6of

SUMMARY REPORT OF THE INVESTIGATION OF TRICHLOROETHENE IN GROUND WATER AND PROPOSED GROUND-WATER REMEDIAL SYSTEM

LENOX CHINA FACILITY AND ADJACENT AREA POMONA, NEW JERSEY

VOLUME III

Prepared for

Lenox China
Pomona, New Jersey

August 1990

Geraghty & Miller, Inc.
Environmental Services
290 Vincent Avenue
Hackensack, New Jersey 07601

651250

APPENDIX E

Laboratory Results of Soil Samples

Enseco
A CORNING Company

4 MAY 1990
Geraghty & Miller, Inc.
Hackensack, NJ

April 19, 1990

Ms. Catherine Gilroy
Geraghty & Miller, Inc.
Seven Atlantic Street
Hackensack, NJ 07601

Dear Catherine:

Enclosed are the results of the analyses performed on the three aqueous and eight soil samples for Pomona, NJ (Project No. NY08501). This project was received under chain of custody at Enseco - Erco Laboratory on April 6, 1990, and was processed for a three-week turnaround time. No quality assurance problems were encountered during the analysis of these samples. A brief description of the Quality Assurance/Quality Control and methods employed by Enseco are contained within the report. 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. 5920 to help expedite any future discussions. We will be happy to answer any questions or concerns that you may have.

Sincerely,

W. Henry Camp
Program Administrator

Encl.

Enseco Incorporated
205 Alewife Brook Parkway
Cambridge, MA 02138
617/661-3111 617/354-5258

GERAGHTY & MILLER, INC.
Ground-Water Services

005920

CHAIN-OF-CUSTODY RECORD

Project Number NY06501 Lemox

Project Location Pomona, NJ

Laboratory EMCO

Sampler(s) C. Schmidt
I. Vera

SAMPLE IDENTITY	Date Sampled	SAMPLE BOTTLE / CONTAINER DESCRIPTION: 40 ml VOA Vial										TOTAL
DS-1 0-0.5'	4/5/90	2										2
DS-1 7.5-8.0'		2										2
DS-2 0-0.5		2										2
DS-2 6.5-7.0'		2										2
DS-3 0-0.5'		2										2
DS-3 6.5-7.0		2										2
DS-4 0-0.5'		2										2
DS-4 7.5-8.0'		2										2
~~DS-5~~ Trip Blank		2										2
✓ Field Blank	↓	2										2
✓ Replicate		2										2
											Total No. of Bottles/ Containers	22

Relinquished by: Casey Schmidt Received by:	Organization: Geraghty Organization:	Date 4/5/90 Time 18:05 Date / / Time	Seal Intact? Yes No N/A
Relinquished by: Received by: [illegible]	Organization: Organization: EMCO	Date / / Time Date 4/6/90 Time 10:00	Seal Intact? Yes No N/A

Special Instructions/Remarks:
601 VOC Give Results to C. Gilroy - Hackensack

Delivery Method: ☐ In Person ☒ Common Carrier Fed Ex (SPECIFY) ☐ Lab Courier ☐ Other _____ (SPECIFY)

RM Form 88 ... Rev 88

ANALYTICAL RESULTS

ANALYTICAL RESULTS

The method number provided on each data report sheet refers to a publication originating from a regulatory or standard-setting organization. In general, the methods employed are those specified by the U.S. Environmental Protection Agency and other state and federal agencies. In cases where an approved regulatory method does not exist, a method developed by Enseco will be employed to meet the specific needs of the client. The methods commonly employed by Enseco are based on methods from the following references.

U.S. Environmental Protection Agency. 1983. Methods for chemical analysis of water and wastes. EPA-600/4-79-020. Cincinnati, OH, March.

U.S. Environmental Protection Agency. 1984. Test methods for evaluating solid waste, physical/chemical methods. (SW-846); Washington, D.C. April.

U.S. Environmental Protection Agency. 1986. Methods for determination of organic compounds in finished drinking water and raw source water. Cincinnati, OH, March.

"Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act," 40 CFR, Part 136; Federal Register, Vol. 49, No. 209.

American Public Health Association, American Water Works Association, Water Pollution Control Federation. 1985. Standard methods for the examination of water and wastewater, 16th edition. Washington, D.C., April.

Current EPA Contract Laboratory Program (CLP) protocols for the analysis of organic and inorganic hazardous substances including chlorinated dioxins and furans.

Enseco
A CORNING Company

SAMPLE DESCRIPTION INFORMATION
for
Geraghty & Miller, Inc.

Lab ID	Client ID	Matrix	Sampled Date	Sampled Time	Received Date
005920-0001-SA	DS-1 0-0.5	SOIL	05 APR 90		06 APR 90
005920-0002-SA	DS-1 7.5-8.0	SOIL	05 APR 90		06 APR 90
005920-0003-SA	DS-2 0-0.5	SOIL	05 APR 90		06 APR 90
005920-0004-SA	DS-2 6.5-7.0	SOIL	05 APR 90		06 APR 90
005920-0005-SA	DS-3 0-0.5	SOIL	05 APR 90		06 APR 90
005920-0006-SA	DS-3 6.5-7.0	SOIL	05 APR 90		06 APR 90
005920-0007-SA	DS-4 0-0.5	SOIL	05 APR 90		06 APR 90
005920-0008-SA	DS-4 7.5-8.0	SOIL	05 APR 90		06 APR 90
005920-0009-SA	TRIP BLANK	AQUEOUS	05 APR 90		06 APR 90
005920-0010-SA	FIELD BLANK	AQUEOUS	05 APR 90		06 APR 90
005920-0011-SA	REPLICATE	AQUEOUS	05 APR 90		06 APR 90

Enseco
A CORNING Company

HALOGENATED VOLATILE ORGANICS

Method 601

Client Name: Geraghty & Miller, Inc.
Client ID: TRIP BLANK
Lab ID: 005920-0009-SA Enseco ID: 2038972
Matrix: AQUEOUS Sampled: 05 APR 90 Received: 06 APR 90
Authorized: 06 APR 90 Prepared: NA Analyzed: 16 APR 90

Parameter	Result	Units	Reporting Limit	
Chloromethane	ND	ug/L	5.0	
Bromomethane	ND	ug/L	5.0	
Vinyl chloride	ND	ug/L	1.0	
Chloroethane	ND	ug/L	5.0	
Methylene chloride	6.2	ug/L	5.0	#
1,1-Dichloroethene	ND	ug/L	1.0	
1,1-Dichloroethane	ND	ug/L	1.0	
1,2-Dichloroethene (total)	ND	ug/L	1.0	
Chloroform	ND	ug/L	1.0	
1,2-Dichloroethane	ND	ug/L	1.0	
1,1,1-Trichloroethane	ND	ug/L	1.0	
Carbon tetrachloride	ND	ug/L	1.0	
Bromodichloromethane	ND	ug/L	1.0	
1,2-Dichloropropane	ND	ug/L	1.0	
trans-1,3-Dichloropropene	ND	ug/L	1.0	
Trichloroethene	ND	ug/L	1.0	
Dibromochloromethane	ND	ug/L	1.0	
cis-1,3-Dichloropropene	ND	ug/L	1.0	
1,1,2-Trichloroethane	ND	ug/L	1.0	
Bromoform	ND	ug/L	5.0	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	
Tetrachloroethene	ND	ug/L	1.0	
Chlorobenzene	ND	ug/L	5.0	
Bromochloromethane	66	%	--	

Note # : Analytical results should not be considered reliable for this common lab contaminant unless the sample result exceeds 5 times the reporting limit or 10 times the blank result.

ND = Not detected
NA = Not applicable

Reported By: Alan Humason Approved By: Charlene Livingston

Enseco
A CORNING Company

HALOGENATED VOLATILE ORGANICS

Method 601

Client Name: Geraghty & Miller, Inc.
Client ID: FIELD BLANK
Lab ID: 005920-0010-SA Enseco ID: 2038973
Matrix: AQUEOUS Sampled: 05 APR 90 Received: 06 APR 90
Authorized: 06 APR 90 Prepared: NA Analyzed: 16 APR 90

Parameter	Result	Units	Reporting Limit
Chloromethane	ND	ug/L	5.0
Bromomethane	ND	ug/L	5.0
Vinyl chloride	ND	ug/L	1.0
Chloroethane	ND	ug/L	5.0
Methylene chloride	ND	ug/L	5.0
1,1-Dichloroethene	ND	ug/L	1.0
1,1-Dichloroethane	ND	ug/L	1.0
1,2-Dichloroethene (total)	ND	ug/L	1.0
Chloroform	1.2	ug/L	1.0
1,2-Dichloroethane	ND	ug/L	1.0
1,1,1-Trichloroethane	ND	ug/L	1.0
Carbon tetrachloride	ND	ug/L	1.0
Bromodichloromethane	ND	ug/L	1.0
1,2-Dichloropropane	ND	ug/L	1.0
trans-1,3-Dichloropropene	ND	ug/L	1.0
Trichloroethene	ND	ug/L	1.0
Dibromochloromethane	ND	ug/L	1.0
cis-1,3-Dichloropropene	ND	ug/L	1.0
1,1,2-Trichloroethane	ND	ug/L	1.0
Bromoform	ND	ug/L	5.0
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0
Tetrachloroethene	ND	ug/L	1.0
Chlorobenzene	ND	ug/L	5.0
Bromochloromethane	74	%	--

ND = Not detected
NA = Not applicable

Reported By: Alan Humason Approved By: Charlene Livingston

Enseco
A CORNING Company

HALOGENATED VOLATILE ORGANICS

Method 8010

Client Name: Geraghty & Miller, Inc.
Client ID: DS-1 0-0.5
Lab ID: 005920-0001-SA Enseco ID: 2038964
Matrix: SOIL Sampled: 05 APR 90 Received: 06 APR 90
Authorized: 06 APR 90 Prepared: NA Analyzed: 16 APR 90

Parameter	Result	Dry Weight Units	Reporting Limit
Chloromethane	ND	ug/kg	6.0
Bromomethane	ND	ug/kg	6.0
Vinyl chloride	ND	ug/kg	1.2
Chloroethane	ND	ug/kg	6.0
Methylene chloride	ND	ug/kg	6.0
1,1-Dichloroethene	ND	ug/kg	1.2
1,1-Dichloroethane	ND	ug/kg	1.2
1,2-Dichloroethene (total)	ND	ug/kg	1.2
Chloroform	ND	ug/kg	1.2
1,2-Dichloroethane	ND	ug/kg	1.2
1,1,1-Trichloroethane	ND	ug/kg	1.2
Carbon tetrachloride	ND	ug/kg	1.2
Bromodichloromethane	ND	ug/kg	1.2
1,2-Dichloropropane	ND	ug/kg	1.2
trans-1,3-Dichloropropene	ND	ug/kg	1.2
Trichloroethene	20	ug/kg	1.2
Dibromochloromethane	ND	ug/kg	1.2
cis-1,3-Dichloropropene	ND	ug/kg	1.2
1,1,2-Trichloroethane	ND	ug/kg	1.2
Bromoform	ND	ug/kg	6.0
1,1,2,2-Tetrachloroethane	ND	ug/kg	1.2
Tetrachloroethene	ND	ug/kg	1.2
Chlorobenzene	ND	ug/kg	6.0
Bromochloromethane	80	%	--

Percent Moisture is 17%. All results and limits are reported on a dry weight basis.

ND = Not detected
NA = Not applicable

Reported By: Alan Humason Approved By: Charlene Livingston

Enseco
A CORNING Company

HALOGENATED VOLATILE ORGANICS

Method 8010

Client Name: Geraghty & Miller, Inc.
Client ID: DS-1 7.5-8.0
Lab ID: 005920-0002-SA Enseco ID: 2038965
Matrix: SOIL Sampled: 05 APR 90 Received: 06 APR 90
Authorized: 06 APR 90 Prepared: NA Analyzed: 16 APR 90

Parameter	Result	Dry Weight Units	Reporting Limit
Chloromethane	ND	ug/kg	5.7
Bromomethane	ND	ug/kg	5.7
Vinyl chloride	ND	ug/kg	1.1
Chloroethane	ND	ug/kg	5.7
Methylene chloride	ND	ug/kg	5.7
1,1-Dichloroethene	ND	ug/kg	1.1
1,1-Dichloroethane	ND	ug/kg	1.1
1,2-Dichloroethene (total)	ND	ug/kg	1.1
Chloroform	ND	ug/kg	1.1
1,2-Dichloroethane	ND	ug/kg	1.1
1,1,1-Trichloroethane	ND	ug/kg	1.1
Carbon tetrachloride	ND	ug/kg	1.1
Bromodichloromethane	ND	ug/kg	1.1
1,2-Dichloropropane	3.1	ug/kg	1.1
trans-1,3-Dichloropropene	ND	ug/kg	1.1
Trichloroethene	ND	ug/kg	1.1
Dibromochloromethane	ND	ug/kg	1.1
cis-1,3-Dichloropropene	ND	ug/kg	1.1
1,1,2-Trichloroethane	ND	ug/kg	1.1
Bromoform	ND	ug/kg	5.7
1,1,2,2-Tetrachloroethane	ND	ug/kg	1.1
Tetrachloroethene	ND	ug/kg	1.1
Chlorobenzene	ND	ug/kg	5.7
Bromochloromethane	73	%	--

Percent Moisture is 13%. All results and limits are reported on a dry weight basis.

ND = Not detected
NA = Not applicable

Reported By: Alan Humason Approved By: Charlene Livingston

Enseco
A CORNING Company

HALOGENATED VOLATILE ORGANICS

Method 8010

Client Name: Geraghty & Miller, Inc.
Client ID: DS-2 0-0.5
Lab ID: 005920-0003-SA Enseco ID: 2038966
Matrix: SOIL Sampled: 05 APR 90 Received: 06 APR 90
Authorized: 06 APR 90 Prepared: NA Analyzed: 18 APR 90

Parameter	Result	Dry Weight Units	Reporting Limit
Chloromethane	ND	ug/kg	6.3
Bromomethane	ND	ug/kg	6.3
Vinyl chloride	ND	ug/kg	1.3
Chloroethane	ND	ug/kg	6.3
Methylene chloride	ND	ug/kg	6.3
1,1-Dichloroethene	ND	ug/kg	1.3
1,1-Dichloroethane	ND	ug/kg	1.3
1,2-Dichloroethene (total)	ND	ug/kg	1.3
Chloroform	ND	ug/kg	1.3
1,2-Dichloroethane	ND	ug/kg	1.3
1,1,1-Trichloroethane	ND	ug/kg	1.3
Carbon tetrachloride	ND	ug/kg	1.3
Bromodichloromethane	ND	ug/kg	1.3
1,2-Dichloropropane	19	ug/kg	1.3
trans-1,3-Dichloropropene	ND	ug/kg	1.3
Trichloroethene	ND	ug/kg	1.3
Dibromochloromethane	ND	ug/kg	1.3
cis-1,3-Dichloropropene	ND	ug/kg	1.3
1,1,2-Trichloroethane	ND	ug/kg	1.3
Bromoform	ND	ug/kg	6.3
1,1,2,2-Tetrachloroethane	ND	ug/kg	1.3
Tetrachloroethene	ND	ug/kg	1.3
Chlorobenzene	ND	ug/kg	6.3
Bromochloromethane	86	%	--

Percent Moisture is 18%. All results and limits are reported on a dry weight basis.

