ROCHESTER DIV.-GMC
ATTN: MR. RICK EISENMAN
1000 LEXINGTON AVE., DEPT. 12820
ROCHESTER NY 14606

P.O. # 31423E

ACCOUNT NO. 01267

ANALYTICAL REPORT FORM

PAGE 1

SAMPLE ID : B-132, S5
08/15/90

LAB ID 00816430
DATE RECEIVED: 08/16/90

PARAMETER	RESULTS	UNITS	DATE AND	ANALYST
<u>VOLATILE COMPOUNDS</u>				
Chloromethane	<0.010	MG/L	08/23/90	BEERS/ ECKLUND
Bromomethane	<0.010			
Vinyl Chloride	<0.010			
Chloroethane	<0.010			
Methylene Chloride	<0.005			
Acetone	<0.10			
Carbon Disulfide	<0.005			
1,1-Dichloroethene	<0.005			
1,1-Dichloroethane	<0.005			
trans-1,2-Dichloroethene	0.046			
Chloroform	<0.005			
1,2-Dichloroethane	<0.005			
2-Butanone	<0.10			
1,1,1-Trichloroethane	<0.005			
Carbon Tetrachloride	<0.005			
Vinyl Acetate	<0.050			
Bromodichloromethane	<0.005			
1,1,2,2-Tetrachloroethane	<0.005			
1,2-Dichloropropane	<0.005			
trans-1,3-Dichloropropene	<0.005			
Trichloroethene	0.031			
Dibromochloromethane	<0.005			
1,1,2-Trichloroethane	<0.005			

AIMA Accreditation No. 98
U.S. Public Health Services Approved Facility
Pa. CER Laboratory I.D. No. 20-073
Pa. Dept. of Agriculture Approved Dairy Laboratory
W. Va. Dept. of Health Laboratory I.D. No. 10552
W. Va. Dept. of Env. Conservation Approved Facility

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NC Dept. of Natural Resources Cert. No. 236
NC Dept. of Env., Health & Nat. Res. I.D. No. 4
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PHONE: (703) 265-2544
FAX: (703) 362-1663

RICHARD WOHLER, Ph.D.
LABORATORY DIRECTOR

08/27/90

TO: AC ROCHESTER DIV.-GMC
ATTN: MR. RICK EISENMAN
1000 LEXINGTON AVE., DEPT. 12820
ROCHESTER NY 14606

P.O. # 31423E

ACCOUNT NO. 01267

ANALYTICAL REPORT FORM

PAGE 2

SAMPLE ID : B-132,S5
08/15/90

LAB ID 00816430
DATE RECEIVED: 08/16/90

PARAMETER	RESULTS	UNITS	DATE AND	ANALYST
<u>VOLATILE COMPOUNDS</u> Continued				
Benzene	<0.005	MG/L	08/23/90	BEERS/ ECKLUND
cis-1,3-Dichloropropene	<0.005			
2-Chloroethylvinyl Ether	<0.010			
Bromoform	<0.005			
2-Hexanone	<0.050			
4-Methyl-2-pentanone	<0.050			
Tetrachloroethene	<0.005			
Toluene	<0.005			
Chlorobenzene	<0.005			
Ethylbenzene	<0.005			
Styrene	<0.005			
Total Xylenes	<0.005			

A.A.A. Accreditation No. 98
U.S. Public Health Services Approved Facility
PA D.E.R. Laboratory I.D. No. 20-073
F.D.A. Dept. of Agriculture Approved Dairy Laboratory
N.D.H. Dept. of Health Laboratory I.D. No. 10552
N.Y. Dept. of Env. Conservation Approved Facility

MD Dept. of Health Cert. No. 130
VA Dept. of Health Laboratory I.D. No. 00145
WV Dept. of Health Certification No. 21-R
NJ Dept. of Env. Protection Lab I.D. No. 77613
Natl. Voluntary Lab. Accred. Cert. No. 1023

NC Dept. of Natural Resources Cert. No. 236
NC Dept. of Env., Health & Nat. Res. I.D. No. 42700
SC Dept. of Health Laboratory I.D. No. 89004
MI Dept. of Public Health Approved Facility
U.S. Office of Surface Mining Approved Facility

KEY:

< = LESS THAN

> = GREATER THAN

w.f. = WILL FOLLOW

FREE-COL LABORATORIES, INC.

P.O. BOX 557, COTTON ROAD
MEADVILLE, PENNSYLVANIA 16335
PHONE: (814) 724-6242
FAX: (814) 333-1466

5815 AIRPORT ROAD
ROANOKE, VIRGINIA 24012
PHONE: (703) 265-2544
FAX: (703) 362-1663



08/27/90

TO: AC ROCHESTER DIV.-GMC
ATTN: MR. RICK EISENMAN
1000 LEXINGTON AVE., DEPT. 12820
ROCHESTER NY 14606

P.O. # 31423E

ACCOUNT NO. 01267

ANALYTICAL REPORT FORM

PAGE 3

SAMPLE ID : B-132,S5
08/15/90

LAB ID 00816431
DATE RECEIVED: 08/16/90

PARAMETER	RESULTS	UNITS	DATE	AND ANALYST
Sample Preparation	X		08/17/90	MICELI
Petroleum Hydrocarbons	3,430	MG/KG	08/23/90	BUTTRAY

Volatiles - Method 8240

Petroleum Hydrocarbons - Method 418.1

"Test Methods for Evaluating Solid Waste: Physical/Chemical Methods", SW-846,
Third Edition, U.S. Environmental Protection Agency. Revised 1986.

This complete report is three (3) pages.

Diane A. Tracy

QUALITY ASSURANCE SUPERVISOR

A.I.H.A. Accreditation No. 98
U.S. Public Health Services Approved Facility
P.E.R. Laboratory I.D. No. 20-073
P. Dept. of Agriculture Approved Dairy Laboratory
N. Dept. of Health Laboratory I.D. No. 10552
NY Dept. of Env. Conservation Approved Facility

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U.S. Office of Surface Mining Approved Facility

KEY:

< = LESS THAN

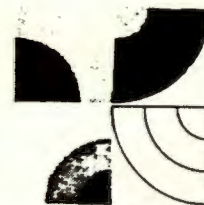
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w.f. = WILL FOLLOW

FREE-COL LABORATORIES, INC.

P.O. BOX 557, COTTON ROAD
MEADVILLE, PENNSYLVANIA 16335
PHONE: (814) 724-6242
FAX: (814) 333-1466

J. RICHARD WOHLER, Ph.D.
LABORATORY DIRECTOR



TO:

ANALYTICAL REPORT FORM

Results expressed as MG/KG or % are calculated on an as received weight basis.

CODE B: A blank value over the detection limit of the test was subtracted from this result.

CODE D: Detection limit change due to a dilution.

CODE R: The percent recovery on the spiked sample associated with this sample was not within the acceptance limits of 75% - 125%. This matter is under consideration at the laboratory.

CODE S: This result was obtained by the Method of Standard Additions.

ND = Not Detectable

NA = Not Applicable

VOID = The sample plus spike concentration exceeded the linear range of the standard curve. No result could be obtained.

