1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDG19

Lab Name: Versar Contract:

Lab Code: Versar Case No.: 11724 SAS No.: 4537E SDG No.: EAL63

85271

Matrix: (soil/water) WATER Lab Sample ID: 69816

Sample wt/vol: 25 (g/ml) ML Lab File ID: Y5469

Level: (low/med) LOW Date Received: 04/06/89

% Moisture: not dec. Date Analyzed: 04/19/89

Column: (pack/cap) PACK Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	
~~110-75-8~~	~~2-Chloroethyl vinyl ether~~	~~0.2~~	~~U~~
74-87-3	Chloromethane	0.38	U
74-83-9	Bromomethane	0.21	U
75-01-4	Vinyl Chloride	0.26	U
75-00-3	Chloroethane	0.19	U
75-09-2	Methylene Chloride	0.23	U
67-64-1	Acetone	2.00	U
75-15-0	Carbon Disulfide	0.23	U
75-35-4	1,1-Dichloroethene	0.08	U
75-34-3	1,1-Dichloroethane	0.09	U
540-59-0	1,2-Dichloroethene (total)	0.25	U
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.12	U
78-93-3	2-Butanone	1.38	U
71-55-6	1,1,1-Trichloroethane	0.13	U
56-23-5	Carbon Tetrachloride	0.11	U
108-05-4	Vinyl Acetate	0.35	U
75-27-4	Bromodichloromethane	0.19	U
78-87-5	1,2-Dichloropropane	0.14	U
10061-01-5	cis-1,3-Dichloropropene	0.17	U
79-01-6	Trichloroethene	0.12	U
124-48-1	Dibromochloromethane	0.06	U
79-00-5	1,1,2-Trichloroethane	0.07	U
71-43-2	Benzene	0.03	U
10061-02-6	trans-1.3-Dichloropropene	0.08	U
75-25-2	Bromoform	0.08	U
108-10-1	4-Methyl-2-Pentanone	0.08	U
591-78-6	2-Hexanone	0.48	U
127-18-4	Tetrachloroethene	0.36	U
79-34-5	1,1,2,2-Tetrachloroethane	0.07	U
108-88-3	Toluene	0.05	U
108-90-7	Chlorobenzene	0.12	U
100-41-4	Ethylbenzene	0.13	U
100-42-5	Styrene	0.22	U
1330-20-7	Xylene (total)	0.2	U
107-02-8	Acrolein	6.52	U
107-13-1	Acrylonitrile	2.86	U

100217

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
EDG19

Lab Name: VERSAR Contract:

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAL63

Matrix: (soil/water) WATER Lab Sample ID: 69816

Sample wt/vol: 25 (g/ml) ML Lab File ID: Y5464

Level: (low/med) LOW Date Received: 04/06/89

% Moisture: not dec. Date Analyzed: 04/19/89

Column: (pack/cap) PACK Dilution Factor: 1

Number TICs found: 0 CONCENTRATION UNITS: (UG/L or UG/KG) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDG20

Lab Name: Versar Contract:

Lab Code: Versar Case No.: 11724 SAS No.: 4537E SDG No.: EAL63

Matrix: (soil/water) WATER Lab Sample ID: 69817

Sample wt/vol: 25 (g/ml) ML Lab File ID: Y5465

Level: (low/med) LOW Date Received: 04/06/89

% Moisture: not dec. Date Analyzed: 04/19/89

Column: (pack/cap) PACK Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L		
~~110-75-8~~	~~2-Chloroethyl vinyl ether~~	~~0.2~~	~~U~~	
74-87-3	Chloromethane	0.38	U	
74-83-9	Bromomethane	0.21	U	
75-01-4	Vinyl Chloride	0.26	U	
75-00-3	Chloroethane	0.19	U	
75-09-2	Methylene Chloride	0.23	U	
67-64-1	Acetone	2.00	U	
75-15-0	Carbon Disulfide	0.23	U	
75-35-4	1,1-Dichloroethene	0.08	U	
75-34-3	1,1-Dichloroethane	0.09	U	
540-59-0	1,2-Dichloroethene (total)	0.25	U	
67-66-3	Chloroform	0.1	U	
107-06-2	1,2-Dichloroethane	0.12	U	
78-93-3	2-Butanone	1.38	U	
71-55-6	1,1,1-Trichloroethane	0.13	U	
56-23-5	Carbon Tetrachloride	0.11	U	
108-05-4	Vinyl Acetate	0.35	U	
75-27-4	Bromodichloromethane	0.19	U	
78-87-5	1,2-Dichloropropane	0.14	U	
10061-01-5	cis-1,3-Dichloropropene	0.17	U	
79-01-6	Trichloroethene	0.12	U	
124-48-1	Dibromochloromethane	0.06	U	
79-00-5	1,1,2-Trichloroethane	0.07	U	
71-43-2	Benzene	0.03	U	
10061-02-6	trans-1.3-Dichloropropene	0.08	U	
75-25-2	Bromoform	0.08	U	
108-10-1	4-Methyl-2-Pentanone	0.08	U	
591-78-6	2-Hexanone	0.48	U	
127-18-4	Tetrachloroethene	0.36	U	
79-34-5	1,1,2,2-Tetrachloroethane	0.07	U	
108-88-3	Toluene	0.05	U	
108-90-7	Chlorobenzene	0.12	U	
100-41-4	Ethylbenzene	0.13	U	
100-42-5	Styrene	0.22	U	
1330-20-7	Xylene (total)	0.2	U	
107-02-8	Acrolein	6.52	U	1
107-13-1	Acrylonitrile	2.86	U	

100223

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDG20

Lab Name: ___VERSAR_____ Contract: _____

Lab Code: _VERSAR___ Case No.: 11724 SAS No.: 4537E SDG No.: EAL63

Matrix: (soil/water) WATER Lab Sample ID: _69817

Sample wt/vol: 25 _(g/ml) ML Lab File ID: __Y5465

Level: (low/med) LOW Date Received: ___04/06/89

% Moisture: not dec._____ Date Analyzed: ___04/19/89

Column: (pack/cap) _PACK Dilution Factor: _ 1

Number TICs found: _ 0 CONCENTRATION UNITS: (UG/L or UG/KG) __UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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100224

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDG25

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAL63

Matrix: (soil/water) WATER Lab Sample ID: 698052A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2578

Level: (low/med) LOW Date Received: 04/06/89

% Moisture: not dec. ____ Date Analyzed: 04/15/89

Column: (pack/cap) PACK Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	0.4	U
74-83-9	Bromomethane	0.2	U
75-01-4	Vinyl Chloride	0.3	U
75-00-3	Chloroethane	0.2	U
75-09-2	Methylene Chloride	0.2	U
67-64-1	Acetone	3	
75-15-0	Carbon Disulfide	0.2	U
75-35-4	1,1-Dichloroethene	0.08	U
75-35-3	1,1-Dichloroethane	0.09	U
540-59-0	1,2-Dichloroethene (total)	0.3	U
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.1	U
78-93-3	2-Butanone	1	U
71-55-6	1,1,1-Trichloroethane	0.1	U
56-23-5	Carbon Tetrachloride	0.1	U
108-05-4	Vinyl Acetate	0.3	U
75-27-4	Bromodichloromethane	0.2	U
78-87-5	1,2-Dichloropropane	0.1	U
10061-01-5	cis-1,3,-Dichloropropene	0.2	U
79-01-6	Trichloroethene	0.1	U
124-48-1	Dibromochloromethane	0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	U
71-43-2	Benzene	0.1	U
10061-02-6	Trans-1,3-Dichloropropene	0.2	U
75-25-2	Bromoform	0.2	U
108-10-1	4-Methyl-2-Pentanone	0.3	U
591-78-6	2-Hexanone	2	U
127-18-4	Tetrachloroethene	0.1	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
108-88-3	Toluene	0.1	U
108-90-7	Chlorobenzene	0.1	U
100-41-4	Ethylbenzene	0.1	U
100-42-5	Styrene	0.2	U
1330-20-7	Total Xylenes	0.2	U
107-02-8	Arolein	7	U
107-13-1	Acrylonitrile	3	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: EDG25

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAL63

Matrix: (soil/water) WATER Lab Sample ID: 698059A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2578

Level: (low/med) LOW Date Received: 04/06/89

% Moisture: not dec. ____ Date Analyzed: 04/15/89

Column (pack/cap) PACK Dilution Factor: 5.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EQG38

Lab Name: Versar Contract:

Lab Code: Versar Case No.: 11724 SAS No.: 4537E SDG No.: EAL63

Matrix: (soil/water) WATER Lab Sample ID: 69815

Sample wt/vol: 25 (g/ml) ML Lab File ID: Y5463

Level: (low/med) LOW Date Received: 04/06/89

% Moisture: not dec. Date Analyzed: 04/19/89

Column: (pack/cap) PACK Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	
~~2-Chloroethyl vinyl ether~~		~~0.2~~	~~U~~
74-87-3	Chloromethane	0.38	U
74-83-9	Bromomethane	0.21	U
75-01-4	Vinyl Chloride	0.26	U
75-00-3	Chloroethane	0.36	
75-09-2	Methylene Chloride	0.23	U
67-64-1	Acetone	8.57	
75-15-0	Carbon Disulfide	0.23	U
75-35-4	1,1-Dichloroethene	0.08	U
75-34-3	1,1-Dichloroethane	1.10	
540-59-0	1,2-Dichloroethene (total)	6.11	
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.12	U
78-93-3	2-Butanone	1.38	U
71-55-6	1,1,1-Trichloroethane	0.13	U
56-23-5	Carbon Tetrachloride	0.11	U
108-05-4	Vinyl Acetate	0.35	U
75-27-4	Bromodichloromethane	0.19	U
78-87-5	1,2-Dichloropropane	0.14	U
10061-01-5	cis-1,3-Dichloropropene	0.17	U
79-01-6	Trichloroethene	0.12	U
124-48-1	Dibromochloromethane	0.06	U
79-00-5	1,1,2-Trichloroethane	0.07	U
71-43-2	Benzene	0.03	U
10061-02-6	trans-1.3-Dichloropropene	0.08	U
75-25-2	Bromoform	0.08	U
108-10-1	4-Methyl-2-Pentanone	0.08	U
591-78-6	2-Hexanone	0.48	U
127-18-4	Tetrachloroethene	0.36	U
79-34-5	1,1,2,2-Tetrachloroethane	0.07	U
108-88-3	Toluene	0.05	U
108-90-7	Chlorobenzene	0.12	U
100-41-4	Ethylbenzene	0.13	U
100-42-5	Styrene	0.22	U
1330-20-7	Xylene (total)	0.2	U
107-02-8	Acrolein	6.52	U
107-13-1	Acrylonitrile	2.86	U

100239

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
EDG38

Lab Name: VERSAR Contract:

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAL63

Matrix: (soil/water) WATER Lab Sample ID: 69815

Sample wt/vol: 25 (g/ml) ML Lab File ID: Y5463

Level: (low/med) LOW Date Received: 04/06/89

% Moisture: not dec. Date Analyzed: 04/19/89

Column: (pack/cap) PACK Dilution Factor: 1

Number TICs found: 4

CONCENTRATION UNITS:
(UG/L or UG/KG) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	1.16666	1	J
2.		UNKNOWN	2.16666	3	J
3.	75-43-4	METHANE, DICHLOROFLUORO	6.16666	2	J
4.	629-14-1	ETHANE, 1,2-DIETHOXY-	12.15	2	J
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDG41

Lab Name: VERSAR_INC._____ Contract: _____

Lab Code: VERSAR_ Case No.: 11724_ SAS No.: 4537E__ SDG No.: EAL63_

Matrix: (soil/water) WATER_ Lab Sample ID: 63807A_____

Sample wt/vol: _25.0 (g/mL) ML__ Lab File ID: R2576_____

Level: (low/med) LOW___ Date Received: 04/06/89

% Moisture: not dec. ____ Date Analyzed: 04/15/89

Column: (pack/cap) PACK__ Dilution Factor: 5.0_____

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L_	Q
74-87-3	Chloromethane	0.4	U
74-83-9	Bromomethane	0.2	U
75-01-4	Vinyl Chloride	0.6	
75-00-3	Chloroethane	2	
75-09-2	Methylene Chloride	0.2	U
67-64-1	Acetone		E
75-15-0	Carbon Disulfide	0.2	U
75-35-4	1,1-Dichloroethene	0.08	U
75-35-3	1,1-Dichloroethane	0.09	U
540-59-0	1,2-Dichloroethene (total)	3	
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.1	U
78-93-3	2-Butanone		E
71-55-6	1,1,1-Trichloroethane	0.1	U
56-23-5	Carbon Tetrachloride	0.1	U
108-05-4	Vinyl Acetate	0.3	U
75-27-4	Bromodichloromethane	0.2	U
78-87-5	1,2-Dichloropropane	0.1	U
10061-01-5	cis-1,3,-Dichloropropene	0.2	U
79-01-6	Trichloroethene	0.1	U
124-48-1	Dibromochloromethane	0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	U
71-43-2	Benzene	11	
10061-02-6	Trans-1,3-Dichloropropene	0.2	U
75-25-2	Bromoform	0.2	U
108-10-1	4-Methyl-2-Pentanone	42	
591-78-6	2-Hexanone	2	JX
127-18-4	Tetrachloroethene	0.1	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
108-88-3	Toluene	3	
108-90-7	Chlorobenzene	0.1	U
100-41-4	Ethylbenzene	0.1	U
100-42-5	Styrene	0.2	U
1330-20-7	Total Xylenes	0.3	X
107-02-8	Arolein	7	U
107-13-1	Acrylonitrile	3	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
EDG41

Lab Name: VERSAR Contract:

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAL63

Matrix: (soil/water) WATER Lab Sample ID: 69807A

Sample wt/vol: 25 (g/ml) ML Lab File ID: R2576

Level: (low/med) LOW Date Received: 04/06/89

% Moisture: not dec. Date Analyzed: 04/15/89

Dilution Factor: 1

Number TICs found: 4 CONCENTRATION UNITS: (UG/L or UG/KG) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	2.36666	2	J
2.	67-63-0	2-PROPANOL (ACN)	9.16666	2	J
3.		UNKNOWN	12.9166	11	J
4.		UNKNOWN	14.8666	4	J
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100268

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDG41BREDL

Lab Name: VERSAR_INC._____ Contract: _____

Lab Code: VERSAR_ Case No.: 11724_ SAS No.: 4537E__ SDG No.: EAL63_

Matrix: (soil/water) WATER_ Lab Sample ID: 69807BREDL___

Sample wt/vol: _25.0 (g/mL) ML__ Lab File ID: R2622_____

Level: (low/med) LOW___ Date Received: 04/06/89

% Moisture: not dec. ____ Date Analyzed: 04/13/89

Column: (pack/cap) PACK__ Dilution Factor: 130_____

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	5	U
75-01-4	Vinyl Chloride	6	U
75-00-3	Chloroethane	5	U
75-09-2	Methylene Chloride	6	U
67-64-1	Acetone	750	D
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	2	U
75-35-3	1,1-Dichloroethane	2	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	3	U
107-06-2	1,2-Dichloroethane	3	U
78-93-3	2-Butanone	800	D
71-55-6	1,1,1-Trichloroethane	3	U
56-23-5	Carbon Tetrachloride	3	U
108-05-4	Vinyl Acetate	9	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	4	U
10061-01-5	cis-1,3,-Dichloropropene	4	U
79-01-6	Trichloroethene	3	U
124-48-1	Dibromochloromethane	4	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	3	U
10061-02-6	Trans-1,3-Dichloropropene	6	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	7	U
591-78-6	2-Hexanone	57	U
127-18-4	Tetrachloroethene	3	U
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	3	U
108-90-7	Chlorobenzene	3	U
100-41-4	Ethylbenzene	3	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U
107-02-8	Arolein	160	U
107-13-1	Acrylonitrile	72	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDG42

Lab Name: VERSAR_INC._____ Contract: _____

Lab Code: VERSAR_ Case No.: 11724_ SAS No.: 4537E__ SDG No.: EAL63_

Matrix: (soil/water) WATER_ Lab Sample ID: 63806A_____

Sample wt/vol: _25.0 (g/mL) ML__ Lab File ID: R2579_____

Level: (low/med) LOW___ Date Received: 04/06/89

% Moisture: not dec. ____ Date Analyzed: 04/15/89

Column: (pack/cap) PACK__ Dilution Factor: 5.0_____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L_	Q
74-87-3	Chloromethane	0.4	U
74-83-9	Bromomethane	0.2	U
75-01-4	Vinyl Chloride	0.3	U
75-00-3	Chloroethane	0.2	U
75-09-2	Methylene Chloride	0.2	U
67-64-1	Acetone	2	U
75-15-0	Carbon Disulfide	0.2	U
75-35-4	1,1-Dichloroethene	0.08	U
75-35-3	1,1-Dichloroethane	0.6	
540-59-0	1,2-Dichloroethene (total)	0.2	JX
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.1	U
78-93-3	2-Butanone	1	U
71-55-6	1,1,1-Trichloroethane	0.2	
56-23-5	Carbon Tetrachloride	0.1	U
108-05-4	Vinyl Acetate	0.3	U
75-27-4	Bromodichloromethane	0.2	U
78-87-5	1,2-Dichloropropane	0.1	U
10061-01-5	cis-1,3,-Dichloropropene	0.2	U
79-01-6	Trichloroethene	0.1	U
124-48-1	Dibromochloromethane	0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	U
71-43-2	Benzene	0.1	U
10061-02-6	Trans-1,3-Dichloropropene	0.2	U
75-25-2	Bromoform	0.2	U
108-10-1	4-Methyl-2-Pentanone	0.3	U
591-78-6	2-Hexanone	2	U
127-18-4	Tetrachloroethene	0.4	
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
108-88-3	Toluene	0.1	U
108-90-7	Chlorobenzene	0.1	U
100-41-4	Ethylbenzene	0.1	U
100-42-5	Styrene	0.2	U
1330-20-7	Total Xylenes	0.2	U
107-02-8	Arolein	7	U
107-13-1	Acrylonitrile	3	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: EDG42

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAL63

Matrix: (soil/water) WATER Lab Sample ID: 698O6A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2579

Level: (low/med) LOW Date Received: 04/06/89

% Moisture: not dec. ____ Date Analyzed: 04/15/89

Column (pack/cap) PACK Dilution Factor: 5.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAG
~~EAG~~52 per Versar

EW3

Lab Name: Versar   Contract:

Lab Code: Versar   Case No.: 11724   SAS No.: 4537E   SDG No.: EAL63

Matrix: (soil/water) WATER   Lab Sample ID: 69808

Sample wt/vol: 25 (g/ml) ML   Lab File ID: Y5454

Level: (low/med) LOW   Date Received: 04/06/89

% Moisture: not dec.   Date Analyzed: 04/18/89

Column: (pack/cap) PACK   Dilution Factor: 100

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

CAS NO.	COMPOUND		Q
	~~2-Chloroethyl vinyl ether~~	~~0.2~~	~~U~~
74-87-3	Chloromethane	0.38	U
74-83-9	Bromomethane	0.21	U
75-01-4	Vinyl Chloride	0.26	U
75-00-3	Chloroethane	0.19	U
75-09-2	Methylene Chloride	62	
67-64-1	Acetone	240	
75-15-0	Carbon Disulfide	0.23	U
75-35-4	1,1-Dichloroethene	0.08	U
75-34-3	1,1-Dichloroethane	0.09	U
540-59-0	1,2-Dichloroethene (total)	370	
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.12	U
78-93-3	2-Butanone	1.38	U
71-55-6	1,1,1-Trichloroethane	700	
56-23-5	Carbon Tetrachloride	0.11	U
108-05-4	Vinyl Acetate	0.35	U
75-27-4	Bromodichloromethane	0.19	U
78-87-5	1,2-Dichloropropane	0.14	U
10061-01-5	cis-1,3-Dichloropropene	0.17	U
79-01-6	Trichloroethene	1200	
124-48-1	Dibromochloromethane	0.06	U
79-00-5	1,1,2-Trichloroethane	0.07	U
71-43-2	Benzene	0.03	U
10061-02-6	trans-1,3-Dichloropropene	0.08	U
75-25-2	Bromoform	0.08	U
108-10-1	4-Methyl-2-Pentanone	0.08	U
591-78-6	2-Hexanone	0.48	U
127-18-4	Tetrachloroethene	540	
79-34-5	1,1,2,2-Tetrachloroethane	0.07	U
108-88-3	Toluene	910	U
108-90-7	Chlorobenzene	0.12	U
100-41-4	Ethylbenzene	0.13	U
100-42-5	Styrene	0.22	U
1330-20-7	Xylene (total)	360	
107-02-8	Acrolein	6.52	U
107-13-1	Acrylonitrile	2.86	U

100341

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EAG
~~EDG~~62
5M per Versar

Lab Name:___VERSAR_____ Contract:_____

Lab Code:_VERSAR___ Case No.:11724 SAS No.:4537E SDG No.:EAL63

Matrix: (soil/water)WATER Lab Sample ID: _69808

Sample wt/vol: 0.25 _(g/ml)ML Lab File ID: __Y5454

Level: (low/med) LOW Date Received: ___04/06/89

% Moisture: not dec._____ Date Analyzed: ___04/18/89

Column:(pack/cap) _PACK Dilution Factor: _ 100

Number TICs found: _ 0 CONCENTRATION UNITS: (UG/L or UG/KG)__UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAG
~~EAG~~53

Lab Name: Versar Contract:

Lab Code: Versar Case No.: 11724 SAS No.: 4537E SDG No.: EAL63

Matrix: (soil/water) WATER Lab Sample ID: 69809

Sample wt/vol: 25 (g/ml) ML Lab File ID: Y5458

Level: (low/med) LOW Date Received: 04/06/89

% Moisture: not dec. Date Analyzed: 04/19/89

Column: (pack/cap) PACK Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	
~~110-75-8~~	~~2-Chloroethyl vinyl ether~~	~~0.2~~	~~U~~
74-87-3	Chloromethane	0.38	U
74-83-9	Bromomethane	0.21	U
75-01-4	Vinyl Chloride	0.26	U
75-00-3	Chloroethane	0.19	U
75-09-2	Methylene Chloride	0.39	
67-64-1	Acetone	7.20	
75-15-0	Carbon Disulfide	0.23	U
75-35-4	1,1-Dichloroethene	0.08	U
75-34-3	1,1-Dichloroethane	0.09	U
540-59-0	1,2-Dichloroethene (total)	0.54	
67-66-3	Chloroform	0.56	
107-06-2	1,2-Dichloroethane	0.12	U
78-93-3	2-Butanone	1.38	U
71-55-6	1,1,1-Trichloroethane	4.00	
56-23-5	Carbon Tetrachloride	0.11	U
108-05-4	Vinyl Acetate	0.35	U
75-27-4	Bromodichloromethane	0.19	U
78-87-5	1,2-Dichloropropane	0.14	U
10061-01-5	cis-1,3-Dichloropropene	0.17	U
79-01-6	Trichloroethene	9.50	
124-48-1	Dibromochloromethane	0.06	U
79-00-5	1,1,2-Trichloroethane	0.07	U
71-43-2	Benzene	0.03	U
10061-02-6	trans-1.3-Dichloropropene	0.08	U
75-25-2	Bromoform	0.08	U
108-10-1	4-Methyl-2-Pentanone	0.08	U
591-78-6	2-Hexanone	0.48	U
127-18-4	Tetrachloroethene	17.0	
79-34-5	1,1,2,2-Tetrachloroethane	0.07	U
108-88-3	Toluene	0.33	
108-90-7	Chlorobenzene	0.12	U
100-41-4	Ethylbenzene	0.13	U
100-42-5	Styrene	0.22	U
1330-20-7	Xylene (total)	0.18	
107-02-8	Acrolein	6.52	U
107-13-1	Acrylonitrile	2.86	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EAG
~~[illegible]~~53
DM per Versar

Lab Name: ___VERSAR_____________ Contract: __________

Lab Code: _VERSAR___ Case No.: 11724 SAS No.: 4537E SDG No.: EAL63

Matrix: (soil/water) WATER Lab Sample ID: _69809

Sample wt/vol: 25 _(g/ml) ML Lab File ID: __Y5458

Level: (low/med) LOW Date Received: ___04/06/89

% Moisture: not dec. ______ Date Analyzed: ___04/19/89

Column: (pack/cap) _PACK Dilution Factor: _ 1

Number TICs found: _ 3

CONCENTRATION UNITS: (UG/L or UG/KG) __UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	UNKNOWN	1.13333	1	J
2.	UNKNOWN	2.13333	2	J
3. 75-43-4	METHANE, DICHLOROFLUORO-	6.16666	2	J
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[illegible].				
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EW5

EPA SAMPLE NO.

EAG ~~EDG~~54 DM per Versar

Name: VERSAR_INC.______________ Contract: __________

Lab Code: VERSAR_ Case No.: 11724_ SAS No.: 4537E__ SDG No.: EAL63_

Matrix: (soil/water) WATER_ Lab Sample ID: 698108 ______

Sample wt/vol: _25.0 (g/mL) ML__ Lab File ID: R2631______

Level: (low/med) LOW___ Date Received: 04/06/89

% Moisture: not dec. ____ Date Analyzed: 04/20/89

Column: (pack/cap) PACK__ Dilution Factor: 10______

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	0.8	U
74-83-9	Bromomethane	0.4	U
75-01-4	Vinyl Chloride	0.5	U
75-00-3	Chloroethane	0.4	U
75-09-2	Methylene Chloride	1	
67-64-1	Acetone	4	U
75-15-0	Carbon Disulfide	0.5	U
75-35-4	1,1-Dichloroethene	0.5	
75-35-3	1,1-Dichloroethane	4	
540-59-0	1,2-Dichloroethene (total)	140	
67-66-3	Chloroform	0.2	U
107-06-2	1,2-Dichloroethane	6	
78-93-3	2-Butanone	3	U
71-55-6	1,1,1-Trichloroethane	2	
56-23-5	Carbon Tetrachloride	0.2	U
108-05-4	Vinyl Acetate	0.7	U
75-27-4	Bromodichloromethane	0.4	U
78-87-5	1,2-Dichloropropane	0.3	U
10061-01-5	cis-1,3,-Dichloropropene	0.3	U
79-01-6	Trichloroethene	36	
124-48-1	Dibromochloromethane	0.3	U
79-00-5	1,1,2-Trichloroethane	0.5	U
71-43-2	Benzene	0.2	U
10061-02-6	Trans-1,3-Dichloropropene	0.5	U
75-25-2	Bromoform	0.4	U
108-10-1	4-Methyl-2-Pentanone	0.5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	27	
79-34-5	1,1,2,2-Tetrachloroethane	0.4	U
108-88-3	Toluene	0.2	U
108-90-7	Chlorobenzene	0.2	U
100-41-4	Ethylbenzene	0.3	U
100-42-5	Styrene	0.4	U
1330-20-7	Total Xylenes	0.4	U
107-02-8	Arolein	13	U
107-13-1	Acrylonitrile	6	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EAG
~~EDG~~54
Dm per Versar

Name: VERSAR_INC.______________ Contract: __________

Lab Code: VERSAR_ Case No.: 11724_ SAS No.: 4537E__ SDG No.: EAL63_

Matrix: (soil/water) WATER_ Lab Sample ID: 69810B______

Sample wt/vol: _25.0 (g/mL) ML__ Lab File ID: R2631______

Level: (low/med) LOW___ Date Received: 04/06/89

% Moisture: not dec. ____ Date Analyzed: 04/20/89

Column (pack/cap) PACK__ Dilution Factor: 10______

Number TICs found: __0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDG82

Lab Name: Versar Contract:

Lab Code: Versar Case No.: 11724 SAS No.: 4537E SDG No.: EAL63

Matrix: (soil/water) WATER Lab Sample ID: 69821D

Sample wt/vol: 25 (g/ml) ML Lab File ID: Y5506

Level: (low/med) LOW Date Received: 04/06/89

% Moisture: not dec. Date Analyzed: 04/21/89

Column: (pack/cap) PACK Dilution Factor: 1000

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	
~~110-75-8~~	~~2-Chloroethyl vinyl ether~~	~~0.2~~	~~U~~
74-87-3	Chloromethane	0.38	U
74-83-9	Bromomethane	0.21	U
75-01-4	Vinyl Chloride	0.26	U
75-00-3	Chloroethane	0.19	U
75-09-2	Methylene Chloride	0.23	U
67-64-1	Acetone	2.00	U
75-15-0	Carbon Disulfide	0.23	U
75-35-4	1,1-Dichloroethene	0.08	U
75-34-3	1,1-Dichloroethane	210	
540-59-0	1,2-Dichloroethene (total)	17000	
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.12	U
78-93-3	2-Butanone	1.38	U
71-55-6	1,1,1-Trichloroethane	1500	
56-23-5	Carbon Tetrachloride	0.11	U
108-05-4	Vinyl Acetate	0.35	U
75-27-4	Bromodichloromethane	0.19	U
78-87-5	1,2-Dichloropropane	0.14	U
10061-01-5	cis-1,3-Dichloropropene	0.17	U
79-01-6	Trichloroethene	280	
124-48-1	Dibromochloromethane	0.06	U
79-00-5	1,1,2-Trichloroethane	0.07	U
71-43-2	Benzene	160	X
10061-02-6	trans-1.3-Dichloropropene	0.08	U
75-25-2	Bromoform	0.08	U
108-10-1	4-Methyl-2-Pentanone	0.08	U
591-78-6	2-Hexanone	0.48	U
127-18-4	Tetrachloroethene	1300	
79-34-5	1,1,2,2-Tetrachloroethane	0.07	U
108-88-3	Toluene	4900	
108-90-7	Chlorobenzene	160	
100-41-4	Ethylbenzene	11000	
100-42-5	Styrene	0.22	U
1330-20-7	Xylene (total)	28000	
107-02-8	Acrolein	6.52	U
107-13-1	Acrylonitrile	2.86	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
EDG82

Lab Name: ___VERSAR_____ Contract: _____

Lab Code: _VERSAR___ Case No.: 11724 SAS No.: 4537E SDG No.: EAL63

Matrix: (soil/water) WATER Lab Sample ID: _69821D

Sample wt/vol: 0.025 _(g/ml) ML Lab File ID: __Y5506

Level: (low/med) LOW Date Received: ___04/06/89

% Moisture: not dec. _____ Date Analyzed: ___04/21/89

Column: (pack/cap) _PACK Dilution Factor: _ 1000

Number TICs found: _ 3 CONCENTRATION UNITS: (UG/L or UG/KG) __UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	_____	UNKNOWN	15.5833	410	J
2.	96-14-0	PENTANE, 3-METHYL-	19.5	1400	J
3.	_____	UNKNOWN HYDROCARBON	22.6166	330	J
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDG76

Lab Name: Versar Contract:

Lab Code: Versar Case No.: 11724 SAS No.: 4537E SDG No.: EAL63

Matrix: (soil/water) WATER Lab Sample ID: 69818

Sample wt/vol: 25 (g/ml) ML Lab File ID: Y5466

Level: (low/med) LOW Date Received: 04/06/89

% Moisture: not dec. Date Analyzed: 04/19/89

Column: (pack/cap) PACK Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	
~~110-75-8~~	~~2-Chloroethyl vinyl ether~~	~~0.2~~	~~U~~
74-87-3	Chloromethane	0.38	U
74-83-9	Bromomethane	0.21	U
75-01-4	Vinyl Chloride	0.26	U
75-00-3	Chloroethane	0.19	U
75-09-2	Methylene Chloride	0.23	U
67-64-1	Acetone	2.00	U
75-15-0	Carbon Disulfide	0.23	U
75-35-4	1,1-Dichloroethene	0.08	U
75-34-3	1,1-Dichloroethane	0.09	U
540-59-0	1,2-Dichloroethene (total)	0.25	U
67-66-3	Chloroform	0.41	
107-06-2	1,2-Dichloroethane	0.12	U
78-93-3	2-Butanone	1.38	U
71-55-6	1,1,1-Trichloroethane	0.13	U
56-23-5	Carbon Tetrachloride	0.11	U
108-05-4	Vinyl Acetate	0.35	U
75-27-4	Bromodichloromethane	0.19	U
78-87-5	1,2-Dichloropropane	0.14	U
10061-01-5	cis-1,3-Dichloropropene	0.17	U
79-01-6	Trichloroethene	0.12	U
124-48-1	Dibromochloromethane	0.06	U
79-00-5	1,1,2-Trichloroethane	0.07	U
71-43-2	Benzene	0.03	U
10061-02-6	trans-1.3-Dichloropropene	0.08	U
75-25-2	Bromoform	0.08	U
108-10-1	4-Methyl-2-Pentanone	0.08	U
591-78-6	2-Hexanone	0.48	U
127-18-4	Tetrachloroethene	0.36	U
79-34-5	1,1,2,2-Tetrachloroethane	0.07	U
108-88-3	Toluene	0.05	U
108-90-7	Chlorobenzene	0.12	U
100-41-4	Ethylbenzene	0.13	U
100-42-5	Styrene	0.22	U
1330-20-7	Xylene (total)	0.2	U
107-02-8	Acrolein	6.52	U
107-13-1	Acrylonitrile	2.86	U

1E

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EDG76

Lab Name: VERSAR Contract:

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAL63

Matrix: (soil/water) WATER Lab Sample ID: 69818

Sample wt/vol: 25 (g/ml) ML Lab File ID: Y5466

Level: (low/med) LOW Date Received: 04/06/89

% Moisture: not dec. Date Analyzed: 04/19/89

Column: (pack/cap) PACK Dilution Factor: 1

Number TICs found: 0

CONCENTRATION UNITS:
(UG/L or UG/KG) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDG83

Lab Name: VERSAR_INC._____ Contract: _____

Lab Code: VERSAR_ Case No.: 11724_ SAS No.: 4537E__ SDG No.: EAL63_

Matrix: (soil/water) WATER_ Lab Sample ID: 69822A_____

Sample wt/vol: _25.0 (g/mL) ML__ Lab File ID: R2630_____

Level: (low/med) LOW___ Date Received: 04/06/89

% Moisture: not dec. ____ Date Analyzed: 04/20/89

Column: (pack/cap) PACK__ Dilution Factor: 5.0_____

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L_	Q
74-87-3	Chloromethane	0.4	U
74-83-9	Bromomethane	0.2	U
75-01-4	Vinyl Chloride	0.3	U
75-00-3	Chloroethane	0.2	U
75-09-2	Methylene Chloride	0.2	U
67-64-1	Acetone	3	
75-15-0	Carbon Disulfide	0.2	U
75-35-4	1,1-Dichloroethene	0.08	U
75-35-3	1,1-Dichloroethane	0.09	U
540-59-0	1,2-Dichloroethene (total)	0.2	JX
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.1	U
78-93-3	2-Butanone	1	U
71-55-6	1,1,1-Trichloroethane	0.7	
56-23-5	Carbon Tetrachloride	0.1	U
108-05-4	Vinyl Acetate	0.3	U
75-27-4	Bromodichloromethane	0.2	U
78-87-5	1,2-Dichloropropane	0.1	U
10061-01-5	cis-1,3,-Dichloropropene	0.2	U
79-01-6	Trichloroethene	0.1	U
124-48-1	Dibromochloromethane	0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	U
71-43-2	Benzene	0.1	U
10061-02-6	Trans-1,3-Dichloropropene	0.2	U
75-25-2	Bromoform	0.2	U
108-10-1	4-Methyl-2-Pentanone	0.3	U
591-78-6	2-Hexanone	2	U
127-18-4	Tetrachloroethene	1	
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
108-88-3	Toluene	0.2	
108-90-7	Chlorobenzene	0.1	U
100-41-4	Ethylbenzene	0.1	U
100-42-5	Styrene	0.2	U
1330-20-7	Total Xylenes	0.2	U
107-02-8	Arolein	7	U
107-13-1	Acrylonitrile	3	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDG83

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAL63

Matrix: (soil/water) WATER Lab Sample ID: 69822A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2630

Level: (low/med) LOW Date Received: 04/06/87

% Moisture: not dec. ____ Date Analyzed: 04/20/87

Column (pack/cap) PACK Dilution Factor: 5.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

ESD/Central Regional Laboratory
DATA TRACKING FORM FOR CONTRACT SAMPLES

CRL Data Set No. SF 6084 (6) CERCLIS No. MID980793806

SMO Case No. 11724/SAS4537E Site Name and Location: Verona Well Field

Name of Contractor or EPA Laboratory: Versar Data User: CH2M Hill

No. of Samples: 20 Date Samples or Data Received: 5-10-89

1. Have chain-of-custody records been received? YES ✓ NO
2. Have Traffic Reports or packing lists been received? YES ✓ NO
3. If no, are Traffic Report or packing list numbers written on the chain-of-custody record? YES NO
4. If no, which Traffic report or packing list numbers are missing?

Are basic data forms in? YES ✓ NO

Number of samples claimed: 20 Number of samples received: 20

Checked by: Dorothy M. May Date: 5-10-89

Received by Contract Project Management Section: DMM Date: 5-10-89

Review Started: May 25/1989 Reviewer Signature: Wanda Jutte Freeman

Total time spent on review: 14.5 Date review completed: May 26, 1989

Copied (xeroxed) by: John Date: 6/5/89

Mailed to Data User by: CL Mans Date: 6/6/89

DATA USERS:

Please fill in the blanks below and return this form to: Sylvia Griffin, Data Management Coordinator, Region V, ESCRL

Data received by: _____ Date: _____

Q.A. review received by: _____ Date: _____

Inorganic Data Complete	[ ]. Suitable for Intended Purposes	[ ]
Organic Data Complete	[ ]. Suitable for Intended Purposes	[ ]
Dioxin Data Complete	[ ]. Suitable for Intended Purposes	[ ]
SAS Data Complete	[ ]. Suitable for Intended Purposes	[ ]

✓ [ ] if acceptable. List problems below.

See Attached "Missing Data Request Form" [ ]

PROBLEMS: Please indicate reasons (if any) why data are not suitable for your uses. Other problems.

Received by Data Management Coordinator, CRL for File: Date: _____

EDG 59

VW-GWW16I-02

VOA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DAT June 5, 1989

JECT: Review of Region V CLP Data
Received for Review on 5-10-89

FROM Curtis Ross, Director (5SCRL)
Central Regional Laboratory Dorothy M. May

TO: Data User: CH2 M Hill

We have reviewed the data for the following case(s).

SITE NAME: Verona Well Field SMO Case No. 11724/SAS4537E

EPA Data Set No. SF6084 (7) No. of Samples: 1 D.U./Activity Numbers TFA/TFA102

CRL No. 892C04S09

SMO Traffic No. EDG 59

CLP Laboratory: Versar Hrs. Required for Review: 2

Following are our findings:

This review covers one water sample (EDG59) for volatile organic analysis only at low levels according to the SAS 4537E requirements.

The reviewer's narrative and data qualifiers follow.

Al Venuto (Weston/ESAT)
31 May 1989

( ) Data are acceptable for use.
(✓) Data are acceptable for use with qualifications referenced above.
See Data Qualifier sheets and Calibration Outlier forms for flags and additional comments.
( ) Data are preliminary - pending verification by Contractor Laboratory.
See Case Summary above.
( ) Data are unacceptable.

cc: Carla Dempsey, CLP Quality Assurance Officer, Analytical Operations Branch
James Petty, Chief Quality Assurance Research, EMSL, Las Vegas

DATA QUALIFIERS

Contractor: VERSAR

Case 11724SAS4537E

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

① Holding Times:

This sample was analyzed thirteen days after receipt, thus exceeding the holding time by six days. (The holding time is seven days from date of receipt to date of analysis.)

The results for this sample should therefore be considered J, estimated, for positive values and UJ, estimated quantitation limits for negative values.

② GC/MS Tuning:

The GC tuning and mass calibration were within the required Q.C. limits.

③ Calibration:

A three-point calibration was run rather than a five-point one. This is permissible under the old protocol. The sole volatile calibration entities, butanone, is listed on the entities form.

④ Method Blanks:

The volatile method blank contained no TCL compounds, but did contain a single TIC — a siloxane compound, apparently a column artifact. No TICs were found in the sample.

⑤ Surrogate Recoveries:

All volatile surrogate recoveries were well within the Q.C. limits.

⑥ Matrix Spikes and Matrix Spike Duplicates:

Reviewed by: Al Venuto

Phone: (312) 353-2959

Date: 31 May 1989

DATA QUALIFIERS

Contractor: VERSAR

Case 11724SAS4537E

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

This case actually contained 21 samples, but only a maximum of 20 may be contained in one SDG number. Therefore, this single sample was placed in a separate SDG number and since the MS and MSD analyses were performed for the related set of 20, it was omitted for this single sample.

(7) Field Duplicates:

This sample was neither a field duplicate nor a field blank.

(8) Internal Standards Performance:

All volatile IS areas were very well within the Q.C. limits.

(9) Compound Quantitation and Reported Detection Limits:

No list of quantitation limits or detection limits was included. (Again, the old protocol did not require the lab's submission with each set of analyses.) It should be noted, however, that ED6-59 was analyzed at a two-fold dilution, but the quantitation limits were not multiplied by a factor of 2 (with respect to those of the blanks) as should have been done.

(10) Additional Case-Specific Problems:

The value for 1,2-dichloroethane in sample ED6-59 was flagged "X" by the lab since it wasn't confirmed by MS, but they felt it was almost certainly that compound.

Reviewed by: Al Vernuto

Phone: (312) 353-2459

Date: 31 May 1989

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION V
CALIBRATION OUTLIERS
VOLATILE HSL COMPOUNDS

CASE/SAS # 11724/4537E CONTRACTOR VERSAR

Instrument # R	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME: 4-15-89 1431	4-15-89 14:31			4-19-89 9:16											
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
Chloromethane															
Bromomethane															
Vinyl Chloride															
Chloroethane															
Methylene Chloride															
Acetone															
Carbon Disulfide															
1,1-Dichloroethane															
1,1-Dichloroethene															
Trans-1,2-Dichloroethene															
Chloroform															
2-Butanone	.004		4/R	.004		4/R									
1,2-Dichloroethane															
1,1,1-Trichloroethane															
Carbon Tetrachloride															
Vinyl Acetate															
Bromodichloromethane															
1,2-Dichloropropane															
Trans-1,3-Dichloropropene															
Trichloroethene															
Dibromochloromethane															
1,1,2-Trichloroethane															
Benzene															
cis-1,3-Dichloropropene															
2-Chloroethylvinylether															
Bromoform															
4-Methyl-2-Pentanone															
2-Hexanone															
Tetrachloroethene															
1,1,2,2-Tetrachloroethane															
Toluene															
Chlorobenzene															
Ethylbenzene															
Styrene															
m-Xylene															
o/p-Xylene															

AFFECTED SAMPLES: VBLK13 EDG59

Reviewe-'s Initials/Date: AV 5-31-89

* These flags should be applied to the analytes on the sample data sheets.

APR 27 1989

CENTRAL REGIONAL LABORATORY SAMPLE DATA REPORT
ORGANICS, ORGANICS

SUPER UMD 6084

LOG IN DATE: 5/2/89
DUE DATE: 7/1/89

THIS FORM IS TO BE USED FOR SAMPLES SENT TO CONTRACT ONLY

CASE NUMBER/SAS No. 11724/45376 SITE NAME Vernon Well Field LABORATORY Versar DATE SHIPPED 4/5-4/6/89

SUPERFUND DO NUMBER [illegible]TFA EPA RPM or OSC (S.M.S.)/(CES) John Jordan CERCLIS NUMBER MID981793806 PAGE 1 OF 5

ACTIVITY NUMBER 03251 TPA102

CRL LOG NUMBER	5/2/89 ORGANIC TRAFFIC REPORT NUMBER or SAS Packing List No.	INORGANIC TRAFFIC REPORT NUMBER	WATER OR LIQUIDS: ACID-BASE NEUTRAL CPDS ORGANIC SCAN UG/L TOX17874	VOLATILE ORGANIC ANALYSIS ORGANIC SCAN UG/L TOX17844	WATER POLYCHLORINATED BIPHENYLS UG/L PES 17144	WATER CHLORINATED PESTICIDES UG/L PES17134	TOTAL METALS IN WATER UG/L MET1111	WATER CYANIDE UG/L MIN74019	NITRATE-NITRITE MG/L MIN7284	AMMONIA MG/L MIN7284	RESIDUE, FILTERABLE TDS MG/L MIN7382	RESIDUE, NON-FILT TSS MG/L MIN7372	& USCG	SEDIMENTS or SOILS: ACID-BASE NEUTRAL CPDS ORGANIC SCAN MG/KG TOX215722	VOLATILE ORGANIC ANALYSIS ORGANIC SCAN MG/KG TOX215822	SEDIMENTS POLYCHLORINATED BIPHENYLS MG/KG PES211422	SEDIMENT CHLORINATED PESTICIDES MG/KG 211322	TOTAL METALS MG/KG MET412	CYANIDE MG/KG MIN44830	EP TOXICITY METALS MG/KG	AMMONIA MG/KG MIN42825
892C64																					
S01	EQL66												X								
D02	EQL69												X								
L24	EDG76												X								
S03	EQL68												X								
D04	EQL69												X								
S13	EDG63												X								
S14	EDG64												X								
D15	EDG65												X								
S10	EDG60												X								
S09	EDG59												X								
S12	EDG62												X								
S11	EDG61												X								
S28	EDG74												X								
D29	EDG75												X								
S33	EDG81												X								
S59	EDG82												X								
S60	EDG83												X								
S05	EQL70												X								
S06	EQL71												X								
S26	EDG90												X								

Versar INC

DELIVERABLES INDEX -- VOA ANALYSES ONLY

I. CASE NARRATIVE

A. The narrative contains: case and contract numbers, summary of QC analyses, discussion of any analytical problems, and documentation of all corrective actions.
B. Copy of Sample Traffic Reports.

II. QC SUMMARY

A. Surrogate Percent Recovery Summary (Form II)
B. Matrix Spike/Matrix Spike Duplicate Summary (Form III)
C. Method Blank Summary (Form IV)
D. GC/MS Tuning and Calibration Standard (Form V)

III. SAMPLE DATA

A. Organic Analysis Data Sheet (Form I)
B. Tentatively Identified Compounds (TIC)
C. Raw Data for the Volatile Sample Fraction
   1. Reconstructed Ion Chromatogram (s)
   2. Quantitation Report
   3. Raw HSL mass spectra and background subtract HSL mass spectra with lab generated HSL standard spectra
   4. GC/MS library search spectra for each TIC

   Note: Samples arranged in alpha-numeric sequence.

IV. STANDARDS DATA

A. Initial Calibration Data (Form VI) in order if more than one instrument is used.
B. VOA standard(s) reconstructed ion chromatograms and quantitation reports for the initial calibration(s).
C. Continuing Calibration (Form VII) in order by instrument.
D. VOA standard(s) reconstructed ion chromatograms and quantitation reports for the continuing calibration(s).
E. Internal Standard Data (Form VIII).

V. RAW QC DATA

A. BFB (For each 12-hour period, for each GC/MS system)
   1. Bar graph spectrum
   2. Mass listing

Versar INC.

V. RAW QC DATA (CONT'D)

B. Reagent Blank Data
   1. Organic Analysis Data Sheet (Form I)
   2. Tentatively Identified Compounds (TIC)
   3. Raw Data
      a. Reconstructed ion chromatogram(s) and quantitation report(s).
      b. HSL spectra with lab generated standard
         i. Raw HSL compound spectra
         ii. Enhanced or background subtracted spectra
         iii. Laboratory generated HSL standard spectra
         iv. GC/MS library search spectra for each TIC
         v. Quantitation/calculation of each TIC concentration

C. Matrix Spike/Matrix Spike Duplicate Data
   1. Tabulated results (Form I) of non-spiked HSL compounds.
   2. Reconstructed ion chromatograms and quantitation reports.

VI. SAMPLE PREPARATION

A. Parameter Request Sheet
B. Sample Receiving Log-In Information
C. VOA Sample Comments
D. Instrument Injection Logs
E. Field Chain of Custody
F. Copy(s) of Federal Express Airbills

Versar INC.

May 8, 1989

I. Narrative
Organics Case 11724 SAS# 4537E SDG# EDG59
EPA Region V - Curtis Ross
Versar Project 965.80 - Batch 7

This report contains the CLP analytical data for the volatile low detection limit organic analysis of one (1) water sample contained in Case 11724 SDG EDG59. There is only one sample is this SDG since twenty-one samples were received on one day. The remainder of the samples for the day's shipping are SDG EAL69. The sample, listed below arrived intact at Versar by Federal Express on April 6, 1989.

SAMPLE LIST

EDG59 * **

* - First sample in SDG
** - Last sample in SDG

//

****
* SAS ONLY *
* No Diskette Deliverable *
* Seven day sample holding time *
* 30 day hardcopy report due date *
* Low Detection Limit Analysis *
Acrolein & acrylonitrile added to volatile target compound list
****

Copies of traffic reports, chain of custodies, and airbills for this SDG are contained in the report for SDG EAL69.

GC/MS instrument calibrations using BFB met contract requirements for volatile analysis. SPCC and CCC criteria were met for the volatile initial calibration curve and continuing calibration check standard. All GC/MS analyses occurred during the twelve hour period following daily instrument calibration. A holding time extension was granted by the Region since the number of samples being shipped on a weekly basis exceeded the number that were scheduled.

All volatile internal standard area abundances and relative retention times were compliant for all analyses.

Volatile surrogate standard recovery values met all specified QC limits. No matrix spike/matrix spike duplicate analyses were performed in conjunction with this SDG.

The sample was screened prior to analysis and it was determined that EDG59 would require dilution by a factor of two in order to quantify target compounds within the calibration range of the curve.

Versar INC.

Please contact Clay Hamner, CLP Project Manager, should you have any questions or require additional information pertaining to the low detection limit analysis of this water sample.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature:

Linda E. Bock May 8, 1989
Linda E. Bock
GC/MS Data Processing Coordinator
Laboratory Operations

Versar INC.

Data Qualifier Flags

J — For Target Compounds: This flag is used when mass spectral data indicates the presence of a compound but the result is less than the specified detection limit but still greater than zero.

For Non Target Compounds: This flag indicates that the concentration is an estimated value, assuming a 1 to 1 response with the internal standard.

B — This flag is used when the analyte is found in the blank as well as in the sample. It indicates possible/probable contamination and varns the data user to take appropriate action.

u — This flag states that the compound was analyzed for but was not detected. The number is the minimum attainable detection limit for the sample.

X or T — This flag states that the mass spectrum does not meet EPA CLP criteria for confirmation, but compound presence is strongly suspected.

E — This flag is used to indicate that the quantitation of the analyte is outside the linear calibration of the curve and that dilution was required in order to properly quantitate.

D — This flag is used to indicate the value for the target analyte was calculated from a dilution (see "E" flag above).

Y — This flag is used when a matrix spike compound is also confirmed present in the unspiked sample.

Flags excerpted from and established by the US EPA Contract Lab Program (CLP) protocol.

