HADLEY INDUSTRIES
environmental technologies

M60050.001806
MCAS EL TORO
SSIC # 5090.3

October 21, 1993

Mr. Andy Piszkin, RPM
Southwest Division, NAVFACENGCOM
1220 Pacific Highway Code 0214
San Diego, California 92132

RE: MCAS EL TORO GROUNDWATER REMEDIATION PROJECT

Dear Mr. Piszkin:

Enclosed is the monitoring report for the month of July 1993, submitted by Hadley Industries Environmental Technologies, for the Groundwater Remediation System at MCAS El Toro in Santa Ana, California.

Hadley Industries has been contracted by the Department of Navy to operate and maintain the system beginning in October, 1991. Option II, the extension of services for October 1992, through September 30, 1993, was exercised on September 23, 1992. This contract includes monthly monitoring and inspection, as well as scheduled collection and analysis of groundwater samples.

If you have any questions regarding this report, please feel free to call me at 800-345-4227.

Sincerely,

HADLEY INDUSTRIES

Robert Allard, Jr. DLB

Robert Allard, Jr.
Vice President

dlb

Enclosures

pc: Chrisa Mitchell, MCAS El Toro

Eastern Regional Office
Cranberry Commerce Park
209 Commerce Park Drive
Zelienople, Pennsylvania 16063
(800) 872-9080 • (412) 772-3400
FAX (412) 772-3323

Corporate Office
5900 West Fourth Street
Ludington, Michigan 49431
(616) 845-0537 • (800) 345-4227
FAX (616) 843-3882

Western Regional Office
Suite 388 • 5241 Mission Oaks Blvd.
Camarillo, California 93012
(805) 389-4788
(800) 676-6808
FAX (805) 389-4789

HADLEY INDUSTRIES
environmental technologies

MCAS EL TORO

AQUASORB™ TREATMENT SYSTEM

MONITORING REPORT

JULY 1993

PREPARED FOR: MR. ANDY PISZKIN, RPM
SOUTHWEST NAVFACENGCOM
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. BRADLEY L. VANDERLAAN, OPERATIONS MANAGER
HADLEY INDUSTRIES
5900 W. FOURTH STREET P.O. BOX 489
LUDINGTON, MICHIGAN 49431

HADLEY INDUSTRIES
environmental technologies

MCAS EL TORO
AQUASORB™ GROUNDWATER TREATMENT SYSTEM
MONITORING REPORT
JULY 1993

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. This is the July 1993 monthly monitoring report.

The system consists of three purge wells (PS#1, PS#3, and PS#4) which pump groundwater from 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.

SAMPLE COLLECTION AND ANALYSIS

Three samples were collected on July 14, 1993 for analysis. Samples collected included: one INFLUENT sample, one BETWEEN STAGE sample, one EFFLUENT sample. Analytical results are compiled in Appendix A. A comparison chart of analytical results for the INFLUENT, BETWEEN STAGE, and EFFLUENT is shown in Table 1.

OPERATIONAL DATA

July 14, 1993
System inspection and sampling performed by Richard Sidlin.

July 28, 1993
Richard Sidlin performed system inspecting.

DISCUSSION OF RESULTS

During the period of June 30 through July 28, 1993, the Aquasorb™ GAC system treated 58,976 cubic feet (441,140 gallons) of groundwater. Average total flow rate from the two purge wells for this 28 day period is 11 gpm.

Table 3 provides a summary of flow rates from each of the three purge wells, and gallons treated at the GAC system.

[illegible]ical results indicate a total of 114 micrograms per liter (ug/l) of contaminants entering the treatment system (INFLUENT), non-detectable levels in the BETWEEN STAGE, and non-detectable levels in the EFFLUENT.

APPENDIX A

ANALYTICAL RESULTS

TABLE TABLE 1

EL TORO INTERIM GROUNDWATER TREATMENT SYSTEM

SUMMARY OF ANALYTICAL RESULTS

1991-1992

	Sample Date, Concentration, ppb (ug/L)													
Location/Compound	19-Aug-91	10-Sep-91	09-Oct-91	26-Nov-91	10-Dec-91	07-Jan-92	04-Feb-92	05-Mar-92	07-Apr-92	05-May-92	30-Jun-92	14-Jul-92	05-Aug-92	18-Sep-92
GAC INFLUENT														
PCE	19	42	41	37	40	35	37	33	ND	37	35	34	34	34
TCE	36	47	53	85	79	69	66	78	18	55	52	39	57	51
1, 2-Dichloroethene (total)	2	3	4	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Acetone	22	ND	ND	ND	20	ND	5	12	38	21	ND	7	ND	ND
Methylene Chloride	10	ND	3	8	7	ND	8	6	86	5	8	8	10	13
Chloroform	ND	1	1	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ND	ND	ND	ND	23	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	6	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetreachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroehtane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