ND = Not detected
NA = Not applicable

Reported By: Alan Humason Approved By: Charlene Livingston

Enseco
A CORNING Company

HALOGENATED VOLATILE ORGANICS

Method 8010

Client Name: Geraghty & Miller, Inc.
Client ID: DS-2 6.5-7.0
Lab ID: 005920-0004-SA Enseco ID: 2038967
Matrix: SOIL Sampled: 05 APR 90 Received: 06 APR 90
Authorized: 06 APR 90 Prepared: NA Analyzed: 16 APR 90

Parameter	Result	Dry Weight Units	Reporting Limit	
Chloromethane	ND	ug/kg	6.4	
Bromomethane	ND	ug/kg	6.4	
Vinyl chloride	ND	ug/kg	1.3	
Chloroethane	ND	ug/kg	6.4	
Methylene chloride	11	ug/kg	6.4	#
1,1-Dichloroethene	ND	ug/kg	1.3	
1,1-Dichloroethane	ND	ug/kg	1.3	
1,2-Dichloroethene (total)	ND	ug/kg	1.3	
Chloroform	ND	ug/kg	1.3	
1,2-Dichloroethane	ND	ug/kg	1.3	
1,1,1-Trichloroethane	ND	ug/kg	1.3	
Carbon tetrachloride	ND	ug/kg	1.3	
Bromodichloromethane	ND	ug/kg	1.3	
1,2-Dichloropropane	3.4	ug/kg	1.3	
trans-1,3-Dichloropropene	ND	ug/kg	1.3	
Trichloroethene	ND	ug/kg	1.3	
Dibromochloromethane	ND	ug/kg	1.3	
cis-1,3-Dichloropropene	ND	ug/kg	1.3	
1,1,2-Trichloroethane	ND	ug/kg	1.3	
Bromoform	ND	ug/kg	6.4	
1,1,2,2-Tetrachloroethane	ND	ug/kg	1.3	
Tetrachloroethene	ND	ug/kg	1.3	
Chlorobenzene	ND	ug/kg	6.4	
Bromochloromethane	86	%	--	

Percent Moisture is 21%. All results and limits are reported on a dry weight basis.

Note # : Analytical results should not be considered reliable for this common lab contaminant unless the sample result exceeds 5 times the reporting limit or 10 times the blank result.

ND = Not detected
NA = Not applicable

Reported By: Alan Humason Approved By: Charlene Livingston

Enseco
A CORNING Company

HALOGENATED VOLATILE ORGANICS

Method 8010

Client Name: Geraghty & Miller, Inc.
Client ID: DS-3 0-0.5
Lab ID: 005920-0005-SA Enseco ID: 2038968
Matrix: SOIL Sampled: 05 APR 90 Received: 06 APR 90
Authorized: 06 APR 90 Prepared: NA Analyzed: 16 APR 90

Parameter	Result	Dry Weight Units	Reporting Limit
Chloromethane	ND	ug/kg	5.8
Bromomethane	ND	ug/kg	5.8
Vinyl chloride	ND	ug/kg	1.2
Chloroethane	ND	ug/kg	5.8
Methylene chloride	ND	ug/kg	5.8
1,1-Dichloroethene	ND	ug/kg	1.2
1,1-Dichloroethane	ND	ug/kg	1.2
1,2-Dichloroethene (total)	ND	ug/kg	1.2
Chloroform	ND	ug/kg	1.2
1,2-Dichloroethane	ND	ug/kg	1.2
1,1,1-Trichloroethane	ND	ug/kg	1.2
Carbon tetrachloride	ND	ug/kg	1.2
Bromodichloromethane	ND	ug/kg	1.2
1,2-Dichloropropane	1.8	ug/kg	1.2
trans-1,3-Dichloropropene	ND	ug/kg	1.2
Trichloroethene	ND	ug/kg	1.2
Dibromochloromethane	ND	ug/kg	1.2
cis-1,3-Dichloropropene	ND	ug/kg	1.2
1,1,2-Trichloroethane	ND	ug/kg	1.2
Bromoform	ND	ug/kg	5.8
1,1,2,2-Tetrachloroethane	ND	ug/kg	1.2
Tetrachloroethene	ND	ug/kg	1.2
Chlorobenzene	ND	ug/kg	5.8
Bromochloromethane	80	%	--

Percent Moisture is 17%. All results and limits are reported on a dry weight basis.

ND = Not detected
NA = Not applicable

Reported By: Alan Humason Approved By: Charlene Livingston

Enseco
A CORNING Company

HALOGENATED VOLATILE ORGANICS

Method 8010

Client Name: Geraghty & Miller, Inc.
Client ID: DS-3 6.5-7.0
Lab ID: 005920-0006-SA Enseco ID: 2038969
Matrix: SOIL Sampled: 05 APR 90 Received: 06 APR 90
Authorized: 06 APR 90 Prepared: NA Analyzed: 17 APR 90

Parameter	Result	Dry Weight Units	Reporting Limit	
Chloromethane	ND	ug/kg	5.8	
Bromomethane	ND	ug/kg	5.8	
Vinyl chloride	ND	ug/kg	1.2	
Chloroethane	ND	ug/kg	5.8	
Methylene chloride	10	ug/kg	5.8	#
1,1-Dichloroethene	ND	ug/kg	1.2	
1,1-Dichloroethane	ND	ug/kg	1.2	
1,2-Dichloroethene (total)	ND	ug/kg	1.2	
Chloroform	ND	ug/kg	1.2	
1,2-Dichloroethane	ND	ug/kg	1.2	
1,1,1-Trichloroethane	ND	ug/kg	1.2	
Carbon tetrachloride	ND	ug/kg	1.2	
Bromodichloromethane	ND	ug/kg	1.2	
1,2-Dichloropropane	2.1	ug/kg	1.2	
trans-1,3-Dichloropropene	ND	ug/kg	1.2	
Trichloroethene	ND	ug/kg	1.2	
Dibromochloromethane	ND	ug/kg	1.2	
cis-1,3-Dichloropropene	ND	ug/kg	1.2	
1,1,2-Trichloroethane	ND	ug/kg	1.2	
Bromoform	ND	ug/kg	5.8	
1,1,2,2-Tetrachloroethane	ND	ug/kg	1.2	
Tetrachloroethene	ND	ug/kg	1.2	
Chlorobenzene	ND	ug/kg	5.8	
Bromochloromethane	85	%	--	

Percent Moisture is 17%. All results and limits are reported on a dry weight basis.

Note # : Analytical results should not be considered reliable for this common lab contaminant unless the sample result exceeds 5 times the reporting limit or 10 times the blank result.

ND = Not detected
NA = Not applicable

Reported By: Alan Humason Approved By: Charlene Livingston

Enseco
A CORNING Company

HALOGENATED VOLATILE ORGANICS

Method 8010

Client Name: Geraghty & Miller, Inc.
Client ID: DS-4 0-0.5
Lab ID: 005920-0007-SA Enseco ID: 2038970
Matrix: SOIL Sampled: 05 APR 90 Received: 06 APR 90
Authorized: 06 APR 90 Prepared: NA Analyzed: 18 APR 90

Parameter	Result	Dry Weight Units	Reporting Limit	
Chloromethane	ND	ug/kg	6.1	
Bromomethane	ND	ug/kg	6.1	
Vinyl chloride	ND	ug/kg	1.2	
Chloroethane	ND	ug/kg	6.1	
Methylene chloride	7.1	ug/kg	6.1	#
1,1-Dichloroethene	ND	ug/kg	1.2	
1,1-Dichloroethane	ND	ug/kg	1.2	
1,2-Dichloroethene (total)	ND	ug/kg	1.2	
Chloroform	ND	ug/kg	1.2	
1,2-Dichloroethane	ND	ug/kg	1.2	
1,1,1-Trichloroethane	ND	ug/kg	1.2	
Carbon tetrachloride	ND	ug/kg	1.2	
Bromodichloromethane	ND	ug/kg	1.2	
1,2-Dichloropropane	20	ug/kg	1.2	
trans-1,3-Dichloropropene	ND	ug/kg	1.2	
Trichloroethene	ND	ug/kg	1.2	
Dibromochloromethane	ND	ug/kg	1.2	
cis-1,3-Dichloropropene	ND	ug/kg	1.2	
1,1,2-Trichloroethane	ND	ug/kg	1.2	
Bromoform	ND	ug/kg	6.1	
1,1,2,2-Tetrachloroethane	ND	ug/kg	1.2	
Tetrachloroethene	ND	ug/kg	1.2	
Chlorobenzene	ND	ug/kg	6.1	
Bromochloromethane	102	%	--	

Percent Moisture is 19%. All results and limits are reported on a dry weight basis.

Note # : Analytical results should not be considered reliable for this common lab contaminant unless the sample result exceeds 5 times the reporting limit or 10 times the blank result.

ND = Not detected
NA = Not applicable

Reported By: Alan Humason Approved By: Charlene Livingston

Enseco
A CORNING Company

HALOGENATED VOLATILE ORGANICS

Method 8010

Client Name: Geraghty & Miller, Inc.
Client ID: DS-4 7.5-8.0
Lab ID: 005920-0008-SA Enseco ID: 2038971
Matrix: SOIL Sampled: 05 APR 90 Received: 06 APR 90
Authorized: 06 APR 90 Prepared: NA Analyzed: 16 APR 90

Parameter	Result	Dry Weight Units	Reporting Limit	
Chloromethane	ND	ug/kg	6.3	
Bromomethane	ND	ug/kg	6.3	
Vinyl chloride	ND	ug/kg	1.3	
Chloroethane	ND	ug/kg	6.3	
Methylene chloride	21	ug/kg	6.3	#
1,1-Dichloroethene	ND	ug/kg	1.3	
1,1-Dichloroethane	ND	ug/kg	1.3	
1,2-Dichloroethene (total)	ND	ug/kg	1.3	
Chloroform	ND	ug/kg	1.3	
1,2-Dichloroethane	ND	ug/kg	1.3	
1,1,1-Trichloroethane	ND	ug/kg	1.3	
Carbon tetrachloride	ND	ug/kg	1.3	
Bromodichloromethane	ND	ug/kg	1.3	
1,2-Dichloropropane	ND	ug/kg	1.3	
trans-1,3-Dichloropropene	ND	ug/kg	1.3	
Trichloroethene	ND	ug/kg	1.3	
Dibromochloromethane	ND	ug/kg	1.3	
cis-1,3-Dichloropropene	ND	ug/kg	1.3	
1,1,2-Trichloroethane	ND	ug/kg	1.3	
Bromoform	ND	ug/kg	6.3	
1,1,2,2-Tetrachloroethane	ND	ug/kg	1.3	
Tetrachloroethene	ND	ug/kg	1.3	
Chlorobenzene	ND	ug/kg	6.3	
Bromochloromethane	105	%	--	

Percent Moisture is 18%. All results and limits are reported on a dry weight basis.

Note # : Analytical results should not be considered reliable for this common lab contaminant unless the sample result exceeds 5 times the reporting limit or 10 times the blank result.

ND = Not detected
NA = Not applicable

Reported By: Alan Humason Approved By: Charlene Livingston

Enseco
A CORNING Company

HALOGENATED VOLATILE ORGANICS

Method 8010

Client Name: Geraghty & Miller, Inc.
Client ID: REPLICATE
Lab ID: 005920-0011-SA Enseco ID: 2038974
Matrix: SOIL Sampled: 05 APR 90 Received: 06 APR 90
Authorized: 06 APR 90 Prepared: NA Analyzed: 17 APR 90

Parameter	Result	Dry Weight Units	Reporting Limit	
Chloromethane	ND	ug/kg	5.8	
Bromomethane	ND	ug/kg	5.8	
Vinyl chloride	ND	ug/kg	1.2	
Chloroethane	ND	ug/kg	5.8	
Methylene chloride	16	ug/kg	5.8	#
1,1-Dichloroethene	ND	ug/kg	1.2	
1,1-Dichloroethane	ND	ug/kg	1.2	
1,2-Dichloroethene (total)	ND	ug/kg	1.2	
Chloroform	ND	ug/kg	1.2	
1,2-Dichloroethane	ND	ug/kg	1.2	
1,1,1-Trichloroethane	ND	ug/kg	1.2	
Carbon tetrachloride	ND	ug/kg	1.2	
Bromodichloromethane	ND	ug/kg	1.2	
1,2-Dichloropropane	5.5	ug/kg	1.2	
trans-1,3-Dichloropropene	ND	ug/kg	1.2	
Trichloroethene	ND	ug/kg	1.2	
Dibromochloromethane	ND	ug/kg	1.2	
cis-1,3-Dichloropropene	ND	ug/kg	1.2	
1,1,2-Trichloroethane	ND	ug/kg	1.2	
Bromoform	ND	ug/kg	5.8	
1,1,2,2-Tetrachloroethane	ND	ug/kg	1.2	
Tetrachloroethene	ND	ug/kg	1.2	
Chlorobenzene	ND	ug/kg	5.8	
Bromochloromethane	129	%	--	

Percent Moisture is 13%. All results and limits are reported on a dry weight basis.

Note # : Analytical results should not be considered reliable for this common lab contaminant unless the sample result exceeds 5 times the reporting limit or 10 times the blank result.

ND = Not detected
NA = Not applicable

Reported By: Alan Humason Approved By: Charlene Livingston

QUALITY ASSURANCE/QUALITY CONTROL

QUALITY ASSURANCE/QUALITY CONTROL

As an indication of the overall quality of the data generated by Enseco - Erco Laboratory for this report, the following controls have been provided (when applicable).

