

MONITORING REPORT

**OPERABLE UNIT NO. 1 - SITE 78
MARINE CORPS BASE
CAMP LEJEUNE, NORTH CAROLINA**

REPORTING PERIOD JANUARY 1999 – JUNE 1999

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MONITORING REPORT

The monitoring report that follows presents a summary of sampling activities, field observations, analytical results, and significant findings that pertain to the monitoring program and groundwater treatment systems at Operable Unit (OU) No. 1, Marine Corps Base (MCB) Camp Lejeune, North Carolina. The report describes sampling activities completed at Site 78 during January 1999. Conclusions and recommendations concerning the monitoring program and groundwater treatment systems at Site 78 are also presented within this report.

Monitoring activities at OU 1 began on a quarterly basis in July 1995 and have continued on a semiannual basis since July 1997. The most recent sampling initiative at OU 1 commenced January 16, 1999 and concluded January 19, 1999. Sampling at Site 78 involved the collection of groundwater samples from 18 shallow (less than 25 feet below ground surface (bgs), 2 intermediate (between 60 and 75 feet bgs), and 2 deep (greater than 100 feet bgs) monitoring wells. Figure 1 depicts all shallow, intermediate, and deep groundwater monitoring wells at Site 78 and indicates monitoring wells included in the monitoring program. [Note that all tables, figures, and attachments are provided after the text portion of this report.]

Sampling activities were conducted and subsequent laboratory analyses were performed according to procedures and methods specified in the Long-Term Monitoring Work Plans for OU 1 (Baker, 1996). The project work plans identify a select number of monitoring wells at Site 78 for which continued periodic sampling is required. Three additional permanent monitoring wells were installed and sampled beginning in November 1998, based upon recommendations provided in previous monitoring reports. These wells will further define the horizontal extent of contamination in the northern and southern portions of Site 78. Figure 1 depicts the locations of all monitoring wells sampled during the semiannual event. Table 1 provides construction details of the permanent monitoring wells associated with Site 78. As stipulated in the project work plans, measurements of pH, specific conductance, dissolved oxygen, temperature, and turbidity were recorded prior to sampling. Summaries of all groundwater field parameters are provided in Table 2.

The monitoring program at Site 78 was implemented to assess whether contamination, detected during previous investigations, remains present, has migrated, has degraded through natural processes, or has been eliminated through groundwater extraction. Based upon previous analytical results and decision documents, Volatile Organic Compounds (VOCs) were identified as contaminants of concern at Site 78. Table 3 provides a summary of requested laboratory analyses and sample identifications.

Sample information, including well number, sample identification, time and date of sample collection, samplers, and analytical parameters was recorded in a field logbook and on the sample labels. Chain-of-custody documentation, provided in Attachment A, accompanied the samples to the laboratory.

Groundwater Elevation and Flow Direction

The following provides information concerning groundwater flow patterns at Site 78. The elevation data were obtained by subtracting the measured depth to groundwater from the surveyed reference elevation.

Historically, the highest concentrations of VOCs detected in the southern plume were in samples obtained from 78-GW09-1. However, during the previous sampling event (third quarter of 1998), no VOCs were detected in 78-GW09-1. This most recent sampling event indicates that results obtained from 78-GW09-1 in 98C may indeed have been anomalous as suggested in the monitoring report regarding that data. Figure 4 depicts total chlorinated solvent concentrations in samples obtained from well 78-GW09-1 during the past twelve monitoring periods. Figures 5, 6, and 7 depict the concentrations of 1,2-dichloroethene (first total, now cis-), trichloroethene, and 1,1,1-trichloroethane, respectively, in samples obtained from monitoring well 78-GW09-1. Indicators of central tendency including mean and median have been calculated for each of the compounds and are provided in Figures 5 through 7.

As presented in Figure 3, one VOC was detected in the sample obtained from intermediate well 78-GW09-2, located within the southern plume. Cis-1,2-dichloroethene was detected in the sample obtained from 78-GW09-2 at a concentration of 10 micrograms per liter ($\mu\text{g/L}$). This is below the NCWQS and the Federal MCL for cis-1,2-dichloroethene (both 70 $\mu\text{g/L}$). Previous detections of 1,2-dichloroethene (total or speciated into cis- and trans- isomers) in monitoring well 78-GW09-2 (located 100 feet southeast of monitoring well 78-GW09-1) and surrounding shallow monitoring wells suggest that VOCs have migrated to the deeper portion of the surficial aquifer in this area of Site 78. Additional rounds of sampling at Site 78 will be employed to monitor the presence of VOCs in the intermediate zone. There have been no detections of VOCs in samples obtained from deep monitoring well 78-GW09-3, located nearly 150 feet east of 78-GW09-1.