WATER VOLATILE SURROGATE RECOVERY

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EDG59

	EPA SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
01	EDG59	99	100	100		0
02	VBLK13	100	104	96		0

		QC LIMITS
S1 (TOL)	= Toluene-d8	(88-110)
S2 (BFB)	= Bromofluorobenzene	(86-115)
S3 (DCE)	= 1,2-Dichloroethane-d4	(76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

VOLATILE METHOD BLANK SUMMARY

Lab Name: VERSAR_INC._____ Contract: _____

Lab Code: VERSAR_ Case No.: 11724_ SAS No.: 4537E_ SDG No.: EDG59_

File ID: R2613_____ Lab Sample ID: VBLK13_____

Date Analyzed: 04/19/89 Time Analyzed: 1012____

Matrix: (soil/water) WATER_ Level:(low/med) LOW___

Instrument ID: R_____

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	EDG59	69843B	R2618	1419

COMMENTS: CLP,,,VBLK13,L,W,VBLK13,V,BLANK,25ML
INST R: SP1000 60/80 CARBOPACK 3M@45C > 225C@7C/M > 30M@225C

VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLK13

Lab Name: Versar Contract:

Lab Code: Versar Case No.: 11724 SAS No.: 4537E SDG No.: EDG59

Matrix: (soil/water) WATER Lab Sample ID: VBLK13

Sample wt/vol: 25 (g/ml) ML Lab File ID: R2613

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 04/19/89

Column: (pack/cap) PACK Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	
	2-Chloroethyl-vinyl-ether	0.2	U
74-87-3	Chloromethane	0.38	U
74-83-9	Bromomethane	0.21	U
75-01-4	Vinyl Chloride	0.26	U
75-00-3	Chloroethane	0.19	U
75-09-2	Methylene Chloride	0.23	U
67-64-1	Acetone	2.00	U
75-15-0	Carbon Disulfide	0.23	U
75-35-4	1,1-Dichloroethene	0.08	U
75-34-3	1,1-Dichloroethane	0.09	U
540-59-0	1,2-Dichloroethene (total)	0.25	U
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.12	U
78-93-3	2-Butanone	1.38	U
71-55-6	1,1,1-Trichloroethane	0.13	U
56-23-5	Carbon Tetrachloride	0.11	U
108-05-4	Vinyl Acetate	0.35	U
75-27-4	Bromodichloromethane	0.19	U
78-87-5	1,2-Dichloropropane	0.14	U
10061-01-5	cis-1,3-Dichloropropene	0.17	U
79-01-6	Trichloroethene	0.12	U
124-48-1	Dibromochloromethane	0.06	U
79-00-5	1,1,2-Trichloroethane	0.07	U
71-43-2	Benzene	0.03	U
10061-02-6	trans-1.3-Dichloropropene	0.08	U
75-25-2	Bromoform	0.08	U
108-10-1	4-Methyl-2-Pentanone	0.08	U
591-78-6	2-Hexanone	0.48	U
127-18-4	Tetrachloroethene	0.36	U
79-34-5	1,1,2,2-Tetrachloroethane	0.07	U
108-88-3	Toluene	0.05	U
108-90-7	Chlorobenzene	0.12	U
100-41-4	Ethylbenzene	0.13	U
100-42-5	Styrene	0.22	U
1330-20-7	Xylene (total)	0.2	U
107-02-8	Acrolein	6.52	U
107-13-1	Acrylonitrile	2.86	U

100082

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK13

Name: VERSAR Contract:

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EDG59

Matrix: (soil/water) WATER Lab Sample ID: VBLK13

Sample wt/vol: 25 (g/ml) ML Lab File ID: R2613

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 04/19/89

Dilution Factor: 1

Number TICs found: 1

CONCENTRATION UNITS:
(UG/L or UG/KG) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	541-05-9	CYCLOTRISILOXANE, HEXAMETHYL	34.1166	3	J
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
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26.					
27.					
28.					
29.					
30.					

VOLATILE ORGANICS ANALYSIS DATA SHEET

EDG59

Lab Name: Versar Contract:

Lab Code: Versar Case No.: 11724 SAS No.: 4537E SDG No.: EDG59

Matrix: (soil/water) WATER Lab Sample ID: 69843

Sample wt/vol: 25 (g/ml) ML Lab File ID: R2618

Level: (low/med) LOW Date Received: 04/06/89

% Moisture: not dec. Date Analyzed: 04/19/89

Column: (pack/cap) PACK Dilution Factor: 2

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	
	2-Chloroethyl-vinyl-ether	0.2	U
74-87-3	Chloromethane	0.38	U
74-83-9	Bromomethane	0.21	U
75-01-4	Vinyl Chloride	2.23	
75-00-3	Chloroethane	0.19	U
75-09-2	Methylene Chloride	3.50	
67-64-1	Acetone	2.00	U
75-15-0	Carbon Disulfide	0.23	U
75-35-4	1,1-Dichloroethene	0.08	U
75-34-3	1,1-Dichloroethane	16.5	
540-59-0	1,2-Dichloroethene (total)	1.16	
67-66-3	Chloroform	4.60	
107-06-2	1,2-Dichloroethane	1.01	X
78-93-3	2-Butanone	1.38	U
71-55-6	1,1,1-Trichloroethane	15.0	
56-23-5	Carbon Tetrachloride	0.11	U
108-05-4	Vinyl Acetate	0.35	U
75-27-4	Bromodichloromethane	0.19	U
78-87-5	1,2-Dichloropropane	0.14	U
10061-01-5	cis-1,3-Dichloropropene	0.17	U
79-01-6	Trichloroethene	1.87	
124-48-1	Dibromochloromethane	0.06	U
79-00-5	1,1,2-Trichloroethane	0.07	U
71-43-2	Benzene	0.90	
10061-02-6	trans-1,3-Dichloropropene	0.08	U
75-25-2	Bromoform	0.08	U
108-10-1	4-Methyl-2-Pentanone	0.08	U
591-78-6	2-Hexanone	0.48	U
127-18-4	Tetrachloroethene	1.01	
79-34-5	1,1,2,2-Tetrachloroethane	0.07	U
108-88-3	Toluene	0.05	U
108-90-7	Chlorobenzene	0.12	U
100-41-4	Ethylbenzene	1.90	
100-42-5	Styrene	0.22	U
1330-20-7	Xylene (total)	0.86	
107-02-8	Acrolein	6.52	U
107-13-1	Acrylonitrile	2.86	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
EDG59

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11784 SAS No.: 4537E SDG No.: EDG59

Matrix: (soil/water) WATER Lab Sample ID: 69843B

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2618

Level: (low/med) LOW Date Received: 04/06/89

% Moisture: not dec. ____ Date Analyzed: 04/19/89

Column (pack/cap) PACK Dilution Factor: 10

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

ESD/Central Regional Laboratory
DATA TRACKING FORM FOR CONTRACT SAMPLES

CRL Data Set No. SF 6084 (7) CERCLIS No. MID980793806

SMO Case No. 11724/SAS4537E Site Name and Location: Verona Well Field

Name of Contractor or EPA Laboratory: Versar Data User: CH2M Hill

No. of Samples: 1 Date Samples or Data Received: 5-10-89

1. Have chain-of-custody records been received? YES ✓ NO ___
2. Have Traffic Reports or packing lists been received? YES ✓ NO ___
3. If no, are Traffic Report or packing list numbers written on the chain-of-custody record? YES ___ NO ___
4. If no, which Traffic report or packing list numbers are missing?

Are basic data forms in? YES ✓ NO ___

Number of samples claimed: 1 Number of samples received: 1

Checked by: Dorothy M. May Date: 5-10-89

Received by Contract Project Management Section: DMM Date: 5-10-89

Review Started: 31 May 1989 Reviewer Signature: Al Venuto

Total time spent on review: 2hrs. Date review completed: 31 May 1989

Copied (xeroxed) by: John Date: 6/5/89

Mailed to Data User by: [illegible] Date: 6/6/89

DATA USERS:

Please fill in the blanks below and return this form to: Sylvia Griffin, Data Management Coordinator, Region V, ESCRL

Data received by: _____ Date: _____

Q.A. review received by: _____ Date: _____

Inorganic Data Complete [ ], Suitable for Intended Purposes [ ] ✓ [ ] if acceptable.
Organic Data Complete [ ], Suitable for Intended Purposes [ ] List problems below.
Dioxin Data Complete [ ], Suitable for Intended Purposes [ ]
SAS Data Complete [ ], Suitable for Intended Purposes [ ]

[illegible] Attached "Missing Data Request Form" [ ]
PROBLEMS: Please indicate reasons (if any) why data are not suitable for your uses. Other problems.

Received by Data Management Coordinator, CRL for File: Date: _____

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

REGION 5
230 South Dearborn Street
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJ. NO.: 892CD01

PROJECT NAME:

SAMPLERS: (Signature) Robert Birdo

Case # 11372

STA. NO.	DATE	1989 TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA						REMARKS	
	1/31	1215		X	VW-GW-CH140-50-S1	2	X						EX 096	5-143835 + 36
	1/31	1420		X	VW-GW-CH141-30-S2	2	X						EX 097	5-143837 + 38
	1/31	1045		X	VW-GW-CH150-50-S3	2	X						EX 098	[illegible] +40
	1/31	1040		X	VW-GW-CH150-40-S4	2	X						EX 099	[illegible]
	1/31	1530		X	VW-GW-CH142-30-S5	2	X						EW 777	5-[illegible]
	1/31	1530		X	VW-GW-CH142-30-D5	2	X						EW 778	5-[illegible] + 46

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)

Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks
				Shipped to SPL [illegible] Fed Exp. # 2071007[illegible] Custody Seal # 12[illegible]

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

[illegible]25[illegible]

USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA, VA 22313
703/557-2490 FTS-557-2490

CASE NO: 11372 | SAS NO: (IF APPLICABLE)

ORGANIC TRAFFIC REPORT

(FOR CLP USE ONLY)

① TYPE OF ACTIVITY (CIRCLE ONE)
SUPERFUND—PA SI ESI RIFS RD RA ER
NPLD O&M OTHER _____
NON-SUPERFUND— _____ PROGRAM

SITE NAME: Verona Wellfield
CITY, STATE: Battle Creek, MI
SITE SPILL ID:

② REGION NO: V SAMPLING COMPANY: CH2M Hill
SAMPLER: (NAME) Robert E. Binda

③ SHIP TO:
SPL, Inc.
8880 Interchange Dr.
Houston, TX 77054
ATTN: Larry Rietsema

④ SAMPLING DATE:
BEGIN: 1/31/89 END: 1/31/89

DATE SHIPPED: 2/1/89 CARRIER: Fed Exp.
AIRBILL NO: 9071007352

⑤ SAMPLE DESCRIPTION (ENTER IN BOX A)
1. SURFACE WATER
2. GROUND WATER
3. LEACHATE
4. SOIL
5. SEDIMENT
6. OIL (SAS)
7. WASTE (SAS)

TRIPLE VOLUME REQUIRED FOR MATRIX SPIKE/DUPLICATE AQUEOUS SAMPLE

SHIP MEDIUM AND HIGH CONCENTRATION SAMPLES IN PAINT CANS

SEE REVERSE FOR ADDITIONAL INSTRUCTIONS

CLP SAMPLE NUMBER (FROM LABELS)	Ⓐ SAMPLE DESCRIPTION (FROM BOX 1) 1 2 3 4 5 6 7	Ⓑ CONCENTRATION L = LOW/MED, H = HIGH (SAS)	Ⓒ RAS ANALYSIS: VOLATILE	BASE/NEUT /ACID	PESTICIDE /PCB's		Ⓓ SPECIAL HANDLING	Ⓔ STATION LOCATION
EX 096	2	L	X					VW-GW-CH140
EX 097	2	L	X					VW-GW-CH141
EX 098	2	L	X					VW-GW-CH150
EX 099	2	L	X					VW-GW-CH151
EW 777	2	L	X					VW-GW-CH142
EW 778	2	L	X					VW-GW-CH142

EPA Form 2075-7 (8-87)

WHITE — SMO COPY PINK — CLIENT COPY YELLOW — LAB COPY FOR RETURN TO SMO

U.S. ENVIRONMENTAL PROTECTION AGENCY
CLP Sample Management Office
P.O. Box 818 - Alexandria, Virginia 22313
Phone: 703/557-2490 - FTS/557-2490

SAS Number: 4396E

SPECIAL ANALYTICAL SERVICE

PACKING LIST

Sampling Office: V	Sampling Date(s): 1-28-89	Ship To: Versar Springfield, VA	For Lab Use Only
Sampling Contact: Catherine Kantardjieff (name)	Date Shipped:		Date Samples Rec'd:
4427224261 (phone)	Site Name/Code: 89ED01	Attn: Janet Beckman	Received By:

	Sample Numbers	Sample Description i.e., Analysis, Matrix, Concentration		Sample Condition on Receipt at Lab
1.	4396E 22	VWSB27-00-02-C1 *	5-127807	
2.	23	02-04-C1	08	
3.	23	04-06 C1	09	
4.	23	06-08-C2	10	
5.	23	08-10-C2	11	
6.	23	10-12-C2	12	
7.	24	12-14-C3	13	
8.	24	14-16-C3	14	
9.	24	16-18-C3	15	
10.	25	18-20-C4	5-127848	
11.	25	20-22-C4	49	
12.	26	VW-SB28/00-02-C1	5-127798 [USE FOR DUP+MS/D	
13.	26	02-04-C1	799	
14.	26	04-06-C1	800	
15.	27	06-08-C2	801	
16.	27	08-10-C2	802	
17.	27	10-12-C2	803	
18.	28	12-14-C3	804 [USE FOR DUP+MS/D	
19.	28	14-16-C3	805	
20.	28	16-18-C3	806	

For Lab Use Only

White - SMO Copy, Yellow - Region Copy, Pink - Lab Copy for return to SMO, Gold - Lab Copy

* Analyze for low level VOC, VWF-1
* Low concentration soils

U.S. ENVIRONMENTAL PROTECTION AGENCY
CLP Sample Management Office
P.O. Box 818 - Alexandria, Virginia 22313
Phone: 703/557-2490 - FTS/557-2490

SAS Number: 43916E

SPECIAL ANALYTICAL SERVICE

PACKING LIST

Sampling Office:	Sampling Date(s):	Ship To:	For Lab Use Only
IV	1-21-89	Versar Springfield, VA	Date Samples Rec'd:
Sampling Contact: Catherine Kantauski (name)	Date Shipped:		Received By:
44272426 (phone)	Site Name/Code: 97CD01	Attn: Janet Beckman	

	Sample Numbers	Sample Description i.e., Analysis, Matrix, Concentration		Sample Condition on Receipt at Lab
1.	43916E 29 (A)	VWSB-28-18-20-C4 *	5-127847	
2.	30	VW-SB29-00-02-C1	5-127789	
3.	30	02-04-C1	90	
4.	30	04-06-C1	91	
5.	31	06-08-C2	92	
6.	31	08-10-C2	93	
7.	~~32~~ 31 (A)	10-12-C2	94	
8.	32	12-14-C3	95	
9.	32	14-16-C3	96	
10.	~~33~~	16-18-C3	97	
11.	33	18-20-C4	5-143726	
12.	34	VWSB30-00-02-C1	5-127780	
13.	34	02-04-C1	81	
14.	34	04-06-C1	82	
15.	35	06-08-C2	83	USE for DUP
16.	35	08-10-C2	84	
17.	35	10-12-C2	86	
18.	36	12-14-C3	86	USE FOR MS/D
19.	36	14-16-C3	87	
20.	36	16-18-C3	88	
21.	37	18-19-C4	5-127852	For Lab Use On

White - SMO Copy, Yellow - Region Copy, Pink - Lab Copy for return to SMO, Gold - Lab Copy

* Analyze for Low level VOC, VWF-1 Low Concentration Soils

ENVIRONM...TAL PROTECTION AGENCY
...e of Enforcement

CHAIN OF CUSTODY RECORD

REGION 5
230 South ...rborn Street
Chicago, ...ois 60604

PROJ. NO.	PROJECT NAME						
3CDO1 [illegible]							

SAMPLERS: *(Signature)* Catherine Glantowski [illegible]

Column headings: 1' Brass Liner (VOC); Use for Dup. — SAB 4396E

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	1' BRASS LINER (VOC)	USE FOR DUP	REMARKS	TAG #
S29	1/21/89	1256		X	VW-SB27-00-02-C1	1	X		4396E 22	5-127807
↓		1304			VW-SB27-02-04-C1	1	X		22	08
↓		1308			VW-SB27-04-06-C1	1	X		22	09
S30		1312			VW-SB27-06-08-C2	1	X		23	10
↓		1323			VW-SB27-08-10-C2	1	X		23	11
↓		1333			VW-SB27-10-12-C2	1	X		23	12
S31		1340			VW-SB27-12-14-C3	1	X		24	13
↓		1347			VW-SB27-14-16-C3	1	X		24	14
↓		1400			VW-SB27-16-18-C3	1	X		24	15
S32		1429			VW-SB27-18-20-C4	1	X		25	5-127848
↓	↓	1440		↓	VW-SB27-20-22-C4	1	X		25	49

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
Catherine Glantowski					
Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
Relinquished by: *(Signature)*	Date / Time	Received for Laboratory by: *(Signature)*	Date / Time	Remarks: Shipped → Versar Fed Ex #907100773 Custody Seal # 12123 + 24	

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

REGION 5
230 South Dearborn Street
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJ. NO. 89Z0001 | PROJECT NAME

SAMPLERS: (Signature) Catherine Wantoch RB

SAB 43916E

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	6" Brass Liner (VOA)	USE FOR Duplicate	USE FOR MS/SD	REMARKS	TAG #
S34	9/21/89	1711		X	VW-SB28-00-02-C1	1	X	X	X	43916E 26	5-127798
↓		1715		X	VW-SB28-02-04-C1	1	X	X	X	26	799
↓		1723			VW-SB28-04-06-C1	1	X	X	X	26	800
S35		1727			VW-SB28-06-08-C2	1	X			27	801
↓		1731			VW-SB28-08-10-C2	1	X			27	802
↓		1751			VW-SB28-10-12-C2	1	X			27	803
S36		1758			VW-SB28-12-14-C3	1	X	X	X	28	804
↓		1802			VW-SB28-14-16-C3 ⓓ	1	X	X	X	28	805
↓		1808			VW-SB28-16-18-C3 ⓓ	1	X	X	X	28	806
S37	↓	1818		↓	VW-SB28-18-20-C4	1	X			29	5-127847

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Catherine Wantoch	9/21				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks: Shipped → Versar Fed Ex # 907100773 Custody Seal # 12123+24	

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

5-12616

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

REGION 5
230 South Dearborn Street
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME
89ZCD01	

SAMPLERS: *(Signature)* Catherine Mantowski RB

3AO 4896E

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	6" Brass Liner (VOC)	Use for Dup	Use for MS/SD				REMARKS	TAG#
S39	1/23/89	1031		X	VW-SB29-00-02-C1	1	X						4896E30	5-127789
↓	↓	1038		↓	02-04-C1	1	X						↓	90
↓	↓	1044		↓	04-06-C1	1	X						↓	91
S40	↓	1047		↓	06-08-C2	1	X						31	92
↓	↓	1055		↓	08-10-C2	1	X						↓	93
↓	↓	1100		↓	10-12-C2	1	X						↓	94
S41	↓	1111		↓	12-14-C3	1	X						32	95
↓	↓	1119		↓	14-16-C3	1	X						↓	96
↓	↓	1124		↓	16-18-C3	1	X						↓	97
S42	↓	1133		↓	18-20-C4	1	X						33	5-143726

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
Catherine Mantowski	1/23/89 1800				
Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
Relinquished by: *(Signature)*	Date / Time	Received for Laboratory by: *(Signature)*	Date / Time	Remarks Shipped → Versar Fed Ex# 907100773 Custody Seal# 12123+124	

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

5- 12623

ENVIRONMENTAL PROTECTION AGENCY
Office of Enforcement

REGION 5
230 South Dearborn Street
Chicago, Illinois 60604

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME					NO. OF CON-TAINERS	Cu, Bross(indiv)		Use for Duplicate		Use for MS/D		REMARKS SAS 4396E	TAG#
89ZCD01														
SAMPLERS: (Signature) Catherine Glantowski														
STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION									
S44	1/20/89	1406		X	VW-SB30-00-02-C1	1	X						4396E34	5-127780
↓	↓	1410		↓	↓ 02-04-C1	1	X						↓ 34	↓ 81
↓		1414			04-06-C1	1	X						34	82
S45		1418			06-08-C2	1	X		X				35	83
↓		1430			08-10-C2	1	X		X				35	84
↓		1434			10-12-C2	1	X		X				35	85
S46		1439			12-14-C3	1	X				X		36	86
↓		1443			14-16-C3	1	X				X		36	87
↓		1449			16-18-C3	1	X				X		36	88
S47	↓	1503		↓	↓ 18-20-C4	1	X				X		↓ 37	5-127843

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Catherine Glantowski	1/23/89 1800				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks Shipped → Versar FedEx# 907100773 Custody Seal# 12123+24	

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

5- 15519

ENVIRONMENTAL PROTECTION AGENCY
...e of Enforcement

REGION 5
230 South ... rborn Street
Chicago, ... ois 60604

CHAIN OF CUSTODY RECORD

PROJ. NO.	PROJECT NAME						
89ZC001							

SAMPLERS: *(Signature)* [illegible signature]

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA						REMARKS
													Inbff
S01	[illegible]	[illegible]		X	[illegible]	2	X						5-127189+90
S02	↓	1551		X	[illegible]	2	X						5-127191+92

PLEASE NOTE THAT THESE SAMPLES ARE NOT preserved

THE SHIPMENT IS NOT COMPLETE

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
[illegible signature]	[illegible]				

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*

Relinquished by: *(Signature)*	Date / Time	Received for Laboratory by: *(Signature)*	Date / Time	Remarks
				Shipped => CRL Fed Ex # 9071007304 Custody Seal# 1112 + 114

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

ENVIRONM[illegible]TAL PROTECTION AGENCY
[illegible] of Enforcement

REGION 5
230 South [illegible]born Street
Chicago, [illegible]is 60604

CHAIN OF CUSTODY RECORD

PROJ. NO.: 89ZC001
PROJECT NAME:

SAMPLERS: (Signature) Catherine [illegible]

STA. NO.	DATE	TIME	COMP.	GRAB	STATION LOCATION	NO. OF CONTAINERS	VOA						REMARKS 116H
S03	[illegible]	1425		x	[illegible] -80	2	X						5-127724+25
S04	↓	1400		x	[illegible] -100	2	X						5-127726+27
S05	↓	15[illegible]		x	[illegible] 100	2	X						5-127728+29
					THE "SAMPLES" ARE PRESERVED WITH HCl								
					SHIPMENT IS NOT COMPLETE								

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Catherine [illegible]	[illegible] / 1100				
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature)	Date / Time	Remarks	Shipped → CRL FedEx # 9071007315 Custody Seal # 12115[illegible]

Distribution: White — Accompanies Shipment; Pink — Coordinator Field Files; Yellow — Laboratory File

5-12606

ET 974

VW-GW-CH101-(13-15)-52

VOA

UNITED STATES ENVIRONMENTAL PROTECTION A
REGION V

CRL CONF (H) (1) SOIL

DATE: January 13, 1989

SUBJECT: Review of Region V CLP Data Received for Review on 12/22/88

FROM: Curtis Ross, Director (5SCRL) Central Regional Laboratory Dorothy M. [illegible]

TO: Data User: CH2MHILL

We have reviewed the data for the following case(s).

SITE NAME: Verona Well Field SMO Case No. 10941

EPA Data Set No. SF5951 No. of Samples: 1 D.U./Activity Numbers Y905 1C723

CRL No. 89HD01S03

SMO Traffic No. ET974

CLP Laboratory: Ecology & environment Hrs. Required for Review: 2

Following are our findings:

THIS DATA REVIEW IS FOR THE ANALYSIS OF ONE SOIL SAMPLE FOR VOLATILES ONLY. THERE WERE NO MAJOR PROBLEMS WHICH WOULD CAUSE THE DATA TO BE UNUSABLE. HOWEVER, THERE ARE SEVERAL POINTS OF IMPORTANCE TO BE DISCUSSED IN THE FOLLOWING SECTION.

Robert Katzen
Weston /ESAT
1/11/89

(✓) Data are acceptable for use.
(✓) Data are acceptable for use with qualifications referenced above. See Data Qualifier sheets and Calibration Outlier forms for flags and additional comments.
(   ) Data are preliminary - pending verification by Contractor Laboratory. See Case Summary above.
(   ) Data are unacceptable.

cc: Carla Dempsey, CLP Quality Assurance Officer, Analytical Operations Branch
James Petty, Chief Quality Assurance Research, EMSL, Las Vegas

DATA QUALIFIERS

Contractor: EANDE

Case # 10941

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

(1) HOLDING TIME

- SAMPLING DATE 11/29/88; SAMPLE RECEIVED 12/1/88
- HOLDING TIME WAS SATISFACTORY FOR THE SAMPLE.

(2) TUNING

THE GC/MS TUNING FOR VOLATILES WAS SATISFACTORY.

(3) CALIBRATION OUTLIERS

CALIBRATION OUTLIERS ARE LISTED IN THE CALIBRATING OUTLIER FORM.

(4) BLANKS

VBLK CONTAINS LOW LEVELS OF DICHLOROMETHANE, ACETONE, & BUTANONE AND 2-HEXANONE. SAMPLE ET974 HAS BEEN PROPERLY NOTED WHEN THESE COMPOUNDS APPEARED.

(5) SURROGATE RECOVERY

ALL SOIL VOA SURROGATES WERE SATISFACTORY

Reviewed by: Robert Kathen

Phone: 312-353-2917

Date: 1/10/89

DATA QUALIFIERS

Contractor: FRANDE

Case #1094

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

(6) MATRIX SPIKE/MATRIX SPIKE DUPLICATE

ALL MS/MSD %REC AND %RPD ON ETA74 ARE SATISFACTORY.

(7) FIELD DUPLICATES

NO FIELD DUPLICATE WAS RAN WITH THIS CASE

(8) INTERNAL STANDARD PERFORMANCE

ALL INTERNAL STANDARD DATA WAS WITHIN QC LIMITS.

(9) COMPOUND IDENTIFICATION

THE GC/MS WAS WELL USED IN THE ANALYSIS.

(10) COMPOUND QUANTITATION

THE CALCULATIONS MADE IN THIS CASE ARE SATISFACTORY. THE CRQL'S HAVE BEEN ADJUSTED TO REFLECT SAMPLE DILUTIONS AND CONCENTRATIONS.

Reviewed by: Robert Kathyn

Phone: 312-353-2917

Date: 1/9/89.

DATA QUALIFIERS

ntractor: EANOF

Case #1091

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

(11) SYSTEM PERFORMANCE

THE QC/MS SHOWED GOOD PERFORMANCE.

(12) ADDITIONAL CASE SPECIFIC PROBLEMS

THE CASE WAS WELL RUN WITH NO SIGNIFICANT PROBLEMS

iewed by: Robert Kadge

Phone: 312-353-2917

Date: 1/9/89.

CALIBRATION OUTLIERS
VOLATILE HSL COMPOUNDS

CASE/SAS # 10941 CONTRACTOR EANDE

Instrument # 9601C	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	7/18-19/88,			12/7/88 14:3[illegible]											
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
Chloromethane	1.32			2.82	110.1	J									
Bromomethane	0.85			0.46	72.2	J									
Vinyl Chloride															
Chloroethane	0.78			0.42	93.3	J									
Methylene Chloride	1.87			0.47	74.6	J									
Acetone	1.02			0.65	63.4	J									
Carbon Disulfide															
1,1-Dichloroethane															
1,1-Dichloroethene															
Trans-1,2-Dichloroethene															
Chloroform															
2-Butanone															
1,2-Dichloroethane															
1,1,1-Trichloroethane															
Carbon Tetrachloride															
Vinyl Acetate	1.10			0.[illegible]	72.6	J									
Bromodichloromethane															
1,2-Dichloropropane															
Trans-1,3-Dichloropropene															
Trichloroethene															
Dibromochloromethane															
1,1,2-Trichloroethane															
Benzene															
cis-1,3-Dichloropropene															
2-Chloroethylvinylether															
Bromoform	0.55			0.35	38.7	J									
4-Methyl-2-Pentanone	1.14			0.82	28.8	J									
2-Hexanone	1.11			0.63	27.4	J									
Tetrachloroethene	1.[illegible]			0.[illegible]	76.4	J									
1,1,2,2-Tetrachloroethane	0.[illegible]			0.47	[illegible].7	J									
Toluene															
Chlorobenzene															
Ethylbenzene															
Styrene															
m-Xylene															
o/p-Xylene															

AFFECTED SAMPLES:

I/mLK
ET974
ET974MS
ET474MSD

Reviewer's Initials/Date: R.K. 1/10/89

* These flags should be applied to the analytes on the sample data sheets.

GENERAL DATA QUALIFIERS

For reporting results to the USEPA, the following contract specific qualifiers are to be used. The seven qualifiers defined below are not subject to modification by the laboratory. Up to five qualifiers may be reported on Form I for each compound.

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

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

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

and df = dilution factor

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

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

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

J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero. For example, if the sample quantitation limit is 10 ug/L, but a concentration of 3 ug/L is calculated, report it as 3J. The sample quantitation limit must be adjusted for both dilution and percent moisture as discussed for the U flag, so that if a sample with 24% moisture and a 1 to 10 dilution factor has a calculated concentration of 300 ug/L and a sample quantitation limit of 430 ug/kg, report the concentration as 300J on Form I.

C - This flag applies to pesticide results where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/ul in the final extract shall be confirmed by GC/MS.

B - This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action. This flag must be used for a TIC as well as for a positively identified TCL compound.

E - This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis. This flag will not apply to pesticides/PCBs analyzed by GC/EC methods. If one or more compounds have a response greater than full scale, the sample or extract must be diluted and re-analyzed according to the specifications in Exhibit D. All such compounds with a response greater than full scale should have the concentration flagged with an "E" on the Form I for the original analysis. If the dilution of the extract causes any compounds identified in the first analysis to be below the calibration range in the second analysis, then the results of both analyses shall be reported on separate Forms I. The Form I for the diluted sample shall have the "DL" suffix appended to the sample number. NOTE: For total xylenes, where three isomers are quantified as two peaks, the calibration range of each peak should be considered separately, e.g., a diluted analysis is not required for total xylenes unless the concentration of either peak separately exceeds 200 ug/L.

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and all concentration values reported on that Form I are flagged with the "D" flag.

A - This flag indicates that a TIC is a suspected aldol-condensation product.

X - Other specific flags may be required to properly define the results. If used, they must be fully described and such description attached to the Sample Data Summary Package and Case Narrative. Begin by using "X". If more than one flag is required, use "Y" and "Z", as needed. If more than five qualifiers are required for a sample result, use the "X" flag to combine several flags, as needed. For instance, the "X" flag might combine the "A", "B", and "D" flags for some samples.

The combination of flags "BU" or "UB" is expressly prohibited. Blank contaminants are flagged "B" only when they are also detected in the sample.

If analyses at two different dilution factors are required (see Exhibit D), follow the data reporting instructions given in Exhibit D and with the "D" and "E" flags above.

SAMPLE DATE: 11/29/88
LOG IN DATE: 12/3/88
DUE DATE: 1/3/89

CENTRAL REGIONAL LABORATORY SAMPLE DATA REPORT
ORGANICS/INORGANICS

DEC 7 1988

THIS FORM IS TO BE USED FOR SAMPLES SENT TO CONTRACT ONLY.

SUPERFUND 5751

CASE NUMBER/SAS No. 10941 SITE NAME Vernon Well Field LABORATORY Ecology & Environment DATE SHIPPED 11/30/88

SUPERFUND DU NUMBER Y905 EPA RPM or OSC (S M S)/(CES) John Tonelli CERCLIS NUMBER MID980793806 PAGE 1 OF 1

ACTIVITY NUMBER C72251

CRL LOG NUMBER	ORGANIC TRAFFIC REPORT NUMBER or SAS Packing List No.	INORGANIC TRAFFIC REPORT NUMBER	WATER OR LIQUIDS												SEDIMENTS or SOILS										
			ACID-BASE NEUTRAL CPDS ORGANIC SCAN UG/L TOX17874	VOLATILE ORGANIC ANALYSIS ORGANIC SCAN UG/L TOX17884	WATER POLYCHLORINATED BIPHENYLS UG/L PES 17144	WATER CHLORINATED PESTICIDES UG/L PES17134	TOTAL METALS IN WATER UG/L MET111	WATER CYANIDE UG/L MIN74519	NITRATE-NITRITE MG/L MIN7284	AMMONIA MG/L MIN7284	RESIDUE, FILTERABLE TDS MG/L MIN7262	RESIDUE, NON-FILT TSS MG/L MIN7272			ACID-BASE NEUTRAL CPDS ORGANIC SCAN MG/KG TOX218722	VOLATILE ORGANIC ANALYSIS ORGANIC SCAN MG/KG TOX218822	SEDIMENTS POLYCHLORINATED BIPHENYLS MG/KG PES211422	SEDIMENT CHLORINATED PESTICIDES MG/KG 211322	TOTAL METALS MG/KG MET413	CYANIDE MG/KG MIN44830	EP TOXICITY METALS MG/KG	AMMONIA MG/KG MIN43923				
89HD01																									
S03	ET974															X									

DEC 7 1988

SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA, VA 22313
703/557-2490 FTS-557-2490

CASE NO: 10941 | SAS NO. (IF APPLICABLE)

ORGANIC TRAFFIC REPORT
(FOR CLP USE ONLY)

TYPE OF ACTIVITY (CIRCLE ONE) ①
SUPERFUND—PA SI ESI RIFS RD RA ER
NPLD O&M OTHER _____
NON-SUPERFUND—_____PROGRAM

SAMPLE DESCRIPTION
(ENTER IN BOX A)
1. SURFACE WATER 4. SOIL
2. GROUND WATER 5. SEDIMENT
3. LEACHATE 6. OIL (SAS)
7. WASTE (SAS)

REGION NO: II SAMPLING COMPANY ② CH2M HILL
SAMPLER: (NAME) Robert Binder

SHIP TO: ③
Ecology & Environment
E AND E
4225 Genesee Street
Buffalo, NY 14225
ATTN: William H. Howard

SAMPLING DATE: ④
BEGIN: 11/29/88 END: 11/29/88

DATE SHIPPED: 11/30/88 CARRIER: Lab ⑤
AIRBILL NO: 6923022061

DATE REC'D: 12-1-88 SDG NO: ⑥ ET974
REC'D BY: William H. Howard
LABORATORY CONTRACT NO. UNIT PRICE
68-W8-0052 $82400

TRANSFER TO: DATE REC'D: ⑦
REC'D BY: CONTRACT NO./PRICE:

CLP SAMPLE NUMBER (FROM LABELS)	A SAMPLE DESCRIPTION (FROM BOX 1) 1 2 3 4 5 6 7	B CONCENTRATION L = LOW/MED H = HIGH (SAS)	C RAS ANALYSIS: VOLATILE	BASE/NEUT /ACID	PESTICIDE /PCB's		D SPECIAL HANDLING	E STATION LOCATION	F SAMPLE CONDITION ON RECEIPT	G HIGH CONC PHASES (CHECK): SOLID	WATER—MIS LIQUID	NON WATER—MIS LIQUID
ET 974	4	L	X					VW-CH10[-713-15]-52	Good			
FINAL SAMPLE SDG - ET974												
										2		

EPA Form 2075-7 (8-87)

WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO YELLOW — LAB COPY

ecology and environment, inc.
ANALYTICAL SERVICES CENTER, P.O. BOX D, BUFFALO, NEW YORK 14225, TEL. 716-631-0360
International Specialists in the Environment

December 20, 1988

Case 10941

SDG #ET974

Sample #ET974

Contract #68-W2-0052

CASE NARRATIVE

Enclosed are the analytical results for Case 10941. The sample was received on December 1, 1988 in good condition.

In the case of the following compounds, secondary ions were used for quantitation because of a resulting better response and no interferences present with the particular ion:

- 1,1-dichloroethene - 61 used rather than 96
- ethylbenzene - 91 used rather than 106
- xylene - 91 used rather than 106

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

Sincerely,

Andrew P. Clifton
Director - Analytical Services Center

SOIL VOLATILE SURROGATE RECOVERY

Lab Name: EANDE Contract: 68-W8-0052

Lab Code: EANDE Case No.: 10941 SAS No.: SDG No.: ET974

Level: (low/med) LOW

	EPA SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
1	VBLK	106	111	97		0
2	ET974	111	107	100		0
3	ET974MS	109	107	102		0
4	ET974MSD	100	104	99		0
5						
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	QC LIMITS
S1 (TOL) = Toluene-d8	(81-117)
S2 (BFB) = Bromofluorobenzene	(74-121)
S3 (DCE) = 1,2-Dichloroethane-d4	(70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: EANDE Contract: 68-W8-0052

Lab Code: EANDE Case No.: 10941 SAS No.: SDG No.: ET974

Matrix Spike - EPA Sample No.: ET974 Level: (low/med) LOW

COMPOUND	SPIKE ADDED (UG/KG)	SAMPLE CONCENTRATION (UG/KG)	MS CONCENTRATION (UG/KG)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	51.	0.	38.	74.	59-172
Trichloroethene	51.	0.	40.	79.	62-137
Benzene	51.	0.	48.	94.	66-142
Toluene	51.	0.	49.	95.	59-139
Chlorobenzene	51.	0.	50.	96.	60-133

COMPOUND	SPIKE ADDED (UG/KG)	MSD CONCENTRATION (UG/KG)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	53.	39.	75.	1.	22	59-172
Trichloroethene	53.	39.	75.	5.	24	62-137
Benzene	53.	49.	93.	1.	21	66-142
Toluene	53.	46.	87.	9.	21	59-139
Chlorobenzene	53.	51.	97.	1.	21	60-133

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS:

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: EANDE Contract: 68-W8-0052

Lab Code: EANDE Case No.: 10941 SAS No.: SDG No.: ET974

Lab File ID: C5027 Lab Sample ID: VBLK

Date Analyzed: 12/ 7/88 Time Analyzed: 15:18

Matrix: (soil/water) SOIL Level: (low/med) LOW

Instrument ID: 9601C

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
1	ET974	31943	C5028	16:24
2	ET974MS	31943	C5029	17:17
3	ET974MSD	31943	C5030	18:12
4				
5				
6				
7				
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COMMENTS:

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK

ab Name: EANDE Contract: 68-W8-0052

ab Code: EANDE Case No.: 10941 SAS No.: SDG No.: ET974

atrix: (soil/water) SOIL Lab Sample ID: VBLK

ample wt/vol: 5. (g/mL) G Lab File ID: C5027

evel: (low/med) LOW Date Received: 0/ 0/ 0

Moisture: not dec. 0. Date Analyzed: 12/ 7/88

olumn: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	10.	U
74-83-9	Bromomethane	10.	U
75-01-4	Vinyl Chloride	10.	U
75-00-3	Chloroethane	10.	U
75-09-2	Methylene Chloride	15.	
67-64-1	Acetone	22.	
75-15-0	Carbon Disulfide	5.	U
75-35-4	1,1-Dichloroethene	5.	U
75-34-3	1,1-Dichloroethane	5.	U
540-59-0	1,2-Dichloroethene (total)	5.	U
67-66-3	Chloroform	5.	U
107-06-2	1,2-Dichloroethane	5.	U
78-93-3	2-Butanone	4.	J
71-55-6	1,1,1-Trichloroethane	5.	U
56-23-5	Carbon Tetrachloride	5.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	5.	U
78-87-5	1,2-Dichloropropane	5.	U
10061-01-5	cis-1,3-Dichloropropene	5.	U
79-01-6	Trichloroethene	5.	U
124-48-1	Dibromochloromethane	5.	U
79-00-5	1,1,2-Trichloroethane	5.	U
71-43-2	Benzene	5.	U
10061-02-6	trans-1,3-Dichloropropene	5.	U
75-25-2	Bromoform	5.	U
108-10-1	4-Methyl-2-pentanone	10.	U
591-78-6	2-Hexanone	2.	J
127-18-4	Tetrachloroethene	5.	U
79-34-5	1,1,2,2-Tetrachloroethane	5.	U
108-88-3	Toluene	5.	U
108-90-7	Chlorobenzene	5.	U
100-41-4	Ethylbenzene	5.	U
100-42-5	Styrene	5.	U
1330-20-7	Xylene (total)	5.	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK

ab Name: EANDE Contract: 68-W8-0052

ab de: EANDE Case No.: 10941 SAS No.: SDG No.: ET974

atrix: (soil/water) SOIL Lab Sample ID: VBLK

ample wt/vol: 5. (g/mL) G Lab File ID: C5027

evel: (low/med) LOW Date Received: 0/ 0/ 0

Moisture: not dec. 0. Date Analyzed: 12/ 7/88

olumn: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ET974

Lab Name: EANDE Contract: 68-W8-0052

Lab Code: EANDE Case No.: 10941 SAS No.: SDG No.: ET974

Matrix: (soil/water) SOIL Lab Sample ID: 31943

Sample wt/vol: 5. (g/mL) G Lab File ID: C5028

Level: (low/med) LOW Date Received: 12/ 1/88

% Moisture: not dec. 7. Date Analyzed: 12/ 7/88

Column: (pack/cap) PACK Dilution Factor: 1.00

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q	
74-87-3	Chloromethane	11.	U	
74-83-9	Bromomethane	11.	U	
75-01-4	Vinyl Chloride	11.	U	
75-00-3	Chloroethane	11.	U	
75-09-2	Methylene Chloride	17.	~~B~~ M	R.K. 1/10/89
67-64-1	Acetone	45.	~~B~~ M	
75-15-0	Carbon Disulfide	5.	U	
75-35-4	1,1-Dichloroethene	5.	U	
75-34-3	1,1-Dichloroethane	5.	U	
540-59-0	1,2-Dichloroethene (total)	5.	U	
67-66-3	Chloroform	5.	U	
107-06-2	1,2-Dichloroethane	5.	U	
78-93-3	2-Butanone	11 ~~6.~~	~~B~~ M	R.K. 1/10/89
71-55-6	1,1,1-Trichloroethane	5.	U	
56-23-5	Carbon Tetrachloride	5.	U	
108-05-4	Vinyl Acetate	11.	U	
75-27-4	Bromodichloromethane	5.	U	
78-87-5	1,2-Dichloropropane	5.	U	
10061-01-5	cis-1,3-Dichloropropene	5.	U	
79-01-6	Trichloroethene	5.	U	
124-48-1	Dibromochloromethane	5.	U	
79-00-5	1,1,2-Trichloroethane	5.	U	
71-43-2	Benzene	5.	U	
10061-02-6	trans-1,3-Dichloropropene	5.	U	
75-25-2	Bromoform	5.	U	
108-10-1	4-Methyl-2-pentanone	11.	U	
591-78-6	2-Hexanone	11.	U	
127-18-4	Tetrachloroethene	5.	U	
79-34-5	1,1,2,2-Tetrachloroethane	5.	U	
108-88-3	Toluene	5.	U	
108-90-7	Chlorobenzene	5.	U	
100-41-4	Ethylbenzene	5.	U	
100-42-5	Styrene	5.	U	
1330-20-7	Xylene (total)	5.	U	

8

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ET974

Lab Name: EANDE Contract: 68-W8-0052

Lab Code: EANDE Case No.: 10941 SAS No.: SDG No.: ET974

Matrix: (soil/water) SOIL Lab Sample ID: 31943

Sample wt/vol: 5. (g/mL) G Lab File ID: C5028

Level: (low/med) LOW Date Received: 12/ 1/88

% Moisture: not dec. 7. Date Analyzed: 12/ 7/88

Column: (pack/cap) PACK Dilution Factor: 1.00

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

ESD/Central Regional Laboratory
DATA TRACKING FORM FOR CONTRACT SAMPLES

CRL Data Set No. SF8751 CERCLIS No. MID980793806

SMO Case No. 10941 Site Name and Location: Velsicol Well field

Name of Contractor or EPA Laboratory: Ecology & Env Data User: CH2MHill

No. of Samples: 1 Date Samples or Data Received: 12/22/88

1. Have chain-of-custody records been received? YES ✓ NO ___
2. Have Traffic Reports or packing lists been received? YES ✓ NO ___
3. If no, are Traffic Report or packing list numbers written on the chain-of-custody record? YES ___ NO ___
4. If no, which Traffic report or packing list numbers are missing?

Are basic data forms in? YES ✓ NO ___

Number of samples claimed: 1 Number of samples received: 1

Checked by: Q Manns Date: 12/22/88

Received by Contract Project Management Section: DMM Date: 12-22-88

Review Started: 1/9/89 Reviewer Signature: Robert Kaiza

Total time spent on review: 2 hrs. Date review completed: 1/10/89

Copied (xeroxed) by: John Date: 1/13/89

Mailed to Data User by: _____ Date: _____

DATA USERS:

Please fill in the blanks below and return this form to: Sylvia Griffin, Data Management Coordinator, Region V, ESCRL

Data received by: _____ Date: _____

Q.A. review received by: _____ Date: _____

Inorganic Data Complete [ ], Suitable for Intended Purposes [ ] ✓ [ ] if acceptable.
Organic Data Complete [ ], Suitable for Intended Purposes [ ] List problems below.
Dioxin Data Complete [ ], Suitable for Intended Purposes [ ]
SAS Data Complete [ ], Suitable for Intended Purposes [ ]

See Attached "Missing Data Request Form" [ ]
PROBLEMS: Please indicate reasons (if any) why data are not suitable for your uses. Other problems.

Received by Data Management Coordinator, CRL for File: Date: _____

Signature:

ER 675:

AND

ET 976, 977

VW-GW-CH112-36-53

AND

VW-GW-CH131-20-51,
VW-GW-CH112-25-52

VOA

UNITED STATES ENVIRONMENTAL PROTECTION AG
REGION V

CRL CONF (J) (3.)

DATE: February 1, 1989

E : Review of Region V CLP Data Received for Review on 1-19-89

FROM: Curtis Ross, Director (5SCRL) Central Regional Laboratory Dorothy M. T.

TO: Data User: CH2 WATER

We have reviewed the data for the following case(s).

SITE NAME: Vulcan Hills SMO Case No. 11202

EPA Data Set No. No. of Samples: 3 D.U./Activity Numbers Y905/TFA 102

CRL No.

SMO Traffic No. ER675, ET976 + ET977

CLP Laboratory: Aquatec Hrs. Required for Review: 3

Following are our findings:

This review covers three water samples (ER675, ET976 and ET977) for volatile analysis at low levels only.

The reviewer's narrative and data qualifiers follow.

Al Venuto (Weston/ESAT)
25 Jan. 1989

( ) Data are acceptable for use.
(✓) Data are acceptable for use with qualifications referenced above. See Data Qualifier sheets and Calibration Outlier forms for flags and additional comments.
( ) Data are preliminary - pending verification by Contractor Laboratory. See Case Summary above.
( ) Data are unacceptable.

cc: Carla Dempsey, CLP Quality Assurance Officer, Analytical Operations Branch
James Petty, Chief Quality Assurance Research, EMSL, Las Vegas

DATA QUALIFIERS

Contractor: AQUATEC, INC. | Case 11202.

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

(1) Holding Time:
All samples were analyzed within the seven day holding time from date of sampling to date of analysis.

(2) GC/MS Tuning:
The GC Tuning and mass calibration were all within the Q.C. limits.

(3) Calibration:
The very few calibration outliers are listed on the outliers' forms.

(4) Method Blanks:
Blank VBLKB2 was found to contain the common contaminants methylene chloride, acetone and butanone. Each of these compounds was also found in all of the associated samples except butanone, which was not found in ER675. VBLKA2 contained only methylene chloride; this compound was also found in both associated samples.

(5) Surrogate Recoveries:
All surrogate recoveries were well within the Q.C. limits.

(6) Matrix Spikes and Matrix Spike Duplicates:
All MS and MSD recoveries and RPDs were well within the Q.C. limits.

(7) Field Duplicates:
No field duplicates or field blanks were designated in this case.

Reviewed by: Al Vernuto
Phone: (312) 353-2959
Date: 25 Jan. 1989

DATA QUALIFIERS

Contractor: AQUATEC, INC.

Case 11202.

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

(8) Internal Standards Performance:
All internal standard areas were well within the Q.C. limits.

(9) Compound Identification:
The compounds as listed appear to be confirmed by the spectra.

(10) Compound Quantitation and Reported Detection Limits:
Since all samples were water samples run at low levels without dilutions, no adjustments were necessary.

(11) System Performance:
The system Performance appears to meet the specifications.

(12) Additional Case-Specific Problems:
Rather than using the primary mass 43 ion for quantitating acetone, the lab used the secondary mass 58 ion because of possible interferences from low molecular weight hydrocarbons. (See lab's narrative.

Reviewed by: Al Venuto
Phone: (312) 353-2959
Date: 25 Jan. 1989

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION V
CALIBRATION OUTLIERS
VOLATILE HSL COMPOUNDS

CASE/SAS # 11202 CONTRACTOR AQUATEC

Instrument # OWAC	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME: 1-9-89 1313	1-9-89 1313			1-9-89 2252											
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
Chloromethane															
Bromomethane	.573			.720	25.7	J									
Vinyl Chloride															
Chloroethane															
Methylene Chloride															
Acetone															
Carbon Disulfide															
1,1-Dichloroethane															
1,1-Dichloroethene															
Trans-1,2-Dichloroethene															
Chloroform															
2-Butanone															
1,2-Dichloroethane															
1,1,1-Trichloroethane															
Carbon Tetrachloride															
Vinyl Acetate															
Bromodichloromethane															
1,2-Dichloropropane															
Trans-1,3-Dichloropropene															
Trichloroethene															
Dibromochloromethane															
1,1,2-Trichloroethane															
Benzene															
cis-1,3-Dichloropropene															
2-Chloroethylvinylether															
Bromoform															
4-Methyl-2-Pentanone															
2-Hexanone															
Tetrachloroethene															
1,1,2,2-Tetrachloroethane															
Toluene															
Chlorobenzene															
Ethylbenzene															
Styrene															
m-Xylene															
o/p-Xylene															

AFFECTED SAMPLES:

VBLKBJ
ER675
ER675MS
ER675MSD

Reviewer's Initials/Date: AV 1-25-89

* These flags should be applied to the analytes on the sample data sheets.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION V
CALIBRATION OUTLIERS
VOLATILE HSL COMPOUNDS

CASE/SAS # 11202 CONTRACTOR AQUATEC

Instrument # OWAD	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME: 1-10-89 18:02	1-10-89 18:02			1-11-89 4:35											
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
Chloromethane															
Bromomethane															
Vinyl Chloride															
Chloroethane															
Methylene Chloride															
Acetone															
Carbon Disulfide															
1,1-Dichloroethane															
1,1-Dichloroethene															
Trans-1,2-Dichloroethene															
Chloroform															
2-Butanone	.045		*R	.049		*R									
1,2-Dichloroethane															
1,1,1-Trichloroethane															
Carbon Tetrachloride															
Vinyl Acetate															
Bromodichloromethane															
1,2-Dichloropropane															
Trans-1,3-Dichloropropene															
Trichloroethene															
Dibromochloromethane															
1,1,2-Trichloroethane															
Benzene															
cis-1,3-Dichloropropene															
2-Chloroethylvinylether															
Bromoform															
4-Methyl-2-Pentanone															
2-Hexanone															
Tetrachloroethene															
1,1,2,2-Tetrachloroethane															
Toluene															
Chlorobenzene															
Ethylbenzene															
Styrene															
m-Xylene															
o/p-Xylene															

AFFECTED SAMPLES:

VBLKA2
ET976
ET977

Reviewer's Initials/Date: AV 1-25-89

* These flags should be applied to the analytes on the sample data sheets.

GENERAL DATA QUALIFIERS

For reporting results to the USEPA, the following contract specific qualifiers are to be used. The seven qualifiers defined below are not subject to modification by the laboratory. Up to five qualifiers may be reported on Form I for each compound.

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

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

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

and df = dilution factor

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

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

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

J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero. For example, if the sample quantitation limit is 10 ug/L, but a concentration of 3 ug/L is calculated, report it as 3J. The sample quantitation limit must be adjusted for both dilution and percent moisture as discussed for the U flag, so that if a sample with 24% moisture and a 1 to 10 dilution factor has a calculated concentration of 300 ug/L and a sample quantitation limit of 430 ug/kg, report the concentration as 300J on Form I.

C - This flag applies to pesticide results where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/ul in the final extract shall be confirmed by GC/MS.

B - This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action. This flag must be used for a TIC as well as for a positively identified TCL compound.