Method blanks are analyzed to assess the level of contamination which exists in the analytical system. A method blank, analyzed with every batch of samples, consists of reagents specific to the method. This blank is carried through every aspect of the procedure, including preparation, cleanup, and analysis. Ideally, the concentration of an analyte in the blank is below the reporting limit for that analyte. However, some common laboratory solvents and metals are difficult to eliminate to the part-per-billion levels commonly reported in environmental analyses. Therefore, all method blank data is reported to the client. Data are not blank-corrected.

Duplicate control samples (DCS) are used to monitor the laboratory's day-to-day performance of routine analytical methods. A DCS consists of a standard, control matrix which is spiked with a group of target compounds representative of the method analytes. The DCS is analyzed with environmental samples to provide evidence that the laboratory is performing the method within accepted QC guidelines.

A DCS has been established for most routine analytical methods. Reagent water is used as the control matrix for the analysis of aqueous samples. The DCS compounds are spiked into reagent water and carried through the appropriate steps of the analysis. As stated in SW-846 (third edition), a universal blank matrix does not exist for solid samples and therefore no matrix is used. The DCS for solid samples consists of the DCS compounds spiked into a reagent blank and carried through the appropriate steps of the analysis. The data thus obtained are used to set the DCS control limits. As sufficient laboratory data become available, the control limits are redefined based upon the most recent six months of DCS data. Control limits for accuracy are based on the historical average recovery of the DCS plus or minus three standard deviation units, or alternatively on established control limits defined in the methodology.

Surrogates are organic compounds that are similar to the analytes of interest in chemical behavior but which are not normally found in environmental samples. Enseco routinely adds surrogates to samples requiring GC/MS and most GC analysis and reports these surrogate recoveries to the client. These surrogates are added to samples to monitor the effect of the matrix on the accuracy of the analysis. Results are reported in terms of percent recovery.

Enseco
A CORNING Company

QC LOT ASSIGNMENT REPORT
Volatile Organics by GC

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
005920-0001-SA	SOIL	8010-SL	12 APR 90-G2A	16 APR 90-G2A
005920-0002-SA	SOIL	8010-SL	12 APR 90-G2A	16 APR 90-G2A
005920-0003-SA	SOIL	8010-SL	12 APR 90-G2A	18 APR 90-G2A
005920-0004-SA	SOIL	8010-SL	12 APR 90-G2A	16 APR 90-G2A
005920-0005-SA	SOIL	8010-SL	12 APR 90-G2A	16 APR 90-G2A
005920-0006-SA	SOIL	8010-SL	12 APR 90-G2A	17 APR 90-G2A
005920-0007-SA	SOIL	8010-SL	12 APR 90-G2A	18 APR 90-G2A
005920-0008-SA	SOIL	8010-SL	12 APR 90-G2A	16 APR 90-G2A
005920-0009-SA	AQUEOUS	601-A	10 APR 90-G4A	16 APR 90-G4A
005920-0010-SA	AQUEOUS	601-A	10 APR 90-G4A	16 APR 90-G4A
005920-0011-SA	SOIL	8010-SL	12 APR 90-G2A	17 APR 90-G2A

Enseco
A CORNING Company

DUPLICATE CONTROL SAMPLE REPORT
Volatile Organics by GC

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average(%) DCS	Accuracy Average(%) Limits	Precision (RPD) DCS	Precision (RPD) Limit
Category: 8010-SL Matrix: SOIL QC Lot: 12 APR 90-G2A Concentration Units: ug/kg								
1,1-Dichloroethane	5.0	5.78	6.34	6.06	121	60-140	9.2	30
Chloroform	5.0	5.53	5.94	5.74	115	60-140	7.1	30
Bromodichloromethane	10	7.50	7.93	7.72	77	60-140	5.5	30
Trichloroethene	5.0	5.08	4.87	4.98	100	60-140	4.2	30
Chlorobenzene	5.0	8.04	2.06	5.05	101	60-140	118	30
Category: 601-A Matrix: AQUEOUS QC Lot: 10 APR 90-G4A Concentration Units: ug/L								
1,1-Dichloroethane	5.0	5.19	5.69	5.44	109	60-140	9.3	30
Chloroform	5.0	5.07	5.09	5.08	102	60-140	0.3	30
Bromodichloromethane	10.0	7.66	7.88	7.77	78	60-140	2.9	30
Trichloroethene	5.0	5.96	5.66	5.81	116	60-140	5.0	30
Chlorobenzene	5.0	4.90	3.53	4.21	84	60-140	33	30

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

Enseco
A CORNING Company

SINGLE CONTROL SAMPLE REPORT
Volatile Organics by GC

Analyte	Concentration Spiked	Concentration Measured	Accuracy(%) SCS	Accuracy(%) Limits
Category: 8010-SL Matrix: SOIL QC Lot: 12 APR 90-G2A QC Run: 16 APR 90-G2A Concentration Units: ug/kg				
Bromochloromethane	30.0	23.9	80	60-140
Category: 8010-SL Matrix: SOIL QC Lot: 12 APR 90-G2A QC Run: 18 APR 90-G2A Concentration Units: ug/kg				
Bromochloromethane	30.0	27.7	92	60-140
Category: 8010-SL Matrix: SOIL QC Lot: 12 APR 90-G2A QC Run: 17 APR 90-G2A Concentration Units: ug/kg				
Bromochloromethane	30.0	24.3	81	60-140
Category: 601-A Matrix: AQUEOUS QC Lot: 10 APR 90-G4A QC Run: 16 APR 90-G4A Concentration Units: ug/L				
Bromochloromethane	30.0	21.7	72	60-140

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

Enseco
A CORNING Company

METHOD BLANK REPORT
Volatile Organics by GC

Analyte	Result	Units	Reporting Limit
Test: 8010-DIRPUR-S			
Matrix: SOIL			
QC Lot: 12 APR 90-G2A QC Run: 16 APR 90-G2A			
Chloromethane	ND	ug/kg	5.0
Bromomethane	ND	ug/kg	5.0
Vinyl chloride	ND	ug/kg	1.0
Chloroethane	ND	ug/kg	5.0
Methylene chloride	13	ug/kg	5.0
1,1-Dichloroethene	ND	ug/kg	1.0
1,1-Dichloroethane	ND	ug/kg	1.0
1,2-Dichloroethene (total)	ND	ug/kg	1.0
Chloroform	ND	ug/kg	1.0
1,2-Dichloroethane	ND	ug/kg	1.0
1,1,1-Trichloroethane	ND	ug/kg	1.0
Carbon tetrachloride	ND	ug/kg	1.0
Bromodichloromethane	ND	ug/kg	1.0
1,2-Dichloropropane	ND	ug/kg	1.0
trans-1,3-Dichloropropene	ND	ug/kg	1.0
Trichloroethene	ND	ug/kg	1.0
Dibromochloromethane	ND	ug/kg	1.0
cis-1,3-Dichloropropene	ND	ug/kg	1.0
1,1,2-Trichloroethane	ND	ug/kg	1.0
Bromoform	ND	ug/kg	5.0
1,1,2,2-Tetrachloroethane	ND	ug/kg	1.0
Tetrachloroethene	ND	ug/kg	1.0
Chlorobenzene	ND	ug/kg	5.0
Test: 8010-DIRPUR-S			
Matrix: SOIL			
QC Lot: 12 APR 90-G2A QC Run: 18 APR 90-G2A			
Chloromethane	ND	ug/kg	5.0
Bromomethane	ND	ug/kg	5.0
Vinyl chloride	ND	ug/kg	1.0
Chloroethane	ND	ug/kg	5.0
Methylene chloride	ND	ug/kg	5.0
1,1-Dichloroethene	ND	ug/kg	1.0
1,1-Dichloroethane	ND	ug/kg	1.0
1,2-Dichloroethene (total)	ND	ug/kg	1.0
Chloroform	ND	ug/kg	1.0
1,2-Dichloroethane	ND	ug/kg	1.0

Enseco
A CORNING Company

METHOD BLANK REPORT
Volatile Organics by GC (cont.)

Analyte	Result	Units	Reporting Limit
Test: 8010-DIRPUR-S			
Matrix: SOIL			
QC Lot: 12 APR 90-G2A QC Run: 18 APR 90-G2A			
1,1,1-Trichloroethane	ND	ug/kg	1.0
Carbon tetrachloride	ND	ug/kg	1.0
Bromodichloromethane	ND	ug/kg	1.0
1,2-Dichloropropane	ND	ug/kg	1.0
trans-1,3-Dichloropropene	ND	ug/kg	1.0
Trichloroethene	ND	ug/kg	1.0
Dibromochloromethane	ND	ug/kg	1.0
cis-1,3-Dichloropropene	ND	ug/kg	1.0
1,1,2-Trichloroethane	ND	ug/kg	1.0
Bromoform	ND	ug/kg	5.0
1,1,2,2-Tetrachloroethane	ND	ug/kg	1.0
Tetrachloroethene	ND	ug/kg	1.0
Chlorobenzene	ND	ug/kg	5.0
Test: 8010-DIRPUR-S			
Matrix: SOIL			
QC Lot: 12 APR 90-G2A QC Run: 17 APR 90-G2A			
Chloromethane	ND	ug/kg	5.0
Bromomethane	ND	ug/kg	5.0
Vinyl chloride	ND	ug/kg	1.0
Chloroethane	ND	ug/kg	5.0
Methylene chloride	6.7	ug/kg	5.0
1,1-Dichloroethene	ND	ug/kg	1.0
1,1-Dichloroethane	ND	ug/kg	1.0
1,2-Dichloroethene (total)	ND	ug/kg	1.0
Chloroform	ND	ug/kg	1.0
1,2-Dichloroethane	ND	ug/kg	1.0
1,1,1-Trichloroethane	ND	ug/kg	1.0
Carbon tetrachloride	ND	ug/kg	1.0
Bromodichloromethane	ND	ug/kg	1.0
1,2-Dichloropropane	ND	ug/kg	1.0
trans-1,3-Dichloropropene	ND	ug/kg	1.0
Trichloroethene	ND	ug/kg	1.0
Dibromochloromethane	ND	ug/kg	1.0
cis-1,3-Dichloropropene	ND	ug/kg	1.0
1,1,2-Trichloroethane	ND	ug/kg	1.0
Bromoform	ND	ug/kg	5.0
1,1,2,2-Tetrachloroethane	ND	ug/kg	1.0

Enseco
A CORNING Company

METHOD BLANK REPORT
Volatile Organics by GC (cont.)

Analyte	Result	Units	Reporting Limit
Test: 8010-DIRPUR-S			
Matrix: SOIL			
QC Lot: 12 APR 90-G2A QC Run: 17 APR 90-G2A			
Tetrachloroethene	ND	ug/kg	1.0
Chlorobenzene	ND	ug/kg	5.0
Test: 601-A			
Matrix: AQUEOUS			
QC Lot: 10 APR 90-G4A QC Run: 16 APR 90-G4A			
Chloromethane	ND	ug/L	5.0
Bromomethane	ND	ug/L	5.0
Vinyl chloride	ND	ug/L	1.0
Chloroethane	ND	ug/L	5.0
Methylene chloride	ND	ug/L	5.0
1,1-Dichloroethene	ND	ug/L	1.0
1,1-Dichloroethane	ND	ug/L	1.0
1,2-Dichloroethene (total)	ND	ug/L	1.0
Chloroform	ND	ug/L	1.0
1,2-Dichloroethane	ND	ug/L	1.0
1,1,1-Trichloroethane	ND	ug/L	1.0
Carbon tetrachloride	ND	ug/L	1.0
Bromodichloromethane	ND	ug/L	1.0
1,2-Dichloropropane	ND	ug/L	1.0
trans-1,3-Dichloropropene	ND	ug/L	1.0
Trichloroethene	ND	ug/L	1.0
Dibromochloromethane	ND	ug/L	1.0
cis-1,3-Dichloropropene	ND	ug/L	1.0
1,1,2-Trichloroethane	ND	ug/L	1.0
Bromoform	ND	ug/L	5.0
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0
Tetrachloroethene	ND	ug/L	1.0
Chlorobenzene	ND	ug/L	5.0

Enseco
A CORNING Company

Laboratory Deliverables

This Form Must be Completed by the Laboratory or Environmental Consultant and accompany all data submissions.

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

Project #: 8589

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

Laboratory Manager or Environmental Consultants Signature

7/26/90
Date

5/90

Enseco East

Enseco

Summary Result Package
for Geraghty & Miller, Inc.
Enseco-East Project #008589

Enseco Incorporated
2200 Cottontail Lane
Somerset, New Jersey 08873
201/469-5800 Fax: 201/469-7516

Table of Contents

1. Sample Description Information

2. Halogenated Volatile Organic Datasheets

   a. Analysis Datasheet
   b. DCS - Duplicate Control Sample
   c. Method Blank

Enseco
A CORNING COMPANY

SAMPLE DESCRIPTION INFORMATION
for
Geraghty & Miller, Inc

Lab ID	Client ID	Matrix	Sampled Date	Sampled Time	Received Date
008589-0001-SA	WH1 6.5-7	SOIL	12 JUL 90		13 JUL 90
008589-0002-SA	WH2 5-5.5	SOIL	12 JUL 90		13 JUL 90
008589-0003-SA	WH2 6.5-7	SOIL	12 JUL 90		13 JUL 90
008589-0004-SA	WH3 5.5-6	SOIL	12 JUL 90		13 JUL 90
008589-0005-SA	WH4 6-6.5	SOIL	12 JUL 90		13 JUL 90
008589-0006-SA	WH4 7.5-8	SOIL	12 JUL 90		13 JUL 90
008589-0007-SA	WH3 7.5-8	SOIL	12 JUL 90		13 JUL 90

Enseco

Halogenated Volatile Organics

Method 8010

Client Name: Geraghty & Miller, Inc
Client ID: WH1 6.5-7
Lab ID: 008589-0001-SA Enseco ID: 3026220
Matrix: SOIL Sampled: 12 JUL 90 Received: 13 JUL 90
Authorized: 16 JUL 90 Prepared: 20 JUL 90 Analyzed: 21 JUL 90

Parameter	Result	Dry Weight Units	Reporting Limit
Chloromethane	ND	ug/kg	560
Bromomethane	ND	ug/kg	560
Vinyl chloride	ND	ug/kg	230
Chloroethane	ND	ug/kg	560
Methylene chloride	ND	ug/kg	560
1,1-Dichloroethene	ND	ug/kg	110
1,1-Dichloroethane	ND	ug/kg	110
trans-1,2-Dichloroethene	ND	ug/kg	110
Chloroform	ND	ug/kg	110
1,2-Dichloroethane	ND	ug/kg	110
1,1,1-Trichloroethane	ND	ug/kg	110
Carbon tetrachloride	ND	ug/kg	110
Bromodichloromethane	ND	ug/kg	110
1,2-Dichloropropane	ND	ug/kg	110
trans-1,3-Dichloropropene	ND	ug/kg	110
Trichloroethene	ND	ug/kg	110
Dibromochloromethane	ND	ug/kg	110
cis-1,3-Dichloropropene	ND	ug/kg	110
1,1,2-Trichloroethane	ND	ug/kg	110
Bromoform	ND	ug/kg	560
1,1,2,2-Tetrachloroethane	ND	ug/kg	110
Tetrachloroethene	ND	ug/kg	110
Chlorobenzene	ND	ug/kg	560
Bromochloromethane	97	%	--

Percent Moisture is 11%. All results and limits are reported on a dry weight basis.