In the last monitoring report, data indicated potential migration of the southern contaminant plume towards monitoring wells 78-GW08 and 78-GW10. This migration was contradicted by the direction of groundwater flow determined both during the calendar quarter discussed in that report (98C) and during the present calendar quarter (Figure 2). Data presented here show an absence of VOCs from both monitoring wells 78-GW08 and 78-GW10, further refuting this possibility of contaminant migration northward from monitoring well 78-GW09-1.

Northern Contaminant Plume

As depicted in Figure 3, in the northern contaminant plume, a total of eight VOCs were detected at levels above North Carolina Water Quality Standards (NCWQS). These VOCs include cis-1,2-dichloroethene, trans-1,2-dichloroethene, benzene, chloroform, methylene chloride, tetrachloroethene, trichloroethene, and vinyl chloride. Detections of all of these compounds, except chloroform, also exceeded Federal Maximum Contaminant Levels (MCLs). The sample obtained from monitoring well 78-GW23 had the highest concentrations of contaminants detected in the northern plume. Figure 8 depicts total chlorinated solvent concentrations in samples obtained from well 78-GW23 during the past twelve monitoring events. The increased concentration of total chlorinated solvents detected in samples obtained from monitoring well 78-GW23 during the last seven periods is the result of differing laboratory analyses; not until the third quarter of 1996 were groundwater samples submitted for 1,2-dichloroethene (total) analyses. As of the present calendar quarter (99A), 1,2-dichloroethene analysis includes speciation into cis- and trans- isomers (see Implemented Recommendations). Figures 9 and 10 depict the concentrations of vinyl chloride and trichloroethene, respectively, previously detected in samples obtained from monitoring well 78-GW23. In general, concentrations of these compounds have been substantially greater than the respective water quality standards. The NCWQS for vinyl chloride is 0.015 $\mu\text{g/L}$ and the median concentration of vinyl chloride in samples obtained from 78-GW23 during the twelve previous

The northern and southern treatment plants contain oil and water separators; metals removal systems including flocculation tanks, settling tanks, and sand filters; low profile air strippers; and liquid-phase carbon adsorption units. Tables 8 and 9 present monthly sampling results obtained during January through June of 1999 for the southern and northern treatment plants, respectively. The following assessments of both treatment systems are based upon these monthly sampling results and monthly remedial system progress reports are presented in Attachment D.

Southern Treatment System

Treatment System Sampling Results

Over 1.4 million gallons of contaminated groundwater were extracted from the southern portion of Site 78 during January through June of 1999. The southern treatment plant extracted groundwater during 3,687 hours of operation, which accounted for nearly 85 percent of the 4,344 hours possible. Routine maintenance and downtime to repair air leaks between recovery wells 6 and 7 and between recovery well 5 and the plant, to repair chemical pumps, accounted for 657 hours of total downtime during the sixth month period. Seven of the eight shallow recovery wells that serve the southern treatment system were operational during the evaluation period. The average rate at which groundwater was extracted and treated at the southern treatment plant, while operational, was just less than 7.7 gpm. An extraction rate of between four and eight gpm for each recovery well is typical of similarly constructed shallow recovery wells.

Five southern recovery wells are situated in a line as a downgradient contaminant barrier (Figure 13). The recovery wells are positioned to limit contaminant migration and intercept the contaminated plume as it presumably travels in the direction of groundwater flow. The recovery wells are located at the downgradient edge of the contaminant plume and, therefore, have been extracting groundwater with lower VOC concentrations than would be expected to be found closer to the center of the plume. Recovery wells RW-5 and RW-6 have typically removed groundwater with higher VOC concentrations than recovery wells RW-7 and RW-8. Recovery wells RW-5 and RW-6 are positioned closer to the most highly contaminated portion of the suspected contaminant plume. Recovery wells RW-13, RW-14, and RW-15 were installed during 1998, and as of January 1999 have been connected to the southern treatment system and are operational. The three new recovery wells are situated within the southern contaminant plume. RW-13 is just southeast of Building 1707, RW-14 is located just southeast of Building 1607, and RW-15 is located just east of the eastern corner of Building 1601.