E - This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis. This flag will not apply to pesticides/PCBs analyzed by GC/EC methods. If one or more compounds have a response greater than full scale, the sample or extract must be diluted and re-analyzed according to the specifications in Exhibit D. All such compounds with a response greater than full scale should have the concentration flagged with an "E" on the Form I for the original analysis. If the dilution of the extract causes any compounds identified in the first analysis to be below the calibration range in the second analysis, then the results of both analyses shall be reported on separate Forms I. The Form I for the diluted sample shall have the "DL" suffix appended to the sample number. NOTE: For total xylenes, where three isomers are quantified as two peaks, the calibration range of each peak should be considered separately, e.g., a diluted analysis is not required for total xylenes unless the concentration of either peak separately exceeds 200 ug/L.

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and all concentration values reported on that Form I are flagged with the "D" flag.

A - This flag indicates that a TIC is a suspected aldol-condensation product.

X - Other specific flags may be required to properly define the results. If used, they must be fully described and such description attached to the Sample Data Summary Package and the Case Narrative. Begin by using "X". If more than one flag is required, use "Y" and "Z", as needed. If more than five qualifiers are required for a sample result, use the "X" flag to combine several flags, as needed. For instance, the "X" flag might combine the "A", "B", and "D" flags for some samples.

The combination of flags "BU" or "UB" is expressly prohibited. Blank contaminants are flagged "B" only when they are also detected in the sample.

If analyses at two different dilution factors are required (see Exhibit D), follow the data reporting instructions given in Exhibit D and with the "D" and "E" flags above.

USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA, VA 22313
703/557-2490 FTS-557-2490

CASE NO: 11202 | SAS NO: (IF APPLICABLE)

ORGANIC TRAFFIC REPORT

(FOR CLP USE ONLY)

① TYPE OF ACTIVITY (CIRCLE ONE)
SUPERFUND—PA SI ESI RIFS RD RA ER NPLD O&M OTHER ____
NON-SUPERFUND—________PROGRAM

SAMPLE DESCRIPTION
(ENTER IN BOX A)
1. SURFACE WATER
2. GROUND WATER
3. LEACHATE
4. SOIL
5. SEDIMENT
6. OIL (SAS)
7. WASTE (SAS)

② REGION NO: V SAMPLING COMPANY: CH2M HILL
SAMPLER: (NAME) [illegible]

③ SHIP TO: [illegible] Inc
75 [illegible]
South Burlington VT
ATTN: [illegible]

④ SAMPLING DATE:
BEGIN: 01/06/89 END: 01/06/89

⑤ DATE SHIPPED: 1/6/89 CARRIER: [illegible]
AIRBILL NO: 2071007292

⑥ DATE REC'D: 1/7/89 SDG NO: ER 675
REC'D BY: [illegible]
LABORATORY CONTRACT NO. 68-01-7426 UNIT PRICE

⑦ TRANSFER TO: DATE REC'D:
REC'D BY: CONTRACT NO./PRICE:

Chain of Custody # 5-12664

CLP SAMPLE NUMBER (FROM LABELS)	Ⓐ SAMPLE DESCRIPTION (FROM BOX 1) 1 2 3 4 5 6 7	Ⓑ CONCENTRATION L = LOW/MED H = HIGH (SAS)	Ⓒ RAS ANALYSIS: VOLATILE	BASE/NEUT /ACID	PESTICIDE /PCB's	Ⓓ SPECIAL HANDLING	Ⓔ STATION LOCATION	Ⓕ SAMPLE CONDITION ON RECEIPT	Ⓖ HIGH CONC. PHASES (CHECK): SOLID	WATER—MIS LIQUID	NON WATER—MIS LIQUID
ET 976	2	L	X			[illegible]	VW-GW-[illegible]	All samples were received intact; inside cooler with ice.			
ET 977	2	L	X			[illegible]	VW-GW-[illegible]	Cooler was intact, as were custody seals on outside of cooler. Chain of Custody was present. Sample tags were present on all samples			
ER 675	2	L	X			[illegible]	VW-GW-[illegible]	Final sample is ET977 for SDG# ER675			

EPA Form 2075-7 (8-87)

000004

WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO YELLOW — LAB COPY

Deliverables Index

Case No.: 11202 Contract No.: 68-01-7426

SDG No.: ER675

Case Narrative

Sample Traffic Reports, in increasing EPA sample number order

Volatiles Data

QC Summary

Sample Data

TCL Results, Organics Analysis Data Sheets, Form I
Raw VOA Data, organized in increasing EPA sample order
Chromatograms, Quantitation Reports, Spectra

Standards Data, chronological order by instrument

Initial Calibration Summaries, Form VI-VOA (grouped)
Chromatograms and Quantitation Reports (grouped)
Continuing Calibration Summaries, Form VII-VOA (grouped)
Chromatograms and Quantitation Reports (grouped)

Internal Standard Area Summary, chronological order by instrument
Form VIII-VOA

Raw QC Data

VOA Tune Data, chronological order by instrument
VOA Method Blanks, Form I, chronological order by instrument
Raw Method Blank Data
Chromatograms, Quantitation Reports, and Spectra
VOA Matrix Spike Data, Form I
Chromatograms and Quantitation Report
VOA Matrix Spike Duplicate Data, Form I
Chromatograms and Quantitation Report

Sample Preparation

Work Plan
Airbill(s)
Chain of Custody
Sample Receipt Sheet(s)
Organics Traffic Reports
Sample Control Sheet
Internal Custody Records
Copies of Analyst's Notebook Pages
Benchsheets
Copies of Instrument Logbook Pages
Related Correspondence and/or Memos

aquatec INC. ENVIRONMENTAL SERVICES

75 GREEN MOUNTAIN DRIVE, SOUTH BURLINGTON, VERMONT 05403, TELEPHONE (802) 658-1074

16 January 1989

U.S. Environmental Protection Agency
Contract Laboratory Program
Sample Management Office
300 North Lee Street, No. 200
Alexandria, VA 22314

RE: Contract No. 68-01-7426
Case No. 11202, SDG No. ER675
Aquatec Project No. 87109

Gentlemen:

Enclosed are the analytical results for Case 11202, SDG #ER675.

This case consisted of three (3) aqueous samples for volatile organic analysis only.

All samples were received intact by Aquatec on 7 January 1989.

Laboratory numbers were assigned and are designated as follows:

EPA	Aquatec	Sample Matrix
ER675	93643	Aqueous
ET976	93644	Aqueous
ET977	93645	Aqueous

Enhanced total ion peak heights were used for the purpose of evaluating and quantitating "Tentatively Identified Compounds" associated with these samples.

Because of the common occurrence of mass 43 with low molecular weight hydrocarbons, the laboratory has used mass 58 as the quantitation ion for acetone in the volatile organics analysis of the samples.

The reported dilution factors do not reflect the sample amounts that were analyzed. However, the reported quantitation limits and all analyte quantitations have been adjusted accordingly.

The data summary forms submitted in this data package represent a translation of the forms produced by EPA Cincinnati software. Details that reflect the constraints of that software have not been corrected. These include, the reporting of percent

difference on Form VII as an absolute percent difference and the reporting of both spiked and nonspiked analytes on Form I for the matrix spike and matrix spike duplicate analyses.

The benefit of interested parties, documentation of sample handling and preparation is included at the end of the "Sample Data Package." A colored sheet of paper entitled "Sample Preparation Package" has been used to explicitly mark the location of these documents.

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

Sincerely,

Joseph K. Comeau, Ph.D.
Laboratory Director

1/16/89
Date

JKC/dbs

Enclosure

cc: EMSL
EPA Region V

2A
WATER VOLATILE SURROGATE RECOVERY

Name:AQUATEC, INC. Contract:68-01-7426

Lab Code: AQUAI Case No.: 11202 SAS No.: _____ SDG No.: ER675

	EPA SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
01	VBLKB2	102 _	101 _	99 _		0
02	ER675	103 _	106 _	104 _		0
03	ER675MS	95 _	101 _	99 _		0
04	ER675MSD	101 _	104 _	104 _		0
05						
06						
07						
08						
09						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						

	QC LIMITS
S1 (TOL) = Toluene-d8	(88-110)
S2 (BFB) = Bromofluorobenzene	(86-115)
S3 (DCE) = 1,2-Dichloroethane-d4	(76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

2A
WATER VOLATILE SURROGATE RECOVERY

Name:AQUATEC, INC. Contract:68-01-7426

Lab Code: AQUAI Case No.: 11202 SAS No.: _____ SDG No.: ER675

	EPA SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
01	VBLKA2	99	97	95		0
02	ET976	103	101	92		0
03	ET977	102	100	93		0
04						
05						
06						
07						
08						
09						
10						
11						
12						
13						
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28						
29						
30						

		QC LIMITS
S1 (TOL)	= Toluene-d8	(88-110)
S2 (BFB)	= Bromofluorobenzene	(86-115)
S3 (DCE)	= 1,2-Dichloroethane-d4	(76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

I Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 11202 SAS No.: _____ SDG No.: ER675

Matrix Spike - EPA Sample No.: ER675

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	#	QC LIMITS REC.
1,1-Dichloroethene	50	0	54	107		61-145
Trichloroethene	50	0	48	96		71-120
Benzene	50	0	51	102		76-127
Toluene	50	0	50	101		76-125
Chlorobenzene	50	0	50	100		75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	#	% RPD	#	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50	54	108		1		14	61-145
Trichloroethene	50	49	99		3		14	71-120
Benzene	50	53	106		4		11	76-127
Toluene	50	52	104		3		13	76-125
Chlorobenzene	50	52	103		4		13	75-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: _____

4A

VOLATILE METHOD BLANK SUMMARY

L Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 11202 SAS No.: _____ SDG No.: ER675

Lab File ID: CBZB002BV Lab Sample ID: CBZB002BV

Date Analyzed: 01/10/89 Time Analyzed: 0055

Matrix: (soil/water) WATER Level: (low/med) LOW

Instrument ID: OWAC

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	ER675	93643	C93643V	0526
02	ER675MS	M93643	C93643MV	0624
03	ER675MSD	MD93643	C93643MDV	0712
04				
05				
06				
07				
08				
09				
10				
11				
12				
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20				
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23				
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25				
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27				
28				
29				
30				

COMMENTS: _____

4A

VOLATILE METHOD BLANK SUMMARY

Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 11202 SAS No.: _____ SDG No.: ER675

Lab File ID: DCNB002AV Lab Sample ID: DCNB002AV

Date Analyzed: 01/11/89 Time Analyzed: 0435

Matrix: (soil/water) WATER Level: (low/med) LOW

Instrument ID: OWAD

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	ET976	93644	D93644V	0620
02	ET977	93645	D93645V	0718
03				
04				
05				
06				
07				
08				
09				
10				
11				
12				
13				
14				
15				
16				
17				
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30				

COMMENTS: _____

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKB2

Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 11202 SAS No.: _____ SDG No.: ER675

Matrix: (soil/water) WATER Lab Sample ID: CBZB002BV

Sample wt/vol: 5 (g/mL) ML Lab File ID: CBZB002BV

Level: (low/med) LOW Date Received: 00/00/00

% Moisture: not dec._____ Date Analyzed: 01/10/89

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	~~U~~ *
67-64-1	Acetone	.4	J
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	2	J
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

* The conc. of this cmpd is not below the CRQL and therefore should not be flagged J. AV 1-25-89

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKB2

Lab Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 11202 SAS No.: _____ SDG No.: ER675

Matrix: (soil/water) WATER Lab Sample ID: CBZB002BV

Sample wt/vol: 5 (g/mL) ML Lab File ID: CBZB002BV

Level: (low/med) LOW Date Received: 00/00/00

% Moisture: not dec._____ Date Analyzed: 01/10/89

Column: (pack/cap) PACK 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
1.					
2.					
3.					
4.					
5.					
7.					
8.					
9.					
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21.					
22.					
23.					
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27.					
28.					
29.					
30.					

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKA2

L Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 11202 SAS No.: _____ SDG No.: ER675

Matrix: (soil/water) WATER Lab Sample ID: DCNB002AV

Sample wt/vol: 5 (g/mL) ML Lab File ID: DCNB002AV

Level: (low/med) LOW Date Received: 00/00/00

% Moisture: not dec._____ Date Analyzed: 01/11/89

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKA2

I Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 11202 SAS No.: _____ SDG No.: ER675

Matrix: (soil/water) WATER Lab Sample ID: DCNB002AV

Sample wt/vol: 5 (g/mL) ML Lab File ID: DCNB002AV

Level: (low/med) LOW Date Received: 00/00/00

% Moisture: not dec._____ Date Analyzed: 01/11/89

Column: (pack/cap) PACK 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
1.					
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ER675

Lab Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 11202 SAS No.: _____ SDG No.: ER675

Matrix: (soil/water) WATER Lab Sample ID: 93643

Sample wt/vol: 5 (g/mL) ML Lab File ID: C93643V

Level: (low/med) LOW Date Received: 01/07/89

% Moisture: not dec. _____ Date Analyzed: 01/10/89

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	BJV
67-64-1	Acetone	10	BJV
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

AV 1-25-89

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ER675

Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 11202 SAS No.: _____ SDG No.: ER675

Matrix: (soil/water) WATER Lab Sample ID: 93643

Sample wt/vol: 5 (g/mL) ML Lab File ID: C93643V

Level: (low/med) LOW Date Received: 01/07/89

% Moisture: not dec._____ Date Analyzed: 01/10/89

Column: (pack/cap) PACK 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
1.					
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ET976

I Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 11202 SAS No.: _____ SDG No.: ER675

Matrix: (soil/water) WATER Lab Sample ID: 93644

Sample wt/vol: 5 (g/mL) ML Lab File ID: D93644V

Level: (low/med) LOW Date Received: 01/07/89

% Moisture: not dec._____ Date Analyzed: 01/11/89

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5	BU
67-64-1	Acetone	2	J
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	6	
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

AV 1-25-89

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ET976

I Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 11202 SAS No.: _____ SDG No.: ER675

Matrix: (soil/water) WATER Lab Sample ID: 93644

Sample wt/vol: 5 (g/mL) ML Lab File ID: D93644V

Level: (low/med) LOW Date Received: 01/07/89

% Moisture: not dec._____ Date Analyzed: 01/11/89

Column: (pack/cap) PACK 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
1.					
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

ET977

I Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 11202 SAS No.: _____ SDG No.: ER675

Matrix: (soil/water) WATER Lab Sample ID: 93645

Sample wt/vol: 5 (g/mL) ML Lab File ID: D93645V

Level: (low/med) LOW Date Received: 01/07/89

% Moisture: not dec._____ Date Analyzed: 01/11/89

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	5 ~~1~~	V
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

AV 1-25-89

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

ET977

Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 11202 SAS No.: _____ SDG No.: ER675

Matrix: (soil/water) WATER Lab Sample ID: 93645

Sample wt/vol: 5 (g/mL) ML Lab File ID: D93645V

Level: (low/med) LOW Date Received: 01/07/89

% Moisture: not dec._____ Date Analyzed: 01/11/89

Column: (pack/cap) PACK 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
1.					
2.					
3.					
4.					
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EW 777-78

AND

EX 096-99

VW-GW-CH 142-30-S5 TO VW-GW-CH 142-30-D5

AND

VW-GW-CH 140-50-S1 TO VW-GW-CH 150-40-S4

VOA

CRL Conf

UNITED STATES ENVIRONMENTAL PROTECTION A
REGION V

DATE: February 23, 1989 (6)

SUBJECT: Review of Region V CLP Data
Received for Review on 2-16-89

FROM: Curtis Ross, Director (5SCRL)
Central Regional Laboratory Dorothy M.

TO: Data User: CH2 WATER

We have reviewed the data for the following case(s).

SITE NAME: Verona SMO Case No. 11372

EPA Data Set No. No. of Samples: 6 D.U./Activity Numbers

CRL No.

SMO Traffic No. EW772-78, EX096-99

CLP Laboratory: SPL Hrs. Required for Review: 4.5 +/- 5

Following are our findings:

The following case consist of six (6) low level water samples for VOA only. Samples EX098 and EX099 required dilutions. The review information and qualification follows.

Wanda Yvette Freeman
Weston-Lsat
February 21, 1989

( ) Data are acceptable for use.
(✓) Data are acceptable for use with qualifications referenced above.
See Data Qualifier sheets and Calibration Outlier forms for flags and additional comments.
( ) Data are preliminary - pending verification by Contractor Laboratory.
See Case Summary above.
( ) Data are unacceptable.

cc: Carla Dempsey, CLP Quality Assurance Officer, Analytical Operations Branch
James Petty, Chief Quality Assurance Research, EMSL Las Vegas

DATA QUALIFIERS

Contractor: SFL Houston

Case 11372

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

1. Holding Times -
Water Volatile samples EW777-EW778, EX096-EX099 exceeded the 7 day holding time for analysis by 3 days. Samples EX098DL and EX099DL exceeded the 7 day holding time for analysis by 4 days. Therefore, all positive results should be considered estimated and flagged ("J") sample quantitation limits "UJ" for all matrices only since they were analyzed within 14 days.

2. GC/MS Tuning -
All GC/MS BFB tuning criteria were within the required QC limits.

3. Calibration -
Volatile outliers for initial and continuing calibrations are noted on the calibration outlier forms.

4. Method Blanks -
Volatile blanks VBLK03 and VBLK04 contained common contaminants methylene chloride and acetone. Two TIC's were found in each blank. Samples associated with each blank can be found on form IV VOA. Samples that contain the common contaminants with results (10 x less than) the blank level are estimated and flagged "U" for non detection. Annotation flags can be found on sample form Fa.

Reviewed by: Wanda Gatte Freeman

Phone: 352-2960

Date: February 21, 1989

DATA QUALIFIERS

Contractor: SPL Houston | Case 11372.

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

5. Surrogate Recoveries –
Volatile water surrogate recoveries were all within the QC limits.

6. Matrix Spike / Matrix Spike Duplicate –
Volatile water (EX096) MS/MSD and %RPD were all within the QC limits.

7. Field Duplicate + Blanks –
No field duplicates or field blanks were included with this sample group.

8. Internal Standard Performance –
Volatile water internal standards were all within the required limits.

9. Compound Identification –
Volatile fractions for TIC and TCL compounds were properly identified.

10. Compound Quantitation and Reported Detection Limit –
all volatile fractions were quantitated and calculated correctly.

11. System Performance –
All sample fractions were consistant and can be verified by the GC/MS tuning criteria for Volatiles.

Reviewed by: Wanda Yvette Seaman
Phone: 353-2960
Date: February 21, 1989

DATA QUALIFIERS

Contractor: SPL Houston

Case 11372

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

12. Additional Problems—

Sample EX098 exceeded the calibration linear range for 1,2-dichloroethene (total). However, upon dilution of this sample, the value was within limits. Sample EX099 exceeded the calibration linear range for compounds 1,2-dichloroethene (total) and tetrachloroethene, but were within the diluted limits for EX099DL. Therefore, for the above noted compounds the results in the diluted sample fractions EX098DL and EX099DL are used to qualify the results.

Reviewed by: Wanda Gritte Freeman

Phone: 353-2760

Date: February 21, 1989

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION V
CALIBRATION OUTLIERS
VOLATILE HSL COMPOUNDS

CASE/SAS # -11372 CONTRACTOR SPL Houston

Instrument #	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	1-27-89			2-10-89 8:58			2-11-89 9:16								
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
Chloromethane	.962			1.3[illegible]	32.5	J	1.251	30.7	J						
Bromomethane	1.50			1.62[illegible]	41.3	J	1.419								
Vinyl Chloride															
Chloroethane	.879			1.116	32.5	J	1.306	48.4	J						
Methylene Chloride	1.293			1.85[illegible]	43.1	J	2.236	64.1	J						
Acetone	.949			1.272	36.2	J	1.351	42.3	J						
Carbon Disulfide	5.163			3.471	33.9	J	5.1[illegible]								
1,1-Dichloroethene															
1,1-Dichloroethane															
Trans-1,2-Dichloroethene															
Chloroform															
2-Butanone	.069	8.8	J	.060	13.0	J	.044	7.2	J						
1,2-Dichloroethane	1.591			2.160	37.9	J	2.551	37.1	J						
1,1,1-Trichloroethane															
Carbon Tetrachloride	.280	10.5	J	.360	28.6	J	.348								
Vinyl Acetate															
Bromodichloromethane															
1,2-Dichloropropane															
Trans-1,3-Dichloropropene															
Trichloroethene															
Dibromochloromethane															
1,1,2-Trichloroethane															
Benzene															
cis-1,3-Dichloropropene															
2-Chloroethylvinylether															
Bromoform															
4-Methyl-2-Pentanone															
2-Hexanone															
Tetrachloroethene															
1,1,2,2-Tetrachloroethane															
Toluene															
Chlorobenzene															
Ethylbenzene															
Styrene															
m-Xylene															
o/p-Xylene															

AFFECTED SAMPLES:	Init. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.
		VBIK03	VBIK04		
		EX096	EX098DL		
		EX097	EX099DL		
		EX096MS			
		EX096MSD			
		EX098			
		EX099			
		EW779			
		EW778			

Reviewer's Initials/Date: WA 2-21-89

* These flags should be applied to the analytes on the sample data sheets.

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK03

Lab Name: SPL HOUSTON Contract: 68-01-7431

Lab Code: SPL Case No.: 11372 SAS No.: SDG No.: EW777

Matrix: (soil/water) WATER Lab Sample ID: VWBLK0210A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 0210VWBA1

Level: (low/med) LOW Date Received: 02/02/89

% Moisture: not dec. 100 Date Analyzed: 02/10/89

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	6	
67-64-1	Acetone	23	
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

For reporting results to the USEPA, the following contract specific qualifiers are to be used. The seven qualifiers defined below are not subject to modification by the laboratory. Up to five qualifiers may be reported on Form I for each compound.

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

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

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

and df = dilution factor

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

$$\frac{(330\ U)}{.76} \times 10 = 4300\ U$$

rounded to the appropriate number of significant figures

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

J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero. For example, if the sample quantitation limit is 10 ug/L, but a concentration of 3 ug/L is calculated, report it as 3J. The sample quantitation limit must be adjusted for both dilution and percent moisture as discussed for the U flag, so that if a sample with 24% moisture and a 1 to 10 dilution factor has a calculated concentration of 300 ug/L and a sample quantitation limit of 430 ug/kg, report the concentration as 300J on Form I.

C - This flag applies to pesticide results where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/ul in the final extract shall be confirmed by GC/MS.

B - This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action. This flag must be used for a TIC as well as for a positively identified TCL compound.

E - This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis. This flag will not apply to pesticides/PCBs analyzed by GC/EC methods. If one or more compounds have a response greater than full scale, the sample or extract must be diluted and re-analyzed according to the specifications in Exhibit D. All such compounds with a response greater than full scale should have the concentration flagged with an "E" on the Form I for the original analysis. If the dilution of the extract causes any compounds identified in the first analysis to be below the calibration range in the second analysis, then the results of both analyses shall be reported on separate Forms I. The Form I for the diluted sample shall have the "DL" suffix appended to the sample number. NOTE: For total xylenes, where three isomers are quantified as two peaks, the calibration range of each peak should be considered separately, e.g., a diluted analysis is not required for total xylenes unless the concentration of either peak separately exceeds 200 ug/L.

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and all concentration values reported on that Form I are flagged with the "D" flag.

A - This flag indicates that a TIC is a suspected aldol-condensation product.

X - Other specific flags may be required to properly define the results. If used, they must be fully described and such description attached to the Sample Data Summary Package and the Case Narrative. Begin by using "X". If more than one flag is required, use "Y" and "Z", as needed. If more than five qualifiers are required for a sample result, use the "X" flag to combine several flags, as needed. For instance, the "X" flag might combine the "A", "B", and "D" flags for some samples.

The combination of flags "BU" or "UB" is expressly prohibited. Blank contaminants are flagged "B" only when they are also detected in the sample.

If analyses at two different dilution factors are required (see Exhibit D), follow the data reporting instructions given in Exh. D and with the "D" and "E" flags above.

USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA VA 22311
703 557-2490 FTS 557-2490

CASE NO: 11,772 | SAS NO: (IF APPLICABLE)

ORGANIC TRAFFIC REPORT

(EPA USE ONLY)

TYPE OF ACTIVITY (CIRCLE ONE) ①
SUPERFUND—PA SI ESI RIFS RD RA ER NPLD O&M OTHER _____
NON-SUPERFUND—_____PROGRAM

SAMPLE DESCRIPTION (ENTER IN BOX A)
1. SURFACE WATER 4. SOIL
2. GROUND WATER 5. SEDIMENT
3. LEACHATE 6. OIL (SAS) 7. WASTE (SAS)

REGION NO: V ② SAMPLING COMPANY
SAMPLER: (NAME)

SHIP TO: ③
ATTN:

SAMPLING DATE: ④
BEGIN: _____ END: _____
DATE SHIPPED: _____ CARRIER: _____ ⑤
AIRBILL NO: _____

DATE REC'D: 2-2-89 SDG NO: EW777 ⑥
REC'D BY: Thelma S Lowe
LABORATORY CONTRACT NO. 68-01-7431 UNIT PRICE $982000
TRANSFER TO: ⑦ DATE REC'D:
REC'D BY: CONTRACT NO./PRICE:

CLP SAMPLE NUMBER (FROM LABELS)	⑧ SAMPLE DESCRIPTION (FROM BOX 1) 1 2 3 4 5 6 7	⑨ CONCENTRATION L = LOW/MED H = HIGH (SAS)	⑩ RAS ANALYSIS: VOLATILE	BASE/NEUT ACID	PESTICIDE/PCB's		⑪ SPECIAL HANDLING	⑫ STATION LOCATION	⑬ SAMPLE CONDITION ON RECEIPT	⑭ HIGH CONC PHASES (CHECK): SOLID	WATER—MIS LIQUID	NON WATER—MIS (WIPE) SMR
EX 096	2	L						VW-SW-CH14	5-S1 good			
EX 097	2	L						VW-SW-CH14	3-S2 good			
EX 098	2	L	X					VW-SW-CH15	-5-S3 good			
EX 099	2	L	X					VW-SW-CH15	-4-S4 good			
EW 777	2	L	X					VW-GW-CH14	-3-S5 good			
EW 778	2	L	X					VW-GW-CH14	-3-45 good			
								SDG. EW777				
								SDG. FINAL SAMPLE				

EPA Form 2075-7 (8-87)

000028

WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO YELLOW — LAB COPY

SOUTHERN PETROLEUM LABORATORIES, INC.

CASE NARRATIVE

Laboratory: SPL, INC. Case: 11372

Sample Numbers:		
	EW777	EX097
	EW778	EX098
	EX096	EX099

SDG: EW777

Contract: 68-01-7431

Several tentatively identified components were identified in samples and blanks. Two of the TIC's are carbon dioxide (present from the purging system air and dissolved air in the sample) and an early eluting unknown peak which is probably from the change of pressure in the mass spectrometer source from both the trap and water vapor. The 1,2,2-trichlorofluoroethane is an air-borne contaminant in our laboratory. Presently we are working to rectify this problem.

Of the six samples, 2 samples (EX098 and EX099) were reanalyzed due to 1,2-dichloroethene and tetrachloroethene being outside of the high contentration quantitation limit.

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

Daniel R. DiFeo, Jr. Ph.D.
Supervisor-GC and GC/MS

2/05/89
Date

000026

2A
WATER VOLATILE SURROGATE RECOVERY

Lab Name: SPL HOUSTON Contract: 68-01-7431

Lab Code: SPL Case No.: 11372 SAS No.: _____ SDG No.: EW777

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
01	EW777	105	96	109		0
02	EW778	106	93	105		0
03	EX096	95	97	97		0
04	EX097	108	109	106		0
05	EX098	105	102	104		0
06	EX098DL	105	101	105		0
07	EX099	105	96	111		0
08	EX099DL	104	104	108		0
09	EX096MS	96	96	102		0
10	EX096MSD	100	98	102		0
11	VBLK03	100	98	94		0
12	VBLK04	96	96	104		0

	QC LIMITS
S1 (TOL) = Toluene-d8	(88-110)
S2 (BFB) = Bromofluorobenzene	(86-115)
S3 (DCE) = 1,2-Dichloroethane-d4	(76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: SPL HOUSTON Contract: 68-01-7431

Lab Code: SPL Case No.: 11372 SAS No.: _____ SDG No.: EW777

Matrix Spike - EPA Sample No.: EX096

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	50.0	0	69.6	139	61-145
Trichloroethene	50.0	0	58.9	118	71-120
Benzene	50.0	0	58.0	116	76-127
Toluene	50.0	0	58.3	117	76-125
Chlorobenzene	50.0	0	56.1	112	75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	50.0	71.1	142	-2	14	61-145
Trichloroethene	50.0	54.0	108	9	14	71-120
Benzene	50.0	55.0	110	5	11	76-127
Toluene	50.0	57.5	115	2	13	76-125
Chlorobenzene	50.0	57.0	114	-2	13	75-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: 11372(CASE)--EW777(SDG)----EX096
45/3-220@8---INST A

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: SPL HOUSTON Contract: 68-01-7431

Lab Code: SPL Case No.: 11372 SAS No.: _____ SDG No.: EW777

Lab File ID: 0210VWBA1 Lab Sample ID: VWBLK0210A

Date Analyzed: 02/10/89 Time Analyzed: 0952

Matrix: (soil/water) WATER Level:(low/med) LOW

Instrument ID: A

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	EW777	90201605	E201605	1821
02	EW778	90201606	E201606	1912
03	EX096	90201601	E201601	1040
04	EX097	90201602	E201602	1134
05	EX098	90201603	E201603	1639
06	EX099	90201604	E201604	1730
07	EX096MS	90201601MS	E201601MS	1226
08	EX096MSD	90201601MSD	E201601MSD	1320

COMMENTS: VOLATILE BLANK---VBLK03---LOW WATER
45/3-220@8---INST A

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: SPL HOUSTON Contract: 68-01-7431

Lab Code: SPL Case No.: 11372 SAS No.: _____ SDG No.: EW777

Lab File ID: 0211VWBA1 Lab Sample ID: VWBLK0211A

Date Analyzed: 02/11/89 Time Analyzed: 1005

Matrix: (soil/water) WATER Level:(low/med) LOW

Instrument ID: A

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	EX098DL	90201603DL	E201603DL	1053
02	EX099DL	90201604DL	E201604ADL	1235

COMMENTS: VOLATILE BLANK---VBLK04----LOW WATER
45/3-220@8----INST A

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK03

Lab Name: SPL HOUSTON Contract: 68-01-7431

Lab Code: SPL Case No.: 11372 SAS No.: _____ SDG No.: EW777

Matrix: (soil/water) WATER Lab Sample ID: VWBLK0210A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 0210VWBA1

Level: (low/med) LOW Date Received: 02/02/89

% Moisture: not dec. 100 Date Analyzed: 02/10/89

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	1.93	110	J
2.	76-13-1	ETHANE, 1,1,2-TRICHLORO-1,2,	11.37	5.0	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK04

Lab Name: SPL HOUSTON Contract: 68-01-7431

Lab Code: SPL Case No.: 11372 SAS No.: SDG No.: EW777

Matrix: (soil/water) WATER Lab Sample ID: VWBLK0211A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 0211VWBA1

Level: (low/med) LOW Date Received: 02/02/89

% Moisture: not dec. 100 Date Analyzed: 02/11/89

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	22	
67-64-1	Acetone	41	
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

000260

1E

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VBLK04

Lab Name: SPL HOUSTON Contract: 68-01-7431

Lab Code: SPL Case No.: 11372 SAS No.: _____ SDG No.: EW777

Matrix: (soil/water) WATER Lab Sample ID: VWBLK0211A

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: 0211VWBA1

Level: (low/med) LOW Date Received: 02/02/89

% Moisture: not dec. 100 Date Analyzed: 02/11/89

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	1.73	98	J
2.	76-13-1	ETHANE, 1,1,2-TRICHLORO-1,2,	10.97	5.8	J

000261

VOLATILE ORGANICS 1A ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW777

Lab Name: SPL HOUSTON Contract: 68-01-7431

Lab Code: SPL Case No.: 11372 SAS No.: _____ SDG No.: EW777

Matrix: (soil/water) WATER Lab Sample ID: 90201605

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E201605

Level: (low/med) LOW Date Received: 02/02/89

% Moisture: not dec. 100 Date Analyzed: 02/10/89

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	12	B
67-64-1	Acetone	32	B
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	16	
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	76	
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: EW777

Lab Name: SPL HOUSTON Contract: 68-01-7431

Lab Code: SPL Case No.: 11372 SAS No.: SDG No.: EW777

Matrix: (soil/water) WATER Lab Sample ID: 90201605

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E201605

Level: (low/med) LOW Date Received: 02/02/89

% Moisture: not dec. 100 Date Analyzed: 02/10/89

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	124-38-9	CARBON DIOXIDE (ACN)	0.43	170	J
2.		UNKNOWN	1.87	110	J
3.	124-19-6	NONANAL	30.11	25	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EW778

Lab Name: SPL HOUSTON Contract: 68-01-7431

Lab Code: SPL Case No.: 11372 SAS No.: _____ SDG No.: EW777

Matrix: (soil/water) WATER Lab Sample ID: 90201606

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E201606

Level: (low/med) LOW Date Received: 02/02/89

% Moisture: not dec. 100 Date Analyzed: 02/10/89

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	6	B
67-64-1	Acetone	23	B
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	17	
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	77	
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

Weight 2-21-89

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1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EW778

Lab Name: SPL HOUSTON Contract: 68-01-7431

Lab Code: SPL Case No.: 11372 SAS No.: SDG No.: EW777

Matrix: (soil/water) WATER Lab Sample ID: 90201606

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E201606

Level: (low/med) LOW Date Received: 02/02/89

% Moisture: not dec. 100 Date Analyzed: 02/10/89

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 2 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	124-38-9	CARBON DIOXIDE (ACN)	0.47	150	J
2.		UNKNOWN	1.93	130	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EX096

Lab Name: SPL HOUSTON Contract: 68-01-7431

Lab Code: SPL Case No.: 11372 SAS No.: SDG No.: EW777

Matrix: (soil/water) WATER Lab Sample ID: 90201601

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E201601

Level: (low/med) LOW Date Received: 02/02/89

% Moisture: not dec. 100 Date Analyzed: 02/10/89

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	6	B
67-64-1	Acetone	27	B
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	81	
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	8	J
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	170	
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

000072

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EX096

Lab Name: SPL HOUSTON Contract: 68-01-7431

Lab Code: SPL Case No.: 11372 SAS No.: _____ SDG No.: EW777

Matrix: (soil/water) WATER Lab Sample ID: 90201601

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E201601

Level: (low/med) LOW Date Received: 02/02/89

% Moisture: not dec. 100 Date Analyzed: 02/10/89

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 2

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	2.07	84	J
2.	64-17-5	ETHANOL (ACN)	4.97	9.0	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EX097

Lab Name: SPL HOUSTON Contract: 68-01-7431

Lab Code: SPL Case No.: 11372 SAS No.: SDG No.: EW777

Matrix: (soil/water) WATER Lab Sample ID: 90201602

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E201602

Level: (low/med) LOW Date Received: 02/02/89

% Moisture: not dec. 100 Date Analyzed: 02/10/89

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	9	B
67-64-1	Acetone	26	B
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	15	
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	39	
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

2-21-89

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: EX097

ab Name: SPL HOUSTON Contract: 68-01-7431

Lab Code: SPL Case No.: 11372 SAS No.: _____ SDG No.: EW777

Matrix: (soil/water) WATER Lab Sample ID: 90201602

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E201602

Level: (low/med) LOW Date Received: 02/02/89

% Moisture: not dec. 100 Date Analyzed: 02/10/89

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	1.97	99	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EX098

Lab Name: SPL HOUSTON Contract: 68-01-7431

Lab Code: SPL Case No.: 11372 SAS No.: SDG No.: EW777

Matrix: (soil/water) WATER Lab Sample ID: 90201603

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E201603

Level: (low/med) LOW Date Received: 02/02/89

% Moisture: not dec. 100 Date Analyzed: 02/10/89

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	5	J
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	9	B
67-64-1	Acetone	23	B
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	9	
540-59-0	1,2-Dichloroethene (total)	630	E
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	4	J
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	11	
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	56	
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	3	J
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	190	
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

2-21-89

000109

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EX098

Lab Name: SPL HOUSTON Contract: 68-01-7431

Lab Code: SPL Case No.: 11372 SAS No.: _____ SDG No.: EW777

Matrix: (soil/water) WATER Lab Sample ID: 90201603

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E201603

Level: (low/med) LOW Date Received: 02/02/89

% Moisture: not dec. 100 Date Analyzed: 02/10/89

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 3

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	124-38-9	CARBON DIOXIDE (ACN)	0.47	290	J
2.		UNKNOWN	2.00	100	J
3.	64-17-5	ETHANOL (ACN)	5.07	6.3	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EX098DL

Lab Name: SPL HOUSTON Contract: 68-01-7431

Lab Code: SPL Case No.: 11372 SAS No.: _____ SDG No.: EW777

Matrix: (soil/water) WATER Lab Sample ID: 90201603DL

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E201603DL

Level: (low/med) LOW Date Received: 02/02/89

% Moisture: not dec. 100 Date Analyzed: 02/11/89

Column: (pack/cap) PACK Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	50	U
74-83-9	Bromomethane	50	U
75-01-4	Vinyl Chloride	50	U
75-00-3	Chloroethane	50	U
75-09-2	Methylene Chloride	110	BU
67-64-1	Acetone	250	BU
75-15-0	Carbon Disulfide	25	U
75-35-4	1,1-Dichloroethene	25	U
75-34-3	1,1-Dichloroethane	25	U
540-59-0	1,2-Dichloroethene (total)	620	D
67-66-3	Chloroform	25	U
107-06-2	1,2-Dichloroethane	25	U
78-93-3	2-Butanone	50	U
71-55-6	1,1,1-Trichloroethane	25	U
56-23-5	Carbon Tetrachloride	25	U
108-05-4	Vinyl Acetate	50	U
75-27-4	Bromodichloromethane	25	U
78-87-5	1,2-Dichloropropane	25	U
10061-01-5	cis-1,3-Dichloropropene	25	U
79-01-6	Trichloroethene	56	D
124-48-1	Dibromochloromethane	25	U
79-00-5	1,1,2-Trichloroethane	25	U
71-43-2	Benzene	25	U
10061-02-6	trans-1,3-Dichloropropene	25	U
75-25-2	Bromoform	25	U
108-10-1	4-Methyl-2-Pentanone	50	U
591-78-6	2-Hexanone	50	U
127-18-4	Tetrachloroethene	200	D
79-34-5	1,1,2,2-Tetrachloroethane	25	U
108-88-3	Toluene	25	U
108-90-7	Chlorobenzene	25	U
100-41-4	Ethylbenzene	25	U
100-42-5	Styrene	25	U
1330-20-7	Xylene (total)	25	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EX098DL

Lab Name: SPL HOUSTON Contract: 68-01-7431

Lab Code: SPL Case No.: 11372 SAS No.: _____ SDG No.: EW777

Matrix: (soil/water) WATER Lab Sample ID: 90201603DL

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E201603DL

Level: (low/med) LOW Date Received: 02/02/89

% Moisture: not dec. 100 Date Analyzed: 02/11/89

Column (pack/cap) PACK Dilution Factor: 5.0

Number TICs found: 1

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	1.83	530	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EX099

Lab Name: SPL HOUSTON Contract: 68-01-7431

Lab Code: SPL Case No.: 11372 SAS No.: _____ SDG No.: EW777

Matrix: (soil/water) WATER Lab Sample ID: 90201604

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E201604

Level: (low/med) LOW Date Received: 02/02/89

% Moisture: not dec. 100 Date Analyzed: 02/10/89

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	5	J
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	12	B
67-64-1	Acetone	41	B
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	10	
540-59-0	1,2-Dichloroethene (total)	760	E
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	6	
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	11	
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	60	
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	4	J
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	230	E
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

000157

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EX099

Lab Name: SPL HOUSTON Contract: 68-01-7431

Lab Code: SPL Case No.: 11372 SAS No.: _____ SDG No.: EW777

Matrix: (soil/water) WATER Lab Sample ID: 90201604

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E201604

Level: (low/med) LOW Date Received: 02/02/89

% Moisture: not dec. 100 Date Analyzed: 02/10/89

Column (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 3 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	124-38-9	CARBON DIOXIDE (ACN)	0.40	440	J
2.		UNKNOWN	1.83	86	J
3.	64-17-5	ETHANOL (ACN)	4.93	9.0	J

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EX099DL

Lab Name: SPL HOUSTON Contract: 68-01-7431

Lab Code: SPL Case No.: 11372 SAS No.: _____ SDG No.: EW777

Matrix: (soil/water) WATER Lab Sample ID: 90201604DL

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E201604ADL

Level: (low/med) LOW Date Received: 02/02/89

% Moisture: not dec. 100 Date Analyzed: 02/11/89

Column: (pack/cap) PACK Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	50	U
74-83-9	Bromomethane	50	U
75-01-4	Vinyl Chloride	50	U
75-00-3	Chloroethane	50	U
75-09-2	Methylene Chloride	59	BD
67-64-1	Acetone	200	BD
75-15-0	Carbon Disulfide	25	U
75-35-4	1,1-Dichloroethene	25	U
75-34-3	1,1-Dichloroethane	25	U
540-59-0	1,2-Dichloroethene (total)	680	D
67-66-3	Chloroform	25	U
107-06-2	1,2-Dichloroethane	25	U
78-93-3	2-Butanone	50	U
71-55-6	1,1,1-Trichloroethane	25	U
56-23-5	Carbon Tetrachloride	25	U
108-05-4	Vinyl Acetate	50	U
75-27-4	Bromodichloromethane	25	U
78-87-5	1,2-Dichloropropane	25	U
10061-01-5	cis-1,3-Dichloropropene	25	U
79-01-6	Trichloroethene	67	D
124-48-1	Dibromochloromethane	25	U
79-00-5	1,1,2-Trichloroethane	25	U
71-43-2	Benzene	25	U
10061-02-6	trans-1,3-Dichloropropene	25	U
75-25-2	Bromoform	25	U
108-10-1	4-Methyl-2-Pentanone	36	DJ
591-78-6	2-Hexanone	50	U
127-18-4	Tetrachloroethene	220	D
79-34-5	1,1,2,2-Tetrachloroethane	25	U
108-88-3	Toluene	25	U
108-90-7	Chlorobenzene	25	U
100-41-4	Ethylbenzene	25	U
100-42-5	Styrene	25	U
1330-20-7	Xylene (total)	25	U

000187

FORM I VOA 1/87 Rev.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EX099DL

Lab Name: SPL HOUSTON Contract: 68-01-7431

Lab Code: SPL Case No.: 11372 SAS No.: _____ SDG No.: EW777

Matrix: (soil/water) WATER Lab Sample ID: 90201604DL

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: E201604ADL

Level: (low/med) LOW Date Received: 02/02/89

% Moisture: not dec. 100 Date Analyzed: 02/11/89

Column (pack/cap) PACK Dilution Factor: 5.0

Number TICs found: 2

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN	1.87	740	J
2.	64-17-5	ETHANOL (ACN)	4.77	250	J

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

ESD/Central Regional Laboratory
DATA TRACKING FORM FOR CONTRACT SAMPLES

CR Data Set No. _____ CERCLIS No. _____

SMO Case No. 11372 Site Name and Location: Velsicol

Name of Contractor or EPA Laboratory: SPL Data User: CH2

No. of Samples: 6 Date Samples or Data Received: 2-15-89

1. Have chain-of-custody records been received? YES ___ NO ✓
2. Have Traffic Reports or packing lists been received? YES ___ NO ✓
3. If no, are Traffic Report or packing list numbers written on the chain-of-custody record? YES ___ NO ___
4. If no, which Traffic report or packing list numbers are missing?

Are basic data forms in? YES ✓ NO ___

Number of samples claimed: 6 Number of samples received: 6

Check y: [signature] Date: 2-16-89

Recei by Contract Project Management Section: [signature] Date: 2-16-89

A e tarted: 2-21-89 Reviewer Signature: Wanda J Freeman

Total time spent on review: 4-5+1-5-5 Date review completed: 2-21-89

Copied (xeroxed) by: [signature] Date: 2/23/89

Mailed to Data User by: [signature] Date: 2/23/89

DATA USERS:

Please fill in the blanks below and return this form to: Sylvia Griffin, Data Management Coordinator, Region V, ESCRL

Data received by: _____ Date: _____

Q.A. review received by: _____ Date: _____

Inorganic Date Complete [ ], Suitable for Intended Purposes [ ]
Organic Data Complete [ ], Suitable for Intended Purposes [ ]
Dioxin Data Complete [ ], Suitable for Intended Purposes [ ]
SAS Data Complete [ ], Suitable for Intended Purposes [ ]

✓ [ ] if acceptable.
List problems below.

See Attached "Missing Data Request Form" [ ]
PROBLEMS: Please indicate reasons (if any) why data are not suitable for your uses. Other problems.

Received by Data Management Coordinator, CRL for File: Date: _____

Signature:

EX090, 092

VW-GW-CH 107

VW-GW-CH 107-(31-43)-59

VOA

CRL CONF (I)
Soil (1) & Water (1)

UNITED STATES ENVIRONMENTAL PROTECTION A
REGION V

DATE: January 19, 1989

SUBJECT: Review of Region V CLP Data
Received for Review on 12-20-88

FROM: Curtis Ross, Director (5SCRL)
Central Regional Laboratory Dorothy M. i

TO: Data User: CH2MHILL
John Tanaka

We have reviewed the data for the following case(s).

SITE NAME: Verona Well Field, MI SMO Case No. 11063

EPA Data Set No. SF 5778 (1) No. of Samples: 2 D.U./Activity Numbers Y905/C72251

CRL No. 89ZC01505, 506

SMO Traffic No. EX090, 092

CLP Laboratory: AQUATEC Hrs. Required for Review: 5

Following are our findings:
THIS DATA REVIEW COVERS THE ANALYSIS OF TWO SAMPLES, ONE SOIL AND ONE WATER, FOR VOLATILE ANALYSIS. THERE WERE NO MAJOR PROBLEMS WHICH WOULD CAUSE THE DATA TO BE UNUSABLE. HOWEVER, THERE ARE SEVERAL POINTS WHICH ARE OF IMPORTANCE TO BE DISCUSSED IN THE FOLLOWING SECTION.

Robert Katzel
ESAT/WESTON
1/19/89

(√) Data are acceptable for use.
(√) Data are acceptable for use with qualifications referenced above. See Data Qualifier sheets and Calibration Outlier forms for flags and additional comments.
( ) Data are preliminary - pending verification by Contractor Laboratory. See Case Summary above.
( ) Data are unacceptable.

cc: Carla Dempsey, CLP Quality Assurance Officer, Analytical Operations Branch
James Petty, Chief Quality Assurance Research, EMSL, Las Vegas

DATA QUALIFIERS

Contractor: AQUATEC

Case 11063

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

(1) HOLDING TIME

SAMPLING DATES: 12/5 - 12/7/88; DATES RECEIVED = 12/7 - 12/8/88.

ALL HOLDING TIMES WERE SATISFACTORY.

(2) GC/MS TUNING

GC/MS TUNING WAS SATISFACTORY.

(3) CALIBRATION

CALIBRATION OUTLIERS ARE LISTED IN THE CALIBRATION OUTLIER FORMS.

(4) METHOD BLANKS

VOA SOIL: VBLK 81 CONTAINS METHYLENE CHLORIDE, ACETONE, 2-HEXANONE AND 2-BUTANONE, ALL BELOW 2X THEIR RESPECTIVE CRQL's. ONE TIC, A LABORATORY CONTAMINANT, WAS ALSO PRESENT AND IT HAS THE ESTIMATED (J) FLAG.

VOA WATER: VBLK 83 CONTAINS METHYLENE CHLORIDE AND 2-BUTANONE BELOW THEIR CRQL's.

IF ANY OF THE ABOVE COMPOUNDS APPEARED IN A CORRESPONDING SAMPLE SHOWN ON FORM IE VOA, THE COMPOUND HAS BEEN PROPERLY FLAGGED.

Reviewed by: Robert Katzen

Phone: 312 - 353-2917

Date: 1/19/89.

DATA QUALIFIERS

Contractor: AQUATEC

Case 11063

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

(5) SURROGATE RECOVERY

WATER VOLATILE:

ALL WATER VOLATILE SURROGATE RECOVERIES ARE SATISFACTORY.

SOIL VOLATILE:

ALL SOIL VOLATILE SURROGATE RECOVERIES ARE SATISFACTORY.

(6) MATRIX SPIKE/MATRIX SPIKE DUPLICATE

SOIL VOLATILE:

ALL SOIL VOLATILE MS AND MSD %REC AND %RPD'S ARE SATISFACTORY FOR EX090.

WATER VOLATILE:

ALL WATER VOLATILE MS AND MSD %REC AND %RPD'S ON EX092 ARE WITHIN QC LIMITS.
A FLAG PLACED ON THE %RPD FOR BENZENE BY AQUAT WAS AN ERROR, THE %RPD WAS IN CONTROL AND CORRECT. THE REVIEWER HAS RECTIFIED THE PROBLEM.

(7) FIELD DUPLICATES

NO FIELD DUPLICATES OR FIELD BLANKS WERE RAN WITH THIS CASE.

Reviewed by: Robert Katzen

Phone: 312-353-2917

Date: 1/19/89.

DATA QUALIFIERS

Contractor: AQUATEC

Case 11063

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

(8) INTERNAL STANDARDS PERFORMANCE

THE INTERNAL STANDARDS PERFORMANCE DATA IN THE CASE WAS SATISFACTORY.

(9) COMPOUND IDENTIFICATION

GC/MS ANALYSIS WAS CARRIED OUT PROPERLY AND THE DATA REFLECT THE RESULTS OF THE ANALYSIS.

(10) COMPOUND QUANTITATION

THE CRQL's HAVE BEEN ADJUSTED TO REFLECT ALL SAMPLE DILUTIONS AND CONCENTRATIONS; NO DETECTION LIMITS WERE INCLUDED.

(11) SYSTEM PERFORMANCE

THE GC/MS WAS WELL USED AND THE INSTRUMENT PERFORMED WELL.

(12) ADDITIONAL CASE SPECIFIC PROBLEMS

THE CASE WAS WELL RUN AND NO MAJOR PROBLEMS WERE FOUND.

Reviewed by: Robert Kuhn

Phone: 312-353-2917

Date: 1/19/89.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION V
CALIBRATION OUTLIERS
VOLATILE HSL COMPOUNDS

CASE/SAS # 11063 CONTRACTOR AQUATI

Instrument # OWAC	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	12/6/88	12/7/88		12/7/88 2150											
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
Chloromethane															
Bromomethane															
Vinyl Chloride															
Chloroethane															
Methylene Chloride															
Acetone	0.191			0.229	25.3	J									
Carbon Disulfide															
1,1-Dichloroethane															
1,1-Dichloroethene															
Trans-1,2-Dichloroethene															
Chloroform															
2-Butanone															
1,2-Dichloroethane															
1,1,1-Trichloroethane															
Carbon Tetrachloride															
Vinyl Acetate															
Bromodichloromethane															
1,2-Dichloropropane															
Trans-1,3-Dichloropropene															
Trichloroethene															
Dibromochloromethane															
1,1,2-Trichloroethane															
Benzene															
cis-1,3-Dichloropropene															
2-Chloroethylvinylether															
Bromoform															
4-Methyl-2-Pentanone															
2-Hexanone															
Tetrachloroethene															
1,1,2,2-Tetrachloroethane															
Toluene															
Chlorobenzene															
Ethylbenzene															
Styrene															
m-Xylene															
o/p-Xylene															

VBLK131
Exc98
Exc98MS
Exc98MSD

AFFECTED SAMPLES:

Reviewer's Initials/Date: R.K. 1/9/89

* These flags should be applied to the analytes on the sample data sheets.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION V
CALIBRATION OUTLIERS
VOLATILE HSL COMPOUNDS

CASE/SAS # 11063 CONTRACTOR AQUATEC

Instrument # OWAD	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	1/4/89, 1458			1/5/89 1419											
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
Chloromethane															
Bromomethane															
Vinyl Chloride															
Chloroethane															
Methylene Chloride															
Acetone	0.347			0.501	26.2	J									
Carbon Disulfide															
1,1-Dichloroethane															
1,1-Dichloroethene															
Trans-1,2-Dichloroethene															
Chloroform															
2-Butanone															
1,2-Dichloroethane															
1,1,1-Trichloroethane															
Carbon Tetrachloride															
Vinyl Acetate															
Bromodichloromethane															
1,2-Dichloropropane															
Trans-1,3-Dichloropropene															
Trichloroethene															
Dibromochloromethane															
1,1,2-Trichloroethane															
Benzene															
cis-1,3-Dichloropropene															
2-Chloroethylvinylether															
Bromoform	0.577			0.391	26.6	J									
4-Methyl-2-Pentanone															
2-Hexanone															
Tetrachloroethene															
1,1,2,2-Tetrachloroethane															
Toluene															
Chlorobenzene															
Ethylbenzene															
Styrene															
m-Xylene															
o/p-Xylene															

AFFECTED SAMPLES:

VBLK03
EX092
EX092MS
EX092MSD

Reviewer's Initials/Date: K.K. 1/19/89.