ND = Not detected
NA = Not applicable

Reported By: Carol Matula Approved By: Ben Gulizia

Enseco

Halogenated Volatile Organics

Method 8010

Client Name: Geraghty & Miller, Inc
Client ID: WH2 5-5.5
Lab ID: 008589-0002-SA Enseco ID: 3026223
Matrix: SOIL Sampled: 12 JUL 90 Received: 13 JUL 90
Authorized: 16 JUL 90 Prepared: 20 JUL 90 Analyzed: 21 JUL 90

Parameter	Result	Dry Weight Units	Reporting Limit
Chloromethane	ND	ug/kg	550
Bromomethane	ND	ug/kg	550
Vinyl chloride	ND	ug/kg	220
Chloroethane	ND	ug/kg	550
Methylene chloride	ND	ug/kg	550
1,1-Dichloroethene	ND	ug/kg	110
1,1-Dichloroethane	ND	ug/kg	110
trans-1,2-Dichloroethene	ND	ug/kg	110
Chloroform	ND	ug/kg	110
1,2-Dichloroethane	ND	ug/kg	110
1,1,1-Trichloroethane	ND	ug/kg	110
Carbon tetrachloride	ND	ug/kg	110
Bromodichloromethane	ND	ug/kg	110
1,2-Dichloropropane	ND	ug/kg	110
trans-1,3-Dichloropropene	ND	ug/kg	110
Trichloroethene	ND	ug/kg	110
Dibromochloromethane	ND	ug/kg	110
cis-1,3-Dichloropropene	ND	ug/kg	110
1,1,2-Trichloroethane	ND	ug/kg	110
Bromoform	ND	ug/kg	550
1,1,2,2-Tetrachloroethane	ND	ug/kg	110
Tetrachloroethene	ND	ug/kg	110
Chlorobenzene	ND	ug/kg	550
Bromochloromethane	94	%	--

Percent Moisture is 8.7%. All results and limits are reported on a dry weight basis.

ND = Not detected
NA = Not applicable

Reported By: Carol Matula Approved By: Ben Gulizia

Enseco

Halogenated Volatile Organics

Method 8010

Client Name: Geraghty & Miller, Inc
Client ID: WH3 5.5-6
Lab ID: 008589-0004-SA Enseco ID: 3026226
Matrix: SOIL Sampled: 12 JUL 90 Received: 13 JUL 90
Authorized: 16 JUL 90 Prepared: 20 JUL 90 Analyzed: 21 JUL 90

Parameter	Result	Dry Weight Units	Reporting Limit
Chloromethane	ND	ug/kg	550
Bromomethane	ND	ug/kg	550
Vinyl chloride	ND	ug/kg	220
Chloroethane	ND	ug/kg	550
Methylene chloride	ND	ug/kg	550
1,1-Dichloroethene	ND	ug/kg	110
1,1-Dichloroethane	ND	ug/kg	110
trans-1,2-Dichloroethene	ND	ug/kg	110
Chloroform	ND	ug/kg	110
1,2-Dichloroethane	ND	ug/kg	110
1,1,1-Trichloroethane	ND	ug/kg	110
Carbon tetrachloride	ND	ug/kg	110
Bromodichloromethane	ND	ug/kg	110
1,2-Dichloropropane	ND	ug/kg	110
trans-1,3-Dichloropropene	ND	ug/kg	110
Trichloroethene	190	ug/kg	110
Dibromochloromethane	ND	ug/kg	110
cis-1,3-Dichloropropene	ND	ug/kg	110
1,1,2-Trichloroethane	ND	ug/kg	110
Bromoform	ND	ug/kg	550
1,1,2,2-Tetrachloroethane	ND	ug/kg	110
Tetrachloroethene	ND	ug/kg	110
Chlorobenzene	ND	ug/kg	550
Bromochloromethane	95	%	--

Percent Moisture is 8.8%. All results and limits are reported on a dry weight basis.

ND = Not detected
NA = Not applicable

Reported By: Carol Matula Approved By: Ben Gulizia

Enseco

Halogenated Volatile Organics

Method 8010

Client Name: Geraghty & Miller, Inc
Client ID: WH4 6-6.5
Lab ID: 008589-0005-SA Enseco ID: 3026227
Matrix: SOIL Sampled: 12 JUL 90 Received: 13 JUL 90
Authorized: 16 JUL 90 Prepared: 20 JUL 90 Analyzed: 21 JUL 90

Parameter	Result	Dry Weight Units	Reporting Limit
Chloromethane	ND	ug/kg	560
Bromomethane	ND	ug/kg	560
Vinyl chloride	ND	ug/kg	220
Chloroethane	ND	ug/kg	560
Methylene chloride	ND	ug/kg	560
1,1-Dichloroethene	ND	ug/kg	110
1,1-Dichloroethane	ND	ug/kg	110
trans-1,2-Dichloroethene	ND	ug/kg	110
Chloroform	ND	ug/kg	110
1,2-Dichloroethane	ND	ug/kg	110
1,1,1-Trichloroethane	ND	ug/kg	110
Carbon tetrachloride	ND	ug/kg	110
Bromodichloromethane	ND	ug/kg	110
1,2-Dichloropropane	ND	ug/kg	110
trans-1,3-Dichloropropene	ND	ug/kg	110
Trichloroethene	1300	ug/kg	110
Dibromochloromethane	ND	ug/kg	110
cis-1,3-Dichloropropene	ND	ug/kg	110
1,1,2-Trichloroethane	ND	ug/kg	110
Bromoform	ND	ug/kg	560
1,1,2,2-Tetrachloroethane	ND	ug/kg	110
Tetrachloroethene	ND	ug/kg	110
Chlorobenzene	ND	ug/kg	560
Bromochloromethane	93	%	--

Percent Moisture is 11%. All results and limits are reported on a dry weight basis.

ND = Not detected
NA = Not applicable

Reported By: Carol Matula Approved By: Ben Gulizia

Enseco
A CORNING COMPANY

QC LOT ASSIGNMENT REPORT
Volatile Organics by GC

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
008589-0001-SA	SOIL	8010-S	20 JUL 90-B	20 JUL 90-E
008589-0002-SA	SOIL	8010-S	20 JUL 90-B	20 JUL 90-E
008589-0004-SA	SOIL	8010-S	20 JUL 90-B	20 JUL 90-E
008589-0005-SA	SOIL	8010-S	20 JUL 90-B	20 JUL 90-E

Enseco
A CORNING COMPANY

DUPLICATE CONTROL SAMPLE REPORT
Volatile Organics by GC

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average(%) DCS	Accuracy Average(%) Limits	Precision (RPD) DCS	Precision (RPD) Limits
Category: 8010-S								
Matrix: SOIL								
QC Lot: 20 JUL 90-B								
Concentration Units: ug/kg								
1,1-Dichloroethane	500	420	431	426	85	60-140	2.6	20
Chloroform	500	463	477	470	94	60-140	3.0	20
Bromodichloromethane	1000	889	949	919	92	60-140	6.5	20
Trichloroethene	500	481	491	486	97	60-140	2.1	20
Chlorobenzene	500	491	503	497	99	60-140	2.4	20

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

Enseco
A CORNING COMPANY

SINGLE CONTROL SAMPLE REPORT
Volatile Organics by GC

Analyte	Concentration Spiked	Concentration Measured	Accuracy(%) SCS	Accuracy(%) Limits
Category: 8010-S				
Matrix: SOIL				
QC Lot: 20 JUL 90-B QC Run: 20 JUL 90-E				
Concentration Units: ug/Kg				
Bromochloromethane	3000	2880	96	70-160

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

Enseco
A CORNING COMPANY

METHOD BLANK REPORT
Volatile Organics by GC

Test: 8010-TIERII-S
Matrix: SOIL
QC Lot: 20 JUL 90-B QC Run: 20 JUL 90-E

Analyte	Result	Units	Reporting Limit
Chloromethane	ND	ug/kg	500
Bromomethane	ND	ug/kg	500
Vinyl chloride	ND	ug/kg	200
Chloroethane	ND	ug/kg	500
Methylene chloride	ND	ug/kg	500
1,1-Dichloroethene	ND	ug/kg	100
1,1-Dichloroethane	ND	ug/kg	100
trans-1,2-Dichloroethene	ND	ug/kg	100
Chloroform	ND	ug/kg	100
1,2-Dichloroethane	ND	ug/kg	100
1,1,1-Trichloroethane	ND	ug/kg	100
Carbon tetrachloride	ND	ug/kg	100
Bromodichloromethane	ND	ug/kg	100
1,2-Dichloropropane	ND	ug/kg	100
trans-1,3-Dichloropropene	ND	ug/kg	100
Trichloroethene	ND	ug/kg	100
Dibromochloromethane	ND	ug/kg	100
cis-1,3-Dichloropropene	ND	ug/kg	100
1,1,2-Trichloroethane	ND	ug/kg	100
Bromoform	ND	ug/kg	500
1,1,2,2-Tetrachloroethane	ND	ug/kg	100
Tetrachloroethene	ND	ug/kg	100
Chlorobenzene	ND	ug/kg	500

Enseco

Analytical Support Documentation
For Geraghty & Miller, Inc.
Enseco-East Project #008589

Enseco-East NJDEP Certification #18725

Sample Project Name & Location	Date of Collection	Client Sample No.	East Sample No.
Lenox Project	071290	WH1 6.5-7	008589-0001-SA
Lenox Project	071290	WH1 5-5.7	008589-0002-SA
Lenox Project	071290	WH1 6.5-7	008589-0003-SA
Lenox Project	071290	WH1 5.5-6	008589-0004-SA
Lenox Project	071290	WH1 6-6.5	008589-0005-SA
Lenox Project	071290	WH1 7.5-8	008589-0006-SA
Lenox Project	071290	WH1 7.5-8	008589-0007-SA

Enseco Incorporated
2200 Cottontail Lane
Somerset, New Jersey 08873
201/469-5800 Fax: 201/469-7516

Enseco
A CORNING Company

JUL 26, 1990

Ms. Cathy Gilroy
Geraghty & Miller, Inc.
Environmental Services
290 Vincent Avenue
Hackensack, NJ 07601

Dear Ms. Gilroy:

Enclosed are the results of the analyses performed on the four soil samples from Lenox Project (Enseco-East Project No. 8589). These samples were received under chain of custody at Enseco-East Laboratory on July 13, 1990. A brief description of the Quality Assurance/Quality Control and method references employed by Enseco is contained within the report. 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-East Laboratory Identification Number to help expedite any future discussions. We will be happy to answer any questions or concerns that you may have.

Sincerely,

ENSECO-EAST LABORATORY

Donald J. McDowell
Program Administrator

Ben Gulizia
Organic Laboratory Director

Enc.
tj

Enseco Incorporated
2200 Cottontail Lane
Somerset, New Jersey 08875
201/469-5800 Fax: 201/469-7516

QUALITY ASSURANCE/QUALITY CONTROL

To ensure data quality, an extensive QA/QC program has been implemented at Enseco-East which incorporates the following controls (as applicable).

Reagent or analytical blanks are analyzed to assess the level of contamination which exists in the analytical system. An analytical blank, analyzed with every batch of samples, consists of reagents specific to the method. This blank is carried through every aspect of the procedure, including preparation, cleanup, and analysis. Ideally, the concentration of an analyte in the blank is below the reporting limit for that analyte. However, some common laboratory solvents and metals are difficult to eliminate to the part-per-billion levels commonly reported in environmental analyses.

Duplicate Control Samples (DCS) are used to monitor the laboratory's day-to-day performance of routine analytical methods. A DCS consists of a standard, control matrix which is spiked with a group of target compounds representative of the method analytes. The DCS is analyzed with environmental samples to provide evidence that the laboratory is performing the method within accepted QC guidelines.

A DCS has been established for most routine analytical methods. Reagent water is used as the control matrix for the analysis of aqueous samples. The DCS compounds are spiked into reagent water and carried through the appropriate steps of the analysis. As stated in SW-846 (third edition), a universal blank matrix does not exist for solid samples and therefore no matrix is used. The DCS for solid samples consists of the DCS compounds spiked into a reagent blank and carried through the appropriate steps of the analysis. The data thus obtained are used to set the DCS control limits. The control limits for accuracy are based on the historical average recovery of the DCS plus or minus three standard deviation units. The control limits for precision are based on the historical relative percent difference (RPD) and range from zero (no difference between duplicate samples) to the average RPD plus three standard deviation units.

Surrogates are organic compounds that are similar to the analytes of interest in chemical behavior but which are not normally found in environmental samples. Surrogates are routinely added to samples requiring GC/MS analysis to monitor the effect of the matrix on the accuracy of the analysis. Results are reported in terms of percent recovery.

ANALYTICAL RESULTS

The method number provided on each data report sheet refers to a publication originating from a regulatory or standard-setting organization. In general, the methods employed are those specified by the U.S. Environmental Protection Agency and other state and federal agencies. In cases where an approved regulatory method does not exist, a method developed by Enseco will be employed to meet the specific needs of the client. The methods commonly employed by Enseco are based on methods from the following references.

U.S. Environmental Protection Agency. Methods for Chemical Analysis of Water and Wastes. EPA-600/4-79-020. Cincinnati, OH, March 1983.

U.S. Environmental Protection Agency. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods. (SW-846); Washington, D.C. April 1984.

U.S. Environmental Protection Agency. Methods for the Determination of Organic Compounds in Finished Drinking Water and Raw Source Water. Cincinnati, OH, September 1986.

"Guidelines Establishing Test Procedures for the analysis of Pollutants Under the Clean Water Act," 40 CFR, Part 136; Federal Register, Vol. 49, No. 209 (1984).