TABLE TABLE 1

EL TORO INTERIM GROUNDWATER TREATMENT SYSTEM

SUMMARY OF ANALYTICAL RESULTS

1993

Table 1 Page 1

Location/Compound	Sample Date, Concentration, ppb (ug/L)				
	30-Mar-93	13-Apr-93	5-May-93	8-June-93	14-July-93
GAC INFLUENT					
PCE	27	30	32	36	36
TCE	49	52	53	53	78
1, 2-Dichloroethene (total)	ND	ND	ND	ND	ND
Acetone	6	5	ND	ND	ND
Methylene Chloride	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND
Chloromethane	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND
2-Butanone	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND
cis-1,3-Dichloropropane	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND
1,1,2-Trichloroehtane	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	ND	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND
Xylenes (total)	ND	ND	ND	ND	ND

TABLE TABLE 1

EL TORO INTERIM GROUNDWATER TREATMENT SYSTEM

SUMMARY OF ANALYTICAL RESULTS

1991-1992

Table 1 Page 2

Location/Compound	19-Aug-91	10-Sep-91	09-Oct-91	26-Nov-91	10-Dec-91	07-Jan-92	04-Feb-92
GAC BETWEEN							
Methylene Chloride	A	2	5	22	8	74	5
Acetone	ND	ND	ND	ND	7	16	ND
Chloromethane	ND	ND	ND	ND	5	ND	ND
Chloroform	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethene (total)	ND	ND	ND	ND	ND	ND	ND
2-Butanone	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND
Carbon Tetreachloride	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropane	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroehtane	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	ND	ND	ND	ND	ND	ND	ND
TCE	ND	ND	ND	ND	ND	ND	ND
PCE	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	ND	ND	ND	ND	ND	ND	ND

TABL TABLE 1

EL TORO INTERIM GROUNDWATER TREATMENT SYSTEM

SUMMARY OF ANALYTICAL RESULTS

1993

Table 1 Page 2

Location/Compound	30-Mar-93	13-Apr-93	5-May-93	8-June-93	14-July-93
GAC BETWEEN					
Methylene Chloride	ND	21	ND	ND	ND
Acetone	ND	ND	ND	ND	ND
Chloromethane	ND	ND	ND	ND	ND
Chloroform	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND
1,2-Dichloroethene (total)	ND	ND	ND	ND	ND
2-Butanone	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND
Carbon Tetreachloride	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND
cis-1,3-Dichloropropane	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND
1,1,2-Trichloroehtane	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	ND	ND	ND	ND	ND
TCE	ND	ND	ND	ND	ND
PCE	ND	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND
Xylenes (total)	ND	ND	ND	ND	ND

TABLE TABLE 1

EL TORO INTERIM GROUNDWATER TREATMENT SYSTEM

SUMMARY OF ANALYTICAL RESULTS

1991-1992

Table 1 Page 3

Location/Compound	19-Aug-91	10-Sep-91	09-Oct-91	26-Nov-91	10-Dec-91	07-Jan-92	04-Feb-92	05-Mar-92	07-Apr-92	05-May-92	30-Jun-92	14-Jul-92	05-Aug-92	16-Sep-92
GAC EFFLUENT														
Methylene Chloride	7	4	4	25	8	7	ND	8	12	5	8	ND	12	11
Acetone	12	ND	ND	ND	5	ND	ND	7	20	11	ND	6	ND	ND
Chloroform	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethene (total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Butanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Carbon Tetrachloride	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
cis-1,3-Dichloropropane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2-Trichloroehtane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
TCE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
PCE	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

LEGEND:
NA - No analysis
ND - Not detected
(A) - No between stage in place

TABLE TABLE 1

EL TORO INTERIM GROUNDWATER TREATMENT SYSTEM

SUMMARY OF ANALYTICAL RESULTS

1993

Table 1 Page 3

Location/Compound	30-Mar-93	13-Apr-93	5-May-93	8-June-93	14July-93
GAC EFFLUENT					
Methylene Chloride	ND	ND	ND	ND	ND
Acetone	ND	13	ND	ND	ND
Chloroform	ND	ND	27	ND	ND
Chloromethane	ND	ND	ND	ND	ND
Chloroethane	ND	ND	ND	ND	ND
Carbon Disulfide	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND
Vinyl Chloride	ND	ND	ND	ND	ND
1,1-Dichloroethene	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	ND	ND	ND
1,2-Dichloroethene (total)	ND	ND	ND	ND	ND
2-Butanone	ND	ND	ND	ND	ND
1,2-Dichloroethane	ND	ND	ND	ND	ND
1,1,1-Trichloroethane	ND	ND	ND	ND	ND
Carbon Tetreachloride	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	23	ND	ND
1,2-Dichloropropane	ND	ND	ND	ND	ND
cis-1,3-Dichloropropane	ND	ND	ND	ND	ND
Dibromochloromethane	ND	ND	ND	ND	ND
1,1,2-Trichloroehtane	ND	ND	ND	ND	ND
Benzene	ND	ND	ND	ND	ND
trans-1,3-dichloropropene	ND	ND	ND	ND	ND
Bromoform	ND	ND	ND	ND	ND
4-Methyl-2-Pentanone	ND	ND	ND	ND	ND
TCE	ND	ND	ND	ND	ND
PCE	ND	ND	ND	ND	ND
2-Hexanone	ND	ND	ND	ND	ND
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND
Styrene	ND	ND	ND	ND	ND
Xylenes (total)	ND	ND	ND	ND	ND