Table 8 presents the monthly sampling results obtained during January through June of 1999 at the southern treatment system. Influent to the southern treatment plant contained the VOCs benzene, chloromethane, 1,1-dichloroethane, cis-1,2-dichloroethene, trans-1,2-dichloroethene, tetrachloroethene, trichloroethylene, and vinyl chloride. Influent also contained the following metals: antimony; arsenic; beryllium; calcium; chromium; iron; lead; manganese; mercury; nickel; and calcium. As indicated by a comparison of influent to effluent, the treatment system is decreasing contaminant concentrations in the southern plume.

Northern Treatment System

During the period from January through June 1999, over 780,000 gallons of contaminated groundwater were extracted from the northern portion of Site 78. The northern treatment plant

Proposed Recommendations

Based upon the observations and findings presented in this monitoring report, the following recommendations for the OU 1 monitoring program are proposed. If non-significant changes are made to a component of the selected remedy described in the ROD, the changes must be recorded in a post-decision document file. If significant changes are been made to a component of the selected remedy, the changes will need to be presented in an Explanation of Significant Differences document.

Monitoring Point Reduction

There have been no detections of any VOCs in groundwater from monitoring wells 78-GW14, 78-GW17-1, or 78-GW25 for the past four sampling events (two years). Wells 78-GW14 and 78-GW17-1 are located between the northern and southern contaminant plumes at Site 78, far from the edge of either plume. Well 78-GW25 is located outside the northeast boundary of the site, slightly past the perimeter and upgradient of the northern contaminant plume. Groundwater flow patterns suggest that migration of contaminants into the area surrounding this monitoring well is unlikely. It is recommended that sample collection from all three of these monitoring wells be discontinued.

Well Security and Aesthetics

During each sampling event monitoring wells are inspected for accessibility, integrity, aesthetics, and security. Maintenance may include, clearing of vegetation, replacing broken watertight caps, painting of bollards, and replacing padlocks. Improvements are made to the monitoring wells on an "as needed" basis.

REFERENCES

Baker Environmental, Inc. (Baker). June 1993. Design Package for the Hadnot Point Industrial Area Shallow Aquifer Groundwater Treatment System. Final. Prepared for the Navy Atlantic Division Naval Facilities Engineering Command, Norfolk, Virginia.

Baker Environmental, Inc. (Baker). September 1994a. Record of Decision. Final. Prepared for the Navy Atlantic Division Naval Facilities Engineering Command, Norfolk, Virginia.

Baker Environmental, Inc. (Baker). June 1994b. Remedial Investigation Report. Operable Unit No. 1 (Sites 21, 24, and 78). Final. Prepared for the Navy Atlantic Division Naval Facilities Engineering Command, Norfolk, Virginia.

Baker Environmental, Inc. (Baker). December 1996. Long-Term Monitoring Work Plans for Remedial Investigation Sites. Prepared for the Navy Atlantic Division Naval Facilities Engineering Command, Norfolk, Virginia.

OHM Corporation, September 1999. Site 78 Treatment System Monthly Report January 1999 through June 1999. (personal Correspondence) .

TABLES

TABLE 1

SUMMARY OF WELL CONSTRUCTION DETAILS
OPERABLE UNIT NO. 1 - SITE 78
MONITORING AND O&M SUPPORT, CTO - 0367
MCB, CAMP LEJEUNE, NORTH CAROLINA