American Public Health Association, American Water Works Association, Water Pollution Control Federation. Standard Methods for the Examination of Water and Wastewater, 16th edition. Washington, D.C., April 1985.

Current EPA Contract Laboratory Program (CLP) protocols for the analysis of organic and inorganic hazardous substances including chlorinated dioxins and furans.

Table of Contents

Enseco
A CORNING Company

TABLE OF CONTENTS

Client: Geraghty & Miller, Inc.
Contractor: Enseco - East Laboratory
Project Name: Lenox Project

Section I: Introduction

Page

1. Sample Description Information.....001
2. Chain of Custody.....002
3. Lab Chronicles.....003
4. Method Summaries.....004
5. Case Narrative.....006

Section II: Halogenated Volatile Organic Compounds

Sample 008589-0001-SA.....007
Sample 008589-0002-SA.....009
Sample 008589-0004-SA.....012
Sample 008589-0005-SA.....015

(DCS) Duplicate Control Sample.....019
Method Blanks Summary.....024
Calibration Date and Time Summary.....027
Surrogate Recovery Summary.....028

One

Enseco
A CORNING COMPANY

SAMPLE DESCRIPTION INFORMATION
for
Geraghty & Miller, Inc

Lab ID	Client ID	Matrix	Sampled Date	Sampled Time	Received Date
008589-0001-SA	WH1 6.5-7	SOIL	12 JUL 90		13 JUL 90
008589-0002-SA	WH2 5-5.5	SOIL	12 JUL 90		13 JUL 90
008589-0003-SA	WH2 6.5-7	SOIL	12 JUL 90		13 JUL 90
008589-0004-SA	WH3 5.5-6	SOIL	12 JUL 90		13 JUL 90
008589-0005-SA	WH4 6-6.5	SOIL	12 JUL 90		13 JUL 90
008589-0006-SA	WH4 7.5-8	SOIL	12 JUL 90		13 JUL 90
008589-0007-SA	WH3 7.5-8	SOIL	12 JUL 90		13 JUL 90

GERAGHTY & MILLER, INC.
Ground-Water Consultants

CHAIN-OF-CUSTODY RECORD

Project Number Lenox
Project Location Pomona
Laboratory Enseco East
Sampler(s) C. Gilroy

SAMPLE BOTTLE / CONTAINER DESCRIPTION

	SAMPLE IDENTITY	Date Sampled	1 glass VOC soils bottle										TOTAL
1	WH1 6.5-7	7/12/90	1										1
	WH2 5-5.5		1										1
*3	WH2 6.5-7		1										1
4	WH3 5.5-6		1										1
	~~WH3 7.5~~												
5	WH4 6-6.5		1										1
*6	WH4 7.5-8		1										1
*7	WH3 7.5-8		1										1
													Total No. of Bottles/ Containers 7

Relinquished by: [signature]	Organization: Geraghty + Miller	Date 7/12/90 Time 4:20	Seal Intact? Yes No N/A
Received by:	Organization:	Date / / Time	
Relinquished by: [signature]	Organization:	Date / / Time	Seal Intact? Yes No N/A
Received by: [signature]	Organization: ENSECO EAST	Date 7/13/90 Time 9:45	

Special Instructions/Remarks: 8589
Rec'd in good condition
*- Samples on hold, per client request
SAMPLE ANALYSIS BY METHOD 8010, AS PER CLIENT.
no seals present

Delivery Method: ☐ In Person ☐ Common Carrier _____ SPECIFY ☐ Lab Courier ☐ Other _____ SPECIFY

G&M Form 09 1-87 Southprint 87-1716

000002

LABORATORY CHRONICLE

Client: Gregory + Mullen Project #: 8549

Sampling Date & Time: 7/12/90

Date Received in the Laboratory: 7/13/90

Number of Samples: 2

Matrix: Soil Preserved: ___ Yes ___ No N/A

Analytical Parameter	Sample ID	Extraction/ Preparation Date	Time	Initials	Analysis Date	Time	Initials
8010	1	7/20/90	1pm	—	7/21/90	0011	—
	2			—		0132	—
	4			—		0253	—
	5			—		0410	—

Comments:

Section Manager's Review and Approval [signature] Date: 7/23/90

EE0389

METHOD SUMMARIES

The method number provided on each data report sheet refers to a publication originating from a regulatory or standard-setting organization. In general, the methods employed are those specified by the U.S. Environmental Protection Agency and other state and federal agencies. In cases where an approved regulatory method does not exist, a method developed by Enseco will be employed to meet the specific needs of the client. The methods commonly employed by Enseco are based on methods from the following references.

U.S. Environmental Protection Agency. Methods for Chemical Analysis of Water and Wastes. EPA-600/4-79-020. Cincinnati, OH, March 1983.

U.S. Environmental Protection Agency. Test Methods for Evaluating Solid Waste, Physical/Chemical Methods. (SW-846); Washington, D.C. April 1984.

U.S. Environmental Protection Agency Methods for the Determination of Organic Compounds in Finished Drinking Water and Raw Source Water. Cincinnati, OH, September 1986.

Guidelines Establishing Test Procedures for the analysis of Pollutants Under the Clean Water Act, 40 CFR, Part 136; Federal Register, (1984).

American Public Health Association, American Water Works Association, Water Pollution Control Federation. Standard Methods for the Examination of Water and Wastewater, 16th edition. Washington, D.C., April 1985.

Current EPA Contract Laboratory Program (CLP) protocols for the analysis of organic and inorganic hazardous substances.

SUMMARY OF METHOD

Volatile Organic Compounds

Analyses are conducted using purge and trap gas chromatographic/mass spectrometry (GC/MS) and gas chromatographic (GC) procedures in accordance with EPA Methods 624/8240, 601/8010, 602/8020, and 500 series. For low level sediment/soil samples, the purge device is heated.

Case Narrative for Enseco-East Project No. 008589

Project No. 008589 met all performance standards.

Two

Enseco
A CORNING Company

Halogenated Volatile Organics

Method 8010

Client Name: Geraghty & Miller, Inc
Client ID: WH1 6.5-7
Lab ID: 008589-0001-SA Enseco ID: 3026220
Matrix: SOIL Sampled: 12 JUL 90 Received: 13 JUL 90
Authorized: 16 JUL 90 Prepared: 20 JUL 90 Analyzed: 21 JUL 90

Parameter	Result	Dry Weight Units	Reporting Limit
Chloromethane	ND	ug/kg	560
Bromomethane	ND	ug/kg	560
Vinyl chloride	ND	ug/kg	230
Chloroethane	ND	ug/kg	560
Methylene chloride	ND	ug/kg	560
1,1-Dichloroethene	ND	ug/kg	110
1,1-Dichloroethane	ND	ug/kg	110
trans-1,2-Dichloroethene	ND	ug/kg	110
Chloroform	ND	ug/kg	110
1,2-Dichloroethane	ND	ug/kg	110
1,1,1-Trichloroethane	ND	ug/kg	110
Carbon tetrachloride	ND	ug/kg	110
Bromodichloromethane	ND	ug/kg	110
1,2-Dichloropropane	ND	ug/kg	110
trans-1,3-Dichloropropene	ND	ug/kg	110
Trichloroethene	ND	ug/kg	110
Dibromochloromethane	ND	ug/kg	110
cis-1,3-Dichloropropene	ND	ug/kg	110
1,1,2-Trichloroethane	ND	ug/kg	110
Bromoform	ND	ug/kg	560
1,1,2,2-Tetrachloroethane	ND	ug/kg	110
Tetrachloroethene	ND	ug/kg	110
Chlorobenzene	ND	ug/kg	560
Bromochloromethane	97	%	--

Percent Moisture is 11%. All results and limits are reported on a dry weight basis.

ND = Not detected
NA = Not applicable

Reported By: Carol Matula Approved By: Ben Gulizia

Injection Report

Acquired on 21-JUL-1990 at 00:11

EAST CDS using VG Multichrom "SOMCR2"

Analyst Name : RBOZENBURY
Lims Id :
Comment : PURGEABLE HALOCARBONS; HP5890-8;RESTEK 502.2
Method Title : HYDROGEN TEST METHOD 1
Sample Name : 8509-1 5GM/10ML;100UL/5ML
Sample Id :
Sample Type : Sample Amount=1.000000
Bottle No : 7

PEAK INFORMATION

Peak	RT mins	Hght uV	Area uVs	ug/L	Peak name	Width
1	20.524	124943	993602	2917.712	Bromochloromethane / Surogate	7.5
2	25.236	4180	55762	79.683	Trichloroethene	9.1
3	35.027	57013	400850		1-Chloro-4-fluorobenzene	6.9
4	36.502	1939	14305	0.000		6.9
6	45.236	361	2315	9.923	1,4 Dichlorobenzene	6.4

Totals			
Unknowns	242	1538	N/A
Quantified	188487	1466334	3007.318
Grand Total	188728	1467922	3007.318

ANALYSIS SUMMARY

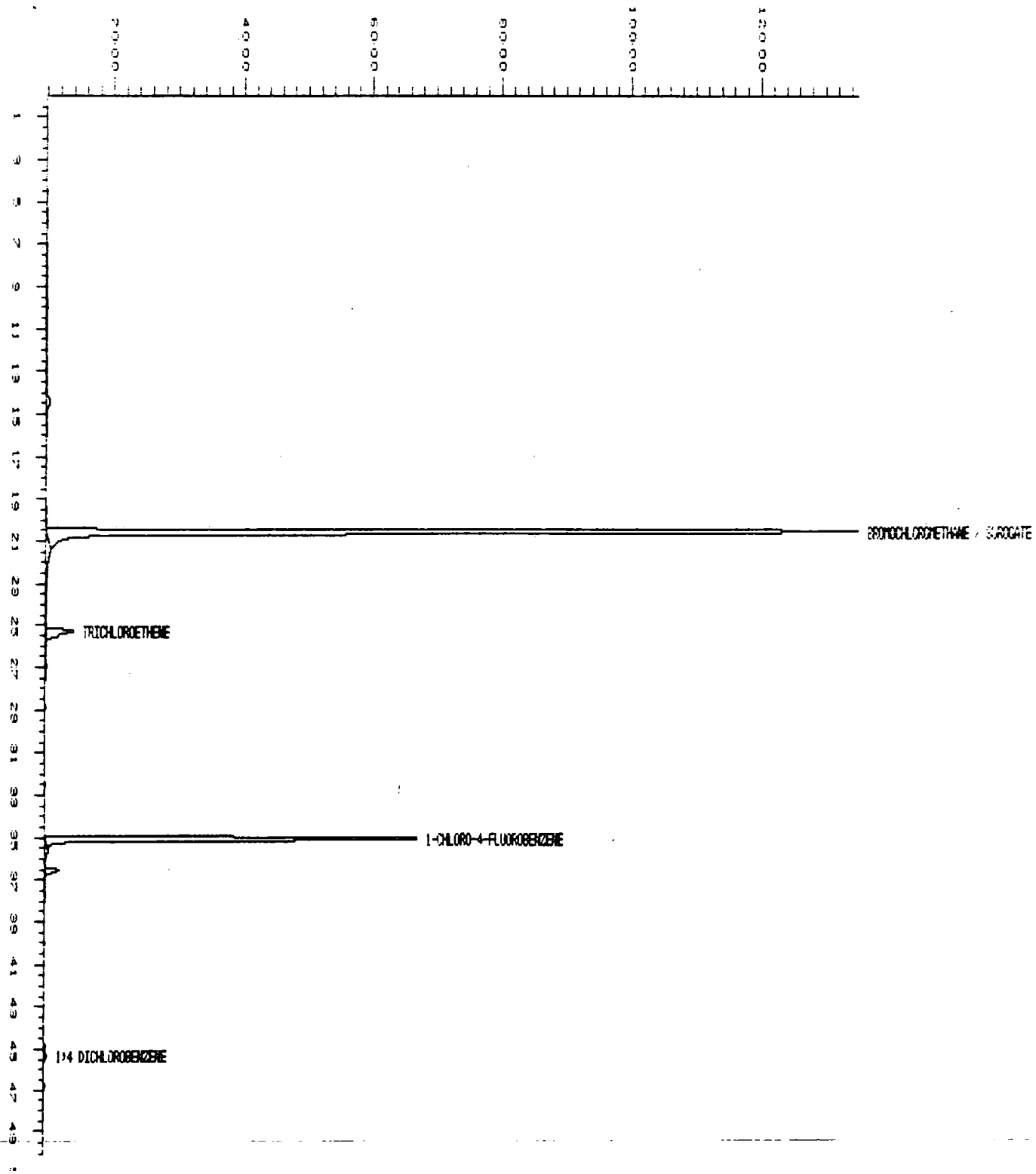
Method..... M17890
Run sequence..... R072090C
Calibration..... C071790A
Internal standard calibration using height
Calibration last modified on 18-JUL-1990 at 14:01

Uncalibrated peaks use user factor (0.0000)

EAST CDS using VG Multichrom "SOMCR2"

[VOA_2_JUL] 5 B__20JUL901300,0,1

5589-1 50M/10ML;100UL/5ML. Amount : 1.000.
PURGEABLE HALOCARBONS; HP5890; RESTEK 502.2; ELCD
Acquired on 21-JUL-1990 at 00:11
Reported on 21-JUL-1990 at 01:12
Box 1 (of 1)



Enseco
A CORNING Company

Halogenated Volatile Organics

Method 8010

Client Name: Geraghty & Miller, Inc
Client ID: WH2 5-5.5
Lab ID: 008589-0002-SA Enseco ID: 3026223
Matrix: SOIL Sampled: 12 JUL 90 Received: 13 JUL 90
Authorized: 16 JUL 90 Prepared: 20 JUL 90 Analyzed: 21 JUL 90

Parameter	Result	Dry Weight Units	Reporting Limit
Chloromethane	ND	ug/kg	550
Bromomethane	ND	ug/kg	550
Vinyl chloride	ND	ug/kg	220
Chloroethane	ND	ug/kg	550
Methylene chloride	ND	ug/kg	550
1,1-Dichloroethene	ND	ug/kg	110
1,1-Dichloroethane	ND	ug/kg	110
trans-1,2-Dichloroethene	ND	ug/kg	110
Chloroform	ND	ug/kg	110
1,2-Dichloroethane	ND	ug/kg	110
1,1,1-Trichloroethane	ND	ug/kg	110
Carbon tetrachloride	ND	ug/kg	110
Bromodichloromethane	ND	ug/kg	110
1,2-Dichloropropane	ND	ug/kg	110
trans-1,3-Dichloropropene	ND	ug/kg	110
Trichloroethene	ND	ug/kg	110
Dibromochloromethane	ND	ug/kg	110
cis-1,3-Dichloropropene	ND	ug/kg	110
1,1,2-Trichloroethane	ND	ug/kg	110
Bromoform	ND	ug/kg	550
1,1,2,2-Tetrachloroethane	ND	ug/kg	110
Tetrachloroethene	ND	ug/kg	110
Chlorobenzene	ND	ug/kg	550
Bromochloromethane	94	%	--

Percent Moisture is 8.7%. All results and limits are reported on a dry weight basis.