* These flags should be applied to the analytes on the sample data sheets.

GENERAL DATA QUALIFIERS

For reporting results to the USEPA, the following contract specific qualifiers are to be used. The seven qualifiers defined below are not subject to modification by the laboratory. Up to five qualifiers may be reported on Form I for each compound.

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

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

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

and df = dilution factor

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

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

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

J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero. For example, if the sample quantitation limit is 10 ug/L, but a concentration of 3 ug/L is calculated, report it as 3J. The sample quantitation limit must be adjusted for both dilution and percent moisture as discussed for the U flag, so that if a sample with 24% moisture and a 1 to 10 dilution factor has a calculated concentration of 300 ug/L and a sample quantitation limit of 430 ug/kg, report the concentration as 300J on Form I.

C - This flag applies to pesticide results where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/ul in the final extract shall be confirmed by GC/MS.

B - This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action. This flag must be used for a TIC as well as for a positively identified TCL compound.

E - This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis. This flag will not apply to pesticides/PCBs analyzed by GC/EC methods. If one or more compounds have a response greater than full scale, the sample or extract must be diluted and re-analyzed according to the specifications in Exhibit D. All such compounds with a response greater than full scale should have the concentration flagged with an "E" on the Form I for the original analysis. If the dilution of the extract causes any compounds identified in the first analysis to be below the calibration range in the second analysis, then the results of both analyses shall be reported on separate Forms I. The Form I for the diluted sample shall have the "DL" suffix appended to the sample number. NOTE: For total xylenes, where three isomers are quantified as two peaks, the calibration range of each peak should be considered separately, e.g., a diluted analysis is not required for total xylenes unless the concentration of either peak separately exceeds 200 ug/L.

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and all concentration values reported on that Form I are flagged with the "D" flag.

A - This flag indicates that a TIC is a suspected aldol-condensation product.

X - Other specific flags may be required to properly define the results. If used, they must be fully described and such description attached to the Sample Data Summary Package and the Case Narrative. Begin by using "X". If more than one flag is required, use "Y" and "Z", as needed. If more than five qualifiers are required for a sample result, use the "X" flag to combine several flags, as needed. For instance, the "X" flag might combine the "A", "B", and "D" flags for some samples.

The combination of flags "BU" or "UB" is expressly prohibited. Blank contaminants are flagged "B" only when they are also detected in the sample.

If analyses at two different dilution factors are required (see Exhibit D), follow the data reporting instructions given in Exhibit D and with the "D" and "E" flags above.

USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA, VA 22313
703/557-2490 FTS-557-2490

CASE NO: 11063 | SAS NO: (IF APPLICABLE)

ORGANIC TRAFFIC REPORT
(FOR CLP USE ONLY)

TYPE OF ACTIVITY (CIRCLE ONE) ①
SUPERFUND—PA SI ESI (RIFS) RD RA ER
NPLD O&M OTHER _____
NON-SUPERFUND—_____PROGRAM

SAMPLE DESCRIPTION
(ENTER IN BOX A)
1. SURFACE WATER 4. SOIL
2. GROUND WATER 5. SEDIMENT
3. LEACHATE 6. OIL (SAS)
7. WASTE (SAS)

REGION NO: 1 SAMPLING COMPANY ② CH2M HILL
SAMPLER: (NAME) Mike McCann

SHIP TO: ③
Aquatec, Inc.
75 Green Mountain Dr.
South Burlington, VT 05403
ATTN: Janice Bevins

SAMPLING DATE: ④
BEGIN: 12/5/88 END: 12/5/88
DATE SHIPPED: 12/6/88 CARRIER: FED-X ⑤
AIRBILL NO: 907100 7190

DATE REC'D: 12/7/88 @ 1015 SDG NO: ⑤ EX090
REC'D BY: [signature]
LABORATORY CONTRACT NO. 68-01-7426 UNIT PRICE

TRANSFER TO: DATE REC'D: ⑦
REC'D BY: CONTRACT NO./PRICE:

CLP SAMPLE NUMBER (FROM LABELS)	SAMPLE DESCRIPTION (FROM BOX 1) ⑥ 1 2 3 4 5 6 7	CONCENTRATION L = LOW/MED, H = HIGH (SAS) ⑥	RAS ANALYSIS ⑥ VOLATILE	BASE/NEUT /ACID	PESTICIDE /PCB's		SPECIAL HANDLING ⑥	STATION LOCATION ⑥	SAMPLE CONDITION ON RECEIPT ⑥	HIGH CONC. PHASES (CHECK) ⑧ SOLID	WATER—MIS LIQUID	NON WATER—MIS LIQUID
EX090	4	L	X					VW-CHIC7	All samples were			
~~EX091~~	~~4~~	~~L~~	~~X~~				Duplicate	~~VW-CHIC7~~ 12/7/88 FDC	received intact			
~~EX092~~	~~2~~	~~L~~	~~X~~				~~Duplicate~~	~~VW-CHIC7~~	in the shipping			
									cooler with ice.			
									Cooler was intact			
									as were custody			
									seals on outside			
									of cooler. Chain			
									of custody was			
									present. Sample			
									tag was present on			
									Sample.			
									Sample identifiers			
									EX091 was deleted			
									at receipt of			
									Sample Management			
									Office (Cindy Sherrod)			

EPA Form 2075-7 (8-87)

000316

WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO YELLOW — LAB COPY

USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA, VA 22313
703/557-2490 FTS-557-2490

CASE NO: 11063

SAS NO: (IF APPLICABLE)

ORGANIC TRAFFIC REPORT
(FOR CLP USE ONLY)

① TYPE OF ACTIVITY (CIRCLE ONE): SUPERFUND—PA SI ESI RIFS RD RA ER NPLD O&M OTHER ____ NON-SUPERFUND—________PROGRAM

SAMPLE DESCRIPTION (ENTER IN BOX A): 1. SURFACE WATER 2. GROUND WATER 3. LEACHATE 4. SOIL 5. SEDIMENT 6. OIL (SAS) 7. WASTE (SAS)

② REGION NO: V SAMPLING COMPANY: CH2M HILL

SAMPLER: (NAME) Mike McCann

③ SHIP TO: Aquatec, Inc. 7- [illegible] Dr. [illegible], [illegible] VT 05403

ATTN: [illegible]

④ SAMPLING DATE: BEGIN: 12/7/88 END: 12/7/88

⑤ DATE SHIPPED: 12/7/[illegible] CARRIER: [illegible] AIRBILL NO: 9071007212

⑥ DATE REC'D: [illegible] SDG NO: EX09C

REC'D BY: [illegible]

LABORATORY CONTRACT NO: 68-01-7426 UNIT PRICE:

⑦ TRANSFER TO: DATE REC'D:

REC'D BY: CONTRACT NO./PRICE:

CLP SAMPLE NUMBER (FROM LABELS)	Ⓐ SAMPLE DESCRIPTION (FROM BOX 1) 1 2 3 4 5 6 7	Ⓑ CONCENTRATION L = LOW/MED. H = HIGH (SAS)	Ⓒ RAS ANALYSIS: VOLATILE	BASE/NEUT /ACID	PESTICIDE /PCB's		Ⓓ SPECIAL HANDLING	Ⓔ STATION LOCATION	Ⓕ SAMPLE CONDITION ON RECEIPT	Ⓖ HIGH CONC. PHASES (CHECK): SOLID	WATER—MIS LIQUID	NON WATER—MIS LIQUID
									All samples were			
EX092	2	L	X				[illegible]	VW-GW-CH17-(31-43)-59	intact inside			
									cooler w/ice.			
									Coolers were			
									intact and were			
									custody seals			
									on outside of			
									[illegible]. Chain			
									of custody as			
									well as the sample			
									tags were present.			
									Sample bottles			
									were sealed in			
									plastic ziploc			
									bags.			
									[illegible]			
									Final [illegible]			
									for SDG#EX09C			
									is EX092.			

EPA Form 2075-7 (8-87)

000317

WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO YELLOW — LAB COPY

SAMPLE DELIVERY GROUP (SDG)
TRAFFIC REPORT (TR) COVER SHEET

Lab Name: Aquatec, Inc. Contract No.: 68-01-7426

Lab Code: AQUAI Case No.: 11063 SAS No.: ____-____

Full Sample Analysis Price in Contract: $_____

SDG No./First Sample in SDG: EX090 Sample Receipt Date: 12/07/88 (MM/DD/YY)
(Lowest EPA Sample Number in first shipment of samples received under SDG)

Last Sample in SDG: EX092 Sample Receipt Date: 12/08/88 (MM/DD/YY)
(Highest EPA Sample Number in last shipment of samples received under SDG)

EPA Sample Numbers in the SDG (listed in alphanumeric order):

1	EX090	11	
2	EX092	12	
3		13	
4		14	
5		15	
6		16	
7		17	
8		18	
9		19	
10		20	

Note: There are a maximum of 20 field samples in an SDG.

Attach Traffic Reports to this form in alphanumeric order (i.e., the order listed on this form).

Tamara L. Banks
Sample Custodian

000326

13 December 1988
Date

F-0169

SAMPLE CONTROL RECORD

AQUATEC, INC.

92786

Results Transmitted: _____

Disposal Date: _____

ETR Number: 15822

Project No.: 87109

Case Number: 11063

Document Control No.: _____

000318

LABORATORY SAMPLE NUMBER	REMOVED BY	DATE AND TIME REMOVED	REASON	DATE AND TIME RETURNED
92786	were placed in fridge by KPC on 12/7/88			
92786	CMP	2020 12/7/88	voa screening	2050 12/7/88
92786	KPK	12-8-88 0955	VOH analyses	0917 12/9/88

aquatec INC. ENVIRONMENTAL SERVICES

75 GREEN MOUNTAIN DRIVE, SOUTH BURLINGTON, VERMONT 05403, TELEPHONE (802) 658-1074

16 December 1988

U.S. Environmental Protection Agency
Contract Laboratory Program
Sample Management Office
209 Madison Street
Alexandria, VA 22314

Re: Contract No. 68-01-7426
Case No. 11063, SDG EX090
Aquatec Project No. 87109

Gentlemen:

Enclosed are the analytical results for Case 11063, SDG EX090.

This case consists of one (1) water sample and one (1) soil sample for volatile organic analysis only.

The samples were received intact by Aquatec on 7 and 8 December 1988.

Laboratory numbers were assigned and are designated as follows:

EPA	Aquatec	Sample Matrix
	Received on 7 December 1988	
EX090	92786	soil
	Received on 8 December 1988	
EX092	92807	water

Enhanced total ion peak heights were used for the purpose of evaluating and quantitating "Tentatively Identified Compounds" associated with these samples.

Because of the common occurrence of mass 43 with low molecular weight hydrocarbons, the laboratory has used mass 58 as the quantitation ion for acetone in the volatile organics analysis of the samples.

The reported dilution factors do not reflect the sample amounts that were analyzed nor the percent moisture of the samples. However, the reported quantitation limits have been adjusted accordingly, and all analyte quantitations are reported on a dry weight basis.

000002

Additional qualifiers are currently being used by the laboratory in reporting the volatile organic results. These are listed and defined as follows:

L = This compound is suspected of being a laboratory contaminant and its presence in the sample is unlikely.

The data summary forms submitted in this data package represent a translation of the forms produced by EPA Cincinnati software. Details that reflect the constraints of that software have not been corrected. These include, the reporting of percent difference on Form VII as an absolute percent difference and the reporting of both spiked and nonspiked analytes on Form I for the matrix spike and matrix spike duplicate analyses.

For the benefit of interested parties, documentation of sample handling and preparation is included at the end of the "Sample Data Package". A colored sheet of paper entitled "Sample Preparation Package" has been used to explicitly mark the location of these documents.

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

Sincerely,

Joseph K. Comeau, Ph.D.
Laboratory Director

12/16/88
Date

JKC/lam

Enclosure

cc: EMSL
EPA Region V

87109B16DEC88

2A

WATER VOLATILE SURROGATE RECOVERY

Lab Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 11063 SAS No.: _____ SDG No.: EX090

	EPA SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
01	VBLKB3	96	93	94		0
02	EX092	94	93	95		0
03	EX092MS	105	102	106		0
04	EX092MSD	96	98	98		0
05						
06						
07						
08						
09						
10						
11						
12						
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29						
30						

	QC LIMITS
S1 (TOL) = Toluene-d8	(88-110)
S2 (BFB) = Bromofluorobenzene	(86-115)
S3 (DCE) = 1,2-Dichloroethane-d4	(76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

2B
SOIL VOLATILE SURROGATE RECOVERY

Name:AQUATEC, INC. Contract:68-01-7426

Lab Code: AQUAI Case No.: 11063 SAS No.: _____ SDG No.: EX090

Level:(low/med) LOW

	EPA SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
01	VBLKB1	103	100	99		0
02	EX090	95	98	87		0
03	EX090MS	99	101	88		0
04	EX090MSD	107	104	92		0
05						
06						
07						
08						
09						
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	QC LIMITS
S1 (TOL) = Toluene-d8	(81-117)
S2 (BFB) = Bromofluorobenzene	(74-121)
S3 (DCE) = 1,2-Dichloroethane-d4	(70-121)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

3B

SOIL VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Name:AQUATEC, INC. Contract:68-01-7426

Lab Code: AQUAI Case No.: 11063 SAS No.: _____ SDG No.: EX090

Matrix Spike - EPA Sample No.: EX090 Level:(low/med) LOW

COMPOUND	SPIKE ADDED (ug/Kg)	SAMPLE CONCENTRATION (ug/Kg)	MS CONCENTRATION (ug/Kg)	MS % REC #	QC LIMITS REC.
1,1-Dichloroethene	88	0	83	94 _	59-172
Trichloroethene	88	0	78	88 _	62-137
Benzene	88	0	90	102 _	66-142
Toluene	88	0	88	100 _	59-139
Chlorobenzene	88	0	88	100 _	60-133

COMPOUND	SPIKE ADDED (ug/Kg)	MSD CONCENTRATION (ug/Kg)	MSD % REC #	% RPD #	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	78	83	106 _	13 _	22	59-172
Trichloroethene	78	70	90 _	2 _	24	62-137
Benzene	78	79	101 _	1 _	21	66-142
Toluene	78	80	103 _	4 _	21	59-139
Chlorobenzene	78	78	100 _	0 _	21	60-133

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: _____

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Name:AQUATEC, INC. Contract:68-01-7426

Lab Code: AQUAI Case No.: 11063 SAS No.: _____ SDG No.: EX090

Matrix Spike - EPA Sample No.: EX092

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	#	QC LIMITS REC.
1,1-Dichloroethene	83	0	90	109		61-145
Trichloroethene	83	5	88	99		71-120
Benzene	83	0	89	107		76-127
Toluene	83	6	99	112		76-125
Chlorobenzene	83	0	87	104		75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	#	% RPD	#	QC LIMITS RPD	REC.
1,1-Dichloroethene	83	86	104		5		14	61-145
Trichloroethene	83	80	89		11		14	71-120
Benzene	83	79	95		11		11	76-127
Toluene	83	93	105		6		13	76-125
Chlorobenzene	83	80	95		9		13	75-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: _____

4A
VOLATILE METHOD BLANK SUMMARY

Name:AQUATEC, INC. Contract:68-01-7426

Lab Code: AQUAI Case No.: 11063 SAS No.: _____ SDG No.: EX090

Lab File ID: CBNB001BV Lab Sample ID: CBNB001BV

Date Analyzed: 12/07/88 Time Analyzed: 2242

Matrix: (soil/water) SOIL Level:(low/med) LOW

Instrument ID: OWAC

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	EX090	92786	C92786V	0610
02	EX090MS	M92786	C92786MV	0700
03	EX090MSD	MD92786	C92786MDV	0759
04				
05				
06				
07				
08				
09				
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COMMENTS: _____

4A

VOLATILE METHOD BLANK SUMMARY

Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 11063 SAS No.: _____ SDG No.: EX090

Lab File ID: DCDB003BV Lab Sample ID: DCDB003BV

Date Analyzed: 12/08/88 Time Analyzed: 1710

Matrix: (soil/water) WATER Level: (low/med) LOW

Instrument ID: OWAD

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS and MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	EX092	92807	D92807DV	1940
02	EX092MS	M92807	D92807DMDV	2115
03	EX092MSD	MD92807	D92807DMI2V	2242
04				
05				
06				
07				
08				
09				
10				
11				
12				
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COMMENTS: _____

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKB1

Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 11063 SAS No.: ____ SDG No.: EX090

Matrix: (soil/water) SOIL Lab Sample ID: CBNB001BV

Sample wt/vol: - 4 (g/mL) G Lab File ID: CBNB001BV

Level: (low/med) LOW Date Received: 00/00/00

% Moisture: not dec. 0 Date Analyzed: 12/07/88

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	14	U
74-83-9	Bromomethane	14	U
75-01-4	Vinyl Chloride	14	U
75-00-3	Chloroethane	14	U
75-09-2	Methylene Chloride	12	
67-64-1	Acetone	17	
75-15-0	Carbon Disulfide	7	U
75-35-4	1,1-Dichloroethene	7	U
75-34-3	1,1-Dichloroethane	7	U
540-59-0	1,2-Dichloroethene (total)	7	U
67-66-3	Chloroform	7	U
107-06-2	1,2-Dichloroethane	7	U
78-93-3	2-Butanone	5	J
71-55-6	1,1,1-Trichloroethane	7	U
56-23-5	Carbon Tetrachloride	7	U
108-05-4	Vinyl Acetate	14	U
75-27-4	Bromodichloromethane	7	U
78-87-5	1,2-Dichloropropane	7	U
10061-01-5	cis-1,3-Dichloropropene	7	U
79-01-6	Trichloroethene	7	U
124-48-1	Dibromochloromethane	7	U
79-00-5	1,1,2-Trichloroethane	7	U
71-43-2	Benzene	7	U
10061-02-6	trans-1,3-Dichloropropene	7	U
75-25-2	Bromoform	7	U
108-10-1	4-Methyl-2-Pentanone	14	U
591-78-6	2-Hexanone	3	J
127-18-4	Tetrachloroethene	7	U
79-34-5	1,1,2,2-Tetrachloroethane	7	U
108-88-3	Toluene	7	U
108-90-7	Chlorobenzene	7	U
100-41-4	Ethylbenzene	7	U
100-42-5	Styrene	7	U
1330-20-7	Xylene (total)	7	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKB1

Lab Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 11063 SAS No.: _____ SDG No.: EX090

Matrix: (soil/water) SOIL Lab Sample ID: CBNB001BV

Sample wt/vol: 4 (g/mL) G Lab File ID: CBNB001BV

Level: (low/med) LOW Date Received: 00/00/00

% Moisture: not dec. 0 Date Analyzed: 12/07/88

Column: (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 1 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	75-71-8	DICHLORODIFLUOROMETHANE	1.90	11	JL
2.					
3.					
4.					
5.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
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29.					
30.					

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLKB3

Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 11063 SAS No.: _____ SDG No.: EX090

Matrix: (soil/water) WATER Lab Sample ID: DCDB003BV

Sample wt/vol: 5 (g/mL) ML Lab File ID: DCDB003BV

Level: (low/med) LOW Date Received: 00/00/00

% Moisture: not dec._____ Date Analyzed: 12/08/88

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	10	U
75-01-4	Vinyl Chloride	10	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	2	J
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	5	U
75-35-4	1,1-Dichloroethene	5	U
75-34-3	1,1-Dichloroethane	5	U
540-59-0	1,2-Dichloroethene (total)	5	U
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	5	U
78-93-3	2-Butanone	.9	J
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
108-05-4	Vinyl Acetate	10	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	5	U
10061-01-5	cis-1,3-Dichloropropene	5	U
79-01-6	Trichloroethene	5	U
124-48-1	Dibromochloromethane	5	U
79-00-5	1,1,2-Trichloroethane	5	U
71-43-2	Benzene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U
108-88-3	Toluene	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
100-42-5	Styrene	5	U
1330-20-7	Xylene (total)	5	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLKB3

Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 11063 SAS No.: _____ SDG No.: EX090

Matrix: (soil/water) WATER Lab Sample ID: DCDB003BV

Sample wt/vol: 5 (g/mL) ML Lab File ID: DCDB003BV

Level: (low/med) LOW Date Received: 00/00/00

% Moisture: not dec._____ Date Analyzed: 12/08/88

Column: (pack/cap) PACK 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
1.					
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3.					
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EX090

Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 11063 SAS No.: _____ SDG No.: EX090

Matrix: (soil/water) SOIL Lab Sample ID: 92786

Sample wt/vol: 4 (g/mL) G Lab File ID: C92786V

Level: (low/med) LOW Date Received: 12/07/88

% Moisture: not dec. 11 Date Analyzed: 12/08/88

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG	Q
74-87-3	Chloromethane	15	U
74-83-9	Bromomethane	15	U
75-01-4	Vinyl Chloride	15	U
75-00-3	Chloroethane	15	U
75-09-2	Methylene Chloride	~~5~~ 8	~~U~~ M RK 1/19/89
67-64-1	Acetone	~~14~~ 15	~~B~~ M
75-15-0	Carbon Disulfide	8	U
75-35-4	1,1-Dichloroethene	8	U
75-34-3	1,1-Dichloroethane	8	U
540-59-0	1,2-Dichloroethene (total)	8	U
67-66-3	Chloroform	8	U
107-06-2	1,2-Dichloroethane	8	U
78-93-3	2-Butanone	~~6~~ 15	~~B~~ M RK 1/19/89
71-55-6	1,1,1-Trichloroethane	8	U
56-23-5	Carbon Tetrachloride	8	U
108-05-4	Vinyl Acetate	15	U
75-27-4	Bromodichloromethane	8	U
78-87-5	1,2-Dichloropropane	8	U
10061-01-5	cis-1,3-Dichloropropene	8	U
79-01-6	Trichloroethene	8	U
124-48-1	Dibromochloromethane	8	U
79-00-5	1,1,2-Trichloroethane	8	U
71-43-2	Benzene	8	U
10061-02-6	trans-1,3-Dichloropropene	8	U
75-25-2	Bromoform	8	U
108-10-1	4-Methyl-2-Pentanone	15	U
591-78-6	2-Hexanone	15	U
127-18-4	Tetrachloroethene	3	J
79-34-5	1,1,2,2-Tetrachloroethane	8	U
108-88-3	Toluene	8	U
108-90-7	Chlorobenzene	8	U
100-41-4	Ethylbenzene	8	U
100-42-5	Styrene	8	U
1330-20-7	Xylene (total)	8	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EX090

Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 11063 SAS No.: _____ SDG No.: EX090

Matrix: (soil/water) SOIL Lab Sample ID: 92786

Sample wt/vol: 4 (g/mL) G Lab File ID: C92786V

Level: (low/med) LOW Date Received: 12/07/88

% Moisture: not dec. 11 Date Analyzed: 12/08/88

Column: (pack/cap) PACK Dilution Factor: 1.0

Number TICs found: 0

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

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EX092

Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 11063 SAS No.: _____ SDG No.: EX090

Matrix: (soil/water) WATER Lab Sample ID: 92807

Sample wt/vol: 3 (g/mL) ML Lab File ID: D92807DV

Level: (low/med) LOW Date Received: 12/08/88

% Moisture: not dec. _____ Date Analyzed: 12/08/88

Column: (pack/cap) PACK Dilution Factor: 1.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	17	U
74-83-9	Bromomethane	17	U
75-01-4	Vinyl Chloride	3	J
75-00-3	Chloroethane	17	U
75-09-2	Methylene Chloride	8 2 B u	R.K. 1/14/89
67-64-1	Acetone	17	U
75-15-0	Carbon Disulfide	8	U
75-35-4	1,1-Dichloroethene	8	U
75-34-3	1,1-Dichloroethane	8	U
540-59-0	1,2-Dichloroethene (total)	220	
67-66-3	Chloroform	8	U
107-06-2	1,2-Dichloroethane	8	U
78-93-3	2-Butanone	17	U
71-55-6	1,1,1-Trichloroethane	8	U
56-23-5	Carbon Tetrachloride	8	U
108-05-4	Vinyl Acetate	17	U
75-27-4	Bromodichloromethane	8	U
78-87-5	1,2-Dichloropropane	8	U
10061-01-5	cis-1,3-Dichloropropene	8	U
79-01-6	Trichloroethene	5	J
124-48-1	Dibromochloromethane	8	U
79-00-5	1,1,2-Trichloroethane	8	U
71-43-2	Benzene	8	U
10061-02-6	trans-1,3-Dichloropropene	8	U
75-25-2	Bromoform	8	U
108-10-1	4-Methyl-2-Pentanone	17	U
591-78-6	2-Hexanone	17	U
127-18-4	Tetrachloroethene	27	
79-34-5	1,1,2,2-Tetrachloroethane	8	U
108-88-3	Toluene	6	J
108-90-7	Chlorobenzene	8	U
100-41-4	Ethylbenzene	3	J
100-42-5	Styrene	8	U
1330-20-7	Xylene (total)	10	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EX092

Name: AQUATEC, INC. Contract: 68-01-7426

Lab Code: AQUAI Case No.: 11063 SAS No.: _____ SDG No.: EX090

Matrix: (soil/water) WATER Lab Sample ID: 92807

Sample wt/vol: 3 (g/mL) ML Lab File ID: D92807DV

Level: (low/med) LOW Date Received: 12/08/88

% Moisture: not dec._____ Date Analyzed: 12/08/88

Column: (pack/cap) PACK 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
1.					
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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

ESD/Central Regional Laboratory
DATA TRACKING FORM FOR CONTRACT SAMPLES

CRL Data Set No. SF 5778 (1) CERCLIS No. MID980793806

SMO Case No. 11063 Site Name and Location: Verona Well Field, MI

Name of Contractor or EPA Laboratory: AQUATEC Data User: CH2MHILL

No. of Samples: 2 Date Samples or Data Received: 12-19-88

1. Have chain-of-custody records been received? YES ✓ NO ___
2. Have Traffic Reports or packing lists been received? YES ✓ NO ___
3. If no, are Traffic Report or packing list numbers written on the chain-of-custody record? YES ___ NO ___
4. If no, which Traffic report or packing list numbers are missing?

Are basic data forms in? YES ✓ NO ___

Number of samples claimed: 2 Number of samples received: 2

Checked by: Erlinda Luz M. Arcede Date: 12-20-88

Received by Contract Project Management Section: DMM Date: 12-20-88

Review Started: 1/18/89 Reviewer Signature: Robert Kaiser

Total time spent on review: 5 hrs Date review completed: 1/19/89

Copied (xeroxed) by: [illegible] Date: 1/20/89

Mailed to Data User by: [illegible] Date: 1/23/89

DATA USERS:

Please fill in the blanks below and return this form to: Sylvia Griffin, Data Management Coordinator, Region V, ESCRL

Data received by: _____ Date: _____

Q.A. review received by: _____ Date: _____

Inorganic Data Complete [ ], Suitable for Intended Purposes [ ] ✓ [ ] if acceptable.
Organic Data Complete [ ], Suitable for Intended Purposes [ ] List problems below.
Dioxin Data Complete [ ], Suitable for Intended Purposes [ ]
SAS Data Complete [ ], Suitable for Intended Purposes [ ]

See Attached "Missing Data Request Form" [ ]
PROBLEMS: Please indicate reasons (if any) why data are not suitable for your uses. Other problems.

Received by Data Management Coordinator, CRL for File: Date: _____

Signature:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

ESD/Central Regional Laboratory
DATA TRACKING FORM FOR CONTRACT SAMPLES

CRL Data Set No. _____ CERCLIS No. _____

SMO Case No. 11202 Site Name and Location: Verona

Name of Contractor or EPA Laboratory: Aquatec Data User: OH2

No. of Samples: 3 Date Samples or Data Received: 1-18-89

1. Have chain-of-custody records been received? YES ___ NO ✓
2. Have Traffic Reports or packing lists been received? YES ___ NO ✓
3. If no, are Traffic Report or packing list numbers written on the chain-of-custody record? YES ___ NO ___
4. If no, which Traffic report or packing list numbers are missing?

Are basic data forms in? YES ✓ NO ___

Number of samples claimed: 3 Number of samples received: 3

Checked by: A Haas Date: 1-19-89

Received by Contract Project Management Section: DMM Date: 1-19-89

Review Started: 25 Jan. 1989 Reviewer Signature: Al Venuto

Total time spent on review: 3 hrs Date review completed: 25 Jan. 1989

Copied (xeroxed) by: John Date: 2/1/89

Mailed to Data User by: A Haas Date: 2-2-89

DATA USERS:

Please fill in the blanks below and return this form to: Sylvia Griffin, Data Management Coordinator, Region V, ESCRL

Data received by: _____ Date: _____

Q.A. review received by: _____ Date: _____

Inorganic Data Complete [ ]. Suitable for Intended Purposes [ ] ✓ [ ] if acceptable.
Organic Data Complete [ ]. Suitable for Intended Purposes [ ] List problems below.
Dioxin Data Complete [ ]. Suitable for Intended Purposes [ ]
SAS Data Complete [ ]. Suitable for Intended Purposes [ ]

See Attached "Missing Data Request Form" [ ]
PROBLEMS: Please indicate reasons (if any) why data are not suitable for your uses. Other problems.

Received by Data Management Coordinator, CRL for File: Date: _____

Signature:

EPA Sample No's
89ZC01S01 - 89ZC01S05

VOA

CRL Conf (5) (L)

WATER

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION 5
CHICAGO, ILLINOIS

DATE: MAR 0 8 1989

SUBJECT: Review of Region 5 data for Verona Well Field

FROM: Curtis Ross, Director
Region 5 Central Regional Laboratory

To: Data User: CH2MHILL

Attached are the results for:

CRL Data Set Numbers: SF5838
Sample Numbers: 89ZC01501 - 89ZC01505 (5)
Parameter(s): VOA / WATER
Laboratory: CRL / ESAT

Results Status:

(X) DATA ACCEPTABLE FOR USE*
( ) DATA QUALIFIED AS TO USE
( ) DATA UNACCEPTABLE FOR USE

* For data acceptability requirements, refer to the method capability statement for the methods referenced.

Comments by the Quality Control Coordinator:

S Griffin
MAR 0 8 1989

U.S. EPA CENTRAL
REGIONAL LAB

If there are any questions regarding the data, refer them to Steve Parker, the Quality Control Coordinator, at 353-3805.

Please sign and date this form below and return it with any comments to:

Sylvia Griffin
Data Management Coordinator
Region 5 Central Regional Laboratory
(5SCRL)

RECEIVED BY/DATE: _____

Comments:

U.S. EPA - REGION V
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
METHOD BLANK

Study Name: VERONA WELL FIELD
Data Set: SF-5838
Lab File ID:>C4382
Dilution Factor: 1.00000

Matrix: WATER
Date Received: 01/20/89
Date Analyzed: 01/20/89

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/L	Q
74-87-3	Chloromethane	3.	U
74-83-9	Bromomethane	3.	U
75-01-4	Vinyl Chloride	3.	U
75-00-3	Chloroethane	3.	U
75-09-2	Methylene Chloride	1.	U
107-02-8	Acrolein	25.	U
67-64-1	Acetone	50.	U
107-13-1	Acrylonitrile	50.	U
75-15-0	Carbon Disulfide	2.	U
75-35-4	1,1-Dichloroethene	1.	U
75-34-3	1,1-Dichloroethane	1.	U
156-60-5	1,2-Dichloroethene (total)	1.	U
67-66-3	Chloroform	1.	U
107-02-2	1,2-Dichloroethane	1.	U
78-93-3	2-Butanone	20.	U
71-55-6	1,1,1-Trichloroethane	1.	U
56-23-5	Carbon Tetrachloride	1.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	1.	U
78-87-5	1,2-Dichloropropane	1.	U
10061-01-5	cis-1,3-Dichloropropene	1.	U
79-01-6	Trichloroethene	1.	U
71-43-2	Benzene	1.	U
124-48-1	Dibromochloromethane	1.	U
10061-02-6	trans-1,3-Dichloropropene	1.	U
79-00-5	1,1,2-Trichloroethane	1.	U
110-75-8	2-Chloroethyl Vinylether	1.	U
75-25-2	Bromoform	1.	U
108-10-1	4-Methyl-2-pentanone	4.	U
591-78-6	2-Hexanone	4.	U
127-18-4	Tetrachloroethene	1.	U
79-34-5	1,1,2,2-Tetrachloroethane	1.	U
108-88-3	Toluene	1.	U
108-90-7	Chlorobenzene	1.	U
100-41-4	Ethylbenzene	1.	U
100-42-5	Styrene	2.	U
108-38-3	Meta Xylene	2.	U
95-47-6	O-&/or P-Xylene	2.	U

Data Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water.
J = Estimated. D = DILUTED OUT
X = Result rejected for failing mass spectral confirmation.
E = Concentration exceeded calibration range.

U.S. EPA - REGION V

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

METHOD BLANK

Study Name: VERONA WELL FIELD

Data Set: SF-5838

Matrix: WATER

Lab File ID: >C4382

Date Received: 01/20/89

Dilution Factor: 1.00000

Date Analyzed: 01/20/89

CONCENTRATION UNITS:
ug/L or ug/Kg
ug/L

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
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U.S. EPA - REGION V
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
89ZC01S01

Study Name: VERONA WELL FIELD
Data Set: SF-5838
Lab File ID:>C4383
Dilution Factor: 1.00000

Matrix: WATER
Date Received: 01/20/89
Date Analyzed: 01/20/89

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/L	Q
74-87-3	Chloromethane	3.	U
74-83-9	Bromomethane	3.	U
75-01-4	Vinyl Chloride	3.	U
75-00-3	Chloroethane	3.	U
75-09-2	Methylene Chloride	1.	U
107-02-8	Acrolein	75.	U
67-64-1	Acetone	50.	U
107-13-1	Acrylonitrile	50.	U
75-15-0	Carbon Disulfide	2.	U
75-35-4	1,1-Dichloroethene	1.	U
75-34-3	1,1-Dichloroethane	1.	U
156-60-5	1,2-Dichloroethene (total)	1.	U
67-66-3	Chloroform	1.	U
107-02-2	1,2-Dichloroethane	1.	U
78-93-3	2-Butanone	20.	U
71-55-6	1,1,1-Trichloroethane	1.	U
56-23-5	Carbon Tetrachloride	1.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	1.	U
78-87-5	1,2-Dichloropropane	1.	U
10061-01-5	cis-1,3-Dichloropropene	1.	U
79-01-6	Trichloroethene	1.	U
71-43-2	Benzene	1.	U
124-48-1	Dibromochloromethane	1.	U
10061-02-6	trans-1,3-Dichloropropene	1.	U
79-00-5	1,1,2-Trichloroethane	1.	U
110-75-8	2-Chloroethyl Vinylether	1.	U
75-25-2	Bromoform	1.	U
108-10-1	4-Methyl-2-pentanone	4.	U
591-78-6	2-Hexanone	4.	U
127-18-4	Tetrachloroethene	1.	U
79-34-5	1,1,2,2-Tetrachloroethane	1.	U
108-88-3	Toluene	1.	U
108-90-7	Chlorobenzene	1.	U
100-41-4	Ethylbenzene	1.	U
100-42-5	Styrene	2.	U
108-38-3	Meta Xylene	2.	U
95-47-6	O-&/or P-Xylene	2.	U

Data Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water.
J = Estimated. D = DILUTED OUT
X = Result rejected for failing mass spectral confirmation.
E = Concentration exceeded calibration range.

U.S. EPA - REGION V

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

SFC001001

Study Name: VERONA WELL FIELD

Data Set: SF-5838

Matrix: WATER

Lab File ID: >C4383

Date Received: 01/20/89

Dilution Factor: 1.00000

Date Analyzed: 01/20/89

CONCENTRATION UNITS:
ug/L or ug/Kg
ug/L

Number TICs found:

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
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U.S. EPA - REGION V
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
89ZC01S02

Study Name: VERONA WELL FIELD
Data Set: SF-5838
Lab File ID: C4384
Dilution Factor: 1.00000

Matrix: WATER
Date Received: 01/20/89
Date Analyzed: 01/20/89

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/L	Q
74-87-3	Chloromethane	3.	U
74-83-9	Bromomethane	3.	U
75-01-4	Vinyl Chloride	3.	U
75-00-3	Chloroethane	3.	U
75-09-2	Methylene Chloride	1.	U
107-02-8	Acrolein	75.	U
67-64-1	Acetone	50.	U
107-13-1	Acrylonitrile	50.	U
75-15-0	Carbon Disulfide	2.	U
75-35-4	1,1-Dichloroethene	1.	U
75-34-3	1,1-Dichloroethane	1.	U
156-60-5	1,2-Dichloroethene (total)	1.	U
67-66-3	Chloroform	1.	U
107-02-2	1,2-Dichloroethane	1.	U
78-93-3	2-Butanone	20.	U
71-55-6	1,1,1-Trichloroethane	1.	U
56-23-5	Carbon Tetrachloride	1.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	1.	U
78-87-5	1,2-Dichloropropane	1.	U
10061-01-5	cis-1,3-Dichloropropene	1.	U
79-01-6	Trichloroethene	1.	U
71-43-2	Benzene	1.	U
124-48-1	Dibromochloromethane	1.	U
10061-02-6	trans-1,3-Dichloropropene	1.	U
79-00-5	1,1,2-Trichloroethane	1.	U
110-75-8	2-Chloroethyl Vinylether	1.	U
75-25-2	Bromoform	1.	U
108-10-1	4-Methyl-2-pentanone	4.	U
591-78-6	2-Hexanone	4.	U
127-18-4	Tetrachloroethene	1.	U
79-34-5	1,1,2,2-Tetrachloroethane	1.	U
108-88-3	Toluene	1.	U
108-90-7	Chlorobenzene	1.	U
100-41-4	Ethylbenzene	1.	U
100-42-5	Styrene	2.	U
108-38-3	Meta Xylene	2.	U
95-47-6	O-&/or P-Xylene	2.	U

Data Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water.
J = Estimated. D = DILUTED OUT
X = Result rejected for failing mass spectral confirmation.
E = Concentration exceeded calibration range.

U.S. EPA - REGION V

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

89ZC01S02

Study Name: VERONA WELL FIELD

Data Set: SF-5838

Matrix: WATER

Lab File ID: >C4384

Date Received: 01/20/89

Dilution Factor: 1.00000

Date Analyzed: 01/20/89

CONCENTRATION UNITS:
ug/L or ug/Kg
ug/L

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
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U.S. EPA - REGION V
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
89ZC01S03

Study Name: VERONA WELL FIELD
Data Set: SF-5838
Lab File ID:>C4385
Dilution Factor: 1.00000

Matrix: WATER
Date Received: 01/20/89
Date Analyzed: 01/20/89

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/L	Q
74-87-3	Chloromethane	3.	U
74-83-9	Bromomethane	3.	U
75-01-4	Vinyl Chloride	3.	U
75-00-3	Chloroethane	3.	U
75-09-2	Methylene Chloride	1.	U
107-02-8	Acrolein	75.	U
67-64-1	Acetone	50.	U
107-13-1	Acrylonitrile	50.	U
75-15-0	Carbon Disulfide	2.	U
75-35-4	1,1-Dichloroethene	1.	U
75-34-3	1,1-Dichloroethane	1.	U
156-60-5	1,2-Dichloroethene (total)	1.	U
67-66-3	Chloroform	1.	U
107-02-2	1,2-Dichloroethane	1.	U
78-93-3	2-Butanone	20.	U
71-55-6	1,1,1-Trichloroethane	1.	U
56-23-5	Carbon Tetrachloride	1.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	1.	U
78-87-5	1,2-Dichloropropane	1.	U
10061-01-5	cis-1,3-Dichloropropene	1.	U
79-01-6	Trichloroethene	1.	U
71-43-2	Benzene	1.	U
124-48-1	Dibromochloromethane	1.	U
10061-02-6	trans-1,3-Dichloropropene	1.	U
79-00-5	1,1,2-Trichloroethane	1.	U
110-75-8	2-Chloroethyl Vinylether	1.	U
75-25-2	Bromoform	1.	U
108-10-1	4-Methyl-2-pentanone	4.	U
591-78-6	2-Hexanone	4.	U
127-18-4	Tetrachloroethene	1.	U
79-34-5	1,1,2,2-Tetrachloroethane	1.	U
108-88-3	Toluene	1.	U
108-90-7	Chlorobenzene	1.	U
100-41-4	Ethylbenzene	1.	U
100-42-5	Styrene	2.	U
108-38-3	Meta Xylene	2.	U
95-47-6	O-&/or P-Xylene	2.	U

Data Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water.
J = Estimated. D = DILUTED OUT
X = Result rejected for failing mass spectral confirmation.
E = Concentration exceeded calibration range.

U.S. EPA - REGION V

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

89ZC01S03

Study Name: VERONA WELL FIELD

Data Set: SF-5838

Matrix: WATER

Lab File ID: >C4385

Date Received: 01/20/89

Dilution Factor: 1.00000

Date Analyzed: 01/20/89

CONCENTRATION UNITS:
ug/L or ug/Kg
ug/L

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
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U.S. EPA - REGION V
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
89CC01S04

Study Name: VERONA WELL FIELD
Data Set: SF-5838
Lab File ID: C4386
Dilution Factor: 1.00000

Matrix: WATER
Date Received: 01/20/89
Date Analyzed: 01/20/89

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/L	Q
74-87-3	Chloromethane	3.	U
74-83-9	Bromomethane	3.	U
75-01-4	Vinyl Chloride	3.	U
75-00-3	Chloroethane	3.	U
75-09-2	Methylene Chloride	2.	
107-02-8	Acrolein	75.	U
67-64-1	Acetone	50.	U
107-13-1	Acrylonitrile	50.	U
75-15-0	Carbon Disulfide	2.	U
75-35-4	1,1-Dichloroethene	1.	U
75-34-3	1,1-Dichloroethane	1.	U
156-60-5	1,2-Dichloroethene (total)	1.	U
67-66-3	Chloroform	1.	U
107-06-2	1,2-Dichloroethane	1.	U
78-93-3	2-Butanone	20.	U
71-55-6	1,1,1-Trichloroethane	1.	U
56-23-5	Carbon Tetrachloride	1.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	1.	U
78-87-5	1,2-Dichloropropane	1.	U
10061-01-5	cis-1,3-Dichloropropene	1.	U
79-01-6	Trichloroethene	1.	U
71-43-2	Benzene	1.	U
124-48-1	Dibromochloromethane	1.	U
10061-02-6	trans-1,3-Dichloropropene	1.	U
79-00-5	1,1,2-Trichloroethane	1.	U
110-75-8	2-Chloroethyl Vinylether	1.	U
75-25-2	Bromoform	1.	U
108-10-1	4-Methyl-2-pentanone	4.	U
591-78-6	2-Hexanone	4.	U
127-18-4	Tetrachloroethene	1.	U
79-34-5	1,1,2,2-Tetrachloroethane	1.	U
108-88-3	Toluene	1.	U
108-90-7	Chlorobenzene	1.	U
100-41-4	Ethylbenzene	1.	U
100-42-5	Styrene	2.	U
108-38-3	Meta Xylene	2.	U
95-47-6	O-&/or P-Xylene	2.	U

Data Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water.
J = Estimated. D = DILUTED OUT
X = Result rejected for failing mass spectral confirmation.
E = Concentration exceeded calibration range.

U.S. EPA - REGION V

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

89ZC01S04

Study Name: VERONA WELL FIELD

Data Set: SF-5838

Matrix: WATER

Lab File ID: >C4386

Date Received: 01/20/89

Dilution Factor: 1.00000

Date Analyzed: 01/20/89

CONCENTRATION UNITS:
ug/L or ug/Kg
ug/L

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
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3.					
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U.S. EPA - REGION V
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
89ZC01S05

Study Name: VERONA WELL FIELD
Data Set: SF-5838
Lab File ID:>C4387
Dilution Factor: 1.00000

Matrix: WATER
Date Received: 01/20/89
Date Analyzed: 01/20/89

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/L	Q
74-87-3	Chloromethane	3.	U
74-83-9	Bromomethane	3.	U
75-01-4	Vinyl Chloride	3.	U
75-00-3	Chloroethane	3.	U
75-09-2	Methylene Chloride	1.	U
107-02-8	Acrolein	75.	U
67-64-1	Acetone	50.	U
107-13-1	Acrylonitrile	50.	U
75-15-0	Carbon Disulfide	2.	U
75-35-4	1,1-Dichloroethene	1.	U
75-34-3	1,1-Dichloroethane	1.	U
156-60-5	1,2-Dichloroethene (total)	1.	U
67-66-3	Chloroform	1.	U
107-02-2	1,2-Dichloroethane	1.	U
78-93-3	2-Butanone	20.	U
71-55-6	1,1,1-Trichloroethane	1.	U
56-23-5	Carbon Tetrachloride	1.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	1.	U
78-87-5	1,2-Dichloropropane	1.	U
10061-01-5	cis-1,3-Dichloropropene	1.	U
79-01-6	Trichloroethene	3.	
71-43-2	Benzene	1.	U
124-48-1	Dibromochloromethane	1.	U
10061-02-6	trans-1,3-Dichloropropene	1.	U
79-00-5	1,1,2-Trichloroethane	1.	U
110-75-8	2-Chloroethyl Vinylether	1.	U
75-25-2	Bromoform	1.	U
108-10-1	4-Methyl-2-pentanone	4.	U
591-78-6	2-Hexanone	4.	U
127-18-4	Tetrachloroethene	1.	U
79-34-5	1,1,2,2-Tetrachloroethane	1.	U
108-88-3	Toluene	1.	U
108-90-7	Chlorobenzene	1.	U
100-41-4	Ethylbenzene	1.	U
100-42-5	Styrene	2.	U
108-38-3	Meta Xylene	2.	U
95-47-6	O-&/or P-Xylene	2.	U

Data Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water.
J = Estimated. D = DILUTED OUT
X = Result rejected for failing mass spectral confirmation.
E = Concentration exceeded calibration range.

U.S. EPA - REGION V

VOLATILE ORGANICS ANALYSIS DATA SHEET

TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

89ZC01S05

Study Name: VERONA WELL FIELD

Data Set: SF-5838

Matrix: WATER

Lab File ID: >C4387

Date Received: 01/20/89

Dilution Factor: 1.00000

Date Analyzed: 01/20/89

CONCENTRATION UNITS:
ug/L or ug/Kg
ug/L

Number TICs found: 0

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
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U.S. EP[illegible] - REGI[illegible]
VOLATILE ORGANICS ANALYSIS DATA SHEET

Study Name: [illegible] WELL FIELD
Data Set: [illegible]
Lab File ID: C4788
Dilution Factor: 1.00000

Matrix: WATER
Date Received: 01/20/89
Date Analyzed: 01/20/89

CONCENTRATION UNITS: ug/L

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	3.	U
74-83-9	Bromomethane	3.	U
75-01-4	Vinyl Chloride	3.	U
75-00-3	Chloroethane	3.	U
75-09-2	Methylene Chloride	1.	U
107-02-8	Acrolein	75.	U
67-64-1	Acetone	50.	U
107-13-1	Acrylonitrile	50.	U
75-15-0	Carbon Disulfide	2.	U
75-35-4	1,1-Dichloroethene	6.	
75-34-3	1,1-Dichloroethane	1.	U
156-60-5	1,2-Dichloroethene (total)	1.	U
67-66-3	Chloroform	1.	U
107-02-2	1,2-Dichloroethane	1.	U
78-93-3	2-Butanone	20.	U
71-55-6	1,1,1-Trichloroethane	1.	U
56-23-5	Carbon Tetrachloride	1.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	1.	U
78-87-5	1,2-Dichloropropane	1.	U
10061-01-5	cis-1,3-Dichloropropene	1.	U
79-01-6	Trichloroethene	8.	
71-43-2	Benzene	7.	
124-48-1	Dibromochloromethane	1.	U
10061-02-6	trans-1,3-Dichloropropene	1.	U
79-00-5	1,1,2-Trichloroethane	1.	U
110-75-8	2-Chloroethyl Vinylether	1.	U
75-25-2	Bromoform	1.	U
108-10-1	4-Methyl-2-pentanone	4.	U
591-78-6	2-Hexanone	4.	U
127-18-4	Tetrachloroethene	1.	U
79-34-5	1,1,2,2-Tetrachloroethane	1.	U
108-88-3	Toluene	8.	
108-90-7	Chlorobenzene	9.	
100-41-4	Ethylbenzene	1.	U
100-42-5	Styrene	2.	U
108-38-3	Meta Xylene	2.	U
95-47-6	O-&/or P-Xylene	2.	U

Data Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water.
J = Estimated. D = DILUTED OUT
X = Result rejected for failing mass spectral confirmation.
E = Concentration exceeded calibration range.

U.S. EPA - REGION V
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.
BLANK MSD

Study Name: VERONA WELL FIELD
Data Set: SF-5838
Lab File ID:>C4389
Dilution Factor: 1.00000

Matrix: WATER
Date Received: 01/20/89
Date Analyzed: 01/20/89

CAS NO.	COMPOUND	CONCENTRATION UNITS: ug/L	Q
74-87-3	Chloromethane	3.	U
74-83-9	Bromomethane	3.	U
75-01-4	Vinyl Chloride	3.	U
75-00-3	Chloroethane	3.	U
75-09-2	Methylene Chloride	1.	U
107-02-8	Acrolein	75.	U
67-64-1	Acetone	50.	U
107-13-1	Acrylonitrile	50.	U
75-15-0	Carbon Disulfide	2.	U
75-35-4	1,1-Dichloroethene	6.	
75-34-3	1,1-Dichloroethane	1.	U
156-60-5	1,2-Dichloroethene (total)	1.	U
67-66-3	Chloroform	1.	U
107-02-2	1,2-Dichloroethane	1.	U
78-93-3	2-Butanone	20.	U
71-55-6	1,1,1-Trichloroethane	1.	U
56-23-5	Carbon Tetrachloride	1.	U
108-05-4	Vinyl Acetate	10.	U
75-27-4	Bromodichloromethane	1.	U
78-87-5	1,2-Dichloropropane	1.	U
10061-01-5	cis-1,3-Dichloropropene	1.	U
79-01-6	Trichloroethene	8.	
71-43-2	Benzene	7.	
124-48-1	Dibromochloromethane	1.	U
10061-02-6	trans-1,3-Dichloropropene	1.	U
79-00-5	1,1,2-Trichloroethane	1.	U
110-75-8	2-Chloroethyl Vinylether	1.	U
75-25-2	Bromoform	1.	U
108-10-1	4-Methyl-2-pentanone	4.	U
591-78-6	2-Hexanone	4.	U
127-18-4	Tetrachloroethene	1.	U
79-34-5	1,1,2,2-Tetrachloroethane	1.	U
108-88-3	Toluene	8.	
108-90-7	Chlorobenzene	9.	
100-41-4	Ethylbenzene	1.	U
100-42-5	Styrene	2.	U
108-38-3	Meta Xylene	2.	U
95-47-6	O-&/or P-Xylene	2.	U

Data Qualifiers: U = Compounds were analyzed but not detected. The value reported is the method detection limit for reagent water.
J = Estimated. D = DILUTED OUT
X = Result rejected for failing mass spectral confirmation.
E = Concentration exceeded calibration range.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

Round 2

11 VIATRR for SAS VOAs

DATE: 5-5-89

SUBJECT: Review of Region V CLP Data
Received for Review on 4-24-89

FROM: Curtis Ross, Director (5SCRL)
Central Regional Laboratory

TO: Data User: CH2

We have reviewed the data for the following case(s).

