

MCAS EL TORO
INTERIM GROUNDWATER TREATMENT SYSTEM
MONTHLY MONITORING REPORT
MARCH 1990

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BACKGROUND

James M. Montgomery, Consulting Engineers, Inc. (JMM) is submitting its eighth of nine monthly monitoring reports for the MCAS El Toro Interim Groundwater Treatment System. The system consists of three wells extracting groundwater from along the southwestern perimeter of the Base and pumping it to a granular activated carbon (GAC) treatment system. The treated water is pumped into the golf course irrigation system. The interim groundwater treatment system has been in operation since June 15, 1989.

ACTIVITIES COMPLETED THIS MONTH

Analytical Data

- o Three samples were collected on March 27, 1990 for analyses. Matrix spike and duplicate samples were also obtained for analyses.

OPERATION DATA

- o Flow meter readings were taken at all three wells, the GAC treatment and the golf course storage tank.
- o PS-1 had limited operation due to a leak in the strainer. The strainer was replaced and found to be clogged with sediments. This appears to be related to the use of the well for water by another contractor working on base. The well may have to be fenced, if problems continue with this well.
- o PS-4 was operating satisfactorily. PS-3 was not working due to an electrical overload. The switch was reset. The discharge valve was adjusted to minimize cycling of the extraction well pump.

MAINTENANCE DATA

- o Conducted general housekeeping around all the sites.
- o Samples of the spent carbon from the old Unit 1 were taken and sent to Calgon for analysis. Following the analysis, the unit will be transported to Pennsylvania for regeneration at Calgon's facility.
- o Adjustments were made to the flexible interconnecting piping installed between Unit 1 and Unit 2 to facilitate easier switching of the units during removal and replacement.

DISCUSSION OF RESULTS

The three wells are pumping to the GAC treatment system an average of six gallons per minute. Approximately 2.4 million gallons of groundwater have been treated during the first nine months of operation.

Table 1 provides a summary of the analytical results for samples taken before start up of the GAC treatment system and results of subsequent monthly monitoring samples. Table 2 provides a summary of the groundwater extracted from the three wells and treated at the GAC treatment facility. Figure 1 is a schematic flow diagram of the overall extraction and treatment system including sample locations.

After replacement of one of the units, the only volatile organic detected in the outlet of Unit 1 was chloroform (0.7 ppb). The original design criteria allows up to five micrograms per liter of a contaminant before procedures for replacing a carbon unit is implemented. No contaminants were detected in the effluent being pumped to the golf course storage tank.

ACTIVITIES PLANNED FOR NEXT MONTH

The ninth of nine monthly monitoring site visits is scheduled for the fourth week in April 1990.

TABLE 1
EL TORO INTERIM GROUNDWATER TREATMENT SYSTEM
SUMMARY OF ANALYTICAL RESULTS

Location/Compound	Sample Date, Concentration, ppb (ug/l)								
	Range before startup	7/28/89	9/11/89	10/12/89	11/13/89	12/18/89	1/26/90	2/23/90 (a)	3/27/90
PS-1									
Chloroform	NA	NA	NA	NA	NA	NA	NA	NA	NA
PCE									
TCE									
Cis 1,2 Dichloroethene									
PS-3									
Chloroform	ND --> 12	2.6	NA	NA	NA	NA	NA	NA	NA
PCE	24 --> 83	76							
TCE	33 --> 70	65							
Cis 1,2 Dichloroethene	ND --> 7.4	5.8							
PS-4									
Chloroform	ND --> 3.1	2.4	NA	NA	NA	NA	NA	NA	NA
PCE	48 --> 59	60							
TCE	78 --> 98	70							
Cis 1,2 Dichloroethene	10 --> 15	8							
GAC Inlet									
Chloroform	NA	3	2.9	3	ND	3.2	2.7	1.8	ND
PCE		100	58	69	68	54	58	56	47
TCE		99	100	150	150	160	130	92	97
Cis 1,2 Dichloroethene		7.9	8.4	9.2	5	4.8	6.1	6.3	5.6
2-Butanone		ND	25	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroethane		ND	ND	ND	ND	ND	2.4	1.2	ND
Xylenes		ND	ND	ND	ND	ND	2.2	ND	ND
Unit 1 Outlet									
Chloroform	NA	ND	0.2	0.6	1.4	1.7	2.9	0.8	0.7
PCE		0.6	ND	ND	ND	ND	ND	ND	ND
TCE		0.2	ND	ND	ND	ND	2.1	ND	ND
Cis 1,2 Dichloroethene		ND	ND	1.3	1.4	ND	5.8	ND	ND
1,1-Dichloroethane		ND	ND	ND	0.4	0.4	0.6	ND	ND
Trans-1,2-Dichloroethene		ND	ND	ND	ND	1.7	0.2	ND	ND
1,1-Dichloroethene		ND	ND	ND	ND	ND	0.4	ND	ND
1,1,2-Trichloroethane		ND	ND	ND	ND	ND	1.1	ND	ND
GAC Outlet									
Chloroform	NA	ND	ND	ND	ND	ND	0.2	ND	ND
PCE		ND	ND	ND	ND	ND	ND	ND	ND
TCE		ND	ND	ND	ND	ND	ND	ND	ND
Cis 1,2 Dichloroethene		ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane		ND	ND	ND	ND	ND	0.1	ND	ND
Groundwater Treated each month, gallons	NA	205,790	459,085	263,550	352,046	252,345	364,538	299,365	150,296