PRC = Preparation Reference Control

A.I.H.A. Accreditation No. 98
HEW/CLIA Lic. No. 37-1129
U.S. Public Health Services Approved Facility
PA D.E.R. Laboratory I.D. No. 20-073
PA Dept. of Health Cert. No. 000021
PA Dept. of Agriculture Approved Dairy Laboratory

NY Dept. of Health Laboratory I.D. No. 10552
NY Dept. of Env. Conservation Approved Facility
MD Dept. of Health Cert. No. 130
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WV Dept. of Health Certification No. 21-R
NJ Dept. of Env. Protection Lab I.D. No. 77613

NC Dept. of Natural Resources Cert. No.
SC Dept. of Health Laboratory I.D. No. 8
GA Dept. of Natural Resources Cert. No.
MI Dept. of Public Health Approved Fac.
U.S. Office of Surface Mining Approved

KEY:

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> = GREATER THAN

w.f. = WILL FOLLOW

PHONE: (814) 724-6242

FAX: (814) 393-1466

CHAIN-OF-CUSTODY RECORD

COMPANY NAME AC Rochester CONTACT PERSON Rick Eiserman
Don Colton (TDW)
 ADDRESS 1000 Lexington Ave CITY Rochester STATE NY ZIP 14606
 PHONE NO. (716) 647-4468 FAX NO. (716) 647-4412 4766 (TDW) PURCHASE ORDER # 31423-E
 SAMPLE TYPE: COMPLIANCE PWS (PUBLIC WATER SUPPLY) ID NON-COMPLIANCE (TDW)
 SAMPLE SOURCE: NPOES WASTEWATER DRINKING WATER MONITORING WELLS SOIL
OTHER SLUDGE SOLID WASTE OIL INDUSTRIAL HYGIENE

SAMPLING POINT

ANALYSIS REQUESTED

C or G

SAMPLER

DATE SAMPLED

TIME

B13255	8240	(2 vials)	C/G	T. Wille	15 Aug 90	10:00
B13255	TPH	C1 jar - sample may be too small	C/G	"	"	"
			C/G			
			C/G			
			C/G			
			C/G			
			C/G			

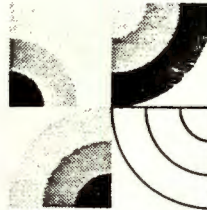
CIRCLE "C" FOR COMPOSITE SAMPLE OR "G" FOR A GRAB SAMPLE.

	SIGNATURE	ORGANIZATION	INCLUSIVE DATES
1.	<u>Thomas D Wille</u>	<u>H+A of New York</u>	<u>15 Aug 1990</u>
2.	<u>Jim Curren</u>	<u>AC Roch</u>	<u>8-15-90 / 8-16-90</u>
3.	<u>Gregory D Barr</u>	<u>Free-Col</u>	<u>8-16-90</u>

DO NOT WRITE BELOW THIS LINE

DATE OF ARRIVAL 8/16/90 TIME OF ARRIVAL 1030 MEANS OF DELIVERY TO LAB Tech Services
 WAS (HERE) SAMPLE(S) UNDER REFRIGERATION AT TIME OF ARRIVAL Yes
 1. FREE-COL'S DRIVER SIGNATURE Stacy S. Starnes INCLUSIVE DATES 8/16/90
 2. FREE-COL'S CHECK-IN SIGNATURE Stacy S. Starnes INCLUSIVE DATES 8/16/90 - 8/22/90
 3. RECEIVED BY LAB (WALK-IN) Stacy S. Starnes DATE 8/16/90
 4. FREE-COL'S SIGN-OFF SIGNATURE Stacy S. Starnes DATE 8/16/90

FREE-COL LABORATORIES, INC.
P.O. Box 557, Cotton Road
Meadville, Pennsylvania 16335-0557
Phone: Area Code 814/724-6242
FAX: Area Code 814/333-1466



ENVIRONMENTAL
OCCUPATIONAL HEALTH
FOOD SCIENCE
SPECIALISTS

QUALITY CONTROL INFORMATION

Free-Col Laboratories analyzes control samples at specified frequencies during the analysis of samples submitted by clients in order to evaluate and document the precision and accuracy of the results which are reported. The attached quality control data records, prepared by the analytical staff at the time of analysis, show the results obtained for different types of control samples during the analysis of the batch of samples described as follows:

General Motors Sample Identification

Free-Col ID

B-132,S5 08/15/90

00816430

B-132,S5 08/15/90

00816431

Special Notes:

1. The results on the analytical report may be given as mg/kg and related control value results may be given on the quality control data sheet as mg/L. The reason for this difference is that many control values are expressed in terms of the final concentration of the solvent or acid extract of a solid waste or oil sample.

Limits in effect as of June 11, 1990

FREE-COL LABORATORIES, INC.
SURROGATE SPIKE INFORMATION

Date 8/23/90 Analyst Beers

Target Value = 0.050 mg/L
Units = mg/L

<u>Free-Col ID</u>	<u>1,2-Di- chloro- ethane-d4</u>	<u>Toluene-d8</u>	<u>Bromo- fluoro- benzene</u>	<u>Fluoro- benzene</u>
(Limits)	0.033-0.064	0.041-0.062	0.039-0.064	0.044-0.058
(File #)	700	701	702	708

008-16-434	0.050	0.049	0.055
-435	0.050	0.052	0.057

008-16-430	0.051	0.050	0.050
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FREE-COL LABORATORIES
VOA BLANK INFORMATION
(CLP - CALABRATION BLANK LIMITS)

Date 8-23-90 Analyst G. BURN

Samples associated with this blank:

Method 8240 HVOA

008-16-430

003-16-434/435

Parameter

Blank Value

Units = mg/L

Chloromethane	<0.010
Bromomethane	
Vinyl Chloride	
Chloroethane	
Methylene Chloride	<0.005
Acrolein	N/A
Acrylonitrile	N/A
1,1-Dichloroethene	<0.005
1,1-Dichloroethane	
Trans-1,2-Dichloroethene	
Chloroform	
1,2-Dichloroethane	
1,1,1-Trichloroethane	
Carbon tetrachloride	
Bromodichloromethane	
1,2-Dichloropropane	
Trans-1,3-Dichloropropene	
Trichloroethene	
Benzene	
Dibromochloromethane	
1,1,2-Trichloroethane	
Cis-1,2-Dichloropropene	
2-Chloroethyl vinyl ether	<0.010
Bromoform	<0.005
Tetrachloroethene	
1,1,2,2-Tetrachloroethane	
Toluene	
Chlorobenzene	
Ethylbenzene	
1,3-Dichlorobenzene	
1,2-Dichlorobenzene	
1,4-Dichlorobenzene	
Xylene	
2-Butanone - MEK	<0.100
4-Methyl-2-pentanone	<0.050
Acetone	<0.100
Styrene	<0.005
Carbon Disulfide	<0.005
Vinyl Acetate	<0.050
2-Hexanone - MBK	<0.050

Limits in effect as of June 11, 1990

FREE-COL LABORATORIES, INC.
VOA REFERENCE CONTROL INFORMATION
(CLP - CALIBRATION VERIFICATION LIMITS)

Date 8-23-90 Analyst G. Bell

Samples associated with this reference control:

