



UNITED STATES MARINE CORPS

MARINE CORPS AIR STATION
EL TORO (SANTA ANA), CALIFORNIA 92709-5010

M60050.000540
MCAS EL TORO
SSIC # 5090.3

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IN REPLY REFER TO:

6280
1JG/5A.5

30 SEP 1991

California Regional Water Quality Control Board
Santa Ana Region
Attn: Mr. Gary Stewart
6809 Indiana Avenue, Suite 200
Riverside, CA 92506

Dear Mr. Stewart:

In accordance with Cleanup and Abatement Order No. 87-97,
enclosed is the MCAS El Toro Interim Groundwater Treatment
System Monthly Report for the months of July and August 1991.

This report contains a summary of activities associated with
the treatment system, a discussion of results, and all
analytical data.

If you have any further questions or comments, please contact
Mrs. Chisa Mitchell, Environmental Engineer, at (714) 726-6607
or Mr. Andy Piszkin of Southwest Division, Naval Facilities
Engineering Command at (619) 532-1239.

Sincerely,

Chisa Mitchell

Encl:
(1) Monthly Report

Copy to:
SOUTHWESTNAVFACENGCOM (18)



HADLEY INDUSTRIES
environmental technologies

MCAS EL TORO
AQUASORB™ TREATMENT SYSTEM
MONITORING REPORT
JULY AND AUGUST 1991

PREPARED FOR: MR. ANDY PISZKIN, RPM
SOUTHWEST NAVFACENCOM
1220 PACIFIC HIGHWAY (CODE 0214)
SAN DIEGO, CALIFORNIA 92132

CONTRACT #N68711-91-D-0309
CONTRACT AMOUNT: \$55,224.00
CONTRACT COMPETITIVELY AWARDED

PREPARED BY: MR. DONALD KLEMM, OPERATIONS MGR.
HADLEY INDUSTRIES
5900 W. FOURTH STREET P.O. BOX 489
LUDINGTON, MICHIGAN 49431



**MCAS EL TORO
AQUASORB[™] GROUNDWATER TREATMENT SYSTEM
MONITORING REPORT
JULY AND AUGUST 1991**

BACKGROUND

Hadley Industries Environmental Technologies has been contracted by the Department of Navy to operate and maintain the groundwater remediation system at the MCAS El Toro Base in Santa Ana, California.

The system consists of three purge wells (PS#1, PS#3, and PS#4) which pump groundwater from along the southwestern perimeter of the Base. The purged groundwater is directed to a central area for treatment through the Aquasorb[™] two-stage granular activated carbon (GAC) system. Treated water is pumped to a holding tank and utilized for the irrigation system at the Base golf course.

The system has been operated and maintained by Hadley Industries since July 11, 1991. On that date, the operations of the system were reviewed by Chrisa Mitchell of the Base, Donald Klemm, Operations Manager for Hadley Industries; Renee Moye, Technical Representative for Hadley's California District Office; and Richard Sidlin, system operator for Hadley Industries.

This is the first monitoring report for the months of July and August 1991.

SYSTEM OPERATIONS REPORT

Operations of the Aquasorb[™] GAC system are summarized in the System Operation Report (SOR) on Table 1. The SOR indicates individual pump flow rates; flow meter reading each pump; Booster pump flow rate and total gallons treated; and analytical results of PS#1, PS#3, and PS#4 and Influent, Between Stages, and Effluent, indicated as a total of all EPA Method 8240 constituents. The SOR will be included in each monitoring report, and will allow comparisons of these parameters over time.



OBSERVATIONS

July 11, 1991

During the initial system inspection on July 11, it was revealed that PS#1 was not operating, and was in fact valved shut at the well. At that time, PS#1 was opened to allow flow. The pump would pump approximately 1 1/2 gallons of water and then turn off by the automatic shut-off probes located in the well. It was noted that the pumping rate (when operating) was 6 to 8 gallons per minute (gpm).

Pump PS#3 was pumping at a rate of 4 gpm, and the control valved was closed almost completely, causing a pressure of 54psi at the pump.

Pump PS#4 was pumping at a rate of 5 gpm, and also valved back at the pump to a pressure of 63 psi.

The air vent at the top of the Stage 1 adsorber was leaking. This leak was stopped by closing off the air vent until replacement would occur with the new adsorbers.

Numerous deficiencies in the system were noted, and were discussed at the meeting at NAVFACENGCOM on July 12, with Chrisa Mitchell, Richard Duffin, and Tess Heidrich.

August 19, 1991

System inspection and sampling was performed by Richard Sidlin. Total groundwater treated since July 11 was 55,006 cubic feet (411,445 gallons) for an average of 7.32 gallons per minute.