Legend:
NA- No analysis
ND- Not detected
(a) - Unit 1 was replaced with a new unit

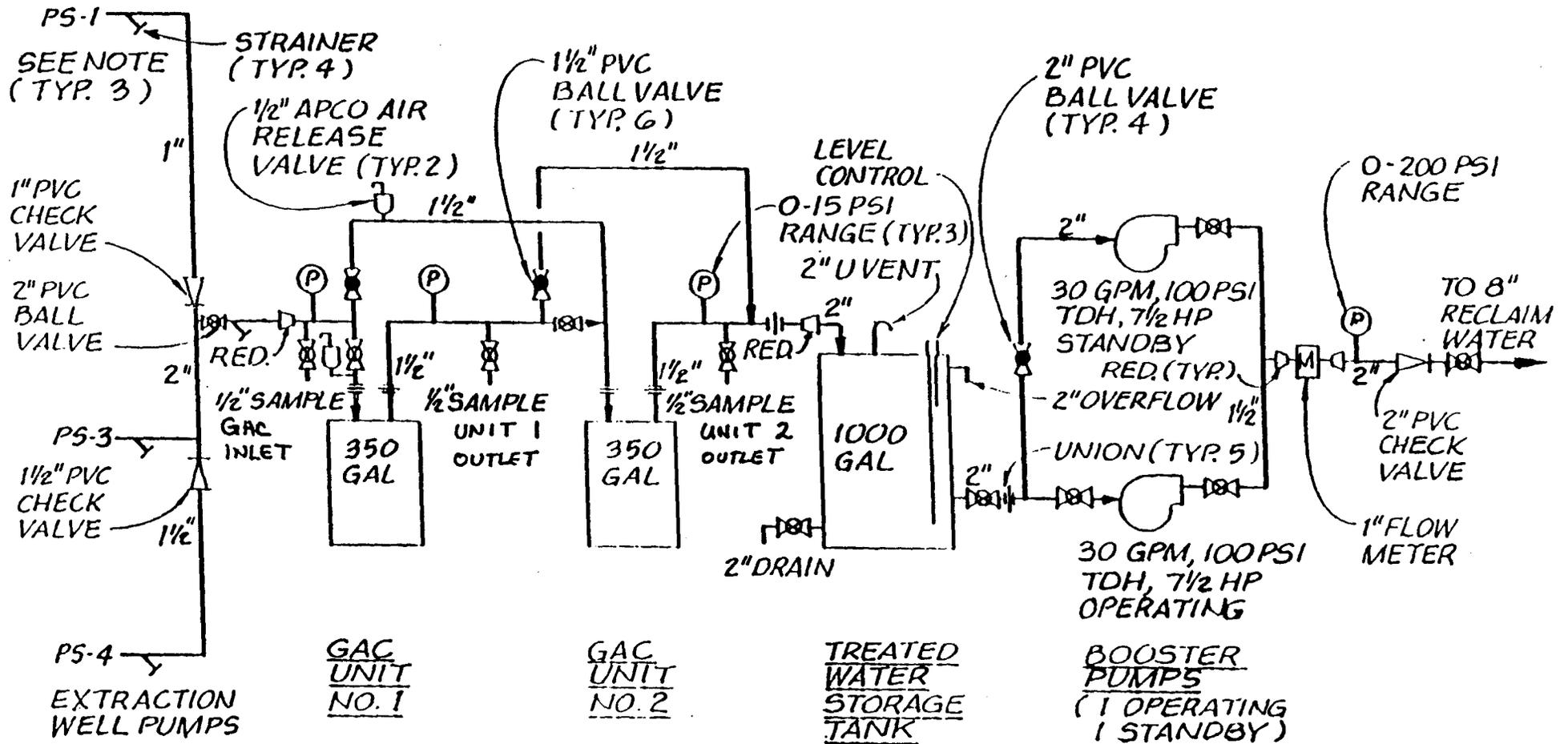
TABLE 2

EL TORO GROUNDWATER TREATMENT SYSTEM
SUMMARY OF FLOW RATES

	July <u>7/7/89</u>	July <u>7/29/89</u>	September <u>9/11/89</u>	October <u>10/13/89</u>	November <u>11/13/89</u>	December <u>12/18/89</u>	January <u>1/26/90</u>	February <u>3/2/90</u>	March <u>3/27/90</u>	1989/1990 <u>Total</u>
PS-1:										
Meter reading, gal	NA	300	569	8,100	8,100	8,100	8,440	16,150	17,890	
Gallons pumped		300	269	7,531	0	0	340	7,710	1,740	17,890
Days	0	22	44	32	31	35	39	35	25	263
Ave flow, gpm	0	0.01	0.0044	0.16	0.00	0.00	0.01	0.15	0.05	0.05
PS-3:										
Meter reading, gal	6,470	22,580	235,590	368,870	550,750	731,730	924,700	1,071,920	1,071,920	
Gallons pumped	2,970	16,110	213,010	133,280	181,880	180,980	192,970	147,220	0	1,071,920
Days	0	22	44	32	31	35	39	35	25	263
Ave flow, gpm	16.50	0.51	3.36	2.89	4.07	3.59	3.44	2.92	0.00	2.83
PS-4:										
Meter reading, gal	5,930	189,730	426,500	569,870	732,470	798,850	1,019,330	1,162,480	1,300,120	
Gallons pumped	1,860	183,800	236,770	143,370	162,600	66,380	220,480	143,150	137,640	1,300,120
