131791

1F
SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SBLK_02

Lab Name: ENSECO-EAST Contract: _____

Lab Code: EEAST Case No.: 13072 SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 13432-MB

Sample wt/vol: 1000 (g/mL) ML Lab File ID: B1011

Level: (low/med) LOW Date Received: _____

% Moisture: not dec. ____ dec. ____ Date Extracted: 05/10/91

Extraction: (SepF/Cont/Sonc) SEPF Date Analyzed: 05/14/91

GPC Cleanup: (Y/N) N pH: 7.0 Dilution Factor: 1.0

Number TICs found: 0

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I SV-TIC 1/87 Rev.

AR302965

APPENDIX K

LABORATORY SUMMARY SHEETS AND DAMES & MOORE DATA VALIDATION REPORT FOR JULY 1991 GROUND WATER SAMPLES

QUALITY ASSURANCE REVIEW

Recticon - Overburden and Bedrock Well Water Samples
Dames & Moore Job No. 10839-047

DATES COLLECTED: 7/10-11/91
DATES OF REVIEW: 8/7-8/91

SDGS #: 15001

INTRODUCTION

This quality assurance review (QAR) is based upon a rigorous review of all data generated from the analysis of aqueous samples which were collected at the Recticon site during July of 1991. The samples which were reviewed are listed in Table 1.

This review has been performed in accordance with the "Functional Guidelines for Evaluating Organics Analyses" (USEPA, March 1990) and "Region III Modifications to the Organic Functional Guidelines (June 1988).

The data was examined to determine usability as well as to determine contractual compliance relative to the requirements and deliverables specified in the approved workplan. Qualifier codes have been assigned to each analytical result, as appropriate, to facilitate data interpretation. The detailed findings of the QAR are provided in the narrative section of this report. The analytical results are presented in the attached sample data summary sheets.

This report provides a critical review of the laboratory performance and reported analytical results. Quality assurance reviews of laboratory generated data routinely identify problems associated with analytical measurements, even from the most experienced and capable laboratories. The nature and extent of discrepancies identified in this critical review should not be interpreted to mean that those results which are qualified are less than valid.

TABLE 1

SAMPLES INCLUDED IN THIS QAR

ENSECO LABORATORY NUMBER	DAMES & MOORE SAMPLE IDENTIFICATION	ANALYTICAL PARAMETERS
15001-001	BR-2	V
15001-002	FB	V
15001-003	OB-2	V
15001-004	OB-3	V
15001-005	OB-5	V
15001-006	OB-4	V
15001-007	BR-1	V
15001-008	BR-4	V
15001-009	OB-8	V
15001-010	OB-6	V
15001-011	OB-7	V
15001-012	BR-5	V
15001-013	BR-3	V
15001-014	BR-6	V
15001-015	BR-7	V
15001-016	BR-8	V
15001-017	TB	V

V - Volatile

SECTION 1 QUALITY ASSURANCE REVIEW

A. Organic Data

Fifteen (15) aqueous samples and two (2) quality control samples (field and trip blanks) were collected by Dames & Moore and analyzed by Enseco, Inc., in Somerset, New Jersey. These samples were collectively analyzed for the volatile organic compounds by EPA Method 524.2.

The findings offered in this report are based upon a rigorous review of holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS tuning, and calibrations. The organic analytical results with appropriate qualifiers are attached in the data summary sheets.

Overall, the data quality for this data package was acceptable. With regard to the requirements as specified in the workplan, all deliverables and reporting requirements were met for this data package with the exception of the following.

Non-Correctable Deficiencies

- Trichloroethene exceeded the calibration range in sample 15001-005 (OB-5). The sample was diluted and reanalyzed outside of hold. This sample is technically non-compliant; however, since no degradation of results was noted, no qualifiers are applied to the results.

Organic Data Qualifiers

- 1,2-dichloroethene and trichloroethene are present in the field blanks and/or trip blanks. The reported presence of these constituents in volatile samples above the instrument detection and less than 5 times the blank value are flagged "B" as questionable on the data summary sheets.

- Due to the low response factor (less than 0.05) and the high relative response factors between initial and continuing calibrations for the volatile compound chloromethane, the non-detect results are unreliable and are flagged "R."

- Per CLP protocol, all sample results detected at levels less than the quantitation limit should be considered estimated and have been flagged "J" on the sample data summary.

- As per CLP requirements all results obtained from diluted samples are flagged "D" on the data summary sheets.

B. Conclusion

Based upon the data provided, the majority of the organic data appears to be acceptable. The data validation review has identified aspects of the analytical data that require qualification. To confidently use any of the data within the data set, the data user should understand the limitations and qualifications presented.

Safe Drinking Water Act Volatile Organics

Enseco

Method 524.2

Client Name: Dames & Moore
Client ID: OB-2
Lab ID: 015001-0003-SA
Matrix: AQUEOUS Sampled: 10 JUL 91 Received: 12 JUL 91
Authorized: 12 JUL 91 Prepared: NA Analyzed: 16 JUL 91

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	5.1	ug/L	0.50
1,2-Dichloroethane	5.0	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	13	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	1.6	ug/L	0.50

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Kelvin Wang Approved By: Shu-Wan Kao

Safe Drinking Water Act Volatile Organics (CONT.)

Enseco

Method 524.2

Client Name: Dames & Moore
Client ID: OB-2
Lab ID: 015001-0003-SA
Matrix: AQUEOUS Sampled: 10 JUL 91 Received: 12 JUL 91
Authorized: 12 JUL 91 Prepared: NA Analyzed: 16 JUL 91

Parameter	Result	Units	Reporting Limit
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	ND	ug/L	0.50
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	ND	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	11	ug/L	0.50
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50

Surrogate	Recovery		
4-Bromofluorobenzene	93	%	--

ND = Not detected
NA = Not applicable

Reported By: Kelvin Wang Approved By: Shu-Wen Kao

Safe Drinking Water Act Volatile Organics

Method 524.2

Client Name: Dames & Moore
Client ID: OB-3
Lab ID: 015001-0004-SA
Matrix: AQUEOUS Sampled: 10 JUL 91 Received: 12 JUL 91
Authorized: 12 JUL 91 Prepared: NA Analyzed: 16 JUL 91

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	ND	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	ND	ug/L	0.50

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Kelvin Wang

Safe Drinking Water Act Volatile Organics (CONT.)

Enseco

Method 524.2

Client Name: Dames & Moore
Client ID: OB-3
Lab ID: 015001-0004-SA
Matrix: AQUEOUS Sampled: 10 JUL 91 Received: 12 JUL 91
Authorized: 12 JUL 91 Prepared: NA Analyzed: 16 JUL 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	ND	ug/L	0.50	
Toluene	ND	ug/L	0.50	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	ND	ug/L	0.50	
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	0.45	ug/L	0.50	J
Trichlorofluoromethane	ND	ug/L	0.50	
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	ND	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	

Surrogate	Recovery		
4-Bromofluorobenzene	94	%	--

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

ND = Not detected
NA = Not applicable

Reported By: Kelvin Wang Approved By AR302974

Safe Drinking Water Act Volatile Organics

Enseco

Method 524.2

Client Name: Dames & Moore
Client ID: OB-4
Lab ID: 015001-0006-SA
Matrix: AQUEOUS
Authorized: 12 JUL 91

Sampled: 10 JUL 91
Prepared: NA

Received: 12 JUL 91
Analyzed: 16 JUL 91

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	ND	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	ND	ug/L	0.50

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Kelvin Wang

Approved By: Shu-Wen Kao

Safe Drinking Water Act Volatile Organics (CONT.)

Method 524.2

Client Name: Dames & Moore
Client ID: OB-4
Lab ID: 015001-0006-SA
Matrix: AQUEOUS Sampled: 10 JUL 91 Received: 12 JUL 91
Authorized: 12 JUL 91 Prepared: NA Analyzed: 16 JUL 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	ND	ug/L	0.50	
Toluene	ND	ug/L	0.50	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	ND	ug/L	0.50	
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	0.41	ug/L	0.50	J
Trichlorofluoromethane	ND	ug/L	0.50	
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	ND	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	0.11	ug/L	0.50	J

Surrogate	Recovery		
4-Bromofluorobenzene	94	%	--

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

ND = Not detected
NA = Not applicable

Reported By: Kelvin Wang Approved By: AR302976

Safe Drinking Water Act Volatile Organics

Enseco

Method 524.2

Client Name: Dames & Moore
Client ID: OB-5
Lab ID: 015001-0005-SA
Matrix: AQUEOUS Sampled: 10 JUL 91 Received: 12 JUL 91
Authorized: 12 JUL 91 Prepared: NA Analyzed: 16 JUL 91

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	1.7	ug/L	0.50
1,2-Dichloroethane	2.5	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	25	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	0.95	ug/L	0.50

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Kelvin Wang Approved By: Shu-Wen Kao

Method 524.2

Client Name: Dames & Moore
Client ID: OB-5
Lab ID: 015001-0005-SA
Matrix: AQUEOUS Sampled: 10 JUL 91 Received: 12 JUL 91
Authorized: 12 JUL 91 Prepared: NA Analyzed: 16 JUL 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	ND	ug/L	0.50	
Toluene	ND	ug/L	0.50	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	ND	ug/L	0.50	
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	67	ug/L	2.5	D
Trichlorofluoromethane	ND	ug/L	0.50	
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	ND	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	

Surrogate	Recovery		
4-Bromofluorobenzene	93	%	--

Note D : Compound quantitated using a secondary dilution.

ND = Not detected
NA = Not applicable

Reported By: Kelvin Wang Approved By: Shu-Wen Kao

Safe Drinking Water Act Volatile Organics

Enseco

Method 524.2

Client Name: Dames & Moore
Client ID: OB-6
Lab ID: 015001-0010-SA
Matrix: AQUEOUS Sampled: 10 JUL 91 Received: 12 JUL 91
Authorized: 12 JUL 91 Prepared: NA Analyzed: 17 JUL 91

Parameter	Result	Units	Reporting Limit	
Benzene	ND	ug/L	0.50	
Bromobenzene	ND	ug/L	0.50	
Bromochloromethane	ND	ug/L	0.50	
Bromodichloromethane	ND	ug/L	0.50	
Bromoform	ND	ug/L	0.50	
Bromomethane	ND	ug/L	0.50	
n-Butylbenzene	ND	ug/L	0.50	
sec-Butylbenzene	ND	ug/L	0.50	
tert-Butylbenzene	ND	ug/L	0.50	
Carbon tetrachloride	ND	ug/L	0.50	
Chlorobenzene	ND	ug/L	0.50	
Chloroethane	ND	ug/L	0.50	
Chloroform	ND	ug/L	0.50	
Chloromethane	ND	ug/L	0.50	
2-Chlorotoluene	ND	ug/L	0.50	
4-Chlorotoluene	ND	ug/L	0.50	
Dibromochloromethane	ND	ug/L	0.50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	
Dibromomethane	ND	ug/L	0.50	
1,2-Dichlorobenzene	ND	ug/L	0.50	
1,3-Dichlorobenzene	ND	ug/L	0.50	
1,4-Dichlorobenzene	ND	ug/L	0.50	
Dichlorodifluoromethane	ND	ug/L	0.50	
1,1-Dichloroethane	ND	ug/L	0.50	
1,2-Dichloroethane	ND	ug/L	0.50	
1,1-Dichloroethene	ND	ug/L	0.50	
cis-1,2-Dichloroethene	0.35	ug/L	0.50	J
trans-1,2-Dichloroethene	ND	ug/L	0.50	
1,2-Dichloropropane	ND	ug/L	0.50	
1,3-Dichloropropane	ND	ug/L	0.50	
2,2-Dichloropropane	ND	ug/L	0.50	
1,1-Dichloropropene	ND	ug/L	0.50	
cis-1,3-Dichloropropene	ND	ug/L	0.50	
trans-1,3-Dichloropropene	ND	ug/L	0.50	
Ethylbenzene	ND	ug/L	0.50	
Hexachlorobutadiene	ND	ug/L	0.50	
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50	
Methylene chloride	ND	ug/L	0.50	

(continued on following page)

ND = Not detected
NA = Not applicable

AR302979

Reported By: Kelvin Wang Approved By: Shu-Wen Kao

Enseco

Method 524.2

Client Name: Dames & Moore
Client ID: OB-6
Lab ID: 015001-0010-SA
Matrix: AQUEOUS Sampled: 10 JUL 91 Received: 12 JUL 91
Authorized: 12 JUL 91 Prepared: NA Analyzed: 17 JUL 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	14	ug/L	0.50	
Toluene	ND	ug/L	0.50	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	0.15	ug/L	0.50	J
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	0.88	ug/L	0.50	
Trichlorofluoromethane	ND	ug/L	0.50	
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	ND	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	

Surrogate	Recovery		
4-Bromofluorobenzene	92	%	--

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

ND = Not detected
NA = Not applicable

Reported By: Kelvin Wang Approved By: Shu-Wen Kao

AR302980

Safe Drinking Water Act Volatile Organics

Enseco
A Cummins Company

Method 524.2

Client Name: Dames & Moore
Client ID: OB-7
Lab ID: 015001-0011-SA
Matrix: AQUEOUS Sampled: 10 JUL 91 Received: 12 JUL 91
Authorized: 12 JUL 91 Prepared: NA Analyzed: 17 JUL 91

Parameter	Result	Units	Reporting Limit	
Benzene	ND	ug/L	0.50	
Bromobenzene	ND	ug/L	0.50	
Bromochloromethane	ND	ug/L	0.50	
Bromodichloromethane	ND	ug/L	0.50	
Bromoform	ND	ug/L	0.50	
Bromomethane	ND	ug/L	0.50	
n-Butylbenzene	ND	ug/L	0.50	
sec-Butylbenzene	ND	ug/L	0.50	
tert-Butylbenzene	ND	ug/L	0.50	
Carbon tetrachloride	ND	ug/L	0.50	
Chlorobenzene	ND	ug/L	0.50	
Chloroethane	ND	ug/L	0.50	
Chloroform	ND	ug/L	0.50	
Chloromethane	ND	ug/L	0.50	
2-Chlorotoluene	ND	ug/L	0.50	
4-Chlorotoluene	ND	ug/L	0.50	
Dibromochloromethane	ND	ug/L	0.50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	
Dibromomethane	ND	ug/L	0.50	
1,2-Dichlorobenzene	ND	ug/L	0.50	
1,3-Dichlorobenzene	ND	ug/L	0.50	
1,4-Dichlorobenzene	ND	ug/L	0.50	
Dichlorodifluoromethane	ND	ug/L	0.50	
1,1-Dichloroethane	ND	ug/L	0.50	
1,2-Dichloroethane	ND	ug/L	0.50	
1,1-Dichloroethene	ND	ug/L	0.50	
cis-1,2-Dichloroethene	0.26	ug/L	0.50	J
trans-1,2-Dichloroethene	ND	ug/L	0.50	
1,2-Dichloropropane	ND	ug/L	0.50	
1,3-Dichloropropane	ND	ug/L	0.50	
2,2-Dichloropropane	ND	ug/L	0.50	
1,1-Dichloropropene	ND	ug/L	0.50	
cis-1,3-Dichloropropene	ND	ug/L	0.50	
trans-1,3-Dichloropropene	ND	ug/L	0.50	
Ethylbenzene	ND	ug/L	0.50	
Hexachlorobutadiene	ND	ug/L	0.50	
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50	
Methylene chloride	ND	ug/L	0.50	

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Kelvin Wang Approved By: Shu-Wen Kao

Safe Drinking Water Act Volatile Organics (CONT.)

Method 524.2

Client Name: Dames & Moore
Client ID: OB-7
Lab ID: 015001-0011-SA
Matrix: AQUEOUS Sampled: 10 JUL 91 Received: 12 JUL 91
Authorized: 12 JUL 91 Prepared: NA Analyzed: 17 JUL 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	13	ug/L	0.50	
Toluene	ND	ug/L	0.50	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	0.38	ug/L	0.50	J
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	5.9	ug/L	0.50	
Trichlorofluoromethane	ND	ug/L	0.50	
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	ND	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	

Surrogate	Recovery		
4-Bromofluorobenzene	90	%	--

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

ND = Not detected
NA = Not applicable

Reported By: Kelvin Wang Approved By: Shu-Wen Rao

Safe Drinking Water Act Volatile Organics

Enseco

Method 524.2

Client Name: Dames & Moore
Client ID: OB-8
Lab ID: 015001-0009-SA
Matrix: AQUEOUS Sampled: 10 JUL 91 Received: 12 JUL 91
Authorized: 12 JUL 91 Prepared: NA Analyzed: 17 JUL 91

Parameter	Result	Units	Reporting Limit	
Benzene	ND	ug/L	0.50	
Bromobenzene	ND	ug/L	0.50	
Bromochloromethane	ND	ug/L	0.50	
Bromodichloromethane	ND	ug/L	0.50	
Bromoform	ND	ug/L	0.50	
Bromomethane	ND	ug/L	0.50	
n-Butylbenzene	ND	ug/L	0.50	
sec-Butylbenzene	ND	ug/L	0.50	
tert-Butylbenzene	ND	ug/L	0.50	
Carbon tetrachloride	ND	ug/L	0.50	
Chlorobenzene	ND	ug/L	0.50	
Chloroethane	ND	ug/L	0.50	
Chloroform	ND	ug/L	0.50	
Chloromethane	ND	ug/L	0.50	
2-Chlorotoluene	ND	ug/L	0.50	
4-Chlorotoluene	ND	ug/L	0.50	
Dibromochloromethane	ND	ug/L	0.50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	
Dibromomethane	ND	ug/L	0.50	
1,2-Dichlorobenzene	ND	ug/L	0.50	
1,3-Dichlorobenzene	ND	ug/L	0.50	
1,4-Dichlorobenzene	ND	ug/L	0.50	
Dichlorodifluoromethane	ND	ug/L	0.50	
1,1-Dichloroethane	3.0	ug/L	0.50	
1,2-Dichloroethane	4.5	ug/L	0.50	
1,1-Dichloroethene	ND	ug/L	0.50	
cis-1,2-Dichloroethene	47	ug/L	5.0	D
trans-1,2-Dichloroethene	ND	ug/L	0.50	
1,2-Dichloropropane	ND	ug/L	0.50	
1,3-Dichloropropane	ND	ug/L	0.50	
2,2-Dichloropropane	ND	ug/L	0.50	
1,1-Dichloropropene	ND	ug/L	0.50	
cis-1,3-Dichloropropene	ND	ug/L	0.50	
trans-1,3-Dichloropropene	ND	ug/L	0.50	
Ethylbenzene	ND	ug/L	0.50	
Hexachlorobutadiene	ND	ug/L	0.50	
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50	
Methylene chloride	1.4	ug/L	0.50	

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Kelvin Wang Approved By: Shu Wen Kao

Safe Drinking Water Act Volatile Organics (CONT.)

Enseco

Method 524.2

Client Name: Dames & Moore
Client ID: OB-8
Lab ID: 015001-0009-SA
Matrix: AQUEOUS Sampled: 10 JUL 91 Received: 12 JUL 91
Authorized: 12 JUL 91 Prepared: NA Analyzed: 17 JUL 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	0.40	ug/L	0.50	J
Toluene	ND	ug/L	0.50	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	ND	ug/L	0.50	
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	240	ug/L	5.0	D
Trichlorofluoromethane	ND	ug/L	0.50	
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	ND	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	

Surrogate	Recovery		
4-Bromofluorobenzene	90	%	--

Note D : Compound quantitated using a secondary dilution.

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

ND = Not detected
NA = Not applicable

Reported By: Kelvin Wang Approved By: Shu-Wan

Safe Drinking Water Act Volatile Organics

Enseco

Method 524.2

Client Name: Dames & Moore
Client ID: BR-1
Lab ID: 015001-0007-SA
Matrix: AQUEOUS Sampled: 10 JUL 91 Received: 12 JUL 91
Authorized: 12 JUL 91 Prepared: NA Analyzed: 16 JUL 91

Parameter	Result	Units	Reporting Limit	
Benzene	ND	ug/L	0.50	
Bromobenzene	ND	ug/L	0.50	
Bromochloromethane	ND	ug/L	0.50	
Bromodichloromethane	ND	ug/L	0.50	
Bromoform	ND	ug/L	0.50	
Bromomethane	ND	ug/L	0.50	
n-Butylbenzene	ND	ug/L	0.50	
sec-Butylbenzene	ND	ug/L	0.50	
tert-Butylbenzene	ND	ug/L	0.50	
Carbon tetrachloride	ND	ug/L	0.50	
Chlorobenzene	ND	ug/L	0.50	
Chloroethane	ND	ug/L	0.50	
Chloroform	ND	ug/L	0.50	
Chloromethane	ND	ug/L	0.50	
2-Chlorotoluene	ND	ug/L	0.50	
4-Chlorotoluene	ND	ug/L	0.50	
Dibromochloromethane	ND	ug/L	0.50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	
Dibromomethane	ND	ug/L	0.50	
1,2-Dichlorobenzene	ND	ug/L	0.50	
1,3-Dichlorobenzene	ND	ug/L	0.50	
1,4-Dichlorobenzene	ND	ug/L	0.50	
Dichlorodifluoromethane	ND	ug/L	0.50	
1,1-Dichloroethane	ND	ug/L	0.50	
1,2-Dichloroethane	ND	ug/L	0.50	
1,1-Dichloroethene	ND	ug/L	0.50	
cis-1,2-Dichloroethene	ND	ug/L	0.50	
trans-1,2-Dichloroethene	ND	ug/L	0.50	
1,2-Dichloropropane	ND	ug/L	0.50	
1,3-Dichloropropane	ND	ug/L	0.50	
2,2-Dichloropropane	ND	ug/L	0.50	
1,1-Dichloropropene	ND	ug/L	0.50	
cis-1,3-Dichloropropene	ND	ug/L	0.50	
trans-1,3-Dichloropropene	ND	ug/L	0.50	
Ethylbenzene	ND	ug/L	0.50	
Hexachlorobutadiene	ND	ug/L	0.50	
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50	
Methylene chloride	0.19	ug/L	0.50	J

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Kelvin Wang Approved By: Shu-Wen Kao

Enseco

Method 524.2

Client Name: Dames & Moore
Client ID: BR-1
Lab ID: 015001-0007-SA
Matrix: AQUEOUS Sampled: 10 JUL 91 Received: 12 JUL 91
Authorized: 12 JUL 91 Prepared: NA Analyzed: 16 JUL 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	ND	ug/L	0.50	
Toluene	ND	ug/L	0.50	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	ND	ug/L	0.50	
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	0.46	ug/L	0.50	J
Trichlorofluoromethane	ND	ug/L	0.50	
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	ND	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	

Surrogate	Recovery		
4-Bromofluorobenzene	88	%	--

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

ND = Not detected
NA = Not applicable

Reported By: Kelvin Wang Approved By AR302986

Safe Drinking Water Act Volatile Organics

Enseco
A Corning Company

Method 524.2

Client Name: Dames & Moore
Client ID: BR-2
Lab ID: 015001-0001-SA
Matrix: AQUEOUS Sampled: 10 JUL 91 Received: 12 JUL 91
Authorized: 12 JUL 91 Prepared: NA Analyzed: 17 JUL 91

Parameter	Result	Units	Reporting Limit	
Benzene	ND	ug/L	50	j
Bromobenzene	ND	ug/L	50	
Bromochloromethane	ND	ug/L	50	
Bromodichloromethane	ND	ug/L	50	
Bromoform	ND	ug/L	50	
Bromomethane	ND	ug/L	50	
n-Butylbenzene	ND	ug/L	50	
sec-Butylbenzene	ND	ug/L	50	
tert-Butylbenzene	ND	ug/L	50	
Carbon tetrachloride	ND	ug/L	50	
Chlorobenzene	ND	ug/L	50	
Chloroethane	ND	ug/L	50	
Chloroform	ND	ug/L	50	
Chloromethane	ND	ug/L	50	
2-Chlorotoluene	ND	ug/L	50	
4-Chlorotoluene	ND	ug/L	50	
Dibromochloromethane	ND	ug/L	50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	50	
1,2-Dibromoethane (EDB)	ND	ug/L	50	
Dibromomethane	ND	ug/L	50	
1,2-Dichlorobenzene	ND	ug/L	50	
1,3-Dichlorobenzene	ND	ug/L	50	
1,4-Dichlorobenzene	ND	ug/L	50	
Dichlorodifluoromethane	ND	ug/L	50	
1,1-Dichloroethane	ND	ug/L	50	
1,2-Dichloroethane	ND	ug/L	50	
1,1-Dichloroethene	ND	ug/L	50	
cis-1,2-Dichloroethene	170	ug/L	50	
trans-1,2-Dichloroethene	ND	ug/L	50	
1,2-Dichloropropane	ND	ug/L	50	
1,3-Dichloropropane	ND	ug/L	50	
2,2-Dichloropropane	ND	ug/L	50	
1,1-Dichloropropene	ND	ug/L	50	
cis-1,3-Dichloropropene	ND	ug/L	50	
trans-1,3-Dichloropropene	ND	ug/L	50	
Ethylbenzene	ND	ug/L	50	
Hexachlorobutadiene	ND	ug/L	50	
1-Methylethylbenzene (Cumene)	ND	ug/L	50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	50	
Methylene chloride	ND	ug/L	50	

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Kelvin Wang Approved By: Shu-Wen Ka

Safe Drinking Water Act Volatile Organics (CONT.)

Enseco
A Corning Com

Method 524.2

Client Name: Dames & Moore
Client ID: BR-2
Lab ID: 015001-0001-SA
Matrix: AQUEOUS Sampled: 10 JUL 91 Received: 12 JUL 91
Authorized: 12 JUL 91 Prepared: NA Analyzed: 17 JUL 91

Parameter	Result	Units	Reporting Limit
Naphthalene	ND	ug/L	50
n-Propylbenzene	ND	ug/L	50
Styrene	ND	ug/L	50
1,1,1,2-Tetrachloroethane	ND	ug/L	50
1,1,2,2-Tetrachloroethane	ND	ug/L	50
Tetrachloroethene	ND	ug/L	50
Toluene	ND	ug/L	50
1,2,3-Trichlorobenzene	ND	ug/L	50
1,2,4-Trichlorobenzene	ND	ug/L	50
1,1,1-Trichloroethane	ND	ug/L	50
1,1,2-Trichloroethane	ND	ug/L	50
Trichloroethene	940	ug/L	50
Trichlorofluoromethane	ND	ug/L	50
1,2,3-Trichloropropane	ND	ug/L	50
1,2,4-Trimethylbenzene	ND	ug/L	50
1,3,5-Trimethylbenzene	ND	ug/L	50
Vinyl chloride	ND	ug/L	50
o-Xylene	ND	ug/L	50
m,p-Xylene	ND	ug/L	50

Surrogate	Recovery		
4-Bromofluorobenzene	93	%	--

Note j : All reporting limits raised due to high levels of other analytes.

ND = Not detected
NA = Not applicable

Reported By: Kelvin Wang Approved By: Shu-Wen Bao

AR802988

000003

Enseco
A Corning Company

Safe Drinking Water Act Volatile Organics

Method 524.2

Client Name: Dames & Moore
Client ID: BR-3
Lab ID: 015001-0013-SA
Matrix: AQUEOUS Sampled: 11 JUL 91 Received: 12 JUL 91
Authorized: 12 JUL 91 Prepared: NA Analyzed: 17 JUL 91

Parameter	Result	Units	Reporting Limit	
Benzene	ND	ug/L	0.50	
Bromobenzene	ND	ug/L	0.50	
Bromochloromethane	ND	ug/L	0.50	
Bromodichloromethane	ND	ug/L	0.50	
Bromoform	ND	ug/L	0.50	
Bromomethane	ND	ug/L	0.50	
n-Butylbenzene	ND	ug/L	0.50	
sec-Butylbenzene	ND	ug/L	0.50	
tert-Butylbenzene	ND	ug/L	0.50	
Carbon tetrachloride	ND	ug/L	0.50	
Chlorobenzene	ND	ug/L	0.50	
Chloroethane	ND	ug/L	0.50	
Chloroform	0.26	ug/L	0.50	J
Chloromethane	ND	ug/L	0.50	
2-Chlorotoluene	ND	ug/L	0.50	
4-Chlorotoluene	ND	ug/L	0.50	
Dibromochloromethane	ND	ug/L	0.50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	
Dibromomethane	ND	ug/L	0.50	
1,2-Dichlorobenzene	ND	ug/L	0.50	
1,3-Dichlorobenzene	ND	ug/L	0.50	
1,4-Dichlorobenzene	ND	ug/L	0.50	
Dichlorodifluoromethane	ND	ug/L	0.50	
1,1-Dichloroethane	2.2	ug/L	0.50	
1,2-Dichloroethane	ND	ug/L	0.50	
1,1-Dichloroethene	2.9	ug/L	0.50	
cis-1,2-Dichloroethene	680	ug/L	50	D
trans-1,2-Dichloroethene	0.64	ug/L	0.50	
1,2-Dichloropropane	ND	ug/L	0.50	
1,3-Dichloropropane	ND	ug/L	0.50	
2,2-Dichloropropane	ND	ug/L	0.50	
1,1-Dichloropropene	ND	ug/L	0.50	
cis-1,3-Dichloropropene	ND	ug/L	0.50	
trans-1,3-Dichloropropene	ND	ug/L	0.50	
Ethylbenzene	ND	ug/L	0.50	
Hexachlorobutadiene	ND	ug/L	0.50	
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50	
Methylene chloride	ND	ug/L	0.50	

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Kelvin Wang Approved By: Shu-Wen Kao

Safe Drinking Water Act Volatile Organics (CONT.)

Enseco
A Corning Comp

Method 524.2

Client Name: Dames & Moore
Client ID: BR-3
Lab ID: 015001-0013-SA
Matrix: AQUEOUS
Authorized: 12 JUL 91

Sampled: 11 JUL 91
Prepared: NA

Received: 12 JUL 91
Analyzed: 17 JUL 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	0.16	ug/L	0.50	J
Toluene	ND	ug/L	0.50	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	ND	ug/L	0.50	
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	1900	ug/L	50	D
Trichlorofluoromethane	ND	ug/L	0.50	
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	2.0	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	

Surrogate	Recovery		
4-Bromofluorobenzene	93	%	--

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

Note D : Compound quantitated using a secondary dilution.

ND = Not detected
NA = Not applicable

Reported By: Kelvin Wang

Approved By: Shu-Men Tao

AR302990

Safe Drinking Water Act Volatile Organics

Enseco

Method 524.2

Client Name: Dames & Moore
Client ID: BR-4
Lab ID: 015001-0008-SA
Matrix: AQUEOUS Sampled: 10 JUL 91 Received: 12 JUL 91
Authorized: 12 JUL 91 Prepared: NA Analyzed: 17 JUL 91

Parameter	Result	Units	Reporting Limit	
Benzene	ND	ug/L	0.50	
Bromobenzene	ND	ug/L	0.50	
Bromochloromethane	ND	ug/L	0.50	
Bromodichloromethane	ND	ug/L	0.50	
Bromoform	ND	ug/L	0.50	
Bromomethane	ND	ug/L	0.50	
n-Butylbenzene	ND	ug/L	0.50	
sec-Butylbenzene	ND	ug/L	0.50	
tert-Butylbenzene	ND	ug/L	0.50	
Carbon tetrachloride	ND	ug/L	0.50	
Chlorobenzene	ND	ug/L	0.50	
Chloroethane	ND	ug/L	0.50	
Chloroform	ND	ug/L	0.50	
Chloromethane	ND	ug/L	0.50	
2-Chlorotoluene	ND	ug/L	0.50	
4-Chlorotoluene	ND	ug/L	0.50	
Dibromochloromethane	ND	ug/L	0.50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	
Dibromomethane	ND	ug/L	0.50	
1,2-Dichlorobenzene	ND	ug/L	0.50	
1,3-Dichlorobenzene	ND	ug/L	0.50	
1,4-Dichlorobenzene	ND	ug/L	0.50	
Dichlorodifluoromethane	ND	ug/L	0.50	
1,1-Dichloroethane	0.48	ug/L	0.50	J
1,2-Dichloroethane	ND	ug/L	0.50	
1,1-Dichloroethene	0.19	ug/L	0.50	J
cis-1,2-Dichloroethene	14	ug/L	0.50	
trans-1,2-Dichloroethene	ND	ug/L	0.50	
1,2-Dichloropropane	ND	ug/L	0.50	
1,3-Dichloropropane	ND	ug/L	0.50	
2,2-Dichloropropane	ND	ug/L	0.50	
1,1-Dichloropropene	ND	ug/L	0.50	
cis-1,3-Dichloropropene	ND	ug/L	0.50	
trans-1,3-Dichloropropene	ND	ug/L	0.50	
Ethylbenzene	ND	ug/L	0.50	
Hexachlorobutadiene	ND	ug/L	0.50	
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50	
Methylene chloride	ND	ug/L	0.50	

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Kelvin Wang Approved By: Shu-Wen Kao

Ensec

Method 524.2

Client Name: Dames & Moore
Client ID: BR-4
Lab ID: 015001-0008-SA
Matrix: AQUEOUS Sampled: 10 JUL 91 Received: 12 JUL 91
Authorized: 12 JUL 91 Prepared: NA Analyzed: 17 JUL 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	ND	ug/L	0.50	
Toluene	ND	ug/L	0.50	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	0.29	ug/L	0.50	J
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	150	ug/L	5.0	D
Trichlorofluoromethane	ND	ug/L	0.50	
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	ND	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	

Surrogate	Recovery		
4-Bromofluorobenzene	91	%	--

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

Note D : Compound quantitated using a secondary dilution.

ND = Not detected
NA = Not applicable

Reported By: Kelvin Wang Approved By: Shu-Wen Kao

Enseco
A Corning Company

Safe Drinking Water Act Volatile Organics

Method 524.2

Client Name: Dames & Moore
Client ID: BR-5
Lab ID: 015001-0012-SA
Matrix: AQUEOUS Sampled: 11 JUL 91 Received: 12 JUL 91
Authorized: 12 JUL 91 Prepared: NA Analyzed: 17 JUL 91

Parameter	Result	Units	Reporting Limit	
Benzene	ND	ug/L	5.0	j
Bromobenzene	ND	ug/L	5.0	
Bromochloromethane	ND	ug/L	5.0	
Bromodichloromethane	ND	ug/L	5.0	
Bromoform	ND	ug/L	5.0	
Bromomethane	ND	ug/L	5.0	
n-Butylbenzene	ND	ug/L	5.0	
sec-Butylbenzene	ND	ug/L	5.0	
tert-Butylbenzene	ND	ug/L	5.0	
Carbon tetrachloride	ND	ug/L	5.0	
Chlorobenzene	ND	ug/L	5.0	
Chloroethane	ND	ug/L	5.0	
Chloroform	ND	ug/L	5.0	
Chloromethane	ND	ug/L	5.0	
2-Chlorotoluene	ND	ug/L	5.0	
4-Chlorotoluene	ND	ug/L	5.0	
Dibromochloromethane	ND	ug/L	5.0	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	5.0	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	
Dibromomethane	ND	ug/L	5.0	
1,2-Dichlorobenzene	ND	ug/L	5.0	
1,3-Dichlorobenzene	ND	ug/L	5.0	
1,4-Dichlorobenzene	ND	ug/L	5.0	
Dichlorodifluoromethane	ND	ug/L	5.0	
1,1-Dichloroethane	ND	ug/L	5.0	
1,2-Dichloroethane	ND	ug/L	5.0	
1,1-Dichloroethene	ND	ug/L	5.0	
cis-1,2-Dichloroethene	200	ug/L	5.0	
trans-1,2-Dichloroethene	ND	ug/L	5.0	
1,2-Dichloropropane	ND	ug/L	5.0	
1,3-Dichloropropane	ND	ug/L	5.0	
2,2-Dichloropropane	ND	ug/L	5.0	
1,1-Dichloropropene	ND	ug/L	5.0	
cis-1,3-Dichloropropene	ND	ug/L	5.0	
trans-1,3-Dichloropropene	ND	ug/L	5.0	
Ethylbenzene	ND	ug/L	5.0	
Hexachlorobutadiene	ND	ug/L	5.0	
1-Methylethylbenzene (Cumene)	ND	ug/L	5.0	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	5.0	
Methylene chloride	4.2	ug/L	5.0	J

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Kelvin Wang Approved By: Shu-Wen Kao

Safe Drinking Water Act Volatile Organics (CONT.)

Enseco
A Corning Comp

Method 524.2

Client Name: Dames & Moore
Client ID: BR-5
Lab ID: 015001-0012-SA
Matrix: AQUEOUS Sampled: 11 JUL 91 Received: 12 JUL 91
Authorized: 12 JUL 91 Prepared: NA Analyzed: 17 JUL 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	5.0	
n-Propylbenzene	ND	ug/L	5.0	
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	
1,2,3-Trichlorobenzene	ND	ug/L	5.0	
1,2,4-Trichlorobenzene	ND	ug/L	5.0	
1,1,1-Trichloroethane	2.1	ug/L	5.0	J
1,1,2-Trichloroethane	ND	ug/L	5.0	
Trichloroethene	970	ug/L	50	D
Trichlorofluoromethane	ND	ug/L	5.0	
1,2,3-Trichloropropane	ND	ug/L	5.0	
1,2,4-Trimethylbenzene	ND	ug/L	5.0	
1,3,5-Trimethylbenzene	ND	ug/L	5.0	
Vinyl chloride	ND	ug/L	5.0	
o-Xylene	ND	ug/L	5.0	
m,p-Xylene	ND	ug/L	5.0	

Surrogate	Recovery		
4-Bromofluorobenzene	90	%	--

Note j : All reporting limits raised due to high levels of other analytes.