SITE NAME: Verona well field SMO Case No. 11724SAS4537E

EPA Data Set No. (1) No. of Samples: 11 D.U./Activity Numbers

CRL No.

SMO Traffic No. EAL61, 98-99 EDG00, 07, 10, 12-13, 29-31

CLP Laboratory: Versar Hrs. Required for Review: 5 hrs.

Following are our findings:

This review covers eleven water samples (EAL61, EAL98, EAL99, EDG00, EDG07, EDG10, EDG12, EDG13 and EDG29 through EDG31) for organic volatile analysis at low levels only according to the SAS 4537E requirements.

The reviewer's narrative and data qualifiers follow.

Al Venuto (Weston/ESAT)
1 May 1989

{ } Data are acceptable for use.
{ ✓ } Data are acceptable for use with qualifications referenced above.
See Data Qualifier sheets and Calibration Outlier forms for flags and additional comments.
{ } Data are preliminary - pending verification by Contractor Laboratory.
See Case Summary above.
{ } Data are unacceptable.

cc: Carla Dempsey, CLP Quality Assurance Officer, Analytical Operations Branch
James Petty, Chief Quality Assurance Research, EMSL, Las Vegas

DATA QUALIFIERS

Contractor: VERSAR

Case 11724SAS4537E

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

① Holding Times:
All samples were promptly analyzed and easily met the seven day holding time from date of receipt to date of analysis.

② GC/MS Tuning:
The GC tuning and mass calibration were all within the required Q.C. limits.

③ Calibration:
The few volatile calibration outliers are listed on the outliers form.

④ Method Blanks:
The volatile blank VBLK19 contained no compounds. VBLK37 was found to contain the common contaminant methylene chloride and also a TIC — hexamethyltrisiloxane; the latter is probably a column artifact. Of the samples associated with VBLK37 only EDG07, EDG10 and EDG31 also contained methylene chloride. EDG00, EDG07, EDG30 and EDG31 also contained the TIC compound.

⑤ Surrogate Recoveries:
All volatile surrogate recoveries were very well within the Q.C. limits

⑥ Matrix Spikes and Matrix Spike Duplicates:
All MS and MSD recoveries were well within the Q.C. limits, but the RPD for 1,1-dichloroethene was above the limit. Since this compound was not detected in sample EDG00 (unspiked)

Reviewed by: Al Venuto
Phone: (312) 353-2959
Date: 1 May 1989

DATA QUALIFIERS

Contractor: VERSAR

Case 11724 SAS 4537E

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

the result for 1,1 dichloroethene in that sample only should be considered U.J, estimated quantitation limits.

(7) Field Duplicates:

Sample EDG-31 was identified as a duplicate of EDG-30; both had very similar results.

Sample EDG-07 was identified as a field blank. Other than the common method blank contaminants, only chloroform was found in this sample.

(8) Internal Standards Performance:

All volatile internal standard areas were very well within the Q.C. limits.

(9) Compound Quantitation and Reported Detection Limits:

Special low level limits were used. One sample, EAL98, was analyzed at a fifty-fold dilution, but the quantitation limits were not adjusted accordingly for that sample.

(10) Additional Case-Specific Problems:

In samples EAL98 and EDG12, the values for acetone were flagged "X"; similarly in sample EDG-30, the value for 1,2-dichloroethane was flagged "X". No explanation was offered, as required, either in a footnote on the form I's or in the lab's narrative, for this flag

Reviewed by: Al Venuto

Phone: (312) 353-2959

Date: 1 May 1989

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION V
CALIBRATION OUTLIERS
VOLATILE HSL COMPOUNDS

CASE/SAS # 11724/4537E CONTRACTOR VERSAR

Instrument # Y	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME: 4-4-87 15:28	4-4-87	15:28		4-5-87	10:00		4-6-87	10:59							
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
Chloromethane															
Bromomethane															
Vinyl Chloride															
Chloroethane															
Methylene Chloride															
Acetone															
Carbon Disulfide															
1,1-Dichloroethane															
1,1-Dichloroethene															
Trans-1,2-Dichloroethene															
Chloroform															
2-Butanone	.007		Y/R	.006		Y/R	.006		Y/R						
1,2-Dichloroethane															
1,1,1-Trichloroethane															
Carbon Tetrachloride															
Vinyl Acetate															
Bromodichloromethane															
1,2-Dichloropropane															
Trans-1,3-Dichloropropene															
Trichloroethene															
Dibromochloromethane															
1,1,2-Trichloroethane															
Benzene															
cis-1,3-Dichloropropene															
~~2-Chloroethylvinylether~~ Acrolein	.032		Y/R	.024		Y/R	.029		Y/R						
Bromoform															
4-Methyl-2-Pentanone															
2-Hexanone	.036		Y/R	.027		Y/R	.029		Y/R						
Tetrachloroethene															
1,1,2,2-Tetrachloroethane															
Toluene															
Chlorobenzene															
Ethylbenzene															
Styrene															
~~m-Xylenes~~															
~~o/p-Xylene~~ Acrylonitrile															

AFFECTED SAMPLES:

	VBLK19	VBLK37
	EAL61	EDG00
	EAL98	EDG00MS
	EAL99	EDG00MSD
	EDG12	EDG07
	EDG29	EDG13
		EDG10
		EDG30
		EDG31

Reviewer's Initials/Date: AV 5-1-89

* These flags should be applied to the analytes on the sample data sheets.

GENERAL DATA QUALIFIERS

For reporting results to the USEPA, the following contract specific qualifiers are to be used. The seven qualifiers defined below are not subject to modification by the laboratory. Up to five qualifiers may be reported on Form I for each compound.

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

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

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

and df = dilution factor

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

$$\frac{(330\ U)}{.76} \times 10 = 4300\ U$$

rounded to the appropriate number of significant figures

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

J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero. For example, if the sample quantitation limit is 10 ug/L, but a concentration of 3 ug/L is calculated, report it as 3J. The sample quantitation limit must be adjusted for both dilution and percent moisture as discussed for the U flag, so that if a sample with 24% moisture and a 1 to 10 dilution factor has a calculated concentration of 300 ug/L and a sample quantitation limit of 430 ug/kg, report the concentration as 300J on Form I.

C - This flag applies to pesticide results where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/ul in the final extract shall be confirmed by GC/MS.

B - This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action. This flag must be used for a TIC as well as for a positively identified TCL compound.

E - This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis. This flag will not apply to pesticides/PCBs analyzed by GC/EC methods. If one or more compounds have a response greater than full scale, the sample or extract must be diluted and re-analyzed according to the specifications in Exhibit D. All such compounds with a response greater than full scale should have the concentration flagged with an "E" on the Form I for the original analysis. If the dilution of the extract causes any compounds identified in the first analysis to be below the calibration range in the second analysis, then the results of both analyses shall be reported on separate Forms I. The Form I for the diluted sample shall have the "DL" suffix appended to the sample number. NOTE: For total xylenes, where three isomers are quantified as two peaks, the calibration range of each peak should be considered separately, e.g., a diluted analysis is not required for total xylenes unless the concentration of either peak separately exceeds 200 ug/L.

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and all concentration values reported on that Form I are flagged with the "D" flag.

A - This flag indicates that a TIC is a suspected aldol-condensation product.

X - Other specific flags may be required to properly define the results. If used, they must be fully described and such description attached to the Sample Data Summary Package and the Case Narrative. Begin by using "X". If more than one flag is required, use "Y" and "Z", as needed. If more than five qualifiers are required for a sample result, use the "X" flag to combine several flags, as needed. For instance, the "X" flag might combine the "A", "B", and "D" flags for some samples.

The combination of flags "BU" or "UB" is expressly prohibited. Blank contaminants are flagged "B" only when they are also detected in the sample.

If analyses at two different dilution factors are required (see Exhibit D), follow the data reporting instructions given in Exh. D and with the "D" and "E" flags above.

USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA, VA 22313
703-557-2490 FTS-557-2490

CASE NO: 11724 SAS NO: (IF APPLICABLE) 4527E

ORGANIC TRAFFIC REPORT

(1) TYPE OF ACTIVITY (CIRCLE ONE): SUPERFUND—PA SI ESI (RIFS) RD RA ER NPLD O&M OTHER; NON-SUPERFUND— PROGRAM

SAMPLE DESCRIPTION (ENTER IN BOX A): 1. SURFACE WATER 2. GROUND WATER 3. LEACHATE 4. SOIL 5. SEDIMENT 6. OIL (SAS) 7. WASTE (SAS)

(2) REGION NO: V SAMPLING COMPANY:
SAMPLER: (NAME) Cathy Karlowski

(3) SHIP TO: Versar, Inc. 6850 Versar Center Springfield VA ATTN: Clay Hammer

(4) SAMPLING DATE: BEGIN: 4-3-89 END: 4-3-89

(5) DATE SHIPPED: 4-3 CARRIER: F AIRBILL NO: 2879510904

(6) DATE REC'D: 4/4/89 SDG NO: EAL61
REC'D BY: [signature]
LABORATORY CONTRACT NO. UNIT PRICE

(7) TRANSFER TO: DATE REC'D:
REC'D BY: CONTRACT NO./PRICE:

CLP SAMPLE NUMBER (FROM LABELS)	(A) SAMPLE DESCRIPTION (FROM BOX 1) 1 2 3 4 5 6 7	(B) CONCENTRATION L = LOW M = MED H = HIGH	(C) RAS ANALYSIS: VOLATILE	BASE/NEUT/ACID	PESTICIDE/PCBs	(D) SPECIAL HANDLING	(E) STATION LOCATION	(F) SAMPLE CONDITION ON RECEIPT	(G) HIGH CONC. PHASES (CHECK): SOLID	WATER—MIS LIQUID	NON WATER—MIS LIQUID
EAL99 14	2	L	X				GWP...-02	OK			
(first sample in SDG →) 61 15	↓	↓	↓				GWGII-02	↓			
EAG 12							GWGII-C02				
13							GWGIIC2				
13						USE FOR MSD	↓				
29							GWCHIDST-02				
31							GWCHIDED-02				
(last sample →) 31							EKGWCHICED-02				
(in SDG) 31						USE FOR MSD	↓				
07						BLANK	GWEBOS-02				
10						TRIP BLANK	GWTBOF-02				
00							GWCHIDST-02				
↓ 00						USE FOR MSD	↓				
EAL99 16	↓	↓	↓				GW-CHI25-02	↓			

100007

EPA Form 2075-7 (8-87)

Shipment NOT Complete

WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO YELLOW — LAB COPY

(B#1)

Versar INC.

April 21, 1989

I. Narrative
Organics Case 11724 SAS# 4537E SDG# EAL61
EPA Region V - Curtis Ross
Versar Project 965.80 - Batch 1

This report contains the CLP analytical data for the volatile low detection limit organic analysis of eleven (11) water samples contained in Case 11724 SDG EAL61. The samples listed below arrived intact at Versar by Federal Express on April 4, 1989.

SAMPLE LIST

EAL61 *	EDG12
EAL98	EDG13
EAL99	EDG29
EDG06	EDG30
EDG07	EDG31 **
EDG10	

* - First sample in SDG
** - Last sample in SDG

//

****
* SAS ONLY *
* No Diskette Deliverable *
* Seven day sample holding time *
* 30 day hardcopy report due date *
* Low Detection Limit Analysis *
Acrolein & acrylonitrile added to volatile target compound list
****

GC/MS instrument calibrations using BFB met contract requirements for volatile analysis. SPCC and CCC criteria were met for the volatile initial calibration curve and continuing calibration check standards. All GC/MS analyses occurred during the twelve hour period following daily instrument calibration.

All volatile internal standard area abundances and relative retention times were compliant for all analyses.

Volatile surrogate standard recovery values met all specified QC limits. One set of matrix spike/matrix spike duplicate analysis was performed in conjunction with this SDG. All values met criteria with the exception of the RPD for 1,1-dichloroethene.

Sample EAL98 required dilution in order to quantify target compounds within the calibration range of the curve. No other samples required dilution prior to analysis.

Versar INC.

Please contact Clay Hamner, CLP Project Manager, should you have any questions or require additional information pertaining to the low detection limit analysis of these water samples.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature.

Linda E Bock April 21, 1989
Linda E. Bock
GC/MS Data Processing Coordinator
Laboratory Operations

2A
WATER VOLATILE SURROGATE RECOVERY

Lab Name: VERSAR Contract:_____

Lab Code: VERSAR Case No.:11724 SAS No.:4537E SDG No.:_EAL61

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
01	EAL61	103	97	98		0
02	EAL98	96	101	99		0
03	EAL99	100	98	101		0
04	EDG00	97	102	99		0
05	EDG07	99	102	97		0
06	EDG10	99	102	96		0
07	EDG12	101	99	99		0
08	EDG13	97	104	95		0
09	EDG29	101	97	98		0
10	EDG30	98	101	96		0
11	EDG31	99	102	93		0
12	EDG00-MS	99	101	99		0
13	EDG00-MSD	97	101	99		0
14	VBLK19	100	98	97		0
15	VBLK37	100	99	93		0
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	QC LIMITS
S1 (TOL) = Toluene-d8	(88-110)
S2 (BFB) = Bromofluorobenzene	(86-115)
S3 (DCE) = 1,2-Dichloroethane-d4	(76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

3A

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: VERSAR Contract:_____

Lab Code: VERSAR Case No.: 11724 SAS No.:4537E SDG No.:EAL61

Matrix Spike - EPA Sample No.:EDG00 LOW

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	#	QC LIMITS REC.
1,1-Dichloroethene	20	0	19.6	98		61-145
Trichloroethene	20	0	21.5	108		71-120
Benzene	20	0	19.1	96		76-127
Toluene	20	0.63	20.5	99		76-125
Chlorobenzene	20	0	22.3	112		75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	#	% RPD	#	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	20	16	80		20	*	14	61-145
Trichloroethene	20	19.9	100		8		14	71-120
Benzene	20	18.6	93		3		11	76-127
Toluene	20	19.8	96		3		13	76-125
Chlorobenzene	20	21.9	109		2		13	75-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 1 out of 5 __ outside limits
Spike Recovery: 0 out of 10 outside limits

COMMENTS: _____
_____

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:_____VERSAR_____ Contract:_____

Lab Code:VERSAR Case No.:11724 SAS No.:_4537E SDG No.:EAL61

Lab File ID: __Y5219 Lab Sample ID: ___VBLK19

Date Analyzed: 04/05/89 Time Analyzed: 1106

Matrix: (soil/water) WATER Level:(low/med) LOW

Instrument ID: Y

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLE, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	EAL98	69605	Y5228	1806
02	EAL99	69606	Y5229	1906
03	EAL61	69607	Y5230	1949
04	EDG12	69608	Y5231	2041
05	EDG29	69609	Y5232	2124
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'MENTS: _

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:_____VERSAR_____ Contract:_____

Lab Code:VERSAR Case No.:11724 SAS No.:_4537E SDG No.:EAL61

Lab File ID: __Y5237 Lab Sample ID: ___VBLK37

Date Analyzed: 04/06/89 Time Analyzed: 1206

Matrix: (soil/water) WATER Level:(low/med) LOW

Instrument ID: Y

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLE, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	EDG30	69610A	Y5238	1316
02	EDG07	69611A	Y5239	1357
03	EDG10	69612A	Y5240	1439
04	EDG13	69613A	Y5241	1524
05	EDG00	69614	Y5242	1617
06	EDG31	69615	Y5243	1655
07	EDG00-MS	69614MS	Y5244	1812
08	EDG00-MSD	69614MSD	Y5245	1854
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'MENTS: _

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VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLK19

Lab Name: Versar Contract:

Lab Code: Versar Case No.: 11724 SAS No.: 4537E SDG No.: EAL61

Matrix: (soil/water) WATER Lab Sample ID: VBLK19

Sample wt/vol: 25 (g/ml) ML Lab File ID: V5219

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 04/05/89

Column: (pack/cap) PACK Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	
	2-Chloroethyl-vinyl-ether	0.2	U
74-87-3	Chloromethane	0.38	U
74-83-9	Bromomethane	0.21	U
75-01-4	Vinyl Chloride	0.26	U
75-00-3	Chloroethane	0.19	U
75-09-2	Methylene Chloride	0.23	U
67-64-1	Acetone	2.00	U
75-15-0	Carbon Disulfide	0.23	U
75-35-4	1,1-Dichloroethene	0.08	U
75-34-3	1,1-Dichloroethane	0.09	U
540-59-0	1,2-Dichloroethene (total)	0.25	U
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.12	U
78-93-3	2-Butanone	1.38	U
71-55-6	1,1,1-Trichloroethane	0.13	U
56-23-5	Carbon Tetrachloride	0.11	U
108-05-4	Vinyl Acetate	0.35	U
75-27-4	Bromodichloromethane	0.19	U
78-87-5	1,2-Dichloropropane	0.14	U
10061-01-5	cis-1,3-Dichloropropene	0.17	U
79-01-6	Trichloroethene	0.12	U
124-48-1	Dibromochloromethane	0.06	U
79-00-5	1,1,2-Trichloroethane	0.07	U
71-43-2	Benzene	0.03	U
10061-02-6	trans-1,3-Dichloropropene	0.08	U
75-25-2	Bromoform	0.08	U
108-10-1	4-Methyl-2-Pentanone	0.08	U
591-78-6	2-Hexanone	0.48	U
127-18-4	Tetrachloroethene	0.36	U
79-34-5	1,1,2,2-Tetrachloroethane	0.07	U
108-88-3	Toluene	0.05	U
108-90-7	Chlorobenzene	0.12	U
100-41-4	Ethylbenzene	0.13	U
100-42-5	Styrene	0.22	U
1330-20-7	Xylene (total)	0.2	U
107-02-8	Acrolein	6.52	U
107-13-1	Acrylonitrile	2.86	U

100244

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
VBLK19

Lab Name: VERSAR Contract:

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAL61

Matrix: (soil/water) WATER Lab Sample ID: VBLK19

Sample wt/vol: 25 (g/ml) ML Lab File ID: Y5219

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 04/05/89

Dilution Factor: 1

Number TICs found: 0 CONCENTRATION UNITS: (UG/L or UG/KG) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLK37

Lab Name: Versar Contract:

Lab Code: Versar Case No.: 11724 SAS No.: 4537E SDG No.: EAL61

Matrix: (soil/water) WATER Lab Sample ID: VBLK37

Sample wt/vol: 25 (g/ml) ML Lab File ID: Y5237

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 04/06/89

Column: (pack/cap) PACK Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	
	2-Chloroethyl-vinyl-ether	0.2	U
74-87-3	Chloromethane	0.38	U
74-83-9	Bromomethane	0.21	U
75-01-4	Vinyl Chloride	0.26	U
75-00-3	Chloroethane	0.19	U
75-09-2	Methylene Chloride	0.64	
67-64-1	Acetone	2.00	U
75-15-0	Carbon Disulfide	0.23	U
75-35-4	1,1-Dichloroethene	0.08	U
75-34-3	1,1-Dichloroethane	0.09	U
540-59-0	1,2-Dichloroethene (total)	0.25	U
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.12	U
78-93-3	2-Butanone	1.38	U
71-55-6	1,1,1-Trichloroethane	0.13	U
56-23-5	Carbon Tetrachloride	0.11	U
108-05-4	Vinyl Acetate	0.35	U
75-27-4	Bromodichloromethane	0.19	U
78-87-5	1,2-Dichloropropane	0.14	U
10061-01-5	cis-1,3-Dichloropropene	0.17	U
79-01-6	Trichloroethene	0.12	U
124-48-1	Dibromochloromethane	0.06	U
79-00-5	1,1,2-Trichloroethane	0.07	U
71-43-2	Benzene	0.03	U
10061-02-6	trans-1.3-Dichloropropene	0.08	U
75-25-2	Bromoform	0.08	U
108-10-1	4-Methyl-2-Pentanone	0.08	U
591-78-6	2-Hexanone	0.48	U
127-18-4	Tetrachloroethene	0.36	U
79-34-5	1,1,2,2-Tetrachloroethane	0.07	U
108-88-3	Toluene	0.05	U
108-90-7	Chlorobenzene	0.12	U
100-41-4	Ethylbenzene	0.13	U
100-42-5	Styrene	0.22	U
1330-20-7	Xylene (total)	0.2	U
107-02-8	Acrolein	6.52	U
107-13-1	Acrylonitrile	2.86	U

100250

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
VBLK37

Lab Name: VERSAR Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAL61

Matrix: (soil/water) WATER Lab Sample ID: VBLK37

Sample wt/vol: 25 (g/ml) ML Lab File ID: Y5237

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

% Moisture: not dec. _____ Date Analyzed: 04/06/89

Dilution Factor: 1

Number TICs found: 1

CONCENTRATION UNITS:
(UG/L or UG/KG) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	1189-93-1	TRISILOXANE, -HEXAMETHYL	34.7833	1	J
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100251

VOLATILE ORGANICS ANALYSIS DATA SHEET

EAL61

Lab Name: Versar Contract:

Lab Code: Versar Case No.: 11724 SAS No.: 4537E SDG No.: EAL61

Matrix: (soil/water) WATER Lab Sample ID: 696

Sample wt/vol: 25 (g/ml) ML Lab File ID: Y5230

Level: (low/med) LOW Date Received: 04/04/89

% Moisture: not dec. Date Analyzed: 04/05/89

Column: (pack/cap) PACK Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	
	2-Chloroethyl-vinyl-ether	0.2	U
74-87-3	Chloromethane	0.38	U
74-83-9	Bromomethane	0.21	U
75-01-4	Vinyl Chloride	0.26	U
75-00-3	Chloroethane	0.19	U
75-09-2	Methylene Chloride	0.23	U
67-64-1	Acetone	2.00	U
75-15-0	Carbon Disulfide	0.23	U
75-35-4	1,1-Dichloroethene	0.08	U
75-34-3	1,1-Dichloroethane	0.09	U
540-59-0	1,2-Dichloroethene (total)	0.25	U
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.12	U
78-93-3	2-Butanone	1.38	U
71-55-6	1,1,1-Trichloroethane	0.13	U
56-23-5	Carbon Tetrachloride	0.11	U
108-05-4	Vinyl Acetate	0.35	U
75-27-4	Bromodichloromethane	0.19	U
78-87-5	1,2-Dichloropropane	0.14	U
10061-01-5	cis-1,3-Dichloropropene	0.17	U
79-01-6	Trichloroethene	1.45	
124-48-1	Dibromochloromethane	0.06	U
79-00-5	1,1,2-Trichloroethane	0.07	U
71-43-2	Benzene	0.03	U
10061-02-6	trans-1.3-Dichloropropene	0.08	U
75-25-2	Bromoform	0.08	U
108-10-1	4-Methyl-2-Pentanone	0.08	U
591-78-6	2-Hexanone	0.48	U
127-18-4	Tetrachloroethene	0.36	U
79-34-5	1,1,2,2-Tetrachloroethane	0.07	U
108-88-3	Toluene	0.05	U
108-90-7	Chlorobenzene	0.12	U
100-41-4	Ethylbenzene	0.13	U
100-42-5	Styrene	0.22	U
1330-20-7	Xylene (total)	0.2	U
107-02-8	Acrolein	6.52	U
107-13-1	Acrylonitrile	2.86	U

100016

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
EAL61

Lab Name: ___VERSAR___ Contract: _____

Lab Code: _VERSAR___ Case No.: 11724 SAS No.: 4537E SDG No.: EAL61

Matrix: (soil/water) WATER Lab Sample ID: _69607

Sample wt/vol: 25 _(g/ml) ML Lab File ID: __Y5230

Level: (low/med) LOW Date Received: ___04/04/89

% Moisture: not dec. _____ Date Analyzed: ___04/05/89

Dilution Factor: _ 1

Number TICs found: _ 0

CONCENTRATION UNITS:
(UG/L or UG/KG) __UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
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100017

VOLATILE ORGANICS ANALYSIS DATA SHEET

EAL98

Lab Name: Versar Contract:

Lab Code: Versar Case No.: 11724 SAS No.: 4537E SDG No.: E

Matrix: (soil/water) WATER Lab Sample ID: 69

Sample wt/vol: 25 (g/ml) ML Lab File ID: Y5

Level: (low/med) LOW Date Received: 04

% Moisture: not dec. Date Analyzed: 04

Column: (pack/cap) PACK Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	
74-87-3	Chloromethane	0.38	U
74-83-9	Bromomethane	0.21	U
75-01-4	Vinyl Chloride	0.26	U
75-00-3	Chloroethane	0.19	U
75-09-2	Methylene Chloride	0.23	U
67-64-1	Acetone	470	X
75-15-0	Carbon Disulfide	0.23	U
75-35-4	1,1-Dichloroethene	0.08	U
75-34-3	1,1-Dichloroethane	0.09	U
540-59-0	1,2-Dichloroethene (total)	0.25	U
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.12	U
78-93-3	2-Butanone	1.38	U
71-55-6	1,1,1-Trichloroethane	18	
56-23-5	Carbon Tetrachloride	0.11	U
108-05-4	Vinyl Acetate	0.35	U
75-27-4	Bromodichloromethane	0.19	U
78-87-5	1,2-Dichloropropane	0.14	U
10061-01-5	cis-1,3-Dichloropropene	0.17	U
79-01-6	Trichloroethene	37	
124-48-1	Dibromochloromethane	0.06	U
79-00-5	1,1,2-Trichloroethane	0.07	U
71-43-2	Benzene	0.03	U
10061-02-6	trans-1.3-Dichloropropene	0.08	U
75-25-2	Bromoform	0.08	U
108-10-1	4-Methyl-2-Pentanone	0.08	U
591-78-6	2-Hexanone	0.48	U
127-18-4	Tetrachloroethene	280	
79-34-5	1,1,2,2-Tetrachloroethane	0.07	U
108-88-3	Toluene	0.05	U
108-90-7	Chlorobenzene	0.12	U
100-41-4	Ethylbenzene	0.13	U
100-42-5	Styrene	0.22	U
1330-20-7	Xylene (total)	0.2	U
107-02-8	Acrolein	6.52	U
107-13-1	Acrylonitrile	2.86	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
EAL98

Lab Name: VERSAR Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAL61

Matrix: (soil/water) WATER Lab Sample ID: 69605

Sample wt/vol: 25 (g/ml) ML Lab File ID: Y5228

Level: (low/med) LOW Date Received: 04/04/89

% Moisture: not dec. _____ Date Analyzed: 04/05/89

Dilution Factor: 50

Number TICs found: 0 CONCENTRATION UNITS: (UG/L or UG/KG) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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100026

VOLATILE ORGANICS ANALYSIS DATA SHEET

EAL99

Lab Name: Versar Contract:

Lab Code: Versar Case No.: 11724 SAS No.: 4537E SDG No.: EAL61

Matrix: (soil/water) WATER Lab Sample ID: 69606

Sample wt/vol: 25 (g/ml) ML Lab File ID: Y5229

Level: (low/med) LOW Date Received: 04/04/89

% Moisture: not dec. Date Analyzed: 04/05/89

Column: (pack/cap) PACK Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	
	2-Chloroethyl-vinyl-ether	0.2	U
74-87-3	Chloromethane	0.38	U
74-83-9	Bromomethane	0.21	U
75-01-4	Vinyl Chloride	0.26	U
75-00-3	Chloroethane	0.19	U
75-09-2	Methylene Chloride	0.23	U
67-64-1	Acetone	2.00	U
75-15-0	Carbon Disulfide	0.23	U
75-35-4	1,1-Dichloroethene	0.08	U
75-34-3	1,1-Dichloroethane	0.09	U
540-59-0	1,2-Dichloroethene (total)	0.25	U
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.12	U
78-93-3	2-Butanone	1.38	U
71-55-6	1,1,1-Trichloroethane	0.13	U
56-23-5	Carbon Tetrachloride	0.11	U
108-05-4	Vinyl Acetate	0.35	U
75-27-4	Bromodichloromethane	0.19	U
78-87-5	1,2-Dichloropropane	0.14	U
10061-01-5	cis-1,3-Dichloropropene	0.17	U
79-01-6	Trichloroethene	0.12	U
124-48-1	Dibromochloromethane	0.06	U
79-00-5	1,1,2-Trichloroethane	0.07	U
71-43-2	Benzene	0.03	U
10061-02-6	trans-1.3-Dichloropropene	0.08	U
75-25-2	Bromoform	0.08	U
108-10-1	4-Methyl-2-Pentanone	0.08	U
591-78-6	2-Hexanone	0.48	U
127-18-4	Tetrachloroethene	0.36	U
79-34-5	1,1,2,2-Tetrachloroethane	0.07	U
108-88-3	Toluene	0.05	U
108-90-7	Chlorobenzene	0.12	U
100-41-4	Ethylbenzene	0.13	U
100-42-5	Styrene	0.22	U
1330-20-7	Xylene (total)	0.2	U
107-02-8	Acrolein	6.52	U
107-13-1	Acrylonitrile	2.86	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
EAL99

Lab Name: ___VERSAR_____ Contract: _____

Lab Code: _VERSAR___ Case No.: 11724 SAS No.: 4537E SDG No.: EAL61

Matrix: (soil/water) WATER Lab Sample ID: _69606

Sample wt/vol: 25 _(g/ml) ML Lab File ID: __Y5229

Level: (low/med) LOW Date Received: ___04/04/89

% Moisture: not dec. _____ Date Analyzed: ___04/05/89

Dilution Factor: _ 1

Number TICs found: _ 0

CONCENTRATION UNITS:
(UG/L or UG/KG) __UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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100044

VOLATILE ORGANICS ANALYSIS DATA SHEET

EDG00 ✓

Lab Name: Versar Contract:

Lab Code: Versar Case No.: 11724 SAS No.: 4537E SDG No.: EAL61

Matrix: (soil/water) WATER Lab Sample ID: 69614

Sample wt/vol: 25 (g/ml) ML Lab File ID: Y5242

Level: (low/med) LOW Date Received: 04/04/89

% Moisture: not dec. Date Analyzed: 04/06/89

Column: (pack/cap) PACK Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	
	2-Chloroethyl-vinyl-ether	0.2	U
74-87-3	Chloromethane	0.38	U
74-83-9	Bromomethane	0.21	U
75-01-4	Vinyl Chloride	0.26	U
75-00-3	Chloroethane	0.19	U
75-09-2	Methylene Chloride	0.23	U
67-64-1	Acetone	2.00	U
75-15-0	Carbon Disulfide	0.23	U
75-35-4	1,1-Dichloroethene	0.08	U
75-34-3	1,1-Dichloroethane	0.09	U
540-59-0	1,2-Dichloroethene (total)	0.25	U
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.12	U
78-93-3	2-Butanone	1.38	U
71-55-6	1,1,1-Trichloroethane	0.13	U
56-23-5	Carbon Tetrachloride	0.11	U
108-05-4	Vinyl Acetate	0.35	U
75-27-4	Bromodichloromethane	0.19	U
78-87-5	1,2-Dichloropropane	0.14	U
10061-01-5	cis-1,3-Dichloropropene	0.17	U
79-01-6	Trichloroethene	0.12	U
124-48-1	Dibromochloromethane	0.06	U
79-00-5	1,1,2-Trichloroethane	0.07	U
71-43-2	Benzene	0.03	U
10061-02-6	trans-1.3-Dichloropropene	0.08	U
75-25-2	Bromoform	0.08	U
108-10-1	4-Methyl-2-Pentanone	0.08	U
591-78-6	2-Hexanone	0.48	U
127-18-4	Tetrachloroethene	0.36	U
79-34-5	1,1,2,2-Tetrachloroethane	0.07	U
108-88-3	Toluene	0.63	
108-90-7	Chlorobenzene	0.12	U
100-41-4	Ethylbenzene	0.13	U
100-42-5	Styrene	0.22	U
1330-20-7	Xylene (total)	0.2	U
107-02-8	Acrolein	6.52	U
107-13-1	Acrylonitrile	2.86	U

100049

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
EDG00

Lab Name: VERSAR Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAL61

Matrix: (soil/water) WATER Lab Sample ID: 69614

Sample wt/vol: 25 (g/ml) ML Lab File ID: Y5242

Level: (low/med) LOW Date Received: 04/04/89

% Moisture: not dec. _____ Date Analyzed: 04/06/89

Dilution Factor: 1

Number TICs found: 1 CONCENTRATION UNITS: (UG/L or UG/KG) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	1189-93-1	TRISILOXANE, -HEXAMETHYL-	34.7833	0.3	J, B
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AV 5-1-89

100050

VOLATILE ORGANICS ANALYSIS DATA SHEET

EDG07

Lab Name: Versar Contract:

Lab Code: Versar Case No.: 11724 SAS No.: 4537E SDG No.: EAL61

Matrix: (soil/water) WATER Lab Sample ID: 69611

Sample wt/vol: 25 (g/ml) ML Lab File ID: Y5239

Level: (low/med) LOW Date Received: 04/04/89

% Moisture: not dec. Date Analyzed: 04/06/89

Column: (pack/cap) PACK Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	
	2-Chloroethyl-vinyl-ether	0.2	U
74-87-3	Chloromethane	0.38	U
74-83-9	Bromomethane	0.21	U
75-01-4	Vinyl Chloride	0.26	U
75-00-3	Chloroethane	0.19	U
75-09-2	Methylene Chloride	0.40	B U
67-64-1	Acetone	2.00	U
75-15-0	Carbon Disulfide	0.23	U
75-35-4	1,1-Dichloroethene	0.08	U
75-34-3	1,1-Dichloroethane	0.09	U
540-59-0	1,2-Dichloroethene (total)	0.25	U
67-66-3	Chloroform	0.65	
107-06-2	1,2-Dichloroethane	0.12	U
78-93-3	2-Butanone	1.38	U
71-55-6	1,1,1-Trichloroethane	0.13	U
56-23-5	Carbon Tetrachloride	0.11	U
108-05-4	Vinyl Acetate	0.35	U
75-27-4	Bromodichloromethane	0.19	U
78-87-5	1,2-Dichloropropane	0.14	U
10061-01-5	cis-1,3-Dichloropropene	0.17	U
79-01-6	Trichloroethene	0.12	U
124-48-1	Dibromochloromethane	0.06	U
79-00-5	1,1,2-Trichloroethane	0.07	U
71-43-2	Benzene	0.03	U
10061-02-6	trans-1.3-Dichloropropene	0.08	U
75-25-2	Bromoform	0.08	U
108-10-1	4-Methyl-2-Pentanone	0.08	U
591-78-6	2-Hexanone	0.48	U
127-18-4	Tetrachloroethene	0.36	U
79-34-5	1,1,2,2-Tetrachloroethane	0.07	U
108-88-3	Toluene	0.05	U
108-90-7	Chlorobenzene	0.12	U
100-41-4	Ethylbenzene	0.13	U
100-42-5	Styrene	0.22	U
1330-20-7	Xylene (total)	0.2	U
107-02-8	Acrolein	6.52	U
107-13-1	Acrylonitrile	2.86	U

AV 5-1-89

100062

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDG07

Lab Name: VERSAR Contract:

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAL61

Matrix: (soil/water) WATER Lab Sample ID: 69611A

Sample wt/vol: 25 (g/ml) ML Lab File ID: Y5239

Level: (low/med) LOW Date Received: 04/04/89

% Moisture: not dec. Date Analyzed: 04/06/89

Dilution Factor: 1

Number TICs found: 1

CONCENTRATION UNITS:
(UG/L or UG/KG) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	1189-93-1	TRISILOXANE, -HEXAMETHYL-	34.7333	1	~~J~~ B V
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AV 5/89

100063

VOLATILE ORGANICS ANALYSIS DATA SHEET

EDG10

Lab Name: Versar Contract:

Lab Code: Versar Case No.: 11724 SAS No.: 4537E SDG No.: EAL61

Matrix: (soil/water) WATER Lab Sample ID: 69612

Sample wt/vol: 25 (g/ml) ML Lab File ID: Y5240

Level: (low/med) LOW Date Received: 04/04/89

% Moisture: not dec. Date Analyzed: 04/04/89

Column: (pack/cap) PACK Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	
	2-Chloroethyl-vinyl-ether	0.2	U
74-87-3	Chloromethane	0.38	U
74-83-9	Bromomethane	0.21	U
75-01-4	Vinyl Chloride	0.26	U
75-00-3	Chloroethane	0.19	U
75-09-2	Methylene Chloride	0.40	B U
67-64-1	Acetone	2.00	U
75-15-0	Carbon Disulfide	0.23	U
75-35-4	1,1-Dichloroethene	0.08	U
75-34-3	1,1-Dichloroethane	0.09	U
540-59-0	1,2-Dichloroethene (total)	0.25	U
67-66-3	Chloroform	0.63	
107-06-2	1,2-Dichloroethane	0.12	U
78-93-3	2-Butanone	1.38	U
71-55-6	1,1,1-Trichloroethane	0.13	U
56-23-5	Carbon Tetrachloride	0.11	U
108-05-4	Vinyl Acetate	0.35	U
75-27-4	Bromodichloromethane	0.19	U
78-87-5	1,2-Dichloropropane	0.14	U
10061-01-5	cis-1,3-Dichloropropene	0.17	U
79-01-6	Trichloroethene	0.12	U
124-48-1	Dibromochloromethane	0.06	U
79-00-5	1,1,2-Trichloroethane	0.07	U
71-43-2	Benzene	0.03	U
10061-02-6	trans-1,3-Dichloropropene	0.08	U
75-25-2	Bromoform	0.08	U
108-10-1	4-Methyl-2-Pentanone	0.08	U
591-78-6	2-Hexanone	0.48	U
127-18-4	Tetrachloroethene	0.36	U
79-34-5	1,1,2,2-Tetrachloroethane	0.07	U
108-88-3	Toluene	0.05	U
108-90-7	Chlorobenzene	0.12	U
100-41-4	Ethylbenzene	0.13	U
100-42-5	Styrene	0.22	U
1330-20-7	Xylene (total)	0.2	U
107-02-8	Acrolein	6.52	U
107-13-1	Acrylonitrile	2.86	U

AV 5-1-89

100078

VOLATILE ORGANICS ANALYSIS DATA SHEET

EDG 12.

Lab Name: Versar Contract:

Lab Code: Versar Case No.: 11724 SAS No.: 4537E SDG No.: EAL61

Matrix: (soil/water) WATER Lab Sample ID: 69608

Sample wt/vol: 25 (g/ml) ML Lab File ID: Y5231

Level: (low/med) LOW Date Received: 04/04/89

% Moisture: not dec. Date Analyzed: 04/05/89

Column: (pack/cap) PACK Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	
	2-Chloroethyl-vinyl-ether	0.2	U
74-87-3	Chloromethane	0.38	U
74-83-9	Bromomethane	0.21	U
75-01-4	Vinyl Chloride	0.26	U
75-00-3	Chloroethane	0.19	U
75-09-2	Methylene Chloride	0.83	U
67-64-1	Acetone	7.99	X
75-15-0	Carbon Disulfide	0.23	U
75-35-4	1,1-Dichloroethene	0.08	U
75-34-3	1,1-Dichloroethane	0.09	U
540-59-0	1,2-Dichloroethene (total)	0.25	U
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.12	U
78-93-3	2-Butanone	1.38	U
71-55-6	1,1,1-Trichloroethane	0.13	U
56-23-5	Carbon Tetrachloride	0.11	U
108-05-4	Vinyl Acetate	0.35	U
75-27-4	Bromodichloromethane	0.19	U
78-87-5	1,2-Dichloropropane	0.14	U
10061-01-5	cis-1,3-Dichloropropene	0.17	U
79-01-6	Trichloroethene	4.34	
124-48-1	Dibromochloromethane	0.06	U
79-00-5	1,1,2-Trichloroethane	0.07	U
71-43-2	Benzene	0.03	U
10061-02-6	trans-1.3-Dichloropropene	0.08	U
75-25-2	Bromoform	0.08	U
108-10-1	4-Methyl-2-Pentanone	0.08	U
591-78-6	2-Hexanone	0.48	U
127-18-4	Tetrachloroethene	0.36	U
79-34-5	1,1,2,2-Tetrachloroethane	0.07	U
108-88-3	Toluene	0.05	U
108-90-7	Chlorobenzene	0.12	U
100-41-4	Ethylbenzene	0.13	U
100-42-5	Styrene	0.22	U
1330-20-7	Xylene (total)	0.2	U
107-02-8	Acrolein	6.52	U
107-13-1	Acrylonitrile	2.86	U

100091

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
EDG12

Lab Name: VERSAR Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAL61

Matrix: (soil/water) WATER Lab Sample ID: 69608

Sample wt/vol: 25 (g/ml) ML Lab File ID: Y5231

Level: (low/med) LOW Date Received: 04/04/89

% Moisture: not dec. _____ Date Analyzed: 04/05/89

Dilution Factor: 1

Number TICs found: 0 CONCENTRATION UNITS: (UG/L or UG/KG) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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VOLATILE ORGANICS ANALYSIS DATA SHEET

EDG13

Lab Name: Versar Contract:

Lab Code: Versar Case No.: 11724 SAS No.: 4537E SDG No.: EAL61

Matrix: (soil/water) WATER Lab Sample ID: 69613

Sample wt/vol: 25 (g/ml) ML Lab File ID: Y5241

Level: (low/med) LOW Date Received: 04/04/89

% Moisture: not dec. Date Analyzed: 04/06/89

Column: (pack/cap) PACK Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	
	2-Chloroethyl-vinyl-ether	0.2	U
74-87-3	Chloromethane	0.38	U
74-83-9	Bromomethane	0.21	U
75-01-4	Vinyl Chloride	0.26	U
75-00-3	Chloroethane	0.19	U
75-09-2	Methylene Chloride	0.23	U
67-64-1	Acetone	2.00	U
75-15-0	Carbon Disulfide	0.23	U
75-35-4	1,1-Dichloroethene	0.08	U
75-34-3	1,1-Dichloroethane	0.09	U
540-59-0	1,2-Dichloroethene (total)	0.25	U
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.12	U
78-93-3	2-Butanone	1.38	U
71-55-6	1,1,1-Trichloroethane	0.13	U
56-23-5	Carbon Tetrachloride	0.11	U
108-05-4	Vinyl Acetate	0.35	U
75-27-4	Bromodichloromethane	0.19	U
78-87-5	1,2-Dichloropropane	0.14	U
10061-01-5	cis-1,3-Dichloropropene	0.17	U
79-01-6	Trichloroethene	0.12	U
124-48-1	Dibromochloromethane	0.06	U
79-00-5	1,1,2-Trichloroethane	0.07	U
71-43-2	Benzene	0.03	U
10061-02-6	trans-1.3-Dichloropropene	0.08	U
75-25-2	Bromoform	0.08	U
108-10-1	4-Methyl-2-Pentanone	0.08	U
591-78-6	2-Hexanone	0.48	U
127-18-4	Tetrachloroethene	0.36	U
79-34-5	1,1,2,2-Tetrachloroethane	0.07	U
108-88-3	Toluene	0.05	U
108-90-7	Chlorobenzene	0.12	U
100-41-4	Ethylbenzene	0.13	U
100-42-5	Styrene	0.22	U
1330-20-7	Xylene (total)	0.2	U
107-02-8	Acrolein	6.52	U
107-13-1	Acrylonitrile	2.86	U

100103

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
EDG13

Lab Name: VERSAR Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAL61

Matrix: (soil/water) WATER Lab Sample ID: 69613A

Sample wt/vol: 25 (g/ml) ML Lab File ID: Y5241

Level: (low/med) LOW Date Received: 04/04/89

% Moisture: not dec. _____ Date Analyzed: 04/06/89

Dilution Factor: 1

Number TICs found: 0 CONCENTRATION UNITS: (UG/L or UG/KG) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
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29.					
30.					

VOLATILE ORGANICS ANALYSIS DATA SHEET

EDG29

Lab Name: Versar Contract:

Lab Code: Versar Case No.: 11724 SAS No.: 4537E SDG No.: EAL61

Matrix: (soil/water) WATER Lab Sample ID: 69609

Sample wt/vol: 25 (g/ml) ML Lab File ID: Y5232

Level: (low/med) LOW Date Received: 04/04/89

% Moisture: not dec. Date Analyzed: 04/05/89

Column: (pack/cap) PACK Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	
	2-Chloroethyl-vinyl-ether	0.2	U
74-87-3	Chloromethane	0.38	U
74-83-9	Bromomethane	0.21	U
75-01-4	Vinyl Chloride	0.92	
75-00-3	Chloroethane	0.19	U
75-09-2	Methylene Chloride	0.23	U
67-64-1	Acetone	2.00	U
75-15-0	Carbon Disulfide	0.23	U
75-35-4	1,1-Dichloroethene	0.08	U
75-34-3	1,1-Dichloroethane	16.2	
540-59-0	1,2-Dichloroethene (total)	14.9	
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.12	U
78-93-3	2-Butanone	1.38	U
71-55-6	1,1,1-Trichloroethane	0.13	U
56-23-5	Carbon Tetrachloride	0.11	U
108-05-4	Vinyl Acetate	0.35	U
75-27-4	Bromodichloromethane	0.19	U
78-87-5	1,2-Dichloropropane	0.14	U
10061-01-5	cis-1,3-Dichloropropene	0.17	U
79-01-6	Trichloroethene	6.50	
124-48-1	Dibromochloromethane	0.06	U
79-00-5	1,1,2-Trichloroethane	0.07	U
71-43-2	Benzene	0.03	U
10061-02-6	trans-1.3-Dichloropropene	0.08	U
75-25-2	Bromoform	0.08	U
108-10-1	4-Methyl-2-Pentanone	0.08	U
591-78-6	2-Hexanone	0.48	U
127-18-4	Tetrachloroethene	1.17	
79-34-5	1,1,2,2-Tetrachloroethane	0.07	U
108-88-3	Toluene	0.05	U
108-90-7	Chlorobenzene	0.12	U
100-41-4	Ethylbenzene	0.13	U
100-42-5	Styrene	0.22	U
1330-20-7	Xylene (total)	0.2	U
107-02-8	Acrolein	6.52	U
107-13-1	Acrylonitrile	2.86	U

100110

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
EDG29

Lab Name: VERSAR Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAL61

Matrix: (soil/water) WATER Lab Sample ID: 69609

Sample wt/vol: 25 (g/ml) ML Lab File ID: Y5232

Level: (low/med) LOW Date Received: 04/04/89

% Moisture: not dec. _____ Date Analyzed: 04/05/89

Dilution Factor: 1

Number TICs found: 0 CONCENTRATION UNITS: (UG/L or UG/KG) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
4.					
5.					
6.					
7.					
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30.					

100111

VOLATILE ORGANICS ANALYSIS DATA SHEET

EDG30

Lab Name: Versar Contract:

Lab Code: Versar Case No.: 11724 SAS No.: 4537E SDG No.: EAL61

Matrix: (soil/water) WATER Lab Sample ID: 69610

Sample wt/vol: 25 (g/ml) ML Lab File ID: Y5238

Level: (low/med) LOW Date Received: 04/04/89

% Moisture: not dec. Date Analyzed: 04/06/89

Column: (pack/cap) PACK Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	
	2-Chloroethyl-vinyl-ether	0.2	U
74-87-3	Chloromethane	0.38	U
74-83-9	Bromomethane	0.21	U
75-01-4	Vinyl Chloride	20.7	
75-00-3	Chloroethane	1.42	
75-09-2	Methylene Chloride	0.23	U
67-64-1	Acetone	7.57	
75-15-0	Carbon Disulfide	0.23	U
75-35-4	1,1-Dichloroethene	0.60	
75-34-3	1,1-Dichloroethane	13.3	
540-59-0	1,2-Dichloroethene (total)	41.9	
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	1.18	X
78-93-3	2-Butanone	1.38	U
71-55-6	1,1,1-Trichloroethane	0.13	U
56-23-5	Carbon Tetrachloride	0.11	U
108-05-4	Vinyl Acetate	0.35	U
75-27-4	Bromodichloromethane	0.19	U
78-87-5	1,2-Dichloropropane	0.14	U
10061-01-5	cis-1,3-Dichloropropene	0.17	U
79-01-6	Trichloroethene	2.58	
124-48-1	Dibromochloromethane	0.06	U
79-00-5	1,1,2-Trichloroethane	0.07	U
71-43-2	Benzene	1.57	
10061-02-6	trans-1.3-Dichloropropene	0.08	U
75-25-2	Bromoform	0.08	U
108-10-1	4-Methyl-2-Pentanone	0.08	U
591-78-6	2-Hexanone	0.48	U
127-18-4	Tetrachloroethene	0.36	U
79-34-5	1,1,2,2-Tetrachloroethane	0.07	U
108-88-3	Toluene	0.05	U
108-90-7	Chlorobenzene	0.12	U
100-41-4	Ethylbenzene	0.13	U
100-42-5	Styrene	0.22	U
1330-20-7	Xylene (total)	0.2	U
107-02-8	Acrolein	6.52	U
107-13-1	Acrylonitrile	2.86	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
EDG30

Lab Name: VERSAR Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAL61

Matrix: (soil/water) WATER Lab Sample ID: 69610A

Sample wt/vol: 25 (g/ml) ML Lab File ID: Y5238

Level: (low/med) LOW Date Received: 04/04/89

% Moisture: not dec. _____ Date Analyzed: 04/06/89

Dilution Factor: 1

Number TICs found: 1 CONCENTRATION UNITS: (UG/L or UG/KG) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	1189-93-1	TRISILOXANE, -HEXAMETHYL-	34.7833	1	~~J, B~~ U
2.					
3.					
4.					
5.					
6.					
7.					
8.					
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AV 5-1-89

100132

VOLATILE ORGANICS ANALYSIS DATA SHEET

EDG31

Lab Name: Versar Contract:

Lab Code: Versar Case No.: 11724 SAS No.: 4537E SDG No.: EAL61

Matrix: (soil/water) WATER Lab Sample ID: 69615

Sample wt/vol: 25 (g/ml) ML Lab File ID: Y5243

Level: (low/med) LOW Date Received: 04/04/89

% Moisture: not dec. Date Analyzed: 04/06/89

Column: (pack/cap) PACK Dilution Factor: 1

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	
	2-Chloroethyl-vinyl-ether	0.2	U
74-87-3	Chloromethane	0.38	U
74-83-9	Bromomethane	0.21	U
75-01-4	Vinyl Chloride	21.1	
75-00-3	Chloroethane	0.19	U
75-09-2	Methylene Chloride	0.42	B U
67-64-1	Acetone	7.62	
75-15-0	Carbon Disulfide	0.23	U
75-35-4	1,1-Dichloroethene	0.64	
75-34-3	1,1-Dichloroethane	14.2	
540-59-0	1,2-Dichloroethene (total)	43.6	
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.12	U
78-93-3	2-Butanone	1.38	U
71-55-6	1,1,1-Trichloroethane	0.13	U
56-23-5	Carbon Tetrachloride	0.11	U
108-05-4	Vinyl Acetate	0.35	U
75-27-4	Bromodichloromethane	0.19	U
78-87-5	1,2-Dichloropropane	0.14	U
10061-01-5	cis-1,3-Dichloropropene	0.17	U
79-01-6	Trichloroethene	2.65	
124-48-1	Dibromochloromethane	0.06	U
79-00-5	1,1,2-Trichloroethane	0.07	U
71-43-2	Benzene	1.61	
10061-02-6	trans-1.3-Dichloropropene	0.08	U
75-25-2	Bromoform	0.08	U
108-10-1	4-Methyl-2-Pentanone	0.08	U
591-78-6	2-Hexanone	0.48	U
127-18-4	Tetrachloroethene	0.36	U
79-34-5	1,1,2,2-Tetrachloroethane	0.07	U
108-88-3	Toluene	0.05	U
108-90-7	Chlorobenzene	0.12	U
100-41-4	Ethylbenzene	0.13	U
100-42-5	Styrene	0.22	U
1330-20-7	Xylene (total)	0.2	U
107-02-8	Acrolein	6.52	U
107-13-1	Acrylonitrile	2.86	U

AV 5-1-89

100168

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
EDG31

Lab Name: VERSAR Contract:

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAL61

Matrix: (soil/water) WATER Lab Sample ID: 69615

Sample wt/vol: 25 (g/ml) ML Lab File ID: Y5243

Level: (low/med) LOW Date Received: 04/04/89

% Moisture: not dec. Date Analyzed: 04/06/89

Dilution Factor: 1

Number TICs found: 1 CONCENTRATION UNITS: (UG/L or UG/KG) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	1189-93-1	TRISILOXANE, -HEXAMETHYL-	34.7833	0.5	~~J,B~~ V
2.					
3.					
4.					
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7.					
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27.					
28.					
29.					
30.					