Pump PS#1 was taken off line due to a leak at both the discharge end of the pump and the pressure switch. The flow meter also appeared to be malfunctioning. We suspect these problems are the reason that PS#1 was turned off when Hadley commenced with O&M in July.

Pumps PS#3 and PS#4 were operating at average pumping rates of 5gpm and 2gpm respectively.

AUGUST 27, 1991

End of the month readings and inspection were performed by Richard Sidlin. Total groundwater treated since August 19 was 14,426 cubic feet (107,906 gallons) for an average of 9.36 gallons per minute.



AUGUST 28, 1991

On this date, Mr. Scott Hall, senior systems operator of Hadley Industries, visited and inspected the site. Troubleshooting of PS#1 indicated a faulty pressure switch, improper wiring on this pressure switch, and leaking at the plumbing connections at the well head.

The existing GAC vessel was removed and shipped out for carbon regeneration. The two new Aquasorb[™] 537 GAC adsorbers were placed on line at this time. Each vessel contains 1,000 pounds of GAC, is pressure rated for up to 150 psi, and is fiberglass reinforced, polyethylene lined. The system is now operating as a two-stage system.

Pump PS#1 is still off-line. Pumps PS#3 and PS#4 are operating properly.

DISCUSSION OF RESULTS

During the period of July 11 through August 28, 1991, the Aquasorb[™] GAC system treated 71,302 cubic feet (533,339 gallons) of groundwater. Average total flow rate from the three purge wells is 7.7 gpm.

Table 2 provides a summary of flow rates from each of the three purge wells, and treated at the GAC system. This summary indicates that the purge wells are not operating to design capacity.

Appendix A contains the analytical results of samples taken on August 19, 1991 from each of the three purge wells (PS#1, PS#3, and PS#4), the combined inlet to the system (Influent) and the combined outlet (Effluent) from the system. Please note that no intermediate (Between Stage) sample was taken due to the fact that only one adsorber was on-line at that time.

Analytical results indicate a total of 89 micrograms per liter (ug/L) entering the treatment system (Influent), and 21 ug/L discharging the system (Effluent). The discharge constituents included 7 ug/L of Methylene Chloride (which also appeared in the Lab Pure trip blank), 12 ug/L of Acetone, and 2 ug/L of Chloroform. These samples were taken on August 21, when only one adsorber was on line. The two new adsorbers were installed and put on-line on August 28, and further discharge should be eliminated.



At our meeting in San Diego on July 12, 1991, we indicated numerous improvements and related work that needed to be implemented to bring the system up to its full capacity, before Hadley could be held fully responsible for the system operations. At that meeting we were directed to produce a proposal for these items. Briefly, our proposal of August 13, 1991 listed replacement of hoses, replacement and burial of above-ground plumbing, pump maintenance and replacement, replacement of the system manifold, well water elevation measurements and float switch adjustments. We have not had a response on this proposal.

Currently, PS#1 has been turned off due to leaking at the well. This was addressed in the proposal before the leak occurred.

On September 17, the complete system was turned off due to the booster pump not operating. The holding tank after the treatment system overflowed when this booster pump failed to operate. Our operator met with Mr. Richard Duffin on the Base regarding this problem. Troubleshooting indicated that the main breakers inside Maintenance Building next to the treatment system were tripped. Mr. Duffin is investigating why these breakers are tripping, and the system remains turned off in the interim. Our operator will be on site to restart the system as soon as the electrical problem is solved.



TABLE 2

MCAS EL TORO AQUASORB[™] TREATMENT SYSTEM

SUMMARY OF FLOW RATES

	<u>7/11/91</u>	<u>8/19/91</u>	<u>8/27/91</u>
<u>PS#1</u>			
METER READING (GAL)	139120	165670	OFFLINE
GALLONS PUMPED	NA	26550	NA
# OF DAYS	NA	39	8
AVERAGE FLOW (GPM)	NA	.47	NA
<u>PS#3</u>			
METER READING (GAL)	2953050	3227320	3280920
GALLONS PUMPED	NA	274270	53600
# OF DAYS	NA	39	8
AVERAGE FLOW (GPM)	NA	4.88	4.65
<u>PS#4</u>			
METER READING (GAL)	2457900	2570560	2624350
GALLONS PUMPED	NA	112660	53790
# OF DAYS	NA	39	8
AVERAGE FLOW (GPM)	NA	2.00	4.66
<u>GAC EFFLUENT</u>			
METER READING (CU FT)	761668	816674	831100
CU FT PUMPED	NA	55006	14426
GALLONS PUMPED	NA	411445	107906
# OF DAYS	NA	39	8
AVERAGE FLOW (GPM)	NA	7.32	9.36