Days	0	22	44	32	31	35	39	35	25	263
Ave flow, gpm	10.33	5.80	3.74	3.11	3.64	1.32	3.93	2.84	3.82	3.43
GAC:										
Meter reading, cuft	1,301	28,813	90,188	125,422	172,487	206,223	254,958	294,980	315,073	
Gallons pumped	4,555	205,790	459,085	263,550	352,046	252,345	364,538	299,365	150,296	2,356,746
Days	0.131	22	44	32	31	35	39	35	25	263
Ave flow, gpm	25.31	6.50	7.25	5.72	7.89	5.01	6.49	5.94	4.17	6.22
Golf Course Storage Tank										
Meter reading, cuft	39,903,500	41,678,000	44,641,300	45,982,500	46,757,000	47,813,700	48,438,600	49,143,200	49,777,600	
Gallons pumped		13,273,260	22,165,484	10,032,176	5,793,260	7,904,116	4,674,252	5,270,408	4,745,312	73,858,268
Days		22	44	32	31	35	39	35	25	263
Ave flow, gpm	0.00	419	350	218	130	157	83	105	132	195
Treated Groundwater as a % of Golf Course Irrigation Water		1.6%	2.1%	2.6%	6.1%	3.2%	7.8%	5.7%	3.2%	3.2%

EL TORO MCAS
 INTERIM GROUNDWATER
 TREATMENT SYSTEM
 SCHEMATIC FLOW DIAGRAM

FIGURE 1



ANALYTICAL RESULTS

MONTGOMERY LABORATORIES
 a division of James M. Montgomery, Consulting Engineers, Inc.
 555 East Walnut Street, Pasadena, California 91101
 (818) 796-9141 / (213) 681-4255 Telex 67-5420