002-16-430

002-434/435

<u>Parameter</u>	<u>Target Value ug/L</u>	<u>Acceptance Limits ug/L</u>	<u>Assayed Value ug/L</u>	<u>File#</u>
Chloromethane	20	3.4-36.3	20.0	223
Bromomethane	20	9.1-29.5	22.1	222
Vinyl chloride	20	2.7-43.0	20.2	232
Chloroethane	20	9.7-35.9	19.9	209
Methylene chloride	20	12.9-36.1	20.5	224
Acrolein	62	6.1-106.1	N/A	201
Acrylonitrile	58	10.4-116.5	N/A	202
1,1-Dichloroethene	20	14.1-31.6	21.1	216
1,1-Dichloroethane	20	15.7-29.4	21.0	214
trans-1,2-Dichloroethene	20	14.5-29.9	20.7	217
Chloroform	20	15.3-29.7	20.9	211
1,2-Dichloroethane	20	14.2-30.5	20.4	215
1,1,1-Trichloroethane	20	14.5-29.6	20.7	228
Carbon tetrachloride	20	9.1-29.5	17.1	206
Bromodichloromethane	20	11.0-29.3	19.0	212
1,2-Dichloropropane	20	14.4-30.5	20.0	218
trans-1,3-Dichloropropene	20	12.0-26.9	20.6	220
Trichloroethene	20	13.8-30.9	21.1	230
Benzene	20	16.1-28.5	20.6	203
Dibromochloromethane	20	3.9-31.1	15.6	208
1,1,2-Trichloroethane	20	14.3-30.4	20.0	229
cis-1,3-Dichloropropene	20	10.7-28.6	18.9	219
2-Chloroethyl vinyl ether	20	10.9-34.3	20.6	210
Bromoform	20	3.3-31.2	9.8	205
Tetrachloroethene	20	13.8-31.5	20.8	226
1,1,2,2-Tetrachloroethane	20	14.4-28.5	20.4	225
Toluene	20	16.5-27.8	20.7	227
Chlorobenzene	20	13.0-29.8	20.2	207
Ethyl benzene	20	14.3-29.3	20.8	221
1,3-Dichlorobenzene	26	18.6-36.5	28.1	234
1,2-Dichlorobenzene	26	16.2-38.7	29.0	233
1,4-Dichlorobenzene	20	11.1-32.0	20.6	235
Diethyl Benzene	44	25.9-62.9	N/A	237
Ethyl Ether	35	26.9-49.4	N/A	236
Xylene	44	22.6-66.1	43.7	238
MEK	20	10.9-36.7	24.4	240
Acetone	20	5.1-41.3	21.2	242

FREE-COL LABORATORIES, INC.
VOA REFERENCE CONTROL INFORMATION
(CLP - CALIBRATION VERIFICATION LIMITS)

Date 5-23-90 Analyst G. J. [illegible]
Samples associated with this reference control:

<u>Parameter</u>	<u>Target Value</u> <u>ug/L</u>	<u>Acceptance Limits</u> <u>ug/L</u>	<u>Assayed Value</u> <u>ug/L</u>	<u>File #</u>
MIBK	20	15.4-30.5	20.9	243
Tetrahydrofuran	45	33.9-60.0	N/A	244
Carbondisulfide	20	8.4-34.0	20.8	245
Styrene	20	10.3-32.6	20.7	246
Vinyl Acetate	20	6.1-32.3	18.2	247
Amyl Acetate	44	9.5-68.2	N/A	248
Methyl Butyl Ketone	20	7.9-38.1	21.2	249

Limits in effect as of June 11, 1990

FREE-COL LABORATORIES, INC.
VOA SPIKED CONTROL INFORMATION
(CLP - ANALYTICAL SPIKED SAMPLE LIMITS)

Date 8/23/90 Analyst Burns / Ecklund

Samples associated with this spiked control:

008-16-430

008-16-434/435

Sample used as spiked control: 008-16-430

PARAMETER	SPIKE ADDED UG/L	SPIKED RESULT UG/L	SAMPLE RESULT UG/L	ACCEPT. LIMITS % REC.	ASSYD % REC.	FILE
Chloromethane	20	21	<10	32-168	105	520
Bromomethane	20	22	↓	23-233	110	519
Vinyl chloride	20	28	↓	31-181	140	528
Chloroethane	20	20	↓	51-174	100	507
Methylene chloride	20	23	<5	50-175	115	521
Acrolein	62	N/A	N/A	6-204	N/A	500
Acrylonitrile	58	N/A	N/A	44-177	N/A	501
1,1-Dichloroethene	20	18	<5	67-157	90	513
1,1-Dichloroethane	20	21	<5	65-159	105	511
trans-1,2-Dichloroethene	20	65	46	75-153	95	514
Chloroform	20	22	<5	70-151	110	509
1,2-Dichloroethane	20	17	↓	63-159	85	512
1,1,1-Trichloroethane	20	19	↓	69-150	95	525
Carbon tetrachloride	20	15	↓	47-152	75	504
Bromodichloromethane	20	16	↓	54-143	80	510
1,2-Dichloropropane	20	20	↓	72-150	100	515
trans-1,3-Dichloropropene	20	20	↓	65-134	100	517
Trichloroethene	20	46	31	71-146	75	527
Benzene	20	20	<5	76-145	100	502
Dibromochloromethane	20	14	↓	39-149	70	506
1,1,2-Trichloroethane	20	21	↓	64-152	105	526
cis-1,3-Dichloropropene	20	19	↓	56-152	95	516
2-Chloroethyl vinyl ether	20	26	<10	25-187	130	508
Bromoform	20	11	<5	17-163	55	503
Tetrachloroethene	20	20	↓	60-168	100	523
1,1,2,2-Tetrachloroethane	20	16	↓	58-157	80	522
Toluene	20	19	↓	69-151	95	524
Chlorobenzene	20	18	↓	69-146	90	505
Ethyl benzene	20	25	↓	65-150	125	518
1,3-Dichlorobenzene	26	N/A	N/A	66-158	N/A	530
1,2-Dichlorobenzene	26	N/A	N/A	56-155	↓	529
1,4-Dichlorobenzene	20	N/A	N/A	56-165	↓	531
Diethyl Benzene	44	N/A	N/A	71-137	↓	533
Ethyl Ether	35	N/A	N/A	62-160	↓	532
Xylenes	44	44	<5	71-133	100	534
MEK	20	25	<100	60-182	125	536

Limits in effect as of June 11, 1990

FREE-COL LABORATORIES, INC.
VOA SPIKED CONTROL INFORMATION
(CLP - ANALYTICAL SPIKED SAMPLE LIMITS)

Date 8/23/90 Analyst BEERS/SUCKLUND

Samples associated with this spiked control:

008-16-430

Sample used as spiked control: 008-16-430

PARAMETER	SPIKE ADDED UG/L	SPIKED RESULT UG/L	SAMPLE RESULT UG/L	ACCEPT. LIMITS % REC.	ASSYD % REC.	FILE
Acetone	20	25	<100	54-171	125	538
MIBK	20	25	<50	67-148	125	539
Ethyl Acetate	45	N/A	N/A	72-137	N/A	535
MBK	20	19	<50		95	
Vinyl Acetate	20	21	<50		105	
Carbon disulfide	20	18	<5		90	
Styrene	20	17	25		85	

Limits in effect as of June 11, 1990

FREE-COL LABORATORIES, INC.
VOA REPEAT CONTROL INFORMATION
(CLP - DUPLICATE SAMPLE LIMITS)

Date 8-23-90 Analyst G. Beem

Samples associated with this repeat control:

Method 8240 HVOM

008-16-430

008-16-434/435

Sample used as repeat control: 008-16-435

AD = Absolute Difference

RPD = Relative Percent Difference

Parameter	Samp. Value	Repeat Value	Accept AD	Accept RPD	Assayd AD/RPD	File
-----------	-------------	--------------	-----------	------------	---------------	------