TABLE 2

**MCAS EL TORO #311146
SYSTEM OPERATIONS REPORT**

SYS OP	DATE	NOTES	BOOSTER PUMP (DISCHARGE)			TOTAL CONCENTRATIONS UG/L EPA METHOD 8240			FLOW RATES AND FLOW METER READINGS					
			CFM	TOTAL	AVG GPM	INF	BET	EFF	GPM			GAL		
									PS#1	PS#3	PS#4	PS#1	PS#3	PS#4
DAK	11-Jul-91	INSPECT	4	761668	NA				NA	4	5	139120	2953050	2457900
RS	19-Aug-91	PS#1 LEAK	4	816674	7.3262977	89	NA	21	4	5	2	165670	3227320	2570560
RS	27-Aug-91	PS#1 OFF	4	831100	9.3668819				0	3	3	NA	3280920	2624350
SRH	28-Aug-91	C/O TWO	4.15	832970	9.7136111				NA	NA	NA	NA	NA	NA



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environmental technologies

APPENDIX A

ANALYTICAL RESULTS

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

INFLUENT

Lab Name: COMPUCHEM, RTP Contract: (1-90)-REVS
 Lab Code: COMPU Case No.: 23861 SAS No.: _____ SDG No.: 1
 Matrix: (soil/water) WATER Lab Sample ID: 439024
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN039024C51
 Level: (low/med) LOW Date Received: 08/21/91
 % Moisture: not dec. _____ Date Analyzed: 08/28/91
 GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	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	10	B
67-64-1	Acetone	22	B
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	2	J
67-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	36	
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	Trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	19	
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

INFLUENT

Lab Name: COMPUCHEM, RTP

Contract: (3-90)-REVS

Code: COMPU

Case No.: 23861

SAS No.: _____

SDG No.: 1

Matrix: (soil/water) WATER

Lab Sample ID: 439024

Sample wt/vol: 5.0 (g/mL) ML

Lab File ID: CN039024C51

Level: (low/med) LOW

Date Received: 08/21/91

% Moisture: not dec. _____

Date Analyzed: 08/28/91

GC Column: DB-624 ID: 0.530 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

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 C ANI ANALYSIS DATA SHEET

EPA SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM RTP Contract: (3-90)-REVS
 Lab Code: COMPU Case No.: 23861 SAS No.: _____ SDG No.: 1
 Matrix: (soil/water) WATER Lab Sample ID: 439025
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN039025C51
 Level: (low/med) LOW Date Received: 08/21/91
 % Moisture: not dec. _____ Date Analyzed: 08/28/91
 GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

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

VOLATILE ORG ^{3"}ICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

EFFLUENT

Lab Name: COMPUCHEM, RTP Contract: (3-90)-REVS
 Code: COMPU Case No.: 23861 SAS No.: _____ SDG No.: 1
 Matrix: (soil/water) WATER Lab Sample ID: 439025
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN039025G51
 Level: (low/med) LOW Date Received: 08/21/91
 % Moisture: not dec. _____ Date Analyzed: 08/28/91
 GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
-----	-----	-----	-----	-----

17
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

PS1

Lab Name: COMPUCHEM, RTP Contract: (3-90)-REVS

I Code: COMPU Case No.: 23861 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) WATER Lab Sample ID: 439033

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN039033A51

Level: (low/med) LOW Date Received: 08/21/91

Moisture: not dec. _____ Date Analyzed: 08/28/91

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	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	B
67-64-1	-----Acetone	8	B
75-15-0	-----Carbon Disulfide	10	U
75-35-4	-----1,1-Dichloroethene	10	U
75-34-3	-----1,1-Dichloroethane	10	U
540-59-0	-----1,2-Dichloroethene (total)	10	U
67-66-3	-----Chloroform	10	U
107-06-2	-----1,2-Dichloroethane	10	U
78-93-3	-----2-Butanone	10	U
71-55-6	-----1,1,1-Trichloroethane	10	U
56-23-5	-----Carbon Tetrachloride	10	U
75-27-4	-----Bromodichloromethane	10	U
78-87-5	-----1,2-Dichloropropane	10	U
10061-01-5	-----cis-1,3-Dichloropropene	10	U
79-01-6	-----Trichloroethene	17	U
124-48-1	-----Dibromochloromethane	10	U
79-00-5	-----1,1,2-Trichloroethane	10	U
71-43-2	-----Benzene	10	U
10061-02-6	-----Trans-1,3-Dichloropropene	10	U
75-25-2	-----Bromoform	10	U
108-10-1	-----4-Methyl-2-Pentanone	10	U
591-78-6	-----2-Hexanone	10	U
127-18-4	-----Tetrachloroethene	10	U
79-34-5	-----1,1,2,2-Tetrachloroethane	10	U
108-88-3	-----Toluene	10	U
108-90-7	-----Chlorobenzene	10	U
100-41-4	-----Ethylbenzene	10	U
100-42-5	-----Styrene	10	U
1330-20-7	-----Xylene (total)	10	U

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VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PS1

Lab Name: COMPUCHEM RTP Contract: (3-90)-REVS
 Code: COMPU Case No.: 23861 SAS No.: _____ SDG No.: 1
 Matrix: (soil/water) WATER Lab Sample ID: 439033
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN039033A51
 Level: (low/med) LOW Date Received: 08/21/91
 % Moisture: not dec. _____ Date Analyzed: 08/28/91
 GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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.