Report of GC/MS Analysis for
VOLATILE ORGANICS
 in Water

Navy (MCAS-El Toro) / JMM-WCK
 501 Lennon Lane
 Suite 200
 Walnut Creek, CA 94598
 Attn: Rick Wilson

Job#: 226.0380
 PO#:
 Workorder#: W27728
 Report#: R27848
 Phone #: 415-933-2250

Date Sampled: 3/27/90
 Date Analyzed: 4/10/90

Date Received: 3/27/90

Lab Number:
 Sample I.D.:

K30151
 GAC 1

Compound	Concentration (micrograms/liter)	Detection Limit (micrograms/liter)
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VOLATILE PRIORITY POLLUTANTS:

Acrolein	ND	10
Acrylonitrile	ND	10
Benzene	ND	5.0
Bromoform	ND	5.0
Carbon Tetrachloride	ND	5.0
Chlorobenzene	ND	5.0
Dibromochloromethane	ND	5.0
Chloroethane	ND	10
2-Chloroethylvinylether	ND	10
Chloroform	ND	5.0
Dichlorobromomethane	ND	5.0
1,1-Dichloroethane	ND	5.0
1,2-Dichloroethane	ND	5.0
1,1-Dichloroethene	ND	5.0
1,2-Dichloropropane	ND	5.0
Ethylbenzene	ND	5.0
Methyl Bromide	ND	10
Methyl Chloride	ND	10
Methylene Chloride	ND	50
1,1,2,2-Tetrachloroethane	ND	5.0

ND: Not Detected

NA: Not Analyzed

HSL compounds are tentative quantitations based on single point calibration.

Approved by *Cawle & Young*

APPROVED
APR 12 1990
QC OFFICER

Report of GC/MS Analysis for
VOLATILE ORGANICS
in Water

Lab Number: K30151
Sample I.D.: GAC 1

Compound	Concentration (micrograms/liter)	Detection Limit (micrograms/liter)
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VOLATILE PRIORITY POLLUTANTS (continued):

Tetrachloroethene	47	5.0
Toluene	ND	5.0
1,1,1-Trichloroethane	ND	5.0
1,1,2-Trichloroethane	ND	5.0
Trichloroethene	97	5.0
Vinyl Chloride	ND	10
trans-1,3-Dichloropropene	ND	5.0
cis-1,3-Dichloropropene	ND	5.0
trans-1,2-Dichloroethene	ND	5.0
cis-1,2-Dichloroethene	5.6	5.0
Trichlorofluoromethane	ND	10
m,p-Xylenes	ND	5.0
1,2-Dichlorobenzene	ND	5.0
1,3-Dichlorobenzene	ND	5.0
1,4-Dichlorobenzene	ND	5.0

HAZARDOUS SUBSTANCES COMPOUNDS:

Acetone	ND	100
2-Butanone	ND	10
Carbon disulfide	ND	5.0
2-Hexanone	ND	10
4-Methyl-2-Pentanone	ND	10
Styrene	ND	5.0
Tetrahydrofuran	ND	100
Vinyl Acetate	ND	50
o-Xylene	ND	5.0

ND: Not Detected

NA: Not Analyzed

HSL compounds are tentative quantitations based on single point calibration.

Report of GC/MS Analysis for
VOLATILE ORGANICS
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Lab Number: K30151
Sample I.D.: GAC 1

Compound	Recovery (%)	QC Limits (%)
SURROGATE:		
4-Bromofluorobenzene	104	86-115
1,2-Dichloroethane-d4	93	76-114
Toluene-d8	103	88-110

ND: Not Detected

NA: Not Analyzed

HSL compounds are tentative quantitations based on single point calibration.