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

Note D : Compound quantitated using a secondary dilution.

ND = Not detected
NA = Not applicable

Reported By: Kelvin Wang Approved By: Shu-Wan Kao

Safe Drinking Water Act Volatile Organics

Enseco
A Cumins Company

Method 524.2

Client Name: Dames & Moore
Client ID: BR-6
Lab ID: 015001-0014-SA
Matrix: AQUEOUS Sampled: 11 JUL 91 Received: 12 JUL 91
Authorized: 12 JUL 91 Prepared: NA Analyzed: 17 JUL 91

Parameter	Result	Units	Reporting Limit	
Benzene	ND	ug/L	0.50	
Bromobenzene	ND	ug/L	0.50	
Bromochloromethane	ND	ug/L	0.50	
Bromodichloromethane	ND	ug/L	0.50	
Bromoform	ND	ug/L	0.50	
Bromomethane	ND	ug/L	0.50	
n-Butylbenzene	ND	ug/L	0.50	
sec-Butylbenzene	ND	ug/L	0.50	
tert-Butylbenzene	ND	ug/L	0.50	
Carbon tetrachloride	ND	ug/L	0.50	
Chlorobenzene	ND	ug/L	0.50	
Chloroethane	ND	ug/L	0.50	
Chloroform	ND	ug/L	0.50	
Chloromethane	ND	ug/L	0.50	
2-Chlorotoluene	ND	ug/L	0.50	
4-Chlorotoluene	ND	ug/L	0.50	
Dibromochloromethane	ND	ug/L	0.50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	
Dibromomethane	ND	ug/L	0.50	
1,2-Dichlorobenzene	ND	ug/L	0.50	
1,3-Dichlorobenzene	ND	ug/L	0.50	
1,4-Dichlorobenzene	ND	ug/L	0.50	
Dichlorodifluoromethane	ND	ug/L	0.50	
1,1-Dichloroethane	ND	ug/L	0.50	
1,2-Dichloroethane	ND	ug/L	0.50	
1,1-Dichloroethene	ND	ug/L	0.50	
cis-1,2-Dichloroethene	1.8	ug/L	0.50	
trans-1,2-Dichloroethene	ND	ug/L	0.50	
1,2-Dichloropropane	ND	ug/L	0.50	
1,3-Dichloropropane	ND	ug/L	0.50	
2,2-Dichloropropane	ND	ug/L	0.50	
1,1-Dichloropropene	ND	ug/L	0.50	
cis-1,3-Dichloropropene	ND	ug/L	0.50	
trans-1,3-Dichloropropene	ND	ug/L	0.50	
Ethylbenzene	ND	ug/L	0.50	
Hexachlorobutadiene	ND	ug/L	0.50	
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50	
Methylene chloride	0.21	ug/L	0.50	J

(continued on following page)

ND = Not detected
NA = Not applicable

000028

AR302995

Reported By: Kelvin Wang Approved By: Shu-Wen Kao

Method 524.2

Client Name: Dames & Moore
Client ID: BR-6
Lab ID: 015001-0014-SA
Matrix: AQUEOUS Sampled: 11 JUL 91 Received: 12 JUL 91
Authorized: 12 JUL 91 Prepared: NA Analyzed: 17 JUL 91

Parameter	Result	Units	Reporting Limit
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	6.6	ug/L	0.50
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	ND	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	5.4	ug/L	0.50
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50

Surrogate	Recovery		
4-Bromofluorobenzene	93	%	--

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

ND = Not detected
NA = Not applicable

Reported By: Kelvin Wang Approved By: Shu-Wen Kao

Safe Drinking Water Act Volatile Organics

Enseco

Method 524.2

Client Name: Dames & Moore
Client ID: BR-7
Lab ID: 015001-0015-SA
Matrix: AQUEOUS Sampled: 11 JUL 91 Received: 12 JUL 91
Authorized: 12 JUL 91 Prepared: NA Analyzed: 17 JUL 91

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	0.56	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	12	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	ND	ug/L	0.50

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Kelvin Wang Approved By: Shu-Wen Kao

Safe Drinking Water Act Volatile Organics (CONT.)

Method 524.2

Client Name: Dames & Moore
Client ID: BR-7
Lab ID: 015001-0015-SA
Matrix: AQUEOUS Sampled: 11 JUL 91 Received: 12 JUL 91
Authorized: 12 JUL 91 Prepared: NA Analyzed: 17 JUL 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	4.3	ug/L	0.50	
Toluene	ND	ug/L	0.50	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	1.0	ug/L	0.50	
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	90	ug/L	5.0	D
Trichlorofluoromethane	ND	ug/L	0.50	
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	ND	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	

Surrogate	Recovery		
4-Bromofluorobenzene	92	%	--

Note D : Compound quantitated using a secondary dilution.

ND = Not detected
NA = Not applicable

Reported By: Kelvin Wang Approved By: Shu-Wen Kao

AR302998

Safe Drinking Water Act Volatile Organics

Enseco
A Corning Company

Method 524.2

Client Name: Dames & Moore
Client ID: BR-8
Lab ID: 015001-0016-SA
Matrix: AQUEOUS Sampled: 11 JUL 91 Received: 12 JUL 91
Authorized: 12 JUL 91 Prepared: NA Analyzed: 17 JUL 91

Parameter	Result	Units	Reporting Limit	
Benzene	0.15	ug/L	0.50	J
Bromobenzene	ND	ug/L	0.50	
Bromochloromethane	ND	ug/L	0.50	
Bromodichloromethane	ND	ug/L	0.50	
Bromoform	ND	ug/L	0.50	
Bromomethane	ND	ug/L	0.50	
n-Butylbenzene	ND	ug/L	0.50	
sec-Butylbenzene	ND	ug/L	0.50	
tert-Butylbenzene	ND	ug/L	0.50	
Carbon tetrachloride	ND	ug/L	0.50	
Chlorobenzene	ND	ug/L	0.50	
Chloroethane	0.47	ug/L	0.50	J
Chloroform	0.20	ug/L	0.50	J
Chloromethane	ND	ug/L	0.50	
2-Chlorotoluene	ND	ug/L	0.50	
4-Chlorotoluene	ND	ug/L	0.50	
Dibromochloromethane	ND	ug/L	0.50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	
Dibromomethane	ND	ug/L	0.50	
1,2-Dichlorobenzene	ND	ug/L	0.50	
1,3-Dichlorobenzene	ND	ug/L	0.50	
1,4-Dichlorobenzene	ND	ug/L	0.50	
Dichlorodifluoromethane	ND	ug/L	0.50	
1,1-Dichloroethane	2.0	ug/L	0.50	
1,2-Dichloroethane	ND	ug/L	0.50	
1,1-Dichloroethene	2.7	ug/L	0.50	
cis-1,2-Dichloroethene	700	ug/L	50	D
trans-1,2-Dichloroethene	8.4	ug/L	0.50	
1,2-Dichloropropane	ND	ug/L	0.50	
1,3-Dichloropropane	ND	ug/L	0.50	
2,2-Dichloropropane	ND	ug/L	0.50	
1,1-Dichloropropene	ND	ug/L	0.50	
cis-1,3-Dichloropropene	ND	ug/L	0.50	
trans-1,3-Dichloropropene	ND	ug/L	0.50	
Ethylbenzene	ND	ug/L	0.50	
Hexachlorobutadiene	ND	ug/L	0.50	
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50	
Methylene chloride	ND	ug/L	0.50	

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Kelvin Wang Approved By: Shu-Wen Kao

Enseco

Method 524.2

Client Name: Dames & Moore
Client ID: BR-8
Lab ID: 015001-0016-SA
Matrix: AQUEOUS Sampled: 11 JUL 91 Received: 12 JUL 91
Authorized: 12 JUL 91 Prepared: NA Analyzed: 17 JUL 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	ND	ug/L	0.50	
Toluene	ND	ug/L	0.50	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	2.1	ug/L	0.50	
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	1400	ug/L	50	D
Trichlorofluoromethane	ND	ug/L	0.50	
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	0.93	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	

Surrogate	Recovery		
4-Bromofluorobenzene	95	%	--

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

Note D : Compound quantitated using a secondary dilution.

ND = Not detected
NA = Not applicable

Reported By: Kelvin Wang Approved By: Shu-Wen Pang

Safe Drinking Water Act Volatile Organics

Enseco

Method 524.2

Client Name: Dames & Moore
Client ID: FIELD BLANK
Lab ID: 015001-0002-FB
Matrix: AQUEOUS Sampled: 10 JUL 91 Received: 12 JUL 91
Authorized: 12 JUL 91 Prepared: NA Analyzed: 16 JUL 91

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	ND	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	ND	ug/L	0.50

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Kelvin Wang Approved By: Shu-Wen Kao

Safe Drinking Water Act Volatile Organics (CONT.)

Method 524.2

Client Name: Dames & Moore
Client ID: FIELD BLANK
Lab ID: 015001-0002-FB
Matrix: AQUEOUS Sampled: 10 JUL 91 Received: 12 JUL 91
Authorized: 12 JUL 91 Prepared: NA Analyzed: 16 JUL 91

Parameter	Result	Units	Reporting Limit
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	ND	ug/L	0.50
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	ND	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	2.6	ug/L	0.50
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50

Surrogate	Recovery		
4-Bromofluorobenzene	93	%	--

ND = Not detected
NA = Not applicable

Reported By: Kelvin Wang Approved By: Shu-Wei Kao

Safe Drinking Water Act Volatile Organics

Enseco

Method 524.2

Client Name: Dames & Moore
Client ID: TRIP BLANK
Lab ID: 015001-0017-TB
Matrix: AQUEOUS Sampled: 10 JUL 91 Received: 12 JUL 91
Authorized: 12 JUL 91 Prepared: NA Analyzed: 17 JUL 91

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	0.71	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	ND	ug/L	0.50

(continued on following page)

ND = Not detected
NA = Not applicable

AR303003

Reported By: Kelvin Wang Approved By: Shu-Wen Kao

~~Safe Drinking Water Act Volatile Organics (CONT.)~~

Method 524.2

Client Name: Dames & Moore
Client ID: TRIP BLANK
Lab ID: 015001-0017-TB
Matrix: AQUEOUS Sampled: 10 JUL 91 Received: 12 JUL 91
Authorized: 12 JUL 91 Prepared: NA Analyzed: 17 JUL 91

Parameter	Result	Units	Reporting Limit
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	ND	ug/L	0.50
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	ND	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	3.4	ug/L	0.50
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50

Surrogate	Recovery		
4-Bromofluorobenzene	94	%	--

ND = Not detected
NA = Not applicable

Reported By: Kelvin Wang Approved By: Shu-Wen Ka

Enseco

METHOD BLANK REPORT
Volatile Organics by GC/MS

Analyte	Result	Units	Reporting Limit
Test: 524-SDWA-AP			
Matrix: AQUEOUS			
QC Lot: 17 JUL 91-G QC Run: 17 JUL 91-A			
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	ND	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	ND	ug/L	0.50

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

Enseco

Analyte	Result	Units	Reporting Limit
Test: 524-SDWA-AP			
Matrix: AQUEOUS			
QC Lot: 17 JUL 91-G QC Run: 17 JUL 91-A			
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	ND	ug/L	0.50
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	ND	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	ND	ug/L	0.50
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50
Test: 524-SDWA-AP			
Matrix: AQUEOUS			
QC Lot: 17 JUL 91-G QC Run: 18 JUL 91-A			
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50

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

Analyte	Result	Units	Reporting Limit
Test: 524-SDWA-AP			
Matrix: AQUEOUS			
QC Lot: 17 JUL 91-G QC Run: 18 JUL 91-A			
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	ND	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	ND	ug/L	0.50
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	ND	ug/L	0.50
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	ND	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	ND	ug/L	0.50
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50

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

Analyte	Result	Units	Reporting Limit
Test: 524-SDWA-AP			
Matrix: AQUEOUS			
QC Lot: 17 JUL 91-G QC Run: 18 JUL 91-A			
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50
Test: 524-SDWA-AP			
Matrix: AQUEOUS			
QC Lot: 11 JUL 91-G QC Run: 16 JUL 91-A			
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	ND	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50

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

Analyte	Result	Units	Reporting Limit
Test: 524-SDWA-AP			
Matrix: AQUEOUS			
QC Lot: 11 JUL 91-G QC Run: 16 JUL 91-A			
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	ND	ug/L	0.50
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	ND	ug/L	0.50
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	ND	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	ND	ug/L	0.50
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50

APPENDIX L

LABORATORY SUMMARY SHEETS AND DAMES & MOORE DATA VALIDATION REPORT FOR SEPTEMBER 1991 GROUND WATER SAMPLES

QUALITY ASSURANCE REVIEW

Recticon - Overburden and Bedrock Well Water Samples
Dames & Moore Job No. 10839-047

DATES COLLECTED: 9/17-18/91
DATES OF REVIEW: 10/28-30/91

SDGS #: 16262

INTRODUCTION

This quality assurance review (QAR) is based upon a rigorous review of all data generated from the analysis of aqueous samples which were collected at the Recticon site during September of 1991. The samples which were reviewed are listed in Table 1.

This review has been performed in accordance with the "Functional Guidelines for Evaluating Organics Analyses" (USEPA, March 1990) and "Region III Modifications to the Organic Functional Guidelines (June 1988).

The data were examined to determine usability as well as to determine contractual compliance relative to the requirements and deliverables specified in the approved workplan. Qualifier codes have been assigned to each analytical result, as appropriate, to facilitate data interpretation. The detailed findings of the QAR are provided in the narrative section of this report. The analytical results are presented in the attached sample data summary sheets.

This report provides a critical review of the laboratory performance and reported analytical results. Quality assurance reviews of laboratory generated data routinely identify problems associated with analytical measurements, even from the most experienced and capable laboratories. The nature and extent of discrepancies identified in this critical review should not be interpreted to mean that those results which are qualified are less than valid.

TABLE 1

SAMPLES INCLUDED IN THIS QAR

ENSECO LABORATORY NUMBER	DAMES & MOORE SAMPLE IDENTIFICATION	ANALYTICAL PARAMETERS
16262-001	TB	V
16262-002	OB-2	V
16262-003	OB-4	V
16262-004	OB-5	V
16262-005	OB-6	V
16262-006	OB-7	V
16262-007	OB-8	V
16262-008	FB	V
16262-009	BR-1	V
16262-010	BR-2	V
16262-011	BR-3	V
16262-012	BR-4	V
16262-013	BR-5	V
16262-014	BR-6	V
16262-015	BR-7	V
16262-016	BR-8, MS, MSD	V

V - Volatile
MS - Matrix Spike
MSD - Matrix Spike Duplicate

SECTION 1 QUALITY ASSURANCE REVIEW

A. Organic Data

Fourteen (14) aqueous samples and two (2) quality control samples (field and trip blanks) were collected by Dames & Moore and analyzed by Enseco, Inc., in Somerset, New Jersey. These samples were collectively analyzed for the volatile organic compounds by EPA Method 524.2.

The findings offered in this report are based upon a rigorous review of holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS tuning, and calibrations. The organic analytical results with appropriate qualifiers are attached in the data summary sheets.

Overall, the data quality for this data package was acceptable. With regard to the requirements as specified in the workplan, all deliverables and reporting requirements were met for this data package with the exception of the following.

Correctable Deficiencies

- 1,1-dichloroethane was detected and confirmed in sample OB-5 at 2.3 ug/l. However, it was not identified on the summary sheet. Enseco should issue a new data summary sheets.
- For sample BR-8, benzene should not be flagged with a "J". Enseco should issue new data summary sheets.

Organic Data Qualifiers

- Methylene chloride, chloroform, carbon disulfide, trichlorofluromethane and dichlorodifluoromethane are present in the trip, field and/or laboratory blanks. The reported presence of these constituents in volatile samples above the instrument detection and less than 5 times the blank value are flagged "B" as questionable on the data summary sheets.
- Per CLP protocol, all sample results detected at levels less than the quantitation limit should be considered estimated and have been flagged "J" on the sample data summary.
- As per CLP requirements all results obtained from diluted samples are flagged "D" on the data summary sheets.

B. Conclusion

Based upon the data provided, the majority of the organic data appears to be acceptable. The data validation review has identified aspects of the analytical data that require qualification. To confidently use any of the data within the data set, the data user should understand the limitations and qualifications presented.

Safe Drinking Water Act Volatile Organics

Enseco
A Corning Company

Method 524.2

Client Name: Dames & Moore
Client ID: OB-2
Lab ID: 016262-0002-SA
Matrix: AQUEOUS Sampled: 17 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 24 SEP 91

Parameter	Result	Units	Reporting Limit	
Benzene	ND	ug/L	0.50	
Bromobenzene	ND	ug/L	0.50	
Bromochloromethane	ND	ug/L	0.50	
Bromodichloromethane	ND	ug/L	0.50	
Bromoform	ND	ug/L	0.50	
Bromomethane	ND	ug/L	0.50	
n-Butylbenzene	ND	ug/L	0.50	
sec-Butylbenzene	ND	ug/L	0.50	
tert-Butylbenzene	ND	ug/L	0.50	
Carbon tetrachloride	ND	ug/L	0.50	
Chlorobenzene	ND	ug/L	0.50	
Chloroethane	0.37	ug/L	0.50	J
Chloroform	0.080	ug/L	0.50	J
Chloromethane	ND	ug/L	0.50	
2-Chlorotoluene	ND	ug/L	0.50	
4-Chlorotoluene	ND	ug/L	0.50	
Dibromochloromethane	ND	ug/L	0.50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	
Dibromomethane	ND	ug/L	0.50	
1,2-Dichlorobenzene	ND	ug/L	0.50	
1,3-Dichlorobenzene	ND	ug/L	0.50	
1,4-Dichlorobenzene	ND	ug/L	0.50	
Dichlorodifluoromethane	ND	ug/L	0.50	
1,1-Dichloroethane	10	ug/L	0.50	
1,2-Dichloroethane	4.7	ug/L	0.50	
1,1-Dichloroethene	0.41	ug/L	0.50	J
cis-1,2-Dichloroethene	67	ug/L	2.5	D
trans-1,2-Dichloroethene	0.34	ug/L	0.50	J
1,2-Dichloropropane	ND	ug/L	0.50	
1,3-Dichloropropane	ND	ug/L	0.50	
2,2-Dichloropropane	ND	ug/L	0.50	
1,1-Dichloropropene	ND	ug/L	0.50	
cis-1,3-Dichloropropene	ND	ug/L	0.50	
trans-1,3-Dichloropropene	ND	ug/L	0.50	
Ethylbenzene	ND	ug/L	0.50	
Hexachlorobutadiene	ND	ug/L	0.50	
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50	
Methylene chloride	2.2	ug/L	0.50	B

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By: Khaja Ezazuddin

AR303015

Enseco

Method 524.2

Client Name: Dames & Moore
Client ID: OB-2
Lab ID: 016262-0002-SA
Matrix: AQUEOUS Sampled: 17 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 24 SEP 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	0.17	ug/L	0.50	J
Toluene	ND	ug/L	0.50	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	6.2	ug/L	0.50	
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	100	ug/L	2.5	D
Trichlorofluoromethane	ND	ug/L	0.50	
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	ND	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	

Surrogate	Recovery		
4-Bromofluorobenzene	96	%	--

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

Note D : Compound quantitated using a secondary dilution.

Note B : Compound is also detected in the blank.

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By: AR303016

Volatiles Library Search (15 Compound TID)

Enseco
A Corning Company

Method 524

Client Name: Dames & Moore
Client ID: OB-2
Lab ID: 016262-0002-SA
Matrix: AQUEOUS Sampled: 17 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 24 SEP 91

Parameter	Result	Units	Reporting Limit	
tert Butyl Methyl ether	1.2	ug/L		J
Carbon disulfide	17	ug/L		JB
TID Compound 3	ND	ug/L		
TID Compound 4	ND	ug/L		
TID Compound 5	ND	ug/L		
TID Compound 6	ND	ug/L		
TID Compound 7	ND	ug/L		
TID Compound 8	ND	ug/L		
TID Compound 9	ND	ug/L		
TID Compound 10	ND	ug/L		
TID Compound 11	ND	ug/L		
TID Compound 12	ND	ug/L		
TID Compound 13	ND	ug/L		
TID Compound 14	ND	ug/L		
TID Compound 15	ND	ug/L		

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: David Ercoliani Approved By: AR303017

Safe Drinking Water Act Volatile Organics

Enseco

Method 524.2

Client Name: Dames & Moore
Client ID: OB-4
Lab ID: 016262-0003-SA
Matrix: AQUEOUS Sampled: 18 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 24 SEP 91

Parameter	Result	Units	Reporting Limit	
Benzene	ND	ug/L	0.50	
Bromobenzene	ND	ug/L	0.50	
Bromochloromethane	ND	ug/L	0.50	
Bromodichloromethane	ND	ug/L	0.50	
Bromoform	ND	ug/L	0.50	
Bromomethane	ND	ug/L	0.50	
n-Butylbenzene	ND	ug/L	0.50	
sec-Butylbenzene	ND	ug/L	0.50	
tert-Butylbenzene	ND	ug/L	0.50	
Carbon tetrachloride	ND	ug/L	0.50	
Chlorobenzene	ND	ug/L	0.50	
Chloroethane	ND	ug/L	0.50	
Chloroform	ND	ug/L	0.50	
Chloromethane	ND	ug/L	0.50	
2-Chlorotoluene	ND	ug/L	0.50	
4-Chlorotoluene	ND	ug/L	0.50	
Dibromochloromethane	ND	ug/L	0.50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	
Dibromomethane	ND	ug/L	0.50	
1,2-Dichlorobenzene	ND	ug/L	0.50	
1,3-Dichlorobenzene	ND	ug/L	0.50	
1,4-Dichlorobenzene	ND	ug/L	0.50	
Dichlorodifluoromethane	ND	ug/L	0.50	
1,1-Dichloroethane	ND	ug/L	0.50	
1,2-Dichloroethane	ND	ug/L	0.50	
1,1-Dichloroethene	ND	ug/L	0.50	
cis-1,2-Dichloroethene	ND	ug/L	0.50	
trans-1,2-Dichloroethene	ND	ug/L	0.50	
1,2-Dichloropropane	ND	ug/L	0.50	
1,3-Dichloropropane	ND	ug/L	0.50	
2,2-Dichloropropane	ND	ug/L	0.50	
1,1-Dichloropropene	ND	ug/L	0.50	
cis-1,3-Dichloropropene	ND	ug/L	0.50	
trans-1,3-Dichloropropene	ND	ug/L	0.50	
Ethylbenzene	ND	ug/L	0.50	
Hexachlorobutadiene	ND	ug/L	0.50	
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50	
Methylene chloride	0.29	ug/L	0.50	BJ

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By: Khaja Eazazuddin

Enseco
A Corning Company

Method 524.2

Client Name: Dames & Moore
Client ID: OB-4
Lab ID: 016262-0003-SA
Matrix: AQUEOUS Sampled: 18 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 24 SEP 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	ND	ug/L	0.50	
Toluene	0.080	ug/L	0.50	J
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	ND	ug/L	0.50	
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	0.17	ug/L	0.50	J
Trichlorofluoromethane	ND	ug/L	0.50	
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	ND	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	

Surrogate	Recovery		
4-Bromofluorobenzene	96	%	--

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: David Ercoliani Approved By: Khaja

Volatiles Library Search (15 Compound TID)

Enseco
A Corning Company

Method 524

Client Name: Dames & Moore
Client ID: OB-4
Lab ID: 016262-0003-SA
Matrix: AQUEOUS Sampled: 18 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 24 SEP 91

Parameter	Result	Units	Reporting Limit	
Carbon disulfide	4.9	ug/L		JB
TID Compound 2	ND	ug/L		
TID Compound 3	ND	ug/L		
TID Compound 4	ND	ug/L		
TID Compound 5	ND	ug/L		
TID Compound 6	ND	ug/L		
TID Compound 7	ND	ug/L		
TID Compound 8	ND	ug/L		
TID Compound 9	ND	ug/L		
TID Compound 10	ND	ug/L		
TID Compound 11	ND	ug/L		
TID Compound 12	ND	ug/L		
TID Compound 13	ND	ug/L		
TID Compound 14	ND	ug/L		
TID Compound 15	ND	ug/L		

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: David Ercoliani Approved By: Khaja-Fazal

AR303020

Safe Drinking Water Act Volatile Organics

Enseco
A Corning Company

Method 524.2

Client Name: Dames & Moore
Client ID: OB-5
Lab ID: 016262-0004-SA
Matrix: AQUEOUS Sampled: 18 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 24 SEP 91

Parameter	Result	Units	Reporting Limit	
Benzene	ND	ug/L	0.50	
Bromobenzene	ND	ug/L	0.50	
Bromochloromethane	ND	ug/L	0.50	
Bromodichloromethane	ND	ug/L	0.50	
Bromoform	ND	ug/L	0.50	
Bromomethane	ND	ug/L	0.50	
n-Butylbenzene	ND	ug/L	0.50	
sec-Butylbenzene	ND	ug/L	0.50	
tert-Butylbenzene	ND	ug/L	0.50	
Carbon tetrachloride	ND	ug/L	0.50	
Chlorobenzene	ND	ug/L	0.50	
Chloroethane	ND	ug/L	0.50	
Chloroform	ND	ug/L	0.50	
Chloromethane	4.3	ug/L	0.50	
2-Chlorotoluene	ND	ug/L	0.50	
4-Chlorotoluene	ND	ug/L	0.50	
Dibromochloromethane	ND	ug/L	0.50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	
Dibromomethane	ND	ug/L	0.50	
1,2-Dichlorobenzene	ND	ug/L	0.50	
1,3-Dichlorobenzene	ND	ug/L	0.50	
1,4-Dichlorobenzene	ND	ug/L	0.50	
Dichlorodifluoromethane	ND	ug/L	0.50	
1,1-Dichloroethane	ND	ug/L	0.50	
1,2-Dichloroethane	2.2	ug/L	0.50	
1,1-Dichloroethene	ND	ug/L	0.50	
cis-1,2-Dichloroethene	21	ug/L	0.50	
trans-1,2-Dichloroethene	0.13	ug/L	0.50	J
1,2-Dichloropropane	ND	ug/L	0.50	
1,3-Dichloropropane	ND	ug/L	0.50	
2,2-Dichloropropane	ND	ug/L	0.50	
1,1-Dichloropropene	ND	ug/L	0.50	
cis-1,3-Dichloropropene	ND	ug/L	0.50	
trans-1,3-Dichloropropene	ND	ug/L	0.50	
Ethylbenzene	ND	ug/L	0.50	
Hexachlorobutadiene	ND	ug/L	0.50	
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50	
Methylene chloride	0.86	ug/L	0.50	B

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By: Khaja Eazazuddin

Safe Drinking Water Act Volatile Organics (CONT.)

Enseco
A Corning Company

Method 524.2

Client Name: Dames & Moore
Client ID: OB-5
Lab ID: 016262-0004-SA
Matrix: AQUEOUS Sampled: 18 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 24 SEP 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	0.070	ug/L	0.50	J
Toluene	ND	ug/L	0.50	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	1.7	ug/L	0.50	
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	48	ug/L	1.0	D
Trichlorofluoromethane	ND	ug/L	0.50	
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	ND	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	

Surrogate	Recovery		
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 D : Compound quantitated using a secondary dilution.

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By: Kh

AR308022

Volatiles Library Search (15 Compound TID)

Enseco
A Corning Company

Method 524

Client Name: Dames & Moore
Client ID: OB-5
Lab ID: 016262-0004-SA
Matrix: AQUEOUS Sampled: 18 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 24 SEP 91

Parameter	Result	Units	Reporting Limit	
Carbon disulfide	2.9	ug/L		JB
C5H10 Isomer.	2.0	ug/L		J
Unknown	2.0	ug/L		J
TID Compound 4	ND	ug/L		
TID Compound 5	ND	ug/L		
TID Compound 6	ND	ug/L		
TID Compound 7	ND	ug/L		
TID Compound 8	ND	ug/L		
TID Compound 9	ND	ug/L		
TID Compound 10	ND	ug/L		
TID Compound 11	ND	ug/L		
TID Compound 12	ND	ug/L		
TID Compound 13	ND	ug/L		
TID Compound 14	ND	ug/L		
TID Compound 15	ND	ug/L		

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: David Ercoliani Approved By: AR303023

Safe Drinking Water Act Volatile Organics

Enseco

Method 524.2

Client Name: Dames & Moore
Client ID: OB-6
Lab ID: 016262-0005-SA
Matrix: AQUEOUS Sampled: 18 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 24 SEP 91

Parameter	Result	Units	Reporting Limit	
Benzene	ND	ug/L	0.50	
Bromobenzene	ND	ug/L	0.50	
Bromochloromethane	ND	ug/L	0.50	
Bromodichloromethane	ND	ug/L	0.50	
Bromoform	ND	ug/L	0.50	
Bromomethane	ND	ug/L	0.50	
n-Butylbenzene	ND	ug/L	0.50	
sec-Butylbenzene	ND	ug/L	0.50	
tert-Butylbenzene	ND	ug/L	0.50	
Carbon tetrachloride	ND	ug/L	0.50	
Chlorobenzene	ND	ug/L	0.50	
Chloroethane	ND	ug/L	0.50	
Chloroform	ND	ug/L	0.50	
Chloromethane	ND	ug/L	0.50	
2-Chlorotoluene	ND	ug/L	0.50	
4-Chlorotoluene	ND	ug/L	0.50	
Dibromochloromethane	ND	ug/L	0.50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	
Dibromomethane	ND	ug/L	0.50	
1,2-Dichlorobenzene	ND	ug/L	0.50	
1,3-Dichlorobenzene	ND	ug/L	0.50	
1,4-Dichlorobenzene	ND	ug/L	0.50	
Dichlorodifluoromethane	ND	ug/L	0.50	
1,1-Dichloroethane	0.090	ug/L	0.50	J
1,2-Dichloroethane	ND	ug/L	0.50	
1,1-Dichloroethene	ND	ug/L	0.50	
cis-1,2-Dichloroethene	0.35	ug/L	0.50	J
trans-1,2-Dichloroethene	ND	ug/L	0.50	
1,2-Dichloropropane	ND	ug/L	0.50	
1,3-Dichloropropane	ND	ug/L	0.50	
2,2-Dichloropropane	ND	ug/L	0.50	
1,1-Dichloropropene	ND	ug/L	0.50	
cis-1,3-Dichloropropene	ND	ug/L	0.50	
trans-1,3-Dichloropropene	ND	ug/L	0.50	
Ethylbenzene	ND	ug/L	0.50	
Hexachlorobutadiene	ND	ug/L	0.50	
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50	
Methylene chloride	0.24	ug/L	0.50	BJ

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By: Khaja Eazazuddin

Enseco
A Corning Company

Method 524.2

Client Name: Dames & Moore
Client ID: OB-6
Lab ID: 016262-0005-SA
Matrix: AQUEOUS Sampled: 18 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 24 SEP 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	17	ug/L	0.50	
Toluene	ND	ug/L	0.50	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	0.11	ug/L	0.50	J
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	1.0	ug/L	0.50	
Trichlorofluoromethane	ND	ug/L	0.50	
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	ND	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	

Surrogate	Recovery		
4-Bromofluorobenzene	94	%	--

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: David Ercoliani Approved By: Khaja Eaz

Volatiles Library Search (15 Compound TID)

Enseco

Method 524

Client Name: Dames & Moore
Client ID: OB-6
Lab ID: 016262-0005-SA
Matrix: AQUEOUS Sampled: 18 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 24 SEP 91

Parameter	Result	Units	Reporting Limit	
Carbon disulfide	3.9	ug/L		JB
TID Compound 2	ND	ug/L		
TID Compound 3	ND	ug/L		
TID Compound 4	ND	ug/L		
TID Compound 5	ND	ug/L		
TID Compound 6	ND	ug/L		
TID Compound 7	ND	ug/L		
TID Compound 8	ND	ug/L		
TID Compound 9	ND	ug/L		
TID Compound 10	ND	ug/L		
TID Compound 11	ND	ug/L		
TID Compound 12	ND	ug/L		
TID Compound 13	ND	ug/L		
TID Compound 14	ND	ug/L		
TID Compound 15	ND	ug/L		

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: David Ercoliani Approved By: Kha

AR303026

000015

Safe Drinking Water Act Volatile Organics

Enseco
A Corning Company

Method 524.2

Client Name: Dames & Moore
Client ID: OB-7
Lab ID: 016262-0006-SA
Matrix: AQUEOUS Sampled: 18 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 24 SEP 91

Parameter	Result	Units	Reporting Limit	
Benzene	ND	ug/L	0.50	
Bromobenzene	ND	ug/L	0.50	
Bromochloromethane	ND	ug/L	0.50	
Bromodichloromethane	ND	ug/L	0.50	
Bromoform	ND	ug/L	0.50	
Bromomethane	ND	ug/L	0.50	
n-Butylbenzene	ND	ug/L	0.50	
sec-Butylbenzene	ND	ug/L	0.50	
tert-Butylbenzene	ND	ug/L	0.50	
Carbon tetrachloride	ND	ug/L	0.50	
Chlorobenzene	ND	ug/L	0.50	
Chloroethane	ND	ug/L	0.50	
Chloroform	ND	ug/L	0.50	
Chloromethane	ND	ug/L	0.50	
2-Chlorotoluene	ND	ug/L	0.50	
4-Chlorotoluene	ND	ug/L	0.50	
Dibromochloromethane	ND	ug/L	0.50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	
Dibromomethane	ND	ug/L	0.50	
1,2-Dichlorobenzene	ND	ug/L	0.50	
1,3-Dichlorobenzene	ND	ug/L	0.50	
1,4-Dichlorobenzene	ND	ug/L	0.50	
Dichlorodifluoromethane	ND	ug/L	0.50	
1,1-Dichloroethane	ND	ug/L	0.50	
1,2-Dichloroethane	ND	ug/L	0.50	
1,1-Dichloroethene	ND	ug/L	0.50	
cis-1,2-Dichloroethene	0.13	ug/L	0.50	J
trans-1,2-Dichloroethene	ND	ug/L	0.50	
1,2-Dichloropropane	ND	ug/L	0.50	
1,3-Dichloropropane	ND	ug/L	0.50	
2,2-Dichloropropane	ND	ug/L	0.50	
1,1-Dichloropropene	ND	ug/L	0.50	
cis-1,3-Dichloropropene	ND	ug/L	0.50	
trans-1,3-Dichloropropene	ND	ug/L	0.50	
Ethylbenzene	ND	ug/L	0.50	
Hexachlorobutadiene	ND	ug/L	0.50	
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50	
Methylene chloride	0.36	ug/L	0.50	BJ

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By: Khaja Eazazuddin

Safe Drinking Water Act Volatile Organics (CONT.)

Enseco

Method 524.2

Client Name: Dames & Moore
Client ID: OB-7
Lab ID: 016262-0006-SA
Matrix: AQUEOUS Sampled: 18 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 24 SEP 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	3.7	ug/L	0.50	
Toluene	ND	ug/L	0.50	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	0.11	ug/L	0.50	J
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	2.4	ug/L	0.50	
Trichlorofluoromethane	ND	ug/L	0.50	
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	ND	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	

Surrogate	Recovery		
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: David Ercoliani Approved By: Khaja

AR303028

Volatiles Library Search (15 Compound TID)

Enseco
A Corning Company

Method 524

Client Name: Dames & Moore
Client ID: OB-7
Lab ID: 016262-0006-SA
Matrix: AQUEOUS Sampled: 18 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 24 SEP 91

Parameter	Result	Units	Reporting Limit	
Carbon disulfide	1.3	ug/L		JB
TID Compound 2	ND	ug/L		
TID Compound 3	ND	ug/L		
TID Compound 4	ND	ug/L		
TID Compound 5	ND	ug/L		
TID Compound 6	ND	ug/L		
TID Compound 7	ND	ug/L		
TID Compound 8	ND	ug/L		
TID Compound 9	ND	ug/L		
TID Compound 10	ND	ug/L		
TID Compound 11	ND	ug/L		
TID Compound 12	ND	ug/L		
TID Compound 13	ND	ug/L		
TID Compound 14	ND	ug/L		
TID Compound 15	ND	ug/L		

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: David Ercoliani Approved By: Khaja Eazazuddin

Safe Drinking Water Act Volatile Organics

Enseco

Method 524.2

Client Name: Dames & Moore
Client ID: OB-8
Lab ID: 016262-0007-SA
Matrix: AQUEOUS Sampled: 18 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 24 SEP 91

Parameter	Result	Units	Reporting Limit	
Benzene	ND	ug/L	0.50	
Bromobenzene	ND	ug/L	0.50	
Bromochloromethane	ND	ug/L	0.50	
Bromodichloromethane	ND	ug/L	0.50	
Bromoform	ND	ug/L	0.50	
Bromomethane	ND	ug/L	0.50	
n-Butylbenzene	ND	ug/L	0.50	
sec-Butylbenzene	ND	ug/L	0.50	
tert-Butylbenzene	ND	ug/L	0.50	
Carbon tetrachloride	ND	ug/L	0.50	
Chlorobenzene	ND	ug/L	0.50	
Chloroethane	ND	ug/L	0.50	
Chloroform	0.060	ug/L	0.50	J
Chloromethane	ND	ug/L	0.50	
2-Chlorotoluene	ND	ug/L	0.50	
4-Chlorotoluene	ND	ug/L	0.50	
Dibromochloromethane	ND	ug/L	0.50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	
Dibromomethane	ND	ug/L	0.50	
1,2-Dichlorobenzene	ND	ug/L	0.50	
1,3-Dichlorobenzene	ND	ug/L	0.50	
1,4-Dichlorobenzene	ND	ug/L	0.50	
Dichlorodifluoromethane	ND	ug/L	0.50	
1,1-Dichloroethane	4.1	ug/L	0.50	
1,2-Dichloroethane	4.9	ug/L	0.50	
1,1-Dichloroethene	0.15	ug/L	0.50	J
cis-1,2-Dichloroethene	50	ug/L	2.5	D
trans-1,2-Dichloroethene	0.21	ug/L	0.50	J
1,2-Dichloropropane	ND	ug/L	0.50	
1,3-Dichloropropane	ND	ug/L	0.50	
2,2-Dichloropropane	ND	ug/L	0.50	
1,1-Dichloropropene	ND	ug/L	0.50	
cis-1,3-Dichloropropene	ND	ug/L	0.50	
trans-1,3-Dichloropropene	ND	ug/L	0.50	
Ethylbenzene	ND	ug/L	0.50	
Hexachlorobutadiene	ND	ug/L	0.50	
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50	
Methylene chloride	1.2	ug/L	0.50	B

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By: Khaja Ahmad

Enseco
A Corning Company

Method 524.2

Client Name: Dames & Moore
Client ID: OB-8
Lab ID: 016262-0007-SA
Matrix: AQUEOUS Sampled: 18 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 24 SEP 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	0.080	ug/L	0.50	J
Toluene	ND	ug/L	0.50	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	3.0	ug/L	0.50	
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	130	ug/L	2.5	D
Trichlorofluoromethane	ND	ug/L	0.50	
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	ND	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	

Surrogate	Recovery		
4-Bromofluorobenzene	94	%	--

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

Note D : Compound quantitated using a secondary dilution.