Units = mg/L

Chloromethane	<0.010	<0.010			—	820
Bromomethane	<0.010	<0.010			—	819
Vinyl chloride	0.051	0.052		27	2	828
Chloroethane	<0.010	<0.010			—	807
Methylene chloride	<0.005	<0.005			—	821
Acrolein	↓	↓		17	—	800
Acrylonitrile	↓	↓			—	801
1,1-Dichloroethene	↓	↓			—	813
1,1-Dichloroethane	↓	↓		52	—	811
trans-1,2-Dichloroethene	0.042	0.046		26	9.1%	814
Chloroform	<0.005	<0.005		19	—	809
1,2-Dichloroethane	↓	↓			—	812
1,1,1-Trichloroethane	↓	↓		27	—	825
Carbon tetrachloride	↓	↓			—	804
Bromodichloromethane	↓	↓		79	—	810
1,2-Dichloropropane	↓	↓			—	815
trans-1,3-Dichloropropene	↓	↓			—	817
Trichloroethene	↓	↓		32	—	827
Benzene	0.007	0.007		49	0	802
Dibromochloromethane	<0.005	<0.005		28	—	806
1,1,2-Trichloroethane	↓	↓			—	826
cis-1,3-Dichloropropene	↓	↓			—	816
2-Chloroethyl vinyl ether	<0.010	<0.010			—	808
Bromoform	<0.005	<0.005			—	803
Tetrachloroethene	↓	↓		42	—	823
1,1,2,2-Tetrachloroethane	↓	↓			—	822
Toluene	↓	↓		38	—	824
Chlorobenzene	↓	↓		24	—	805
Ethyl benzene	↓	↓		5	—	818
1,3-Dichlorobenzene	N/A	N/A			—	830
1,2-Dichlorobenzene	N/A	N/A			—	829
1,4-Dichlorobenzene	N/A	N/A		36	—	831
Acetone	<0.10	<0.10		26	—	836
Xylenes	<0.003	<0.003			—	
Carbon disulfide	<0.003	<0.003			—	
Styrene	<0.003	<0.003			—	
MEK	<0.10	<0.10			—	
MBR	<0.050	<0.050			—	
MIBK	<0.050	<0.050			—	
Vinyl acetate	<0.050	<0.050			—	

QUALITY CONTROL DATA I

Petroleum
HydrocarbonsANALYST: D. J. TRAYDATE: 8-23-90REFERENCE CONTROL UNITS: mg/L
Target Acceptance Limits

20	18.9	to	21.1	19.64	20.48		
		to					
		to					

PREPARATION REFERENCE CONTROL
Target Acceptance LimitsUnits: mg/L
Assayed Value: 17.7
Date Prepped: 8-22-90REPEAT CONTROL AD = Absolute Difference RPD = Relative Percent Difference
Units: mg/L Acceptable AD: 0.4 Acceptable RPD: 1.0 %

Sample I.D.	Sample Result	Repeat Result	AD	RPD
008-16-431	68.59	68.39	0.20	— %
				— %
				— %
				— %
				— %
				— %

SPIKE CONTROL Units: mg/L
Acceptable Limits for Percent Recovery: 66 % to 131 %

Sample ID	Spike Added	Spike Result	Sample Result	% Recovery
008-21-701	10	55.37	44.68	106.9 %
				— %
				— %
				— %

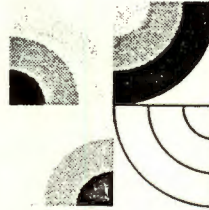
BLANK Units: mg/LResult: 1.61, , , , ,DETECTION LIMIT Units: mg/LLimit Value: 0.2 Assayed Value: 0.29, , ,FREE-COL LABORATORIES, INC.
P.O. Box 557, Cotton Road
Meadville, PA 16335
(814) 724-6242

LIMITS IN EFFECT AS OF JUNE 11, 1990

70014-42

FREE-COL LABORATORIES, INC.

P.O. Box 557, Cotton Road
Meadville, Pennsylvania 16335-0557
Phone: Area Code 814/724-6242
FAX: Area Code 814/333-1466



ENVIRONMENTAL
OCCUPATIONAL HEALTH
FOOD SCIENCE
SPECIALISTS

AC ROCHESTER DIVISION
GENERAL MOTORS CORPORATION

B133 S5 (X)

SAMPLE DATE: 08/24/90

RECEIVED

SEP-8 1990

State of New York

(X) Note: Boring # 133 (B 133)

re-numbered as B-131 for reporting
purposes on 31 January 1991.

It is this boring in which monitoring
well # R-131 is installed.

(Boring B-131, installed, sampled and backfilled
on 8/14/90, has been renumbered as B-131-A.)

T. Wells
1/31/91

FREE-COL LABORATORIES, INC.

P.O. BOX 557, COTTON ROAD
MEADVILLE, PENNSYLVANIA 16335
PHONE: (814) 724-6242
FAX: (814) 333-1466

5815 AIRPORT ROAD
ROANOKE, VIRGINIA 24012
PHONE: (703) 265-2544
FAX: (703) 362-1663

RICHARD WOHLER, Ph.D.
LABORATORY DIRECTOR

08/31/90

TO: AC ROCHESTER DIV.-GMC
ATTN: MR. RICK EISENMAN
1000 LEXINGTON AVE., DEPT. 12820
ROCHESTER NY 14606

P.O. # 31423-E

ACCOUNT NO. 01267

ANALYTICAL REPORT FORM

PAGE 1

SAMPLE ID : B133 S5
9FT.-11FT.
GRAB 8/24
LAB ID 00825400
DATE RECEIVED: 08/25/90

PARAMETER	RESULTS	UNITS	DATE	AND	ANALYST
<u>VOLATILE COMPOUNDS</u>					
Chloromethane	<0.010	MG/KG	08/29/90		BEERS
Bromomethane	<0.010				
Vinyl Chloride	<0.010				
Chloroethane	<0.010				
Methylene Chloride	<0.005				
Acetone	<0.10				
Carbon Disulfide	<0.005				
1,1-Dichloroethene	<0.005				
1,1-Dichloroethane	<0.005				
trans-1,2-Dichloroethene	0.020				
Chloroform	<0.005				
1,2-Dichloroethane	<0.005				
2-Butanone	<0.10				
1,1,1-Trichloroethane	<0.005				
Carbon Tetrachloride	<0.005				
Vinyl Acetate	<0.050				
Bromodichloromethane	<0.005				
1,1,2,2-Tetrachloroethane	<0.005				
1,2-Dichloropropane	<0.005				
trans-1,3-Dichloropropene	<0.005				
Trichloroethene	0.005				
Dibromochloromethane	<0.005				
1,1,2-Trichloroethane	<0.005				

A.I.H.A. Accreditation No. 98
U.S. Public Health Services Approved Facility
D.E.R. Laboratory I.D. No. 20-073
Dept. of Agriculture Approved Dairy Laboratory
NY Dept. of Health Laboratory I.D. No. 10552
NY Dept. of Env. Conservation Approved Facility

MD Dept. of Health Cert. No. 130
VA Dept. of Health Laboratory I.D. No. 00145
WV Dept. of Health Certification No. 21-R
NJ Dept. of Env. Protection Lab I.D. No. 77613
NVLAP Natl. Voluntary Lab. Accred. Cert. No. 1023

NC Dept. of Natural Resources Cert. No. 236
NC Dept. of Env., Health & Nat. Res. I.D. No. 427C
SC Dept. of Health Laboratory I.D. No. 89004
MI Dept. of Public Health Approved Facility
U.S. Office of Surface Mining Approved Facility

KEY:

< = LESS THAN

> = GREATER THAN

w.f. = WILL FOLLOW

J. RICHARD WOHLER, Ph.D.
LABORATORY DIRECTOR

FREE-COL LABORATORIES, INC.
P.O. BOX 557, COTTON ROAD
MEADVILLE, PENNSYLVANIA 16335
PHONE: (814) 724-6242
FAX: (814) 333-1466

5815 AIRPORT ROAD
ROANOKE, VIRGINIA 24012
PHONE: (703) 265-2544
FAX: (703) 362-1663

08/31/90

TO: AC ROCHESTER DIV.-GMC
ATTN: MR. RICK EISENMAN
1000 LEXINGTON AVE., DEPT. 12820
ROCHESTER NY 14606

P.O. # 31423-E

ACCOUNT NO. 01267

ANALYTICAL REPORT FORM

PAGE 2

SAMPLE ID : B133 S5
9FT.-11FT.
GRAB 8/24
LAB ID 00825400
DATE RECEIVED: 08/25/90

PARAMETER	RESULTS	UNITS	DATE	AND	ANALYST
<u>VOLATILE COMPOUNDS</u> Continued					
Benzene	<0.005	MG/KG	08/29/90		BEERS
cis-1,3-Dichloropropene	<0.005				
2-Chloroethylvinyl Ether	<0.010				
Bromoform	<0.005				
2-Hexanone	<0.050				
4-Methyl-2-pentanone	<0.050				
Tetrachloroethene	<0.005				
Toluene	<0.005				
Chlorobenzene	<0.005				
Ethylbenzene	<0.005				
Styrene	<0.005				
Total Xylenes	<0.005				

HVOA Compounds - Method 8240

"Test Methods for Evaluating Solid Waste, Physical and Chemical Methods", SW-846
Third Edition, U.S. Environmental Protection Agency. Revised 1986.

pc: Jeffrey Loney - H & A of New York

A.I.H.A. Accreditation No. 98
U.S. Public Health Services Approved Facility
PA D.E.R. Laboratory I.D. No. 20-073
PA Dept. of Agriculture Approved Dairy Laboratory
NY Dept. of Health Laboratory I.D. No. 10552
NY Dept. of Env. Conservation Approved Facility

MD Dept. of Health Cert. No. 130
VA Dept. of Health Laboratory I.D. No. 00145
WV Dept. of Health Certification No. 21-R
NJ Dept. of Env. Protection Lab I.D. No. 77613
Natl. Voluntary Lab. Accred. Cert. No. 1023

NC Dept. of Natural Resources Cert. No. 236
NC Dept. of Env., Health & Nat. Res. I.D. No. 42
SC Dept. of Health Laboratory I.D. No. 89004
MI Dept. of Public Health Approved Facility
U.S. Office of Surface Mining Approved Facility

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J. RICHARD WOHLER, Ph.D.
LABORATORY DIRECTOR

**P.O. BOX 557, COTTON ROAD
MEADVILLE, PENNSYLVANIA 16335
PHONE: (814) 724-6242
FAX: (814) 333-1466**



ANALYTICAL REPORT FORM

PRC = Preparation Reference Control

A.I.H.A. Accreditation No. 98
HEW/CLIA Lic. No. 37-1129
U.S. Public Health Services Approved Facility
PA D.E.R. Laboratory I.D. No. 20-073
PA Dept. of Health Cert. No. 000021
PA Dept. of Agriculture Approved Dairy Laboratory

NY Dept. of Health Laboratory I.D. No. 10552
NY Dept. of Env. Conservation Approved Facility
MD Dept. of Health Cert. No. 130
VA Dept. of Health Laboratory I.D. No. 00145
WV Dept. of Health Certification No. 21-R
NJ Dept. of Env. Protection Lab I.D. No. 77613

NC Dept. of Natural Resources Cert. #
SC Dept. of Health Laboratory I.D. No.
GA Dept. of Natural Resources Cert. #
MI Dept. of Public Health Approved Fa
U.S. Office of Surface Mining Approve

KEY:

< = LESS THAN

> = GREATER THAN

W.F. = WILL FOLLOW

PHONE: (814) 724-6242

FAX: (814) 399-1466

CHAIN-OF-CUSTODY RECORD

RICK EISENHAN

COMPANY NAME AC Rochester CONTACT PERSON Don Coltrane
ADDRESS 1000 Lexington Ave CITY Rochester STATE NY ZIP 14606
PHONE NO. (716) - 647-4766 FAX NO. (716) - 647-4766 PURCHASE ORDER # 31423-E
SAMPLE TYPE: COMPLIANCE PWS (PUBLIC WATER SUPPLY) ID A NON-COMPLIANCE
SAMPLE SOURCE: NPOES WASTEWATER DRINKING WATER X MONITORING WELLS X SOIL
 OTHER SLUDGE SOLID WASTE OIL INDUSTRIAL HYGIENE

SAMPLING
POINT

ANALYSIS REQUESTED

SC or C

SAMPLER

DATE SAMPLED

TIME

B133, S5

8240

C

C/G

C/G

C/G

C/G

C/G

C/G

C/G

C/G

T. Wells

24 Aug 90

0900

**ACR P.O. # 31423-E
(H+Ad New York file #
70014-42)**

* CIRCLE "C" FOR COMPOSITE SAMPLE OR "G" FOR A GRAB SAMPLE.

SIGNATURE

ORGANIZATION

INCLUSIVE DATES

1.
2.
3.

Thomas D. Wells

H+Ad New York

24 August 1990

(Sealed for shipping by TDW, Federal Express Airtel # 778176064)

-----DO NOT WRITE BELOW THIS LINE-----

DATE OF ARRIVAL TIME OF ARRIVAL MEANS OF DELIVERY TO LAB

WAS (WERE) SAMPLE(S) UNDER REFRIGERATION AT TIME OF ARRIVAL

1.
3.

FREE-COL'S DRIVER SIGNATURE

INCLUSIVE DATES

2.

FREE-COL'S CHECK-IN SIGNATURE

INCLUSIVE DATES

4.

RECEIVED BY LAB (WALK-IN)

DATE

FREE-COL'S SIGN-OFF SIGNATURE

DATE

AGA H & A of New York
189 N. Water St.
Rochester, NY 14604
tel (716) 232-7300

CHAIN OF CUSTODY RECORD

PAGE 1 OF

H&A FILE NO. 70014-42
PROJECT AC Rochester - Hydrogeologic Invest.
H&A CONTACT Jeff Loney

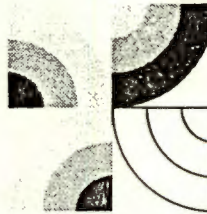
LABORATORY FREE - COL LABORATORIES
ADDRESS COTTON RD. MEADVILLE PA
CONTACT DALE FERGUSON 16 335

DELIVERY DATE _____
DATE FINAL REPORT DUE _____
PROJECT MANAGER'S INITIALS _____

[illegible]

FREE-COL LABORATORIES, INC.

P.O. Box 557, Cotton Road
Meadville, Pennsylvania 16335-0557
Phone: Area Code 814/724-6242
FAX: Area Code 814/333-1466



70014-42
ENVIRONMENTAL
OCCUPATIONAL HEALTH
FOOD SCIENCE
SPECIALISTS

AC ROCHESTER DIVISION
GENERAL MOTORS CORPORATION

B-105-C, 55-65'
B-105-C, 55-75'
DRILLING WATER BLANK

SAMPLE DATES: 09/27-28/90

Note: Those samples collected from test boring B-105-C in
cored intervals R-2 (55-65') and R2-R3 (55-75')
prior to installation of well casing.