PS3

Lab Name: COMPUCHEM, RTP Contract: (3-90)-REVS

Lab Code: COMPU Case No.: 23861 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) WATER Lab Sample ID: 439035

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN039035A51

Level: (low/med) LOW Date Received: 08/21/91

% Moisture: not dec. _____ Date Analyzed: 08/28/91

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	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	BJ
67-64-1	Acetone	9	BJ
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	3	J
67-66-3	Chloroform	2	J
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	50	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	2	J
71-43-2	Benzene	10	U
10061-02-6	Trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	34	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PS3

Lab Name: COMPUCHEM RTP Contract: (3-90)-REVS
 Lab Code: COMPU Case No.: 23861 SAS No.: _____ SDG No.: 1
 Matrix: (soil/water) WATER Lab Sample ID: 439035
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN039035A51
 Level: (low/med) LOW Date Received: 08/21/91
 % Moisture: not dec. _____ Date Analyzed: 08/28/91
 GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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.

PS4

Lab Name: COMPUCHEM RTP Contract: (3-90)-REVS

Lab Code: COMPU Case No.: 23861 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) WATER Lab Sample ID: 439019

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN039019C51

Level: (low/med) LOW Date Received: 08/21/91

Moisture: not dec. _____ Date Analyzed: 08/28/91

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

CAS NO.	COMPOUND	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	3	BJ
67-64-1	Acetone	13	B
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	4	J
67-66-3	Chloroform	1	J
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	40	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	Trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	25	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

PS4

Lab Name: COMPUCHEM, RTP Contract: (3-90)-REVS

Lab Code: COMPU Case No.: 23861 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) WATER Lab Sample ID: 439019

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN039019C51

Level: (low/med) LOW Date Received: 08/21/91

% Moisture: not dec. _____ Date Analyzed: 08/28/91

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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.

LABPURE

Lab Name: COMPUCHEM, RTP Contract: (3-90)-REVS
 Lab Code: COMPU Case No.: 23861 SAS No.: _____ SDG No.: 1
 Matrix: (soil/water) WATER Lab Sample ID: 439036
 Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN039036B51
 Level: (low/med) LOW Date Received: 08/21/91
 % Moisture: not dec. _____ Date Analyzed: 08/27/91
 GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0
 Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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

CAS NO.	COMPOUND	CONCENTRATION UNITS: (ug/L or ug/Kg) <u>UG/L</u>	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	13	B
67-64-1	Acetone	10	U
75-15-0	Carbon Disulfide	10	U
75-35-4	1,1-Dichloroethene	10	U
75-34-3	1,1-Dichloroethane	10	U
540-59-0	1,2-Dichloroethene (total)	10	U
57-66-3	Chloroform	10	U
107-06-2	1,2-Dichloroethane	10	U
78-93-3	2-Butanone	10	U
71-55-6	1,1,1-Trichloroethane	10	U
56-23-5	Carbon Tetrachloride	10	U
75-27-4	Bromodichloromethane	10	U
78-87-5	1,2-Dichloropropane	10	U
10061-01-5	cis-1,3-Dichloropropene	10	U
79-01-6	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	U
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	U
10061-02-6	Trans-1,3-Dichloropropene	10	U
75-25-2	Bromoform	10	U
108-10-1	4-Methyl-2-Pentanone	10	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	10	U
79-34-5	1,1,2,2-Tetrachloroethane	10	U
108-88-3	Toluene	10	U
108-90-7	Chlorobenzene	10	U
100-41-4	Ethylbenzene	10	U
100-42-5	Styrene	10	U
1330-20-7	Xylene (total)	10	U

1E
VOLATILE ORGANICS ANALYSIS DATA SHEET
TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

LABPURE

Lab Name: COMPUCHEM, RTP Contract: (3-90)-REVS

Lab Code: COMPU Case No.: 23861 SAS No.: _____ SDG No.: 1

Matrix: (soil/water) WATER Lab Sample ID: 439036

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: CN039036B51

Level: (low/med) LOW Date Received: 08/21/91

% Moisture: not dec. _____ Date Analyzed: 08/27/91

GC Column: DB-624 ID: 0.530 (mm) Dilution Factor: 1.0

Soil Extract Volume: _____ (uL) Soil Aliquot Volume: _____ (uL)

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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