Note B : Compound is also detected in the blank.

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By:

Volatiles Library Search (15 Compound TID)

Enseco

Method 524

Client Name: Dames & Moore
Client ID: OB-8
Lab ID: 016262-0007-SA
Matrix: AQUEOUS Sampled: 18 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 24 SEP 91

Parameter	Result	Units	Reporting Limit	
tert Butyl Methyl ether	0.72	ug/L		J
Carbon disulfide	6.8	ug/L		J
TID Compound 3	ND	ug/L		
TID Compound 4	ND	ug/L		
TID Compound 5	ND	ug/L		
TID Compound 6	ND	ug/L		
TID Compound 7	ND	ug/L		
TID Compound 8	ND	ug/L		
TID Compound 9	ND	ug/L		
TID Compound 10	ND	ug/L		
TID Compound 11	ND	ug/L		
TID Compound 12	ND	ug/L		
TID Compound 13	ND	ug/L		
TID Compound 14	ND	ug/L		
TID Compound 15	ND	ug/L		

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

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By: Khaja Eazazuddin

Safe Drinking Water Act Volatile Organics

Enseco
A Corning Company

Method 524.2

Client Name: Dames & Moore
Client ID: BR-1
Lab ID: 016262-0009-SA
Matrix: AQUEOUS Sampled: 18 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 26 SEP 91

Parameter	Result	Units	Reporting Limit	
Benzene	ND	ug/L	0.50	
Bromobenzene	ND	ug/L	0.50	
Bromochloromethane	ND	ug/L	0.50	
Bromodichloromethane	ND	ug/L	0.50	
Bromoform	ND	ug/L	0.50	
Bromomethane	ND	ug/L	0.50	
n-Butylbenzene	ND	ug/L	0.50	
sec-Butylbenzene	ND	ug/L	0.50	
tert-Butylbenzene	ND	ug/L	0.50	
Carbon tetrachloride	ND	ug/L	0.50	
Chlorobenzene	ND	ug/L	0.50	
Chloroethane	ND	ug/L	0.50	
Chloroform	ND	ug/L	0.50	
Chloromethane	ND	ug/L	0.50	
2-Chlorotoluene	ND	ug/L	0.50	
4-Chlorotoluene	ND	ug/L	0.50	
Dibromochloromethane	ND	ug/L	0.50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	
Dibromomethane	ND	ug/L	0.50	
1,2-Dichlorobenzene	ND	ug/L	0.50	
1,3-Dichlorobenzene	ND	ug/L	0.50	
1,4-Dichlorobenzene	ND	ug/L	0.50	
Dichlorodifluoromethane	ND	ug/L	0.50	
1,1-Dichloroethane	ND	ug/L	0.50	
1,2-Dichloroethane	ND	ug/L	0.50	
1,1-Dichloroethene	ND	ug/L	0.50	
cis-1,2-Dichloroethene	ND	ug/L	0.50	
trans-1,2-Dichloroethene	ND	ug/L	0.50	
1,2-Dichloropropane	ND	ug/L	0.50	
1,3-Dichloropropane	ND	ug/L	0.50	
2,2-Dichloropropane	ND	ug/L	0.50	
1,1-Dichloropropene	ND	ug/L	0.50	
cis-1,3-Dichloropropene	ND	ug/L	0.50	
trans-1,3-Dichloropropene	ND	ug/L	0.50	
Ethylbenzene	ND	ug/L	0.50	
Hexachlorobutadiene	ND	ug/L	0.50	
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50	
Methylene chloride	0.19	ug/L	0.50	J

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By: Khaja Kazazuddin

Safe Drinking Water Act Volatile Organics (CONT.)

Enseco

Method 524.2

Client Name: Dames & Moore
Client ID: BR-1
Lab ID: 016262-0009-SA
Matrix: AQUEOUS Sampled: 18 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 26 SEP 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	ND	ug/L	0.50	
Toluene	ND	ug/L	0.50	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	ND	ug/L	0.50	
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	0.30	ug/L	0.50	J
Trichlorofluoromethane	0.91	ug/L	0.50	B
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	ND	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	

Surrogate	Recovery		
4-Bromofluorobenzene	96	%	--

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: David Ercoliani Approved By: Khaja Eazazuddin

Volatiles Library Search (15 Compound TID)

Enseco
A Corning Company

Method 524

Client Name: Dames & Moore
Client ID: BR-1
Lab ID: 016262-0009-SA
Matrix: AQUEOUS Sampled: 18 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 26 SEP 91

Parameter	Result	Units	Reporting Limit	
Carbon disulfide	11	ug/L		J
TID Compound 2	ND	ug/L		
TID Compound 3	ND	ug/L		
TID Compound 4	ND	ug/L		
TID Compound 5	ND	ug/L		
TID Compound 6	ND	ug/L		
TID Compound 7	ND	ug/L		
TID Compound 8	ND	ug/L		
TID Compound 9	ND	ug/L		
TID Compound 10	ND	ug/L		
TID Compound 11	ND	ug/L		
TID Compound 12	ND	ug/L		
TID Compound 13	ND	ug/L		
TID Compound 14	ND	ug/L		
TID Compound 15	ND	ug/L		

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

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By: Khaja Eazazuddin

Safe Drinking Water Act Volatile Organics

Enseco

Method 524.2

Client Name: Dames & Moore
Client ID: BR-2
Lab ID: 016262-0010-SA
Matrix: AQUEOUS Sampled: 17 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 24 SEP 91

Parameter	Result	Units	Reporting Limit	
Benzene	0.080	ug/L	0.50	J
Bromobenzene	ND	ug/L	0.50	
Bromochloromethane	ND	ug/L	0.50	
Bromodichloromethane	ND	ug/L	0.50	
Bromoform	ND	ug/L	0.50	
Bromomethane	ND	ug/L	0.50	
n-Butylbenzene	ND	ug/L	0.50	
sec-Butylbenzene	ND	ug/L	0.50	
tert-Butylbenzene	ND	ug/L	0.50	
Carbon tetrachloride	ND	ug/L	0.50	
Chlorobenzene	ND	ug/L	0.50	
Chloroethane	ND	ug/L	0.50	
Chloroform	0.080	ug/L	0.50	J
Chloromethane	1.0	ug/L	0.50	
2-Chlorotoluene	ND	ug/L	0.50	
4-Chlorotoluene	ND	ug/L	0.50	
Dibromochloromethane	ND	ug/L	0.50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	
Dibromomethane	ND	ug/L	0.50	
1,2-Dichlorobenzene	ND	ug/L	0.50	
1,3-Dichlorobenzene	ND	ug/L	0.50	
1,4-Dichlorobenzene	ND	ug/L	0.50	
Dichlorodifluoromethane	ND	ug/L	0.50	
1,1-Dichloroethane	0.18	ug/L	0.50	J
1,2-Dichloroethane	ND	ug/L	0.50	
1,1-Dichloroethene	0.33	ug/L	0.50	J
cis-1,2-Dichloroethene	94	ug/L	12	D
trans-1,2-Dichloroethene	ND	ug/L	0.50	
1,2-Dichloropropane	ND	ug/L	0.50	
1,3-Dichloropropane	ND	ug/L	0.50	
2,2-Dichloropropane	ND	ug/L	0.50	
1,1-Dichloropropene	ND	ug/L	0.50	
cis-1,3-Dichloropropene	ND	ug/L	0.50	
trans-1,3-Dichloropropene	ND	ug/L	0.50	
Ethylbenzene	ND	ug/L	0.50	
Hexachlorobutadiene	ND	ug/L	0.50	
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50	
Methylene chloride	0.53	ug/L	0.50	B

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By: Khaja Eazazuddin

Safe Drinking Water Act Volatile Organics (CONT.)

Enseco
A Corning Company

Method 524.2

Client Name: Dames & Moore
Client ID: BR-2
Lab ID: 016262-0010-SA
Matrix: AQUEOUS Sampled: 17 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 24 SEP 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	ND	ug/L	0.50	
Toluene	ND	ug/L	0.50	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	0.36	ug/L	0.50	J
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	490	ug/L	12	D
Trichlorofluoromethane	ND	ug/L	0.50	
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	ND	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	

Surrogate	Recovery		
4-Bromofluorobenzene	92	%	--

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

Note D : Compound quantitated using a secondary dilution.

Note B : Compound is also detected in the blank.

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By: Khalid Ezzaddin

AR305037

Volatiles Library Search (15 Compound TID)

Enseco

Method 524

Client Name: Dames & Moore
Client ID: BR-2
Lab ID: 016262-0010-SA
Matrix: AQUEOUS Sampled: 17 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 24 SEP 91

Parameter	Result	Units	Reporting Limit	
tert Butyl Methyl ether	0.85	ug/L		J
Carbon disulfide	9.2	ug/L		J
TID Compound 3	ND	ug/L		
TID Compound 4	ND	ug/L		
TID Compound 5	ND	ug/L		
TID Compound 6	ND	ug/L		
TID Compound 7	ND	ug/L		
TID Compound 8	ND	ug/L		
TID Compound 9	ND	ug/L		
TID Compound 10	ND	ug/L		
TID Compound 11	ND	ug/L		
TID Compound 12	ND	ug/L		
TID Compound 13	ND	ug/L		
TID Compound 14	ND	ug/L		
TID Compound 15	ND	ug/L		

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

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By: Khaja Eazazuddin

Safe Drinking Water Act Volatile Organics

Enseco

Method 524.2

Client Name: Dames & Moore
Client ID: BR-3
Lab ID: 016262-0011-SA
Matrix: AQUEOUS Sampled: 17 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 24 SEP 91

Parameter	Result	Units	Reporting Limit	
Benzene	0.17	ug/L	0.50	J
Bromobenzene	ND	ug/L	0.50	
Bromochloromethane	ND	ug/L	0.50	
Bromodichloromethane	ND	ug/L	0.50	
Bromoform	ND	ug/L	0.50	
Bromomethane	ND	ug/L	0.50	
n-Butylbenzene	ND	ug/L	0.50	
sec-Butylbenzene	ND	ug/L	0.50	
tert-Butylbenzene	ND	ug/L	0.50	
Carbon tetrachloride	ND	ug/L	0.50	
Chlorobenzene	ND	ug/L	0.50	
Chloroethane	0.31	ug/L	0.50	J
Chloroform	0.25	ug/L	0.50	J
Chloromethane	ND	ug/L	0.50	
2-Chlorotoluene	ND	ug/L	0.50	
4-Chlorotoluene	ND	ug/L	0.50	
Dibromochloromethane	ND	ug/L	0.50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	
Dibromomethane	ND	ug/L	0.50	
1,2-Dichlorobenzene	ND	ug/L	0.50	
1,3-Dichlorobenzene	ND	ug/L	0.50	
1,4-Dichlorobenzene	ND	ug/L	0.50	
Dichlorodifluoromethane	0.84	ug/L	0.50	B
1,1-Dichloroethane	2.2	ug/L	0.50	
1,2-Dichloroethane	ND	ug/L	0.50	
1,1-Dichloroethene	2.6	ug/L	0.50	
cis-1,2-Dichloroethene	540	ug/L	25	D
trans-1,2-Dichloroethene	0.53	ug/L	0.50	
1,2-Dichloropropane	ND	ug/L	0.50	
1,3-Dichloropropane	ND	ug/L	0.50	
2,2-Dichloropropane	ND	ug/L	0.50	
1,1-Dichloropropene	ND	ug/L	0.50	
cis-1,3-Dichloropropene	ND	ug/L	0.50	
trans-1,3-Dichloropropene	ND	ug/L	0.50	
Ethylbenzene	ND	ug/L	0.50	
Hexachlorobutadiene	ND	ug/L	0.50	
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50	
Methylene chloride	0.24	ug/L	0.50	BJ

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By: Khaja Eazazuddin

Safe Drinking Water Act Volatile Organics (CONT.)

Enseco

Method 524.2

Client Name: Dames & Moore
Client ID: BR-3
Lab ID: 016262-0011-SA
Matrix: AQUEOUS Sampled: 17 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 24 SEP 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	0.12	ug/L	0.50	J
Toluene	ND	ug/L	0.50	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	1.6	ug/L	0.50	
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	1400	ug/L	25	D
Trichlorofluoromethane	ND	ug/L	0.50	
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	0.89	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	

Surrogate	Recovery		
4-Bromofluorobenzene	92	%	--

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

Note B : Compound is also detected in the blank.

Note D : Compound quantitated using a secondary dilution.

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By: Khaja Fazazuddin

Volatiles Library Search (15 Compound TID)

Enseco
A Corning Company

Method 524

Client Name: Dames & Moore
Client ID: BR-3
Lab ID: 016262-0011-SA
Matrix: AQUEOUS Sampled: 17 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 24 SEP 91

Parameter	Result	Units	Reporting Limit	
tert Butyl Methyl ether	0.41	ug/L		J
Carbon disulfide	3.3	ug/L		J
TID Compound 3	ND	ug/L		
TID Compound 4	ND	ug/L		
TID Compound 5	ND	ug/L		
TID Compound 6	ND	ug/L		
TID Compound 7	ND	ug/L		
TID Compound 8	ND	ug/L		
TID Compound 9	ND	ug/L		
TID Compound 10	ND	ug/L		
TID Compound 11	ND	ug/L		
TID Compound 12	ND	ug/L		
TID Compound 13	ND	ug/L		
TID Compound 14	ND	ug/L		
TID Compound 15	ND	ug/L		

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

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By: Khaja Eazazuddin

Safe Drinking Water Act Volatile Organics

Enseco

Method 524.2

Client Name: Dames & Moore
Client ID: BR-4
Lab ID: 016262-0012-SA
Matrix: AQUEOUS Sampled: 18 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 23 SEP 91

Parameter	Result	Units	Reporting Limit	
Benzene	ND	ug/L	0.50	
Bromobenzene	ND	ug/L	0.50	
Bromochloromethane	ND	ug/L	0.50	
Bromodichloromethane	ND	ug/L	0.50	
Bromoform	ND	ug/L	0.50	
Bromomethane	ND	ug/L	0.50	
n-Butylbenzene	ND	ug/L	0.50	
sec-Butylbenzene	ND	ug/L	0.50	
tert-Butylbenzene	ND	ug/L	0.50	
Carbon tetrachloride	ND	ug/L	0.50	
Chlorobenzene	ND	ug/L	0.50	
Chloroethane	ND	ug/L	0.50	
Chloroform	0.070	ug/L	0.50	J
Chloromethane	ND	ug/L	0.50	
2-Chlorotoluene	ND	ug/L	0.50	
4-Chlorotoluene	ND	ug/L	0.50	
Dibromochloromethane	ND	ug/L	0.50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	
Dibromomethane	ND	ug/L	0.50	
1,2-Dichlorobenzene	ND	ug/L	0.50	
1,3-Dichlorobenzene	ND	ug/L	0.50	
1,4-Dichlorobenzene	ND	ug/L	0.50	
Dichlorodifluoromethane	ND	ug/L	0.50	
1,1-Dichloroethane	0.30	ug/L	0.50	J
1,2-Dichloroethane	ND	ug/L	0.50	
1,1-Dichloroethene	0.16	ug/L	0.50	J
cis-1,2-Dichloroethene	8.3	ug/L	0.50	
trans-1,2-Dichloroethene	ND	ug/L	0.50	
1,2-Dichloropropane	ND	ug/L	0.50	
1,3-Dichloropropane	ND	ug/L	0.50	
2,2-Dichloropropane	ND	ug/L	0.50	
1,1-Dichloropropene	ND	ug/L	0.50	
cis-1,3-Dichloropropene	ND	ug/L	0.50	
trans-1,3-Dichloropropene	ND	ug/L	0.50	
Ethylbenzene	ND	ug/L	0.50	
Hexachlorobutadiene	ND	ug/L	0.50	
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50	
Methylene chloride	0.15	ug/L	0.50	BJ

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By: Khaja Eazazuddin

Enseco
A Cuming Company

Method 524.2

Client Name: Dames & Moore
Client ID: BR-4
Lab ID: 016262-0012-SA
Matrix: AQUEOUS Sampled: 18 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 23 SEP 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	ND	ug/L	0.50	
Toluene	ND	ug/L	0.50	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	0.23	ug/L	0.50	J
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	78	ug/L	2.5	D
Trichlorofluoromethane	ND	ug/L	0.50	
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	ND	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	

Surrogate	Recovery		
4-Bromofluorobenzene	96	%	--

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

Note B : Compound is also detected in the blank.

Note D : Compound quantitated using a secondary dilution.

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By: Khaja Eazazuddin

Volatiles Library Search (15 Compound TID)

Enseco

Method 524

Client Name: Dames & Moore
Client ID: BR-4
Lab ID: 016262-0012-SA
Matrix: AQUEOUS Sampled: 18 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 23 SEP 91

Parameter	Result	Units	Reporting Limit	
Carbon disulfide	0.69	ug/L		J
tert Butyl Methyl ether	0.25	ug/L		J
TID Compound 3	ND	ug/L		
TID Compound 4	ND	ug/L		
TID Compound 5	ND	ug/L		
TID Compound 6	ND	ug/L		
TID Compound 7	ND	ug/L		
TID Compound 8	ND	ug/L		
TID Compound 9	ND	ug/L		
TID Compound 10	ND	ug/L		
TID Compound 11	ND	ug/L		
TID Compound 12	ND	ug/L		
TID Compound 13	ND	ug/L		
TID Compound 14	ND	ug/L		
TID Compound 15	ND	ug/L		

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

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By: Khaja Bazzaz Khan

AR 303044

Safe Drinking Water Act Volatile Organics

Enseco
A Corning Company

Method 524.2

Client Name: Dames & Moore
Client ID: BR-5
Lab ID: 016262-0013-SA
Matrix: AQUEOUS Sampled: 18 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 23 SEP 91

Parameter	Result	Units	Reporting Limit	
Benzene	0.12	ug/L	0.50	J
Bromobenzene	ND	ug/L	0.50	
Bromochloromethane	ND	ug/L	0.50	
Bromodichloromethane	ND	ug/L	0.50	
Bromoform	ND	ug/L	0.50	
Bromomethane	ND	ug/L	0.50	
n-Butylbenzene	ND	ug/L	0.50	
sec-Butylbenzene	ND	ug/L	0.50	
tert-Butylbenzene	ND	ug/L	0.50	
Carbon tetrachloride	ND	ug/L	0.50	
Chlorobenzene	ND	ug/L	0.50	
Chloroethane	0.32	ug/L	0.50	J
Chloroform	0.14	ug/L	0.50	J
Chloromethane	ND	ug/L	0.50	
2-Chlorotoluene	ND	ug/L	0.50	
4-Chlorotoluene	ND	ug/L	0.50	
Dibromochloromethane	ND	ug/L	0.50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	
Dibromomethane	ND	ug/L	0.50	
1,2-Dichlorobenzene	ND	ug/L	0.50	
1,3-Dichlorobenzene	ND	ug/L	0.50	
1,4-Dichlorobenzene	ND	ug/L	0.50	
Dichlorodifluoromethane	0.29	ug/L	0.50	BJ
1,1-Dichloroethane	2.7	ug/L	0.50	
1,2-Dichloroethane	2.2	ug/L	0.50	
1,1-Dichloroethene	1.3	ug/L	0.50	
cis-1,2-Dichloroethene	270	ug/L	25	D
trans-1,2-Dichloroethene	0.40	ug/L	0.50	J
1,2-Dichloropropane	ND	ug/L	0.50	
1,3-Dichloropropane	ND	ug/L	0.50	
2,2-Dichloropropane	ND	ug/L	0.50	
1,1-Dichloropropene	ND	ug/L	0.50	
cis-1,3-Dichloropropene	ND	ug/L	0.50	
trans-1,3-Dichloropropene	ND	ug/L	0.50	
Ethylbenzene	ND	ug/L	0.50	
Hexachlorobutadiene	ND	ug/L	0.50	
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50	
Methylene chloride	1.1	ug/L	0.50	B

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By: Khaja Bazazuddin

Safe Drinking Water Act Volatile Organics (CONT.)

Enseco

Method 524.2

Client Name: Dames & Moore
Client ID: BR-5
Lab ID: 016262-0013-SA
Matrix: AQUEOUS Sampled: 18 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 23 SEP 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	ND	ug/L	0.50	
Toluene	ND	ug/L	0.50	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	2.5	ug/L	0.50	
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	970	ug/L	25	D
Trichlorofluoromethane	ND	ug/L	0.50	
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	0.42	ug/L	0.50	J
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	

Surrogate	Recovery		
4-Bromofluorobenzene	93	%	--

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

Note B : Compound is also detected in the blank.

Note D : Compound quantitated using a secondary dilution.

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By: Khaja Eazazuddin

AR303046

AR303046

Volatiles Library Search (15 Compound TID)

Enseco
A Corning Company

Method 524

Client Name: Dames & Moore
Client ID: BR-5
Lab ID: 016262-0013-SA
Matrix: AQUEOUS Sampled: 18 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 23 SEP 91

Parameter	Result	Units	Reporting Limit	
tert Butyl Methyl ether	0.47	ug/L		J
Carbon disulfide	37	ug/L		J
TID Compound 3	ND	ug/L		
TID Compound 4	ND	ug/L		
TID Compound 5	ND	ug/L		
TID Compound 6	ND	ug/L		
TID Compound 7	ND	ug/L		
TID Compound 8	ND	ug/L		
TID Compound 9	ND	ug/L		
TID Compound 10	ND	ug/L		
TID Compound 11	ND	ug/L		
TID Compound 12	ND	ug/L		
TID Compound 13	ND	ug/L		
TID Compound 14	ND	ug/L		
TID Compound 15	ND	ug/L		

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

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By: Khaja Eazazuddin

Safe Drinking Water Act Volatile Organics

Method 524.2

Client Name: Dames & Moore
Client ID: BR-6
Lab ID: 016262-0014-SA
Matrix: AQUEOUS Sampled: 18 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 23 SEP 91

Parameter	Result	Units	Reporting Limit	
Benzene	ND	ug/L	0.50	
Bromobenzene	ND	ug/L	0.50	
Bromochloromethane	ND	ug/L	0.50	
Bromodichloromethane	ND	ug/L	0.50	
Bromoform	ND	ug/L	0.50	
Bromomethane	ND	ug/L	0.50	
n-Butylbenzene	ND	ug/L	0.50	
sec-Butylbenzene	ND	ug/L	0.50	
tert-Butylbenzene	ND	ug/L	0.50	
Carbon tetrachloride	ND	ug/L	0.50	
Chlorobenzene	ND	ug/L	0.50	
Chloroethane	ND	ug/L	0.50	
Chloroform	ND	ug/L	0.50	
Chloromethane	ND	ug/L	0.50	
2-Chlorotoluene	ND	ug/L	0.50	
4-Chlorotoluene	ND	ug/L	0.50	
Dibromochloromethane	ND	ug/L	0.50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	
Dibromomethane	ND	ug/L	0.50	
1,2-Dichlorobenzene	ND	ug/L	0.50	
1,3-Dichlorobenzene	ND	ug/L	0.50	
1,4-Dichlorobenzene	ND	ug/L	0.50	
Dichlorodifluoromethane	ND	ug/L	0.50	
1,1-Dichloroethane	ND	ug/L	0.50	
1,2-Dichloroethane	ND	ug/L	0.50	
1,1-Dichloroethene	0.080	ug/L	0.50	J
cis-1,2-Dichloroethene	0.56	ug/L	0.50	
trans-1,2-Dichloroethene	ND	ug/L	0.50	
1,2-Dichloropropane	ND	ug/L	0.50	
1,3-Dichloropropane	ND	ug/L	0.50	
2,2-Dichloropropane	ND	ug/L	0.50	
1,1-Dichloropropene	ND	ug/L	0.50	
cis-1,3-Dichloropropene	ND	ug/L	0.50	
trans-1,3-Dichloropropene	ND	ug/L	0.50	
Ethylbenzene	ND	ug/L	0.50	
Hexachlorobutadiene	ND	ug/L	0.50	
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50	
Methylene chloride	ND	ug/L	0.50	

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By: Khaja [illegible]

Safe Drinking Water Act Volatile Organics (CONT.)

Enseco

Method 524.2

Client Name: Dames & Moore
Client ID: BR-6
Lab ID: 016262-0014-SA
Matrix: AQUEOUS Sampled: 18 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 23 SEP 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	8.4	ug/L	0.50	
Toluene	ND	ug/L	0.50	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	0.12	ug/L	0.50	J
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	3.2	ug/L	0.50	
Trichlorofluoromethane	ND	ug/L	0.50	
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	ND	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	

Surrogate	Recovery		
4-Bromofluorobenzene	94	%	--

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

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By: [illegible]

AR303049

Volatiles Library Search (15 Compound TID)

Enseco
A Corning Company

Method 524

Client Name: Dames & Moore
Client ID: BR-6
Lab ID: 016262-0014-SA
Matrix: AQUEOUS Sampled: 18 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 23 SEP 91

Parameter	Result	Units	Reporting Limit	
tert Butyl Methyl ether	0.50	ug/L		J
Carbon disulfide	6.0	ug/L		J
TID Compound 3	ND	ug/L		
TID Compound 4	ND	ug/L		
TID Compound 5	ND	ug/L		
TID Compound 6	ND	ug/L		
TID Compound 7	ND	ug/L		
TID Compound 8	ND	ug/L		
TID Compound 9	ND	ug/L		
TID Compound 10	ND	ug/L		
TID Compound 11	ND	ug/L		
TID Compound 12	ND	ug/L		
TID Compound 13	ND	ug/L		
TID Compound 14	ND	ug/L		
TID Compound 15	ND	ug/L		

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

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By: Khaja Eazazoddin

AR 303050

Safe Drinking Water Act Volatile Organics

Enseco

Method 524.2

Client Name: Dames & Moore
Client ID: BR-7
Lab ID: 016262-0015-SA
Matrix: AQUEOUS Sampled: 18 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 23 SEP 91

Parameter	Result	Units	Reporting Limit	
Benzene	ND	ug/L	0.50	
Bromobenzene	ND	ug/L	0.50	
Bromochloromethane	ND	ug/L	0.50	
Bromodichloromethane	ND	ug/L	0.50	
Bromoform	ND	ug/L	0.50	
Bromomethane	ND	ug/L	0.50	
n-Butylbenzene	ND	ug/L	0.50	
sec-Butylbenzene	ND	ug/L	0.50	
tert-Butylbenzene	ND	ug/L	0.50	
Carbon tetrachloride	ND	ug/L	0.50	
Chlorobenzene	ND	ug/L	0.50	
Chloroethane	ND	ug/L	0.50	
Chloroform	0.060	ug/L	0.50	J
Chloromethane	ND	ug/L	0.50	
2-Chlorotoluene	ND	ug/L	0.50	
4-Chlorotoluene	ND	ug/L	0.50	
Dibromochloromethane	ND	ug/L	0.50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	
Dibromomethane	ND	ug/L	0.50	
1,2-Dichlorobenzene	ND	ug/L	0.50	
1,3-Dichlorobenzene	ND	ug/L	0.50	
1,4-Dichlorobenzene	ND	ug/L	0.50	
Dichlorodifluoromethane	0.34	ug/L	0.50	J
1,1-Dichloroethane	0.55	ug/L	0.50	
1,2-Dichloroethane	0.52	ug/L	0.50	
1,1-Dichloroethene	ND	ug/L	0.50	
cis-1,2-Dichloroethene	12	ug/L	0.50	
trans-1,2-Dichloroethene	ND	ug/L	0.50	
1,2-Dichloropropane	ND	ug/L	0.50	
1,3-Dichloropropane	ND	ug/L	0.50	
2,2-Dichloropropane	ND	ug/L	0.50	
1,1-Dichloropropene	ND	ug/L	0.50	
cis-1,3-Dichloropropene	ND	ug/L	0.50	
trans-1,3-Dichloropropene	ND	ug/L	0.50	
Ethylbenzene	ND	ug/L	0.50	
Hexachlorobutadiene	ND	ug/L	0.50	
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50	
Methylene chloride	0.34	ug/L	0.50	BJ

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By: Khaja Eazazuddin

Safe Drinking Water Act Volatile Organics (CONT.)

Enseco
A Corning Company

Method 524.2

Client Name: Dames & Moore
Client ID: BR-7
Lab ID: 016262-0015-SA
Matrix: AQUEOUS Sampled: 18 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 23 SEP 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	1.9	ug/L	0.50	
Toluene	ND	ug/L	0.50	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	0.98	ug/L	0.50	
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	84	ug/L	2.5	D
Trichlorofluoromethane	ND	ug/L	0.50	
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	ND	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	

Surrogate	Recovery		
4-Bromofluorobenzene	93	%	--

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

Note B : Compound is also detected in the blank.

Note D : Compound quantitated using a secondary dilution.

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By: Khaja Ehtazuddin

AR303052000044
AR303052

Volatiles Library Search (15 Compound TID)

Enseco

Method 524

Client Name: Dames & Moore
Client ID: BR-7
Lab ID: 016262-0015-SA
Matrix: AQUEOUS Sampled: 18 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 23 SEP 91

Parameter	Result	Units	Reporting Limit	
tert Butyl Methyl ether	1.2	ug/L		J
Carbon disulfide	0.80	ug/L		J
Unknown	2.0	ug/L		J
TID Compound 4	ND	ug/L		
TID Compound 5	ND	ug/L		
TID Compound 6	ND	ug/L		
TID Compound 7	ND	ug/L		
TID Compound 8	ND	ug/L		
TID Compound 9	ND	ug/L		
TID Compound 10	ND	ug/L		
TID Compound 11	ND	ug/L		
TID Compound 12	ND	ug/L		
TID Compound 13	ND	ug/L		
TID Compound 14	ND	ug/L		
TID Compound 15	ND	ug/L		

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

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By: Kha

AR303053

Safe Drinking Water Act Volatile Organics

Enseco

Method 524.2

Client Name: Dames & Moore
Client ID: BR-8
Lab ID: 016262-0016-SA
Matrix: AQUEOUS Sampled: 17 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 25 SEP 91

Parameter	Result	Units	Reporting Limit	
Benzene	ND	ug/L	25	j
Bromobenzene	ND	ug/L	25	
Bromochloromethane	ND	ug/L	25	
Bromodichloromethane	ND	ug/L	25	
Bromoform	ND	ug/L	25	
Bromomethane	ND	ug/L	25	
n-Butylbenzene	ND	ug/L	25	
sec-Butylbenzene	ND	ug/L	25	
tert-Butylbenzene	ND	ug/L	25	
Carbon tetrachloride	ND	ug/L	25	
Chlorobenzene	ND	ug/L	25	
Chloroethane	ND	ug/L	25	
Chloroform	ND	ug/L	25	
Chloromethane	ND	ug/L	25	
2-Chlorotoluene	ND	ug/L	25	
4-Chlorotoluene	ND	ug/L	25	
Dibromochloromethane	ND	ug/L	25	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	25	
1,2-Dibromoethane (EDB)	ND	ug/L	25	
Dibromomethane	ND	ug/L	25	
1,2-Dichlorobenzene	ND	ug/L	25	
1,3-Dichlorobenzene	ND	ug/L	25	
1,4-Dichlorobenzene	ND	ug/L	25	
Dichlorodifluoromethane	ND	ug/L	25	
1,1-Dichloroethane	ND	ug/L	25	
1,2-Dichloroethane	ND	ug/L	25	
1,1-Dichloroethene	ND	ug/L	25	
cis-1,2-Dichloroethene	610	ug/L	25	
trans-1,2-Dichloroethene	ND	ug/L	25	
1,2-Dichloropropane	ND	ug/L	25	
1,3-Dichloropropane	ND	ug/L	25	
2,2-Dichloropropane	ND	ug/L	25	
1,1-Dichloropropene	ND	ug/L	25	
cis-1,3-Dichloropropene	ND	ug/L	25	
trans-1,3-Dichloropropene	ND	ug/L	25	
Ethylbenzene	ND	ug/L	25	
Hexachlorobutadiene	ND	ug/L	25	
1-Methylethylbenzene (Cumene)	ND	ug/L	25	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	25	
Methylene chloride	14	ug/L	25	J

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By: Khaja Bazzuddin

Safe Drinking Water Act Volatile Organics (CONT.)

Enseco

Method 524.2

Client Name: Dames & Moore
Client ID: BR-8
Lab ID: 016262-0016-SA
Matrix: AQUEOUS Sampled: 17 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 25 SEP 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	25	
n-Propylbenzene	ND	ug/L	25	
Styrene	ND	ug/L	25	
1,1,1,2-Tetrachloroethane	ND	ug/L	25	
1,1,2,2-Tetrachloroethane	ND	ug/L	25	
Tetrachloroethene	ND	ug/L	25	
Toluene	ND	ug/L	25	
1,2,3-Trichlorobenzene	ND	ug/L	25	
1,2,4-Trichlorobenzene	ND	ug/L	25	
1,1,1-Trichloroethane	2.5	ug/L	25	J
1,1,2-Trichloroethane	ND	ug/L	25	
Trichloroethene	1400	ug/L	25	
Trichlorofluoromethane	7.5	ug/L	25	BJ
1,2,3-Trichloropropane	ND	ug/L	25	
1,2,4-Trimethylbenzene	ND	ug/L	25	
1,3,5-Trimethylbenzene	ND	ug/L	25	
Vinyl chloride	ND	ug/L	25	
o-Xylene	ND	ug/L	25	
m,p-Xylene	ND	ug/L	25	

Surrogate	Recovery		
4-Bromofluorobenzene	94	%	--

Note j : All reporting limits raised due to high levels of other analytes.