LEGEND:
NA - No analysis
ND - Not detected
(A) - No between stage in place

TABLE 3

EL TORO GROUND WATER TREATMENT SYSTEM

SUMMARY OF FLOW RATES

	7/11/91	8/19/91	8/27/91	9/10/91	9/24/91	10/01/91	10/8/91	10/29/91	11/07/91	11/14/91	11/22/91	11/26/91	12/10/91	12/27/91
PS#1														
Meter reading (gal)	13120	165670	*	*	*	165720	170950	184410	NR	193720	NR	202010	211130	222380
Gallons pumped	NA	152550	NA	NA	NA	NA	5230	13460	NR	9310	NR	8290	9120	11250
# of days	NA	39	8	14	14	7	7	21	NR	16	NR	12	14	17
Average flow (gpm)	NA	2.7	NA	NA	NA	NA	0.52	0.45	NR	0.4	NR	0.5	0.5	0.5
PS#3														
Meter reading (gal)	2953050	3227320	3280920	3389840	3431790	3497750	3556980	3704880	NR	3809200	NR	3897180	3992540	4109860
Gallons pumped	NA	274270	53600	108920	41950	65960	59230	147900	NR	104320	NR	87980	95360	117320
# of days	NA	39	8	14	14	7	7	21	NR	16	NR	12	14	17
Average flow (gpm)	NA	4.88	4.65	5.4	2	6.5	5.8	4.9	NR	4.5	NR	5.1	4.7	4.8
PS#4														
Meter reading (gal)	2457900	2570560	2624350	2726230	2759660	2813460	2859700	2984330	NR	3030140	NR	3030180	3121680	3229860
Gallons pumped	NA	112660	53790	101880	33430	53800	46240	124630	NR	45810	NR	40	91500	108180
# of days	NA	39	8	14	14	7	7	21	NR	16	NR	12	14	17
Average flow (gpm)	NA	2	4.66	5.1	1.7	5.3	4.6	4.1	NR	2	NR	0	4.5	4.4
GAC EFFLUENT														
Meter reading (cu ft)	761668	816674	831100	859411	868150	878186	893109	929748	NR	945046	NR	957878	983941	1015379
Gallons pumped	NA	411445	107906	211766	65367	75069	111624	274060	NR	114429	NR	95983	194951	235156
# of days	NA	39	8	14	14	7	7	21	NR	16	NR	12	14	17
Average flow (gpm)	NA	7.32	9.36	10.5	3.2	7.4	11.1	9.1	NR	5	NR	5.6	9.7	9.6
GOLF COURSE TANK														
Meter reading (cu ft)	NR	NR	NR	NR	NR	NR	9825000	11286900	NR	NA	NR	13087240	NR	13087240
Gallons pumped	NR	NR	NR	NR	NR	NR	NR	10935012	NR	NA	NR	13466543	NR	0
# of days	NR	NR	NR	NR	NR	NR	NR	21	NR	NA	NR	28	NR	17
Average flow	NR	NR	NR	NR	NR	NR	NR	362	NR	NA	NR	334	NR	0
Treated GW as % of Irrigation Water	NR	NR	NR	NR	NR	NR	NR	5.1	NA	NA	NA	3.4	NA	NA

LEGEND:

NR - NOT RECORDED

NA - NOT AVAILIBLE

* - PUMP OFF LINE

TABLE 3

EL TORO GROUND WATER TREATMENT SYSTEM

SUMMARY OF FLOW RATES

	01/07/92	01/28/92	02/04/92	02/24/92	03/05/92	03/31/92	04/07/92	04/28/92	05/05/92	05/26/92	06/09/92	06/30/92	07/14/92	07/24/92	08/05/92	08/24/92	9/14/92	9/28/92
PS#1																		
Meter reading (gal)	230077	244720	249340	260760	268270	286650	291940	306650	308190	*	*	*	*	*	*	*	*	*
Gallons pumped	7697	14643	4620	11420	7510	18380	5290	14710	1540	NA	NA	NA	NA	NA	NA	NA	NA	NA
# of days	11	21	7	20	10	26	7	21	7	21	14	21	15	10	12	19	21	14
Average flow (gpm)	0.5	0.5	0.5	0.4	0.5	0.5	0.5	0.5	0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
PS#3																		
Meter reading (gal)	4190710	4337670	4383130	4503770	4574150	4747550	4799980	4941250	4982720	5142290	5234000	5370050	5456640	5504090	5594490	5722920	5856870	NA
Gallons pumped	80850	146960	45460	120840	70380	173400	52430	141270	41470	159570	91710	136050	86590	47450	90400	128430	133950	NA
# of days	11	21	7	20	10	26	7	21	7	21	14	21	15	10	12	19	21	14
Average flow (gpm)	5.1	4.9	4.5	4.2	4.9	4.6	5.2	4.7	4.1	5.3	4.5	4.5	4	3.3	5.2	4.7	4.4	NA
PS#4																		
Meter reading (gal)	3295600	3419860	3459990	3555060	3599890	3605990	3662790	3794360	3838390	3969990	4054320	4177210	4257530	4315330	4383520	4487990	4601050	NA
Gallons pumped	65740	124260	40130	95070	44830	6100	56800	131570	44030	131600	84330	122890	80320	57800	68190	104470	113060	NA
# of days	11	21	7	20	10	26	7	21	7	21	14	21	15	10	12	19	21	14
Average flow (gpm)	4.2	4.1	4	3.3	3.1	0.2	5.6	4.5	4.4	4.4	4.2	4.1	3.7	4	3.9	3.8	3.7	NA
GAC EFFLUENT																		
Meter reading (cu ft)	1036010	1074332	1086318	1116846	1133367	1159890	1175365	1213824	1225416	1264756	1288594	1323703	1346481	1360788	1382391	1414199	1448141	1449960
Gallons pumped	154320	286649	89655	228349	123577	198392	114205	283827	86723	294248	178308	262615	170230	107156	161590	237924	253886	13606
# of days	11	21	7	20	10	26	7	21	7	21	14	21	15	10	12	19	21	14
Average flow (gpm)	9.7	9.6	8.9	8	8.6	5.3	11.3	9.4	8.6	9.7	8.8	8.7	7.9	7.4	9.3	8.7	8.4	0.7
GOLF COURSE TANK																		
Meter reading (cu ft)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gallons pumped	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
# of days	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Average flow	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Treated GW as % of Irrigation Water	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

LEGEND:
NR - NOT RECORDED
NA - NOT AVAILIBLE
* - PUMP OFF LINE

TABLE 3

EL TORO GROUND WATER TREATMENT SYSTEM

SUMMARY OF FLOW RATES

	2/22/93	3/17/93	3/30/93	4/13/93	4/26/93	5/5/93	5/25/93	6/8/93	6/30/93	7/14/93	7/28/93
PS#1											
Meter reading (gal)	308190	*	*	*	*	*	*	*	*	*	*
Gallons pumped	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
# of days	146	39	13	14	13	9	20	14	22	14	14
Average flow (gpm)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PS#3											
Meter reading (gal)	5989790	6165600	6264830	6372740	6473080	6498450	6562080	6692790	6882530	6996530	7109800
Gallons pumped	132920	175810	99230	107910	100340	25370	63630	130700	189740	114000	113270
# of days	180	39	13	14	13	9	20	14	22	14	14
Average flow (gpm)	NA	3.1	5.3	5.4	5.4	2	2.2	6.5	6	5.7	5.6
PS#4											
Meter reading (gal)	4607530	4674200	4783350	4902080	5000880	5025100	5071080	5179930	5278290	5376750	5486140
Gallons pumped	8480	66670	109150	118730	98800	24220	45980	108870	98360	98460	109390
# of days	180	39	13	14	13	9	20	14	22	14	14
Average flow (gpm)	NA	1.9	5.6	5.9	5.3	1.9	1.6	5.4	3.1	4.9	5.4
GAC EFFLUENT											
Meter reading (cu ft)	1466909	1499176	1527214	1557760	1584566	1589286	1604114	1636408	1675474	1704196	1734450
Gallons pumped	126779	241357	209724	229484	200427	35236	111063	241559	292214	214841	226230
# of days	146	24	13	14	13	9	20	14	22	14	14
Average flow (gpm)	NA	7	11.2	11.3	10.7	2.7	3.9	12	9.2	10.7	11.2
GOLF COURSE TANK											
Meter reading (cu ft)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Gallons pumped	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
# of days	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Average flow	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Treated GW as % of Irrigation Water	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

LEGEND:
NR - NOT RECORDED
NA - NOT AVAILIBLE
* - PUMP OFF LINE