T. Wells

1/31/91

RECEIVED
OCT 12 1990

H & A of New York

FREE-COL LABORATORIES, INC.

P.O. BOX 557, COTTON ROAD
MEADVILLE, PENNSYLVANIA 16335
PHONE: (814) 724-6242
FAX: (814) 333-1466

5815 AIRPORT ROAD
ROANOKE, VIRGINIA 24012
PHONE: (703) 265-2544
FAX: (703) 362-1663

RICHARD WOHLER, Ph.D.
LABORATORY DIRECTOR

10/05/90

TO: AC ROCHESTER DIV.-GMC
ATTN: MR. RICK EISENMAN
1000 LEXINGTON AVE., DEPT. 12820
ROCHESTER NY 14606

P.O. # 31423-E

ACCOUNT NO. 01267

ANALYTICAL REPORT FORM PAGE 1

PARAMETER	LAB ID	DATE RECEIVED:	SAMPLE ID : B-105-C 55-65' 09/27/90 01001400	B-105-C 55-75' 09/28/90 01001401	DRILLING WATER BLANK 9/28 01001402
			10/01/90	10/01/90	10/01/90

VOLATILE COMPOUNDS

UNITS = MG/L

CHLOROMETHANE	<0.010	<0.010	<0.010
BROMOMETHANE	<0.010	<0.010	<0.010
VINYL CHLORIDE	<0.010	<0.010	<0.010
CHLOROETHANE	<0.010	<0.010	<0.010
METHYLENE CHLORIDE	<0.005	<0.005	<0.005
ACETONE	<0.10	<0.10	<0.10
CARBON DISULFIDE	<0.005	<0.005	<0.005
1,1,-DICHLOROETHENE	<0.005	<0.005	<0.005
1,1,-DICHLOROETHANE	<0.005	<0.005	<0.005
TRANS-1,2-DICHLORO*	<0.005	<0.005	<0.005
CHLOROFORM	0.012	0.006	0.028
1,2-DICHLOROETHANE	<0.005	<0.005	<0.005
2-BUTANONE	<0.10	<0.10	<0.10
1,1,1-TRICHLOROETHA*	<0.005	<0.005	<0.005
CARBON TETRACHLORIDE	<0.005	<0.005	<0.005
VINYL ACETATE	<0.050	<0.050	<0.050
BROMODICHLOROMETHANE	<0.005	<0.005	0.010
1,1,2,2-TETRACHLORO*	<0.005	<0.005	<0.005
1,2-DICHLOROPROPANE	<0.005	<0.005	<0.005
TRANS-1,3-DICHLOROP*	<0.005	<0.005	<0.005
TRICHLOROETHENE	<0.005	<0.005	<0.005
DIBROMOCHLOROMETHANE	<0.005	<0.005	<0.005
1,1,2-TRICHLOROETHA*	<0.005	<0.005	<0.005
BENZENE	<0.005	<0.005	<0.005
CIS-1,3-DICHLOROPRO*	<0.005	<0.005	<0.005

*Some of the above names have been abbreviated. Please reference the enclosed list for their complete names.

A.I.H.A. Accreditation No. 98
U.S. Public Health Services Approved Facility
D.E.R. Laboratory I.D. No. 20-073
Dept. of Agriculture Approved Dairy Laboratory
Dept. of Health Laboratory I.D. No. 10552
NY Dept. of Env. Conservation Approved Facility

MD Dept. of Health Cert. No. 130
VA Dept. of Health Laboratory I.D. No. 00145
WV Dept. of Health Certification No. 21-R
NJ Dept. of Env. Protection Lab I.D. No. 77613
Natl. Voluntary Lab. Accred. Cert. No. 1023

NC Dept. of Natural Resources Cert. No. 236
NC Dept. of Env., Health & Nat. Res. I.D. No. 4270
SC Dept. of Health Laboratory I.D. No. 89004
MI Dept. of Public Health Approved Facility
U.S. Office of Surface Mining Approved Facility

KEY:

< = LESS THAN

> = GREATER THAN

w.f. = WILL FOLLOW

FREE-COL LABORATORIES, INC.

P.O. BOX 557, COTTON ROAD
MEADVILLE, PENNSYLVANIA 16335
PHONE: (814) 724-6242
FAX: (814) 333-1466

5815 AIRPORT ROAD
ROANOKE, VIRGINIA 24012
PHONE: (703) 265-2544
FAX: (703) 362-1663

10/05/90

TO: AC ROCHESTER DIV.-GMC
ATTN: MR. RICK EISENMAN
1000 LEXINGTON AVE., DEPT. 12820
ROCHESTER NY 14606

P.O. # 31423-E

ACCOUNT NO. 01267

ANALYTICAL REPORT FORM

PAGE 2

PARAMETER	SAMPLE ID	LAB ID	DATE RECEIVED	B-105-C 55-65' 09/27/90 01001400	B-105-C 55-75' 09/28/90 01001401	DRILLING WATER BLANK 9/28 01001402 10/01/90
				10/01/90	10/01/90	10/01/90

VOLATILE COMPOUNDS

UNITS = MG/L

COMPOUND	B-105-C	B-105-C	DRILLING
2-CHLOR* VINYL ETHER	<0.010	<0.010	<0.010
BROMOFORM	<0.005	<0.005	<0.005
2-HEXANONE	<0.050	<0.050	<0.050
4-METHYL-2-PENTANONE	<0.050	<0.050	<0.050
TETRACHLOROETHENE	<0.005	<0.005	<0.005
TOLUENE	<0.005	<0.005	<0.005
CHLOROBENZENE	<0.005	<0.005	<0.005
ETHYL BENZENE	<0.005	<0.005	<0.005
STYRENE	<0.005	<0.005	<0.005
TOTAL XYLENES	<0.005	<0.005	<0.005

HVOA - Method 8240

"Test Methods for Evaluating Solid Waste, Physical and Chemical Methods", SW-846
Third Edition, U.S. Environmental Protection Agency. Revised 1986.

Date and Analyst
10/02/90 ECKLUND

This complete report is two (2) pages.

*Some of the above names have been abbreviated. Please
reference the enclosed list for their complete names.

pc: Thomas Wells - H & A of New York

John R. Paraska
LABORATORY SUPERVISOR

A.I.H.A. Accreditation No. 98
U.S. Public Health Services Approved Facility
P.D.E.R. Laboratory I.D. No. 20-073
P. Dept. of Agriculture Approved Dairy Laboratory
NY Dept. of Health Laboratory I.D. No. 10552
NY Dept. of Env. Conservation Approved Facility

MD Dept. of Health Cert. No. 130
VA Dept. of Health Laboratory I.D. No. 00145
WV Dept. of Health Certification No. 21-R
NJ Dept. of Env. Protection Lab I.D. No. 77613
NVLAP Natl. Voluntary Lab. Accred. Cert. No. 1023

NC Dept. of Natural Resources Cert. No. 236
NC Dept. of Env., Health & Nat. Res. I.D. No. 4270C
SC Dept. of Health Laboratory I.D. No. 89004
MI Dept. of Public Health Approved Facility
U.S. Office of Surface Mining Approved Facility

KEY:

< = LESS THAN

> = GREATER THAN

w.f. = WILL FOLLOW

FREE-COL LABORATORIES, INC.