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: David Ercoliani Approved By: Khaja Eazazuddin

AR303055

Volatiles Library Search (15 Compound TID)

Enseco
A Corning Company

Method 524

Client Name: Dames & Moore
Client ID: BR-8
Lab ID: 016262-0016-SA
Matrix: AQUEOUS Sampled: 17 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 25 SEP 91

Parameter	Result	Units	Reporting Limit	
Carbon disulfide	210	ug/L		J
TID Compound 2	ND	ug/L		
TID Compound 3	ND	ug/L		
TID Compound 4	ND	ug/L		
TID Compound 5	ND	ug/L		
TID Compound 6	ND	ug/L		
TID Compound 7	ND	ug/L		
TID Compound 8	ND	ug/L		
TID Compound 9	ND	ug/L		
TID Compound 10	ND	ug/L		
TID Compound 11	ND	ug/L		
TID Compound 12	ND	ug/L		
TID Compound 13	ND	ug/L		
TID Compound 14	ND	ug/L		
TID Compound 15	ND	ug/L		

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

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By: Khaja Fazaruddin

AR303056

AR303056

Safe Drinking Water Act Volatile Organics

Enseco

Method 524.2

Client Name: Dames & Moore
Client ID: FIELD BLANK
Lab ID: 016262-0008-FB
Matrix: AQUEOUS Sampled: 17 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 24 SEP 91

Parameter	Result	Units	Reporting Limit	
Benzene	ND	ug/L	0.50	
Bromobenzene	ND	ug/L	0.50	
Bromochloromethane	ND	ug/L	0.50	
Bromodichloromethane	ND	ug/L	0.50	
Bromoform	ND	ug/L	0.50	
Bromomethane	ND	ug/L	0.50	
n-Butylbenzene	ND	ug/L	0.50	
sec-Butylbenzene	ND	ug/L	0.50	
tert-Butylbenzene	ND	ug/L	0.50	
Carbon tetrachloride	ND	ug/L	0.50	
Chlorobenzene	ND	ug/L	0.50	
Chloroethane	ND	ug/L	0.50	
Chloroform	ND	ug/L	0.50	
Chloromethane	ND	ug/L	0.50	
2-Chlorotoluene	ND	ug/L	0.50	
4-Chlorotoluene	ND	ug/L	0.50	
Dibromochloromethane	ND	ug/L	0.50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	
Dibromomethane	ND	ug/L	0.50	
1,2-Dichlorobenzene	ND	ug/L	0.50	
1,3-Dichlorobenzene	ND	ug/L	0.50	
1,4-Dichlorobenzene	0.13	ug/L	0.50	BJ
Dichlorodifluoromethane	ND	ug/L	0.50	
1,1-Dichloroethane	ND	ug/L	0.50	
1,2-Dichloroethane	ND	ug/L	0.50	
1,1-Dichloroethene	ND	ug/L	0.50	
cis-1,2-Dichloroethene	ND	ug/L	0.50	
trans-1,2-Dichloroethene	ND	ug/L	0.50	
1,2-Dichloropropane	ND	ug/L	0.50	
1,3-Dichloropropane	ND	ug/L	0.50	
2,2-Dichloropropane	ND	ug/L	0.50	
1,1-Dichloropropene	ND	ug/L	0.50	
cis-1,3-Dichloropropene	ND	ug/L	0.50	
trans-1,3-Dichloropropene	ND	ug/L	0.50	
Ethylbenzene	ND	ug/L	0.50	
Hexachlorobutadiene	ND	ug/L	0.50	
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50	
Methylene chloride	0.19	ug/L	0.50	BJ

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By: Khaja Eazazuddin

Enseco
A Corning Company

Method 524.2

Client Name: Dames & Moore
Client ID: FIELD BLANK
Lab ID: 016262-0008-FB
Matrix: AQUEOUS Sampled: 17 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 24 SEP 91

Parameter	Result	Units	Reporting Limit
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	ND	ug/L	0.50
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	ND	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	ND	ug/L	0.50
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50

Surrogate	Recovery		
4-Bromofluorobenzene	90	%	--

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: David Ercoliani Approved By: Khaja Eazazuddin

Volatiles Library Search (15 Compound TID)

Enseco

Method 524

Client Name: Dames & Moore
Client ID: FIELD BLANK
Lab ID: 016262-0008-FB
Matrix: AQUEOUS Sampled: 17 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 24 SEP 91

Parameter	Result	Units	Reporting Limit	
Carbon disulfide	13	ug/L		J
TID Compound 2	ND	ug/L		
TID Compound 3	ND	ug/L		
TID Compound 4	ND	ug/L		
TID Compound 5	ND	ug/L		
TID Compound 6	ND	ug/L		
TID Compound 7	ND	ug/L		
TID Compound 8	ND	ug/L		
TID Compound 9	ND	ug/L		
TID Compound 10	ND	ug/L		
TID Compound 11	ND	ug/L		
TID Compound 12	ND	ug/L		
TID Compound 13	ND	ug/L		
TID Compound 14	ND	ug/L		
TID Compound 15	ND	ug/L		

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

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By: Khaja Eazazuddin

Safe Drinking Water Act Volatile Organics

Enseco
A Corning Company

Method 524.2

Client Name: Dames & Moore
Client ID: TRIP BLANK
Lab ID: 016262-0001-TB
Matrix: AQUEOUS Sampled: 16 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 24 SEP 91

Parameter	Result	Units	Reporting Limit	
Benzene	ND	ug/L	0.50	
Bromobenzene	ND	ug/L	0.50	
Bromochloromethane	ND	ug/L	0.50	
Bromodichloromethane	ND	ug/L	0.50	
Bromoform	ND	ug/L	0.50	
Bromomethane	ND	ug/L	0.50	
n-Butylbenzene	ND	ug/L	0.50	
sec-Butylbenzene	ND	ug/L	0.50	
tert-Butylbenzene	ND	ug/L	0.50	
Carbon tetrachloride	ND	ug/L	0.50	
Chlorobenzene	ND	ug/L	0.50	
Chloroethane	ND	ug/L	0.50	
Chloroform	0.16	ug/L	0.50	J
Chloromethane	ND	ug/L	0.50	
2-Chlorotoluene	ND	ug/L	0.50	
4-Chlorotoluene	ND	ug/L	0.50	
Dibromochloromethane	ND	ug/L	0.50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	
Dibromomethane	ND	ug/L	0.50	
1,2-Dichlorobenzene	ND	ug/L	0.50	
1,3-Dichlorobenzene	ND	ug/L	0.50	
1,4-Dichlorobenzene	ND	ug/L	0.50	
Dichlorodifluoromethane	ND	ug/L	0.50	
1,1-Dichloroethane	ND	ug/L	0.50	
1,2-Dichloroethane	ND	ug/L	0.50	
1,1-Dichloroethene	ND	ug/L	0.50	
cis-1,2-Dichloroethene	ND	ug/L	0.50	
trans-1,2-Dichloroethene	ND	ug/L	0.50	
1,2-Dichloropropane	ND	ug/L	0.50	
1,3-Dichloropropane	ND	ug/L	0.50	
2,2-Dichloropropane	ND	ug/L	0.50	
1,1-Dichloropropene	ND	ug/L	0.50	
cis-1,3-Dichloropropene	ND	ug/L	0.50	
trans-1,3-Dichloropropene	ND	ug/L	0.50	
Ethylbenzene	ND	ug/L	0.50	
Hexachlorobutadiene	ND	ug/L	0.50	
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50	
Methylene chloride	0.30	ug/L	0.50	JB

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: David Ercoliani Approved By: Khaja Ezzuddin

AR 303060 000001
AR303060

Safe Drinking Water Act Volatile Organics (CONT.)

Enseco

Method 524.2

Client Name: Dames & Moore
Client ID: TRIP BLANK
Lab ID: 016262-0001-TB
Matrix: AQUEOUS Sampled: 16 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 24 SEP 91

Parameter	Result	Units	Reporting Limit
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	ND	ug/L	0.50
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	ND	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	ND	ug/L	0.50
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50

Surrogate	Recovery		
4-Bromofluorobenzene	103	%	--

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: David Ercoliani Approved By: Khaja Eazazuddin

Volatiles Library Search (15 Compound TID)

Enseco
A Corning Company

Method 524

Client Name: Dames & Moore
Client ID: TRIP BLANK
Lab ID: 016262-0001-TB
Matrix: AQUEOUS Sampled: 16 SEP 91 Received: 19 SEP 91
Authorized: 20 SEP 91 Prepared: NA Analyzed: 24 SEP 91

Parameter	Result	Units	Reporting Limit	
Carbon disulfide	3.1	ug/L		JB
TID Compound 2	ND	ug/L		
TID Compound 3	ND	ug/L		
TID Compound 4	ND	ug/L		
TID Compound 5	ND	ug/L		
TID Compound 6	ND	ug/L		
TID Compound 7	ND	ug/L		
TID Compound 8	ND	ug/L		
TID Compound 9	ND	ug/L		
TID Compound 10	ND	ug/L		
TID Compound 11	ND	ug/L		
TID Compound 12	ND	ug/L		
TID Compound 13	ND	ug/L		
TID Compound 14	ND	ug/L		
TID Compound 15	ND	ug/L		

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: David Ercoliani Approved By: Khaja Eazazuddin

AR303062

METHOD BLANK REPORT
/olatile Organics by GC/MS

Test: 524-SDWA-AP
Matrix: AQUEOUS
QC Lot: 19 SEP 91-G QC Run: 24 SEP 91-A

Analyte	Result	Units	Reporting Limit	
Benzene	ND	ug/L	0.50	
Bromobenzene	ND	ug/L	0.50	
Bromochloromethane	ND	ug/L	0.50	
Bromodichloromethane	ND	ug/L	0.50	
Bromoform	ND	ug/L	0.50	
Bromomethane	ND	ug/L	0.50	
n-Butylbenzene	ND	ug/L	0.50	
sec-Butylbenzene	ND	ug/L	0.50	
tert-Butylbenzene	ND	ug/L	0.50	
Carbon tetrachloride	ND	ug/L	0.50	
Chlorobenzene	ND	ug/L	0.50	
Chloroethane	ND	ug/L	0.50	
Chloroform	ND	ug/L	0.50	
Chloromethane	ND	ug/L	0.50	
2-Chlorotoluene	ND	ug/L	0.50	
4-Chlorotoluene	ND	ug/L	0.50	
Dibromochloromethane	ND	ug/L	0.50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	
Dibromomethane	ND	ug/L	0.50	
1,2-Dichlorobenzene	ND	ug/L	0.50	
1,3-Dichlorobenzene	ND	ug/L	0.50	
1,4-Dichlorobenzene	ND	ug/L	0.50	
Dichlorodifluoromethane	ND	ug/L	0.50	
1,1-Dichloroethane	ND	ug/L	0.50	
1,2-Dichloroethane	ND	ug/L	0.50	
1,1-Dichloroethene	ND	ug/L	0.50	
cis-1,2-Dichloroethene	ND	ug/L	0.50	
trans-1,2-Dichloroethene	ND	ug/L	0.50	
1,2-Dichloropropane	ND	ug/L	0.50	
1,3-Dichloropropane	ND	ug/L	0.50	
2,2-Dichloropropane	ND	ug/L	0.50	
1,1-Dichloropropene	ND	ug/L	0.50	
cis-1,3-Dichloropropene	ND	ug/L	0.50	
trans-1,3-Dichloropropene	ND	ug/L	0.50	
Ethylbenzene	ND	ug/L	0.50	
Hexachlorobutadiene	ND	ug/L	0.50	
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50	
Methylene chloride	0.36	ug/L	0.50	J

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

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

Enseco
A Corning Company

Analyte	Result	Units	Reporting Limit
Test: 524-SDWA-AP			
Matrix: AQUEOUS			
QC Lot: 19 SEP 91-G QC Run: 24 SEP 91-A			
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	ND	ug/L	0.50
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	ND	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	ND	ug/L	0.50
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50
Test: 524-SDWA-AP			
Matrix: AQUEOUS			
QC Lot: 19 SEP 91-G QC Run: 23 SEP 91-A			
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50

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

Enseco

Analyte	Result	Units	Reporting Limit	
Test: 524-SDWA-AP				
Matrix: AQUEOUS				
QC Lot: 19 SEP 91-G QC Run: 23 SEP 91-A				
Dibromochloromethane	ND	ug/L	0.50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	
Dibromomethane	ND	ug/L	0.50	
1,2-Dichlorobenzene	ND	ug/L	0.50	
1,3-Dichlorobenzene	ND	ug/L	0.50	
1,4-Dichlorobenzene	ND	ug/L	0.50	
Dichlorodifluoromethane	0.080	ug/L	0.50	J
1,1-Dichloroethane	ND	ug/L	0.50	
1,2-Dichloroethane	ND	ug/L	0.50	
1,1-Dichloroethene	ND	ug/L	0.50	
cis-1,2-Dichloroethene	ND	ug/L	0.50	
trans-1,2-Dichloroethene	ND	ug/L	0.50	
1,2-Dichloropropane	ND	ug/L	0.50	
1,3-Dichloropropane	ND	ug/L	0.50	
2,2-Dichloropropane	ND	ug/L	0.50	
1,1-Dichloropropene	ND	ug/L	0.50	
cis-1,3-Dichloropropene	ND	ug/L	0.50	
trans-1,3-Dichloropropene	ND	ug/L	0.50	
Ethylbenzene	ND	ug/L	0.50	
Hexachlorobutadiene	ND	ug/L	0.50	
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50	
Methylene chloride	0.31	ug/L	0.50	J
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	ND	ug/L	0.50	
Toluene	ND	ug/L	0.50	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	ND	ug/L	0.50	
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	ND	ug/L	0.50	
Trichlorofluoromethane	0.15	ug/L	0.50	J
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	

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

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

Enseco
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Analyte	Result	Units	Reporting Limit
Test: 524-SDWA-AP			
Matrix: AQUEOUS			
QC Lot: 19 SEP 91-G QC Run: 23 SEP 91-A			
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50
Test: 524-SDWA-AP			
Matrix: AQUEOUS			
QC Lot: 25 SEP 91-G QC Run: 26 SEP 91-A			
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	ND	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50

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

Analyte	Result	Units	Reporting Limit	
Test: 524-SDWA-AP				
Matrix: AQUEOUS				
QC Lot: 25 SEP 91-G QC Run: 26 SEP 91-A				
2,2-Dichloropropane	ND	ug/L	0.50	
1,1-Dichloropropene	ND	ug/L	0.50	
cis-1,3-Dichloropropene	ND	ug/L	0.50	
trans-1,3-Dichloropropene	ND	ug/L	0.50	
Ethylbenzene	ND	ug/L	0.50	
Hexachlorobutadiene	ND	ug/L	0.50	
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50	
Methylene chloride	ND	ug/L	0.50	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	ND	ug/L	0.50	
Toluene	ND	ug/L	0.50	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	ND	ug/L	0.50	
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	ND	ug/L	0.50	
Trichlorofluoromethane	0.50	ug/L	0.50	J
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	ND	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	
Test: 524-SDWA-AP				
Matrix: AQUEOUS				
QC Lot: 19 SEP 91-G QC Run: 25 SEP 91-A				
Benzene	ND	ug/L	0.50	
Bromobenzene	ND	ug/L	0.50	
Bromochloromethane	ND	ug/L	0.50	
Bromodichloromethane	ND	ug/L	0.50	
Bromoform	ND	ug/L	0.50	
Bromomethane	ND	ug/L	0.50	
n-Butylbenzene	ND	ug/L	0.50	

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

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

Enseco

Analyte	Result	Units	Reporting Limit
Test: 524-SDWA-AP			
Matrix: AQUEOUS			
QC Lot: 19 SEP 91-G QC Run: 25 SEP 91-A			
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
.,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	ND	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	ND	ug/L	0.50
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	ND	ug/L	0.50
Toluene	ND	ug/L	0.50

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

Analyte	Result	Units	Reporting Limit	
Test: 524-SDWA-AP				
Matrix: AQUEOUS				
QC Lot: 19 SEP 91-G QC Run: 25 SEP 91-A				
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	ND	ug/L	0.50	
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	ND	ug/L	0.50	
Trichlorofluoromethane	0.26	ug/L	0.50	J
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	ND	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	

Test: 524-SDWA-AP				
Matrix: AQUEOUS				
QC Lot: 25 SEP 91-G QC Run: 25 SEP 91-A				
Benzene	ND	ug/L	0.50	
Bromobenzene	ND	ug/L	0.50	
Bromochloromethane	ND	ug/L	0.50	
Bromodichloromethane	ND	ug/L	0.50	
Bromoform	ND	ug/L	0.50	
Bromomethane	ND	ug/L	0.50	
n-Butylbenzene	ND	ug/L	0.50	
sec-Butylbenzene	ND	ug/L	0.50	
tert-Butylbenzene	ND	ug/L	0.50	
Carbon tetrachloride	ND	ug/L	0.50	
Chlorobenzene	ND	ug/L	0.50	
Chloroethane	ND	ug/L	0.50	
Chloroform	ND	ug/L	0.50	
Chloromethane	ND	ug/L	0.50	
2-Chlorotoluene	ND	ug/L	0.50	
4-Chlorotoluene	ND	ug/L	0.50	
Dibromochloromethane	ND	ug/L	0.50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	
Dibromomethane	ND	ug/L	0.50	
1,2-Dichlorobenzene	ND	ug/L	0.50	
1,3-Dichlorobenzene	ND	ug/L	0.50	

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

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

Analyte	Result	Units	Reporting Limit	
Test: 524-SDWA-AP				
Matrix: AQUEOUS				
QC Lot: 25 SEP 91-G QC Run: 25 SEP 91-A				
1,4-Dichlorobenzene	ND	ug/L	0.50	
Dichlorodifluoromethane	ND	ug/L	0.50	
1,1-Dichloroethane	ND	ug/L	0.50	
1,2-Dichloroethane	ND	ug/L	0.50	
1,1-Dichloroethene	ND	ug/L	0.50	
cis-1,2-Dichloroethene	ND	ug/L	0.50	
trans-1,2-Dichloroethene	ND	ug/L	0.50	
1,2-Dichloropropane	ND	ug/L	0.50	
1,3-Dichloropropane	ND	ug/L	0.50	
2,2-Dichloropropane	ND	ug/L	0.50	
1,1-Dichloropropene	ND	ug/L	0.50	
cis-1,3-Dichloropropene	ND	ug/L	0.50	
trans-1,3-Dichloropropene	ND	ug/L	0.50	
Ethylbenzene	ND	ug/L	0.50	
Hexachlorobutadiene	ND	ug/L	0.50	
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50	
Methylene chloride	ND	ug/L	0.50	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	ND	ug/L	0.50	
Toluene	ND	ug/L	0.50	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	ND	ug/L	0.50	
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	ND	ug/L	0.50	
Trichlorofluoromethane	0.26	ug/L	0.50	J
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	ND	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	

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

APPENDIX M

LABORATORY SUMMARY SHEETS AND DAMES & MOORE DATA VALIDATION REPORT FOR NOVEMBER 1991 GROUND WATER SAMPLES

QUALITY ASSURANCE REVIEW

Recticon - Overburden and Bedrock Well Water Samples
Dames & Moore Job No. 10839-047

DATES COLLECTED: 11/4-5/91
DATE OF REVIEW: 12/23/91

SDGS #: 17394

INTRODUCTION

This quality assurance review (QAR) is based upon a rigorous review of all data generated from the analysis of aqueous samples which were collected at the Recticon site during November of 1991. The samples which were reviewed are listed in Table 1.

This review has been performed in accordance with the "Functional Guidelines for Evaluating Organics Analyses" (USEPA, March 1990) and "Region III Modifications to the Organic Functional Guidelines (June 1988).

The data were examined to determine usability as well as to determine contractual compliance relative to the requirements and deliverables specified in the approved workplan. Qualifier codes have been assigned to each analytical result, as appropriate, to facilitate data interpretation. The detailed findings of the QAR are provided in the narrative section of this report. The analytical results are presented in the attached sample data summary sheets.

This report provides a critical review of the laboratory performance and reported analytical results. Quality assurance reviews of laboratory generated data routinely identify problems associated with analytical measurements, even from the most experienced and capable laboratories. The nature and extent of discrepancies identified in this critical review should not be interpreted to mean that those results which are qualified are less than valid.

TABLE 1

SAMPLES INCLUDED IN THIS QAR

ENSECO LABORATORY NUMBER	DAMES & MOORE SAMPLE IDENTIFICATION	ANALYTICAL PARAMETERS
17394-001	BR-1	V
17394-002	OB-2	V
17394-003	BR-2	V
17394-004	BR-3	V
17394-005	BR-4	V
17394-006	OB-4	V
17394-007	OB-5	V
17394-008	BR-5	V
17394-009	FB	V
17394-010	TB*	V
17394-011	BR-8, MS, MSD	V
17394-012	OB-8	V
17394-013	OB-6	V
17394-014	BR-6	V
17394-015	BR-7	V
17394-016	OB-7	V

V - Volatile
MS - Matrix Spike
MSD - Matrix Spike Duplicate
FB - Field Blank
TB - Trip Blank
* - Laboratory broke the sample bottle

SECTION 1 QUALITY ASSURANCE REVIEW

A. Organic Data

Fourteen (14) aqueous samples and two (2) quality control samples (field and trip blanks) were collected by Dames & Moore and analyzed by Enseco, Inc., in Somerset, New Jersey. However, the trip blank bottles were broken in the laboratory before analysis. These samples were collectively analyzed for the volatile organic compounds by EPA Method 524.2.

The findings offered in this report are based upon a rigorous review of holding times, blank analysis results, surrogate and matrix spike recoveries, GC/MS tuning, and calibrations. The organic analytical results with appropriate qualifiers are attached in the data summary sheets.

Overall, the data quality for this data package was acceptable. With regard to the requirements as specified in the workplan, all deliverables and reporting requirements were met for this data package with the exception of the following.

Correctable Deficiencies

- For samples OB-2 and BR-8, benzene should not be flagged with a "J". Enseco should issue new data summary sheets for these samples.

Organic Data Qualifiers

- Per CLP protocol, all sample results detected at levels less than the quantitation limit should be considered estimated and have been flagged "J" on the sample data summary.

- As per CLP requirements all results obtained from diluted samples are flagged "D" on the data summary sheets.

B. Conclusion

Based upon the data provided, the majority of the organic data appears to be acceptable. The data validation review has identified aspects of the analytical data that require qualification. To confidently use any of the data within the data set, the data user should understand the limitations and qualifications presented.

Enseco

Safe Drinking Water Act Volatile Organics

Method 524.2

Client Name: Dames & Moore
Client ID: OB-2
Lab ID: 017394-0002-SA
Matrix: AQUEOUS Sampled: 05 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 14 NOV 91

Parameter	Result	Units	Reporting Limit	
Benzene	ND	ug/L	5.0	j
Bromobenzene	ND	ug/L	5.0	
Bromochloromethane	ND	ug/L	5.0	
Bromodichloromethane	ND	ug/L	5.0	
Bromoform	ND	ug/L	5.0	
Bromomethane	ND	ug/L	5.0	
n-Butylbenzene	ND	ug/L	5.0	
sec-Butylbenzene	ND	ug/L	5.0	
tert-Butylbenzene	ND	ug/L	5.0	
Carbon tetrachloride	ND	ug/L	5.0	
Chlorobenzene	ND	ug/L	5.0	
Chloroethane	ND	ug/L	5.0	
Chloroform	ND	ug/L	5.0	
Chloromethane	ND	ug/L	5.0	
2-Chlorotoluene	ND	ug/L	5.0	
4-Chlorotoluene	ND	ug/L	5.0	
Dibromochloromethane	ND	ug/L	5.0	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	5.0	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	
Dibromomethane	ND	ug/L	5.0	
1,2-Dichlorobenzene	ND	ug/L	5.0	
1,3-Dichlorobenzene	ND	ug/L	5.0	
1,4-Dichlorobenzene	ND	ug/L	5.0	
Dichlorodifluoromethane	ND	ug/L	5.0	
1,1-Dichloroethane	16	ug/L	5.0	
1,2-Dichloroethane	ND	ug/L	5.0	
1,1-Dichloroethene	ND	ug/L	5.0	
cis-1,2-Dichloroethene	160	ug/L	5.0	
trans-1,2-Dichloroethene	ND	ug/L	5.0	
1,2-Dichloropropane	ND	ug/L	5.0	
1,3-Dichloropropane	ND	ug/L	5.0	
2,2-Dichloropropane	ND	ug/L	5.0	
1,1-Dichloropropene	ND	ug/L	5.0	
cis-1,3-Dichloropropene	ND	ug/L	5.0	
trans-1,3-Dichloropropene	ND	ug/L	5.0	
Ethylbenzene	ND	ug/L	5.0	
Hexachlorobutadiene	ND	ug/L	5.0	
1-Methylethylbenzene (Cumene)	ND	ug/L	5.0	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	5.0	
Methylene chloride	ND	ug/L	5.0	

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin

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Safe Drinking Water Act Volatile Organics (CONT.)

Method 524.2

Client Name: Dames & Moore
Client ID: OB-2
Lab ID: 017394-0002-SA
Matrix: AQUEOUS Sampled: 05 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 14 NOV 91

Parameter	Result	Units	Reporting Limit
Naphthalene	ND	ug/L	5.0
n-Propylbenzene	ND	ug/L	5.0
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
1,2,3-Trichlorobenzene	ND	ug/L	5.0
1,2,4-Trichlorobenzene	ND	ug/L	5.0
1,1,1-Trichloroethane	7.3	ug/L	5.0
1,1,2-Trichloroethane	ND	ug/L	5.0
Trichloroethene	170	ug/L	5.0
Trichlorofluoromethane	ND	ug/L	5.0
1,2,3-Trichloropropane	ND	ug/L	5.0
1,2,4-Trimethylbenzene	ND	ug/L	5.0
1,3,5-Trimethylbenzene	ND	ug/L	5.0
Vinyl chloride	ND	ug/L	5.0
o-Xylene	ND	ug/L	5.0
m,p-Xylene	ND	ug/L	5.0
Surrogate	**Recovery**		
4-Bromofluorobenzene	100	%	--

Note j : All reporting limits raised due to high levels of other analytes.

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin

Enseco
A Corning Company

Volatiles Library Search (15 Compound TID)

Method 524

Client Name: Dames & Moore
Client ID: OB-2
Lab ID: 017394-0002-SA
Matrix: AQUEOUS
Authorized: 07 NOV 91

Sampled: 05 NOV 91
Prepared: NA

Received: 06 NOV 91
Analyzed: 14 NOV 91

Parameter	Result	Units	Reporting Limit
TID Compound 1	ND	ug/L	
TID Compound 2	ND	ug/L	
TID Compound 3	ND	ug/L	
TID Compound 4	ND	ug/L	
TID Compound 5	ND	ug/L	
TID Compound 6	ND	ug/L	
TID Compound 7	ND	ug/L	
TID Compound 8	ND	ug/L	
TID Compound 9	ND	ug/L	
TID Compound 10	ND	ug/L	
TID Compound 11	ND	ug/L	
TID Compound 12	ND	ug/L	
TID Compound 13	ND	ug/L	
TID Compound 14	ND	ug/L	
TID Compound 15	ND	ug/L	

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel

Approved By: Khaja Eazazuddin

Enseco
A Corning Company

Safe Drinking Water Act Volatile Organics

Method 524.2

Client Name: Dames & Moore
Client ID: OB-4
Lab ID: 017394-0006-SA
Matrix: AQUEOUS Sampled: 04 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 14 NOV 91

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	ND	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	ND	ug/L	0.50

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin

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Safe Drinking Water Act Volatile Organics (CONT.)

Method 524.2

Client Name: Dames & Moore
Client ID: OB-4
Lab ID: 017394-0006-SA
Matrix: AQUEOUS Sampled: 04 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 14 NOV 91

Parameter	Result	Units	Reporting Limit
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	ND	ug/L	0.50
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	ND	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	ND	ug/L	0.50
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50

Surrogate	Recovery		
4-Bromofluorobenzene	97	%	--

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin

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A Corning Compan

Volatiles Library Search (15 Compound TID)

Method 524

Client Name: Dames & Moore
Client ID: OB-4
Lab ID: 017394-0006-SA
Matrix: AQUEOUS Sampled: 04 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 14 NOV 91

Parameter	Result	Units	Reporting Limit	
1,1,2 Trichloro-1,2,2-trifluoroethane	2.0	ug/L		J
TID Compound 2	ND	ug/L		
TID Compound 3	ND	ug/L		
TID Compound 4	ND	ug/L		
TID Compound 5	ND	ug/L		
TID Compound 6	ND	ug/L		
TID Compound 7	ND	ug/L		
TID Compound 8	ND	ug/L		
TID Compound 9	ND	ug/L		
TID Compound 10	ND	ug/L		
TID Compound 11	ND	ug/L		
TID Compound 12	ND	ug/L		
TID Compound 13	ND	ug/L		
TID Compound 14	ND	ug/L		
TID Compound 15	ND	ug/L		

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

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin

Enseco

Safe Drinking Water Act Volatile Organics

Method 524.2

Client Name: Dames & Moore
Client ID: OB-5
Lab ID: 017394-0007-SA
Matrix: AQUEOUS Sampled: 04 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 14 NOV 91

Parameter	Result	Units	Reporting Limit	
Benzene	ND	ug/L	0.50	
Bromobenzene	ND	ug/L	0.50	
Bromochloromethane	ND	ug/L	0.50	
Bromodichloromethane	ND	ug/L	0.50	
Bromoform	ND	ug/L	0.50	
Bromomethane	ND	ug/L	0.50	
n-Butylbenzene	ND	ug/L	0.50	
sec-Butylbenzene	ND	ug/L	0.50	
tert-Butylbenzene	ND	ug/L	0.50	
Carbon tetrachloride	ND	ug/L	0.50	
Chlorobenzene	ND	ug/L	0.50	
Chloroethane	ND	ug/L	0.50	
Chloroform	ND	ug/L	0.50	
Chloromethane	ND	ug/L	0.50	
2-Chlorotoluene	ND	ug/L	0.50	
4-Chlorotoluene	ND	ug/L	0.50	
Dibromochloromethane	ND	ug/L	0.50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	
Dibromomethane	ND	ug/L	0.50	
1,2-Dichlorobenzene	ND	ug/L	0.50	
1,3-Dichlorobenzene	ND	ug/L	0.50	
1,4-Dichlorobenzene	ND	ug/L	0.50	
Dichlorodifluoromethane	ND	ug/L	0.50	
1,1-Dichloroethane	3.2	ug/L	0.50	
1,2-Dichloroethane	2.6	ug/L	0.50	
1,1-Dichloroethene	ND	ug/L	0.50	
cis-1,2-Dichloroethene	30	ug/L	1.2	D
trans-1,2-Dichloroethene	ND	ug/L	0.50	
1,2-Dichloropropane	ND	ug/L	0.50	
1,3-Dichloropropane	ND	ug/L	0.50	
2,2-Dichloropropane	ND	ug/L	0.50	
1,1-Dichloropropene	ND	ug/L	0.50	
cis-1,3-Dichloropropene	ND	ug/L	0.50	
trans-1,3-Dichloropropene	ND	ug/L	0.50	
Ethylbenzene	ND	ug/L	0.50	
Hexachlorobutadiene	ND	ug/L	0.50	
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50	
Methylene chloride	ND	ug/L	0.50	

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin

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Safe Drinking Water Act Volatile Organics (CONT.)

Method 524.2

Client Name: Dames & Moore
Client ID: OB-5
Lab ID: 017394-0007-SA
Matrix: AQUEOUS Sampled: 04 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 14 NOV 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	ND	ug/L	0.50	
Toluene	ND	ug/L	0.50	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	2.3	ug/L	0.50	
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	48	ug/L	1.2	D
Trichlorofluoromethane	ND	ug/L	0.50	
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	ND	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	

Surrogate	Recovery		
4-Bromofluorobenzene	100	%	--

Note D : Compound quantitated using a secondary dilution.

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin

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Volatiles Library Search (15 Compound TID)

Method 524

Client Name: Dames & Moore
Client ID: OB-5
Lab ID: 017394-0007-SA
Matrix: AQUEOUS Sampled: 04 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 14 NOV 91

Parameter	Result	Units	Reporting Limit
TID Compound 1	ND	ug/L	
TID Compound 2	ND	ug/L	
TID Compound 3	ND	ug/L	
TID Compound 4	ND	ug/L	
TID Compound 5	ND	ug/L	
TID Compound 6	ND	ug/L	
TID Compound 7	ND	ug/L	
TID Compound 8	ND	ug/L	
TID Compound 9	ND	ug/L	
TID Compound 10	ND	ug/L	
TID Compound 11	ND	ug/L	
TID Compound 12	ND	ug/L	
TID Compound 13	ND	ug/L	
TID Compound 14	ND	ug/L	
TID Compound 15	ND	ug/L	

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin

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A Corning Company

Safe Drinking Water Act Volatile Organics

Method 524.2

Client Name: Dames & Moore
Client ID: OB-6
Lab ID: 017394-0013-SA
Matrix: AQUEOUS Sampled: 05 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 15 NOV 91

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	ND	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	ND	ug/L	0.50

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin

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A Corning Company

Safe Drinking Water Act Volatile Organics (CONT.)

Method 524.2

Client Name: Dames & Moore
Client ID: OB-6
Lab ID: 017394-0013-SA
Matrix: AQUEOUS Sampled: 05 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 15 NOV 91

Parameter	Result	Units	Reporting Limit
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	17	ug/L	0.50
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	ND	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	2.5	ug/L	0.50
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50

Surrogate	Recovery		
4-Bromofluorobenzene	102	%	--

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin

Enseco
A Corning Company

Volatiles Library Search (15 Compound TID)

Method 524

Client Name: Dames & Moore
Client ID: OB-6
Lab ID: 017394-0013-SA
Matrix: AQUEOUS Sampled: 05 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 15 NOV 91

Parameter	Result	Units	Reporting Limit
TID Compound 1	ND	ug/L	
TID Compound 2	ND	ug/L	
TID Compound 3	ND	ug/L	
TID Compound 4	ND	ug/L	
TID Compound 5	ND	ug/L	
TID Compound 6	ND	ug/L	
TID Compound 7	ND	ug/L	
TID Compound 8	ND	ug/L	
TID Compound 9	ND	ug/L	
TID Compound 10	ND	ug/L	
TID Compound 11	ND	ug/L	
TID Compound 12	ND	ug/L	
TID Compound 13	ND	ug/L	
TID Compound 14	ND	ug/L	
TID Compound 15	ND	ug/L	

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin

Enseco

Safe Drinking Water Act Volatile Organics

Method 524.2

Client Name: Dames & Moore
Client ID: OB-7
Lab ID: 017394-0016-SA
Matrix: AQUEOUS Sampled: 05 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 15 NOV 91

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	ND	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	ND	ug/L	0.50

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin

Enseco
A Corning Company

Safe Drinking Water Act Volatile Organics (CONT.)

Method 524.2

Client Name: Dames & Moore
Client ID: OB-7
Lab ID: 017394-0016-SA
Matrix: AQUEOUS Sampled: 05 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 15 NOV 91

Parameter	Result	Units	Reporting Limit
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	1.9	ug/L	0.50
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	ND	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	2.0	ug/L	0.50
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50

Surrogate	Recovery		
4-Bromofluorobenzene	103	%	--

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin

Enseco
A Corning Company

Volatiles Library Search (15 Compound TID)

Method 524

Client Name: Dames & Moore
Client ID: OB-7
Lab ID: 017394-0016-SA
Matrix: AQUEOUS Sampled: 05 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 15 NOV 91

Parameter	Result	Units	Reporting Limit
TID Compound 1	ND	ug/L	
TID Compound 2	ND	ug/L	
TID Compound 3	ND	ug/L	
TID Compound 4	ND	ug/L	
TID Compound 5	ND	ug/L	
TID Compound 6	ND	ug/L	
TID Compound 7	ND	ug/L	
TID Compound 8	ND	ug/L	
TID Compound 9	ND	ug/L	
TID Compound 10	ND	ug/L	
TID Compound 11	ND	ug/L	
TID Compound 12	ND	ug/L	
TID Compound 13	ND	ug/L	
TID Compound 14	ND	ug/L	
TID Compound 15	ND	ug/L	

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin

Enseco
A Corning Company

Safe Drinking Water Act Volatile Organics

Method 524.2

Client Name: Dames & Moore
Client ID: OB-8
Lab ID: 017394-0012-SA
Matrix: AQUEOUS Sampled: 05 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 15 NOV 91

Parameter	Result	Units	Reporting Limit	
Benzene	ND	ug/L	0.50	
Bromobenzene	ND	ug/L	0.50	
Bromochloromethane	ND	ug/L	0.50	
Bromodichloromethane	ND	ug/L	0.50	
Bromoform	ND	ug/L	0.50	
Bromomethane	ND	ug/L	0.50	
n-Butylbenzene	ND	ug/L	0.50	
sec-Butylbenzene	ND	ug/L	0.50	
tert-Butylbenzene	ND	ug/L	0.50	
Carbon tetrachloride	ND	ug/L	0.50	
Chlorobenzene	ND	ug/L	0.50	
Chloroethane	ND	ug/L	0.50	
Chloroform	ND	ug/L	0.50	
Chloromethane	ND	ug/L	0.50	
2-Chlorotoluene	ND	ug/L	0.50	
4-Chlorotoluene	ND	ug/L	0.50	
Dibromochloromethane	ND	ug/L	0.50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	
Dibromomethane	ND	ug/L	0.50	
1,2-Dichlorobenzene	ND	ug/L	0.50	
1,3-Dichlorobenzene	ND	ug/L	0.50	
1,4-Dichlorobenzene	ND	ug/L	0.50	
Dichlorodifluoromethane	ND	ug/L	0.50	
1,1-Dichloroethane	3.5	ug/L	0.50	
1,2-Dichloroethane	4.3	ug/L	0.50	
1,1-Dichloroethene	ND	ug/L	0.50	
cis-1,2-Dichloroethene	49	ug/L	2.5	D
trans-1,2-Dichloroethene	ND	ug/L	0.50	
1,2-Dichloropropane	ND	ug/L	0.50	
1,3-Dichloropropane	ND	ug/L	0.50	
2,2-Dichloropropane	ND	ug/L	0.50	
1,1-Dichloropropene	ND	ug/L	0.50	
cis-1,3-Dichloropropene	ND	ug/L	0.50	
trans-1,3-Dichloropropene	ND	ug/L	0.50	
Ethylbenzene	ND	ug/L	0.50	
Hexachlorobutadiene	ND	ug/L	0.50	
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50	
Methylene chloride	ND	ug/L	0.50	

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin

Enseco
A Corning Company

Safe Drinking Water Act Volatile Organics (CONT.)

Method 524.2

Client Name: Dames & Moore
Client ID: OB-8
Lab ID: 017394-0012-SA
Matrix: AQUEOUS Sampled: 05 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 15 NOV 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	ND	ug/L	0.50	
Toluene	ND	ug/L	0.50	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	2.1	ug/L	0.50	
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	110	ug/L	2.5	D
Trichlorofluoromethane	ND	ug/L	0.50	
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	ND	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	

Surrogate	Recovery		
4-Bromofluorobenzene	100	%	--

Note D : Compound quantitated using a secondary dilution.