ND = Not detected
NA = Not applicable

Reported By: Carol Matula Approved By: Ben Gulizia

Injection Report

Acquired on 21-JUL-1990 at 01:32

EAST CDS using VG Multichrom "SOMCR2"

Analyst Name : RBOZENBURY
Lims Id :
Comment : PURGEABLE HALOCARBONS; HP5890-3;RESTEK 502.2
Method Title : HYDROGEN TEST METHOD 1
Sample Name : 8589-2 5GM/10ML;100UL/5ML
Sample Id :
Sample Type : Sample Amount=1.000000
Bottle No : 8

PEAK INFORMATION

Peak	RT mins	Hgnt uV	Area uVs	ug/L	Peak name	Width
1	20.520	121667	976879	2934.964	Bromochloromethane / Surogate	7.2
2	25.227	2107	16673	40.081	Trichloroethene	7.5A
3	25.422	1648	19637	0.000		11.2A
4	35.009	57138	401548		1-Chloro-4-fluorobenzene	6.9
5	36.489	1961	14278	0.000		6.9

Totals			
Unknowns	0	0	N/A
Quantified	184521	1429020	2875.046
Grand Total	184521	1429020	2875.046

ANALYSIS SUMMARY

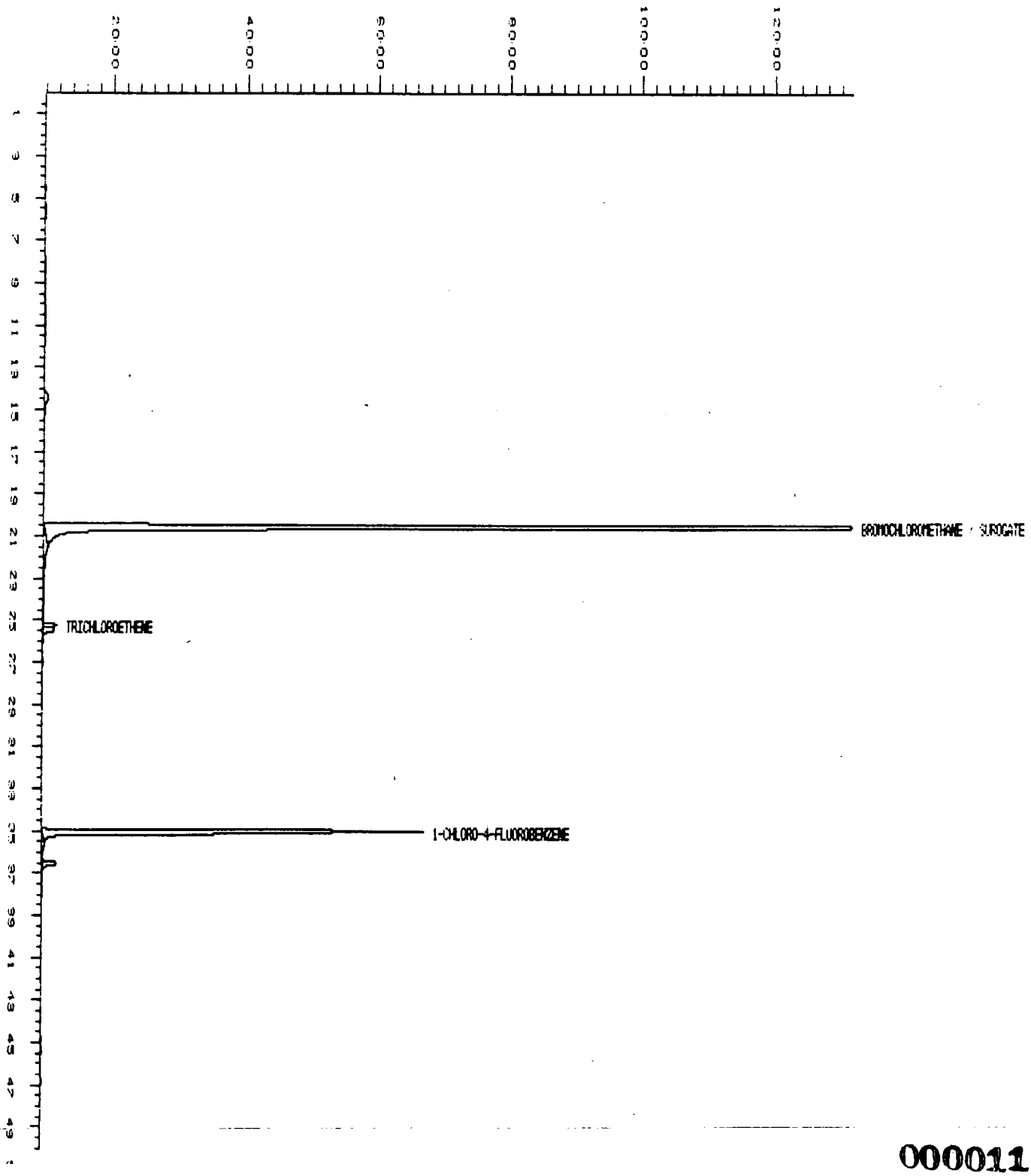
Method..... M17890
Run sequence..... R072090C
Calibration..... C071790A
Internal standard calibration using height
Calibration last modified on 18-JUL-1990 at 14:01

Uncalibrated peaks use user factor (0.0000)

EAST CDS using VG Multichrom "SOMCR2"

[VOA_2_JUL] 5 B___20JUL901300,9,1

3589-2 5GM/10ML;100UL/5ML. Amount : 1.000.
PURGEABLE HALOCARBONS; HP5890; RESTEK 502.2; ELCD
Acquired on 21-JUL-1990 at 01:32
Reported on 21-JUL-1990 at 02:34
Box 1 (of 1)



Enseco
A CORNING Company

Halogenated Volatile Organics

Method 8010

Client Name: Geraghty & Miller, Inc
Client ID: WH3 5.5-6
Lab ID: 008589-0004-SA Enseco ID: 3026226
Matrix: SOIL Sampled: 12 JUL 90 Received: 13 JUL 90
Authorized: 16 JUL 90 Prepared: 20 JUL 90 Analyzed: 21 JUL 90

Parameter	Result	Dry Weight Units	Reporting Limit
Chloromethane	ND	ug/kg	550
Bromomethane	ND	ug/kg	550
Vinyl chloride	ND	ug/kg	220
Chloroethane	ND	ug/kg	550
Methylene chloride	ND	ug/kg	550
1,1-Dichloroethene	ND	ug/kg	110
1,1-Dichloroethane	ND	ug/kg	110
trans-1,2-Dichloroethene	ND	ug/kg	110
Chloroform	ND	ug/kg	110
1,2-Dichloroethane	ND	ug/kg	110
1,1,1-Trichloroethane	ND	ug/kg	110
Carbon tetrachloride	ND	ug/kg	110
Bromodichloromethane	ND	ug/kg	110
1,2-Dichloropropane	ND	ug/kg	110
trans-1,3-Dichloropropene	ND	ug/kg	110
Trichloroethene	190	ug/kg	110
Dibromochloromethane	ND	ug/kg	110
cis-1,3-Dichloropropene	ND	ug/kg	110
1,1,2-Trichloroethane	ND	ug/kg	110
Bromoform	ND	ug/kg	550
1,1,2,2-Tetrachloroethane	ND	ug/kg	110
Tetrachloroethene	ND	ug/kg	110
Chlorobenzene	ND	ug/kg	550
Bromochloromethane	95	%	--

Percent Moisture is 8.8%. All results and limits are reported on a dry weight basis.

ND = Not detected
NA = Not applicable

Reported By: Carol Matula Approved By: Ben Gulizia

Injection Report

Acquired on 21-JUL-1990 at 02:53

EAST CDS using VG Multichrom "SOMCR2"

Analyst Name : RBOZENBURY
Lims Id :
Comment : PURGEABLE HALOCARBONS; HP5890-3;RESTEK 502.2
Method Title : HYDROGEN TEST METHOD 1
Sample Name : 9589-4 5GM/10ML;100UL/5ML
Sample Id :
Sample Type : Sample Amount=1.00000
Bottle No : 9

PEAK INFORMATION

Peak	RT mins	Hght uV	Area uVs	ug/L	Peak name	Width
1	20.516	121626	969850	2848.138	Bromochloromethane / Surogate	7.2
2	25.218	9075	97930	173.491	Trichloroethene	8.0
3	35.009	56855	399337		1-Chloro-4-fluorobenzene	6.7
4	36.480	1991	14396	0.000		6.9

Totals			
Unknowns	0	0	N/A
Quantified	189547	1481512	3021.629
Grand Total	189547	1481512	3021.629

ANALYSIS SUMMARY

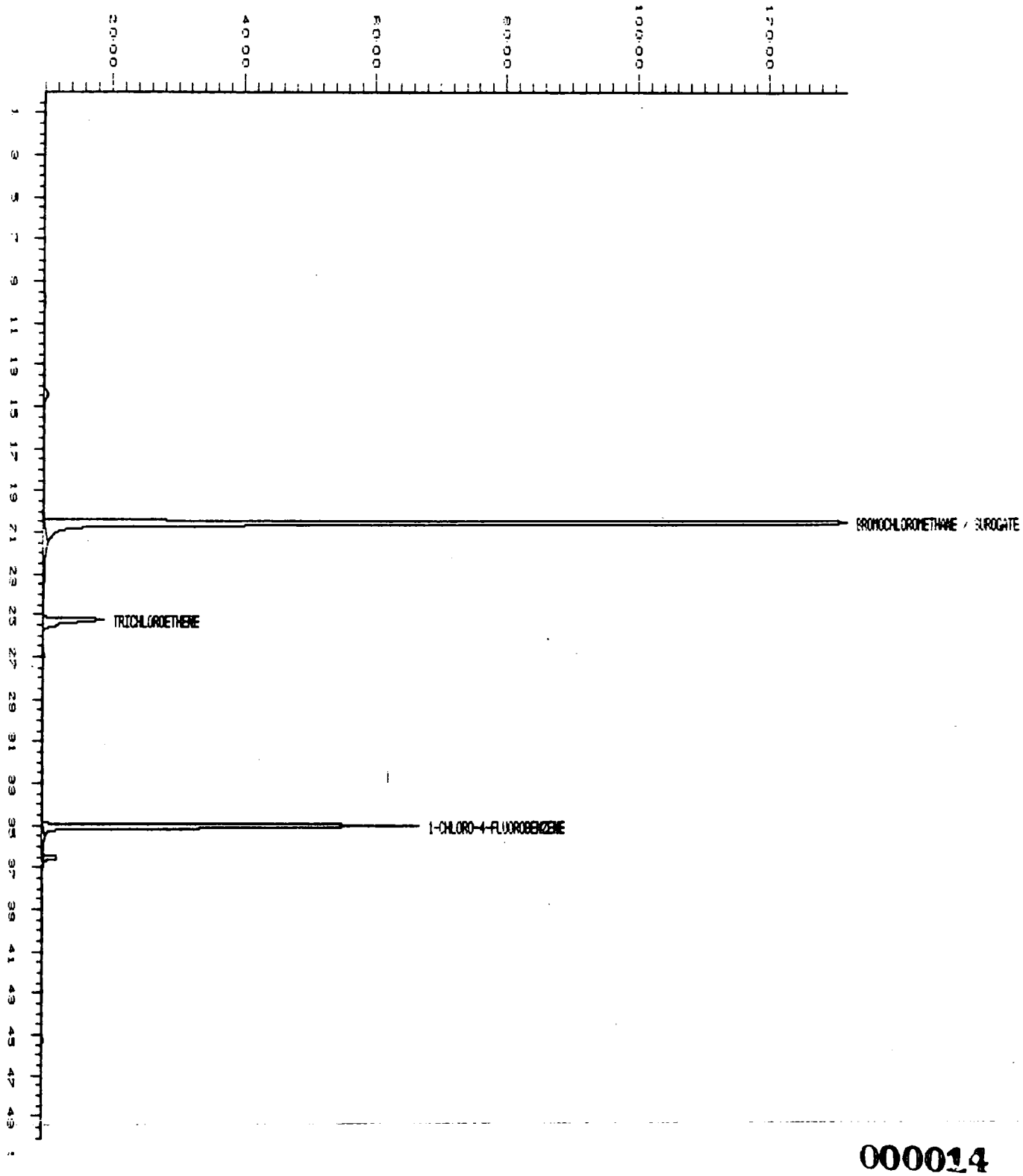
Method..... M17890
Run sequence..... R0720990C
Calibration..... C071790A
Internal standard calibration using height
Calibration last modified on 18-JUL-1990 at 14:01

Uncalibrated peaks use user factor (0.0000)

EAST CDS using VG Multichrom "SOMCR2"

[VOA_2_JUL] 5 B___20JUL90100,10,1

5589-4 5GM/10ML;100UL/5ML. Amount : 1.000.
PURGEABLE HALOCARBONS; HP5890; RESTEK 502.2; ELCD
Acquired on 21-JUL-1990 at 02:53
Reported on 21-JUL-1990 at 03:55
Box 1 (of 1)



Enseco
A CORNING Company

Halogenated Volatile Organics

Method 8010

Client Name: Geraghty & Miller, Inc
Client ID: WH4 6-6.5
Lab ID: 008589-0005-SA Enseco ID: 3026227
Matrix: SOIL Sampled: 12 JUL 90 Received: 13 JUL 90
Authorized: 16 JUL 90 Prepared: 20 JUL 90 Analyzed: 21 JUL 90

Parameter	Result	Dry Weight Units	Reporting Limit
Chloromethane	ND	ug/kg	560
Bromomethane	ND	ug/kg	560
Vinyl chloride	ND	ug/kg	220
Chloroethane	ND	ug/kg	560
Methylene chloride	ND	ug/kg	560
1,1-Dichloroethene	ND	ug/kg	110
1,1-Dichloroethane	ND	ug/kg	110
trans-1,2-Dichloroethene	ND	ug/kg	110
Chloroform	ND	ug/kg	110
1,2-Dichloroethane	ND	ug/kg	110
1,1,1-Trichloroethane	ND	ug/kg	110
Carbon tetrachloride	ND	ug/kg	110
Bromodichloromethane	ND	ug/kg	110
1,2-Dichloropropane	ND	ug/kg	110
trans-1,3-Dichloropropene	ND	ug/kg	110
Trichloroethene	1300	ug/kg	110
Dibromochloromethane	ND	ug/kg	110
cis-1,3-Dichloropropene	ND	ug/kg	110
1,1,2-Trichloroethane	ND	ug/kg	110
Bromoform	ND	ug/kg	560
1,1,2,2-Tetrachloroethane	ND	ug/kg	110
Tetrachloroethene	ND	ug/kg	110
Chlorobenzene	ND	ug/kg	560
Bromochloromethane	93	%	--

Percent Moisture is 11%. All results and limits are reported on a dry weight basis.