P.O. Box 557, Cotton Road
Meadville, Pennsylvania 16335-0557
Phone: Area Code 814/724-6242
FAX: Area Code 814/333-1466



ENVIRONMENTAL
OCCUPATIONAL HEALTH
FOOD SCIENCE
SPECIALISTS

Unabbreviated Listing of Hazardous Substance List Compounds

VOLATILE COMPOUNDS

Chloromethane	Bromodichloromethane
Bromomethane	1,1,2,2-Tetrachloroethane
Vinyl Chloride	1,2-Dichloropropane
Chloroethane	trans-1,3-Dichloropropene
Methylene Chloride	Trichloroethene
Acetone	Dibromochloromethane
Carbon Disulfide	1,1,2-Trichloroethane
1,1-Dichloroethene	Benzene
1,1-Dichloroethane	cis-1,3-Dichloropropene
trans-1,2-Dichloroethene	2-Chloroethyl Vinyl Ether
Chloroform	Bromoform
1,2-Dichloroethane	2-Hexanone
2-Butanone	4-Methyl-2-pentanone
1,1,1-Trichloroethane	Tetrachloroethene
Carbon Tetrachloride	Toluene
Vinyl Acetate	Chlorobenzene
Ethyl Benzene	
Styrene	
Total Xylenes	

CHAIN OF CUSTODY RECORD

COPY

PAGE 4 OF

H&A FILE NO. 70014-42

PROJECT AC Rochester - Hydrogeologic Invest.

H & A CONTACT Jeff Loney

LABORATORY FREE - COL LABORATORIES
ADDRESS COTTON RD. MEADVILLE PA
CONTACT DALE FERGUSON 16 335

DELIVERY DATE _____

DATE FINAL REPORT DUE _____

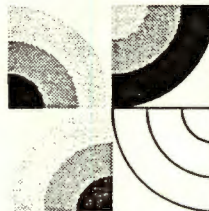
PROJECT MANAGER'S INITIALS _____

H&A SAMPLE NO.	LABORATORY SAMPLE NO.	SAMPLING		SAMPLE DEPTH	SAMPLE TYPE	ANALYSES								NO. OF CONTAINERS	COMMENTS (Special instructions, cautions, etc.)
		DATE	TIME			VOA	ABN	METALS	PEST/PCB	PET. ID	OLC	0240			
B-105-C, 55-65'	TDW	27/9/90												3	TPW
		27/9/90	1340	55-65'	Water							*		3	
B-105-C, 55-75'		28/9/90	1630	55-75'	Water							*		3	
Drilling Water blank		28/9/90	1700	—	Water							*		3	
I. Sampled and Relinquished by Sign <i>Theresa Wells</i> Print <i>TP Wells</i> Firm <i>EPA of NY</i> Date <i>29/9/90</i> Time <i>1430</i>		II. Received by Sign <i>Sealed for shipping</i> Print <i>by T. Wells</i> Firm <i>9/29/90</i> Date <i>1430</i>		VOA Vial		*								D I S C O U S E	REMARKS: (Sample storage, nonstandard sample bottles) Please note: Charge to AC Rochester P.C. # 31423-E ACR Contact: Rick Eisenman tel (716) 647-4766 fax (716) 647-4630 Shipping: Federal Express Airbill 9080977205
II. Relinquished by Sign Print Firm Date Time		II. Received by Sign Print Firm Date Time		Glass Bottle											
III. Relinquished by Sign Print Firm Date Time		III. Received by Sign Print Firm Date Time		Plastic Bottle											
IV. Relinquished by Sign Print Firm Date Time		IV. Received by Sign Print Firm Date Time		Preservative		A								D I S C O U S E	
				Container Volume		40									
				VOA Vial											
				Glass Jar										D I S C O U S E	
				Plastic Jar											
				Preservative											
				Container Volume										D I S C O U S E	
				Note: Sample bottles supplied by lab, unless indicated.											
				PRESERVATION KEY: A Sample chilled, B Filtered, C Acidified with _____ D - NaOH, E - NaThiosulfate, F - Other											

70014-42

FREE-COL LABORATORIES, INC.

P.O. Box 557, Cotton Road
Meadville, Pennsylvania 16335-0557
Phone: Area Code 814/724-6242
FAX: Area Code 814/333-1466



ENVIRONMENTAL
OCCUPATIONAL HEALTH
FOOD SCIENCE
SPECIALISTS

AC ROCHESTER DIVISION
GENERAL MOTORS CORPORATION

B132 A, B, C

SAMPLE DATE: 10/10/90

RECEIVED

OCT 25 1990

H & A of New York

Note: These samples from tubs containing soils from test borings
at #132 well cluster.

T. Wells

1/31/91

METHODS

PARAMETER

METHOD

SOURCE

Volatile Compounds

8240

2

SOURCE

"Test Methods for Evaluating Solid Waste: Physical/Chemical Methods", SW-846, Third Edition, U.S. Environmental Protection Agency. Revised 1986.

FREE-COL LABORATORIES, INC.

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5815 AIRPORT ROAD
ROANOKE, VIRGINIA 24012
PHONE: (703) 265-2544
FAX: (703) 362-1663

10/18/90

TO: AC ROCHESTER DIV.-GMC
ATTN: MR. RICK EISENMAN
1000 LEXINGTON AVE., DEPT. 12820
ROCHESTER NY 14606

P.O. # 31423-E

ACCOUNT NO. 01267

ANALYTICAL REPORT FORM

PAGE 1

SAMPLE ID : B132 B,C
TUB 2
10/10/90
LAB ID 01011503
DATE RECEIVED: 10/11/90

PARAMETER	RESULTS	UNITS	DATE	AND	ANALYST
<u>VOLATILE COMPOUNDS</u>					
Chloromethane	<0.010	MG/KG	10/16/90		BEERS/ ECKLUND
Bromomethane	<0.010				
Vinyl Chloride	<0.010				
Chloroethane	<0.010				
Methylene Chloride	<0.005				
Acetone	<0.10				
Carbon Disulfide	<0.005				
1,1-Dichloroethene	<0.005				
1,1-Dichloroethane	<0.005				
trans-1,2-Dichloroethene	<0.005				
Chloroform	<0.005				
1,2-Dichloroethane	<0.005				
2-Butanone	<0.10				
1,1,1-Trichloroethane	<0.005				
Carbon Tetrachloride	<0.005				
Vinyl Acetate	<0.050				
Bromodichloromethane	<0.005				
1,1,2,2-Tetrachloroethane	<0.005				
1,2-Dichloropropane	<0.005				
trans-1,3-Dichloropropene	<0.005				
Trichloroethene	<0.005				
Dibromochloromethane	<0.005				
1,1,2-Trichloroethane	<0.005				

A.I.H.A. Accreditation No. 98
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D.E.R. Laboratory I.D. No. 20-073
Dept. of Agriculture Approved Dairy Laboratory
NY Dept. of Health Laboratory I.D. No. 10552
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> = GREATER THAN

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ROANOKE, VIRGINIA 24012
PHONE: (703) 265-2544
FAX: (703) 362-1663