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin

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Enseco
A Corning Company

Volatiles Library Search (15 Compound TID)

Method 524

Client Name: Dames & Moore
Client ID: OB-8
Lab ID: 017394-0012-SA
Matrix: AQUEOUS
Authorized: 07 NOV 91

Sampled: 05 NOV 91
Prepared: NA

Received: 06 NOV 91
Analyzed: 15 NOV 91

Parameter	Result	Units	Reporting Limit
TID Compound 1	ND	ug/L	
TID Compound 2	ND	ug/L	
TID Compound 3	ND	ug/L	
TID Compound 4	ND	ug/L	
TID Compound 5	ND	ug/L	
TID Compound 6	ND	ug/L	
TID Compound 7	ND	ug/L	
TID Compound 8	ND	ug/L	
TID Compound 9	ND	ug/L	
TID Compound 10	ND	ug/L	
TID Compound 11	ND	ug/L	
TID Compound 12	ND	ug/L	
TID Compound 13	ND	ug/L	
TID Compound 14	ND	ug/L	
TID Compound 15	ND	ug/L	

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel

Approved By: Khaja Eazazuddin

Enseco
A Corning Company

Safe Drinking Water Act Volatile Organics

Method 524.2

Client Name: Dames & Moore
Client ID: BR-1
Lab ID: 017394-0001-SA
Matrix: AQUEOUS Sampled: 04 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 14 NOV 91

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	0.69	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	ND	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	ND	ug/L	0.50

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin

Enseco
A Corning Company

Safe Drinking Water Act Volatile Organics (CONT.)

Method 524.2

Client Name: Dames & Moore
Client ID: BR-1
Lab ID: 017394-0001-SA
Matrix: AQUEOUS
Authorized: 07 NOV 91

Sampled: 04 NOV 91
Prepared: NA

Received: 06 NOV 91
Analyzed: 14 NOV 91

Parameter	Result	Units	Reporting Limit
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	ND	ug/L	0.50
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	ND	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	ND	ug/L	0.50
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50

Surrogate	Recovery		
4-Bromofluorobenzene	102	%	--

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel

Approved By: Khaja Eazazuddin

Enseco
A Corning Company

Volatiles Library Search (15 Compound TID)

Method 524

Client Name: Dames & Moore
Client ID: BR-1
Lab ID: 017394-0001-SA
Matrix: AQUEOUS
Authorized: 07 NOV 91

Sampled: 04 NOV 91
Prepared: NA

Received: 06 NOV 91
Analyzed: 14 NOV 91

Parameter	Result	Units	Reporting Limit
TID Compound 1	ND	ug/L	
TID Compound 2	ND	ug/L	
TID Compound 3	ND	ug/L	
TID Compound 4	ND	ug/L	
TID Compound 5	ND	ug/L	
TID Compound 6	ND	ug/L	
TID Compound 7	ND	ug/L	
TID Compound 8	ND	ug/L	
TID Compound 9	ND	ug/L	
TID Compound 10	ND	ug/L	
TID Compound 11	ND	ug/L	
TID Compound 12	ND	ug/L	
TID Compound 13	ND	ug/L	
TID Compound 14	ND	ug/L	
TID Compound 15	ND	ug/L	

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel

Approved By: Khaja Eazazuddin

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Enseco
A Corning Company

Safe Drinking Water Act Volatile Organics

Method 524.2

Client Name: Dames & Moore
Client ID: BR-2
Lab ID: 017394-0003-SA
Matrix: AQUEOUS Sampled: 04 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 14 NOV 91

Parameter	Result	Units	Reporting Limit	
Benzene	ND	ug/L	0.50	
Bromobenzene	ND	ug/L	0.50	
Bromochloromethane	ND	ug/L	0.50	
Bromodichloromethane	ND	ug/L	0.50	
Bromoform	ND	ug/L	0.50	
Bromomethane	ND	ug/L	0.50	
n-Butylbenzene	ND	ug/L	0.50	
sec-Butylbenzene	ND	ug/L	0.50	
tert-Butylbenzene	ND	ug/L	0.50	
Carbon tetrachloride	ND	ug/L	0.50	
Chlorobenzene	ND	ug/L	0.50	
Chloroethane	ND	ug/L	0.50	
Chloroform	ND	ug/L	0.50	
Chloromethane	ND	ug/L	0.50	
2-Chlorotoluene	ND	ug/L	0.50	
4-Chlorotoluene	ND	ug/L	0.50	
Dibromochloromethane	ND	ug/L	0.50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	
Dibromomethane	ND	ug/L	0.50	
1,2-Dichlorobenzene	ND	ug/L	0.50	
1,3-Dichlorobenzene	ND	ug/L	0.50	
1,4-Dichlorobenzene	ND	ug/L	0.50	
Dichlorodifluoromethane	ND	ug/L	0.50	
1,1-Dichloroethane	0.92	ug/L	0.50	
1,2-Dichloroethane	ND	ug/L	0.50	
1,1-Dichloroethene	ND	ug/L	0.50	
cis-1,2-Dichloroethene	88	ug/L	12	D
trans-1,2-Dichloroethene	ND	ug/L	0.50	
1,2-Dichloropropane	ND	ug/L	0.50	
1,3-Dichloropropane	ND	ug/L	0.50	
2,2-Dichloropropane	ND	ug/L	0.50	
1,1-Dichloropropene	ND	ug/L	0.50	
cis-1,3-Dichloropropene	ND	ug/L	0.50	
trans-1,3-Dichloropropene	ND	ug/L	0.50	
Ethylbenzene	ND	ug/L	0.50	
Hexachlorobutadiene	ND	ug/L	0.50	
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50	
Methylene chloride	ND	ug/L	0.50	

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin

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A Corning Company

Safe Drinking Water Act Volatile Organics (CONT.)

Method 524.2

Client Name: Dames & Moore
Client ID: BR-2
Lab ID: 017394-0003-SA
Matrix: AQUEOUS Sampled: 04 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 14 NOV 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	ND	ug/L	0.50	
Toluene	ND	ug/L	0.50	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	0.67	ug/L	0.50	
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	400	ug/L	12	D
Trichlorofluoromethane	ND	ug/L	0.50	
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	ND	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	

Surrogate	Recovery		
4-Bromofluorobenzene	99	%	--

Note D : Compound quantitated using a secondary dilution.

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin

Enseco
A Corning Company

Volatiles Library Search (15 Compound TID)

Method 524

Client Name: Dames & Moore
Client ID: BR-2
Lab ID: 017394-0003-SA
Matrix: AQUEOUS Sampled: 04 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 14 NOV 91

Parameter	Result	Units	Reporting Limit
TID Compound 1	ND	ug/L	
TID Compound 2	ND	ug/L	
TID Compound 3	ND	ug/L	
TID Compound 4	ND	ug/L	
TID Compound 5	ND	ug/L	
TID Compound 6	ND	ug/L	
TID Compound 7	ND	ug/L	
TID Compound 8	ND	ug/L	
TID Compound 9	ND	ug/L	
TID Compound 10	ND	ug/L	
TID Compound 11	ND	ug/L	
TID Compound 12	ND	ug/L	
TID Compound 13	ND	ug/L	
TID Compound 14	ND	ug/L	
TID Compound 15	ND	ug/L	

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin

Enseco
A Corning Company

Safe Drinking Water Act Volatile Organics

Method 524.2

Client Name: Dames & Moore
Client ID: BR-3
Lab ID: 017394-0004-SA
Matrix: AQUEOUS Sampled: 04 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 14 NOV 91

Parameter	Result	Units	Reporting Limit	
Benzene	ND	ug/L	0.50	
Bromobenzene	ND	ug/L	0.50	
Bromochloromethane	ND	ug/L	0.50	
Bromodichloromethane	ND	ug/L	0.50	
Bromoform	ND	ug/L	0.50	
Bromomethane	ND	ug/L	0.50	
n-Butylbenzene	ND	ug/L	0.50	
sec-Butylbenzene	ND	ug/L	0.50	
tert-Butylbenzene	ND	ug/L	0.50	
Carbon tetrachloride	ND	ug/L	0.50	
Chlorobenzene	ND	ug/L	0.50	
Chloroethane	ND	ug/L	0.50	
Chloroform	ND	ug/L	0.50	
Chloromethane	ND	ug/L	0.50	
2-Chlorotoluene	ND	ug/L	0.50	
4-Chlorotoluene	ND	ug/L	0.50	
Dibromochloromethane	ND	ug/L	0.50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	
Dibromomethane	ND	ug/L	0.50	
1,2-Dichlorobenzene	ND	ug/L	0.50	
1,3-Dichlorobenzene	ND	ug/L	0.50	
1,4-Dichlorobenzene	ND	ug/L	0.50	
Dichlorodifluoromethane	ND	ug/L	0.50	
1,1-Dichloroethane	2.2	ug/L	0.50	
1,2-Dichloroethane	ND	ug/L	0.50	
1,1-Dichloroethene	2.4	ug/L	0.50	
cis-1,2-Dichloroethene	580	ug/L	50	D
trans-1,2-Dichloroethene	ND	ug/L	0.50	
1,2-Dichloropropane	ND	ug/L	0.50	
1,3-Dichloropropane	ND	ug/L	0.50	
2,2-Dichloropropane	ND	ug/L	0.50	
1,1-Dichloropropene	ND	ug/L	0.50	
cis-1,3-Dichloropropene	ND	ug/L	0.50	
trans-1,3-Dichloropropene	ND	ug/L	0.50	
Ethylbenzene	ND	ug/L	0.50	
Hexachlorobutadiene	ND	ug/L	0.50	
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50	
Methylene chloride	ND	ug/L	0.50	

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin

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Safe Drinking Water Act Volatile Organics (CONT.)

Method 524.2

Client Name: Dames & Moore
Client ID: BR-3
Lab ID: 017394-0004-SA
Matrix: AQUEOUS
Authorized: 07 NOV 91

Sampled: 04 NOV 91
Prepared: NA

Received: 06 NOV 91
Analyzed: 14 NOV 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	ND	ug/L	0.50	
Toluene	ND	ug/L	0.50	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	1.5	ug/L	0.50	
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	1400	ug/L	50	D
Trichlorofluoromethane	ND	ug/L	0.50	
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	ND	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	

Surrogate	Recovery		
4-Bromofluorobenzene	102	%	--

Note D : Compound quantitated using a secondary dilution.

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel

Approved By: Khaja Eazazuddin

Enseco
A Corning Company

Volatiles Library Search (15 Compound TID)

Method 524

Client Name: Dames & Moore
Client ID: BR-3
Lab ID: 017394-0004-SA
Matrix: AQUEOUS Sampled: 04 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 14 NOV 91

Parameter	Result	Units	Reporting Limit
TID Compound 1	ND	ug/L	
TID Compound 2	ND	ug/L	
TID Compound 3	ND	ug/L	
TID Compound 4	ND	ug/L	
TID Compound 5	ND	ug/L	
TID Compound 6	ND	ug/L	
TID Compound 7	ND	ug/L	
TID Compound 8	ND	ug/L	
TID Compound 9	ND	ug/L	
TID Compound 10	ND	ug/L	
TID Compound 11	ND	ug/L	
TID Compound 12	ND	ug/L	
TID Compound 13	ND	ug/L	
TID Compound 14	ND	ug/L	
TID Compound 15	ND	ug/L	

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin

Enseco
A Corning Company

Safe Drinking Water Act Volatile Organics

Method 524.2

Client Name: Dames & Moore
Client ID: BR-4
Lab ID: 017394-0005-SA
Matrix: AQUEOUS
Authorized: 07 NOV 91

Sampled: 04 NOV 91
Prepared: NA

Received: 06 NOV 91
Analyzed: 14 NOV 91

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	14	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	ND	ug/L	0.50

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel

Approved By: Khaja Eazazuddin

Enseco
A Corning Company

Safe Drinking Water Act Volatile Organics (CONT.)

Method 524.2

Client Name: Dames & Moore
Client ID: BR-4
Lab ID: 017394-0005-SA
Matrix: AQUEOUS Sampled: 04 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 14 NOV 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	ND	ug/L	0.50	
Toluene	ND	ug/L	0.50	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	ND	ug/L	0.50	
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	120	ug/L	5.0	D
Trichlorofluoromethane	ND	ug/L	0.50	
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	ND	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	

Surrogate	Recovery		
4-Bromofluorobenzene	102	%	--

Note D : Compound quantitated using a secondary dilution.

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin

Enseco
A Corning Company

Volatiles Library Search (15 Compound TID)

Method 524

Client Name: Dames & Moore
Client ID: BR-4
Lab ID: 017394-0005-SA
Matrix: AQUEOUS Sampled: 04 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 14 NOV 91

Parameter	Result	Units	Reporting Limit	
1,1,2 Trichloro-1,2,2-trifluoroethane	3.0	ug/L		J
TID Compound 2	ND	ug/L		
TID Compound 3	ND	ug/L		
TID Compound 4	ND	ug/L		
TID Compound 5	ND	ug/L		
TID Compound 6	ND	ug/L		
TID Compound 7	ND	ug/L		
TID Compound 8	ND	ug/L		
TID Compound 9	ND	ug/L		
TID Compound 10	ND	ug/L		
TID Compound 11	ND	ug/L		
TID Compound 12	ND	ug/L		
TID Compound 13	ND	ug/L		
TID Compound 14	ND	ug/L		
TID Compound 15	ND	ug/L		

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

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin

Enseco
A Corning Company

Safe Drinking Water Act Volatile Organics

Method 524.2

Client Name: Dames & Moore
Client ID: BR-5
Lab ID: 017394-0008-SA
Matrix: AQUEOUS Sampled: 05 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 14 NOV 91

Parameter	Result	Units	Reporting Limit	
Benzene	ND	ug/L	0.50	
Bromobenzene	ND	ug/L	0.50	
Bromochloromethane	ND	ug/L	0.50	
Bromodichloromethane	ND	ug/L	0.50	
Bromoform	ND	ug/L	0.50	
Bromomethane	ND	ug/L	0.50	
n-Butylbenzene	ND	ug/L	0.50	
sec-Butylbenzene	ND	ug/L	0.50	
tert-Butylbenzene	ND	ug/L	0.50	
Carbon tetrachloride	ND	ug/L	0.50	
Chlorobenzene	ND	ug/L	0.50	
Chloroethane	ND	ug/L	0.50	
Chloroform	ND	ug/L	0.50	
Chloromethane	ND	ug/L	0.50	
2-Chlorotoluene	ND	ug/L	0.50	
4-Chlorotoluene	ND	ug/L	0.50	
Dibromochloromethane	ND	ug/L	0.50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50	
1,2-Dibromoethane (EDB)	ND	ug/L	0.50	
Dibromomethane	ND	ug/L	0.50	
1,2-Dichlorobenzene	ND	ug/L	0.50	
1,3-Dichlorobenzene	ND	ug/L	0.50	
1,4-Dichlorobenzene	ND	ug/L	0.50	
Dichlorodifluoromethane	ND	ug/L	0.50	
1,1-Dichloroethane	2.5	ug/L	0.50	
1,2-Dichloroethane	2.6	ug/L	0.50	
1,1-Dichloroethene	ND	ug/L	0.50	
cis-1,2-Dichloroethene	170	ug/L	25	D
trans-1,2-Dichloroethene	ND	ug/L	0.50	
1,2-Dichloropropane	ND	ug/L	0.50	
1,3-Dichloropropane	ND	ug/L	0.50	
2,2-Dichloropropane	ND	ug/L	0.50	
1,1-Dichloropropene	ND	ug/L	0.50	
cis-1,3-Dichloropropene	ND	ug/L	0.50	
trans-1,3-Dichloropropene	ND	ug/L	0.50	
Ethylbenzene	ND	ug/L	0.50	
Hexachlorobutadiene	ND	ug/L	0.50	
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50	
Methylene chloride	ND	ug/L	0.50	

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin

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Safe Drinking Water Act Volatile Organics (CONT.)

Method 524.2

Client Name: Dames & Moore
Client ID: BR-5
Lab ID: 017394-0008-SA
Matrix: AQUEOUS Sampled: 05 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 14 NOV 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	ND	ug/L	0.50	
Toluene	ND	ug/L	0.50	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	2.5	ug/L	0.50	
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	780	ug/L	25	D
Trichlorofluoromethane	ND	ug/L	0.50	
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	ND	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	

Surrogate	Recovery		
4-Bromofluorobenzene	102	%	--

Note D : Compound quantitated using a secondary dilution.

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin 12-12-91 JJ

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Volatiles Library Search (15 Compound TID)

Method 524

Client Name: Dames & Moore
Client ID: BR-5
Lab ID: 017394-0008-SA
Matrix: AQUEOUS
Authorized: 07 NOV 91

Sampled: 05 NOV 91
Prepared: NA

Received: 06 NOV 91
Analyzed: 14 NOV 91

Parameter	Result	Units	Reporting Limit
TID Compound 1	ND	ug/L	
TID Compound 2	ND	ug/L	
TID Compound 3	ND	ug/L	
TID Compound 4	ND	ug/L	
TID Compound 5	ND	ug/L	
TID Compound 6	ND	ug/L	
TID Compound 7	ND	ug/L	
TID Compound 8	ND	ug/L	
TID Compound 9	ND	ug/L	
TID Compound 10	ND	ug/L	
TID Compound 11	ND	ug/L	
TID Compound 12	ND	ug/L	
TID Compound 13	ND	ug/L	
TID Compound 14	ND	ug/L	
TID Compound 15	ND	ug/L	

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel

Approved By: Khaja Eazazuddin

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A Corning Company

Safe Drinking Water Act Volatile Organics

Method 524.2

Client Name: Dames & Moore
Client ID: BR-6
Lab ID: 017394-0014-SA
Matrix: AQUEOUS
Authorized: 07 NOV 91

Sampled: 05 NOV 91
Prepared: NA

Received: 06 NOV 91
Analyzed: 15 NOV 91

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	0.93	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	1.3	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	ND	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	ND	ug/L	0.50

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel

Approved By: Khaja Eazazuddin

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Safe Drinking Water Act Volatile Organics (CONT.)

Method 524.2

Client Name: Dames & Moore
Client ID: BR-6
Lab ID: 017394-0014-SA
Matrix: AQUEOUS Sampled: 05 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 15 NOV 91

Parameter	Result	Units	Reporting Limit
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	8.8	ug/L	0.50
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	ND	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	3.4	ug/L	0.50
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50

Surrogate	Recovery		
4-Bromofluorobenzene	102	%	--

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin

Enseco
A Corning Company

Volatiles Library Search (15 Compound TID)

Method 524

Client Name: Dames & Moore
Client ID: BR-6
Lab ID: 017394-0014-SA
Matrix: AQUEOUS Sampled: 05 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 15 NOV 91

Parameter	Result	Units	Reporting Limit	
Unknown	2.0	ug/L		J
TID Compound 2	ND	ug/L		
TID Compound 3	ND	ug/L		
TID Compound 4	ND	ug/L		
TID Compound 5	ND	ug/L		
TID Compound 6	ND	ug/L		
TID Compound 7	ND	ug/L		
TID Compound 8	ND	ug/L		
TID Compound 9	ND	ug/L		
TID Compound 10	ND	ug/L		
TID Compound 11	ND	ug/L		
TID Compound 12	ND	ug/L		
TID Compound 13	ND	ug/L		
TID Compound 14	ND	ug/L		
TID Compound 15	ND	ug/L		

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

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin

Enseco
A Corning Company

Safe Drinking Water Act Volatile Organics

Method 524.2

Client Name: Dames & Moore
Client ID: BR-7
Lab ID: 017394-0015-SA
Matrix: AQUEOUS Sampled: 05 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 15 NOV 91

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	10	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	ND	ug/L	0.50

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin

Enseco
A Corning Company

Safe Drinking Water Act Volatile Organics (CONT.)

Method 524.2

Client Name: Dames & Moore
Client ID: BR-7
Lab ID: 017394-0015-SA
Matrix: AQUEOUS Sampled: 05 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 15 NOV 91

Parameter	Result	Units	Reporting Limit	
Naphthalene	ND	ug/L	0.50	
n-Propylbenzene	ND	ug/L	0.50	
Styrene	ND	ug/L	0.50	
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50	
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50	
Tetrachloroethene	2.7	ug/L	0.50	
Toluene	ND	ug/L	0.50	
1,2,3-Trichlorobenzene	ND	ug/L	0.50	
1,2,4-Trichlorobenzene	ND	ug/L	0.50	
1,1,1-Trichloroethane	0.99	ug/L	0.50	
1,1,2-Trichloroethane	ND	ug/L	0.50	
Trichloroethene	83	ug/L	2.5	D
Trichlorofluoromethane	ND	ug/L	0.50	
1,2,3-Trichloropropane	ND	ug/L	0.50	
1,2,4-Trimethylbenzene	ND	ug/L	0.50	
1,3,5-Trimethylbenzene	ND	ug/L	0.50	
Vinyl chloride	ND	ug/L	0.50	
o-Xylene	ND	ug/L	0.50	
m,p-Xylene	ND	ug/L	0.50	

Surrogate	Recovery		
4-Bromofluorobenzene	102	%	--

Note D : Compound quantitated using a secondary dilution.

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin

Enseco
A Corning Company

Volatiles Library Search (15 Compound TID)

Method 524

Client Name: Dames & Moore
Client ID: BR-7
Lab ID: 017394-0015-SA
Matrix: AQUEOUS
Authorized: 07 NOV 91

Sampled: 05 NOV 91
Prepared: NA

Received: 06 NOV 91
Analyzed: 15 NOV 91

Parameter	Result	Units	Reporting Limit	
tert Butyl Methyl ether	1.5	ug/L		J
TID Compound 2	ND	ug/L		
TID Compound 3	ND	ug/L		
TID Compound 4	ND	ug/L		
TID Compound 5	ND	ug/L		
TID Compound 6	ND	ug/L		
TID Compound 7	ND	ug/L		
TID Compound 8	ND	ug/L		
TID Compound 9	ND	ug/L		
TID Compound 10	ND	ug/L		
TID Compound 11	ND	ug/L		
TID Compound 12	ND	ug/L		
TID Compound 13	ND	ug/L		
TID Compound 14	ND	ug/L		
TID Compound 15	ND	ug/L		

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

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel

Approved By: Khaja Eazazuddin

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Safe Drinking Water Act Volatile Organics

Method 524.2

Client Name: Dames & Moore
Client ID: BR-8
Lab ID: 017394-0011-SA
Matrix: AQUEOUS Sampled: 04 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 15 NOV 91

Parameter	Result	Units	Reporting Limit	
Benzene	ND	ug/L	50	j
Bromobenzene	ND	ug/L	50	
Bromochloromethane	ND	ug/L	50	
Bromodichloromethane	ND	ug/L	50	
Bromoform	ND	ug/L	50	
Bromomethane	ND	ug/L	50	
n-Butylbenzene	ND	ug/L	50	
sec-Butylbenzene	ND	ug/L	50	
tert-Butylbenzene	ND	ug/L	50	
Carbon tetrachloride	ND	ug/L	50	
Chlorobenzene	ND	ug/L	50	
Chloroethane	ND	ug/L	50	
Chloroform	ND	ug/L	50	
Chloromethane	ND	ug/L	50	
2-Chlorotoluene	ND	ug/L	50	
4-Chlorotoluene	ND	ug/L	50	
Dibromochloromethane	ND	ug/L	50	
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	50	
1,2-Dibromoethane (EDB)	ND	ug/L	50	
Dibromomethane	ND	ug/L	50	
1,2-Dichlorobenzene	ND	ug/L	50	
1,3-Dichlorobenzene	ND	ug/L	50	
1,4-Dichlorobenzene	ND	ug/L	50	
Dichlorodifluoromethane	ND	ug/L	50	
1,1-Dichloroethane	ND	ug/L	50	
1,2-Dichloroethane	ND	ug/L	50	
1,1-Dichloroethene	ND	ug/L	50	
cis-1,2-Dichloroethene	530	ug/L	50	
trans-1,2-Dichloroethene	ND	ug/L	50	
1,2-Dichloropropane	ND	ug/L	50	
1,3-Dichloropropane	ND	ug/L	50	
2,2-Dichloropropane	ND	ug/L	50	
1,1-Dichloropropene	ND	ug/L	50	
cis-1,3-Dichloropropene	ND	ug/L	50	
trans-1,3-Dichloropropene	ND	ug/L	50	
Ethylbenzene	ND	ug/L	50	
Hexachlorobutadiene	ND	ug/L	50	
1-Methylethylbenzene (Cumene)	ND	ug/L	50	
p-Isopropyltoluene (p-Cymene)	ND	ug/L	50	
Methylene chloride	ND	ug/L	50	

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin

Enseco
A Corning Company

Safe Drinking Water Act Volatile Organics (CONT.)

Method 524.2

Client Name: Dames & Moore
Client ID: BR-8
Lab ID: 017394-0011-SA
Matrix: AQUEOUS Sampled: 04 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 15 NOV 91

Parameter	Result	Units	Reporting Limit
Naphthalene	ND	ug/L	50
n-Propylbenzene	ND	ug/L	50
Styrene	ND	ug/L	50
1,1,1,2-Tetrachloroethane	ND	ug/L	50
1,1,2,2-Tetrachloroethane	ND	ug/L	50
Tetrachloroethene	ND	ug/L	50
Toluene	ND	ug/L	50
1,2,3-Trichlorobenzene	ND	ug/L	50
1,2,4-Trichlorobenzene	ND	ug/L	50
1,1,1-Trichloroethane	ND	ug/L	50
1,1,2-Trichloroethane	ND	ug/L	50
Trichloroethene	1200	ug/L	50
Trichlorofluoromethane	ND	ug/L	50
1,2,3-Trichloropropane	ND	ug/L	50
1,2,4-Trimethylbenzene	ND	ug/L	50
1,3,5-Trimethylbenzene	ND	ug/L	50
Vinyl chloride	ND	ug/L	50
o-Xylene	ND	ug/L	50
m,p-Xylene	ND	ug/L	50

Surrogate	Recovery		
4-Bromofluorobenzene	102	%	--

Note j : All reporting limits raised due to high levels of other analytes.

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin

Enseco
A Coming Company

Volatiles Library Search (15 Compound TID)

Method 524

Client Name: Dames & Moore
Client ID: BR-8
Lab ID: 017394-0011-SA
Matrix: AQUEOUS Sampled: 04 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 15 NOV 91

Parameter	Result	Units	Reporting Limit	
Carbon disulfide	560	ug/L		J
TID Compound 2	ND	ug/L		
TID Compound 3	ND	ug/L		
TID Compound 4	ND	ug/L		
TID Compound 5	ND	ug/L		
TID Compound 6	ND	ug/L		
TID Compound 7	ND	ug/L		
TID Compound 8	ND	ug/L		
TID Compound 9	ND	ug/L		
TID Compound 10	ND	ug/L		
TID Compound 11	ND	ug/L		
TID Compound 12	ND	ug/L		
TID Compound 13	ND	ug/L		
TID Compound 14	ND	ug/L		
TID Compound 15	ND	ug/L		

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

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin

Enseco
A Corning Company

Safe Drinking Water Act Volatile Organics

Method 524.2

Client Name: Dames & Moore
Client ID: FIELD BLANK
Lab ID: 017394-0009-FB
Matrix: AQUEOUS Sampled: 04 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 14 NOV 91

Parameter	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	ND	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	ND	ug/L	0.50

(continued on following page)

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin

AR303117

12-12-91

Enseco
A Corning Company

Safe Drinking Water Act Volatile Organics (CONT.)

Method 524.2

Client Name: Dames & Moore
Client ID: FIELD BLANK
Lab ID: 017394-0009-FB
Matrix: AQUEOUS Sampled: 04 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 14 NOV 91

Parameter	Result	Units	Reporting Limit
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	ND	ug/L	0.50
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	ND	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	ND	ug/L	0.50
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50

Surrogate	Recovery		
4-Bromofluorobenzene	100	%	--

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel Approved By: Khaja Eazazuddin

12-17-91

Enseco
A Corning Company

Volatiles Library Search (15 Compound TID)

Method 524

Client Name: Dames & Moore
Client ID: FIELD BLANK
Lab ID: 017394-0009-FB
Matrix: AQUEOUS Sampled: 04 NOV 91 Received: 06 NOV 91
Authorized: 07 NOV 91 Prepared: NA Analyzed: 14 NOV 91

Parameter	Result	Units	Reporting Limit
TID Compound 1	ND	ug/L	
TID Compound 2	ND	ug/L	
TID Compound 3	ND	ug/L	
TID Compound 4	ND	ug/L	
TID Compound 5	ND	ug/L	
TID Compound 6	ND	ug/L	
TID Compound 7	ND	ug/L	
TID Compound 8	ND	ug/L	
TID Compound 9	ND	ug/L	
TID Compound 10	ND	ug/L	
TID Compound 11	ND	ug/L	
TID Compound 12	ND	ug/L	
TID Compound 13	ND	ug/L	
TID Compound 14	ND	ug/L	
TID Compound 15	ND	ug/L	

ND = Not detected
NA = Not applicable

Reported By: Bhaskar Patel

Approved By: Khaja Eazazuddin 12-12-91

Enseco
A Corning Company

METHOD BLANK REPORT
Volatile Organics by GC/MS

Test: 524-SDWA-AP
Matrix: AQUEOUS
QC Lot: 13 NOV 91-D QC Run: 14 NOV 91-A

Analyte	Result	Units	Reporting Limit
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	ND	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	ND	ug/L	0.50

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

Analyte	Result	Units	Reporting Limit
Test: 524-SDWA-AP			
Matrix: AQUEOUS			
QC Lot: 13 NOV 91-D QC Run: 14 NOV 91-A			
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	ND	ug/L	0.50
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	ND	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	ND	ug/L	0.50
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50
Test: 524-SDWA-AP			
Matrix: AQUEOUS			
QC Lot: 13 NOV 91-D QC Run: 15 NOV 91-A			
Benzene	ND	ug/L	0.50
Bromobenzene	ND	ug/L	0.50
Bromochloromethane	ND	ug/L	0.50
Bromodichloromethane	ND	ug/L	0.50
Bromoform	ND	ug/L	0.50
Bromomethane	ND	ug/L	0.50
n-Butylbenzene	ND	ug/L	0.50
sec-Butylbenzene	ND	ug/L	0.50
tert-Butylbenzene	ND	ug/L	0.50
Carbon tetrachloride	ND	ug/L	0.50
Chlorobenzene	ND	ug/L	0.50
Chloroethane	ND	ug/L	0.50
Chloroform	ND	ug/L	0.50
Chloromethane	ND	ug/L	0.50
2-Chlorotoluene	ND	ug/L	0.50
4-Chlorotoluene	ND	ug/L	0.50

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A Corning Company

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

Analyte	Result	Units	Reporting Limit
Test: 524-SDWA-AP			
Matrix: AQUEOUS			
QC Lot: 13 NOV 91-D QC Run: 15 NOV 91-A			
Dibromochloromethane	ND	ug/L	0.50
1,2-Dibromo-3-chloro-propane (DBCP)	ND	ug/L	0.50
1,2-Dibromoethane (EDB)	ND	ug/L	0.50
Dibromomethane	ND	ug/L	0.50
1,2-Dichlorobenzene	ND	ug/L	0.50
1,3-Dichlorobenzene	ND	ug/L	0.50
1,4-Dichlorobenzene	ND	ug/L	0.50
Dichlorodifluoromethane	ND	ug/L	0.50
1,1-Dichloroethane	ND	ug/L	0.50
1,2-Dichloroethane	ND	ug/L	0.50
1,1-Dichloroethene	ND	ug/L	0.50
cis-1,2-Dichloroethene	ND	ug/L	0.50
trans-1,2-Dichloroethene	ND	ug/L	0.50
1,2-Dichloropropane	ND	ug/L	0.50
1,3-Dichloropropane	ND	ug/L	0.50
2,2-Dichloropropane	ND	ug/L	0.50
1,1-Dichloropropene	ND	ug/L	0.50
cis-1,3-Dichloropropene	ND	ug/L	0.50
trans-1,3-Dichloropropene	ND	ug/L	0.50
Ethylbenzene	ND	ug/L	0.50
Hexachlorobutadiene	ND	ug/L	0.50
1-Methylethylbenzene (Cumene)	ND	ug/L	0.50
p-Isopropyltoluene (p-Cymene)	ND	ug/L	0.50
Methylene chloride	ND	ug/L	0.50
Naphthalene	ND	ug/L	0.50
n-Propylbenzene	ND	ug/L	0.50
Styrene	ND	ug/L	0.50
1,1,1,2-Tetrachloroethane	ND	ug/L	0.50
1,1,2,2-Tetrachloroethane	ND	ug/L	0.50
Tetrachloroethene	ND	ug/L	0.50
Toluene	ND	ug/L	0.50
1,2,3-Trichlorobenzene	ND	ug/L	0.50
1,2,4-Trichlorobenzene	ND	ug/L	0.50
1,1,1-Trichloroethane	ND	ug/L	0.50
1,1,2-Trichloroethane	ND	ug/L	0.50
Trichloroethene	ND	ug/L	0.50
Trichlorofluoromethane	ND	ug/L	0.50
1,2,3-Trichloropropane	ND	ug/L	0.50
1,2,4-Trimethylbenzene	ND	ug/L	0.50
1,3,5-Trimethylbenzene	ND	ug/L	0.50

Enseco
A Corning Company

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

Analyte	Result	Units	Reporting Limit
Test: 524-SDWA-AP			
Matrix: AQUEOUS			
QC Lot: 13 NOV 91-D QC Run: 15 NOV 91-A			
Vinyl chloride	ND	ug/L	0.50
o-Xylene	ND	ug/L	0.50
m,p-Xylene	ND	ug/L	0.50

APPENDIX N

VIDEO SURVEY AND PACKER TESTING PROCEDURES

1.0 VIDEO SURVEY AND PACKER TESTING OF MONITORING WELLS

The three deep Phase II bedrock monitoring wells will be video surveyed and packer tested. The video survey will provide information concerning the location of fracture zones within the monitoring wells and the condition of the well borehole (i.e., potential collapse zones and seating of outer casing). The packer testing will provide information concerning the distribution of hydraulic head adjacent to the wellbore, the specific yield of particular zones, and the hydraulic conductivity of the formation adjacent to the well.

1.1 VIDEO SURVEY PROCEDURES

Video surveys of monitoring wells provide a continuous photographic log of the well interior. The video survey procedure involves lowering a miniature television camera into the well. A light source illuminates the well boring and the resulting video display is transmitted to the surface for review and recording. The television camera simultaneously photographs the formation within the well as it records the depth of the camera. This type of logging has many uses with regard to the geology and integrity of a monitoring well. The objective of the proposed video survey is to identify potential recharge zones based on the density and orientation of fractures within the well.

1.2 PACKER TESTING

The purpose of the packer testing is to:

1. Determine the distribution of head in the formation adjacent to the well.

2. Determine the distribution of specific capacity of various intervals of the well.

3. Determine the relative permeability of the formation adjacent to the well.

4. Obtain water-quality samples from specific water-producing zones penetrated by the well.

Packer testing will be performed by Earth Data Incorporated acting as a designated subcontractor to Dames & Moore.

The intervals to be tested will be determined after evaluation of the coring and downhole video camera survey data. However, the maximum number of test intervals is estimated at three per boring. Pumping rates, purge duration and sample times will be determined by Dames & Moore. All purge water will be collected and stored in containers on-site, pending analysis of the water.

AR303125

All packer testing equipment which will enter the well will be steam cleaned prior to mobilization to the site and between monitoring wells on-site.

The proposed packer tests for the Phase II deep bedrock monitoring wells will utilize these procedures and equipment.

1.2.1 Packer Testing System Equipment

The packer testing system will utilize a straddle packer assembly. The following describes the components of the system:

Packers

Two inflatable packers set on 1-1/4 inch schedule 80 galvanized lift pipe (steam cleaned) to isolate discrete intervals within the borehole.

Packer Length:	3.3 feet
Packer diameter:	3.5 inches (uninflated)
	8.0 inches (maximum inflated)

Water Pump

1 H.P. Goulds submersible pump (230 volts) to purge water from the wellbore.

Pressure Transducers

Three pressure transducers (100 mv at 200 psi) calibrated to read depth to water, which allow for continuous monitoring of water levels above, within and below the isolated interval. The upper transducer is set above the upper packer. The middle transducer is set between the two packers, just below the submersible pump intake. The lower transducer is set below the lower packer.

Data Collection System

The transducer signal is directed (via a center core array) to a digital data logger where it is calibrated to read depth to water level. The data logger output is directed to a lap-top computer which provides a graphic display of the water level data.

1.2.2 Packer Testing Procedures

1. Packer assembly is lowered into the wellbore to the desired depth.

2. Transducers are activated and initial millivolt readings are obtained.

AR303126

3. Millivolt readings from each transducer are calibrated to read depth to water level relative to the measuring point.

4. Nitrogen is introduced through the inflation tubes to each packer causing the packers to expand outward and seal the borehole.

5. Once the packers are inflated, the transducer readings (which reflect the head differential between the isolated intervals) are noted.

6. A slug test is conducted by introducing one gallon of distilled water into the isolated interval and observing the transducer response.

7. Based on the results of the slug test a decision is made whether or not to start the pump.

8. The pump is activated and the flow rate is monitored using a totalizing flow meter. Continuous water level response above, between, and below the isolated interval is recorded for the duration of pumping.

9. When the required number of borehole volumes are evacuated from the well, water quality samples may be obtained from the isolated interval.