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a division of James M. Montgomery, Consulting Engineers, Inc.
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Navy (MCAS-El Toro) / JMM-WCK
501 Lennon Lane
Suite 200
Walnut Creek, CA 94598
Attn: Rick Wilson

Job#: 226.0380
PO#:
Workorder#: W27728
Report#: R27849
Phone #: 415-933-2250

Date Sampled: 3/27/90
Date Analyzed: 4/9/90

Date Received: 3/27/90

Lab Number: K30152
Sample I.D.: GAC 2

Compound	Concentration (micrograms/liter)	Detection Limit (micrograms/liter)
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VOLATILE PRIORITY POLLUTANTS:

Acrolein	ND	1.0
Acrylonitrile	ND	1.0
Benzene	ND	0.50
Bromoform	ND	0.50
Carbon Tetrachloride	ND	0.50
Chlorobenzene	ND	0.50
Dibromochloromethane	ND	0.50
Chloroethane	ND	1.0
2-Chloroethylvinylether	ND	1.0
Chloroform	0.7	0.50
Dichlorobromomethane	ND	0.50
1,1-Dichloroethane	ND	0.50
1,2-Dichloroethane	ND	0.50
1,1-Dichloroethene	ND	0.50
1,2-Dichloropropane	ND	0.50
Ethylbenzene	ND	0.50
Methyl Bromide	ND	1.0
Methyl Chloride	ND	1.0
Methylene Chloride	ND	5.0
1,1,2,2-Tetrachloroethane	ND	0.50

ND: Not Detected

NA: Not Analyzed

HSL compounds are tentative quantitations based on single point calibration.

Approved by *Cowley Jones*

APPROVED

APR 10 1990

QC OFFICER

Report of GC/MS Analysis for
VOLATILE ORGANICS
in Water

Lab Number: K30152
Sample I.D.: GAC 2

Compound	Concentration (micrograms/liter)	Detection Limit (micrograms/liter)
----------	-------------------------------------	---------------------------------------

VOLATILE PRIORITY POLLUTANTS (continued):

Tetrachloroethene	ND	0.50
Toluene	ND	0.50
1,1,1-Trichloroethane	ND	0.50
1,1,2-Trichloroethane	ND	0.50
Trichloroethene	ND	0.50
Vinyl Chloride	ND	1.0
trans-1,3-Dichloropropene	ND	0.50
cis-1,3-Dichloropropene	ND	0.50
trans-1,2-Dichloroethene	ND	0.50
cis-1,2-Dichloroethene	ND	0.50
Trichlorofluoromethane	ND	1.0
m,p-Xylenes	ND	0.50
1,2-Dichlorobenzene	ND	0.50
1,3-Dichlorobenzene	ND	0.50
1,4-Dichlorobenzene	ND	0.50

HAZARDOUS SUBSTANCES COMPOUNDS:

Acetone	ND	10
2-Butanone	ND	1.0
Carbon disulfide	ND	0.50
2-Hexanone	ND	1.0
4-Methyl-2-Pentanone	ND	1.0
Styrene	ND	0.50
Tetrahydrofuran	ND	10
Vinyl Acetate	ND	5.0
o-Xylene	ND	0.50

ND: Not Detected

NA: Not Analyzed

HSL compounds are tentative quantitations based on single point calibration.

Report of GC/MS Analysis for
VOLATILE ORGANICS
in Water

Lab Number: K30152
Sample I.D.: GAC 2

Compound	Recovery (%)	QC Limits (%)
SURROGATE:		
4-Bromofluorobenzene	105	86-115
1,2-Dichloroethane-d4	89	76-114
Toluene-d8	109	88-110

ND: Not Detected

NA: Not Analyzed

HSL compounds are tentative quantitations based on single point calibration.

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501 Lennon Lane
Suite 200
Walnut Creek, CA 94598
Attn: Rick Wilson

Job#: 226.0380
PO#:
Workorder#: W27728
Report#: R27850
Phone #: 415-933-2250

Date Sampled: 3/27/90
Date Analyzed: 4/9/90

Date Received: 3/27/90

Lab Number:
Sample I.D.:

K30153
GAC 2 DUP

Compound	Concentration (micrograms/liter)	Detection Limit (micrograms/liter)
----------	-------------------------------------	---------------------------------------

VOLATILE PRIORITY POLLUTANTS:

Acrolein	ND	1.0
Acrylonitrile	ND	1.0
Benzene	ND	0.50
Bromoform	ND	0.50
Carbon Tetrachloride	ND	0.50
Chlorobenzene	ND	0.50
Dibromochloromethane	ND	0.50
Chloroethane	ND	1.0
2-Chloroethylvinylether	ND	1.0
Chloroform	1.0	0.50
Dichlorobromomethane	ND	0.50
1,1-Dichloroethane	ND	0.50
1,2-Dichloroethane	ND	0.50
1,1-Dichloroethene	ND	0.50
1,2-Dichloropropane	ND	0.50
Ethylbenzene	ND	0.50
Methyl Bromide	ND	1.0
Methyl Chloride	ND	1.0
Methylene Chloride	ND	5.0
1,1,2,2-Tetrachloroethane	ND	0.50

ND: Not Detected

NA: Not Analyzed

HSL compounds are tentative quantitations based on single point calibration.

Approved by *C. G. Feary*

APPROVED

APR 10 1990

QC OFFICER

Report of GC/MS Analysis for
VOLATILE ORGANICS
in Water

Lab Number: K30153
Sample I.D.: GAC 2 DUP

Compound	Concentration (micrograms/liter)	Detection Limit (micrograms/liter)
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VOLATILE PRIORITY POLLUTANTS (continued):

Tetrachloroethene	ND	0.50
Toluene	ND	0.50
1,1,1-Trichloroethane	ND	0.50
1,1,2-Trichloroethane	ND	0.50
Trichloroethene	ND	0.50
Vinyl Chloride	ND	1.0
trans-1,3-Dichloropropene	ND	0.50
cis-1,3-Dichloropropene	ND	0.50
trans-1,2-Dichloroethene	ND	0.50
cis-1,2-Dichloroethene	ND	0.50
Trichlorofluoromethane	ND	1.0
m,p-Xylenes	ND	0.50
1,2-Dichlorobenzene	ND	0.50
1,3-Dichlorobenzene	ND	0.50
1,4-Dichlorobenzene	ND	0.50

HAZARDOUS SUBSTANCES COMPOUNDS:

Acetone	ND	10
2-Butanone	ND	1.0
Carbon disulfide	ND	0.50
2-Hexanone	ND	1.0
4-Methyl-2-Pentanone	ND	1.0
Styrene	ND	0.50
Tetrahydrofuran	ND	10
Vinyl Acetate	ND	5.0
o-Xylene	ND	0.50

ND: Not Detected

NA: Not Analyzed

HSL compounds are tentative quantitations based on single point calibration.

Report of GC/MS Analysis for
VOLATILE ORGANICS
in Water

Lab Number: K30153
Sample I.D.: GAC 2 DUP

Compound	Recovery (%)	QC Limits (%)
SURROGATE:		
4-Bromofluorobenzene	106	86-115
1,2-Dichloroethane-d4	95	76-114
Toluene-d8	109	88-110

ND: Not Detected

NA: Not Analyzed

HSL compounds are tentative quantitations based on single point calibration.

MONTGOMERY LABORATORIES
 a division of James M. Montgomery, Consulting Engineers, Inc.
 555 East Walnut Street, Pasadena, California 91101
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Report of GC/MS Analysis for
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Navy(MCAS-El Toro)/JMM-WCK
 501 Lennon Lane
 Suite 200
 Walnut Creek, CA 94598
 Attn: Rick Wilson

Job#: 226.0380
 PO#:
 Workorder#: W27728
 Report#: R27851
 Phone #: 415-933-2250

Date Sampled: 3/27/90
 Date Analyzed: 4/10/90

Date Received: 3/27/90

Lab Number: K30154
 Sample I.D.: GAC 3

Compound	Concentration (micrograms/liter)	Detection Limit (micrograms/liter)
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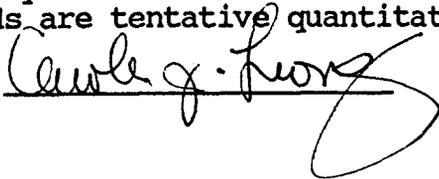
VOLATILE PRIORITY POLLUTANTS:

Acrolein	ND	1.0
Acrylonitrile	ND	1.0
Benzene	ND	0.50
Bromoform	ND	0.50
Carbon Tetrachloride	ND	0.50
Chlorobenzene	ND	0.50
Dibromochloromethane	ND	0.50
Chloroethane	ND	1.0
2-Chloroethylvinylether	ND	1.0
Chloroform	ND	0.50
Dichlorobromomethane	ND	0.50
1,1-Dichloroethane	ND	0.50
1,2-Dichloroethane	ND	0.50
1,1-Dichloroethene	ND	0.50
1,2-Dichloropropane	ND	0.50
Ethylbenzene	ND	0.50
Methyl Bromide	ND	1.0
Methyl Chloride	ND	1.0
Methylene Chloride	ND	5.0
1,1,2,2-Tetrachloroethane	ND	0.50

ND: Not Detected

NA: Not Analyzed

HSL compounds are tentative quantitations based on single point calibration.

Approved by 

APPROVED

APR 16 1990

Report of GC/MS Analysis for
VOLATILE ORGANICS
in Water

Lab Number: K30154
Sample I.D.: GAC 3

Compound	Concentration (micrograms/liter)	Detection Limit (micrograms/liter)
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VOLATILE PRIORITY POLLUTANTS (continued):

Tetrachloroethene	ND	0.50
Toluene	ND	0.50
1,1,1-Trichloroethane	ND	0.50
1,1,2-Trichloroethane	ND	0.50
Trichloroethene	ND	0.50
Vinyl Chloride	ND	1.0
trans-1,3-Dichloropropene	ND	0.50
cis-1,3-Dichloropropene	ND	0.50
trans-1,2-Dichloroethene	ND	0.50
cis-1,2-Dichloroethene	ND	0.50
Trichlorofluoromethane	ND	1.0
m,p-Xylenes	ND	0.50
1,2-Dichlorobenzene	ND	0.50
1,3-Dichlorobenzene	ND	0.50
1,4-Dichlorobenzene	ND	0.50

HAZARDOUS SUBSTANCES COMPOUNDS:

Acetone	ND	10
2-Butanone	ND	1.0
Carbon disulfide	ND	0.50
2-Hexanone	ND	1.0
4-Methyl-2-Pentanone	ND	1.0
Styrene	ND	0.50
Tetrahydrofuran	ND	10
Vinyl Acetate	ND	5.0
o-Xylene	ND	0.50

ND: Not Detected

NA: Not Analyzed

HSL compounds are tentative quantitations based on single point calibration.

QC OFFICER

Report of GC/MS Analysis for
VOLATILE ORGANICS
in Water

Lab Number:	K30154
Sample I.D.:	GAC 3

Compound	Recovery (%)	QC Limits (%)
SURROGATE:		
4-Bromofluorobenzene	102	86-115
1,2-Dichloroethane-d4	96	76-114
Toluene-d8	75	88-110

Note: This sample had been analyzed twice with the same low recovery in toluene-d8 both times.

ND: Not Detected

NA: Not Analyzed

HSL compounds are tentative quantitations based on single point calibration.

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501 Lennon Lane
Suite 200
Walnut Creek, CA 94598
Attn: Rick Wilson

Job#: 226.0380
PO#:
Workorder#: W27728
Report#: R27852
Phone #: 415-933-2250

Date Sampled: 3/27/90
Date Analyzed: 4/10/90

Date Received: 3/27/90

Lab Number:
Sample I.D.:

K30155
GAC 3 SPIKE

Compound	% Recovery
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VOLATILE PRIORITY POLLUTANTS:

Benzene	89
Chlorobenzene	104
1,1-Dichloroethene	94
Toluene	88
Trichloroethene	101

Approved by *Carole J. King*

APPROVED
APR 18 1990
QC OFFICER

Report of GC/MS Analysis for
VOLATILE ORGANICS
in Water

Lab Number: K30155
Sample I.D.: GAC 3 SPIKE

Compound	Recovery (%)	QC Limits (%)
SURROGATE:		
4-Bromofluorobenzene	104	86-115
1,2-Dichloroethane-d4	96	76-114
Toluene-d8	102	88-110

MONTGOMERY LABORATORIES
 a division of James M. Montgomery, Consulting Engineers, Inc.
 555 East Walnut Street, Pasadena, California 91101
 (818) 796-9141 / (213) 681-4255 Telex 67-5420