J. CHARD WOHLER, Ph.D.
LABORATORY DIRECTOR

10/18/90

TO: AC ROCHESTER DIV.-GMC
ATTN: MR. RICK EISENMAN
1000 LEXINGTON AVE., DEPT. 12820
ROCHESTER NY 14606

P.O. # 31423-E

ACCOUNT NO. 01267

ANALYTICAL REPORT FORM

PAGE 2

SAMPLE ID : B132 B,C
TUB 2
10/10/90
LAB ID 01011503
DATE RECEIVED: 10/11/90

PARAMETER	RESULTS	UNITS	DATE	AND	ANALYST
<u>VOLATILE COMPOUNDS</u> Continued					
Benzene	<0.005	MG/KG	10/16/90		BEERS/ ECKLUND
cis-1,3-Dichloropropene	<0.005				
2-Chloroethylvinyl Ether	<0.010				
Bromoform	<0.005				
2-Hexanone	<0.050				
4-Methyl-2-pentanone	<0.050				
Tetrachloroethene	<0.005				
Toluene	<0.005				
Chlorobenzene	<0.005				
Ethylbenzene	<0.005				
Styrene	<0.005				
Total Xylenes	<0.005				

A.I.H.A. Accreditation No. 98
U.S. Public Health Services Approved Facility
D.E.R. Laboratory I.D. No. 20-073
F.D. Dept. of Agriculture Approved Dairy Laboratory
NY Dept. of Health Laboratory I.D. No. 10552
NY Dept. of Env. Conservation Approved Facility

MD Dept. of Health Cert. No. 130
VA Dept. of Health Laboratory I.D. No. 00145
WV Dept. of Health Certification No. 21-R
NJ Dept. of Env. Protection Lab I.D. No. 77613
NY Dept. of Natl. Voluntary Lab. Accred. Cert. No. 1023

NC Dept. of Natural Resources Cert. No. 236
NC Dept. of Env., Health & Nat. Res. I.D. No. 4270C
SC Dept. of Health Laboratory I.D. No. 89004
MI Dept. of Public Health Approved Facility
U.S. Office of Surface Mining Approved Facility

KEY:

< = LESS THAN

> = GREATER THAN

w.f. = WILL FOLLOW

FREE-COL LABORATORIES, INC.

P.O. BOX 557, COTTON ROAD
MEADVILLE, PENNSYLVANIA 16335
PHONE: (814) 724-6242
FAX: (814) 333-1466

5815 AIRPORT ROAD
ROANOKE, VIRGINIA 24012
PHONE: (703) 265-2544
FAX: (703) 362-1663



10/18/90

TO: AC ROCHESTER DIV.-GMC
ATTN: MR. RICK EISENMAN
1000 LEXINGTON AVE., DEPT. 12820
ROCHESTER NY 14606

P.O. # 31423-E

ACCOUNT NO. 01267

ANALYTICAL REPORT FORM

PAGE 3

SAMPLE ID : B132, B132A
B132B TUB1
10/10/90
LAB ID 01011504
DATE RECEIVED: 10/11/90

PARAMETER	RESULTS	UNITS	DATE	AND	ANALYST
<u>VOLATILE COMPOUNDS</u>					
Chloromethane	<0.010	MG/KG	10/16/90		BEERS/ ECKLUND
Bromomethane	<0.010				
Vinyl Chloride	<0.010				
Chloroethane	<0.010				
Methylene Chloride	<0.005				
Acetone	<0.10				
Carbon Disulfide	<0.005				
1,1-Dichloroethene	<0.005				
1,1-Dichloroethane	<0.005				
trans-1,2-Dichloroethene	<0.005				
Chloroform	<0.005				
1,2-Dichloroethane	<0.005				
2-Butanone	<0.10				
1,1,1-Trichloroethane	<0.005				
Carbon Tetrachloride	<0.005				
Vinyl Acetate	<0.050				
Bromodichloromethane	<0.005				
1,1,2,2-Tetrachloroethane	<0.005				
1,2-Dichloropropane	<0.005				
trans-1,3-Dichloropropene	<0.005				
Trichloroethene	<0.005				
Dibromochloromethane	<0.005				
1,1,2-Trichloroethane	<0.005				

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NJ Dept. of Env. Protection Lab I.D. No. 77613
NVLAP Natl. Voluntary Lab. Accred. Cert. No. 1023

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ROANOKE, VIRGINIA 24012
PHONE: (703) 265-2544
FAX: (703) 362-1663

J. CHARD WOHLER, Ph.D.
LABORATORY DIRECTOR

10/18/90

TO: AC ROCHESTER DIV.-GMC
ATTN: MR. RICK EISENMAN
1000 LEXINGTON AVE., DEPT. 12820
ROCHESTER NY 14606

P.O. # 31423-E

ACCOUNT NO. 01267

ANALYTICAL REPORT FORM

PAGE 4

SAMPLE ID : B132, B132A
B132B TUB1
10/10/90
LAB ID 01011504
DATE RECEIVED: 10/11/90

PARAMETER	RESULTS	UNITS	DATE	AND	ANALYST
VOLATILE COMPOUNDS Continued					
Benzene	<0.005	MG/KG	10/16/90		BEERS/ ECKLUND
cis-1,3-Dichloropropene	<0.005				
2-Chloroethylvinyl Ether	<0.010				
Bromoform	<0.005				
2-Hexanone	<0.050				
4-Methyl-2-pentanone	<0.050				
Tetrachloroethene	<0.005				
Toluene	<0.005				
Chlorobenzene	<0.005				
Ethylbenzene	<0.005				
Styrene	<0.005				
Total Xylenes	<0.005				

J. R. Wohler Ph.D.
PRESIDENT/DIRECTOR

This complete report is four (4) pages.

pc: Jeff Loney - H & A of New York

A.I.H.A. Accreditation No. 98
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NC Dept. of Env., Health & Nat. Res. I.D. No. 42700
SC Dept. of Health Laboratory I.D. No. 89004
MI Dept. of Public Health Approved Facility
U.S. Office of Surface Mining Approved Facility

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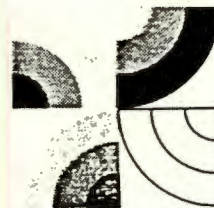
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FREE-COL LABORATORIES, INC.

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PHONE: (703) 265-2544
FAX: (703) 362-1663



TO:

ANALYTICAL REPORT FORM

Results expressed as MG/KG or % are calculated on an as received weight basis.

CODE B: A blank value over the detection limit of the test was subtracted from this result.

CODE D: Detection limit change due to a dilution.

CODE R: The percent recovery on the spiked sample associated with this sample was not within the acceptance limits of 75% - 125%. This matter is under consideration at the laboratory.

CODE S: This result was obtained by Method of Standard Additions.

CODE NA: Not Applicable

CODE ND: Not Detectable

PRC: Preparation Reference Control

VOID: The sample plus spike concentration exceeded the linear range of the standard curve. No result could be obtained.

CODE Q: Values for parameters quantified in this sample after adjustments for recoveries of the analytical batch matrix spike. No adjusted values are given where no sample values were quantified (i.e. sample values were less than the detection limit).
No adjusted values may be given for certain sample parameters quantified, since the spike recovery adjustment does not change the sample value (i.e. the spike recovery was nearly 100%). The matrix spike recovery adjustments were based on a random sample matrix, as the client did not request specific sample spiking.

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NC Dept. of Natural Resources Cert. No. 236
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tel (716) 232-7346

H&A FILE NO. 70014-42

H&A FILE NO. 100-1-1
PROJECT AC Rochester - Hydrogeologic Invest.

H & A CONTACT Jeff Loney

LABORATORY FREE-COL LABORATORIES

ADDRESS COTTON RD. MEADVILLE, PA

CONTACT DALE FERGUSON 16 335

DELIVERY DATE

DATE FINAL REPORT DUE

PROJECT MANAGER'S INITIALS

[illegible]