10. The pump is deactivated and water level recovery readings are recorded.

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AR303127

APPENDIX O

BOREHOLE GEOPHYSICAL DATA

COPY FOR YOUR
INFORMATION

United States Department of the Interior

GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
Great Valley Corporate Center
111 Great Valley Parkway
Malvern, PA 19355

July 13, 1992

Mr. David Byro
U.S. Environmental Protection Agency
841 Chestnut Building (3HW21)
Philadelphia, PA 19107

Dear Mr. Byro:

On June 22 and 23, 1992, the U.S. Geological Survey ran geophysical logs on five 200-foot wells at the Recticon/Allied Steel NPL Site. Two copies of all logs are enclosed.

The caliper log for well Ch-4265 (DBR-5) shows openings at 75, 91, 100, 132-134, 138, 159, and 170-172 feet below land surface. The temperature log shows changes at 70, 83, 89, 175, and 189 feet. The fluid resistivity log shows changes at 60-62, 73, 83, and 189 feet. Slugs of brine injected into the well at 110 and 150 feet showed downward movement at a flow rate of 5.0 gallons per minute, probably from several yielding zones from about 60 to 90 feet to one or more zones between 170 and 189 feet.

The caliper log for well Ch-4266 (DBR-9) shows openings at 22-24, 36, 38-40, 43, 51-54, 62, 112-119, 156-170, and 194 feet below land surface. The temperature log does not show any changes. The fluid resistivity log shows changes at 40, 65, 155, 170, and 194 feet. A brine slug injected into the well at 85 feet dissipated so rapidly that it could not be traced, a brine slug injected at 129 feet did not show any movement, and a brine slug injected at 185 feet may have moved downward at a little more than 2 gallons per minute, but the results were not conclusive.

The caliper log for well Ch-4267 (DBR-10) shows openings at 42, 50, 56, 63, 70-75, 84, 108, 135-140, 183, 187, and 189 feet below land surface. The temperature log shows changes at 40 and 44 feet. The fluid resistivity log shows changes at 40, 65, 137, 182, and 191 feet. Brine slugs injected into the well at 90 and 100 feet dissipated so rapidly that they could not be traced, a brine slug injected at 125 feet showed upward movement at 12.6 gallons per minute, and a brine slug injected at 170 feet showed upward movement at 13 gallons per minute. Most of the water moving up the well bore appears to come from zones between 182 and 191 feet below land surface, and most of the water probably flows out of the well between 40 and 84 feet.

The caliper log for well Ch-4268 (DBR-11) shows openings at 39-43, 47, 52-60, 65-75, 82, 110, 130, 149, 154, 171, 177-181, and 197-199 feet below land surface. The temperature log shows changes at 72 and 83 feet. The fluid resistivity log shows changes at 45-47, 65, 75, 82, and 140 feet. A brine slug injected into the well at 90 feet moved downward at a flow rate of 4.9 gallons per minute. A brine slug injected into the well at 140 feet moved downward at a flow rate of 3.7 gallons per minute. Most of the water moving down the borehole appears to come from zones between 39 and 83 feet, and most of the flow leaves the borehole through zones below 140 feet.

The caliper log for well Ch-4269 (DBR-12) shows openings at 50-57, 68, 74, 111, 126, 135-138, 151-159, 166, and 186 feet below land surface. The temperature log shows small changes in slope at 50, 105-108, 155-160, and 185 feet. The fluid resistivity log shows changes in slope at 48, 58, 75, 100-110, 186, and 191 feet. A brine slug injected into the well at 90 feet moved downward at a flow rate of 1.8 gallons per minute, and a brine slug injected into the well at 130 feet moved downward at a flow rate of 4.0 gallons per minute. Most of the water moving down the borehole appears to come from zones above 110 feet, and most of the flow leaves the borehole through zones below 150 feet.

Sincerely,

Charles R. Wood
Supervisory Hydrologist

CRW:aln

Enclosures

cc w/Encl: Michael Edelman, Dames & Moore

Caliper Log

U.S. Geological Survey
water resources division

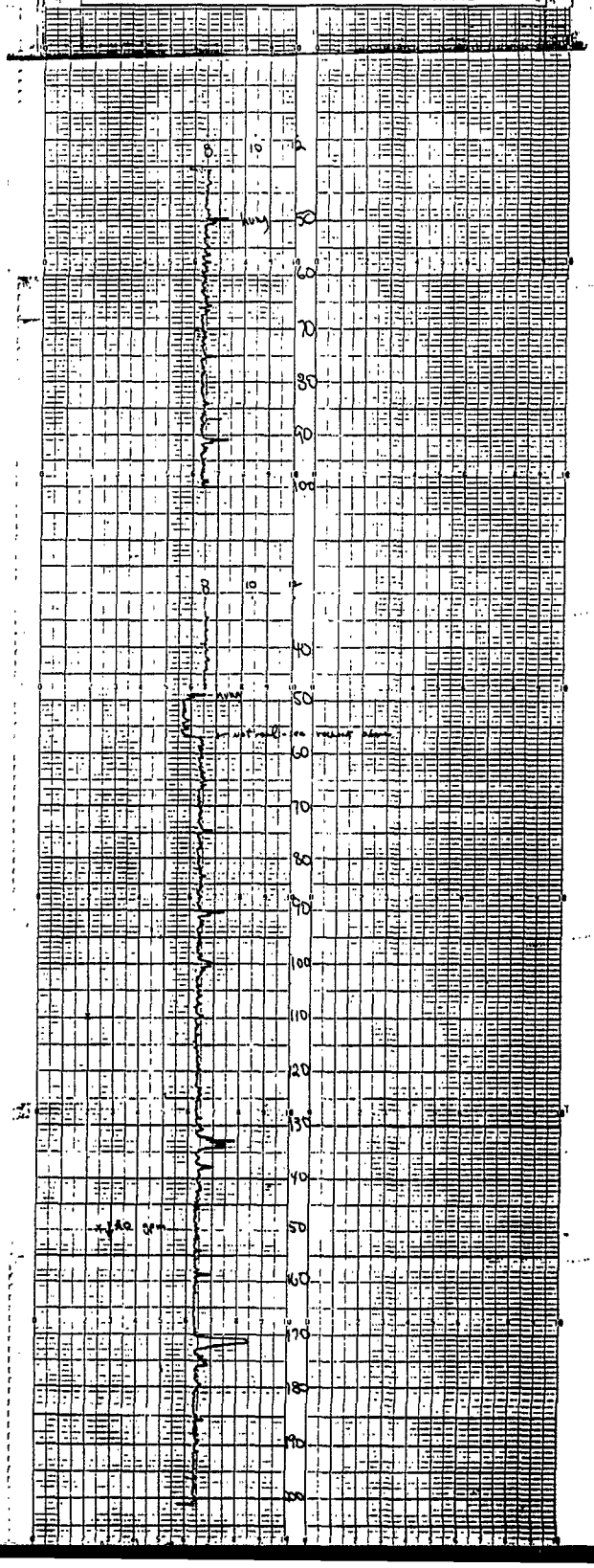
WELL LOG

COMPANY USGS
AREA Raymond / Alco Steel
WELL CL 4265 (DER-5)
COUNTY Clayton STATE Mo.

COORDINATES
N
E
ELEVATIONS
D.F.
G.L.
D.L.

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	4/21/92		Nature		
First Reading	—		Density		
Last Reading	—		Viscosity	@ °F	@ °F
Footage Logged	—		Resistivity	@ °F	@ °F
Bottom Logged Depth	70.5'		Res. @ BHT	@ °F	@ °F
Casing Size Top	4.5"		pH		
Casing Shoe	—		Circ. Temp.		
Casing Size	NA/inch		Est. Temp.		
Positions	—				
Sensitivity	—				
Logging Speed	—				
			Logged by	K Cooper	
			Witnessed by	C. Lewis	

REMARKS



AR303131

Fluid Resistivity + Temperature Log

U.S. Geological Survey
water resources division

WELL LOG

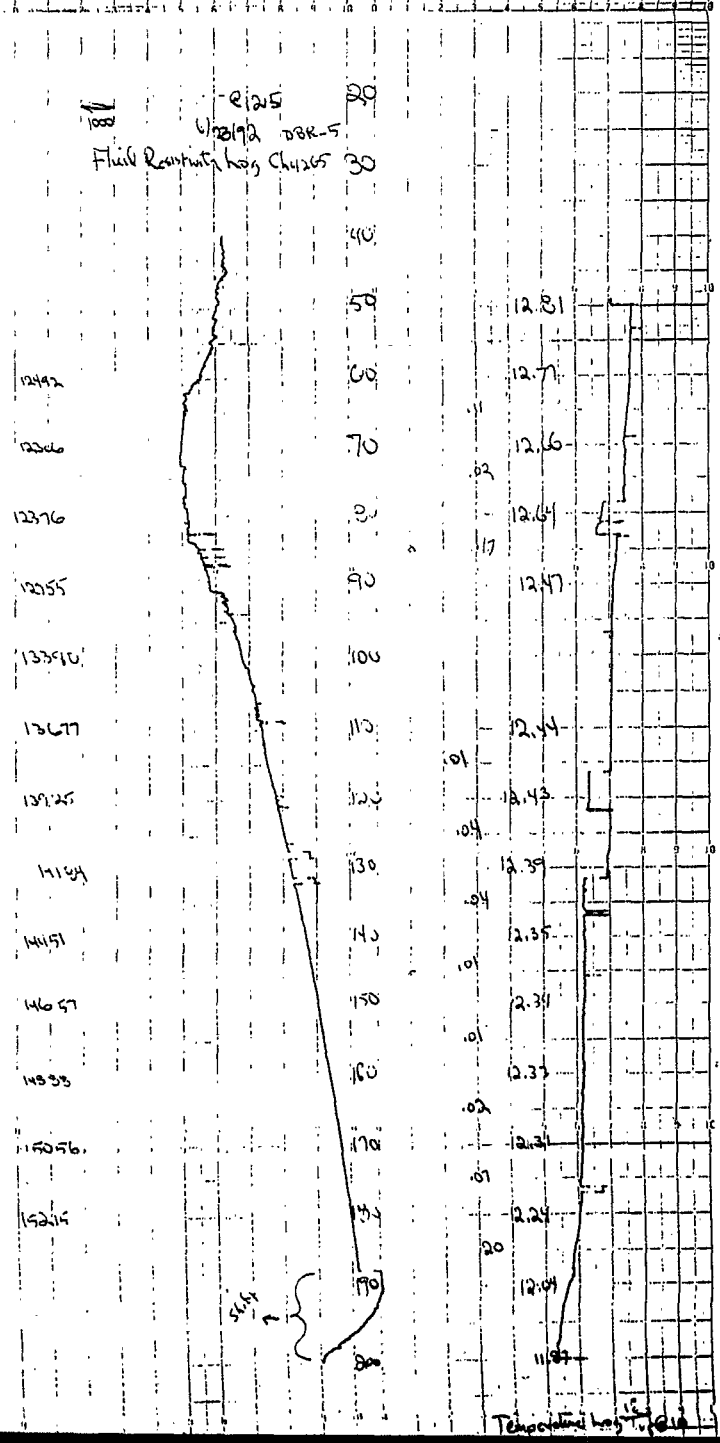
COMPANY USGS
AREA Lectricon / Allied Steel
WELL CH4265 (DBR-5)
COUNTY Chester STATE Pa

COORDINATES: N ___ S ___
ELEVATIONS: D.F. ___ K.B. ___ G.L. ___

LOCATION | TRIP | COMPANY

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	6/27/92	6/27/92	Nature		
First Reading	—	—	Density		
Last Reading	—	—	Viscosity	@ °F	@ °F
Footage Logged	—	—	Resistivity	@ °F	@ °F
Bottom (Bottom) Log	241.5	241.5	Res. @ BHT	@ °F	@ °F
Casing (from Log)	49	49	pH		
Casing (Driller)	—	—	Circ. Temp.		
Casing Size	8 inch	8 inch	B.H. Temp.		
Scale	1000 ohm-cm	1%			
Speed	18 ft/min - DN	15 ft/min-up			
			Logged by	R Conner	
			Witnessed by	C Lowell	

REMARKS Fluid Log Temp Log



AR303132

Electric Log

U.S. Geological Survey
water resources division

WELL LOG

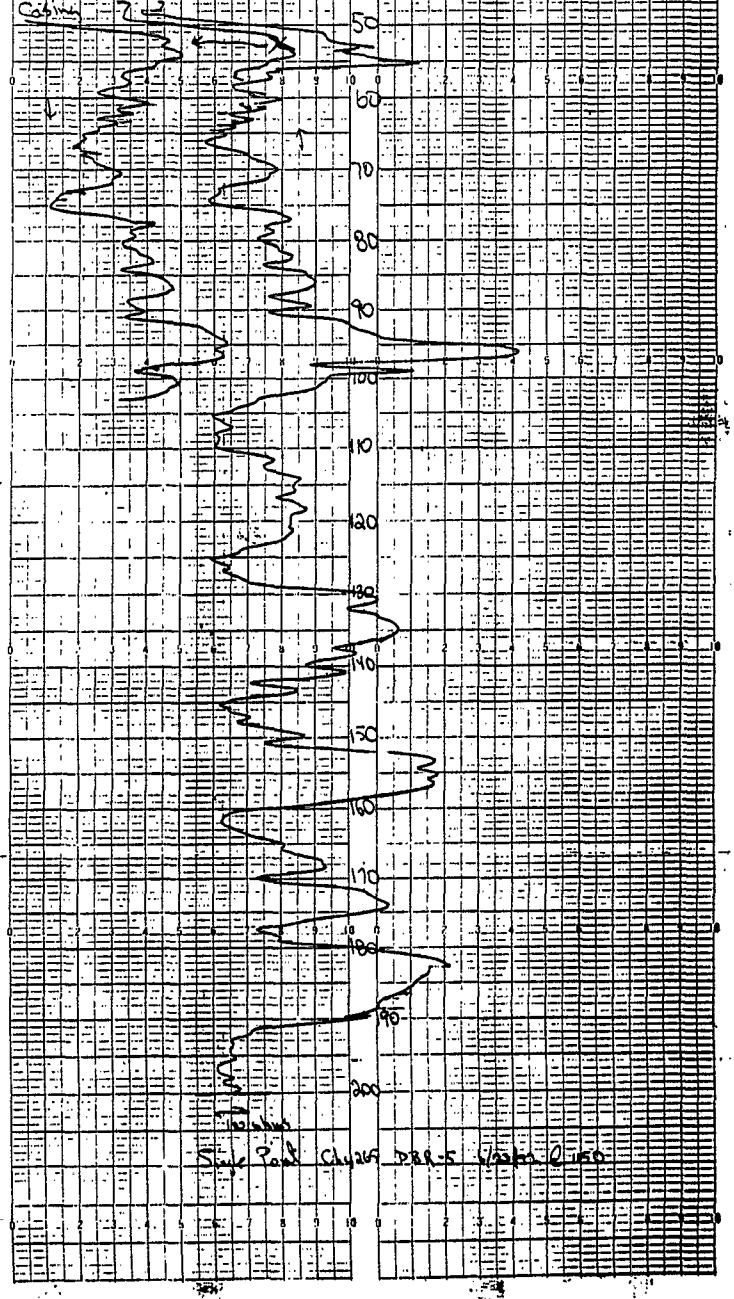
COMPANY USGS
AREA Bethlehem (Allied Steel
WELL CL 4265 (DBR-5)
COUNTY Chester STATE Pa.

COORDINATES: N ___ E ___
ELEVATIONS: D.F. ___ K.B. ___ G.L. ___

LOCATION | WELL | COMPANY

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	6/23/92		Nature		
First Reading	—		Density		
Last Reading	—		Viscosity	@ °F	@ °F
Footage Logged	—		Resistivity	@ °F	@ °F
Bottom (Driller)	201.5		Res. @ BHT	@ °F	@ °F
Casing (From Log)	4.48		pH		
Casing (Driller)	—		Circ. Temp.		
Casing Size	8 inch		B.H. Temp.		
Position	—				
Sensitivity	100 ohms				
Logging Speed	—				
			Logged by	R Conger	
			Witnessed by	C Lewis	

REMARKS



AR303133

Brine Trace L

U.S. Geological Survey
water resources division

WELL LOG

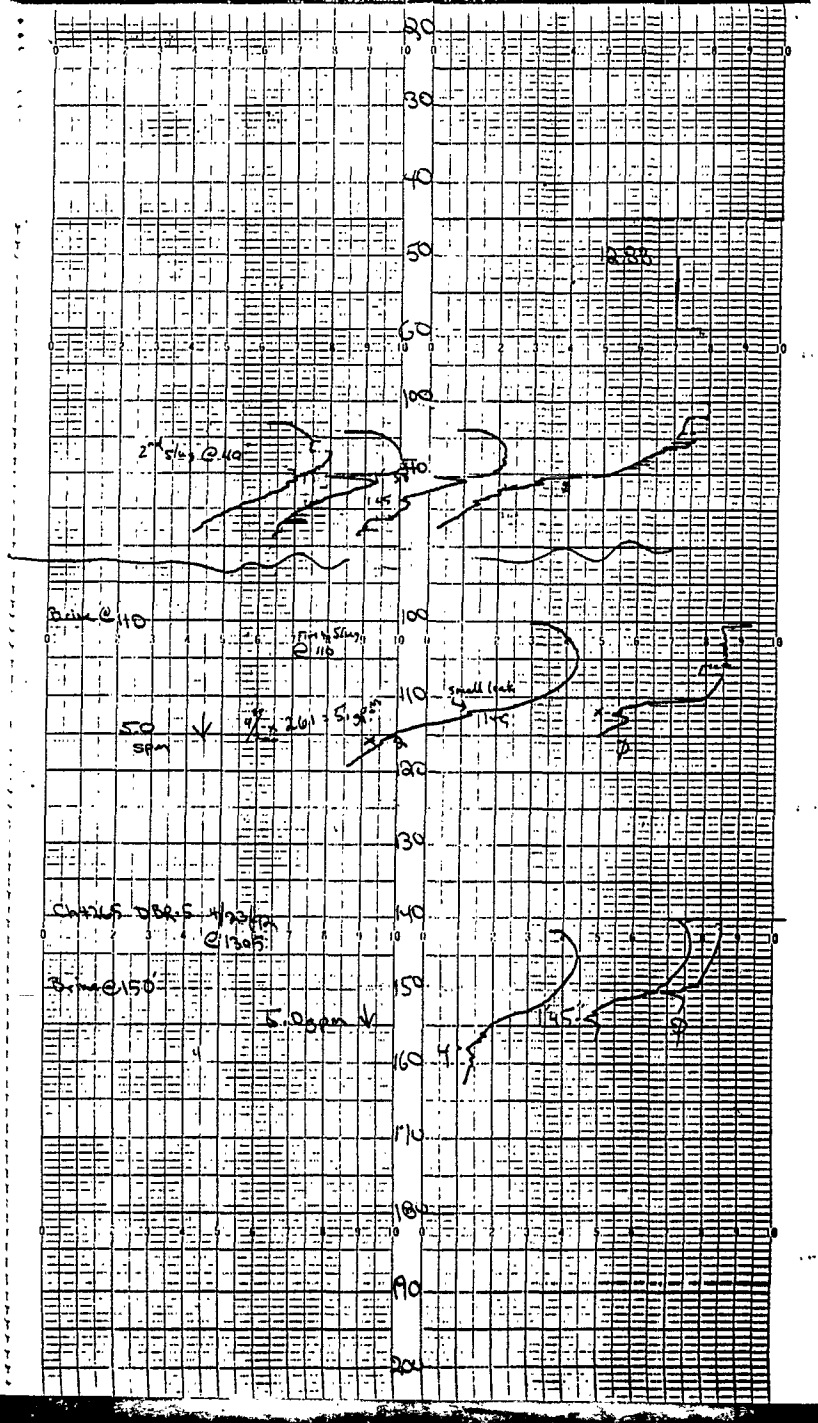
LOCATION | WELL | COMPANY

COMPANY USGS
AREA Keystone / Allied Steel
WELL Ch 4265 (DBR-5)
COUNTY Chester STATE Pa

COORDINATES: N ___ S ___
ELEVATION: D.F. ___ K.B. ___ G.L. ___

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	4/23/92		Nature		
First Reading	—		Density		
Last Reading	—		Viscosity	● °F	● °F
Footage Logged	—		Resistivity	● °F	● °F
Bottom (Driller) Log	201.5		Res. @ BHT	● °F	● °F
Casing (From Log)	49		pH		
Casing (Driller)	—		Circ. Temp.		
Casing Size	8" inch		B.H. Temp.		
			Logged by	R Conger	
			Witnessed by	C Wood	

REMARKS: Brine Trace at 150 feet - 5.0 gal/min - Down
" " 110 ft - 5.0 gal/min - Down



AR303134

Gamma Ray Log

U.S. Geological Survey
water resources division

WELL LOG

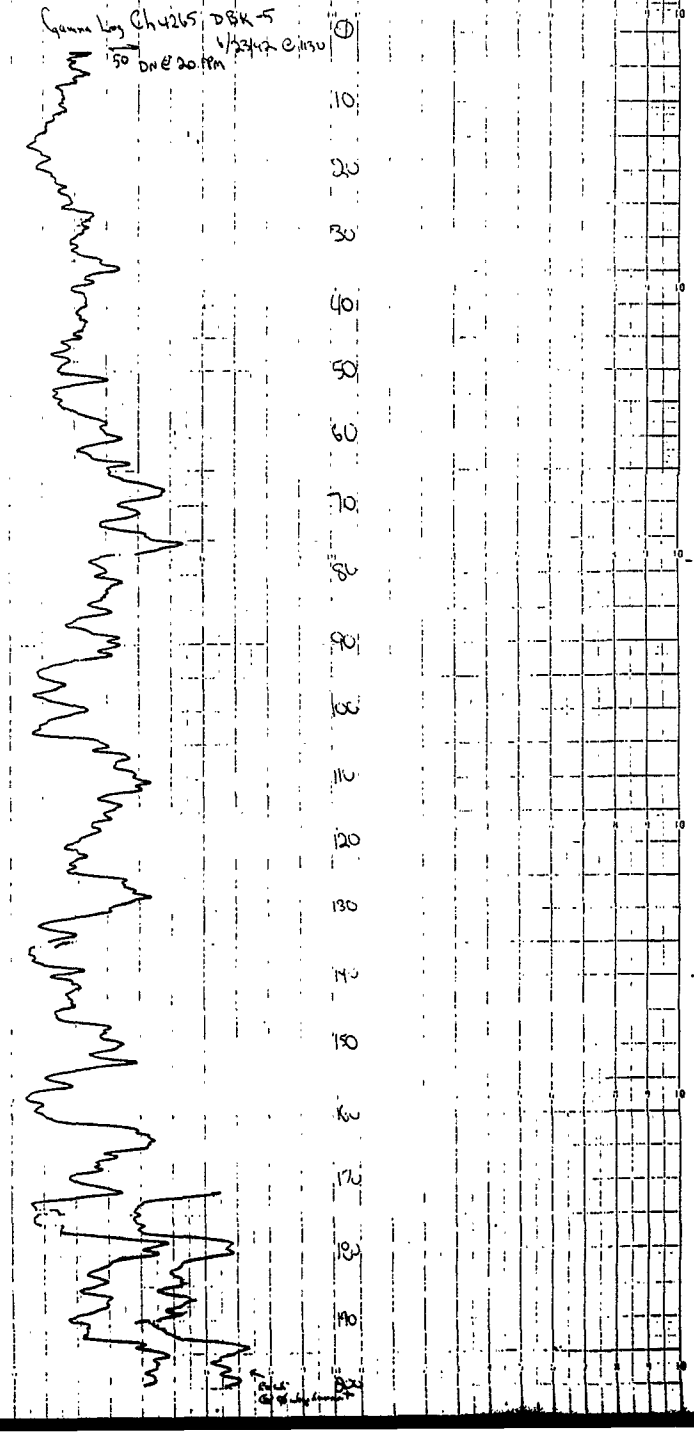
LOCATION | WELL | COMPANY

COMPANY USGS
AREA Rechem / Allied Steel
WELL Ch 4265 (DBR-5)
COUNTY Chester STATE Pa

COORDINATES: N ___ E ___
ELEVATION: D.F. ___ K.B. ___ G.L. ___

	Run No. 1	Run No. 2	MUD	Run No. 1		Run No. 2	
Date	6/23/92		Material				
First Sounding	—		Density				
Last Sounding	—		Viscosity	●	sp	●	sp
Footage Logged	—		Resistivity	●	sp	●	sp
Bottom (Driller) Log	7.0.1.5		Res. @ BHT	●	sp	●	sp
Casing (From Log)	4.5		pH				
Casing (Driller)	—		Circ. Temp.				
Casing Size	8 inch		B.H. Temp.				
Rate	—						
Time Constant	—						
Position	—						
Logging Speed	20 ft/min - DN		Logged by	K Cooper			
Variable Span	50 counts/DN		Witnessed by	C Lawrence			

REMARKS



AR303135

Caliper Log

U.S. Geological Survey
water resources division

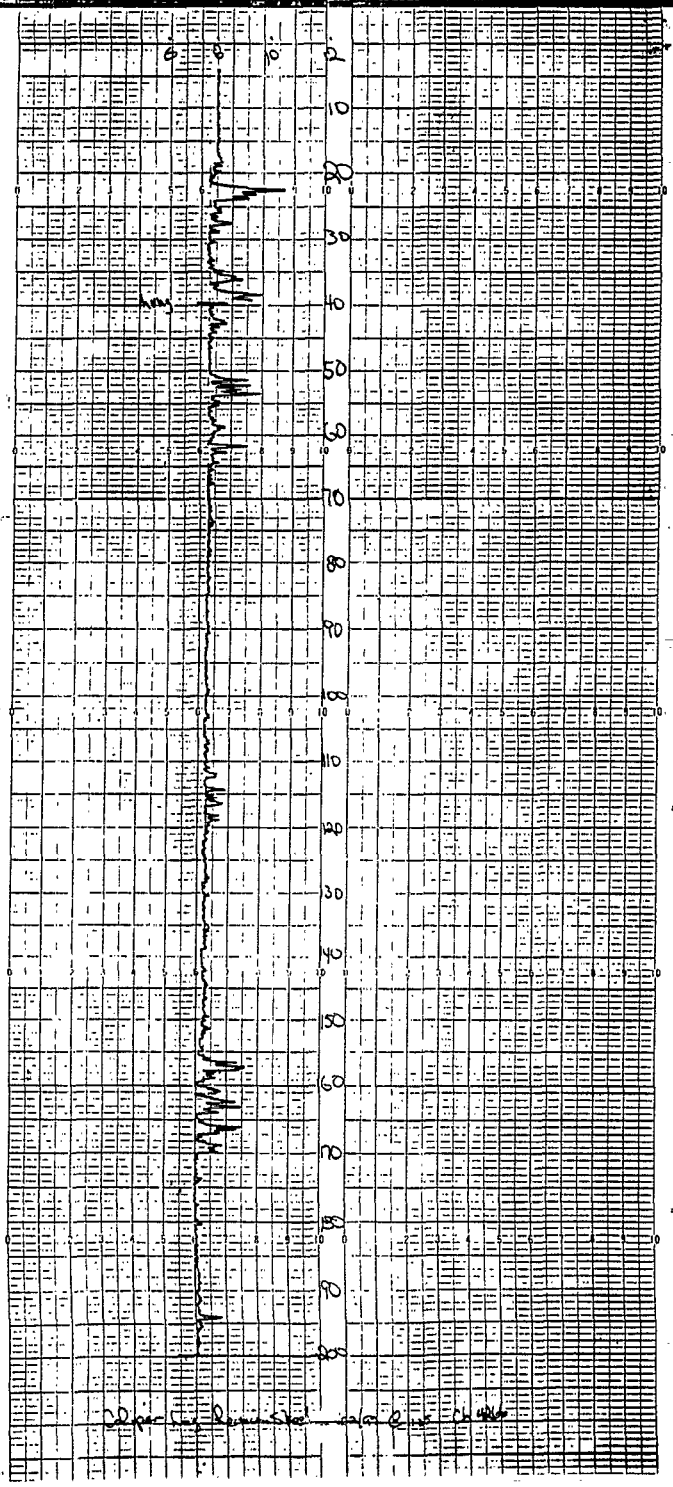
WELL LOG

COMPANY USGS
AREA Ravenna/Allied Steel
WELL CG4266 (2289)
COUNTY Clarion STATE Pa.

COORDINATES
N
E
ELEVATION
D.F.
G.L.
K.B.

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	6/13/84		Material		
Time Started	—		Density		
Time Finished	—		Viscosity	@ °F	@ °F
Recorded Depth			Resistivity	@ °F	@ °F
Casing Depth Log	100.6		Res. @ BHT	@ °F	@ °F
Casing Depth Driller	12.5		pH		
Casing Size	—		Chl. Temp.		
Casing Wgt.	18 lbs		B.H. Temp.		
Position					
Resistivity					
Logging Speed					
			Logged by	R. Cooper	
			Witnessed by	C. [illegible]	

REMARKS



AR303136

Fluid Resistivity Log + Temperature Log

U.S. Geological Survey
water resources division

WELL LOG

COMPANY USGS
AREA Keystone / Allied Steel
WELL Ch 4266 (6889)
COUNTY Chester STATE Pa

COORDINATES: N ___ E ___
ELEVATION: D.F. ___ K.B. ___ G.L. ___

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	6/22/82	6/22/82	Material		
First Reading	–	–	Density		
Last Reading	–	–	Viscosity	@ °	@ °
Footage Logged	–	–	Resistivity	@ °	@ °
Bottom (Driller)	89.6	89.6	Res. @ BHT	@ °	@ °
Casing (From Log)	18.5'	18.5'	pH		
Casing (Driller)	–	–	Chl. Equiv.		
Casing Size	8" weld	8" weld	H.R. Equiv.		
Sensitivity	1000 [illegible]	1°C			
Speed	10 ft/min [illegible]	10 ft/min [illegible]			
			Logged by	[illegible]	
			Witnessed by	[illegible]	

REMARKS Fluid Temp

Fluid Resistivity Ch 4266 (6889)
6/22/82 @ 0945
0.5 @ 18

Temperature

Electric Log

U.S. Geological Survey
water resources division

WELL LOG

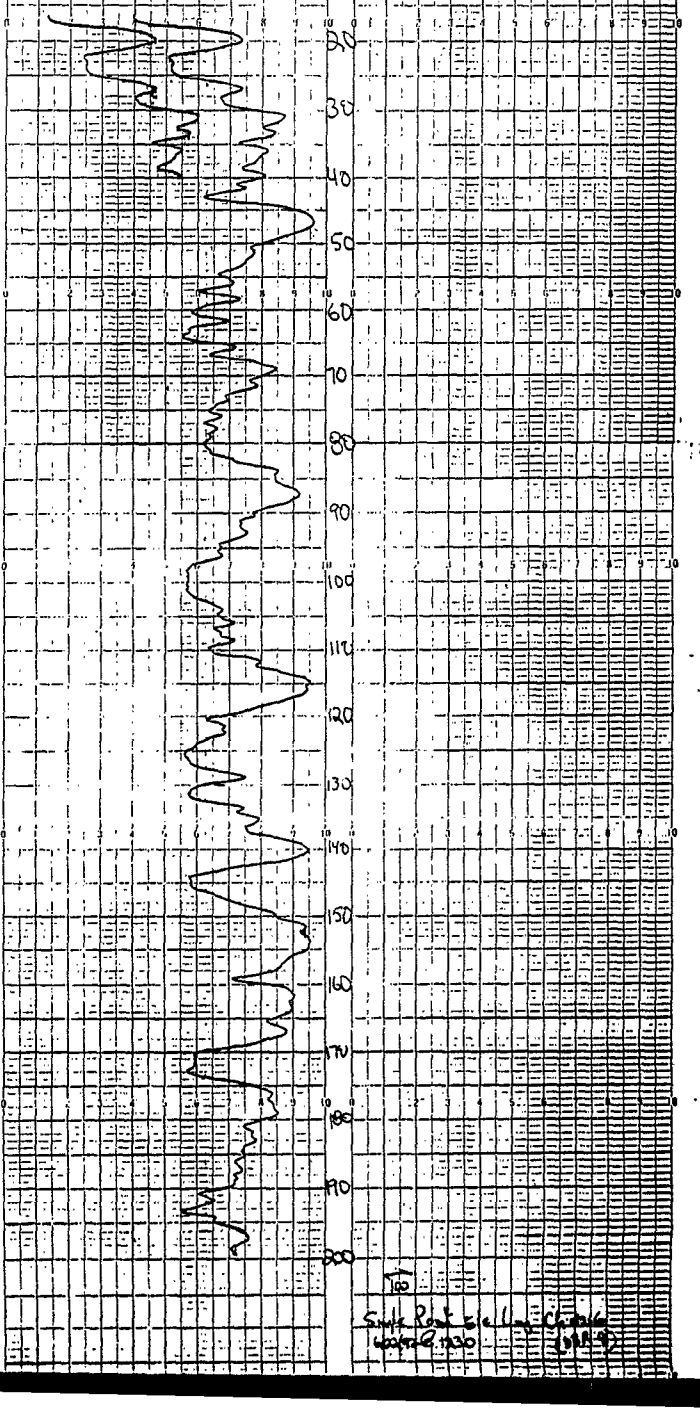
COMPANY USGS
AREA Kaiser / Allied Steel
WELL CL4266 (PZ89)
COUNTY Chester STATE Pa.

COORDINATES: N ___ E ___
ELEVATION: D.F. ___ K.B. ___ G.L. ___

LOCATION | WELL | COMPANY

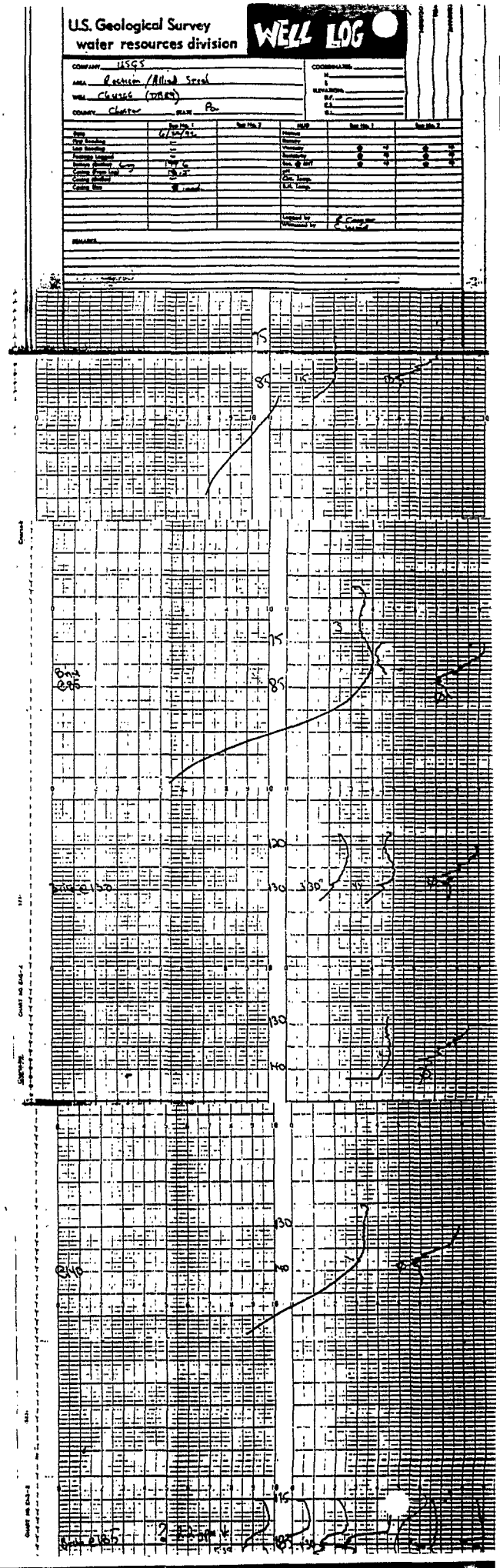
	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	6/28/89		Nature		
First Sounding	—		Density		
Last Sounding	—		Viscosity	@ °F	@ °F
Footage Logged	—		Resistivity	@ °F	@ °F
Bottom (Driller)	199.6		Res. @ BHT	@ °F	@ °F
Casing (From Log)	18.3		pH		
Casing (Driller)	—		Circ. Temp.		
Casing Size	2 inch		B.H. Temp.		
Position	—				
Sensitivity	100 ohm/div				
Logging Speed	—				
			Logged by	R. Cooper	
			Witnessed by	C. Ewanek	

REMARKS



AR303138

BRINE TRACE LOG



AR303139

Gamma Ray Log

U.S. Geological Survey
water resources division

WELL LOG

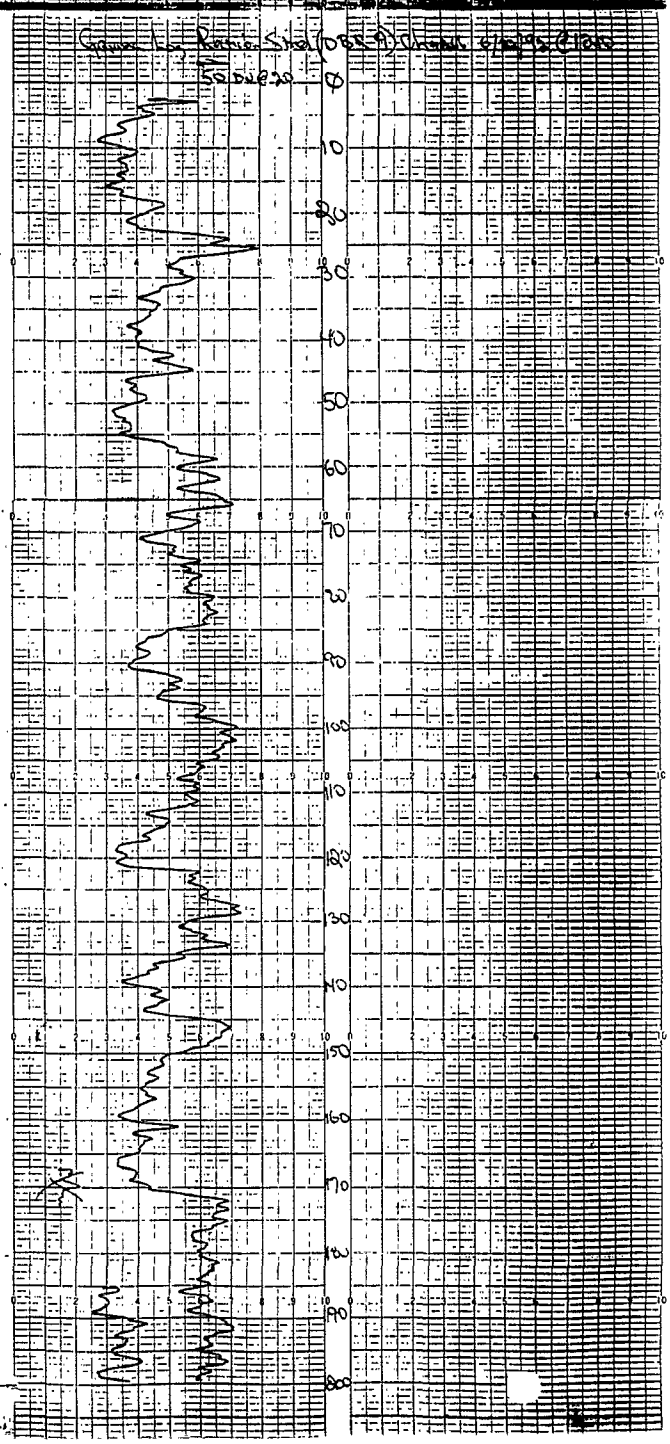
COMPANY USGS
AREA Rockton / Allied Steel
WELL CH4266 (DB89)
COUNTY Chester STATE PA

COORDINATES
N
E
ELEVATION
D.F.
K.B.
G.L.