Monitoring Well Number	Date Installed	Top of Casing Elevation (feet, msl)	Ground Surface Elevation (feet, msl)	Boring Depth (feet, bgs)	Well Depth (feet, bgs)	Screen Interval Depth (feet, bgs)	Depth to Sand Pack (feet, bgs)	Depth to Bentonite (feet, bgs)	Stick-Up (feet, ags)
78-GW01	1986	NA	NA	27	25	5 - 25	3.0	2.0	1.8
78-GW04-1	1986	31.63	28.9	27	24.5	4 - 24	3.0	2.0	2.6
78-GW08	1986	28.72	26.3	27	25	5 - 25	3.0	2.0	3.1
78-GW09-1	1987	NA	NA	27	25	5 - 25	3.0	2.0	0
78-GW09-2	1987	27.6	25.4	76	75	55 - 75	52.0	49.0	0
78-GW09-3	1986	26.97	24.7	152	150	130 - 150	105.0	10.0	0
78-GW10	1986	28.13	25.7	27	25	5 - 25	3.0	2.0	2.2
78-GW11	1986	28.22	25.5	25.5	25	5 - 25	3.0	2.0	2.4
78-GW14	1986	27.32	25	25.5	25	5 - 25	3.0	2.0	1.9
78-GW15	1986	27.03	26.8	25.5	25	5 - 25	3.0	2.0	0.0
78-GW17-1	1986	30	27.5	25.5	25	5 - 25	3.0	2.0	2.1
78-GW21	1986	33.51	31.2	25	25	5 - 25	3.0	2.0	NA
78-GW22A	1986	32.36	30.4	25	25	5 - 25	3.0	2.0	NA
78-GW23	1986	32.08	30	25.5	25	5 - 25	3.0	2.0	1.8
78-GW24-1	1986	32.84	30.5	25.5	25	5 - 25	3.0	2.0	1.5
78-GW24-2	1987	33.73	30.4	80	76.6	56.6-76.6	52.0	49.0	2.8
78-GW24-3	1987	32.32	30.5	155	148	128 - 148	90.0	84.0	2.2
78-GW25	1986	32.58	30.1	25.5	25	5 - 25	5.0	3.0	2.1
78-GW39	1993	19.44	16.8	20	20	10 - 20	8.0	6.0	19.4
78-GW40	1998	NA	NA	24.6	24.6	4 - 24	3.0	1.5	2.0
78-GW41	1998	NA	NA	24.5	24	5 - 24	3.0	1.5	0.0
78-GW42	1998	NA	NA	24	23	4 - 23	3.0	1.5	0.0

Notes:

ags = Above ground surface
bgs = Below ground surface
msl = Mean Sea Level
NA = Information not available

TABLE 2

**SUMMARY OF GROUNDWATER FIELD PARAMETERS
 OPERABLE UNIT NO. 1 - SITE 78
 MONITORING AND O&M SUPPORT, CTO-0367
 MCB, CAMP LEJEUNE, NORTH CAROLINA**

Well Number (Date of Measurement)	Measuring Time	Well Volumes	Field Parameters				
			Dissolved Oxygen (mg/L)	Specific Conductance (umhos/cm)	Temperature (°C)	pH (S.U.)	Turbidity (N.T.U.)
78-GW01 (01/19/99)	0730	10.5	1.89	400	17.2	6.26	71
	0735	1.1	2.05	393	16.2	6.31	83
	0745	1.5	4.4	369	16.7	6.44	24
	0820	2	4.89	358	16.9	6.5	7.0
	Only two volumes taken because well started to pump dry.						
78-GW04-1 (01/17/99)	0915	1	1.17	648	23.5	5.93	367
	0925	2	1.17	916	23.6	6.27	220
	0945	3	1.32	281	24.1	6.45	130
	1000	4	1.12	300	23.8	6.59	23
	1015	5	1.06	321	24	6.72	11
78-GW08 (01/17/99)	1300	1	1.97	617	21.6	5.84	65
	1306	1.5	1.89	595	21.4	5.74	41
	1311	2	2.21	590	21.1	5.7	28
	1322	2.5	2.09	597	21.1	5.72	19
	1340	3	2.03	590	21.1	5.69	8.0
78-GW09-1 (01/17/99)	1440	1	1.99	666	20.6	6.26	0
	1503	2	2.24	670	20.6	6.2	0
	1526	3	1.46	641	20.6	6.12	0
78-GW09-2 (01/17/99)	1455	1	1.26	428	19.8	7.37	0
	1507	1.5	0.54	427	20.1	7.41	0
	1520	2	0.64	434	20.2	7.43	0
	1537	2.5	0.76	430	20.2	7.36	0
	1549	3	0.95	434	20.2	7.45	0
78-GW09-3 (01/17/99)	1004	1	3.52	786	19	11.53	0
	1115	1.5	3.76	866	21.1	11.68	0
	1210	2	2.81	448	20.9	11.01	0
	1245	2.5	1.44	455	21.3	11.03	0
	1353	3	1.2	460	20.8	11	0
78-GW10 (01/17/99)	1000	1	1.99	996	20	6.24	36
	1005	105	2.06	991	20.4	6.28	27
	1010	2	2.09	986	20.3	6.26	16
	1015	2.5	2.03	977	20.3	6.25	11
	1020	3	2.14	973	20.3	6.25	9.0
78-GW11 (01/17/99)	0905	1	4.12	272	18.7	4.7	17
	0910	1.5	4.43	266	19.1	4.62	21
	0915	2	4.19	272	19.1	4.63	12
	0920	2.5	4.36	269	19.2	4.63	10
	0925	3	4.41	267	19.2	4.64	6.0