ND = Not detected
NA = Not applicable

Reported By: Carol Matula Approved By: Ben Gulizia

Injection Report

Acquired on 21-JUL-1990 at 04:14

EAST CDS using VG Multichrom "SOMCR2"

Analyst Name : RBOZENBURY
Lims Id :
Comment : PURGEABLE HALOCARBONS; HP5890-3;RESTEK 502.2
Method Title : HYDROGEN TEST METHOD 1
Sample Name : 8583-5 5GM/10ML;100UL/5ML
Sample Id :
Sample Type : Sample Amount=1.00000
Bottle No : 10

PEAK INFORMATION

Peak	RT mins	Hght uV	Area uVs	ug/L	Peak name	Width
1	20.524	119405	947429	2799.505	Bromochloromethane / Surogate	7.2
2	25.227	58560	510446	1120.876	Trichloroethene	7.7
3	35.022	56786	400095		1-Chloro-4-fluorobenzene	6.7
4	36.502	2042	14725	0.000		6.9

Totals			
Unknowns	0	0	N/A
Quantified	236793	1872695	3920.381
Grand Total	236793	1872695	3920.381

ANALYSIS SUMMARY

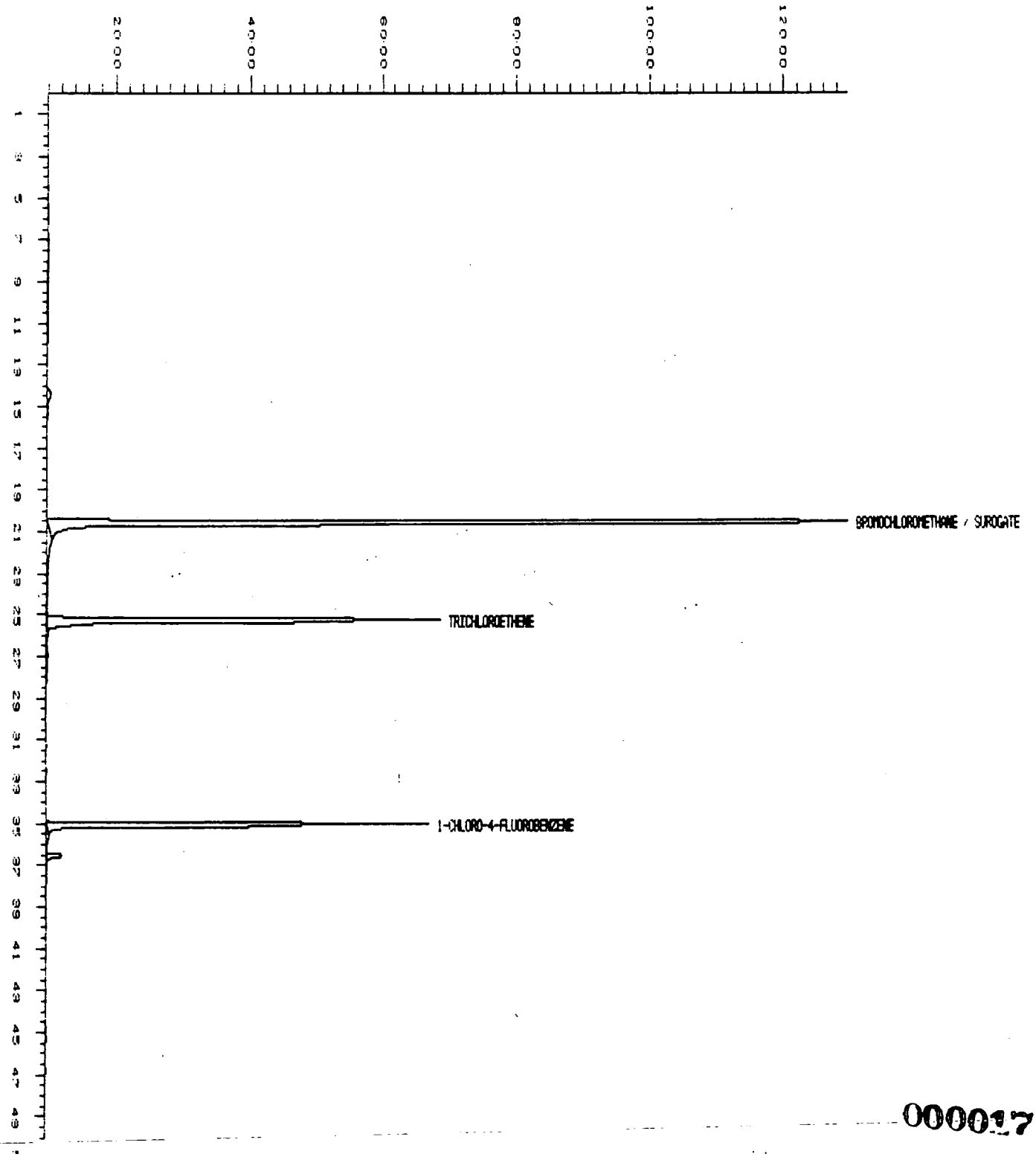
Method..... M17890
Run sequence..... R072090C
Calibration..... C071790A
Internal standard calibration using height
Calibration last modified on 18-JUL-1990 at 14:01

Uncalibrated peaks use user factor (0.0000)

EAST CDS using VG Multichrom "SOMCR2"

[VOA_2_JUL] 5 B___20JUL901300,11,1

8589-5 5GM/10ML;100UL/5ML. Amount : 1.000.
PURGEABLE HALOCARBONS; HP5890; RESTEK 502.2; ELCD
Acquired on 21-JUL-1990 at 04:14
Reported on 21-JUL-1990 at 05:16
Box 1 (of 1)



000017

Enseco
A CORNING Company

QC LOT ASSIGNMENT REPORT
Volatile Organics by GC

Laboratory Sample Number	QC Matrix	QC Category	QC Lot Number (DCS)	QC Run Number (SCS/BLANK)
008589-0001-SA	SOIL	8010-S	20 JUL 90-B	20 JUL 90-E
008589-0002-SA	SOIL	8010-S	20 JUL 90-B	20 JUL 90-E
008589-0004-SA	SOIL	8010-S	20 JUL 90-B	20 JUL 90-E
008589-0005-SA	SOIL	8010-S	20 JUL 90-B	20 JUL 90-E

Enseco
A CORNING Company

DUPLICATE CONTROL SAMPLE REPORT
Volatile Organics by GC

Analyte	Concentration Spiked	Measured DCS1	Measured DCS2	Measured AVG	Accuracy Average(%) DCS	Accuracy Average(%) Limits	Precision (RPD) DCS	Precision (RPD) Limits
Category: 8010-S								
Matrix: SOIL								
QC Lot: 20 JUL 90-B								
Concentration Units: ug/kg								
1,1-Dichloroethane	500	420	431	426	85	60-140	2.6	20
Chloroform	500	463	477	470	94	60-140	3.0	20
Bromodichloromethane	1000	889	949	919	92	60-140	6.5	20
Trichloroethene	500	481	491	486	97	60-140	2.1	20
Chlorobenzene	500	491	503	497	99	60-140	2.4	20

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

Injection Report

Acquired on 20-JUL-1990 at 21:27

EAST CDS using VG Multichrom "SOMCR2"

Analyst Name : RBOZENBURY
Lims Id :
Comment : PURGEABLE HALOCARBONS; HP5890-3;RESTEK 502.2
Method Title : HYDROGEN TEST METHOD 1
Sample Name : 3010/20 DCS1 20JUL90B
Sample Id :
Sample Type : Sample Amount=1.000000
Bottle No : 5

PEAK INFORMATION

Peak	RT mins	Hght uV	Area uVs	ug/L	Peak name	Width
1	17.089	17847	184540	420.187	1,1 Dichloroethane	9.6
2	19.978	27478	248883	463.424	Chloroform	8.3
3	20.542	126631	1015631	2836.324	Bromochloromethane / Surogate	7.2
4	25.244	26321	244894	481.296	Trichloroethene	7.7
5	26.729	37777	319664	888.949	Bromodichloromethane	7.5
6	35.040	59441	421291		1-Chloro-4-fluorobenzene	6.9
7	35.600	11001	84284	491.057	Chlorobenzene	7.2
8	36.516	2063	14927	0.000		6.7
9	44.796	16333	113260	475.717	1,3 Dichlorobenzene	6.4
10	45.231	18571	126671	489.083	1,4 Dichlorobenzene	6.4
11	46.742	17050	120892	485.054	1,2 Dichlorobenzene	6.4

Totals			
Unknowns	0	0	N/A
Quantified	360514	2894937	7031.092
Grand Total	360514	2894937	7031.092

ANALYSIS SUMMARY

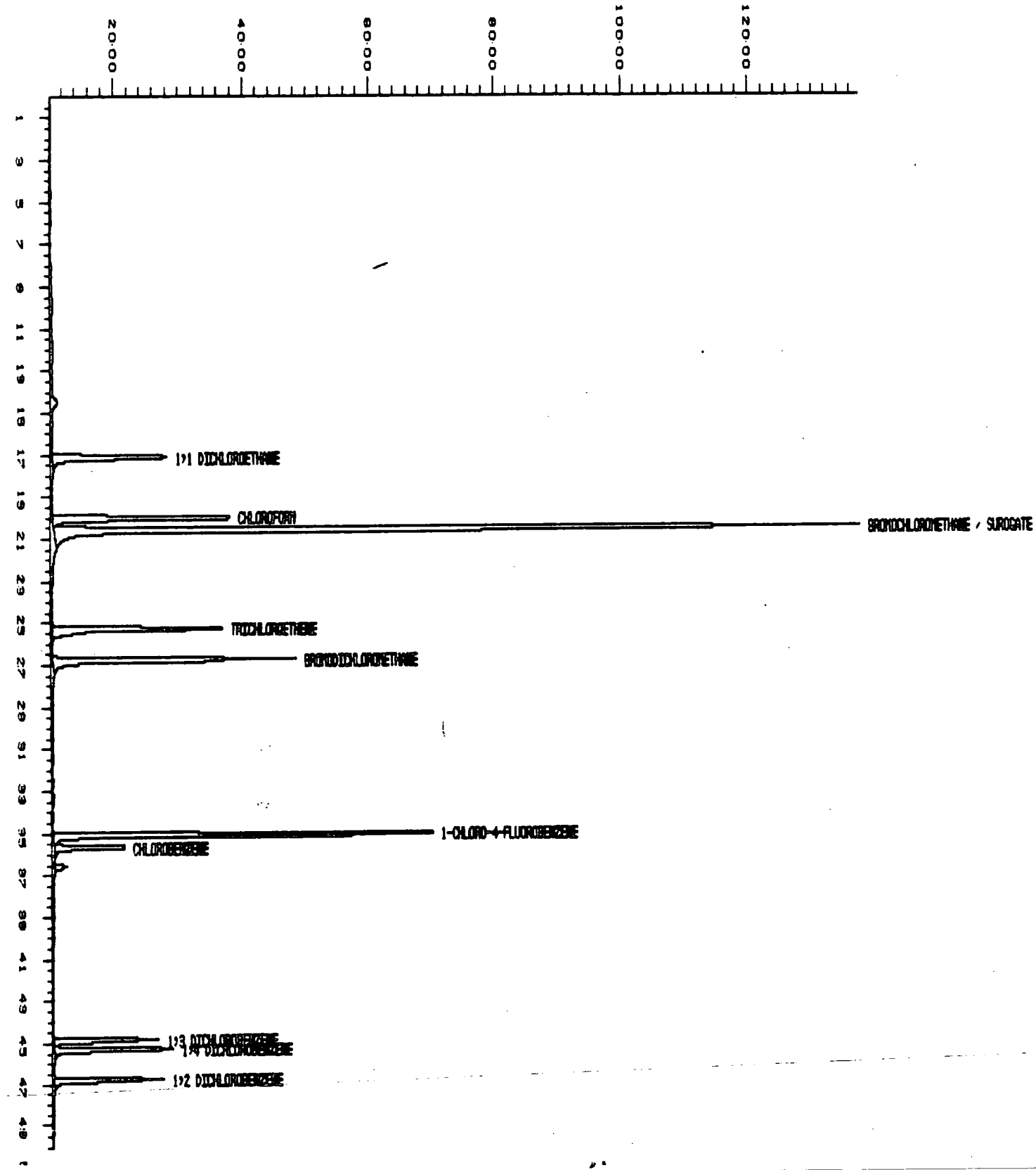
Method..... M17890
Run sequence..... R072090C
Calibration..... C071790A
Internal standard calibration using height
Calibration last modified on 18-JUL-1990 at 14:01

Uncalibrated peaks use user factor (0.0000)

EAST CDS using VG Multichrom "SOMCR2"

[VOA_2_JUL] 5 B___20JUL901300,6,1

8010/20 DCS1 20JUL90B. Amount : 1.000.
PURGEABLE HALOCARBONS; HP5890; RESTEK 502.2; ELCD
Acquired on 20-JUL-1990 at 21:27
Reported on 20-JUL-1990 at 22:28
Box 1 (of 1)



Injection Report

Acquired on 20-JUL-1990 at 22:49

EAST CDS using VG Multichrom "SOMCR2"

Analyst Name : RBOZENBURY
Lims Id :
Comment : PURGEABLE HALOCARBONS; HP5890-3;RESTEK 502.2
Method Title : HYDROGEN TEST METHOD 1
Sample Name : 3010/20 DCS2 20JUL90B
Sample Id :
Sample Type : Sample Amount=1.000000
Bottle No : 6