	Run No. 1	Run No. 2	BHD	Run No. 1	Run No. 2
Date	6/22/93		Matrix		
First Reading	—		Density		
Last Reading	—		Viscosity		
Footage Logged	—		Resistivity		
Bottom (Driller)	189.6		Res. @ Bhf		
Casing (From Log)	18.5		pH		
Casing (Driller)			Max. Temp.		
Casing Size	8 inch		B.H. Temp.		
Rate 1/1"	—				
Time Constant	—				
Position	—				
Sampling Speed	20 ft/min		Logged by	K Carey	
Variable Span	50 cps/in		Witnessed by		

REMARKS

AR303140



Caliper Log

U.S. Geological Survey
water resources division

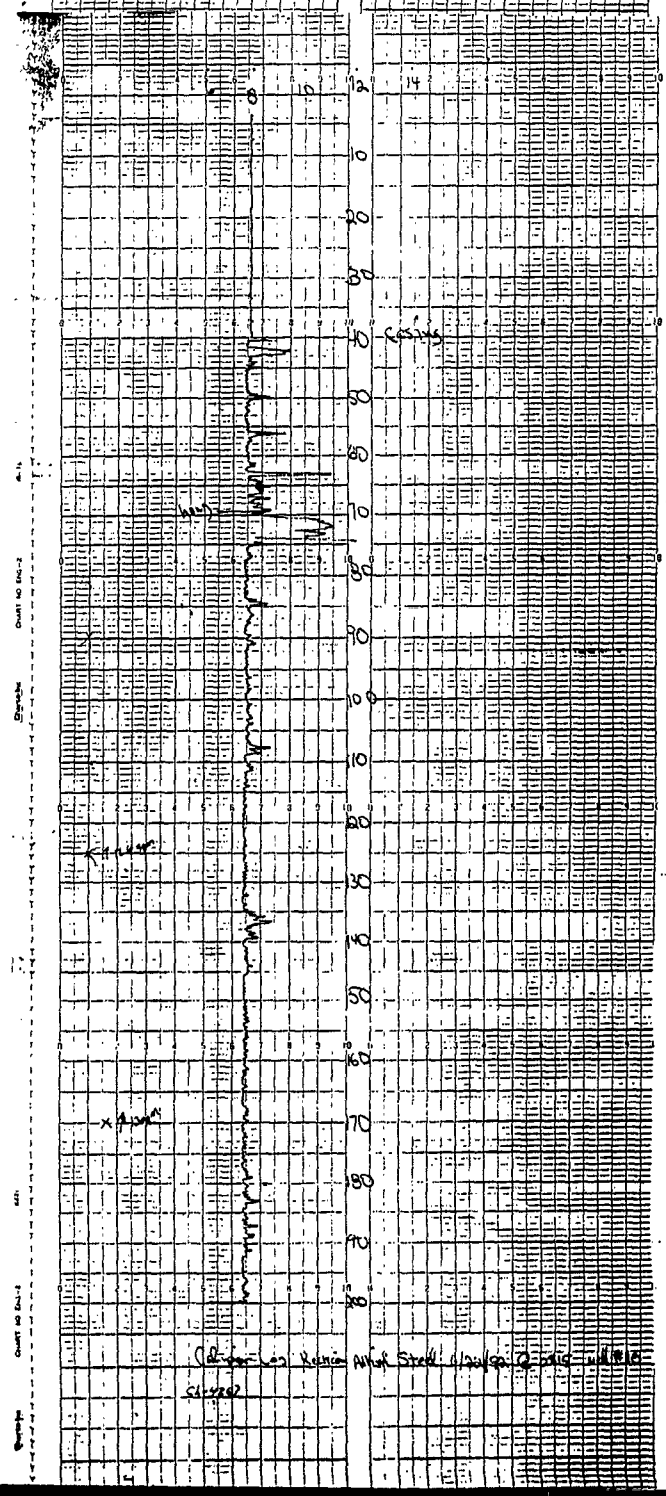
WELL LOG

COMPANY USGS
AREA Rocky Mount Steel
WELL CH-4267 (DDR-10)
COUNTY Chesterfield STATE PA

COORDINATES
N
E
ELEVATION
D.F.
G.L.
D.I.

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	6/22/92		Nature		
Fluid Sounding	—		Density		
Last Sounding	—		Viscosity	@ °F	@ °F
Footage Logged	—		Resistivity	@ °F	@ °F
Bottom (Driller)	7.00		Res. @ BHT	@ °F	@ °F
Casing (From Log)	47		pH		
Casing (Driller)	—		Circ. Temp.		
Casing Size	8 inch		B.H. Temp.		
Positive	—				
Sensitivity	—				
Logging Speed	—		Logged by	K Cooper	
			Witnessed by		

REMARKS



AR303141

Fluid Resistivity Log + Temperature Log

U.S. Geological Survey
water resources division

WELL LOG

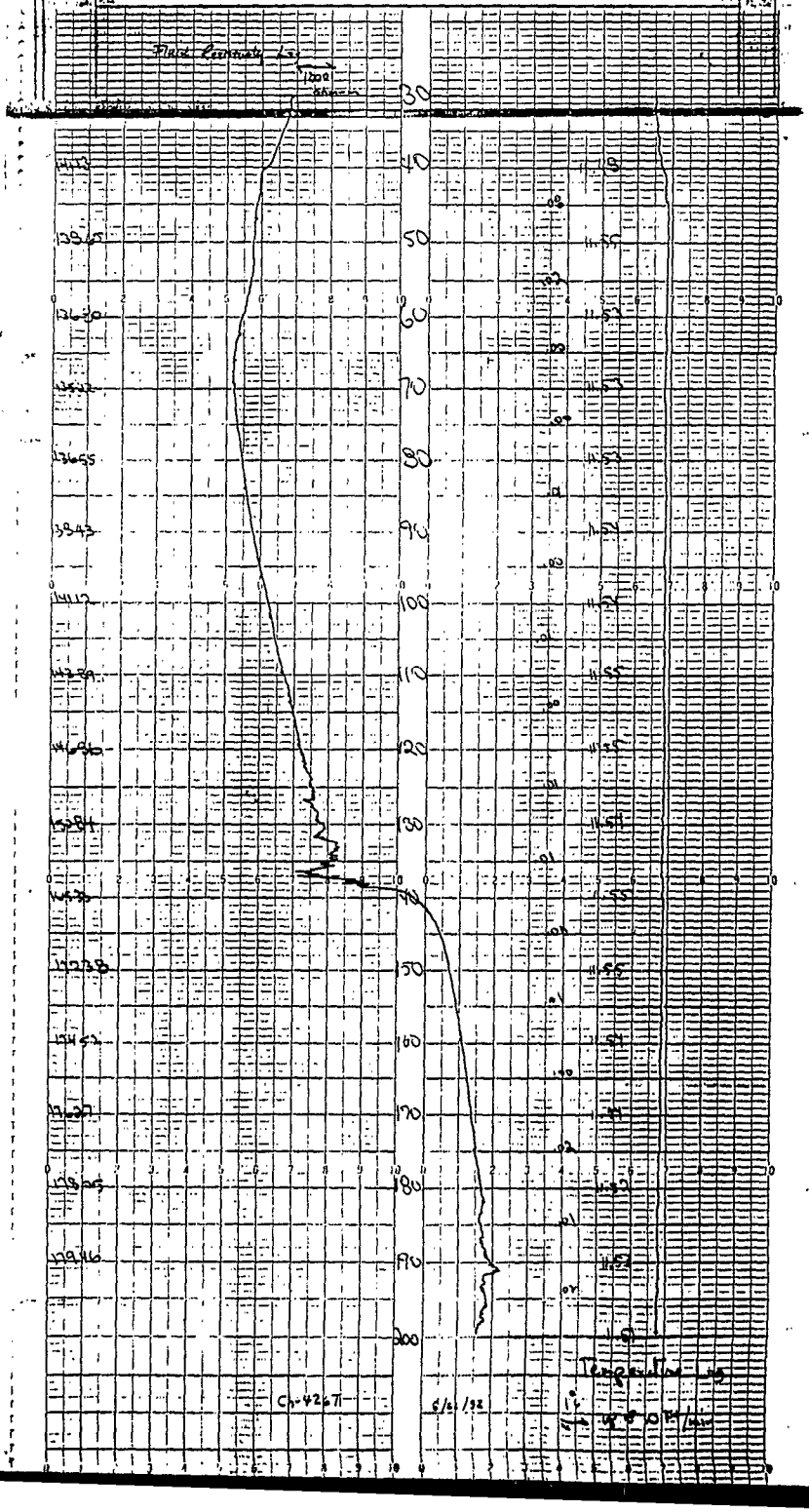
COMPANY	USGS
AREA	Raymond / Allied Steel
WELL	CH 4267 (DBR-10)
COUNTY	Chester
STATE	Pa

COORDINATES: N ____ E ____
ELEVATION: D.F. ____ K.B. ____ G.L. ____

LOCATION ____ WELL ____ COMPANY ____

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	6/22/92	6/22/92	Nature		
First Reading	—	—	Density		
Last Reading	—	—	Viscosity	@ °F	@ °F
Footage Logged	—	—	Resistivity	@ °F	@ °F
Bottom (Driller)	200	200	Res. @ BHT	@ °F	@ °F
Casing (From Log)	41	41	pH		
Casing (Driller)	—	—	Circ. Temp.		
Casing Size	8	8	B.H. Temp.		
Scale	1000 Ohm-cm	1°C / div			
Speed	18 ft/min - DN	18 ft/min - up			
			Logged by	R Conger	
			Witnessed by	C Wood	

REMARKS: Fluid Temp



AR303142

Electric Log

U.S. Geological Survey
water resources division

WELL LOG

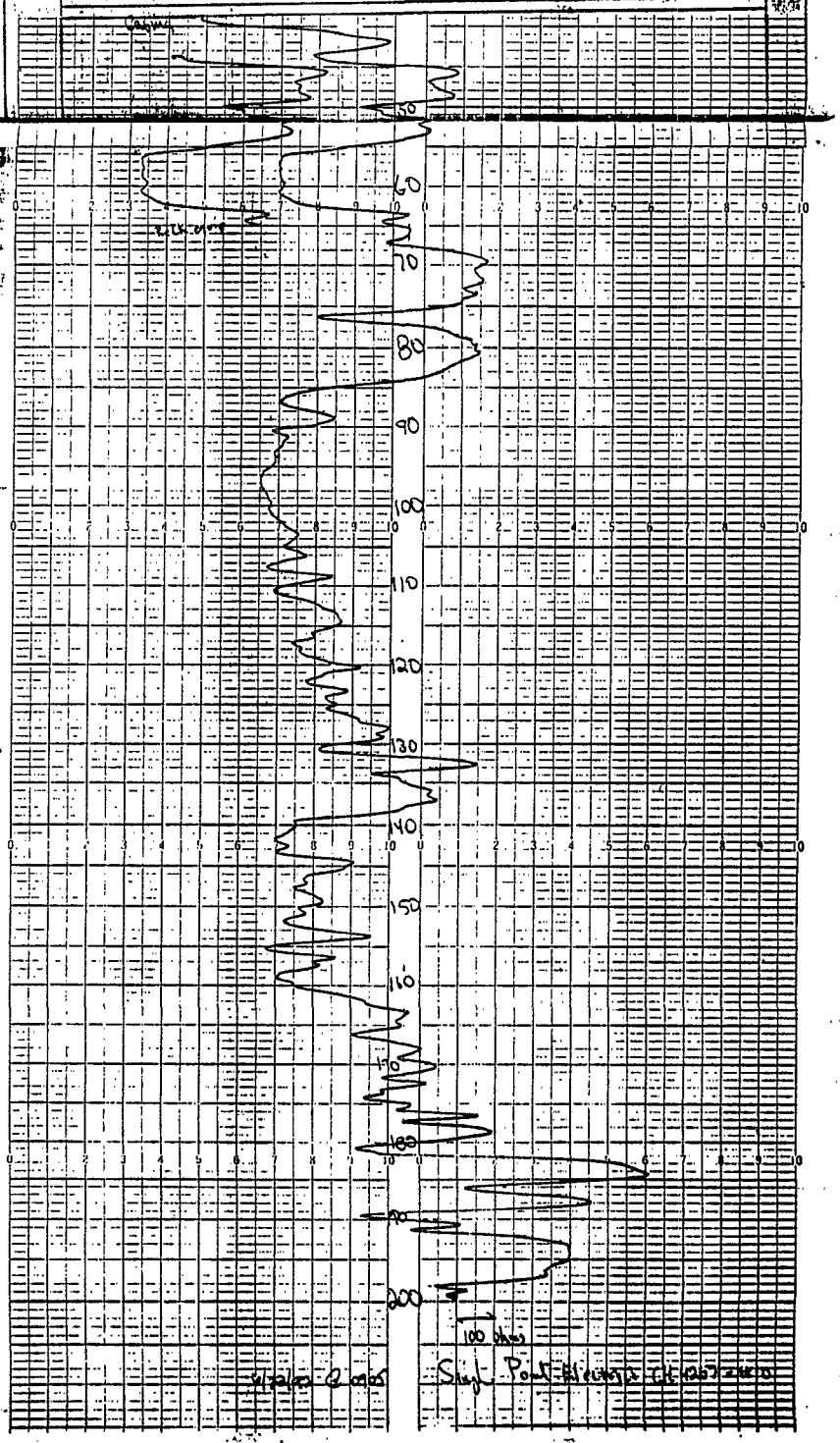
LOCATION | WELL | COMPANY

COMPANY USGS
AREA Rentcom / Allied Steel
WELL CH 4267 (DBK-10)
COUNTY Chester STATE Pa.

COORDINATES: N ____ S ____
ELEVATION: D.F. ____ K.B. ____ G.L. ____

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	6/22/92		Nature		
First Reading	—		Density		
Last Reading	—		Viscosity	@ °F	@ °F
Footage Logged	—		Resistivity	@ °F	@ °F
Bottom (Driller)	200		Res. @ BHT	@ °F	@ °F
Casing (From Log)	+1		pH		
Casing (Driller)	—		Circ. Temp.		
Casing Size	8		B.H. Temp.		
Position	—				
Sensitivity	100 ohm/div				
Logging Speed	—		Logged by	R Conger	
			Witnessed by	E Wallace	

REMARKS



AR303143

Brine Trace L

U.S. Geological Survey
water resources division

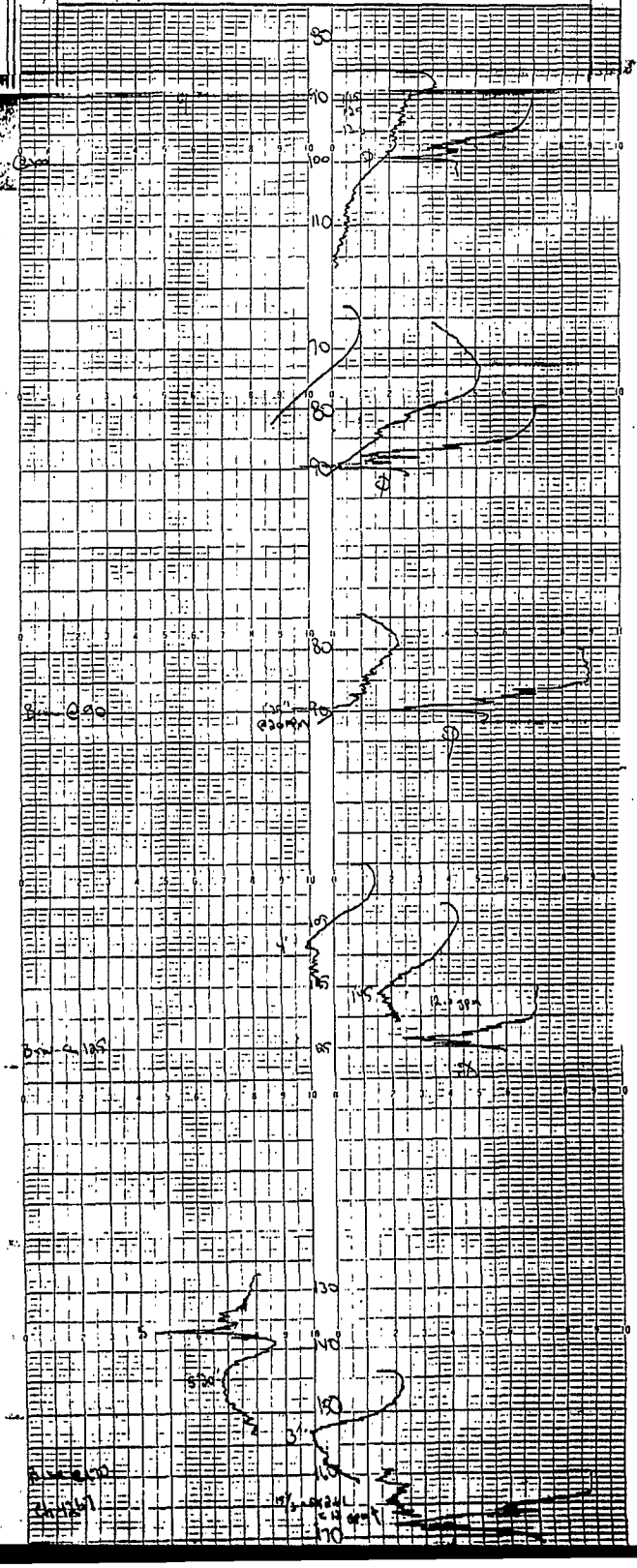
WELL LOG

COMPANY USGS
AREA Bethlehem / Allied Steel
WELL CH 4267 (DBR-D)
COUNTY Chester STATE Pa.

COORDINATES: N. E.
ELEVATION: D.F. K.B. G.L.

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	6/22/92		Nature		
First Reading	—		Density		
Last Reading	—		Viscosity	@ °F	@ °F
Footage Logged	—		Resistivity	@ °F	@ °F
Bottom (Driller)	200		Res. @ BHT	@ °F	@ °F
Casing (From Log)	41		pH		
Casing (Driller)	—		Circ. Temp.		
Casing Size	8		Lst. Temp.		
			Logged by	R. Cassidy	
			Witnessed by	Caldwell	

REMARKS



AR303144

Gamma Ray 1

U.S. Geological Survey
water resources division

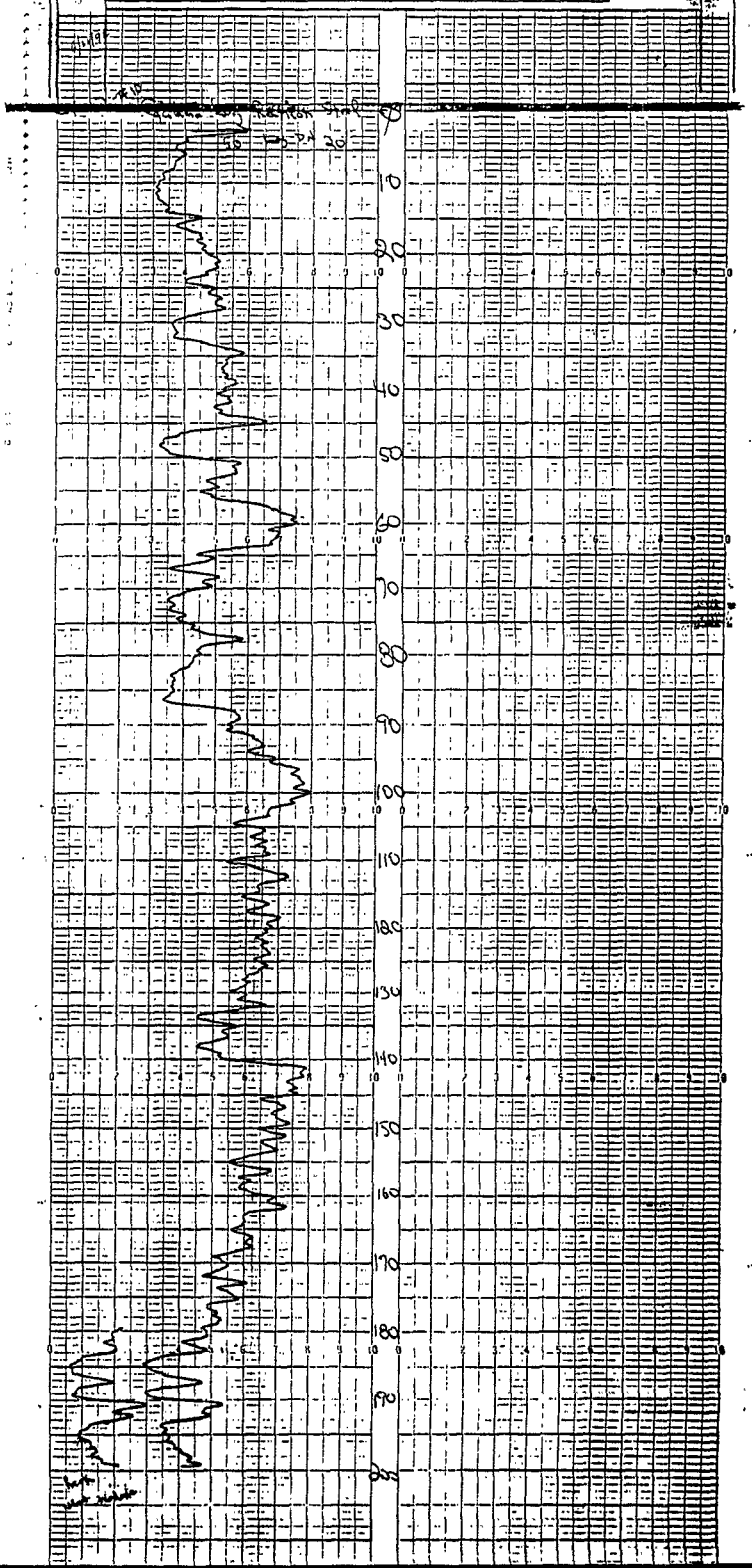
WELL LOG

COMPANY USGS
AREA Raccoon / Allied Steel
WELL CL-4267 (DTR-10)
COUNTY Chester STATE Pa

COORDINATES: N ____ E ____
ELEVATION: D.F. ____ K.B. ____ G.L. ____

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	10/22/92		Nature		
First Reading	—		Density		
Last Reading	—		Viscosity	@ °F	@ °F
Footage Logged	—		Resistivity	@ °F	@ °F
Screen (Bottom) Log	200		Res. @ BHT	@ °F	@ °F
Casing (From Log)	41		pH		
Casing (Driller)	—		Circ. Temp.		
Casing Size	75 inch		B.H. Temp.		
Bits	—				
Time Constant	—				
Position	—				
Logging Speed	20 ft/min - DN		Logged by	[illegible]	
Variable Span	50 counts/sec		Witnessed by	[illegible]	

REMARKS



AR303145

Caliper Log

U.S. Geological Survey
water resources division

WELL LOG

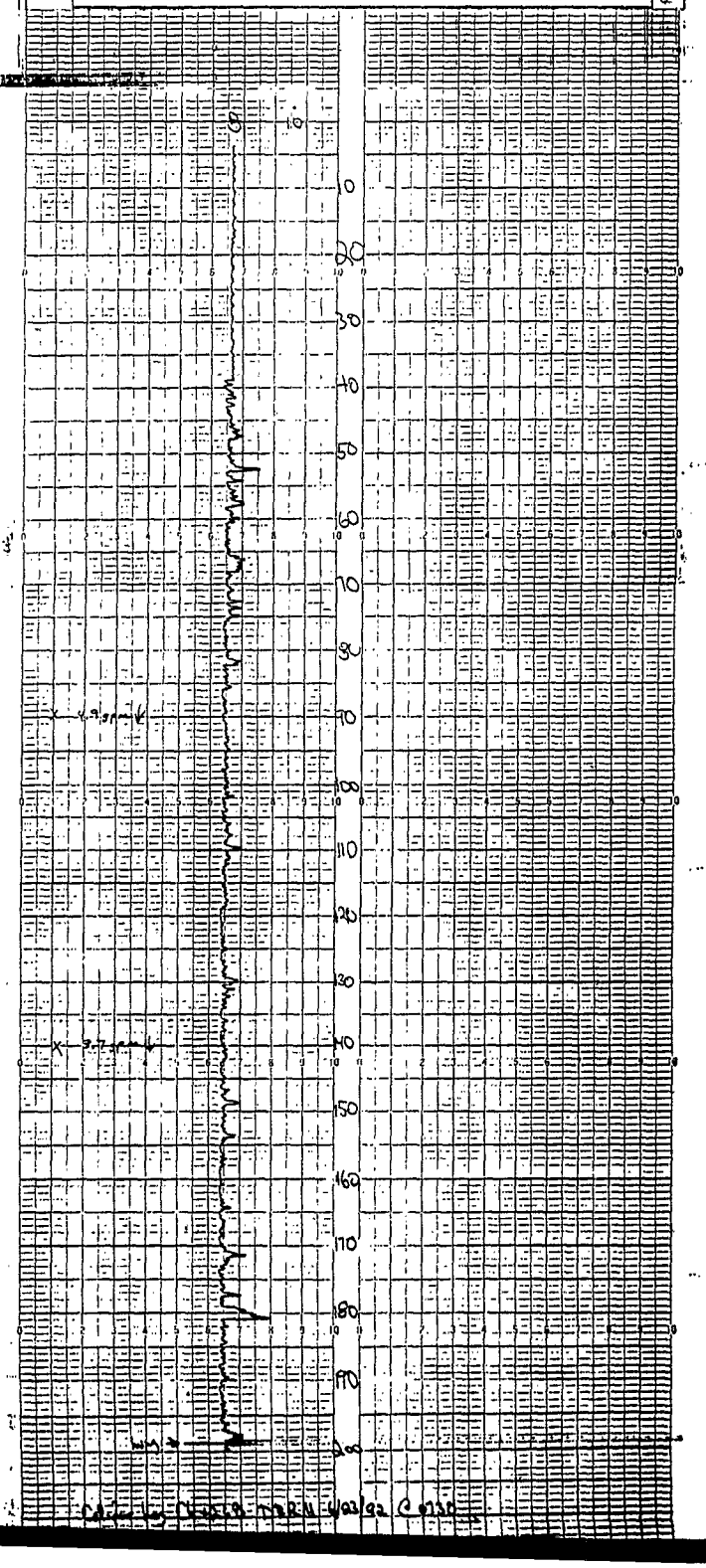
COMPANY USGS
AREA Pottstown / Allied Steel
WELL GW426B (DBR-11)
COUNTY Chester STATE Pa

COORDINATES: N ___ E ___
ELEVATION: D.F. ___ K.B. ___ G.L. ___

LOCATION | DATE | COMPANY

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	6/23/92		Nature		
First Reading	—		Density		
Last Reading	—		Viscosity	@ °F	@ °F
Footage Logged	—		Resistivity	@ °F	@ °F
Bottom Hole Log	200		Res. @ BHT	@ °F	@ °F
Casing (From Log)	34		pH		
Casing (Driller)	—		Circ. Temp.		
Casing Size	8 inch		B.H. Temp.		
Position	—				
Sensitivity	—				
Logging Speed	—				
			Logged by	R. Conger	
			Witnessed by	C. Todd	

REMARKS



Caliper Log GW426B DBR-11 6/23/92 C 0735

AR303146

Fluid Resistivity L__ + Temperature Log

U.S. Geological Survey
water resources division

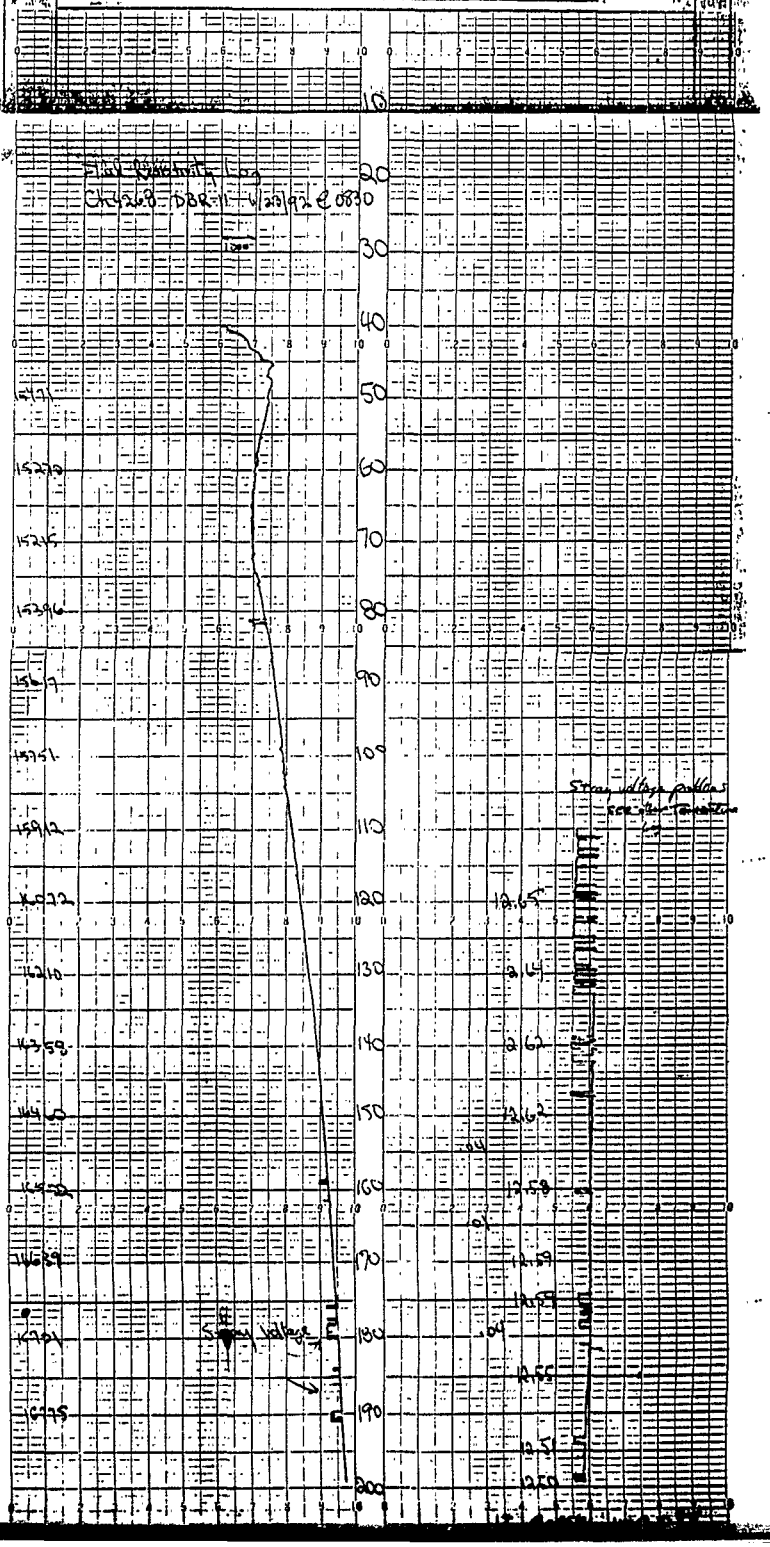
WELL LOG

COMPANY	USGS
AREA	Kerkhoven/Allied Steel
WELL	CL4268 (DBR-4)
COUNTY	Chester
STATE	Pa

COORDINATES: N ___ S ___
ELEVATION: D.F. ___ K.B. ___ G.L. ___

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	6/23/92	6/23/92	Nature		
First Reading	—	—	Density		
Last Reading	—	—	Viscosity	@ °F	@ °F
Footage Logged	—	—	Resistivity	@ °F	@ °F
Sensor Reading Log	200	200	Res. @ BHT	@ °F	@ °F
Casing (From Log)	39	39	pH		
Casing (Driller)	—	—	Circ. Temp.		
Casing Size	8 inch	8 inch	B.H. Temp.		
Scale	1000 ohm-cm	1°C /Div			
Speed	—	10 ft/min - up			
			Logged by	R Conger	
			Witnessed by	C Wood	

REMARKS: Fluid Temp



AR303147

Electric Log

U.S. Geological Survey
water resources division

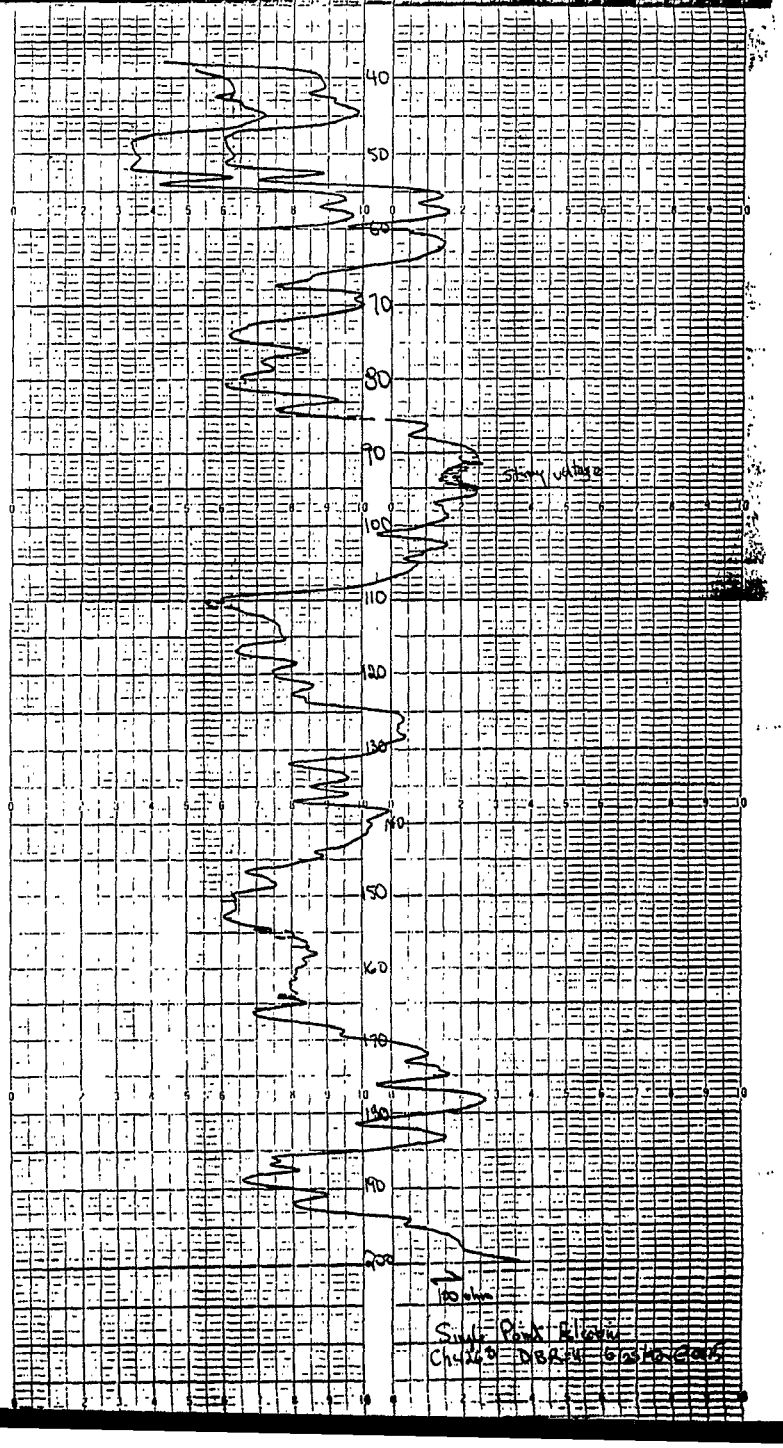
WELL LOG

COMPANY USGS	COORDINATES: N ___ S ___
AREA Keston / Allied Steel	ELEVATION: D.F. ___ K.B. ___ G.L. ___
WELL CH4268 (DBR-11)	
COUNTY Chester STATE Pa.	