Report of GC/MS Analysis for
VOLATILE ORGANICS
 in Water

Navy (MCAS-El Toro)/JMM-WCK
 501 Lennon Lane
 Suite 200
 Walnut Creek, CA 94598
 Attn: Rick Wilson

Job#: 226.0380
 PO#:
 Workorder#: W27728
 Report#: R27853
 Phone #: 415-933-2250

Date Sampled: 3/27/90
 Date Analyzed: 4/9/90

Date Received: 3/27/90

Lab Number:
 Sample I.D.:

K30156
 TRAVEL BLANK 3/22/90

Compound	Concentration (micrograms/liter)	Detection Limit (micrograms/liter)
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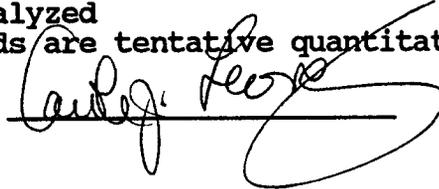
VOLATILE PRIORITY POLLUTANTS:

Acrolein	ND	1.0
Acrylonitrile	ND	1.0
Benzene	ND	0.50
Bromoform	ND	0.50
Carbon Tetrachloride	ND	0.50
Chlorobenzene	ND	0.50
Dibromochloromethane	ND	0.50
Chloroethane	ND	1.0
2-Chloroethylvinylether	ND	1.0
Chloroform	ND	0.50
Dichlorobromomethane	ND	0.50
1,1-Dichloroethane	ND	0.50
1,2-Dichloroethane	ND	0.50
1,1-Dichloroethene	ND	0.50
1,2-Dichloropropane	ND	0.50
Ethylbenzene	ND	0.50
Methyl Bromide	ND	1.0
Methyl Chloride	ND	1.0
Methylene Chloride	ND	5.0
1,1,2,2-Tetrachloroethane	ND	0.50

ND: Not Detected

NA: Not Analyzed

HSL compounds are tentative quantitations based on single point calibration.

Approved by 

APPROVED

APR 10 1990

QC OFFICER

Report of GC/MS Analysis for
VOLATILE ORGANICS
in Water

Lab Number:
Sample I.D.:

K30156
TRAVEL BLANK 3/22/90

Compound	Concentration (micrograms/liter)	Detection Limit (micrograms/liter)
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VOLATILE PRIORITY POLLUTANTS (continued):

Tetrachloroethene	ND	0.50
Toluene	ND	0.50
1,1,1-Trichloroethane	ND	0.50
1,1,2-Trichloroethane	ND	0.50
Trichloroethene	ND	0.50
Vinyl Chloride	ND	1.0
trans-1,3-Dichloropropene	ND	0.50
cis-1,3-Dichloropropene	ND	0.50
trans-1,2-Dichloroethene	ND	0.50
cis-1,2-Dichloroethene	ND	0.50
Trichlorofluoromethane	ND	1.0
m,p-Xylenes	ND	0.50
1,2-Dichlorobenzene	ND	0.50
1,3-Dichlorobenzene	ND	0.50
1,4-Dichlorobenzene	ND	0.50

HAZARDOUS SUBSTANCES COMPOUNDS:

Acetone	ND	10
2-Butanone	ND	1.0
Carbon disulfide	ND	0.50
2-Hexanone	ND	1.0
4-Methyl-2-Pentanone	ND	1.0
Styrene	ND	0.50
Tetrahydrofuran	ND	10
Vinyl Acetate	ND	5.0
o-Xylene	ND	0.50

ND: Not Detected

NA: Not Analyzed

HSL compounds are tentative quantitations based on single point calibration.

Report of GC/MS Analysis for
VOLATILE ORGANICS
in Water

Lab Number: K30156
Sample I.D.: TRAVEL BLANK 3/22/90

Compound	Recovery (%)	QC Limits (%)
SURROGATE:		
4-Bromofluorobenzene	109	86-115
1,2-Dichloroethane-d4	92	76-114
Toluene-d8	110	88-110

ND: Not Detected

NA: Not Analyzed

HSL compounds are tentative quantitations based on single point calibration.