AV 5-1-89

100169

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

ESD/Central Regional Laboratory
DATA TRACKING FORM FOR CONTRACT SAMPLES

CRL Data Set No._____ CERCLIS No._____

SMO Case No. II245A54537E Site Name and Location: Verona Well Field

Name of Contractor or EPA Laboratory: Versar Data User: CH2

No. of Samples: 11 Date Samples or Data Received: 4-24-89

1. Have chain-of-custody records been received? YES___ NO —
2. Have Traffic Reports or packing lists been received? YES___ NO —
3. If no, are Traffic Report or packing list numbers written on the chain-of-custody record? YES___ NO___
4. If no, which Traffic report or packing list numbers are missing?

Are basic data forms in? YES — NO___

Number of samples claimed: 11 Number of samples received: 11

Checked by: A Harris Date: 4-24-89

Received by Contract Project Management Section: DMM Date: 4-24-89

Review Started: 1 May 1989 Reviewer Signature: Al Vernuccio

Total time spent on review: 5 hrs Date review completed: 1 May 1989

Copied (xeroxed) by: [signature] Date: 5/8/89

Mailed to Data User by: [signature] Date: 5-9-89

DATA USERS:

Please fill in the blanks below and return this form to: Sylvia Griffin, Data Management Coordinator, Region V, ESCRL

Data received by: _____ Date: _____

Q.A. review received by: _____ Date: _____

Inorganic Data Complete	[ ]. Suitable for Intended Purposes	[ ] √ [ ] if acceptable.
Organic Data Complete	[ ]. Suitable for Intended Purposes	[ ] List problems below.
Dioxin Data Complete	[ ]. Suitable for Intended Purposes	[ ]
SAS Data Complete	[ ]. Suitable for Intended Purposes	[ ]

See Attached "Missing Data Request Form" [ ]

PROBLEMS: Please indicate reasons (if any) why data are not suitable for your uses. Other problems.

_____

_____

_____

Received by Data Management Coordinator, CRL for File: Date:_____

EAG 35

AND

EAL 70, 72

AND

EDG 66-69, 71-72, 78, 80, 85-86

VW-GWB08I-02

AND

VW-GWW06D-02,
VW-GWCH107D-02

AND

VW-GWEW03-02 TO VW-GWEW06-02,
VW-GWEW08-02 TO VW-GWEW09-02,
VW-GWEB11-02,
VW-GWTB03-02,
VW-GWCH140I-02 TO VW-GWTR-02

VOA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

5/31/89

Rec'd CH2M Hill June 21, 1989 JP

JECT: Review of Region V CLP Data
Received for Review on 5-10-89

ROM: Curtis Ross, Director (SSCRL) Patrick J. Churilla for
Central Regional Laboratory

TO: Data User: CH2M Hill

We have reviewed the data for the following case(s).

SITE NAME: Verona Well Field SMO Case No. 11724/SAS 4537 E

EPA Data Set No. 6084 (9) No. of Samples: 13 D.U./Activity Numbers TFA/TFA 102

ERL No. 892C03 S91, R23, 892C04 S05, S07, S16-19, S21-22, S24, R25, 53,

SMO Traffic No. EAG 35, EAL 70, 72, EDG 66-69, 71-72, 78 80 85-86

CLP Laboratory: Versar Hrs. Required for Review: 8.5

Following are our findings:

The following case consist of 13 water samples for low quantitation limits for VOA analysis only. The review narrative and qualifications follow.

Wanda Yvette Freeman
Weston - ESAT
May 24, 1989

( ) Data are acceptable for use.
( ) Data are acceptable for use w
See Data Qualifier sheets and additional comments.
( ) Data are preliminary - pendin
See Case Summary above.
( ) Data are unacceptable.

ROUND II

13 WATER for SAS VOA

cc: Carla Dempsey, CLP Quality Assi
James Petty, Chief Quality Assu... Las Vegas

DATA QUALIFIERS

Contractor: Versar

Case 11724/45 37E

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

1. Holding Times -
Water volatile samples (EAG 35, EDG 67, EDG 72, EAG 80, EDG 85, EDG 85DL and EDG 86) exceeded the 7 day holding time by 4 days. Water volatile samples (EAL 70, EAL 72, EDG 66, EDG 68, EDG 69, EDG 71 and EDG 78) exceeded the 7 day holding time by 5 days. Therefore, all positive results should be considered estimated and flagged "J", sample quantitation limits "UJ" for aromatics only.

2. GC/MS Tuning
All GC/MS BFB tuning criteria were within the QC limits.

3. Calibration -
Volatile outliers for initial and continuing calibrations are noted on the calibration outliers forms.

4. Method Blanks -
Volatile blanks VBLK18 and VBLK44 were free of contaminants and no TICs were found in any of these blanks. Blank VBLK30 contained common contaminant acetone and no TICs were found in this blank. Samples associated with each blank are shown on form I VOA. Samples that contain the common contaminants with results (10X less than) the blank level are estimated and flagged "U"

Reviewed by: Wanda Gittelfreeman
Phone: 353-2460
Date: May 24, 1989

DATA QUALIFIERS

Contractor: Versar

Case 11724/4537E

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

4. Method Blank (Continued)
for, not detected. annotation flags can be found on sample forms I.

5. Surrogate Recovered –
Volatile water surrogate recoveries were all within the QC limits.

6. Matrix Spike / Matrix Spike Duplicate –
Volatile Water (EAG80) were all within the QC limits except 1,1-Dichloroethene had a low value outside the QC limits. The %RPD were all within the QC limits.

7. Field Duplicates and Blanks –
No field duplicates were included in this sample group. Sample EDG78 was the field blank. This blank contained several contaminants.

8. Internal Standard Performance –
All volatile water internal standards were within the required limits.

9. Compound Identification –
All volatile fractions for TIC and TCL compounds were properly identified.

Reviewed by: Wanda Gittle Freeman
Phone: 353-2160
Date: May 24, 1989

DATA QUALIFIERS

Contractor: Versar

Case 11724/4537E

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

10. Compound Quantitation and Reported Detection Limit - All volatile fractions were quantitated and calculated correctly.

11. System Performance - All organic fractions were consistent and can be verified by the GC/MS tuning criteria for the volatiles.

12. Additional Problems - Sample EDG85 was outside the linear calibration curve for 1,1,1-trichloroethane and tetrachloroethene; these compounds were flagged E. Since this sample was outside the curve, a dilution of this sample was made.

Reviewed by: Wanda Gatte Freeman

Phone: 353-2960

Date: May 24, 1989

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION V
CALIBRATION OUTLIERS
VOLATILE HSL COMPOUNDS

CASE/SAS # 11724 4537E CONTRACTOR Versar

Instrument # Y	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	4-17-89			4-17-89 21:43			4-18-89 9:22								
	RF	%RSD	*	RF	SD	*	RF	SD	*	RF	SD	*	RF	SD	*
Chloromethane															
Bromomethane															
Vinyl Chloride															
Chloroethane															
Methylene Chloride															
Acetone															
Carbon Disulfide															
1,1-Dichloroethane															
1,1-Dichloroethene															
Trans-1,2-Dichloroethene															
Chloroform															
2-Butanone	.044	34.6	J	.024	0.0	J	.025	35.0	J						
1,2-Dichloroethane															
1,1,1-Trichloroethane															
Carbon Tetrachloride															
Vinyl Acetate															
Bromodichloromethane															
1,2-Dichloropropane															
Trans-1,3-Dichloropropene															
Trichloroethene															
Dibromochloromethane															
1,1,2-Trichloroethane															
Benzene															
cis-1,3-Dichloropropene															
2-Chloroethylvinylether															
Bromoform															
4-Methyl-2-Pentanone	.052			.019	SD	J	.053								
2-Hexanone	.034	9.4	J	.024	0.0	J	.035	2.9	J						
Tetrachloroethene															
1,1,2,2-Tetrachloroethane															
Toluene															
Chlorobenzene															
Ethylbenzene															
Styrene															
m-Xylene															
o/p-Xylene															

AFFECTED SAMPLES:

EDG 86	EDG 68	VBLK44
EAG 85	EAL 70	EDG 71
EDG 72	EAL 73	
EAG 65 DL	EDG 75	
EDG 85	EDG 80 MS	
VBLK18	EDG 80 MSD	
EAG 80	EDG 67	
EAG 67	EDG 66	
	VBLK30	

Reviewer's Initials/Date: MH 5/23/89

* These flags should be applied to the analytes on the sample data sheets.

APR 27 1989

Sater. MO 6084

CENTRAL REGIONAL LABORATORY SAMPLE DATA REPORT
ORGANICS/INORGANICS
THIS FORM IS TO BE USED FOR SAMPLES SENT TO CONTRACT ONLY

LOG-IN DA. 5/5/89
DUE DATE: 5/12/89

CASE NUMBER/SAS No. 11724/4537E SITE NAME Verona Well Field LABORATORY Versar DATE SHIPPED 4/5/89

SUPERFUND DU NUMBER ~~Y805~~TFA EPA RPM or OSC (S M S)/(CES) John Jonola CERCLIS NUMBER MID 980793806 PAGE 5 OF 5

ACTIVITY NUMBER ~~G223~~T TFA102

CRL LOG NUMBER	ORGANIC TRAFFIC REPORT NUMBER or SAS Packing List No.	INORGANIC TRAFFIC REPORT NUMBER	WATER OR LIQUIDS: ACID-BASE NEUTRAL CPDS ORGANIC SCAN UG/L TOX17374	VOLATILE ORGANIC ANALYSIS ORGANIC SCAN UG/L TOX17364	WATER POLYCHLORINATED BIPHENYLS UG/L PES17164	WATER CHLORINATED PESTICIDES UG/L PES17134	TOTAL METALS IN WATER UG/L MET111	WATER CYANIDE UG/L MIN74919	NITRATE-NITRITE MG/L MIN7284	AMMONIA MG/L MIN7294	RESIDUE, FILTERABLE TDS MG/L MIN7382	RESIDUE, NON-FILT TSS MG/L MIN7372	LVOC		SEDIMENTS or SOILS: ACID-BASE NEUTRAL CPDS ORGANIC SCAN MG/KG TOX218722	VOLATILE ORGANIC ANALYSIS ORGANIC SCAN MG/KG TOX215822	SEDIMENTS POLYCHLORINATED BIPHENYLS MG/KG PES211422	SEDIMENT CHLORINATED PESTICIDES MG/KG 211322	TOTAL METALS MG/KG MET413	CYANIDE MG/KG MIN44930	EP TOXICITY METALS MG/KG	AMMONIA MG/KG MIN42925				
892C03																										
S77	EAL 63*												X													
S55	EDG 38												X													
S36	EDG 19*												X													
S37	EDG 20												X													
S90	EAG 62												X													
S94	EAG 38												X													
S93	EAG 37												X													
S87	EAG 59												X													
S10	EDG 23												X													
D41	EDG 24												X													
S92	EAG 36												X													
S56	EDG 84												X													
S88	EAG 60												X													
D89	EAG 61												X													
S91	EAG 35												X													
R23	EDG 82												X													
~~S01~~	~~EAL 66~~												~~X~~													
~~D02~~	~~EAL 67~~ EA 4/27/89												~~X~~													
~~R34~~	~~EDG 76~~												~~X~~													
~~S03~~	~~EAL 68~~												~~X~~													

SAMPLE DATES: 4/3 [illegible]
LOG IN ON: 5/2/89
DUE DATE: 5/12/89

APR 27 1989

CENTRAL REGIONAL LABOR ORY SAMPLE DATA REPORT

SUPERFUND 6084

ORGANICS/INORGANICS

THIS FORM IS TO BE USED FOR SAMPLES SENT TO CONTRACT ONLY

CASE NUMBER/SAS No. 11724/4537E SITE NAME Verona Well Field LABORATORY Versar DATE SHIPPED 4/5-4/6 [illegible]

SUPERFUND DU NUMBER [illegible]TFA EPA RPM or OSC (S M S /VICES) John Irvoka CERCLIS NUMBER MID981793806 PAGE [illegible] OF [illegible]

ACTIVITY NUMBER [illegible] TFA102

CRL LOG NUMBER 892C64	5/2/89 ORGANIC TRAFFIC REPORT NUMBER or SAS Packing List No.	INORGANIC TRAFFIC REPORT NUMBER	WATER OR LIQUIDS: ACID-BASE NEUTRAL CPDS ORGANIC SCAN UG/L TOX17574	VOLATILE ORGANIC ANALYSIS ORGANIC SCAN UG/L TOX17584	WATER POLYCHLORINATED BIPHENYLS UG/L PES 17144	WATER CHLORINATED PESTICIDES UG/L PES17134	TOTAL METALS IN WATER UG/L MET[illegible]	WATER CYANIDE UG/L MIN74919	NITRATE NITRITE MG/L MIN7[illegible]	AMMONIA MG/L MIN72[illegible]	RESIDUE, FILTERABLE TDS MG/L MIN7262	RESIDUE, NON-FILT TSS MG/L MIN7272	ll UCC		SEDIMENTS or SOILS: ACID-BASE NEUTRAL CPDS ORGANIC SCAN MG/KG TOX[illegible]	VOLATILE ORGANIC ANALYSIS ORGANIC SCAN MG/KG TOX[illegible]5622	SEDIMENTS POLYCHLORINATED BIPHENYLS MG/KG PES211452	SEDIMENT CHLORINATED PESTICIDES MG/KG 211322	TOTAL METALS MG/KG MET413	CYANIDE MG/KG MIN[illegible]	EP TOXICITY METALS MG/KG	AMMONIA MG/KG MIN42935				
S01	Eal 66												X													
D02	Eal 67												X													
R24	EDG 76												X													
S03	Eal 68												X													
D04	Eal 69												X													
S13	EDG 63												X													
S14	EDG 64												X													
D15	EDG 65												X													
S10	EDG 60												X													
S09	EDG 59												X													
S12	EDG 62												X													
S11	EDG 61												X													
S28	EDG 74												X													
D29	EDG 75												X													
S33	EDG 81												X													
S59	EDG 82												X													
S60	EDG 83												X													
S05	Eal 70												X													
S06	Eal 71												X													
S26	EDG 90												X													

APR 27 1989

SUPE. UMD 6084

CENTRAL REGIONAL LABORATORY SAMPLE DATA REPORT
ORGANICS INORGANICS

LOG-IN DATE: 5/2/89
DUE DATE 5/23/89

THIS FORM IS TO BE USED FOR SAMPLES SENT TO CONTRACT ONLY

CASE NUMBER/SAS No. 11724/4531E SITE NAME Verona Well Field LABORATORY Versar DATE SHIPPED 4/6/89

SUPERFUND DU NUMBER 1905 TFA EPA RPM or OSC (S M S /ICES) John Lovato CERCLIS NUMBER MID 980793806 PAGE 5 OF 5

ACTIVITY NUMBER C2251 TFA102

CRL LOG NUMBER 892C04	ORGANIC TRAFFIC REPORT NUMBER or SAS Packing List No. 5/2/89 4pm	INORGANIC TRAFFIC REPORT NUMBER	WATER OR LIQUIDS: ACID-BASE NEUTRAL CPDS ORGANIC SCAN UG/L TDX17574	VOLATILE ORGANIC ANALYSIS ORGANIC SCAN UG/L TDX17584	WATER POLYCHLORINATED BIPHENYLS UG/L PES17144	WATER CHLORINATED PESTICIDES UG/L PES17134	TOTAL METALS IN WATER UG/L MET111	WATER CYANIDE UG/L MIN74918	NITRATE-NITRITE MG/L MIN7284	AMMONIA MG/L MIN7294	RESIDUE, FILTERABLE TDS MG/L MIN7282	RESIDUE, NON-FILT TSS MG/L MIN2372	62 VOA	SEDIMENTS or SOILS: ACID-BASE NEUTRAL CPDS ORGANIC SCAN MG/KG TDX218732	VOLATILE ORGANIC ANALYSIS ORGANIC SCAN MG/KG TDX219822	SEDIMENTS POLYCHLORINATED BIPHENYLS MG/KG PES211432	SEDIMENT CHLORINATED PESTICIDES MG/KG 211222	TOTAL METALS MG/KG MET413	CYANIDE MG/KG MIN4930	EP TOXICITY METALS MG/KG	AMMONIA MG/KG MIN43923
S08	EDG 73.												X								
S34	EDG 88.												X								
S30	EDG 79.												X								
S35	EDG 89.												X								
S31	EDG 85												X								
S07	EDG 72.												X								
S24	EDG 86												X								
S17	EDG 64												X								
S16	EDG 66												X								
S18	EDG 68												X								
S19	EDG 69												X								
S20	EDG 70												X								
S21	EDG 71												X								
S22	EDG 72												X								
R25	EDG 78												X								

USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA, VA 22313
703/557-2490 FTS-557-2490

CASE NO: 11734
SAS NO: (IF APPLICABLE) 4537E

ORGANIC TRAFFIC REPORT

(FOR CLP USE ONLY)

1. TYPE OF ACTIVITY (CIRCLE ONE): SUPERFUND—PA SI ESI RIFS RD RA ER NPLD O&M OTHER ____ NON-SUPERFUND—____ PROGRAM

SAMPLE DESCRIPTION

2. REGION NO: V — SAMPLING COMPANY: CH2M Hill
SAMPLER (NAME): Cathy Kantowski

3. SHIP TO: Versar #2
ATTN: Craig Hammel

SAMPLING DATE: BEGIN 4/6/89 END 4/6/89

DATE SHIPPED: 4/6/89 CARRIER: F
AIRBILL NO: 2672510900

DATE REC'D: 4-7-89 SDG NO: EAG35
REC'D BY: J. J. Morrison
LABORATORY CONTRACT NO. UNIT PRICE

TRANSFER TO: DATE REC'D:
REC'D BY: CONTRACT NO./PRICE:

CLP SAMPLE NUMBER (FROM LABELS)	SAMPLE DESCRIPTION (FROM BOX 1)	CONCENTRATION L = LOW M = MED H = HIGH	RAS ANALYSIS (VOLATILE)	SPECIAL HANDLING	STATION LOCATION	SAMPLE CONDITION ON RECEIPT	HIGH CONC. PHASES (CHECK)
EDG 85	2	L	X		CH401-02		
EAG 35					PO8-02		
EAL 72					CHIA04-02		
EDG 4					WT12-02		
80				TRIP Blank	WTB02-02		
67					EW04-02		
66					EW02-02		
68					EW05-02		
69					EW06-02		
70					EW07-02		
71					EW08-02		
72					EW09-02		
778				Blank	FE11-02		

2/2

Shipment is Complete

EPA Form 2075-6 (8-87)

100007

WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO YELLOW — LAB COPY

(8#9)

Versar INC.

May 10, 1989

I. Narrative
Organics Case 11724 SAS# 4537E SDG# EAG35
EPA Region V - Curtis Ross
Versar Project 965.80 - Batch 9

This report contains the CLP analytical data for the volatile low detection limit organic analysis of thirteen (13) water samples contained in Case 11724 SDG EAG35. The samples listed below arrived intact at Versar by Federal Express on April 7, 1989.

SAMPLE LIST

EAG35 *	EDG71
EAL70	EDG72
EAL72	EDG78
EDG66	EDG80
EDG67	EDG85
EDG68	EDG86 **
EDG69	

* - First sample in SDG
** - Last sample in SDG

//

****
* SAS ONLY *
* No Diskette Deliverable *
* Seven day sample holding time *
* 30 day hardcopy report due date *
* Low Detection Limit Analysis *
Acrolein & acrylonitrile added to volatile target compound list
****

GC/MS instrument calibrations using BFB met contract requirements for volatile analysis. SPCC and CCC criteria were met for the volatile initial calibration curve and continuing calibration check standards. All GC/MS analyses occurred during the twelve hour period following daily instrument calibration. A holding time extension was granted by the Region since the number of samples being shipped on a daily basis exceeded the number that were scheduled.

All volatile internal standard area abundances and relative retention times were compliant for all analyses.

Volatile surrogate standard recovery values met all specified QC limits. One set of matrix spike/matrix spike duplicate analysis was performed in conjunction with this SDG.

Samples were screened prior to analysis and it was determined that EDG66, EDG69, EDG71, EDG72, and EDG85 required dilution in order to quantify target compounds within the calibration range of the curve. Dilution factors for each sample are listed on the individual Form IA. No other samples required dilution prior to analysis.

Versar INC.

Please contact Clay Hamner, CLP Project Manager, should you have any questions or require additional information pertaining to the low detection limit analysis of these water samples.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature:

Linda E Bock May 10, 1989
Linda E. Bock
GC/MS Data Processing Coordinator
Laboratory Operations

CBA

2A

WATER VOLATILE SURROGATE RECOVERY

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG35

	EPA SAMPLE NO.	S1 (TOL)#	S2 (BFB)#	S3 (DCE)#	OTHER	TOT OUT
01	EAG35	101	98	94		0
02	EAG67	100	101	92		0
03	EAG80	102	98	91		0
04	EAG85DL	101	99	94		0
05	EAL72	95	102	93		0
06	EDG66	95	104	93		0
07	EDG68	98	101	93		0
08	EDG69	93	101	93		0
09	EDG70	96	102	93		0
10	EDG71	92	105	98		0
11	EDG72	99	97	94		0
12	EDG78	96	101	88		0
13	EDG85	101	99	97		0
14	EDG86	95	103	98		0
15	EDG80MS	99	100	94		0
16	EDG80MSD	97	104	95		0
17	VBLK18	91	107	102		0
18	VBLK30	100	100	96		0
19	VBLK44	93	110	100		0

		QC LIMITS
S1 (TOL)	= Toluene-d8	(88-110)
S2 (BFB)	= Bromofluorobenzene	(86-115)
S3 (DCE)	= 1,2-Dichloroethane-d4	(76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: VERSAR INC Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 45375 SDG No.: EAG35

Matrix Spike - EPA Sample No.: EAG80

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	#	QC LIMITS REC.
1,1-Dichloroethene	20.0	0	11.4	57	*	61-145
Trichloroethene	20.0	0	18.7	94		71-120
Benzene	20.0	0	15.6	78		76-127
Toluene	20.0	0	18.4	92		76-125
Chlorobenzene	20.0	0	20.8	104		75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	#	% RPD	#	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	20.0	10.8	54	*	5		14	61-145
Trichloroethene	20.0	20.5	103		-9		14	71-120
Benzene	20.0	17.2	86		-10		11	76-127
Toluene	20.0	19.8	99		-7		13	76-125
Chlorobenzene	20.0	22.9	115		-10		13	75-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 2 out of 10 outside limits

COMMENTS: CLP,11724,EAG35,EAG80,L,W,69930,V,,,25ML
INST Y SP-1000 45C(3MIN) TO 225C 8C/MIN

VOLATILE METHOD BLANK SUMMARY

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG35

Lab File ID: Y5419 Lab Sample ID: VBLK19

Date Analyzed: 04/17/89 Time Analyzed: 1827

Matrix: (soil/water) WATER Level: (low/med) LOW

Instrument ID: Y

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	EAG35	69927	Y5423	1709
02	EAG67	69931	Y5427	2002
03	EAG80	69930	Y5426	1922
04	EAG85DL	69926DL	Y5425	1827
05	EDG72	69928	Y5424	1746
06	EDG85	69926	Y5419	1827
07	EDG86	69929A	Y5422	1625

COMMENTS: CLP,11724,EAG35,EAG85,L,W,69926,V,,25ML,1/25
INST Y SP-1000 45C(3MIN) TO 225C 8C/MIN

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: VERSAR INC Contract: _____

Lab Code: VERSAR Case No.: 11734 SAS No.: 4537E SDG No.: EA035

Lab File ID: Y5433 Lab Sample ID: VBLK30

Date Analyzed: 04/17/89 Time Analyzed: 2307

Matrix: (soil/water) WATER Level: (low/med) LOW

Instrument ID: Y

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	EALT2	69937	Y5433	0244
02	EDG4s	69932	Y5440	0732
03	EDG6B	69933	Y5431	0127
04	EDG6P	69934	Y5438	0609
05	EDG7C	69935	Y5432	0203
06	EDGT5	69936	Y5434	0325
07	EDG80MS	69930	Y5435	0406
08	EDG80MSD	69930	Y5436	0447

COMMENTS: DLF: VBLK30,L,N,VBLK30,V,,,25ML
INST: Y SP-1000 45C(3MIN) TO 225C 8C/MIN

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EA035

Lab File ID: Y5444 Lab Sample ID: VBLK44

Date Analyzed: 04/18/89 Time Analyzed: 1257

Matrix: (soil/water) WATER Level: (low/med) LOW

Instrument ID: Y

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
C1	EDG71	69936	Y5453	1926

COMMENTS: CLP , , VBLK44, L, W, VBLK44, V, BLANK, , , 25ML
INST Y SP-1000 45C(3MIN) TO 225C 8C/MIN

1A

EPA SA

VOLATILE ORGANICS ANALYSIS DATA SHEET

VBLK18

Lab Name: VERSAR INC Contract:

Lab Code: VERSAR Case No.: 11734 SAS No.: 45375 SDG No.: EAG3F

Matrix (soil/water) WATER Lab Sample ID: VBLK18

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: Y5418

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 04/17/89

Column: (pack/cap) PACK Dilution Factor: 5.0

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	0.4	U
74-83-9	Bromomethane	0.2	U
75-01-4	Vinyl Chloride	0.3	U
75-00-3	Chloroethane	0.2	U
75-09-2	Methylene Chloride	0.2	U
67-64-1	Acetone	2	U
75-15-0	Carbon Disulfide	0.2	U
75-35-4	1,1-Dichloroethene	0.08	U
75-34-3	1,1-Dichloroethane	0.09	U
540-59-0	1,2-Dichloroethene (total)	0.3	U
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.1	U
78-93-3	2-Butanone	1	U
71-55-6	1,1,1-Trichloroethane	0.1	U
56-23-5	Carbon Tetrachloride	0.1	U
108-05-4	Vinyl Acetate	0.3	U
75-27-4	Bromodichloromethane	0.2	U
78-87-5	1,2-Dichloropropane	0.1	U
10061-01-5	cis-1,3,-Dichloropropene	0.2	U
79-01-6	Trichloroethene	0.1	U
124-48-1	Dibromochloromethane	0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	U
71-43-2	Benzene	0.1	U
75-25-2	Bromoform	0.2	U
108-10-1	4-Methyl-2-Pentanone	0.3	U
591-78-6	2-Hexanone	2	U
127-18-4	Tetrachloroethene	0.1	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
108-88-3	Toluene	0.1	U
108-90-7	Chlorobenzene	0.1	U
100-41-4	Ethylbenzene	0.1	U
100-42-5	Styrene	0.2	U
1330-20-7	Total Xylenes	0.2	U
[illegible]	Acetonitrile	7	U
[illegible]	Acrylonitrile	3	U

1E

EPA S.

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

VBLK18

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: E4G25

Matrix: (soil/water) WATER Lab Sample ID: VBLK18

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: Y5418

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

% Moisture: not dec. _____ Date Analyzed: 04/17/89

Column (pack/cap) PACK Dilution Factor: 5.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO: VBLK30

Lab Name: VERSAR INC Contract:

Lab Code: VERSAR Case No: 11724 SAS No.: 4537E SDG No.: EA035

Matrix: (soil/water) WATER Lab Sample ID: VBLK30

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: Y5430

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 04/17/89

Column: (pack/cap) PACK Dilution Factor: 5.0

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

CAS NO.	COMPOUND	Q
74-87-3	Chloromethane	0.4 U
74-83-9	Bromomethane	0.2 U
75-01-4	Vinyl Chloride	0.3 U
75-00-3	Chloroethane	0.2 U
75-09-2	Methylene Chloride	0.2 U
67-64-1	Acetone	7 B
75-15-0	Carbon Disulfide	0.2 U
75-35-4	1,1-Dichloroethene	0.08 U
75-34-3	1,1-Dichloroethane	0.09 U
540-59-0	1,2-Dichloroethene (total)	0.3 U
67-66-3	Chloroform	0.1 U
107-06-2	1,2-Dichloroethane	0.1 U
78-93-3	2-Butanone	1 U
71-55-6	1,1,1-Trichloroethane	0.1 U
56-23-5	Carbon Tetrachloride	0.1 U
108-05-4	Vinyl Acetate	0.3 U
75-27-4	Bromodichloromethane	0.2 U
78-87-5	1,2-Dichloropropane	0.1 U
10061-01-5	cis-1,3,-Dichloropropene	0.2 U
79-01-6	Trichloroethene	0.1 U
124-48-1	Dibromochloromethane	0.2 U
79-00-5	1,1,2-Trichloroethane	0.2 U
71-43-2	Benzene	0.1 U
75-25-2	Bromoform	0.2 U
108-10-1	4-Methyl-2-Pentanone	0.3 U
591-78-6	2-Hexanone	2 U
127-18-4	Tetrachloroethene	0.1 U
79-34-5	1,1,2,2-Tetrachloroethane	0.2 U
108-88-3	Toluene	0.1 U
108-90-7	Chlorobenzene	0.1 U
100-41-4	Ethylbenzene	0.1 U
100-42-5	Styrene	0.2 U
1330-20-7	Total Xylenes	0.2 U
107-02-8	Acrolein	7 U
107-13-1	Acrylonitrile	3 U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMP

VBLK30

Lab Name: VERSAR INC Contract:

Lab Code: VERSAR Case No.: 11724 SAS No.: 45375 SDG No: EAG75

Matrix: (soil/water) WATER Lab Sample ID: VBLK30

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: Y5430

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 04/17/89

Column (pack/cap) PACK Dilution Factor: 5.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK44

Lab Name: VERSAR INC. Contract:

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG35

Matrix: (soil/water) WATER Lab Sample ID: VBLK44

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: Y5444

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 04/18/89

Column: (pack/cap) PACK Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	0.4	U
74-83-9	Bromomethane	0.2	U
75-01-4	Vinyl Chloride	0.3	U
75-00-3	Chloroethane	0.2	U
75-09-2	Methylene Chloride	0.2	U
67-64-1	Acetone	2	U
75-15-0	Carbon Disulfide	0.2	U
75-35-4	1,1-Dichloroethene	0.08	U
75-34-3	1,1-Dichloroethane	0.09	U
540-59-0	1,2-Dichloroethene (total)	0.3	U
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.1	U
78-93-3	2-Butanone	1	U
71-55-6	1,1,1-Trichloroethane	0.1	U
56-23-5	Carbon Tetrachloride	0.1	U
108-05-4	Vinyl Acetate	0.3	U
75-27-4	Bromodichloromethane	0.2	U
78-87-5	1,2-Dichloropropane	0.1	U
10061-01-5	cis-1,3,-Dichloropropene	0.2	U
79-01-6	Trichloroethene	0.1	U
124-48-1	Dibromochloromethane	0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	U
71-43-2	Benzene	0.1	U
75-25-2	Bromoform	0.2	U
108-10-1	4-Methyl-2-Pentanone	0.3	U
591-78-6	2-Hexanone	2	U
127-18-4	Tetrachloroethene	0.1	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
108-88-3	Toluene	0.1	U
108-90-7	Chlorobenzene	0.1	U
100-41-4	Ethylbenzene	0.1	U
100-42-5	Styrene	0.2	U
1330-20-7	Total Xylenes	0.2	U
107-02-8	Acrolein	7	U
107-13-1	Acrylonitrile	3	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

VBLK44

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: E4035

Matrix: (soil/water) WATER Lab Sample ID: VBLK44

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: Y5444

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

% Moisture: not dec. _____ Date Analyzed: 04/18/89

Column (pack/cap) PACK Dilution Factor: 5.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

EPA SAMPLE

VOLATILE ORGANICS ANALYSIS DATA SHEET

EAG35

Lab Name: VERSAR INC. Contract:

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No: EAG35

Matrix: (soil/water) WATER Lab Sample ID: 69927

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: Y5423

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. Date Analyzed: 04/17/89

Column: (pack/cap) PACK Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	0.4	U
74-83-9	Bromomethane	0.2	U
75-01-4	Vinyl Chloride	0.3	U
75-00-3	Chloroethane	0.2	U
75-09-2	Methylene Chloride	0.2	U
67-64-1	Acetone	2	U
75-15-0	Carbon Disulfide	0.2	U
75-35-4	1,1-Dichloroethene	0.08	U
75-34-3	1,1-Dichloroethane	0.09	U
540-59-0	1,2-Dichloroethene (total)	0.3	U
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.1	U
78-93-3	2-Butanone	1	U
71-55-6	1,1,1-Trichloroethane	0.1	U
56-23-5	Carbon Tetrachloride	0.1	U
108-05-4	Vinyl Acetate	0.3	U
75-27-4	Bromodichloromethane	0.2	U
78-87-5	1,2-Dichloropropane	0.1	U
10061-01-5	cis-1,3,-Dichloropropene	0.2	U
79-01-6	Trichloroethene	0.1	U
124-48-1	Dibromochloromethane	0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	U
71-43-2	Benzene	0.1	U
75-25-2	Bromoform	0.2	U
108-10-1	4-Methyl-2-Pentanone	0.3	U
591-78-6	2-Hexanone	2	U
127-18-4	Tetrachloroethene	0.7	
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
108-88-3	Toluene	0.1	U
108-90-7	Chlorobenzene	0.1	U
100-41-4	Ethylbenzene	0.1	U
100-42-5	Styrene	0.2	U
1330-20-7	Total Xylenes	0.3	U
107-02-8	Acrolein	7	U
107-13-1	Acrylonitrile	3	U

1E

EPA SAMPLE N

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EAG35

Lab Name: VERSAR INC Contract:

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No: EAG35

Matrix: (soil/water) WATER Lab Sample ID: 69927

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: Y5423

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. Date Analyzed: 04/17/89

Column (pack/cap) PACK Dilution Factor: 5.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	G

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAL EDG70

Lab Name: VERSAR INC Contract:

Lab Code: VERSAR Case No.: 11724 SAS No.: 4527E SDG No.: EAG35

Matrix: (soil/water) WATER Lab Sample ID: 69935

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: Y5432

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. Date Analyzed: 04/18/89

Column: (pack/cap) PACK Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	0.4	U
74-83-9	Bromomethane	0.2	U
75-01-4	Vinyl Chloride	0.3	U
75-00-3	Chloroethane	0.2	U
75-09-2	Methylene Chloride	0.7	
67-64-1	Acetone	2	U
75-15-0	Carbon Disulfide	0.2	U
75-35-4	1,1-Dichloroethene	0.08	U
75-35-3	1,1-Dichloroethane	0.09	U
540-59-0	1,2-Dichloroethene (total)	2	
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.1	U
78-93-3	2-Butanone	1	U
71-55-6	1,1,1-Trichloroethane	0.1	U
56-23-5	Carbon Tetrachloride	0.1	U
108-05-4	Vinyl Acetate	0.3	U
75-27-4	Bromodichloromethane	0.2	U
78-87-5	1,2-Dichloropropane	0.1	U
10061-01-5	cis-1,3,-Dichloropropene	0.2	U
79-01-6	Trichloroethene	0.1	U
124-48-1	Dibromochloromethane	0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	U
71-43-2	Benzene	0.1	U
75-25-2	Bromoform	0.2	U
108-10-1	4-Methyl-2-Pentanone	0.3	U
591-78-6	2-Hexanone	2	U
127-18-4	Tetrachloroethene	0.5	
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
108-88-3	Toluene	0.1	U
108-90-7	Chlorobenzene	0.1	U
100-41-4	Ethylbenzene	0.1	U
100-42-5	Styrene	0.2	U
1330-20-7	Total Xylenes	0.2	U
107-02-8	Acrolein	7	U
107-13-1	Acrylonitrile	3	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

AL E[illegible]70

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 45375 SDG No.: E4G35

Matrix: (soil/water) WATER Lab Sample ID: 69935

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: Y5432

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/18/89

Column (pack/cap) PACK Dilution Factor: 5.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAL72

Lab Name: VERSAR INC Contract:

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EA035

Matrix: (soil/water) WATER Lab Sample ID: 69937

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: Y5433

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. Date Analyzed: 04/18/89

Column: (pack/cap) PACK Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	0.4	U
74-83-9	Bromomethane	0.2	U
75-01-4	Vinyl Chloride	0.3	U
75-00-3	Chloroethane	0.2	U
75-09-2	Methylene Chloride	0.7	
67-64-1	Acetone	2	U
75-15-0	Carbon Disulfide	0.2	U
75-35-4	1,1-Dichloroethene	0.08	U
75-34-3	1,1-Dichloroethane	0.09	U
540-59-0	1,2-Dichloroethene (total)	4	
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.1	U
78-93-3	2-Butanone	1	U
71-55-6	1,1,1-Trichloroethane	0.1	U
56-23-5	Carbon Tetrachloride	0.1	U
108-05-4	Vinyl Acetate	0.3	U
75-27-4	Bromodichloromethane	0.2	U
78-87-5	1,2-Dichloropropane	0.1	U
10061-01-5	cis-1,3,-Dichloropropene	0.2	U
79-01-6	Trichloroethene	0.1	U
124-48-1	Dibromochloromethane	0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	U
71-43-2	Benzene	0.1	U
75-25-2	Bromoform	0.2	U
108-10-1	4-Methyl-2-Pentanone	0.3	U
591-78-6	2-Hexanone	2	U
127-18-4	Tetrachloroethene	0.7	
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
108-88-3	Toluene	0.1	U
108-90-7	Chlorobenzene	0.1	U
100-41-4	Ethylbenzene	0.1	U
100-42-5	Styrene	0.2	U
1330-20-7	Total Xylenes	0.2	U
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	3	[illegible]

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EAL72

Lab Name: VERSAR INC Contract:

Lab Code VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG35

Matrix: (soil/water) WATER Lab Sample ID: 69937

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: Y5433

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. Date Analyzed: 04/18/89

Column (pack/cap) PACK Dilution Factor: 5.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDG66

Lab Name: VERSAR INC Contract:

Lab Code: VERSAR Case No. 11724 SAS No.: 4537E SDG No.: EAG35

Matrix: (soil/water) WATER Lab Sample ID: 69932

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: Y5440

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. Date Analyzed: 04/18/89

Column (pack/cap) PACK Dilution Factor: 50

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDG66

Lab Name: VERSAR INC. Contract:

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 699

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: Y54

Level: (low/med) LOW Date Received: 04/

% Moisture: not dec. Date Analyzed: 04/

Column: (pack/cap) PACK Dilution Factor: 50

EW

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	4	U
74-83-9	Bromomethane	2	U
75-01-4	Vinyl Chloride	3	U
75-00-3	Chloroethane	2	U
75-09-2	Methylene Chloride	4	
67-64-1	Acetone	30	BK
75-15-0	Carbon Disulfide	2	U
75-35-4	1,1-Dichloroethene	0.8	U
75-34-3	1,1-Dichloroethane	0.9	U
540-59-0	1,2-Dichloroethene (total)	230	
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	1	U
78-93-3	2-Butanone	14	U
71-55-6	1,1,1-Trichloroethane	290	
56-23-5	Carbon Tetrachloride	1	U
108-05-4	Vinyl Acetate	3	U
75-27-4	Bromodichloromethane	2	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3,-Dichloropropene	2	U
79-01-6	Trichloroethene	580	
124-48-1	Dibromochloromethane	2	U
79-00-5	1,1,2-Trichloroethane	2	U
71-43-2	Benzene	21	
75-25-2	Bromoform	2	U
108-10-1	4-Methyl-2-Pentanone	3	U
591-78-6	2-Hexanone	23	U
127-18-4	Tetrachloroethene	240	
79-34-5	1,1,2,2-Tetrachloroethane	2	U
108-88-3	Toluene	580	
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	28	
100-42-5	Styrene	2	U
1330-20-7	Total Xylenes	180	
107-02-8	Acrolein	25	U
107-13-1	Acrylonitrile	25	U

5/3/89

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EQG07
EAQ67

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 6993

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: Y54

Level: (low/med) LOW Date Received: 04/

% Moisture: not dec. ____ Date Analyzed: 04/

Column: (pack/cap) PACK Dilution Factor: 5.

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	0.4	U
74-83-9	Bromomethane	0.2	U
75-01-4	Vinyl Chloride	0.3	U
75-00-3	Chloroethane	0.2	U
75-09-2	Methylene Chloride	0.2	U
67-64-1	Acetone	2	U
75-15-0	Carbon Disulfide	0.2	U
75-35-4	1,1-Dichloroethene	0.08	U
75-35-3	1,1-Dichloroethane	0.09	U
540-59-0	1,2-Dichloroethene (total)	1	
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.1	U
78-93-3	2-Butanone	1	U
71-55-6	1,1,1-Trichloroethane	5	
56-23-5	Carbon Tetrachloride	0.1	U
108-05-4	Vinyl Acetate	0.3	U
75-27-4	Bromodichloromethane	0.2	U
78-87-5	1,2-Dichloropropane	0.1	U
10061-01-5	cis-1,3,-Dichloropropene	0.2	U
79-01-6	Trichloroethene	14	
124-48-1	Dibromochloromethane	0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	U
71-43-2	Benzene	0.1	U
75-25-2	Bromoform	0.2	U
108-10-1	4-Methyl-2-Pentanone	0.3	U
591-78-6	2-Hexanone	2	U
127-18-4	Tetrachloroethene	18	
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
108-88-3	Toluene	0.1	U
108-90-7	Chlorobenzene	0.1	U
100-41-4	Ethylbenzene	0.1	U
100-42-5	Styrene	0.2	U
1330-20-7	Total Xylenes	0.2	U
107-02-8	Acrolein	7	U
107-13-1	Acrylonitrile	3	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EAG67

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG25

Matrix: (soil/water) WATER Lab Sample ID: 69931

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: Y5427

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/17/89

Column (pack/cap) PACK Dilution Factor: 5.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDG68

Lab Name: VERSAR INC Contract:

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.:

Matrix: (soil/water) WATER Lab Sample ID: 695

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: Y54

Level: (low/med) LOW Date Received: 04/

% Moisture: not dec. Date Analyzed: 04/

Column: (pack/cap) PACK Dilution Factor: 5.

3
4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	G
74-87-3	Chloromethane	0.4	U
74-83-9	Bromomethane	0.2	U
75-01-4	Vinyl Chloride	0.3	U
75-00-3	Chloroethane	0.2	U
75-09-2	Methylene Chloride	0.8	
67-64-1	Acetone	5	U
75-15-0	Carbon Disulfide	0.2	U
75-35-4	1,1-Dichloroethene	0.08	U
75-34-3	1,1-Dichloroethane	0.09	U
540-59-0	1,2-Dichloroethene (total)	0.7	
67-66-3	Chloroform	0.3	
107-06-2	1,2-Dichloroethane	0.1	U
78-93-3	2-Butanone	1	U
71-55-6	1,1,1-Trichloroethane	2	
56-23-5	Carbon Tetrachloride	0.1	U
108-05-4	Vinyl Acetate	0.3	U
75-27-4	Bromodichloromethane	0.2	U
78-87-5	1,2-Dichloropropane	0.1	U
10061-01-5	cis-1,3,-Dichloropropene	0.2	U
79-01-6	Trichloroethene	4	
124-48-1	Dibromochloromethane	0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	U
71-43-2	Benzene	0.1	U
75-25-2	Bromoform	0.2	U
108-10-1	4-Methyl-2-Pentanone	0.3	U
591-78-6	2-Hexanone	2	U
127-18-4	Tetrachloroethene	14	
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
108-88-3	Toluene	2	
108-90-7	Chlorobenzene	0.1	U
100-41-4	Ethylbenzene	0.1	U
100-42-5	Styrene	0.2	U
1330-20-7	Total Xylenes	0.2	U
[illegible]	[illegible]	[illegible]	U
107-13-1	Acrylonitrile	3	U

5/23/89

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDG68

Lab Name: VERSAR INC Contract:

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG35

Matrix: (soil/water) WATER Lab Sample ID: 69933

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: Y5431

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. Date Analyzed: 04/18/89

Column (pack/cap) PACK Dilution Factor: 5.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDG69

Lab Name: VERSAR INC Contract:

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG35

Matrix: (soil/water) WATER Lab Sample ID: 699:

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: Y94:

Level: (low/med) LOW Date Received: 04/

% Moisture: not dec. Date Analyzed: 04/

Column: (pack/cap) PACK Dilution Factor: 50

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	4	U
74-83-9	Bromomethane	2	U
75-01-4	Vinyl Chloride	3	U
75-00-3	Chloroethane	2	U
75-09-2	Methylene Chloride	6	-
67-64-1	Acetone	20	U
75-15-0	Carbon Disulfide	2	U
75-35-4	1,1-Dichloroethene	0.8	U
75-34-3	1,1-Dichloroethane	0.9	U
540-59-0	1,2-Dichloroethene (total)	83	
67-66-3	Chloroform	1	U
107-06-2	1,2-Dichloroethane	24	
78-93-3	2-Butanone	14	U
71-55-6	1,1,1-Trichloroethane	280	
56-23-5	Carbon Tetrachloride	1	U
108-05-4	Vinyl Acetate	3	U
75-27-4	Bromodichloromethane	2	U
78-87-5	1,2-Dichloropropane	1	U
10061-01-5	cis-1,3,-Dichloropropene	2	U
79-01-6	Trichloroethene	560	
124-48-1	Dibromochloromethane	2	U
79-00-5	1,1,2-Trichloroethane	2	U
71-43-2	Benzene	15	
75-25-2	Bromoform	2	U
108-10-1	4-Methyl-2-Pentanone	3	U
591-78-6	2-Hexanone	23	U
127-18-4	Tetrachloroethene	520	
79-34-5	1,1,2,2-Tetrachloroethane	2	U
108-88-3	Toluene	500	
108-90-7	Chlorobenzene	1	U
100-41-4	Ethylbenzene	9	
100-42-5	Styrene	2	U
1330-20-7	Total Xylenes	160	
107-02-8	Acrolein	65	U
107-13-1	Acrylonitrile	2[illegible]	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: EDG71

Lab Name: VERSAR INC. Contract:

Lab Code: VERSAR Case No.: 11724 SAS No.: 45376 SDG No.: EAG35

Matrix: (soil/water) WATER Lab Sample ID: 69936

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: Y5453

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. Date Analyzed: 04/18/89

Column (pack/cap) PACK Dilution Factor: 130

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDG71

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG35

Matrix: (soil/water) WATER Lab Sample ID: 695

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: Y54

Level: (low/med) LOW Date Received: 04/

% Moisture: not dec. ____ Date Analyzed: 04/

Column: (pack/cap) PACK Dilution Factor: 13

3

4

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	5	U
75-01-4	Vinyl Chloride	6	U
75-00-3	Chloroethane	5	U
75-09-2	Methylene Chloride	22	-
67-64-1	Acetone	970	
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	2	U
75-34-3	1,1-Dichloroethane	2	U
540-59-0	1,2-Dichloroethene (total)	51	
67-66-3	Chloroform	3	U
107-06-2	1,2-Dichloroethane	3	U
78-93-3	2-Butanone	35	U
71-55-6	1,1,1-Trichloroethane	380	
56-23-5	Carbon Tetrachloride	3	U
108-05-4	Vinyl Acetate	9	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	4	U
10061-01-5	cis-1,3,-Dichloropropene	4	U
79-01-6	Trichloroethene	840	
124-48-1	Dibromochloromethane	4	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	13	
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	64	
591-78-6	2-Hexanone	57	U
127-18-4	Tetrachloroethene	760	-
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	840	-
108-90-7	Chlorobenzene	3	U
100-41-4	Ethylbenzene	3	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	450	X
107-02-8	Acrolein	180	U
107-13-1	Acrylonitrile	72	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDG69

Lab Name: VERSAR INC. Contract:

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG35

Matrix: (soil/water) WATER Lab Sample ID: 69934

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: Y5438

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. Date Analyzed: 04/18/89

Column (pack/cap) PACK Dilution Factor: 50

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
EDG10

Lab Name: VERSAR Contract:

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAL61

Matrix: (soil/water) WATER Lab Sample ID: 69612A

Sample wt/vol: 25 (g/ml) ML Lab File ID: Y5240

Level: (low/med) LOW Date Received: 04/04/89

% Moisture: not dec. Date Analyzed: 04/06/89

Dilution Factor: 1

Number TICs found: 0 CONCENTRATION UNITS: (UG/L or UG/KG) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.					
2.					
3.					
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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EAQ80

Lab Name: VERSAR INC Contract:

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAQ35

Matrix: (soil/water) WATER Lab Sample ID: 69930

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: Y5426

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. Date Analyzed: 04/17/89

Column (pack/cap) PACK Dilution Factor: 5.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAG80

Lab Name: VERSAR INC. Contract:

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG35

Matrix: (soil/water) WATER Lab Sample ID: 699

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: Y54

Level: (low/med) LOW Date Received: 04/

% Moisture: not dec. Date Analyzed: 04/1

Column: (pack/cap) PACK Dilution Factor: 5.0

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	0.4	U
74-83-9	Bromomethane	0.2	U
75-01-4	Vinyl Chloride	0.3	U
75-00-3	Chloroethane	0.2	U
75-09-2	Methylene Chloride	0.6	
67-64-1	Acetone	2	U
75-15-0	Carbon Disulfide	0.2	U
75-35-4	1,1-Dichloroethene	0.08	U
75-34-3	1,1-Dichloroethane	0.09	U
540-59-0	1,2-Dichloroethene (total)	0.3	U
67-66-3	Chloroform	0.7	
107-06-2	1,2-Dichloroethane	0.1	U
78-93-3	2-Butanone	1	U
71-55-6	1,1,1-Trichloroethane	0.1	U
56-23-5	Carbon Tetrachloride	0.1	U
108-05-4	Vinyl Acetate	0.3	U
75-27-4	Bromodichloromethane	0.2	U
78-87-5	1,2-Dichloropropane	0.1	U
10061-01-5	cis-1,3,-Dichloropropene	0.2	U
79-01-6	Trichloroethene	0.1	U
124-48-1	Dibromochloromethane	0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	U
71-43-2	Benzene	0.1	U
75-25-2	Bromoform	0.2	U
108-10-1	4-Methyl-2-Pentanone	0.3	U
591-78-6	2-Hexanone	2	U
127-18-4	Tetrachloroethene	0.1	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
108-88-3	Toluene	0.1	U
108-90-7	Chlorobenzene	0.1	U
100-41-4	Ethylbenzene	0.1	U
100-42-5	Styrene	0.2	U
1330-20-7	Total Xylenes	0.2	U
107-02-8	Acrolein	7	U
107-13-1	Acrylonitrile	3	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDG78

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: E4G35

Matrix (soil/water): WATER Lab Sample ID: 69932

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: Y5434

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/18/89

Column (pack/cap) PACK Dilution Factor: 5.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDG78

Lab Name: VERSAR INC. Contract:

Lab Code: VERSAR Case No.: 11724 SAS No.: 4837E SDG No.:

Matrix (soil/water) WATER Lab Sample ID: 6992

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: Y543

Level: (low/med) LOW Date Received: 04/0

% Moisture: not dec. Date Analyzed: 04/1

Column: (pack/cap) PACK Dilution Factor: 5.(

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L	G
74-87-3	Chloromethane	0.4	U
74-83-9	Bromomethane	0.2	U
75-01-4	Vinyl Chloride	0.3	U
75-00-3	Chloroethane	0.2	U
75-09-2	Methylene Chloride	0.6	
67-64-1	Acetone	2	U
75-15-0	Carbon Disulfide	0.2	U
75-35-4	1,1-Dichloroethene	0.08	U
75-34-3	1,1-Dichloroethane	0.09	U
540-59-0	1,2-Dichloroethene (total)	0.3	U
67-66-3	Chloroform	11	
107-06-2	1,2-Dichloroethane	0.1	U
78-93-3	2-Butanone	1	U
71-55-6	1,1,1-Trichloroethane	0.1	U
56-23-5	Carbon Tetrachloride	0.1	U
108-05-4	Vinyl Acetate	0.3	U
75-27-4	Bromodichloromethane	0.2	U
78-87-5	1,2-Dichloropropane	0.1	U
10061-01-5	cis-1,3,-Dichloropropene	0.2	U
79-01-6	Trichloroethene	0.1	U
124-48-1	Dibromochloromethane	0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	U
[illegible]	Benzene	0.1	U
75-25-2	Bromoform	0.2	U
108-10-1	4-Methyl-2-Pentanone	0.3	U
591-78-6	2-Hexanone	2	U
127-18-4	Tetrachloroethene	0.3	
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
108-88-3	Toluene	1	
108-90-7	Chlorobenzene	0.1	U
100-41-4	Ethylbenzene	0.1	U
100-42-5	Styrene	0.2	U
1330-20-7	Total Xylenes	0.2	U
[illegible]	Acrolein	7	U
[illegible]	Acrylonitrile	3	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDG72

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG35

Matrix: (soil/water) WATER Lab Sample ID: 69928

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: Y5424

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/17/89

Column (pack/cap) PACK Dilution Factor: 10

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDG72

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 45375 SDG No.: [illegible]

Matrix: (soil/water) WATER Lab Sample ID: 699;

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: Y54;

Level: (low/med) LOW Date Received: 04/

% Moisture: not dec. ____ Date Analyzed: 04/

Column: (pack/cap) PACK Dilution Factor: 10

3

4

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/L		G
74-87-3	Chloromethane	0.8	U	
74-83-9	Bromomethane	0.4	U	
75-01-4	Vinyl Chloride	0.5	U	
75-00-3	Chloroethane	0.4	U	
75-09-2	Methylene Chloride	0.8		
67-64-1	Acetone	4	U	
75-15-0	Carbon Disulfide	0.5	U	
75-35-4	1,1-Dichloroethene	0.2	U	
75-34-3	1,1-Dichloroethane	0.2	U	
540-59-0	1,2-Dichloroethene (total)	2		
67-66-3	Chloroform	0.2	U	
107-06-2	1,2-Dichloroethane	0.2	U	
78-93-3	2-Butanone	3	U	
71-55-6	1,1,1-Trichloroethane	8		
56-23-5	Carbon Tetrachloride	0.2	U	
108-05-4	Vinyl Acetate	0.7	U	
75-27-4	Bromodichloromethane	0.4	U	
78-87-5	1,2-Dichloropropane	0.3	U	
10061-01-5	cis-1,3-Dichloropropene	0.3	U	
79-01-6	Trichloroethene	55		
124-48-1	Dibromochloromethane	0.3	U	
79-00-5	1,1,2-Trichloroethane	0.5	U	
[illegible]	Benzene	0.2	U	
75-25-2	Bromoform	0.4	U	
108-10-1	4-Methyl-2-Pentanone	0.5	U	
591-78-6	2-Hexanone	5	U	
127-18-4	Tetrachloroethene	65		
79-34-5	1,1,2,2-Tetrachloroethane	0.4	U	
108-88-3	Toluene	64		
108-90-7	Chlorobenzene	0.2	U	
100-41-4	Ethylbenzene	0.3	U	
100-42-5	Styrene	0.4	U	
[illegible]	Total Xylenes	7		
[illegible]	Acrolein	10	U	
[illegible]	Acrylonitrile	4	U	

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDG85

Lab Name: VERSAR INC. Contract:

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG35

Matrix: (soil/water) WATER Lab Sample ID: 69926

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: Y5419

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. Date Analyzed: 04/17/89

Column: (pack/cap) PACK Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	0.4	U
74-83-9	Bromomethane	0.2	U
75-01-4	Vinyl Chloride	0.3	U
75-00-3	Chloroethane	0.2	U
75-09-2	Methylene Chloride	1	
67-64-1	Acetone	2	U
75-15-0	Carbon Disulfide	0.2	U
75-35-4	1,1-Dichloroethene	4	
75-34-3	1,1-Dichloroethane	1	
540-59-0	1,2-Dichloroethene (total)	0.3	U
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.1	U
78-93-3	2-Butanone	1	U
71-55-6	1,1,1-Trichloroethane		E
56-23-5	Carbon Tetrachloride	0.1	U
108-05-4	Vinyl Acetate	0.3	U
75-27-4	Bromodichloromethane	0.2	U
78-87-5	1,2-Dichloropropane	0.1	U
10061-01-5	cis-1,3,-Dichloropropene	0.2	U
79-01-6	Trichloroethene	0.1	U
124-48-1	Dibromochloromethane	0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	U
71-43-2	Benzene	0.1	U
75-25-2	Bromoform	0.2	U
108-10-1	4-Methyl-2-Pentanone	0.3	U
591-78-6	2-Hexanone	2	U
127-18-4	Tetrachloroethene		E
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
108-88-3	Toluene	0.1	U
108-90-7	Chlorobenzene	0.1	U
100-41-4	Ethylbenzene	0.1	U
100-42-5	Styrene	0.2	U
1330-20-7	Total Xylenes	0.2	U
107-02-8	Acrolein	7	U
107-13-1	Acrylonitrile	3	U

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAG85DL

Lab Name: VERSAR INC Contract:

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG35

Matrix (soil/water) WATER Lab Sample ID: 69926DL

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: Y5425

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. Date Analyzed: 04/17/89

Column: (pack/cap) PACK Dilution Factor: 130

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	5	U
75-01-4	Vinyl Chloride	6	U
75-00-3	Chloroethane	5	U
75-09-2	Methylene Chloride	5	U
67-64-1	Acetone	50	U
75-15-0	Carbon Disulfide	6	U
75-35-4	1,1-Dichloroethene	2	U
75-34-3	1,1-Dichloroethane	2	U
540-59-0	1,2-Dichloroethene (total)	6	U
67-66-3	Chloroform	3	U
107-06-2	1,2-Dichloroethane	3	U
78-93-3	2-Butanone	35	U
71-55-6	1,1,1-Trichloroethane	87	D
56-23-5	Carbon Tetrachloride	3	U
108-05-4	Vinyl Acetate	9	U
75-27-4	Bromodichloromethane	5	U
78-87-5	1,2-Dichloropropane	4	U
10061-01-5	cis-1,3,-Dichloropropene	4	U
79-01-6	Trichloroethene	3	U
124-48-1	Dibromochloromethane	4	U
79-00-5	1,1,2-Trichloroethane	6	U
71-43-2	Benzene	3	U
75-25-2	Bromoform	5	U
108-10-1	4-Methyl-2-Pentanone	7	U
591-78-6	2-Hexanone	57	U
127-18-4	Tetrachloroethene	190	D
79-34-5	1,1,2,2-Tetrachloroethane	6	U
108-88-3	Toluene	3	U
108-90-7	Chlorobenzene	3	U
100-41-4	Ethylbenzene	3	U
100-42-5	Styrene	5	U
1330-20-7	Total Xylenes	5	U
[illegible]	Acrolein	100	U
[illegible]	Acrylonitrile	100	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: EDG85

Lab Name: VERSAR INC Contract:

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG35

Matrix: (soil/water) WATER Lab Sample ID: 69926

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: Y5419

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. Date Analyzed: 04/17/89

Column (pack/cap) PACK Dilution Factor: 5.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EAG85DL

Lab Name: VERSAR INC. Contract:

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG35

Matrix: (soil/water) WATER Lab Sample ID: 69926DL

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: Y5425

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. Date Analyzed: 04/17/89

Column (pack/cap) PACK Dilution Factor: 130

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDG86

Lab Name: VERSAR INC. Contract:

Lab Code: VERSAR Case No. 11724 SAS No.: 4527E EDG No.: EAG35

Matrix: (soil/water) WATER Lab Sample ID: 699256A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: Y5422

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/17/89

Column: (pack/cap) PACK Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	0.4	U
74-83-9	Bromomethane	0.2	U
75-01-4	Vinyl Chloride	0.3	U
75-00-3	Chloroethane	0.2	U
75-09-2	Methylene Chloride	0.4	
67-64-1	Acetone	2	U
75-15-0	Carbon Disulfide	0.2	U
75-35-4	1,1-Dichloroethene	0.08	U
75-34-3	1,1-Dichloroethane	0.09	U
540-59-0	1,2-Dichloroethene (total)	0.3	U
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.1	U
78-93-3	2-Butanone	1	U
71-55-6	1,1,1-Trichloroethane	0.1	U
56-23-5	Carbon Tetrachloride	0.1	U
108-05-4	Vinyl Acetate	0.3	U
75-27-4	Bromodichloromethane	0.2	U
78-87-5	1,2-Dichloropropane	0.1	U
10061-01-5	cis-1,3,-Dichloropropene	0.2	U
79-01-6	Trichloroethene	0.1	U
124-48-1	Dibromochloromethane	0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	U
71-43-2	Benzene	0.1	U
75-25-2	Bromoform	0.2	U
108-10-1	4-Methyl-2-Pentanone	0.3	U
591-78-6	2-Hexanone	2	U
127-18-4	Tetrachloroethene	1	
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
108-88-3	Toluene	0.9	
108-90-7	Chlorobenzene	0.1	U
100-41-4	Ethylbenzene	0.1	U
100-42-5	Styrene	0.2	U
1330-20-7	Total Xylenes	0.2	U
107-02-8	Acrolein	-	-
107-13-1	Acrylonitrile	2	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDG86

Lab Name: VERSAR INC. Contract:

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG35

Matrix: (soil/water) WATER Lab Sample ID: 69929A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: Y5422

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. Date Analyzed: 04/17/89

Column (pack/cap) PACK Dilution Factor: 5.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

ESD/Central Regional Laboratory
DATA TRACKING FORM FOR CONTRACT SAMPLES

CRL Data Set No. SF6084 (9) CERCLIS No. MID980793806

SMO Case No. 11724/SAS4537E Site Name and Location: Verona Well Field

Name of Contractor or EPA Laboratory: Versar Date User: 5-10-89

No. of Samples: 13 Date Samples or Data Received: 5-10-89

1. Have chain-of-custody records been received? YES ✓ NO ___
2. Have Traffic Reports or packing lists been received? YES ✓ NO ___
3. If no, are Traffic Report or packing list numbers written on the chain-of-custody record? YES ___ NO ___
4. If no, which Traffic report or packing list numbers are missing?

Are basic data forms in? YES ✓ NO ___

Number of samples claimed: 13 Number of samples received: 13

Checked by: Dorothy M. May Date: 5-10-89

Received by Contract Project Management Section: DMM Date: 5-10-89

Review Started: May 22, 1989 Reviewer Signature: Wanda Nellie Freeman

Total time spent on review: 8.5 Date review completed: May 24, 1989

Copied (xeroxed) by: John Date: 5/31/89

Mailed to Data User by: M. Julin Date: 5/31/89

DATA USERS:

Please fill in the blanks below and return this form to: Sylvia Griffin, Data Management Coordinator, Region V, ESCRL

Data received by: _____ Date: _____

Q.A. review received by: _____ Date: _____

Inorganic Data Complete	[ ]. Suitable for Intended Purposes	[ ] ✓ [ ] if acceptable.
Organic Data Complete	[ ]. Suitable for Intended Purposes	[ ] List problems below.
Dioxin Data Complete	[ ]. Suitable for Intended Purposes	[ ]
SAS Data Complete	[ ]. Suitable for Intended Purposes	[ ]

See Attached "Missing Data Request Form" [ ]
PROBLEMS: Please indicate reasons (if any) why data are not suitable for your uses. Other problems.

Received by Data Management Coordinator, CRL for File: Date: _____

EAG 36-38, 59-62

AND

EDG 23-24, 70, 79, 84, 88-90

AND

EAL 71, 73

VW-GWB09-02 TO VW-GWB25-02,
VW-GWB01-02 TO VW-GWB08-02

AND

VW-GWCHB05-02 TO VW-FRGWCHB05-02,
VW-GWEW07-02,
VW-GWCH141I-02,
VW-GW704-02,
VW-GWCH145I-02 TO VW-GW709-02

AND

VW-GWW06I-02,
VW-GWCH107I-02

VOA

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DA: 5/31/89

JECT: Review of Region V CLP Data
Received for Review on 5-10-89

ROM: Curtis Ross, Director (SSCRL) Patrick J. Churilla for
Central Regional Laboratory

TO: Data User: CH2 M Hill

RECEIVED
CH2M HILL
JUN 7 1989

We have reviewed the data for the following case(s).

SITE NAME: Verona Well Field SMO Case No. 11724/SAS4537E

EPA Data Set No. SF 6084 (8) No. of Samples: 17 D.U./Activity Numbers TFA/TFA 102

CRL No. 892C03 540, D41, S56, S87-88, D89, S90, S92-94, 892C04 S06 S08, S20, S26, S30, S34-35

SMO Traffic No. EAG 36-38, 59-62, EDG 23-24, 70, 79, 84, 88-90, EAL 71, 73

CLP Laboratory: Versar Hrs. Required for Review: 12

Following are our findings:
Seventeen (17) residential well samples received at the laboratory on 4.7.89 and were analyzed at low Detection limit under the SAS for VOA only.
Field Blank was not included in SDG# EAG 37.
2 Field duplicate samples were included in SDG # EAG 37: EAG 61 and EDG 24.
L.F. 5.23.89
~~Several~~ Samples were screened prior to analysis and determined that EAG 36, 37, 38, 61, 71 and EDG 88, 89 required detection.
The reviewer's narrative and data qualifiers are noted in the following pages.

L. Finkelberg
Weston/ESAT
5.23.89

( ) Data are acceptable for use.
(X) Data are acceptable for use with qualifications referenced above. See Data Qualifier sheets and Calibration Outlier forms for flags and additional comments.
( ) Data are preliminary - pending verification by Contractor Laboratory. See Case Summary above.
( ) Data are unacceptable.

cc: Carla Dempsey, CLP Quality Assurance Officer, Analytical Operations Branch
James Petty, Chief Quality Assurance Research, EMSL, Las Vegas

DATA QUALIFIERS

Contractor: VERSAR INC.

Case 11724 /4537E

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

1. Holding time.
Residential water samples were collected on 4.6.89. Lab received the samples on 4.7.89 for VOA analysis. All water samples for VOA exceeded holding time criteria of seven (7) days from date of samples have been received by laboratory to analysis of volatiles. Samples FAG 37 59 60 61, 71, 73, 71DL, EDG 23 24, 70, 79, 84 and 90 exceeded Holding time by 3 days; Samples EAG 36 38 61DL 62, EDG 88 exceeded holding time criteria by 4 days; Samples EAG 38DL, EDG 88DL 89DL exceeded holding time criteria by 5 days, therefore all positive results are flagged as estimated (J) and sample quantitation limits are flagged as estimated (UJ). However, a holding time extension was granted by the Region (By Lab. narrative).

2. GC/MS performance and tuning:
GC/MS tuning complied with the mass list and ion abundance criteria for BFB.

3. Calibration.
Initial calibration of VOA should be performed at 5ug/L 10ug/L, 20ug/L for all compounds except for acrolein and acrylonitrile, which should be run at 200ug/L, 300ug/L, 500ug/L; vinyl chloride, chloromethane, bromomethane, acetone, 2 butanone 2-hexanone and vinyl acetate (Rev. 6 9.87). However, Initial calibration of all VOA in this case were performed at 5ug/L, 20ug/L and 60 ug/L.
Initial and continuing calibration of VOA were calculated for the TCL and outliers were recorded in the outliers form, included as part of thise narrative.

Reviewed by: Y. Finkelberg 5.23.89

Phone: 353-2964

DATA QUALIFIERS

Contractor: VERSAR INC.

Case 11724/4537.E

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

4. Surrogate recovery.
VOA surrogate recovery in SDG# EAG37 met QC criteria.
5. Method blank.
VBLK82 and VBLK13 contained 1 TIC each.
VBLK98 contained Methylene Chloride and 1 TIC. The presence of Methylene Chloride (common Lab. contaminant) in a corresponding associated samples at <10 x the blank CONCENTRATION raises the limit of detection, therefore any positive result under this value of Methylene Chloride under this value is qualified as a non-detected and flagged (U). A corresponding associated samples can be found in Form IV-VOA VBLK74 does not belong to this set of data in SDG EAG37.
6. Matrix Spike / Matrix Spike Duplicate.
Water sample EAL73 was used as water spike for VOA.
VOA MS and MSD recoveries of 1,1 Dichloroethene were out of control limits, therefore any positive result for 1,1 Dichloroethene in the unspiked sample EAL73 is flagged as estimated (J) and any non-detected result of 1,1 Dichloroethene in the unspiked sample EAL73 is flagged (UJ) with the sample quantitation limit.
7. Field Blank and Field Duplicate.
Field Blank was not included with this case
EAG61 is a field Duplicate of EAG60 and EDG24 is a field Duplicate of EDG23
8. INTERNAL STANDARD.
VOA internal standard area count met QC criteria.
The RT of the BCM in EAG36 vary more than ±30 sec from the associated calibration STANDARD, therefore positive

Reviewed by: J. Finzelberg 5.23.89

Phone: 353-2964

DATA QUALIFIERS

Contractor: Versar Inc.

Case 11724/4537E

Below is a summary of the out-of-control audits and the possible effect on the data for this case:

INTERNAL STANDARD (CONT.)
result for compounds quantitated using that INTERNAL STANDARD (BCM) are flagged as ESTIMATED (J) and non-detects for compounds quantitated using that IS are flagged as ESTIMATED (UJ).
Compounds associated with the specific internal standard can be found in TABLE 4.

9. Compound Quantitation and Reporting Detection Limits.
Target compounds quantitation was properly reported for VOA.
Samples EAG-36, 37, 38, 61, 71 and EDG-88 and 89 were diluted. The CRQL's were adjusted to reflect all samples dilution.

10. Additional Case Specific Performance.
It was no specific additional problems encountered. The data in this case are acceptable with respect to the above qualifications.

Reviewed by: L. FINKELBERG 5.23.89

Phone: 353-2964

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION V
CALIBRATION OUTLIERS
VOLATILE HSL COMPOUNDS

CASE/SAS # 11724/4537E

CONTRACTOR VERSAR

Instrument #:	Init. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.			Cont. Cal.		
DATE/TIME:	4.15.89			4.17.84 9:01			4.18.84 9:32			4.19.89 9:16					
	RF	%RSD	*	RF	%D	*	RF	%D	*	RF	%D	*	RF	%D	*
Chloromethane															
Bromomethane															
Vinyl Chloride															
Chloroethane															
Methylene Chloride															
Acetone															
Carbon Disulfide															
1,1-Dichloroethane															
1,1-Dichloroethene															
Trans-1,2-Dichloroethene															
Chloroform															
2-Butanone	.004	16.8	R	.004	0	R	.004	25	R	.004	0	R			
1,2-Dichloroethane															
1,1,1-Trichloroethane															
Carbon Tetrachloride															
Vinyl Acetate															
Bromodichloromethane															
1,2-Dichloropropane															
Trans-1,3-Dichloropropene															
Trichloroethene															
Dibromochloromethane															
1,1,2-Trichloroethane															
Benzene															
cis-1,3-Dichloropropene															
2-Chloroethylvinylether															
Bromoform															
4-Methyl-2-Pentanone															
2-Hexanone															
Tetrachloroethene															
1,1,2,2-Tetrachloroethane															
Toluene															
Chlorobenzene															
Ethylbenzene															
Styrene															
m-Xylene															
o/p-Xylene															

AFFECTED SAMPLES:	Init. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.	Cont. Cal.
		VBLK 82	VBLK 95	VBLK 13	
		EAG 59, 60	EAG 61 DL	EAG 36 DL	
		EAG 37; 61	EAL 73 MSD	EAG 35 DL	
		EDG 24	EAL 73 MS	EDG 88 DL	
		EDG 70, 79	EAG 36	EDG 89 DL	
		EDG 90	EDG 86		
		EAL 71, 71DL	EDG 89		
		EAG 31	EAG 62		
		EDG 84	EAG 3X		
		EAL 73			

Reviewer's Initials/Date: Y. Finkelberg 5.22.89

* These flags should be applied to the analytes on the sample data sheets.

TABLE 4

VOLATILE INTERNAL STANDARDS WITH CORRESPONING TCL ANALYTES ASSIGNED FOR QUANTITATION

Bromochloromethane	1,4-Difluorobenzene	Chlorobenzene-d_5
Chloromethane	2- Butanone	2-Hexanone
Bromomethane	1,1,1-Trichloroethane	4-Methyl-2-Pentanone
*Vinyl Chloride	Carbon Tetrachloride	Tetrachloroethene
Chloroethane	Vinyl Acetate	1,1,2,2-Tetrachloroethane
Methylene Chloride	Bromodichloromethane	*Toluene
Acetone	*1,2-Dichloropropane	Chlorobenzene
Carbon Disulfide	trans-1,3-Dichloropropane	*Ethylbenzene
*1,1-Dichloroethene	Trichloroethene	Styrene
1,1-Dichloroethane	Dibromochloromethane	Xylene (total)
1,2-Dichloroethene (total)	1,1,2-Trichloroethane	Bromofluorobenzene (surr)
*Chloroform	Benzene	Toluene-d_8 (surr)
1,2-Dichloroethane	cis-1,3-Dichloropropene	
1,2-Dichloroethane-d_4 (surr)	Bromoform	

(surr) = surrogate compound
*Calibration check compounds

SEMIVOLATILE INTERNAL STANDARDS WITH CORRESPONDING TCL ANALYTES ASSIGNED FOR QUANTITATION

1,4-dichlorobenzene-d_4	Naphthalene-d_8	Acenaphthene-d_{10}	Phenanthrene-d_{10}	Chrysene-d_{12}
Phenol	Nitrobenzene	Hexachlorocyclopentadiene	4,6-Dinitro-2-methylphenol	Pyrene
bis(2-Chloroethyl) ether	Isophorone	2,4,6-Trichlorophenol	N-nitrosodiphenylamine	Butylbenzyl Phthalate
2-Chlorophenol	2-Nitrophenol	2,4,5-Trichlorophenol	1,2-Diphenylhydrazine	3,3'-Dichlorobenzidine
1,3-Dichlorobenzene	2,4-Dimethylphenol	2-Chloronaphthalene	4-Bromophenyl Phenyl Ether	Benzo(a)anthracene
1,4-Dichlorobenzene	Benzoic acid	2-Nitroaniline	Hexachlorobenzene	bis(2-ethylhexyl) Phthalate
Benzyl Alcohol	bis(2-Chloroethoxy)methane	Dimethyl Phthalate	Pentachlorophenol	Chrysene
1,2-Dichlorobenzene	2,4-Dichlorophenol	Acenaphthylene	Phenanthrene	Terphenyl-d_{14} (surr)
2-Methylphenol	1,2,4-Trichlorobenzene	3-Nitroaniline	Anthracene	
bis(2-Chloroisopropyl)ether	Naphthalene	Acenaphthene	Di-n-butyl Phthalate	
4-Methylphenol	4-Chloroaniline	2,4-Dinitrophenol	Fluoranthene	
N-nitroso-Di-n-propylamine	Hexachlorobutadiene	4-Nitrophenol		
Hexachloroethane	4-Chloro-3-methylphenol	Dibenzofuran		
2-Fluorophenol (surr)	2-Methylnaphthalene	2,4-Dinitrotoluene		
Phenol-d_6 (surr)	Nitrobenzene-d_5 (surr)	2,6-Dinitrotoluene		
		Diethyl Phthalate		
		4-Chlorophenyl-phenyl ether		
		Fluorene		
		4-Nitroaniline		
		2-Fluorobiphenyl (surr)		
		2,4,6-Tribromo Phenol (surr)		

Perylene-d_{12}
Di-n-octyl Phthalate
Benzo(b)fluoranthene
Benzo(k)fluoranthene
Benzo(a)pyrene
Indeno(1,2,3-cd) pyrene
Dibenz(a,h) anthracene
Benzo(g,h,i) perylene

Surr = surrogate compound

GENERAL DATA QUALIFIERS

For reporting results to the USEPA, the following contract specific qualifiers are to be used. The seven qualifiers defined below are not subject to modification by the laboratory. Up to five qualifiers may be reported on Form I for each compound.

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

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

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

and df = dilution factor

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

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

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

J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed, or when the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the sample quantitation limit but greater than zero. For example, if the sample quantitation limit is 10 ug/L, but a concentration of 3 ug/L is calculated, report it as 3J. The sample quantitation limit must be adjusted for both dilution and percent moisture as discussed for the U flag, so that if a sample with 24% moisture and a 1 to 10 dilution factor has a calculated concentration of 300 ug/L and a sample quantitation limit of 430 ug/kg, report the concentration as 300J on Form I.

C - This flag applies to pesticide results where the identification has been confirmed by GC/MS. Single component pesticides ≥10 ng/ul in the final extract shall be confirmed by GC/MS.

B - This flag is used when the analyte is found in the associated blank as well as in the sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action. This flag must be used for a TIC as well as for a positively identified TCL compound.

E - This flag identifies compounds whose concentrations exceed the calibration range of the GC/MS instrument for that specific analysis. This flag will not apply to pesticides/PCBs analyzed by GC/EC methods. If one or more compounds have a response greater than full scale, the sample or extract must be diluted and re-analyzed according to the specifications in Exhibit D. All such compounds with a response greater than full scale should have the concentration flagged with an "E" on the Form I for the original analysis. If the dilution of the extract causes any compounds identified in the first analysis to be below the calibration range in the second analysis, then the results of both analyses shall be reported on separate Forms I. The Form I for the diluted sample shall have the "DL" suffix appended to the sample number. NOTE: For total xylenes, where three isomers are quantified as two peaks, the calibration range of each peak should be considered separately, e.g., a diluted analysis is not required for total xylenes unless the concentration of either peak separately exceeds 200 ug/L.

D - This flag identifies all compounds identified in an analysis at a secondary dilution factor. If a sample or extract is re-analyzed at a higher dilution factor, as in the "E" flag above, the "DL" suffix is appended to the sample number on the Form I for the diluted sample, and All concentration values reported on that Form I are flagged with the "D" flag.

A - This flag indicates that a TIC is a suspected aldol-condensation product.

X - Other specific flags may be required to properly define the results. If used, they must be fully described and such description attached to the Sample Data Summary Package and the Case Narrative. Begin by using "X". If more than one flag is required, use "Y" and "Z", as needed. If more than five qualifiers are required for a sample result, use the "X" flag to combine several flags, as needed. For instance, the "X" flag might combine the "A", "B", and "D" flags for some samples.

The combination of flags "BU" or "UB" is expressly prohibited. Blank contaminants are flagged "B" only when they are also detected in the sample.

If analyses at two different dilution factors are required (see Exhibit D), follow the data reporting instructions given in Exh. D and with the "D" and "E" flags above.

APR 27 1989

SUPER. IMO 6084

CENTRAL REGIONAL LABORATORY SAMPLE DATA REPORT
ORGANICS, ORGANICS

LOG IN DATE: 5/2/89
DUE DATE: 6/2/89

THIS FORM IS TO BE USED FOR SAMPLES SENT TO CONTRACT ONLY

CASE NUMBER/SAS No. 11724/4531E SITE NAME Vernon Well Field LABORATORY Vernon DATE SHIPPED 4/6/89

SUPERFUND DU NUMBER 1905 TFA EPA RPM or OSC (S M S /ICES) John Lovato CERCLIS NUMBER MID 980793806 PAGE 8 OF 8

ACTIVITY NUMBER C22251 TFA102

CRL LOG NUMBER 892C04	ORGANIC TRAFFIC REPORT NUMBER or SAS Packing List No. 5/2/89 mm	INORGANIC TRAFFIC REPORT NUMBER	WATER OR LIQUIDS: ACID-BASE NEUTRAL CPDS ORGANIC SCAN UG/L TOX11874	VOLATILE ORGANIC ANALYSIS ORGANIC SCAN UG/L TOX11784	WATER POLYCHLORINATED BIPHENYLS UG/L PEB 17144	WATER CHLORINATED PESTICIDES UG/L PES17134	TOTAL METALS IN WATER UG/L MET111	WATER CYANIDE UG/L MM76819	NITRATE-NITRITE MG/L MM7284	AMMONIA MG/L MM7284	REDUCE. FILTERABLE TDS MG/L MM7282	REDUCE. NON-FILT TSS MG/L MM7272	Ll VOC	SEDIMENTS or SOILS: ACID-BASE NEUTRAL CPDS ORGANIC SCAN MG/KG TOX11722	VOLATILE ORGANIC ANALYSIS ORGANIC SCAN MG/KG TOX11622	SEDIMENTS POLYCHLORINATED BIPHENYLS MG/KG PEB11422	SEDIMENT CHLORINATED PESTICIDES MG/KG 211222	TOTAL METALS MG/KG MET413	CYANIDE MG/KG MM4830	EP TOXICITY METALS MG/KG	AMMONIA MG/KG MM42925
S08	EDL73.												X								
S34	EDG88.												X								
S30	EDG79.												X								
S35	EDG89.												X								
S31	EDG85												X								
S07	EDL72.												X								
S24	EDG86												X								
S17	EDG81												X								
S16	EDG66												X								
S18	EDG68												X								
S19	EDG69												X								
S20	EDG70												X								
S21	EDG71												X								
S22	EDG72												X								
R25	EDG78												X								

APR 2 1 1989

Saper MD 6084

CENTRAL REGIONAL LABORATORY SAMPLE DATA REPORT
ORGANICS ORGANICS

LOG-IN DATE: 5/2/89
DUE DATE: 12/89

THIS FORM IS TO BE USED FOR SAMPLES SENT TO CONTRACT ONLY

CASE NUMBER/SAS No. 11724/4537E SITE NAME Verona Well Field LABORATORY Versar DATE SHIPPED 4/5/89

SUPERFUND DU NUMBER ~~Y905~~TFA EPA RPM or OSC (S M S /VICES) John Jonola CERCLIS NUMBER MID 980793806 PAGE 5 OF 5

ACTIVITY NUMBER ~~C222~~ST TFA102

CRL LOG NUMBER 892C03	ORGANIC TRAFFIC REPORT NUMBER or SAS Packing List No.	INORGANIC TRAFFIC REPORT NUMBER	WATER OR LIQUIDS: ACID-BASE NEUTRAL CPDS ORGANIC SCAN UG/L TOX17574	VOLATILE ORGANIC ANALYSIS ORGANIC SCAN UG/L TOX17864	WATER POLYCHLORINATED BIPHENYLS UG/L PES17144	WATER CHLORINATED PESTICIDES UG/L PES17134	TOTAL METALS IN WATER UG/L MET111	WATER CYANIDE UG/L MIN74919	NITRATE-NITRITE MG/L MIN7284	AMMONIA MG/L MIN7294	RESIDUE FILTERABLE TDS MG/L MIN7382	RESIDUE NON-FILT TSS MG/L MIN7372	CLUCC		SEDIMENTS or SOILS: ACID-BASE NEUTRAL CPDS ORGANIC SCAN MG/KG TOX215722	VOLATILE ORGANIC ANALYSIS ORGANIC SCAN MG/KG TOX215622	SEDIMENTS POLYCHLORINATED BIPHENYLS MG/KG PES211422	SEDIMENT CHLORINATED PESTICIDES MG/KG 211322	TOTAL METALS MG/KG MET413	CYANIDE MG/KG MIN44830	EP TOXICITY METALS MG/KG	AMMONIA MG/KG MIN42825				
S77	EAL 63*												X													
S55	EDG 38•												X													
S36	EDG 19*												X													
S37	EDG 20												X													
S90	EAG 62•												X													
S94	EAG 38•												X													
S93	EAG 37•												X													
S97	EAG 59•												X													
S40	EDG 23•												X													
D41	EDG 24•												X													
S92	EAG 36•												X													
S56	EDG 84•												X													
S98	EAG 60•												X													
D99	EAG 61•												X													
S91	EAG 35												X													
R23	EDG 80												X													
~~S01~~	~~EAL 66~~												~~X~~													
~~D02~~	~~EAL 67~~ EA 4/27/89												~~X~~													
~~R24~~	~~EDG 76~~												~~X~~													
~~S03~~	~~EAL 68~~												~~X~~													

SUPERFUND 6084

APR 27 1989 CENTRAL REGIONAL LABORAT Y SAMPLE DATA REPORT
ORGANICS/INORGANICS
THIS FORM IS TO BE USED FOR SAMPLES SENT TO CONTRACT ONLY

SAMPLE DATES: 4/3 - 4/5
LOG IN DATE 4/12/89
DUE DATE: 5/12/89

CASE NUMBER/SAS No. 11724/4537E SITE NAME Verona Well Field LABORATORY Versar DATE SHIPPED 4/5-4/6/89

SUPERFUND DO NUMBER [illegible] TFA EPA RPM or OSC (S M S/VICES) John [illegible] CERCLIS NUMBER MID981793806 PAGE 7 OF 8

ACTIVITY NUMBER ~~C[illegible]~~ TFA102

CRL LOG NUMBER 892C04	ORGANIC TRAFFIC REPORT NUMBER or SAS Packing List No. (5/2/89)	INORGANIC TRAFFIC REPORT NUMBER	WATER OR LIQUIDS: ACID-BASE NEUTRAL CPDS ORGANIC SCAN UG/L TOX17574	VOLATILE ORGANIC ANALYSIS ORGANIC SCAN UG/L TOX17364	WATER POLYCHLORINATED BIPHENYLS UG/L PES 17144	WATER CHLORINATED PESTICIDES UG/L PES17134	TOTAL METALS IN WATER UG/L MET111	WATER CYANIDE UG/L MIN74919	NITRATE/NITRITE MG/L MIN7284	AMMONIA MG/L MIN7294	RESIDUE, FILTERABLE TDS MG/L MIN7362	RESIDUE, NON-FILT TSS MG/L MIN7372	le UCC	SEDIMENTS or SOILS: ACID-BASE NEUTRAL CPDS ORGANIC SCAN MG/KG TOX215722	VOLATILE ORGANIC ANALYSIS ORGANIC SCAN MG/KG TOX215622	SEDIMENTS POLYCHLORINATED BIPHENYLS MG/KG PES211422	SEDIMENT CHLORINATED PESTICIDES MG/KG 211322	TOTAL METALS MG/KG MET412	CYANIDE MG/KG MIN44830	EP TOXICITY METALS MG/KG	AMMONIA MG/KG MIN42925
S01	EDL 66												X								
D02	EDL 69												X								
R24	EDG 76												X								
S03	EDL 68												X								
D04	EDL 69												X								
S13	EDG 63												X								
S14	EDG 64												X								
D15	EDG 65												X								
S10	EDG 60												X								
S09	EDG 59												X								
S12	EDG 62												X								
S11	EDG 61												X								
S28	EDG 74												X								
D29	EDG 75												X								
S33	EDG 81												X								
S59	EDG 82												X								
S60	EDG 83												X								
S05	EDL 70												X								
S06	EDL 71												X								
S26	EDG 90												X								

USEPA CONTRACT LABORATORY PROGRAM
SAMPLE MANAGEMENT OFFICE
P.O. BOX 818 ALEXANDRIA, VA 22313
703/557-2490 FTS-557-2490

CASE NO: 11724

SAS NO: (IF APPLICABLE) 4537E

ORGANIC TRAFFIC REPORT

FOR CLP USE ONLY

① TYPE OF ACTIVITY (CIRCLE ONE)
SUPERFUND—PA SI ESI RIFS RD RA ER
NPLD O&M OTHER ____
NON-SUPERFUND—____ PROGRAM

SAMPLE DESCRIPTION
(ENTER IN BOX A)
1. SURFACE WATER
2. GROUND WATER
3. LEACHATE
4. SOIL
5. SEDIMENT
6. OIL
7. WASTE

② REGION NO: IV
SAMPLING COMPANY: CH2M HILL
SAMPLER: (NAME) [illegible]

③ SHIP TO: Versar #1
ATTN: Clay [illegible]

④ SAMPLING DATE:
BEGIN: 4-6-89 END: 4-6-89

⑤ DATE SHIPPED: 4-6-89 CARRIER: F
AIRBILL NO: 2272510110

⑥ DATE REC'D: 4-7-89
SDG NO: EAG336
REC'D BY: J. L. Morrison
LABORATORY CONTRACT NO. UNIT PRICE

⑦ TRANSFER TO: DATE REC'D:
REC'D BY: CONTRACT NO./PRICE:

CLP SAMPLE NUMBER (FROM LABELS)	Ⓐ SAMPLE DESCRIPTION (FROM BOX 1) 1 2 3 4 5 6 7	Ⓑ CONCENTRATION L = LOW M = MED H = HIGH (SAS)	Ⓒ RAS ANALYSIS: VOLATILES						Ⓓ SPECIAL HANDLING	Ⓔ STATION LOCATION	Ⓕ SAMPLE CONDITION ON RECEIPT	Ⓖ HIGH CONC. PHASES (CHECK): SOLID	WATER—MIS LIQUID	NON WATER—LIS LIQUID
AS 62	2	L	X							GWBC6-02				
38										GWB38-02				
37										GWB33-02				
59										GWBC1-02				
EDG 23										GWCHP05-02				
24										FBGWCHPC-02				
EAL 70										GWWC6-02				
EAG 36										GWP09-02				
EAL 71										GWWC1-02				
EDG 90										GWT09-02				
54										GWT04-02				
60										GWT05-02				
60									use for MSD					
61										FBGWT[illegible]				
EAL 72										GWCHI71-02				
73									use for MSD					
EDG 28										GWCHI45I-02				
29										GWCHI48-02				
29										GWW145-02				
29									use for MSD					

1/2

100007

EPA Form 2075-6 (8-87)

WHITE — SMO COPY PINK — CLIENT COPY WHITE — LAB COPY FOR RETURN TO SMO YELLOW — LAB COPY

Shipment is complete (B#8)

Versar INC.

May 9, 1989

I. Narrative
Organics Case 11724 SAS# 4537E SDG# EAG37
EPA Region V - Curtis Ross
Versar Project 965.80 - Batch 8

This report contains the CLP analytical data for the volatile low detection limit organic analysis of seventeen (17) water samples contained in Case 11724 SDG EAG37. The samples listed below arrived intact at Versar by Federal Express on April 7, 1989.

SAMPLE LIST

EAG36	EDG24
EAG37 *	EDG70
EAG38	EDG79
EAG59	EDG84
EAG60	EDG88
EAG61	EDG89
EAG62	EDG90 **
EAL71	
EAL73	
EDG23	

* - First sample in SDG
** - Last sample in SDG

//

****
* SAS ONLY *
* No Diskette Deliverable *
* Seven day sample holding time *
* 30 day hardcopy report due date *
* Low Detection Limit Analysis *
Acrolein & acrylonitrile added to volatile target compound list
****

GC/MS instrument calibrations using BFB met contract requirements for volatile analysis. SPCC and CCC criteria were met for the volatile initial calibration curve and continuing calibration check standards. All GC/MS analyses occurred during the twelve hour period following daily instrument calibration. A holding time extension was granted by the Region since the number of samples being shipped on a daily basis exceeded the number that were scheduled.

All volatile internal standard area abundances and relative retention times were compliant for all analyses.

Volatile surrogate standard recovery values met all specified QC limits. One set of matrix spike/matrix spike duplicate analysis was performed in conjunction with this SDG.

Versar INC.

Samples were screened prior to analysis and it was determined that EAG36, EAG37, EAG38, EAG60, EAG62, and EDG89 required dilution prior to initial analysis in order to quantify target compounds within the calibration range of the curve. Several of these samples required subsequent dilution. Other samples requiring dilution are EAG61, EAG71, EDG88, and EDG89. Dilution factors for each sample are listed on the individual Form IA. No other samples required dilution prior to analysis.

Please contact Clay Hamner, CLP Project Manager, should you have any questions or require additional information pertaining to the low detection limit analysis of these water samples.

Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or his designee, as verified by the following signature:

Linda E Bock May 9, 1989
Linda E. Bock
GC/MS Data Processing Coordinator
Laboratory Operations

2A
WATER VOLATILE SURROGATE RECOVERY

Lab Name: VERSAR_INC._____ Contract: _____

Lab Code: VERSAR_ Case No.: 11Z24_ SAS No.: 4537E__ SDG No.: EAG_37

	EPA SAMPLE NO.	S1 (TOL) #	S2 (BFB) #	S3 (DCE) #	OTHER	TOT OUT
01	EAG36	97	97	97		0
02	EAG36DL	102	103	99		0
03	EAG37	101	89	96		0
04	EAG37	101	92	97		0
05	EAG38	95	94	97		0
06	EAG38DL	99	104	99		0
07	EAG59	101	93	96		0
08	EAG60	98	90	98		0
09	EAG61	99	90	97		0
10	EAG61DL	99	96	94		0
11	EAG62	95	101	98		0
12	EAL71	101	90	96		0
13	EAL71DL	100	94	98		0
14	EAL73	102	95	95		0
15	EDG24	96	98	99		0
16	EDG70	95	94	100		0
17	EDG79	100	89	98		0
18	EDG84	99	90	97		0
19	EDG88	98	94	97		0
20	EDG88DL	97	105	99		0
21	EDG89	95	97	99		0
22	EDG89DL	97	103	101		0
23	EDG90	101	96	92		0
24	EAL73MS	96	94	97		0
25	EAL73MSD	96	94	93		0
26	VBLK82	96	94	96		0
27	VBLK98	99	98	93		0
28	VBLK13	100	104	96		0

	QC LIMITS
S1 (TOL) = Toluene-d8	(88-110)
S2 (BFB) = Bromofluorobenzene	(86-115)
S3 (DCE) = 1,2-Dichloroethane-d4	(76-114)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogates diluted out

WATER VOLATILE MATRIX SPIKE/MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG 37

Matrix Spike - EPA Sample No.: EAL73

COMPOUND	SPIKE ADDED (ug/L)	SAMPLE CONCENTRATION (ug/L)	MS CONCENTRATION (ug/L)	MS % REC	#	QC LIMITS REC.
1,1-Dichloroethene	20.0	0	9.82	49	*	61-145
Trichloroethene	20.0	6.95	26.4	97		71-120
Benzene	20.0	0	15.8	79		76-127
Toluene	20.0	0.140	18.4	91		76-125
Chlorobenzene	20.0	0	20.3	102		75-130

COMPOUND	SPIKE ADDED (ug/L)	MSD CONCENTRATION (ug/L)	MSD % REC	#	% RPD	#	QC LIMITS RPD	QC LIMITS REC.
1,1-Dichloroethene	20.0	9.92	50	*	-2		14	61-145
Trichloroethene	20.0	25.5	93		4		14	71-120
Benzene	20.0	15.1	76		4		11	76-127
Toluene	20.0	17.5	87		4		13	76-125
Chlorobenzene	20.0	19.2	96		6		13	75-130

Column to be used to flag recovery and RPD values with an asterisk

* Values outside of QC limits

RPD: 0 out of 5 outside limits
Spike Recovery: 2 out of 10 outside limits

COMMENTS: CLP,11724,EAG37,EAL73,L,W,69922A,V,,965.80.0,8,25ML
INST R: SP1000 60/80 CARBOPACK 3M@45C > 225C@7C/M > 30M@225C

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: VERSAR_INC._____ Contract: _____

Lab Code: VERSAR_ Case No.: 11724_ SAS No.: 4537E__ SDG No.: EAG_37

Lab File ID: R2582_____ Lab Sample ID: VBLK82_____

Date Analyzed: 04/17/89 Time Analyzed: 0949____

Matrix: (soil/water) WATER_ Level: (low/med) LOW___

Instrument ID: R_____

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	EAG37	69913A	R2584	1126
02	EAG37	69911A	R2589	1527
03	EAG59	69912A	R2583	1038
04	EAG60	69920A	R2593	1842
05	EAG61	69921A	R2594	1929
06	EAL71	69917A	R2588	1431
07	EAL71DL	69917A	R2595	2030
08	EAL73	69922A	R2591	1706
09	EDG24	69914A	R2585	1213
10	EDG70	69915A	R2586	1259
11	EDG79	69924A	R2592	1751
12	EDG84	69919A	R2590	1620
13	EDG90	69918A	R2587	1345

COMMENTS: CLP,,,VBLK82,L,W,VBLK82,V,BLANK,25ML
INST R: SP1000 60/80 CARBOPACK 3M@45C > 225C@7C/M > 30M@225C

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: VERSAR_INC._____ Contract: _____

Lab Code: VERSAR_ Case No.: 11724_ SAS No.: 45375__ SDG No.: EAG_37

Lab File ID: R2598_____ Lab Sample ID: VBLK98_____

Date Analyzed: 04/18/89 Time Analyzed: 1043____

Matrix: (soil/water) WATER_ Level: (low/med) LOW___

Instrument ID: R_____

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	EAG36	69916	R2605	1659
02	EAG38	69910	R2609	2015
03	EAG61DL	69921BDL	R2599	1127
04	EAG62	69909	R2608	1921
05	EDG88	69923	R2606	1744
06	EDG89	69925	R2607	1829
07	EAL73MS	69922-MS	R2604	1547
08	EAL73MSD	69922-MSD	R2601	1326

COMMENTS: CLP,,,VBLK98,L,W,VBLK98,V,BLANK,25ML
INST R: SP1000 60/80 CARBOPACK 3M@45C > 225C@7C/M > 30M@225C

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name: VERSAR_INC._____ Contract: _____

b Code: VERSAR_ Case No.: 11724_ SAS No.: 4537E__ SDG No.: EAG_37

Lab File ID: R2613_____ Lab Sample ID: VBLK13_____

Date Analyzed: 04/19/89 Time Analyzed: 1012____

Matrix: (soil/water) WATER_ Level:(low/med) LOW___

Instrument ID: R_____

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES, MS AND MSD:

	EPA SAMPLE NO.	LAB SAMPLE ID	LAB FILE ID	TIME ANALYZED
01	EAG36DL	69916D	R2614	1104
02	EAG38DL	69910D	R2615	1152
03	EDG88DL	69923D	R2616	1246
04	EDG89DL	69925C	R2617	1332

COMMENTS: CLP,,,VBLK13,L,W,VBLK13,V,BLANK,25ML
INST R: SP1000 60/80 CARBOPACK 3M@45C > 225C@7C/M > 30M@225C

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK74

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11784 SAS No.: 4537E SDG No.: EAG 37

Matrix: (soil/water) WATER Lab Sample ID: VBLK74

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2574

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

% Moisture: not dec. ____ Date Analyzed: 04/15/89

Column: (pack/cap) PACK Dilution Factor: 5.0

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

CAS NO.	COMPOUND	Q
74-87-3	Chloromethane	0.4 U
74-83-9	Bromomethane	0.2 U
75-01-4	Vinyl Chloride	0.3 U
75-00-3	Chloroethane	0.2 U
75-09-2	Methylene Chloride	0.2 U
67-64-1	Acetone	2 U
75-15-0	Carbon Disulfide	0.2 U
75-35-4	1,1-Dichloroethene	0.08 U
75-35-3	1,1-Dichloroethane	0.09 U
540-59-0	1,2-Dichloroethene (total)	0.3 U
67-66-3	Chloroform	0.1 U
107-06-2	1,2-Dichloroethane	0.1 U
78-93-3	2-Butanone	1 U
71-55-6	1,1,1-Trichloroethane	0.1 U
56-23-5	Carbon Tetrachloride	0.1 U
108-05-4	Vinyl Acetate	0.3 U
75-27-4	Bromodichloromethane	0.2 U
78-87-5	1,2-Dichloropropane	0.1 U
10061-01-5	cis-1,3,-Dichloropropene	0.2 U
79-01-6	Trichloroethene	0.1 U
124-48-1	Dibromochloromethane	0.2 U
79-00-5	1,1,2-Trichloroethane	0.2 U
71-43-2	Benzene	0.1 U
10061-02-6	Trans-1,3-Dichloropropene	0.2 U
75-25-2	Bromoform	0.2 U
108-10-1	4-Methyl-2-Pentanone	0.3 U
591-78-6	2-Hexanone	2 U
127-18-4	Tetrachloroethene	0.1 U
79-34-5	1,1,2,2-Tetrachloroethane	0.2 U
108-88-3	Toluene	0.1 U
108-90-7	Chlorobenzene	0.1 U
100-41-4	Ethylbenzene	0.1 U
100-42-5	Styrene	0.2 U
1330-20-7	Total Xylenes	0.2 U
107-02-8	Acrolein	7 U
107-13-1	Acrylonitrile	3 U

200074

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
VBLK74

Lab Name: VERSAR Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG_37

Matrix: (soil/water) WATER Lab Sample ID: VBLK74

Sample wt/vol: 25 (g/ml) ML Lab File ID: R2574

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

% Moisture: not dec. _____ Date Analyzed: 04/15/89

Dilution Factor: 1

Number TICs found: 1

CONCENTRATION UNITS:
(UG/L or UG/KG) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	541-05-9	CYCLOTRISILOXANE, HEXAMETHYL	33.9166	2	J
2.					
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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK82

b Name: VERSAR INC. Contract: _____

b Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG 37

Matrix: (soil/water) WATER Lab Sample ID: VBLK82

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2582

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

% Moisture: not dec. ____ Date Analyzed: 04/17/89

Column: (pack/cap) PACK Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	0.4	U
74-83-9	Bromomethane	0.2	U
75-01-4	Vinyl Chloride	0.3	U
75-00-3	Chloroethane	0.2	U
75-09-2	Methylene Chloride	0.2	U
67-64-1	Acetone	2	U
75-15-0	Carbon Disulfide	0.2	U
75-35-4	1,1-Dichloroethene	0.08	U
75-35-3	1,1-Dichloroethane	0.09	U
540-59-0	1,2-Dichloroethene (total)	0.3	U
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.1	U
78-93-3	2-Butanone	1	U
71-55-6	1,1,1-Trichloroethane	0.1	U
56-23-5	Carbon Tetrachloride	0.1	U
108-05-4	Vinyl Acetate	0.3	U
75-27-4	Bromodichloromethane	0.2	U
78-87-5	1,2-Dichloropropane	0.1	U
10061-01-5	cis-1,3,-Dichloropropene	0.2	U
79-01-6	Trichloroethene	0.1	U
124-48-1	Dibromochloromethane	0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	U
71-43-2	Benzene	0.1	U
10061-02-6	Trans-1,3-Dichloropropene	0.2	U
75-25-2	Bromoform	0.2	U
108-10-1	4-Methyl-2-Pentanone	0.3	U
591-78-6	2-Hexanone	2	U
127-18-4	Tetrachloroethene	0.1	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
108-88-3	Toluene	0.1	U
108-90-7	Chlorobenzene	0.1	U
100-41-4	Ethylbenzene	0.1	U
100-42-5	Styrene	0.2	U
1330-20-7	Total Xylenes	0.2	U
107-02-8	Acrolein	7	U
107-13-1	Acrylonitrile	3	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
VBLK82

Lab Name: VERSAR Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAB_37

Matrix: (soil/water) WATER Lab Sample ID: VBLK82

Sample wt/vol: 25 (g/ml) ML Lab File ID: R2582

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

% Moisture: not dec. _____ Date Analyzed: 04/17/89

Dilution Factor: 1

Number TICs found: 1

CONCENTRATION UNITS:
(UG/L or UG/KG) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	541-05-9	CYCLOTRISILOXANE, HEXAMETHYL	34.0333	3	J
2.					
3.					
4.					
5.					
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7.					
8.					
9.					
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200085

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK98

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG 37

Matrix: (soil/water) WATER Lab Sample ID: VBLK98

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2598

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

% Moisture: not dec. ____ Date Analyzed: 04/18/89

Column: (pack/cap) PACK Dilution Factor: 5.0

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	0.4	U
74-83-9	Bromomethane	0.2	U
75-01-4	Vinyl Chloride	0.3	U
75-00-3	Chloroethane	0.2	U
75-09-2	Methylene Chloride	0.4	B
67-64-1	Acetone	2	U
75-15-0	Carbon Disulfide	0.2	U
75-35-4	1,1-Dichloroethene	0.08	U
75-35-3	1,1-Dichloroethane	0.09	U
540-59-0	1,2-Dichloroethene (total)	0.3	U
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.1	U
78-93-3	2-Butanone	1	U
71-55-6	1,1,1-Trichloroethane	0.1	U
56-23-5	Carbon Tetrachloride	0.1	U
108-05-4	Vinyl Acetate	0.3	U
75-27-4	Bromodichloromethane	0.2	U
78-87-5	1,2-Dichloropropane	0.1	U
10061-01-5	cis-1,3,-Dichloropropene	0.2	U
79-01-6	Trichloroethene	0.1	U
124-48-1	Dibromochloromethane	0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	U
71-43-2	Benzene	0.1	U
10061-02-6	Trans-1,3-Dichloropropene	0.2	U
75-25-2	Bromoform	0.2	U
108-10-1	4-Methyl-2-Pentanone	0.3	U
591-78-6	2-Hexanone	2	U
127-18-4	Tetrachloroethene	0.1	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
108-88-3	Toluene	0.1	U
108-90-7	Chlorobenzene	0.1	U
100-41-4	Ethylbenzene	0.1	U
100-42-5	Styrene	0.2	U
1330-20-7	Total Xylenes	0.2	U
107-02-8	Acrolein	7	U
107-13-1	Acrylonitrile	3	U

200094

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
VBLK98

Lab Name: ___VERSAR_____ Contract: _____

Lab Code: _VERSAR___ Case No.: 11724 SAS No.: 4537E SDG No.: EAG_37

Matrix: (soil/water) WATER Lab Sample ID: _VBLK98

Sample wt/vol: 25 _(g/ml) ML Lab File ID: __R2598

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

% Moisture: not dec._____ Date Analyzed: ___04/18/89

Dilution Factor: _ 1

Number TICs found: _ 1

CONCENTRATION UNITS:
(UG/L or UG/KG) __UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	541-05-9	CYCLOTRISILOXANE, HEXAMETHYL	34.1166	2	J
2.					
3.					
4.					
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8.					
9.					
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200095

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

VBLK13

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG137

Matrix: (soil/water) WATER Lab Sample ID: VBLK13

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2613

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

% Moisture: not dec. ____ Date Analyzed: 04/13/89

Column: (pack/cap) PACK Dilution Factor: 5.0

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	0.4	U
74-83-9	Bromomethane	0.2	U
75-01-4	Vinyl Chloride	0.3	U
75-00-3	Chloroethane	0.2	U
75-09-2	Methylene Chloride	0.2	U
67-64-1	Acetone	2	U
75-15-0	Carbon Disulfide	0.2	U
75-35-4	1,1-Dichloroethene	0.08	U
75-35-3	1,1-Dichloroethane	0.09	U
540-59-0	1,2-Dichloroethene (total)	0.3	U
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.1	U
78-93-3	2-Butanone	1	U
71-55-6	1,1,1-Trichloroethane	0.1	U
56-23-5	Carbon Tetrachloride	0.1	U
108-05-4	Vinyl Acetate	0.3	U
75-27-4	Bromodichloromethane	0.2	U
78-87-5	1,2-Dichloropropane	0.1	U
10061-01-5	cis-1,3,-Dichloropropene	0.2	U
79-01-6	Trichloroethene	0.1	U
124-48-1	Dibromochloromethane	0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	U
71-43-2	Benzene	0.1	U
10061-02-6	Trans-1,3-Dichloropropene	0.2	U
75-25-2	Bromoform	0.2	U
108-10-1	4-Methyl-2-Pentanone	0.3	U
591-78-6	2-Hexanone	2	U
127-18-4	Tetrachloroethene	0.1	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
108-88-3	Toluene	0.1	U
108-90-7	Chlorobenzene	0.1	U
100-41-4	Ethylbenzene	0.1	U
100-42-5	Styrene	0.2	U
1330-20-7	Total Xylenes	0.2	U
107-02-8	Acrolein	7	U
107-13-1	Acrylonitrile	3	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
VBLK13

Lab Name: VERSAR Contract:

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG_37

Matrix: (soil/water) WATER Lab Sample ID: VBLK13

Sample wt/vol: 25 (g/ml) ML Lab File ID: R2613

Level: (low/med) LOW Date Received:

% Moisture: not dec. Date Analyzed: 04/19/89

Dilution Factor: 1

Number TICs found: 1 CONCENTRATION UNITS: (UG/L or UG/KG) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	541-05-9	CYCLOTRISILOXANE, HEXAMETHYL	34.1166	3	J
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

200108

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAG36

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG 37

Matrix: (soil/water) WATER Lab Sample ID: 69916

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2605

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/18/89

Column: (pack/cap) PACK Dilution Factor: 100

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

CAS NO.	COMPOUND		Q	
74-87-3	Chloromethane	8	U	
74-83-9	Bromomethane	4	U	
75-01-4	Vinyl Chloride	5	U	
75-00-3	Chloroethane	4	U	
75-09-2	Methylene Chloride	9	UB	5.22.89 L.F.
67-64-1	Acetone	100		
75-15-0	Carbon Disulfide	5	U	
75-35-4	1,1-Dichloroethene	13		
75-35-3	1,1-Dichloroethane	54		
540-59-0	1,2-Dichloroethene (total)		E	
67-66-3	Chloroform	2	U	
107-06-2	1,2-Dichloroethane	2	U	
78-93-3	2-Butanone	28	U	
71-55-6	1,1,1-Trichloroethane	50		
56-23-5	Carbon Tetrachloride	2	U	
108-05-4	Vinyl Acetate	7	U	
75-27-4	Bromodichloromethane	4	U	
78-87-5	1,2-Dichloropropane	3	U	
10061-01-5	cis-1,3,-Dichloropropene	3	U	
79-01-6	Trichloroethene	110		
124-48-1	Dibromochloromethane	3	U	
79-00-5	1,1,2-Trichloroethane	5	U	
71-43-2	Benzene	40		
10061-02-6	Trans-1,3-Dichloropropene	5	U	
75-25-2	Bromoform	4	U	
108-10-1	4-Methyl-2-Pentanone	5	U	
591-78-6	2-Hexanone	45	U	
127-18-4	Tetrachloroethene	260		
79-34-5	1,1,2,2-Tetrachloroethane	4	U	
108-88-3	Toluene	8		
108-90-7	Chlorobenzene	3		
100-41-4	Ethylbenzene	51		
100-42-5	Styrene	4	U	
1330-20-7	Total Xylenes	30		
107-02-8	Acrolein	130	U	
107-13-1	Acrylonitrile	57	U	

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.
EAG36

Lab Name: VERSAR Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG_37

Matrix: (soil/water) WATER Lab Sample ID: _69916

Sample wt/vol: 25 (g/ml) ML Lab File ID: R2605

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. _____ Date Analyzed: 04/18/89

Dilution Factor: 20

Number TICs found: 2

CONCENTRATION UNITS:
(UG/L or UG/KG) UG/L

	CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		UNKNOWN HYDROCARBON	17.1166	31	J
2.		UNKNOWN	21.5833	11	J
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					
15.					
16.					
17.					
18.					
19.					
20.					
21.					
22.					
23.					
24.					
25.					
26.					
27.					
28.					
29.					
30.					