PEAK INFORMATION

Peak	RT mins	Hght uV	Area uVs	ug/L	Peak name	Width
1	17.076	17957	184210	430.692	1,1 Dichloroethane	9.6
2	19.978	27741	250456	476.630	Chloroform	8.5
3	20.542	127132	1026423	2900.954	Bromochloromethane / Surogate	7.5
4	25.244	26368	243692	491.204	Trichloroethene	7.7
5	26.724	39605	334621	949.443	Bromodichloromethane	7.5
6	35.036	58347	412896		1-Chloro-4-fluorobenzene	6.9
7	35.600	11070	84261	503.369	Chlorobenzene	6.9
8	36.516	2041	14717	0.000		6.9
9	44.800	16591	114870	492.209	1,3 Dichlorobenzene	6.4
10	45.240	18778	127632	503.812	1,4 Dichlorobenzene	6.4
11	46.747	17152	120514	497.112	1,2 Dichlorobenzene	6.7

Totals			
Unknowns	0	0	N/A
Quantified	362780	2914293	7245.506
Grand Total	362780	2914293	7245.506

ANALYSIS SUMMARY

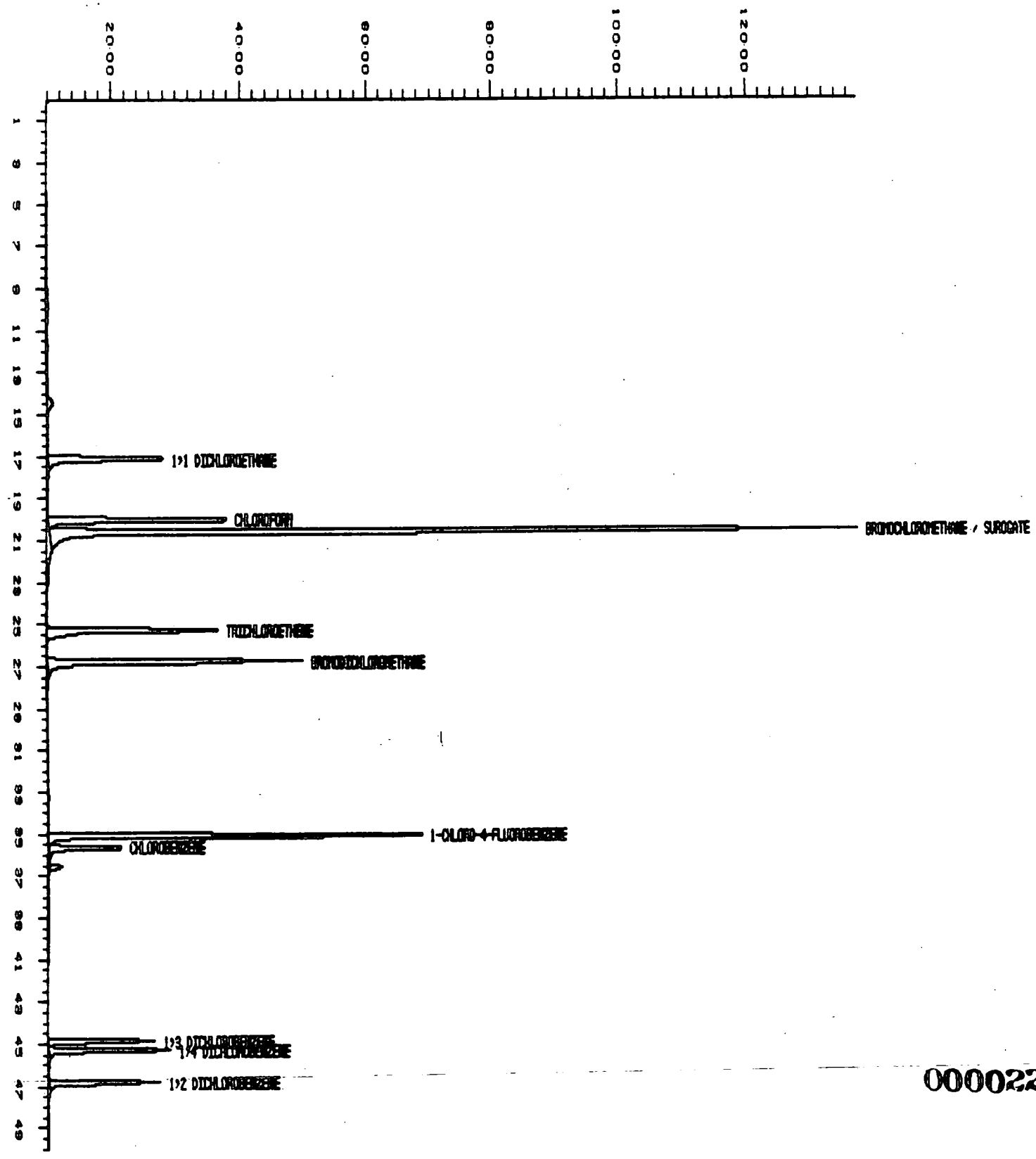
Method..... M17890
Run sequence..... R072090C
Calibration..... C071790A
Internal standard calibration using height
Calibration last modified on 18-JUL-1990 at 14:01

Uncalibrated peaks use user factor (0.00000)

EAST CDS using VG Multichrom "SOMCR2"

[VOA_2_JUL] 5 B__20JUL901300,7,1

8010/20 DCS2 20JUL90B. Amount : 1.000.
PURGEABLE HALOCARBONS; HP5890; RESTEK 502.2; ELCD
Acquired on 20-JUL-1990 at 22:49
Reported on 20-JUL-1990 at 23:50
Box 1 (of 1)



Enseco
A CORNING Company

SINGLE CONTROL SAMPLE REPORT
Volatile Organics by GC

Analyte	Concentration Spiked	Concentration Measured	Accuracy(%) SCS	Accuracy(%) Limits
Category: 8010-S				
Matrix: SOIL				
QC Lot: 20 JUL 90-B QC Run: 20 JUL 90-E				
Concentration Units: ug/Kg				
Bromochloromethane	3000	2880	96	70-160

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

Enseco
A CORNING Company

METHOD BLANK REPORT
Volatile Organics by GC

Test: 8010-TIERII-S
Matrix: SOIL
QC Lot: 20 JUL 90-B QC Run: 20 JUL 90-E

Analyte	Result	Units	Reporting Limit
Chloromethane	ND	ug/kg	500
Bromomethane	ND	ug/kg	500
Vinyl chloride	ND	ug/kg	200
Chloroethane	ND	ug/kg	500
Methylene chloride	ND	ug/kg	500
1,1-Dichloroethene	ND	ug/kg	100
1,1-Dichloroethane	ND	ug/kg	100
trans-1,2-Dichloroethene	ND	ug/kg	100
Chloroform	ND	ug/kg	100
1,2-Dichloroethane	ND	ug/kg	100
1,1,1-Trichloroethane	ND	ug/kg	100
Carbon tetrachloride	ND	ug/kg	100
Bromodichloromethane	ND	ug/kg	100
1,2-Dichloropropane	ND	ug/kg	100
trans-1,3-Dichloropropene	ND	ug/kg	100
Trichloroethene	ND	ug/kg	100
Dibromochloromethane	ND	ug/kg	100
cis-1,3-Dichloropropene	ND	ug/kg	100
1,1,2-Trichloroethane	ND	ug/kg	100
Bromoform	ND	ug/kg	500
1,1,2,2-Tetrachloroethane	ND	ug/kg	100
Tetrachloroethene	ND	ug/kg	100
Chlorobenzene	ND	ug/kg	500

Injection Report

Acquired on 20-JUL-1990 at 15:54

EAST CDS using VG Multichrom "SOMCR2"

Analyst Name : RBOZENBURY
Lims Id :
Comment : PURGEABLE HALOCARBONS; HP5890-3;RESTEK 502.2
Method Title : HYDROGEN TEST METHOD 1
Sample Name : SCS 20JUL90E
Sample Id :
Sample Type : Sample Amount=1.00000
Bottle No : 1

PEAK INFORMATION

Peak	RT mins	Hght uV	Area uVs	ug/L	Peak name	Width
1	20.587	131378	1040530	2883.097	Bromochloroethane / Surogate	7.2
2	25.493	1560	18823	27.957	Trichloroethene	11.2
3	35.076	60669	421159		1-Chloro-4-fluorobenzene	6.7
4	36.560	1840	13020	0.000		6.7

Totals			
Unknowns	0	0	N/A
Quantified	195447	1493532	2911.054
Grand Total	195447	1493532	2911.054

ANALYSIS SUMMARY

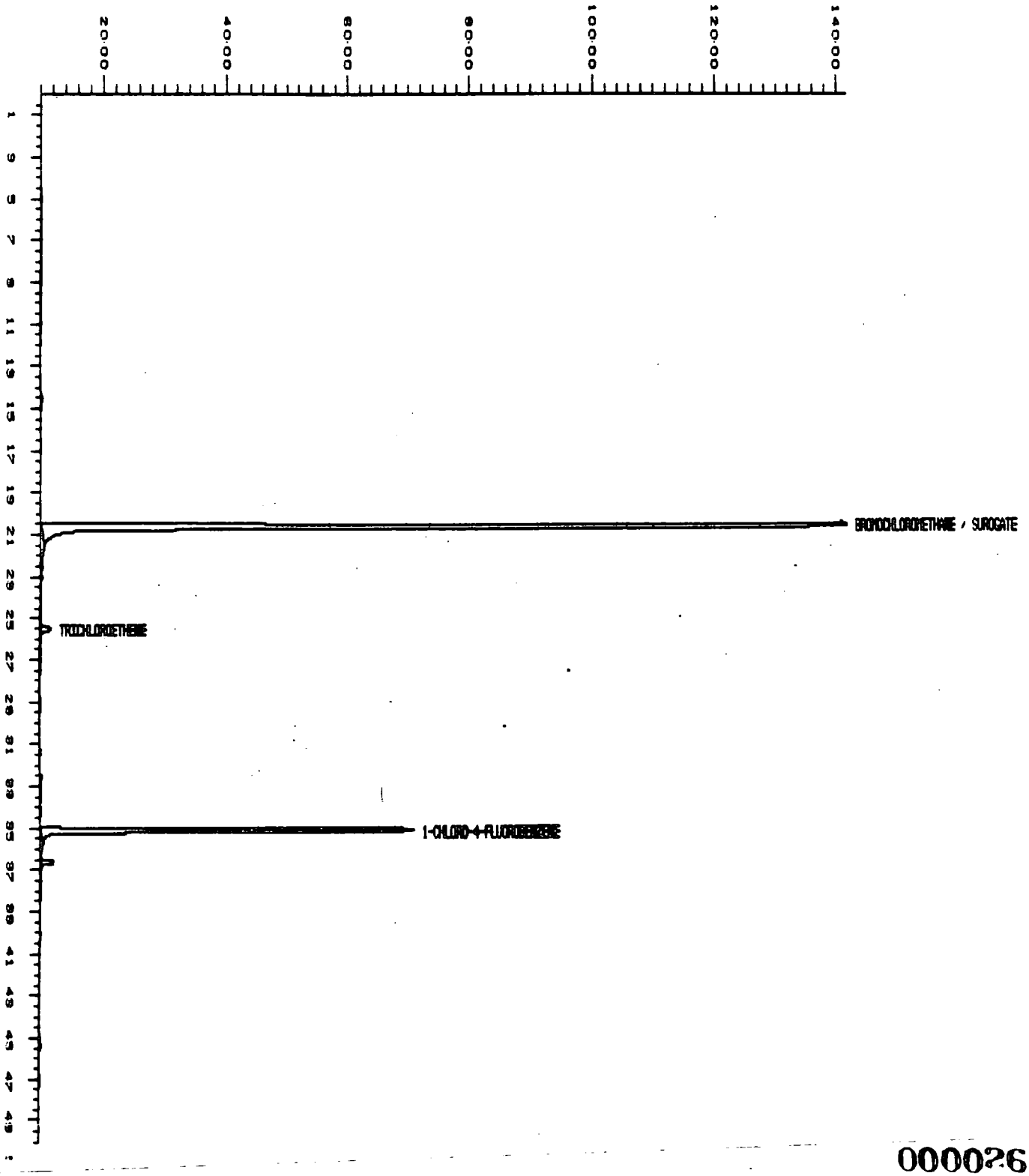
Method..... M17890
Run sequence..... R072090C
Calibration..... C071790A
Internal standard calibration using height
Calibration last modified on 18-JUL-1990 at 14:01

Uncalibrated peaks use user factor (0.0000)

EAST CDS using VG Multichrom "SOMCR2"

[VOA_2_JUL] 5 B__20JUL901300,2,1

SCS 20JUL90E. Amount : 1.000.
PURGEABLE HALOCARBONS; HP5890; RESTEK 502.2; ELCD
Acquired on 20-JUL-1990 at 15:54
Reported on 21-JUL-1990 at 18:59
Box 1 (of 1)



CALIBRATION DATE AND TIME SUMMARY

Lab Name: EAST Contract:

Lab Code: ENSECO Case No.: N/A SAS No.: N/A SDG No.: N/A

Project No.: 8589 Client: GERAGHT + MILLER Analysis: 8010

Instrument ID: HP 5890-B GC Column ID:RESTEK 502.2

STANDARD NAME	STANDARD ID. NO.	INITIAL(I) OR CONTINUING(C)	ANALYSIS DATE	ANALYSIS TIME
2.0 UG/L 601/602	071790VA,VC	I	07/17/90	14:39
5.0 UG/L 601/602	071790VA,VC	I	07/17/90	17:25
20.0 UG/L 601/602	071790VB,VD	I	07/17/90	20:11
50.0 UG/L 601/602	071790VB,VD	I	07/17/90	21:34
80.0 UG/L 601/602	071790VB,VD	I	07/17/90	22:55
20.0 UG/L 601/602	071790VB,VD	C	07/20/90	13:08
20.0 UG/L 601/602	071790VB,VD	C	07/21/90	06:56

FORM CALSUM

SOIL VOLATILE SURROGATE RECOVERY

Lab Name: EAST Contract: ECRA

Lab Code: ENSECO Case No.: N/A SAS No.: N/A SDG No.: N/A

Project No.: 8589 Client: GERAGHTY + MILLER

	LAB SAMPLE NO.	BCM	TFT	OTHER
01	8589-1	97	NA	
02	8589-2	94	NA	
03	8589-4	95	NA	
04	8589-5	93	NA	
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				

ADVISORY
QC LIMITS
(20-160)

BCM = Bromochloromethane

TFT = a,a,a Trifluorotoluene

Column used to flag recovery values

* Values outside QC limits

NA Not applicable