LOCATION | WELL | COMPANY

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	6/22/92		Nature		
First Reading	—		Density		
Last Reading	—		Viscosity	@ °F	@ °F
Footage Logged	—		Resistivity	@ °F	@ °F
Bottom (Driller) log	200		Res. @ BHT	@ °F	@ °F
Casing (From Log)	39		pH		
Casing (Driller)	—		Circ. Temp.		
Casing Size	8 inch		B.H. Temp.		
Position	—				
Sensitivity	100 ohm/div.				
Logging Speed	—				
			Logged by	R Cayer	
			Witnessed by	Conrad	

REMARKS



Single Point Resist
CH4268 DBR-11 Gas Horizon

AR303148

Brine Trace Log

U.S. Geological Survey
water resources division

WELL LOG

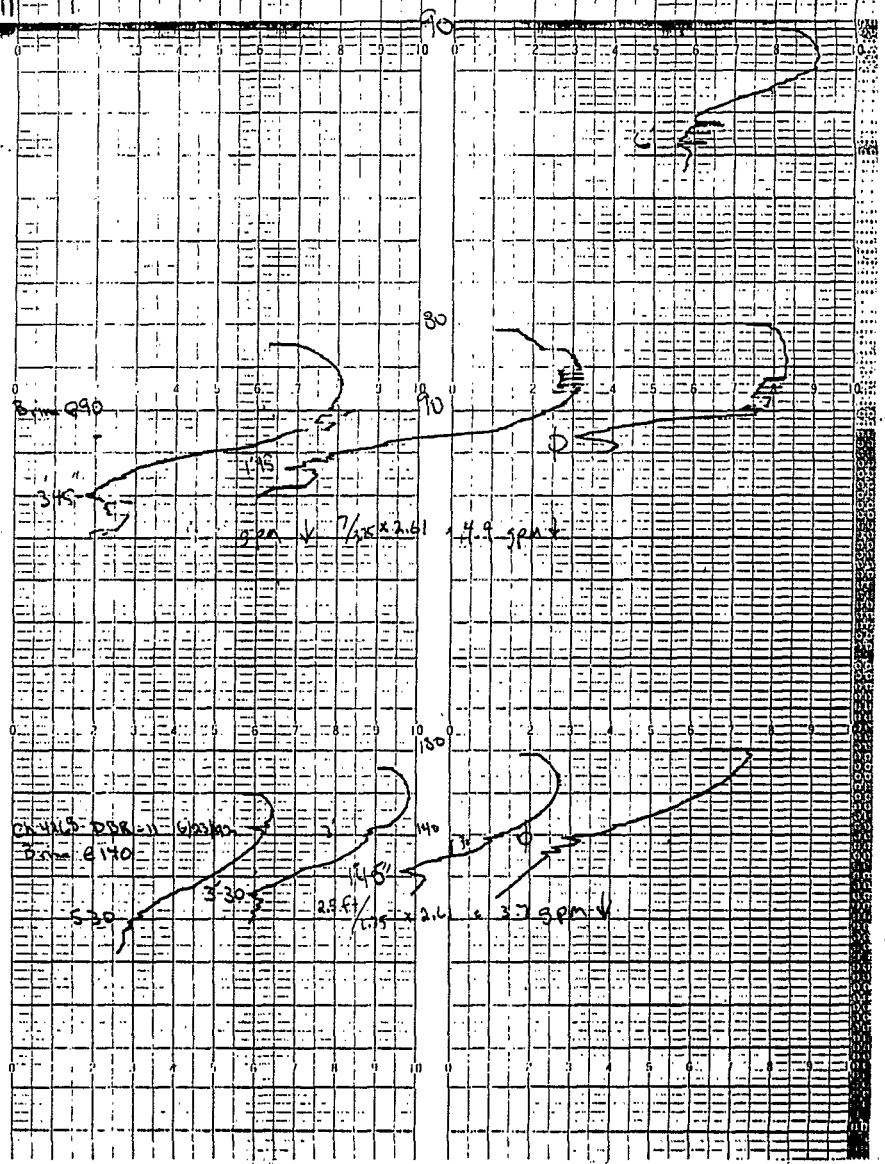
LOCATION ____ WELL ____ COMPANY ____

COMPANY USGS
AREA Rectron/Allied Steel
WELL CH4268 (DBR-11)
COUNTY Chester STATE Pa

COORDINATES: N ____ S ____
ELEVATION: D.F. ____ K.B. ____ G.L. ____

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	6/23/92		Nature		
First Reading	—		Density		
Last Reading	—		Viscosity	@ °F	@ °F
Footage Logged	—		Resistivity	@ °F	@ °F
Bottom (Driller) Log	200		Res. @ BHT	@ °F	@ °F
Casing (From Log)	39		pH		
Casing (Driller)	—		Circ. Temp.		
Casing Size	8 inch		B.H. Temp.		
			Logged by	R Conger	
			Witnessed by	C Wood	

REMARKS Brine @ 140 feet - 3.7 gal/min - Down
" " 90 feet - 4.9 gal/min - Down



AR303149

Gamma Ray Log

U.S. Geological Survey
water resources division

WELL LOG

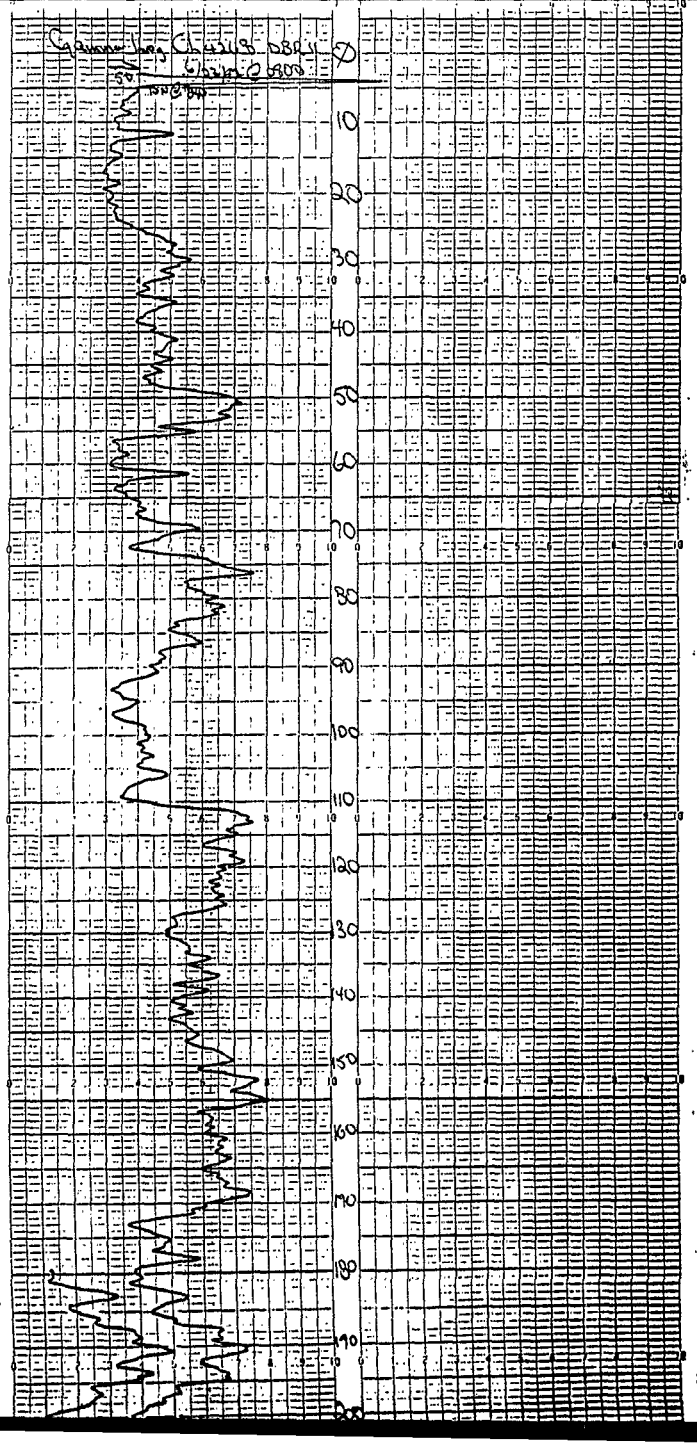
COMPANY	USGS
AREA	Rockton / Allied Steel
WELL	CH4268 (BBK-11)
COUNTY	Chester
STATE	Pa

COORDINATES: N ____ S ____
ELEVATION: D.F. ____ K.B. ____ G.L. ____

LOCATION | TEAM | COMPANY

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	6/23/86		Nature		
First Sounding	—		Density		
Last Sounding	—		Viscosity	@ °F	@ °F
Footage Logged	—		Resistivity	@ °F	@ °F
Bottom (Sounding Log)	200		Res. @ BHT	@ °F	@ °F
Casing (From Log)	39		pH		
Casing (Driller)	—		Circ. Temp.		
Casing Size	8 inch		B.H. Temp.		
Rate	—				
Time Constant	—				
Position	—				
Logging Speed	20 Ft/min - DN		Logged by	R Conger	
Variable Span	50 counts/cm		Witnessed by	C Wilson	

REMARKS: NA



AR303150

~~Fluid Resistivity Log~~ + Temperature Log

U.S. Geological Survey
water resources division

WELL LOG

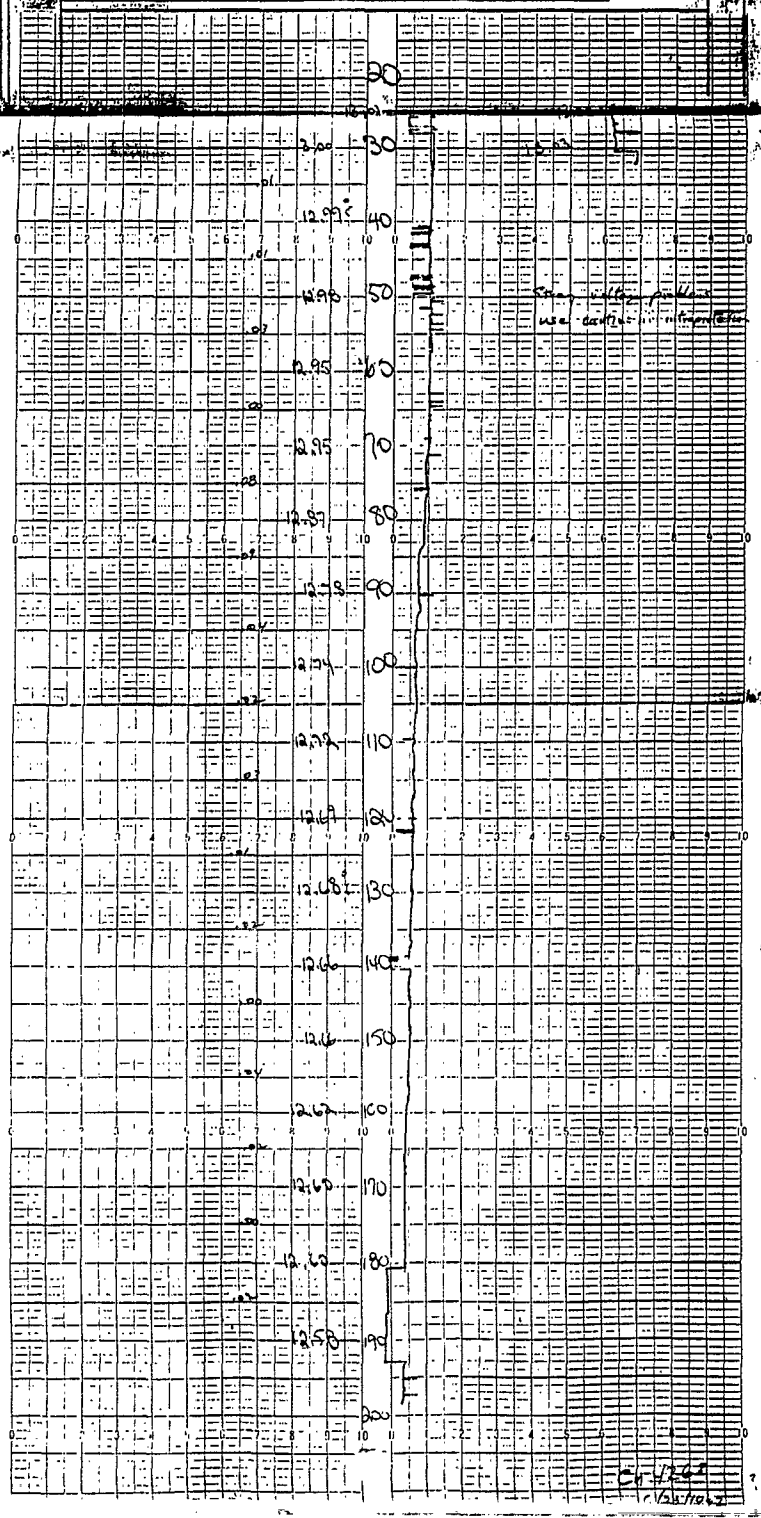
LOCATION | WELL | COMPANY

COMPANY USGS
AREA Rockton / Allied Steel
WELL Ch 4263 (DBR-11)
COUNTY Chester STATE Pa

COORDINATES N ___ E ___
ELEVATION D.F. ___ K.B. ___ G.L. ___

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	6/27/92		Nature		
First Reading	—		Density		
Last Reading	—		Viscosity	@ °F	@ °F
Footage Logged	—		Resistivity	@ °F	@ °F
Bottom (Driller)	200'		Res. @ BHT	@ °F	@ °F
Casing (From Log)	[illegible]		pH		
Casing (Driller)	—		Circ. Temp.		
Casing Size	8 inch		B.H. Temp.		
Scale	100'/div				
Speed	10 ft/min - [illegible]				
			Logged by	[illegible]	
			Witnessed by	[illegible]	

REMARKS



Ch 4263
6/24/1992

AR303151

Caliper Log

U.S. Geological Survey
water resources division

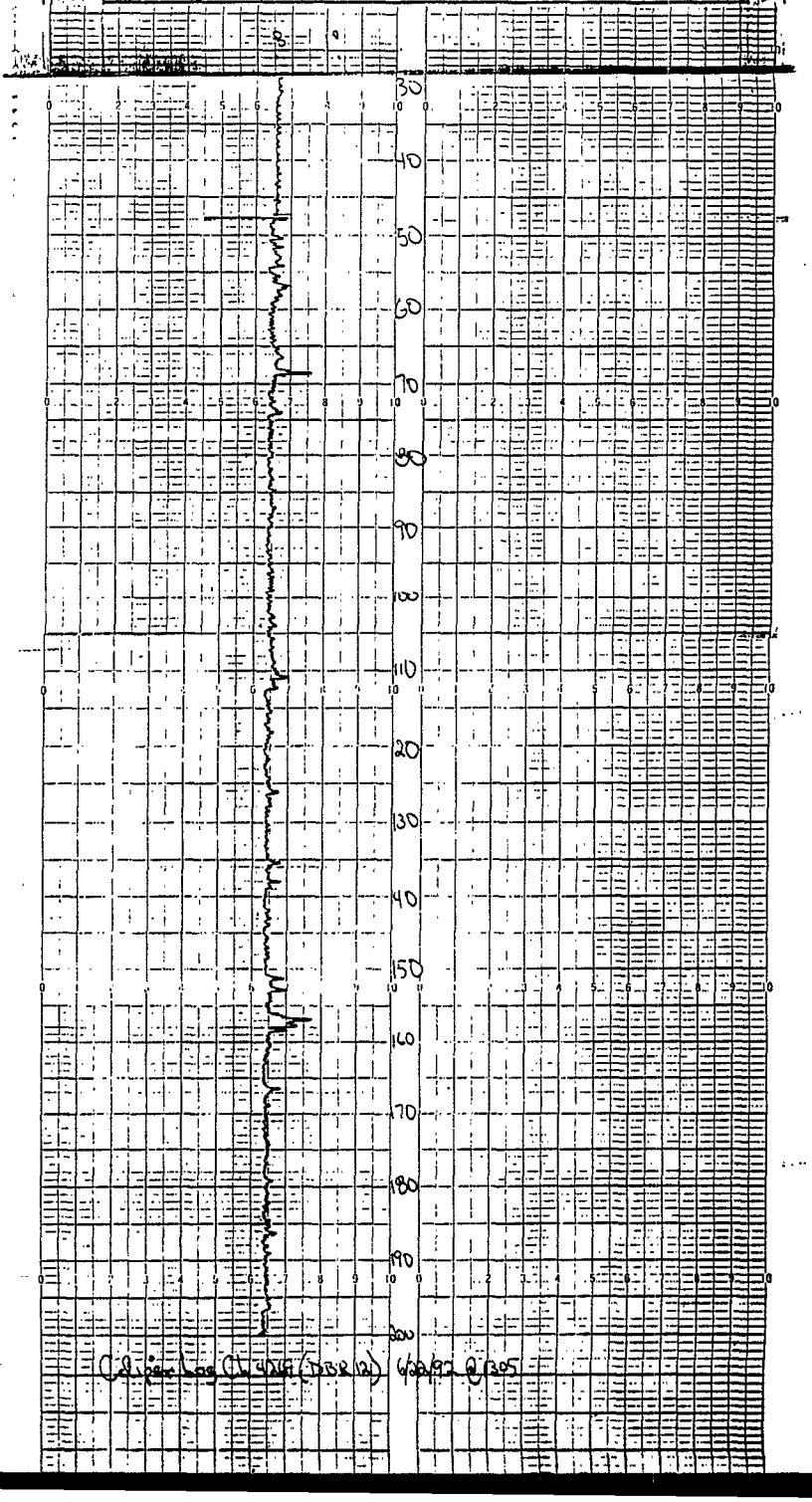
WELL LOG

COMPANY	USGS
AREA	Revision / Allied Steel
WELL	Ch 42:69 (DBR-12)
COUNTY	Chester
STATE	Pa

COORDINATES: N, S
ELEVATION: D.F., K.B., G.L.

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	6/22/92		Nature		
First Reading	—		Density		
Last Reading	—		Viscosity	@ °F	@ °F
Footage Logged	—		Resistivity	@ °F	@ °F
Bottom (Driller) Long	200		Res. @ BHT	@ °F	@ °F
Casing (From Log)	4.8		pH		
Casing (Driller)	—		Circ. Temp.		
Casing Size	8 inch		B.H. Temp.		
Position	—				
Sensitivity	—				
Logging Speed	—		Logged by	R Cruzor	
			Witnessed by	C Lucas	

REMARKS



AR303152

Fluid Resistivity & Temperature Log

U.S. Geological Survey
water resources division

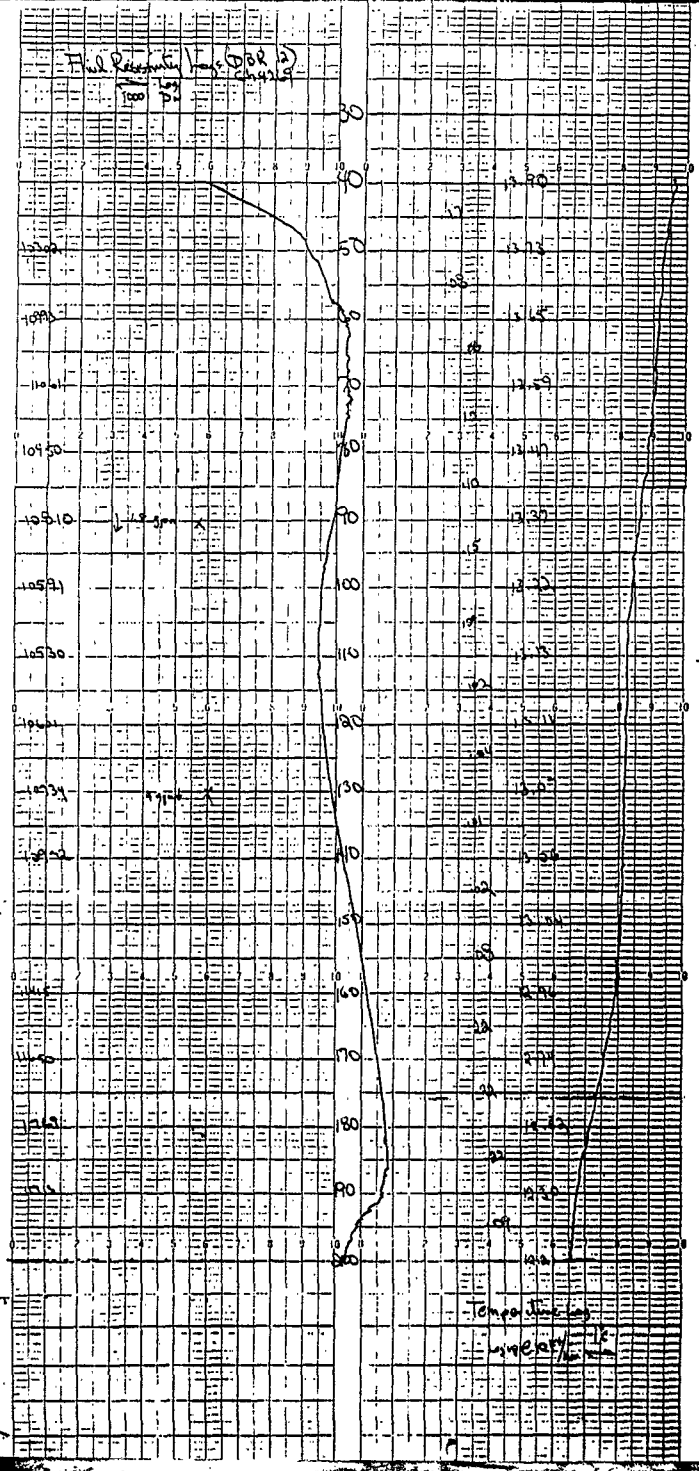
WELL LOG

COMPANY USGS
AREA Rossman / Allied Steel
WELL CH4369 (DRR-12)
COUNTY Chester STATE Pa

COORDINATES: N ___ E ___
ELEVATION: D.F. ___ K.B. ___ G.L. ___

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	6/22/96	6/22/96	Nature		
First Reading	—	—	Density		
Last Reading	—	—	Viscosity		
Footage Logged	—	—	Resistivity	@ °F	@ °F
Bottom (Driller)	200	200	Res. @ BHT	@ °F	@ °F
Casing (From Log)	419	419	pH		
Casing (Driller)	—	—	Circ. Temp.		
Casing Size	8 inch	8 inch	B.H. Temp.		
Scale	1mm = 10cm	1°C			
Speed	19 meters/min	10 meters/min			
			Logged by	R Lanyon	
			Witnessed by	E Lindell	

REMARKS



AR303153

Electric Log

U.S. Geological Survey
water resources division

WELL LOG

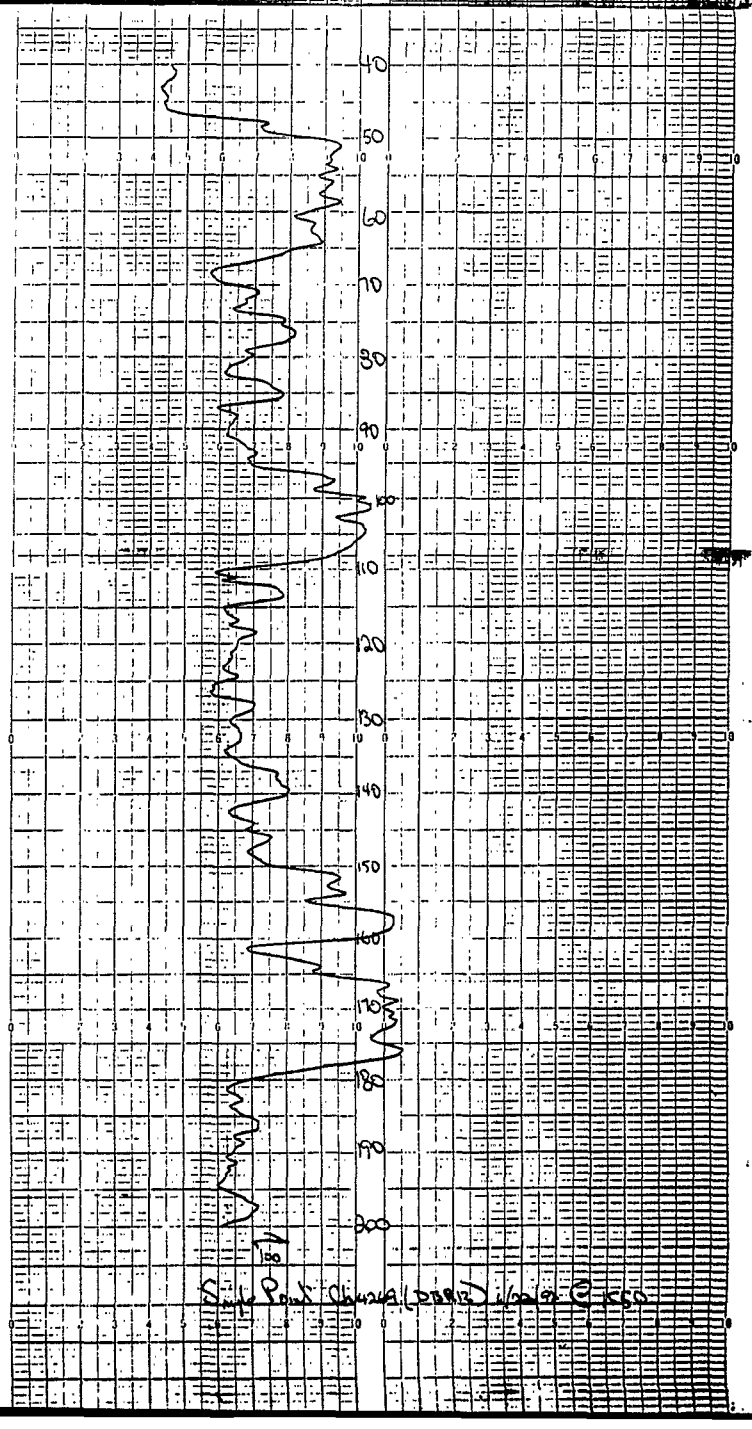
COMPANY: USGS
AREA: Rockton/Allied Steel
WELL: Ch 4269 (DBR-12)
COUNTY: Chester STATE: Pa

COORDINATES: N ___ S ___
ELEVATIONS: D.F. ___ K.B. ___ G.L. ___

LOCATION | WELL | COMPANY

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	6/22/92		Nature		
First Reading	—		Density		
Last Reading	—		Viscosity	@ °F	@ °F
Footage Logged	—		Resistivity	@ °F	@ °F
Bottom (Driller)	200		Res. @ BHT	@ °F	@ °F
Casing (From Log)	48		pH		
Casing (Driller)	—		Circ. Temp.		
Casing Size	8 inch		B.H. Temp.		
Position	—				
Sensitivity	100 ohms/div				
Logging Speed	—		Logged by	R Conger	
			Witnessed by	E Wood	

REMARKS



AR303154

Brine Trace

U.S. Geological Survey
water resources division

WELL LOG

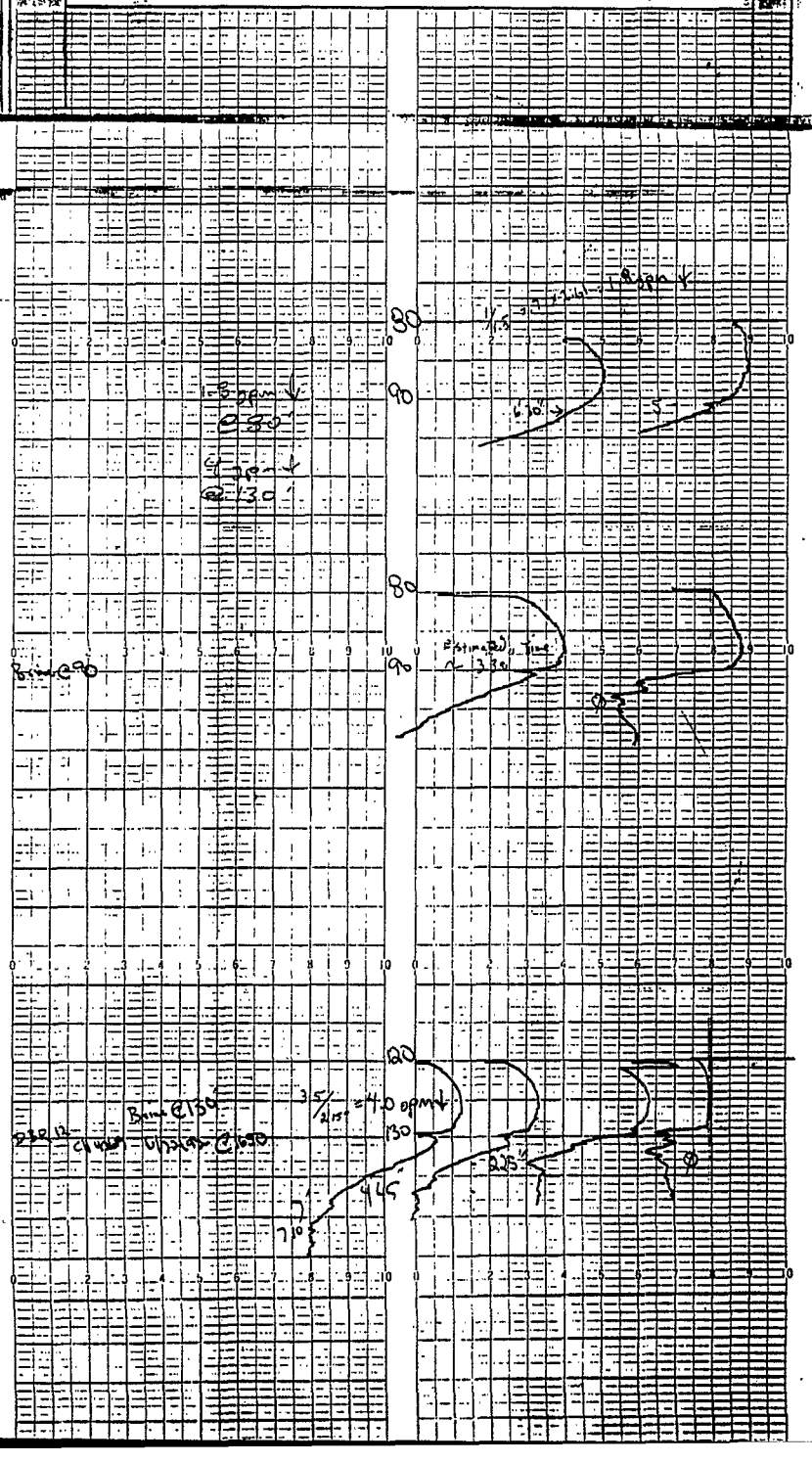
COMPANY USGS
AREA Lectium Allied Steel
WELL Ch 4269 (DBR-12)
COUNTY Chester STATE Pa

COORDINATES: N S
ELEVATION: D.F. K.B. G.L.

LOCATION WELL COMPANY

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	6/22/92		Nature		
First Reading	—		Density		
Last Reading	—		Viscosity	@ °F	@ °F
Footage Logged	—		Resistivity	@ °F	@ °F
Bottom (Driller) Log	200		Res. @ BHT	@ °F	@ °F
Casing (From Log)	4 ft		pH		
Casing (Driller)	—		Circ. Temp.		
Casing Size	8 inch		B.H. Temp.		
			Logged by	R Conger	
			Witnessed by	E Lindell	

REMARKS Brine at 130 ft - 4.0 gal/min - Down
" " 90 ft - 1.8 gal/min - Down



AR303155

Gamma Ray —g

U.S. Geological Survey
water resources division

WELL LOG

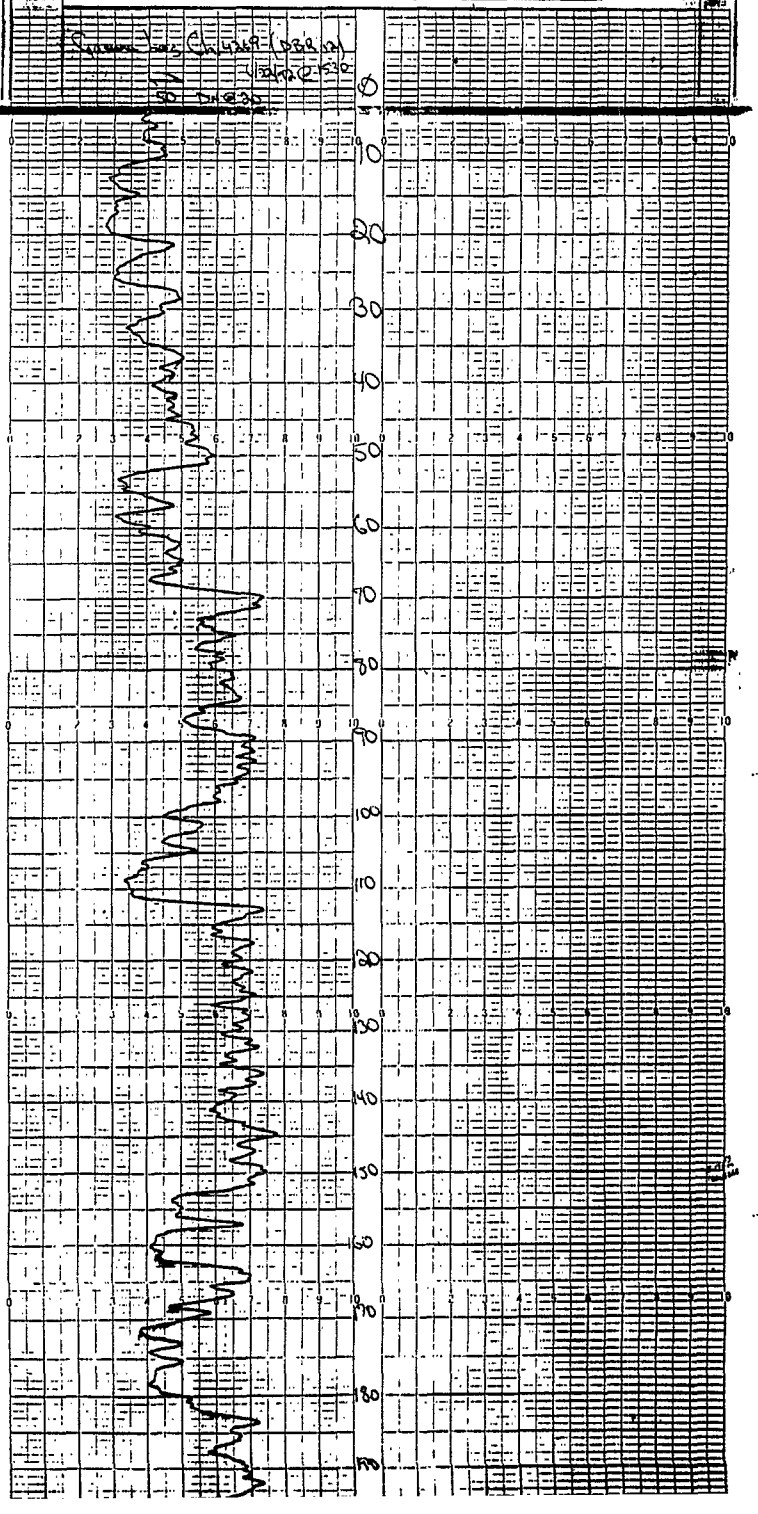
PROJECT | TEAM | COMPANY

COMPANY: USGS
AREA: Rockton / Allied Steel
WELL: Ch 4269 (JBR-12)
COUNTY: Chester STATE: Pa

COORDINATES: N ___ S ___
ELEVATION: D.F. ___ K.B. ___ G.L. ___

	Run No. 1	Run No. 2	MUD	Run No. 1	Run No. 2
Date	6/22/93		Nature		
First Reading	—		Density		
Last Reading	—		Viscosity	@ °F	@ °F
Footage Logged	—		Resistivity	@ °F	@ °F
Bottom (Driller)	200		Res. @ BHT	@ °F	@ °F
Casing (From Log)	6.5		pH		
Casing (Driller)	—		Circ. Temp.		
Casing Size	8 inch		B.H. Temp.		
Area	—				
Time Constant	—				
Positive	—				
Logging Speed	20 ft/min -DN		Logged by	R Conger	
Variable Span	50 count/sec		Witnessed by	Cuneo	

REMARKS



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