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAG36DL

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG 37

Matrix: (soil/water) WATER Lab Sample ID: 69916D

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2614

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/13/89

Column: (pack/cap) PACK Dilution Factor: 500

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	38	U
74-83-9	Bromomethane	21	U
75-01-4	Vinyl Chloride	26	U
75-00-3	Chloroethane	19	U
75-09-2	Methylene Chloride	23	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	23	U
75-35-4	1,1-Dichloroethene	8	U
75-35-3	1,1-Dichloroethane	9	U
540-59-0	1,2-Dichloroethene (total)	4700	D
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	140	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	11	U
108-05-4	Vinyl Acetate	34	U
75-27-4	Bromodichloromethane	19	U
78-87-5	1,2-Dichloropropane	14	U
10061-01-5	cis-1,3,-Dichloropropene	17	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	16	U
79-00-5	1,1,2-Trichloroethane	23	U
71-43-2	Benzene	10	U
10061-02-6	Trans-1,3-Dichloropropene	24	U
75-25-2	Bromoform	21	U
108-10-1	4-Methyl-2-Pentanone	27	U
591-78-6	2-Hexanone	230	U
127-18-4	Tetrachloroethene	11	U
79-34-5	1,1,2,2-Tetrachloroethane	22	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	13	U
100-42-5	Styrene	21	U
1330-20-7	Total Xylenes	20	U
107-02-8	Acrolein	650	U
107-13-1	Acrylonitrile	290	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EAG36DL

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 45375 SDG No.: EAG 37

Matrix: (soil/water) WATER Lab Sample ID: 693160

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2614

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/19/89

Column (pack/cap) PACK Dilution Factor: 500

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAG37

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG 37

Matrix: (soil/water) WATER Lab Sample ID: 69311A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2589

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/17/89

Column: (pack/cap) PACK Dilution Factor: 15

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	1	U
74-83-9	Bromomethane	0.6	U
75-01-4	Vinyl Chloride	0.8	U
75-00-3	Chloroethane	0.6	U
75-09-2	Methylene Chloride	2	
67-64-1	Acetone	6	U
75-15-0	Carbon Disulfide	0.7	U
75-35-4	1,1-Dichloroethene	0.2	U
75-35-3	1,1-Dichloroethane	4	
540-59-0	1,2-Dichloroethene (total)	71	
67-66-3	Chloroform	0.3	U
107-06-2	1,2-Dichloroethane	0.4	U
78-93-3	2-Butanone	4	U
71-55-6	1,1,1-Trichloroethane	2	
56-23-5	Carbon Tetrachloride	0.3	U
108-05-4	Vinyl Acetate	1	U
75-27-4	Bromodichloromethane	0.6	U
78-87-5	1,2-Dichloropropane	0.4	U
10061-01-5	cis-1,3,-Dichloropropene	0.5	U
79-01-6	Trichloroethene	52	
124-48-1	Dibromochloromethane	0.5	U
79-00-5	1,1,2-Trichloroethane	0.7	U
71-43-2	Benzene	2	
10061-02-6	Trans-1,3-Dichloropropene	0.7	U
75-25-2	Bromoform	0.6	U
108-10-1	4-Methyl-2-Pentanone	0.8	U
591-78-6	2-Hexanone	7	U
127-18-4	Tetrachloroethene	100	
79-34-5	1,1,2,2-Tetrachloroethane	0.7	U
108-88-3	Toluene	0.4	U
108-90-7	Chlorobenzene	0.4	U
100-41-4	Ethylbenzene	0.4	U
100-42-5	Styrene	0.6	U
1330-20-7	Total Xylenes	0.6	U
107-02-8	Acrolein	20	U
107-13-1	Acrylonitrile	9	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EAG37

b Name: VERSAR_INC._____ Contract: _____

b Code: VERSAR_ Case No.: 11724_ SAS No.: 4537E__ SDG No.: EAG_37

Matrix: (soil/water) WATER_ Lab Sample ID: 69911A_____

Sample wt/vol: _25.0 (g/mL) ML__ Lab File ID: R2589_____

Level: (low/med) LOW___ Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/17/89

Column (pack/cap) PACK__ Dilution Factor: 15_____

Number TICs found: __0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAG38

b Name: VERSAR_INC._____ Contract: _____

b Code: VERSAR_ Case No.: 11724_ SAS No.: 4537E__ SDG No.: EAG_37

Matrix: (soil/water) WATER_ Lab Sample ID: 69910_____

Sample wt/vol: _25.0 (g/mL) ML__ Lab File ID: R2609_____

Level: (low/med) LOW___ Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/18/89

Column: (pack/cap) PACK__ Dilution Factor: 250_____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L_	Q
74-87-3	Chloromethane	19	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	11	U
67-64-1	Acetone	100	U
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	9	
75-35-3	1,1-Dichloroethane	76	
540-59-0	1,2-Dichloroethene (total)	2100	
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	69	U
71-55-6	1,1,1-Trichloroethane	820	
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	17	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	7	U
10061-01-5	cis-1,3,-Dichloropropene	9	U
79-01-6	Trichloroethene	970	
124-48-1	Dibromochloromethane	8	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	14	U
591-78-6	2-Hexanone	110	U
127-18-4	Tetrachloroethene		E
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	600	
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	7	U
100-42-5	Styrene	11	U
1330-20-7	Total Xylenes	3300	
107-02-8	Acrolein	330	U
107-13-1	Acrylonitrile	140	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EAG38

Lab Name: VERSAR_INC._____ Contract: _____

Lab Code: VERSAR_ Case No.: 11724_ SAS No.: 45376__ SDG No.: EAG_37

Matrix: (soil/water) WATER_ Lab Sample ID: 62310_____

Sample wt/vol: _25.0 (g/mL) ML__ Lab File ID: R2609_____

Level: (low/med) LOW___ Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/18/89

Column (pack/cap) PACK__ Dilution Factor: 250_____

Number TICs found: __0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAG38DL

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 45376 SDG No.: EAG 37

Matrix: (soil/water) WATER Lab Sample ID: 699100

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2615

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/13/89

Column: (pack/cap) PACK Dilution Factor: 500

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	38	U
74-83-9	Bromomethane	21	U
75-01-4	Vinyl Chloride	26	U
75-00-3	Chloroethane	19	U
75-09-2	Methylene Chloride	23	U
67-64-1	Acetone	200	U
75-15-0	Carbon Disulfide	23	U
75-35-4	1,1-Dichloroethene	8	U
75-35-3	1,1-Dichloroethane	9	U
540-59-0	1,2-Dichloroethene (total)	25	U
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	12	U
78-93-3	2-Butanone	140	U
71-55-6	1,1,1-Trichloroethane	12	U
56-23-5	Carbon Tetrachloride	11	U
108-05-4	Vinyl Acetate	34	U
75-27-4	Bromodichloromethane	19	U
78-87-5	1,2-Dichloropropane	14	U
10061-01-5	cis-1,3,-Dichloropropene	17	U
79-01-6	Trichloroethene	12	U
124-48-1	Dibromochloromethane	16	U
79-00-5	1,1,2-Trichloroethane	23	U
71-43-2	Benzene	10	U
10061-02-6	Trans-1,3-Dichloropropene	24	U
75-25-2	Bromoform	21	U
108-10-1	4-Methyl-2-Pentanone	27	U
591-78-6	2-Hexanone	230	U
127-18-4	Tetrachloroethene	5200	D
79-34-5	1,1,2,2-Tetrachloroethane	22	U
108-88-3	Toluene	12	U
108-90-7	Chlorobenzene	12	U
100-41-4	Ethylbenzene	13	U
100-42-5	Styrene	21	U
1330-20-7	Total Xylenes	20	U
107-02-8	Acrolein	650	U
107-13-1	Acrylonitrile	290	U

100138

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EAG38DL

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG 37

Matrix: (soil/water) WATER Lab Sample ID: 69210D

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2615

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/19/89

Column (pack/cap) PACK Dilution Factor: 500

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAG59

b Name: VERSAR INC. Contract: _____

b Code: VERSAR Case No.: 11784 SAS No.: 4537E SDG No.: EAG 37

Matrix: (soil/water) WATER Lab Sample ID: 62212A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2583

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/17/89

Column: (pack/cap) PACK Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	0.4	U
74-83-9	Bromomethane	0.2	U
75-01-4	Vinyl Chloride	0.3	U
75-00-3	Chloroethane	0.2	U
75-09-2	Methylene Chloride	0.2	U
67-64-1	Acetone	2	U
75-15-0	Carbon Disulfide	0.2	U
75-35-4	1,1-Dichloroethene	0.08	U
75-35-3	1,1-Dichloroethane	0.09	U
540-59-0	1,2-Dichloroethene (total)	0.3	U
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.1	U
78-93-3	2-Butanone	1	U
71-55-6	1,1,1-Trichloroethane	0.1	U
56-23-5	Carbon Tetrachloride	0.1	U
108-05-4	Vinyl Acetate	0.3	U
75-27-4	Bromodichloromethane	0.2	U
78-87-5	1,2-Dichloropropane	0.1	U
10061-01-5	cis-1,3,-Dichloropropene	0.2	U
79-01-6	Trichloroethene	0.1	U
124-48-1	Dibromochloromethane	0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	U
71-43-2	Benzene	0.1	U
10061-02-6	Trans-1,3-Dichloropropene	0.2	U
75-25-2	Bromoform	0.2	U
108-10-1	4-Methyl-2-Pentanone	0.3	U
591-78-6	2-Hexanone	2	U
127-18-4	Tetrachloroethene	2	
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
108-88-3	Toluene	0.1	J
108-90-7	Chlorobenzene	0.1	U
100-41-4	Ethylbenzene	0.1	U
100-42-5	Styrene	0.2	U
1330-20-7	Total Xylenes	0.2	U
107-02-8	Acrolein	7	U
107-13-1	Acrylonitrile	3	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EAG59

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG 37

Matrix: (soil/water) WATER Lab Sample ID: 63312A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2583

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/17/89

Column (pack/cap) PACK Dilution Factor: 5.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAG60

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG 37

Matrix: (soil/water) WATER Lab Sample ID: 63920A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2533

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/17/89

Column: (pack/cap) PACK Dilution Factor: 25

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	2	U
74-83-9	Bromomethane	1	U
75-01-4	Vinyl Chloride	150	
75-00-3	Chloroethane	1	U
75-09-2	Methylene Chloride	1	U
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	1	U
75-35-4	1,1-Dichloroethene	0.4	U
75-35-3	1,1-Dichloroethane	7	
540-59-0	1,2-Dichloroethene (total)	89	
67-66-3	Chloroform	0.5	U
107-06-2	1,2-Dichloroethane	0.6	U
78-93-3	2-Butanone	7	U
71-55-6	1,1,1-Trichloroethane	0.6	U
56-23-5	Carbon Tetrachloride	0.6	U
108-05-4	Vinyl Acetate	2	U
75-27-4	Bromodichloromethane	1	U
78-87-5	1,2-Dichloropropane	0.7	U
10061-01-5	cis-1,3,-Dichloropropene	0.9	U
79-01-6	Trichloroethene	13	
124-48-1	Dibromochloromethane	0.8	U
79-00-5	1,1,2-Trichloroethane	1	U
71-43-2	Benzene	3	
10061-02-6	Trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	1	U
108-10-1	4-Methyl-2-Pentanone	1	U
591-78-6	2-Hexanone	11	U
127-18-4	Tetrachloroethene	10	
79-34-5	1,1,2,2-Tetrachloroethane	1	U
108-88-3	Toluene	1	
108-90-7	Chlorobenzene	0.6	U
100-41-4	Ethylbenzene	0.7	U
100-42-5	Styrene	1	U
1330-20-7	Total Xylenes	1	U
107-02-8	Acrolein	33	U
107-13-1	Acrylonitrile	14	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EAG60

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG 37

Matrix: (soil/water) WATER Lab Sample ID: 632Q0A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2533

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/17/89

Column (pack/cap) PACK Dilution Factor: 25

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAG61

b Name: VERSAR INC. Contract: _____

b Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG 37

Matrix: (soil/water) WATER Lab Sample ID: 69321A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2594

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/17/89

Column: (pack/cap) PACK Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	0.4	U
74-83-9	Bromomethane	0.2	U
75-01-4	Vinyl Chloride		E
75-00-3	Chloroethane	0.2	U
75-09-2	Methylene Chloride	0.2	U
67-64-1	Acetone	3	
75-15-0	Carbon Disulfide	0.2	U
75-35-4	1,1-Dichloroethene	0.4	
75-35-3	1,1-Dichloroethane	8	
540-59-0	1,2-Dichloroethene (total)		E
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.8	
78-93-3	2-Butanone	1	U
71-55-6	1,1,1-Trichloroethane	0.1	U
56-23-5	Carbon Tetrachloride	0.1	U
108-05-4	Vinyl Acetate	0.3	U
75-27-4	Bromodichloromethane	0.2	U
78-87-5	1,2-Dichloropropane	0.1	U
10061-01-5	cis-1,3,-Dichloropropene	0.2	U
79-01-6	Trichloroethene	14	
124-48-1	Dibromochloromethane	0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	U
71-43-2	Benzene	3	
10061-02-6	Trans-1,3-Dichloropropene	0.2	U
75-25-2	Bromoform	0.2	U
108-10-1	4-Methyl-2-Pentanone	0.3	U
591-78-6	2-Hexanone	2	U
127-18-4	Tetrachloroethene	11	
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
108-88-3	Toluene	2	
108-90-7	Chlorobenzene	0.1	U
100-41-4	Ethylbenzene	0.3	
100-42-5	Styrene	0.2	U
1330-20-7	Total Xylenes	1	
107-02-8	Acrolein	7	U
107-13-1	Acrylonitrile	3	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EAG61

Lab Name: VERSAR_INC._____ Contract: _____

Lab Code: VERSAR_ Case No.: 11724_ SAS No.: 4537E__ SDG No.: EAG_37

Matrix: (soil/water) WATER_ Lab Sample ID: 69281A_____

Sample wt/vol: _25.0 (g/mL) ML__ Lab File ID: R2594_____

Level: (low/med) LOW___ Date Received: 04/07/87

% Moisture: not dec. ____ Date Analyzed: 04/17/87

Column (pack/cap) PACK__ Dilution Factor: 5.0_____

Number TICs found: __0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAG61DL

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG 37

Matrix: (soil/water) WATER Lab Sample ID: 63321BDL

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2599

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/18/89

Column: (pack/cap) PACK Dilution Factor: 20

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	2	U
74-83-9	Bromomethane	0.8	U
75-01-4	Vinyl Chloride	150	D
75-00-3	Chloroethane	0.8	U
75-09-2	Methylene Chloride	1	U BW 5.22.89 LF
67-64-1	Acetone	8	U
75-15-0	Carbon Disulfide	0.9	U
75-35-4	1,1-Dichloroethene	0.3	U
75-34-3	1,1-Dichloroethane	0.3	U
540-59-0	1,2-Dichloroethene (total)	90	D
67-66-3	Chloroform	0.4	U
107-06-2	1,2-Dichloroethane	0.5	U
78-93-3	2-Butanone	6	U
71-55-6	1,1,1-Trichloroethane	0.5	U
56-23-5	Carbon Tetrachloride	0.4	U
108-05-4	Vinyl Acetate	1	U
75-27-4	Bromodichloromethane	0.8	U
78-87-5	1,2-Dichloropropane	0.6	U
10061-01-5	cis-1,3,-Dichloropropene	0.7	U
79-01-6	Trichloroethene	0.5	U
124-48-1	Dibromochloromethane	0.6	U
79-00-5	1,1,2-Trichloroethane	0.9	U
71-43-2	Benzene	0.4	U
10061-02-6	Trans-1,3-Dichloropropene	1	U
75-25-2	Bromoform	0.8	U
108-10-1	4-Methyl-2-Pentanone	1	U
591-78-6	2-Hexanone	9	U
127-18-4	Tetrachloroethene	0.4	U
79-34-5	1,1,2,2-Tetrachloroethane	0.9	U
108-88-3	Toluene	0.5	U
108-90-7	Chlorobenzene	0.5	U
100-41-4	Ethylbenzene	0.5	U
100-42-5	Styrene	0.8	U
1330-20-7	Total Xylenes	0.8	U
107-02-8	Acrolein	26	U
107-13-1	Acrylonitrile	11	U

100226

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EAG61DL

b Name: VERSAR_INC._____ Contract: _____

b Code: VERSAR_ Case No.: 11724_ SAS No.: 4537E__ SDG No.: EAG_37

Matrix: (soil/water) WATER_ Lab Sample ID: 63921BDL_____

Sample wt/vol: _25.0 (g/mL) ML__ Lab File ID: R2599_____

Level: (low/med) LOW___ Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/18/89

Column (pack/cap) PACK__ Dilution Factor: 20_____

Number TICs found: __0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAG62

b Name: VERSAR_INC._____ Contract: _____

b Code: VERSAR_ Case No.: 11724_ SAS No.: 4537E__ SDG No.: EAG_37

Matrix: (soil/water) WATER_ Lab Sample ID: 63909_____

Sample wt/vol: _25.0 (g/mL) ML__ Lab File ID: R2608_____

Level: (low/med) LOW___ Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/18/89

Column: (pack/cap) PACK__ Dilution Factor: 5000____

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	380	U
74-83-9	Bromomethane	210	U
75-01-4	Vinyl Chloride	260	U
75-00-3	Chloroethane	190	U
75-09-2	Methylene Chloride	230	U
67-64-1	Acetone	2000	U
75-15-0	Carbon Disulfide	230	U
75-35-4	1,1-Dichloroethene	80	U
75-35-3	1,1-Dichloroethane	87	U
540-59-0	1,2-Dichloroethene (total)	12000	
67-66-3	Chloroform	100	U
107-06-2	1,2-Dichloroethane	120	U
78-93-3	2-Butanone	1400	U
71-55-6	1,1,1-Trichloroethane	1100	
56-23-5	Carbon Tetrachloride	110	U
108-05-4	Vinyl Acetate	340	U
75-27-4	Bromodichloromethane	190	U
78-87-5	1,2-Dichloropropane	140	U
10061-01-5	cis-1,3,-Dichloropropene	170	U
79-01-6	Trichloroethene	120	U
124-48-1	Dibromochloromethane	160	U
79-00-5	1,1,2-Trichloroethane	230	U
71-43-2	Benzene	100	U
10061-02-6	Trans-1,3-Dichloropropene	240	U
75-25-2	Bromoform	210	U
108-10-1	4-Methyl-2-Pentanone	270	U
591-78-6	2-Hexanone	2300	U
127-18-4	Tetrachloroethene	2100	
79-34-5	1,1,2,2-Tetrachloroethane	220	U
108-88-3	Toluene	3100	
108-90-7	Chlorobenzene	120	U
100-41-4	Ethylbenzene	7500	
100-42-5	Styrene	210	U
1330-20-7	Total Xylenes	24000	
107-02-8	Acrolein	6500	U
107-13-1	Acrylonitrile	2900	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EAG62

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG 37

Matrix: (soil/water) WATER Lab Sample ID: 69909

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2608

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/18/89

Column (pack/cap) PACK Dilution Factor: 5000

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAL71

b Name: VERSAR INC. Contract: _____

b Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG 37

Matrix: (soil/water) WATER Lab Sample ID: 69917A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2588

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/17/89

Column: (pack/cap) PACK Dilution Factor: 5.0

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	0.4	U
74-83-9	Bromomethane	0.2	U
75-01-4	Vinyl Chloride	56	
75-00-3	Chloroethane	4	
75-09-2	Methylene Chloride	0.2	U
67-64-1	Acetone	5	
75-15-0	Carbon Disulfide	0.2	U
75-35-4	1,1-Dichloroethene	3	
75-35-3	1,1-Dichloroethane	26	
540-59-0	1,2-Dichloroethene (total)		E
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	3	
78-93-3	2-Butanone	1	U
71-55-6	1,1,1-Trichloroethane	0.3	
56-23-5	Carbon Tetrachloride	0.1	U
108-05-4	Vinyl Acetate	0.3	U
75-27-4	Bromodichloromethane	0.2	U
78-87-5	1,2-Dichloropropane	0.1	U
10061-01-5	cis-1,3,-Dichloropropene	0.2	U
79-01-6	Trichloroethene		E
124-48-1	Dibromochloromethane	0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	U
71-43-2	Benzene	5	
10061-02-6	Trans-1,3-Dichloropropene	0.2	U
75-25-2	Bromoform	0.2	U
108-10-1	4-Methyl-2-Pentanone	0.3	U
591-78-6	2-Hexanone	2	U
127-18-4	Tetrachloroethene	52	
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
108-88-3	Toluene	0.1	J
108-90-7	Chlorobenzene	0.1	U
100-41-4	Ethylbenzene	0.1	U
100-42-5	Styrene	0.2	U
1330-20-7	Total Xylenes	0.2	U
107-02-8	Acrolein	7	U
107-13-1	Acrylonitrile	3	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: EAL71

b Name: VERSAR INC. Contract: _____

b Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG 37

Matrix: (soil/water) WATER Lab Sample ID: 63917A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2588

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/17/89

Column (pack/cap) PACK Dilution Factor: 5.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAL71DL

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 45375 SDG No.: EAG 37

Matrix: (soil/water) WATER Lab Sample ID: 69917A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2595

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/17/89

Column: (pack/cap) PACK Dilution Factor: 10

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	0.8	U
74-83-9	Bromomethane	0.4	U
75-01-4	Vinyl Chloride	0.5	U
75-00-3	Chloroethane	0.4	U
75-09-2	Methylene Chloride	0.5	U
67-64-1	Acetone	4	U
75-15-0	Carbon Disulfide	0.5	U
75-35-4	1,1-Dichloroethene	0.2	U
75-35-3	1,1-Dichloroethane	0.2	U
540-59-0	1,2-Dichloroethene (total)	110	D
67-66-3	Chloroform	0.2	U
107-06-2	1,2-Dichloroethane	0.2	U
78-93-3	2-Butanone	3	U
71-55-6	1,1,1-Trichloroethane	0.2	U
56-23-5	Carbon Tetrachloride	0.2	U
108-05-4	Vinyl Acetate	0.7	U
75-27-4	Bromodichloromethane	0.4	U
78-87-5	1,2-Dichloropropane	0.3	U
10061-01-5	cis-1,3,-Dichloropropene	0.3	U
79-01-6	Trichloroethene	120	D
124-48-1	Dibromochloromethane	0.3	U
79-00-5	1,1,2-Trichloroethane	0.5	U
71-43-2	Benzene	0.2	U
10061-02-6	Trans-1,3-Dichloropropene	0.5	U
75-25-2	Bromoform	0.4	U
108-10-1	4-Methyl-2-Pentanone	0.5	U
591-78-6	2-Hexanone	5	U
127-18-4	Tetrachloroethene	0.2	U
79-34-5	1,1,2,2-Tetrachloroethane	0.4	U
108-88-3	Toluene	0.2	U
108-90-7	Chlorobenzene	0.2	U
100-41-4	Ethylbenzene	0.3	U
100-42-5	Styrene	0.4	U
1330-20-7	Total Xylenes	0.4	U
107-02-8	Acrolein	13	U
107-13-1	Acrylonitrile	6	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: EAL71DL

b Name: VERSAR_INC._____ Contract: _____

b Code: VERSAR_ Case No.: 11724_ SAS No.: 4537E__ SDG No.: EAG_37

Matrix: (soil/water) WATER_ Lab Sample ID: 63917A_____

Sample wt/vol: _25.0 (g/mL) ML__ Lab File ID: R2535_____

Level: (low/med) LOW___ Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/17/89

Column (pack/cap) PACK__ Dilution Factor: 10_____

Number TICs found: __0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAL73

b Name: VERSAR INC. Contract: _____

b Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG 37

Matrix: (soil/water) WATER Lab Sample ID: 69228A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2591

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/17/89

Column: (pack/cap) PACK Dilution Factor: 5.0

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	0.4	U
74-83-9	Bromomethane	0.2	U
75-01-4	Vinyl Chloride	2	
75-00-3	Chloroethane	0.2	U
75-09-2	Methylene Chloride	0.2	U
67-64-1	Acetone	2	U
75-15-0	Carbon Disulfide	0.2	U
75-35-4	1,1-Dichloroethene	0.08	U
75-35-3	1,1-Dichloroethane	0.9	
540-59-0	1,2-Dichloroethene (total)	38	
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.1	U
78-93-3	2-Butanone	1	U
71-55-6	1,1,1-Trichloroethane	0.9	
56-23-5	Carbon Tetrachloride	0.1	U
108-05-4	Vinyl Acetate	0.3	U
75-27-4	Bromodichloromethane	0.2	U
78-87-5	1,2-Dichloropropane	0.1	U
10061-01-5	cis-1,3,-Dichloropropene	0.2	U
79-01-6	Trichloroethene	7	
124-48-1	Dibromochloromethane	0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	U
71-43-2	Benzene	0.1	U
10061-02-6	Trans-1,3-Dichloropropene	0.2	U
75-25-2	Bromoform	0.2	U
108-10-1	4-Methyl-2-Pentanone	0.3	U
591-78-6	2-Hexanone	2	U
127-18-4	Tetrachloroethene	10	
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
108-88-3	Toluene	0.1	J
108-90-7	Chlorobenzene	0.1	U
100-41-4	Ethylbenzene	0.6	
100-42-5	Styrene	0.2	U
1330-20-7	Total Xylenes	1.1	
107-02-8	Acrolein	7	U
107-13-1	Acrylonitrile	3	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: EAL73

b Name: VERSAR INC. Contract: _____

b Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG 37

Matrix: (soil/water) WATER Lab Sample ID: 62922A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2531

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/17/89

Column (pack/cap) PACK Dilution Factor: 5.0

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAQ37 EDG 23

Lab Name: VERSAR_INC._____ Contract: _____

Lab Code: VERSAR_ Case No.: 11724_ SAS No.: 4537E__ SDG No.: EAQ_37

Matrix: (soil/water) WATER_ Lab Sample ID: 69913A_____

Sample wt/vol: _25.0 (g/mL) ML__ Lab File ID: R2584_____

Level: (low/med) LOW___ Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/17/89

Column: (pack/cap) PACK__ Dilution Factor: 5.0_____

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L_	Q
74-87-3	Chloromethane	0.4	U
74-83-9	Bromomethane	0.2	U
75-01-4	Vinyl Chloride	0.3	U
75-00-3	Chloroethane	0.2	U
75-09-2	Methylene Chloride	0.2	U
67-64-1	Acetone	2	U
75-15-0	Carbon Disulfide	0.2	U
75-35-4	1,1-Dichloroethene	0.08	U
75-35-3	1,1-Dichloroethane	0.09	U
540-59-0	1,2-Dichloroethene (total)	0.3	U
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.1	U
78-93-3	2-Butanone	1	U
71-55-6	1,1,1-Trichloroethane	0.4	
56-23-5	Carbon Tetrachloride	0.1	U
108-05-4	Vinyl Acetate	0.3	U
75-27-4	Bromodichloromethane	0.2	U
78-87-5	1,2-Dichloropropane	0.1	U
10061-01-5	cis-1,3,-Dichloropropene	0.2	U
79-01-6	Trichloroethene	0.1	U
124-48-1	Dibromochloromethane	0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	U
71-43-2	Benzene	0.1	U
10061-02-6	Trans-1,3-Dichloropropene	0.2	U
75-25-2	Bromoform	0.2	U
108-10-1	4-Methyl-2-Pentanone	0.3	U
591-78-6	2-Hexanone	2	U
127-18-4	Tetrachloroethene	0.1	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
108-88-3	Toluene	0.1	U
108-90-7	Chlorobenzene	0.1	U
100-41-4	Ethylbenzene	0.1	U
100-42-5	Styrene	0.2	U
1330-20-7	Total Xylenes	0.2	U
107-02-8	Acrolein	7	U
107-13-1	Acrylonitrile	3	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EAG37

Lab Name: VERSAR_INC._____ Contract: _____

Lab Code: VERSAR_ Case No.: 11724_ SAS No.: 4537E__ SDG No.: EAG_37

Matrix: (soil/water) WATER_ Lab Sample ID: 69313A_____

Sample wt/vol: _25.0 (g/mL) ML__ Lab File ID: R2584_____

Level: (low/med) LOW___ Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/17/89

Column (pack/cap) PACK__ Dilution Factor: 5.0_____

Number TICs found: __0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FR

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDG24

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11784 SAS No.: 4537E SDG No.: EAG 37

Matrix: (soil/water) WATER Lab Sample ID: 62914A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2585

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/17/89

Column: (pack/cap) PACK Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	0.4	U
74-83-9	Bromomethane	0.2	U
75-01-4	Vinyl Chloride	0.3	U
75-00-3	Chloroethane	0.2	U
75-09-2	Methylene Chloride	0.2	U
67-64-1	Acetone	2	U
75-15-0	Carbon Disulfide	0.2	U
75-35-4	1,1-Dichloroethene	0.08	U
75-35-3	1,1-Dichloroethane	0.09	U
540-59-0	1,2-Dichloroethene (total)	0.3	U
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.1	U
78-93-3	2-Butanone	1	U
71-55-6	1,1,1-Trichloroethane	0.5	
56-23-5	Carbon Tetrachloride	0.1	U
108-05-4	Vinyl Acetate	0.3	U
75-27-4	Bromodichloromethane	0.2	U
78-87-5	1,2-Dichloropropane	0.1	U
10061-01-5	cis-1,3,-Dichloropropene	0.2	U
79-01-6	Trichloroethene	0.1	U
124-48-1	Dibromochloromethane	0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	U
71-43-2	Benzene	0.1	U
10061-02-6	Trans-1,3-Dichloropropene	0.2	U
75-25-2	Bromoform	0.2	U
108-10-1	4-Methyl-2-Pentanone	0.3	U
591-78-6	2-Hexanone	2	U
127-18-4	Tetrachloroethene	0.1	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
108-88-3	Toluene	0.1	U
108-90-7	Chlorobenzene	0.1	U
100-41-4	Ethylbenzene	0.1	U
100-42-5	Styrene	0.2	U
1330-20-7	Total Xylenes	0.2	U
107-02-8	Acrolein	7	U
107-13-1	Acrylonitrile	3	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDG24

Lab Name: VERSAR_INC._____ Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG_37

Matrix: (soil/water) WATER Lab Sample ID: 69314A_____

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2585_____

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/17/89

Column (pack/cap) PACK Dilution Factor: 5.0_____

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

EW

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDG70

Lab Name: VERSAR_INC._____ Contract: _____

Lab Code: VERSAR_ Case No.: 11724_ SAS No.: 45375__ SDG No.: EAG_37

Matrix: (soil/water) WATER_ Lab Sample ID: 62215A_____

Sample wt/vol: _25.0 (g/mL) ML__ Lab File ID: R2586_____

Level: (low/med) LOW___ Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/17/89

Column: (pack/cap) PACK__ Dilution Factor: 5.0_____

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	0.4	U
74-83-9	Bromomethane	0.2	U
75-01-4	Vinyl Chloride	0.3	
75-00-3	Chloroethane	0.2	U
75-09-2	Methylene Chloride	0.2	U
67-64-1	Acetone	3	
75-15-0	Carbon Disulfide	0.2	U
75-35-4	1,1-Dichloroethene	0.08	U
75-35-3	1,1-Dichloroethane	0.4	
540-59-0	1,2-Dichloroethene (total)	0.5	
67-66-3	Chloroform	0.3	
107-06-2	1,2-Dichloroethane	0.1	U
78-93-3	2-Butanone	1	U
71-55-6	1,1,1-Trichloroethane	2	
56-23-5	Carbon Tetrachloride	0.1	U
108-05-4	Vinyl Acetate	0.3	U
75-27-4	Bromodichloromethane	0.2	U
78-87-5	1,2-Dichloropropane	0.1	U
10061-01-5	cis-1,3,-Dichloropropene	0.2	U
79-01-6	Trichloroethene	4	
124-48-1	Dibromochloromethane	0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	U
71-43-2	Benzene	0.1	U
10061-02-6	Trans-1,3-Dichloropropene	0.2	U
75-25-2	Bromoform	0.2	U
108-10-1	4-Methyl-2-Pentanone	0.3	U
591-78-6	2-Hexanone	2	U
127-18-4	Tetrachloroethene	18	
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
108-88-3	Toluene	0.4	
108-90-7	Chlorobenzene	0.1	U
100-41-4	Ethylbenzene	0.1	U
100-42-5	Styrene	0.2	U
1330-20-7	Total Xylenes	0.2	U
107-02-8	Acrolein	7	U
107-13-1	Acrylonitrile	3	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: EDG70

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG 37

Matrix: (soil/water) WATER Lab Sample ID: 63915A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2586

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/17/89

Column (pack/cap) PACK Dilution Factor: 5.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

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1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDG79

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG 37

Matrix: (soil/water) WATER Lab Sample ID: 63724A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2592

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/17/89

Column: (pack/cap) PACK Dilution Factor: 5.0

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	0.4	U
74-83-9	Bromomethane	0.2	U
75-01-4	Vinyl Chloride	0.3	U
75-00-3	Chloroethane	0.2	U
75-09-2	Methylene Chloride	0.2	U
67-64-1	Acetone	2	U
75-15-0	Carbon Disulfide	0.2	U
75-35-4	1,1-Dichloroethene	0.6	
75-35-3	1,1-Dichloroethane	1	
540-59-0	1,2-Dichloroethene (total)	0.3	U
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.1	U
78-93-3	2-Butanone	1	U
71-55-6	1,1,1-Trichloroethane	9	
56-23-5	Carbon Tetrachloride	0.1	U
108-05-4	Vinyl Acetate	0.3	U
75-27-4	Bromodichloromethane	0.2	U
78-87-5	1,2-Dichloropropane	0.1	U
10061-01-5	cis-1,3,-Dichloropropene	0.2	U
79-01-6	Trichloroethene	0.3	
124-48-1	Dibromochloromethane	0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	U
71-43-2	Benzene	4	
10061-02-6	Trans-1,3-Dichloropropene	0.2	U
75-25-2	Bromoform	0.2	U
108-10-1	4-Methyl-2-Pentanone	0.3	U
591-78-6	2-Hexanone	2	U
127-18-4	Tetrachloroethene	19	
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
108-88-3	Toluene	0.2	
108-90-7	Chlorobenzene	0.1	U
100-41-4	Ethylbenzene	0.1	U
100-42-5	Styrene	0.2	U
1330-20-7	Total Xylenes	0.2	U
107-02-8	Acrolein	7	U
107-13-1	Acrylonitrile	3	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: EDG79

b Name: VERSAR INC. Contract: _____

b Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG 37

Matrix: (soil/water) WATER Lab Sample ID: 69324A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2592

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/17/89

Column (pack/cap) PACK Dilution Factor: 5.0

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDG84

b Name: VERSAR INC. Contract: _____

b Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG 37

Matrix: (soil/water) WATER Lab Sample ID: 69313A

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2590

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/17/89

Column: (pack/cap) PACK Dilution Factor: 5.0

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	0.4	U
74-83-9	Bromomethane	0.2	U
75-01-4	Vinyl Chloride	0.3	U
75-00-3	Chloroethane	0.2	U
75-09-2	Methylene Chloride	0.2	U
67-64-1	Acetone	2	U
75-15-0	Carbon Disulfide	0.2	U
75-35-4	1,1-Dichloroethene	0.08	U
75-35-3	1,1-Dichloroethane	2	
540-59-0	1,2-Dichloroethene (total)	0.3	U
67-66-3	Chloroform	0.1	U
107-06-2	1,2-Dichloroethane	0.1	U
78-93-3	2-Butanone	1	U
71-55-6	1,1,1-Trichloroethane	0.1	U
56-23-5	Carbon Tetrachloride	0.1	U
108-05-4	Vinyl Acetate	0.3	U
75-27-4	Bromodichloromethane	0.2	U
78-87-5	1,2-Dichloropropane	0.1	U
10061-01-5	cis-1,3,-Dichloropropene	0.2	U
79-01-6	Trichloroethene	0.1	U
124-48-1	Dibromochloromethane	0.2	U
79-00-5	1,1,2-Trichloroethane	0.2	U
71-43-2	Benzene	0.1	U
10061-02-6	Trans-1,3-Dichloropropene	0.2	U
75-25-2	Bromoform	0.2	U
108-10-1	4-Methyl-2-Pentanone	0.3	U
591-78-6	2-Hexanone	2	U
127-18-4	Tetrachloroethene	0.1	U
79-34-5	1,1,2,2-Tetrachloroethane	0.2	U
108-88-3	Toluene	0.1	U
108-90-7	Chlorobenzene	0.1	U
100-41-4	Ethylbenzene	0.1	U
100-42-5	Styrene	0.2	U
1330-20-7	Total Xylenes	0.2	U
107-02-8	Acrolein	7	U
107-13-1	Acrylonitrile	3	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: EDG84

b Name: VERSAR_INC._____ Contract: _____

b Code: VERSAR_ Case No.: 11724_ SAS No.: 4537E__ SDG No.: EAG_37

Matrix: (soil/water) WATER_ Lab Sample ID: 629130_____

Sample wt/vol: _25.0 (g/mL) ML__ Lab File ID: R2530_____

Level: (low/med) LOW___ Date Received: 04/07/83

% Moisture: not dec. ____ Date Analyzed: 04/17/83

Column (pack/cap) PACK__ Dilution Factor: 5.0_____

Number TICs found: __0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EAG88

b Name: VERSAR INC. Contract: _____

b Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG 37

Matrix: (soil/water) WATER Lab Sample ID: 69923

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2606

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/18/89

Column: (pack/cap) PACK Dilution Factor: 250

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	19	U
74-83-9	Bromomethane	11	U
75-01-4	Vinyl Chloride	13	U
75-00-3	Chloroethane	10	U
75-09-2	Methylene Chloride	16	B
67-64-1	Acetone	100	U
75-15-0	Carbon Disulfide	12	U
75-35-4	1,1-Dichloroethene	99	
75-34-3	1,1-Dichloroethane	33	
540-59-0	1,2-Dichloroethene (total)	23	
67-66-3	Chloroform	5	U
107-06-2	1,2-Dichloroethane	6	U
78-93-3	2-Butanone	69	U
71-55-6	1,1,1-Trichloroethane		E
56-23-5	Carbon Tetrachloride	6	U
108-05-4	Vinyl Acetate	17	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	7	U
10061-01-5	cis-1,3,-Dichloropropene	9	U
79-01-6	Trichloroethene	30	
124-48-1	Dibromochloromethane	8	U
79-00-5	1,1,2-Trichloroethane	11	U
71-43-2	Benzene	5	U
10061-02-6	Trans-1,3-Dichloropropene	12	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	14	U
591-78-6	2-Hexanone	110	U
127-18-4	Tetrachloroethene		E
79-34-5	1,1,2,2-Tetrachloroethane	11	U
108-88-3	Toluene	6	U
108-90-7	Chlorobenzene	6	U
100-41-4	Ethylbenzene	7	U
100-42-5	Styrene	11	U
1330-20-7	Total Xylenes	10	U
107-02-8	Acrolein	330	U
107-13-1	Acrylonitrile	140	U

5.22.89 LF.

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDG88

b Name: VERSAR INC. Contract: _____

b Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG 37

Matrix: (soil/water) WATER Lab Sample ID: 63923

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2606

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/18/89

Column (pack/cap) PACK Dilution Factor: 250

Number TICs found: 0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDG88DL

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG 37

Matrix: (soil/water) WATER Lab Sample ID: 69923D

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2616

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/13/89

Column: (pack/cap) PACK Dilution Factor: 2500

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L	Q
74-87-3	Chloromethane	190	U
74-83-9	Bromomethane	110	U
75-01-4	Vinyl Chloride	130	U
75-00-3	Chloroethane	96	U
75-09-2	Methylene Chloride	110	U
67-64-1	Acetone	1000	U
75-15-0	Carbon Disulfide	120	U
75-35-4	1,1-Dichloroethene	40	U
75-34-3	1,1-Dichloroethane	44	U
540-59-0	1,2-Dichloroethene (total)	130	U
67-66-3	Chloroform	50	U
107-06-2	1,2-Dichloroethane	61	U
78-93-3	2-Butanone	690	U
71-55-6	1,1,1-Trichloroethane	6300	D
56-23-5	Carbon Tetrachloride	55	U
108-05-4	Vinyl Acetate	170	U
75-27-4	Bromodichloromethane	95	U
78-87-5	1,2-Dichloropropane	70	U
10061-01-5	cis-1,3,-Dichloropropene	87	U
79-01-6	Trichloroethene	58	U
124-48-1	Dibromochloromethane	79	U
79-00-5	1,1,2-Trichloroethane	110	U
71-43-2	Benzene	51	U
10061-02-6	Trans-1,3-Dichloropropene	120	U
75-25-2	Bromoform	100	U
108-10-1	4-Methyl-2-Pentanone	140	U
591-78-6	2-Hexanone	1100	U
127-18-4	Tetrachloroethene	16000	D
79-34-5	1,1,2,2-Tetrachloroethane	110	U
108-88-3	Toluene	59	U
108-90-7	Chlorobenzene	62	U
100-41-4	Ethylbenzene	67	U
100-42-5	Styrene	110	U
1330-20-7	Total Xylenes	100	U
107-02-8	Acrolein	3300	U
107-13-1	Acrylonitrile	1400	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EDG88DL

Lab Name: VERSAR_INC._____ Contract: _____

Lab Code: VERSAR_ Case No.: 11724_ SAS No.: 4537E__ SDG No.: EAG_37

Matrix: (soil/water) WATER_ Lab Sample ID: 63923D_____

Sample wt/vol: _25.0 (g/mL) ML__ Lab File ID: R2616_____

Level: (low/med) LOW___ Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/13/89

Column (pack/cap) PACK__ Dilution Factor: 2500____

Number TICs found: __0

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

1A

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

EDG89

b Name: VERSAR INC. Contract: _____

b Code: VERSAR Case No.: 11724 SAS No.: 45375 SDG No.: EAG 37

Matrix: (soil/water) WATER Lab Sample ID: 69325

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2607

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/18/89

Column: (pack/cap) PACK Dilution Factor: 1300

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

CAS NO.	COMPOUND		Q
74-87-3	Chloromethane	96	U
74-83-9	Bromomethane	53	U
75-01-4	Vinyl Chloride	64	U
75-00-3	Chloroethane	48	U
75-09-2	Methylene Chloride	57	U
67-64-1	Acetone	500	U
75-15-0	Carbon Disulfide	58	U
75-35-4	1,1-Dichloroethene	160	
75-35-3	1,1-Dichloroethane	22	U
540-59-0	1,2-Dichloroethene (total)	63	U
67-66-3	Chloroform	25	U
107-06-2	1,2-Dichloroethane	31	U
78-93-3	2-Butanone	350	U
71-55-6	1,1,1-Trichloroethane	13000	
56-23-5	Carbon Tetrachloride	28	U
108-05-4	Vinyl Acetate	85	U
75-27-4	Bromodichloromethane	48	U
78-87-5	1,2-Dichloropropane	35	U
10061-01-5	cis-1,3,-Dichloropropene	43	U
79-01-6	Trichloroethene	29	U
124-48-1	Dibromochloromethane	39	U
79-00-5	1,1,2-Trichloroethane	56	U
71-43-2	Benzene	25	U
10061-02-6	Trans-1,3-Dichloropropene	61	U
75-25-2	Bromoform	52	U
108-10-1	4-Methyl-2-Pentanone	68	U
591-78-6	2-Hexanone	570	U
127-18-4	Tetrachloroethene		E
79-34-5	1,1,2,2-Tetrachloroethane	56	U
108-88-3	Toluene	30	U
108-90-7	Chlorobenzene	31	U
100-41-4	Ethylbenzene	33	U
100-42-5	Styrene	53	U
1330-20-7	Total Xylenes	51	U
107-02-8	Acrolein	1600	U
107-13-1	Acrylonitrile	720	U

1E

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.: EDG89

Lab Name: VERSAR INC. Contract: _____

Lab Code: VERSAR Case No.: 11724 SAS No.: 4537E SDG No.: EAG 37

Matrix: (soil/water) WATER Lab Sample ID: 69925

Sample wt/vol: 25.0 (g/mL) ML Lab File ID: R2607

Level: (low/med) LOW Date Received: 04/07/89

% Moisture: not dec. ____ Date Analyzed: 04/18/89

Column (pack/cap) PACK Dilution Factor: 1300

Number TICs found: 0 CONCENTRATION UNITS: (ug/L or ug/Kg) UG/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q

FORM I VOA-TIC 1/87 Rev.