TABLE 2 (Continued)

SUMMARY OF GROUNDWATER FIELD PARAMETERS
OPERABLE UNIT NO. 1 - SITE 78
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA

Well Number (Date of Measurement)	Measuring Time	Well Volumes	Field Parameters				
			Dissolved Oxygen (mg/L)	Specific Conductance (umhos/cm)	Temperature (°C)	pH (S.U.)	Turbidity (N.T.U.)
78-GW14 (01/16/99)	1508	1	1.05	665	20.6	3.92	12
	1516	1.5	1.38	633	21	3.91	0
	1524	2	2.03	618	21.2	3.87	0
	1536	2.5	1.8	612	21.2	3.89	0
	1544	3	1.09	604	21.1	3.89	0
78-GW15 (01/17/99)	1105	1	4.7	902	21.5	6.25	36
	1110	1.5	4.62	919	21.9	6.19	24
	1115	2	5.42	944	21.8	6.18	13
	1120	2.5	5.13	949	21.9	6.16	10
	1125	3	5.03	958	21.9	6.16	8.0
78-GW17-1 (01/17/99)	1140	1	4.98	710	20.1	6.97	6.0
	1147	1.5	4.69	680	19.8	6.9	37
	1153	2	4.63	673	19.7	6.86	19
	1200	2.5	4.18	663	19.5	6.81	6.0
	1207	3	4.23	658	19.4	6.86	2.0
	1213	3.5	4.11	650	19.5	6.81	1.0
78-GW21 (01/17/99)	1312	1	2.3	674	20.7	5.41	18
	1319	1.5	2.26	667	20.5	5.39	12
	1326	2	2.17	673	20.6	5.39	11
	1333	2.5	2.18	674	20.5	5.41	6.8
	1340	3	2.1	671	20.5	5.43	4.3
78-GW22A (01/17/99)	1605	1	1.37	844	17.5	6.83	17
	1612	1.5	1.23	837	17	6.78	14
	1619	2	1.18	835	16.8	6.79	9.0
	1626	2.5	1.35	833	16.7	6.77	4.0
	1633	3	1.32	837	16.6	6.82	3.8
78-GW23 (01/17/99)	1618	1	1.21	685	18.3	4.63	4.0
	1625	1.5	1.86	653	18.9	4.61	9.0
	1631	2	0.58	653	18.8	4.61	10
	1637	2.5	1.04	648	18.8	4.58	16
	1645	3	1.06	641	18.7	4.6	29
78-GW24-1 (01/16/99)	0844	1	1.4	594	14.3	6.04	0
	0906	2	1.09	538	14.8	6.02	0
	0929	3	1.19	527	15.1	6.03	0
78-GW24-2 (01/16/99)	1110	1	0.7	373	18.5	7.45	0
	1154	1.5	1.38	375	18.2	7.68	0
	1215	2	0.98	369	18.5	7.7	117
	1231	2.5	1.16	379	18.5	7.67	0
	1250	3	1.34	378	18.4	7.68	0

TABLE 2 (Continued)

SUMMARY OF GROUNDWATER FIELD PARAMETERS
OPERABLE UNIT NO. 1 - SITE 78
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA

Well Number (Date of Measurement)	Measuring Time	Well Volumes	Field Parameters				
			Dissolved Oxygen (mg/L)	Specific Conductance (umhos/cm)	Temperature (°C)	pH (S.U.)	Turbidity (N.T.U.)
78-GW24-3 (01/16/99)	0921	1	1.43	762	17.8	7.6	0
	0959	1.5	1.42	754	17.8	7.62	0
	1037	2	1.77	736	18.5	7.65	0
	1114	2.5	1.62	746	18.6	7.73	0
	1150	3	1.52	782	18.6	7.55	0
78-GW25 (01/16/99)	1624	1	1.76	685	17.9	6.07	0
	1633	1.5	1.32	653	17.9	6.06	0
	1638	2	1.17	655	18	6.04	0
	1645	2.5	1.03	618	17.9	6.02	0
	1650	3	1.23	626	18	6	0
78-GW39 (01/17/99)	0805	1	2.75	755	18.2	4.75	2.0
	0813	1.5	3.45	723	18.6	4.5	1.0
	0820	2	2.72	717	18.4	4.42	0
	0830	2.5	3.01	717	18.4	4.41	0
	0837	3	3.08	718	18.3	4.39	0
78-GW40 (01/17/99)	1510	1	1.97	333	17.8	4.97	90
	1520	1.5	2.12	317	17.5	4.95	65
	1530	2	1.25	324	17.7	4.88	29
	1542	2.5	1.67	330	17.5	4.87	9.0
	1554	3	1.54	325	17.4	4.87	5.0
78-GW41 (01/17/99)	1510	1	1.24	712	29.2	6.65	15
	1518	1.5	1.26	677	29.8	6.73	18
	1526	2	1.23	646	29.8	6.7	12
	1534	2.5	1.34	637	29.7	6.66	8.0
	1542	3	1.36	641	29.7	6.63	7.0
78-GW42 (01/17/99)	0755	1	1.71	915	19.6	6.33	0
	0800	2	2.94	925	19.6	6.31	0
	0805	3	1.85	1,030	19.7	6.44	0
	0810	4	1.81	1,150	19.6	6.42	0

Notes:

°C = Degrees Centigrade

S.U. = Standard Units

mg/L = Milligrams per Liter

umhos/cm = umhos per Centimeter

ppt = Parts per Thousand

N.T.U. = Neophlometric Turbidity Units

mV = millivolt

TABLE 3

**GROUNDWATER SAMPLING SUMMARY
OPERABLE UNIT NO. 1 - SITE 78
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA**

Sample Location	Media	TCL Volatiles ⁽¹⁾	Sample Identification
78-GW01	Groundwater	X	IR78-GW01-99A
78-GW04-1	Groundwater	X	IR78-GW04-99A
78-GW08	Groundwater	X	IR78-GW08-99A
78-GW09-1	Groundwater	X	IR78-GW09-99A
78-GW09-2	Groundwater	X	IR78-GW09IW-99A
78-GW09-3	Groundwater	X	IR78-GW09DW-99A
78-GW10	Groundwater	X	IR78-GW10-99A
78-GW11	Groundwater	X	IR78-GW11-99A
78-GW14	Groundwater	X	IR78-GW14-99A
78-GW15	Groundwater	X	IR78-GW15-99A
78-GW17-1	Groundwater	X	IR78-GW17-99A
78-GW21	Groundwater	X	IR78-GW21-99A
78-GW22A	Groundwater	X	IR78-GW22A-99A
78-GW23	Groundwater	X	IR78-GW23-99A
78-GW24-1	Groundwater	X	IR78-GW24-99A
78-GW24-2	Groundwater	X	IR78-GW24IW-99A
78-GW24-3	Groundwater	X	IR78-GW24DW-99A
78-GW25	Groundwater	X	IR78-GW25-99A
78-GW39	Groundwater	X	IR78-GW39-99A
78-GW40	Groundwater	X	IR78-GW40-99A
78-GW41	Groundwater	X	IR78-GW41-99A
78-GW42	Groundwater	X	IR78-GW42-99A

Notes:

⁽¹⁾ Target Compound List (TCL) Volatile Organic Compounds by U.S. Environmental Protection Agency (EPA) Method 8260.

X = Requested Analyses

TABLE 4

**SUMMARY OF WATER LEVEL MEASUREMENTS
OPERABLE UNIT NO. 1 - SITE 78
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA**

Well ID	Reference Elevation ⁽¹⁾	SWE 8/9/96	SWE 11/7/96	SWE 2/25/97	SWE 5/1/97	SWE 8/9/97	SWE 1/23/98	SWE 7/24/98	SWL 1/18/99	SWE 1/18/99
78-GW02	32.15	NA	NA	NA	24.24	18.27	24.87	24.81	7.60	24.55
78-GW03	31.85	NA	NA	NA	26.03	24.15	26.23	24.26	5.95	25.90
78-GW04-1	31.63	12.32	13.12	12.84	11.88	10.72	12.60	11.62	18.65	12.98
78-GW05	28.63	19.72	19.62	19.87	19.30	17.49	20.18	19.15	9.38	19.25
78-GW06	27.94	NA	NA	14.53	13.73	12.36	13.84	13.71	13.07	14.87
78-GW07	27.83	NA	NA	NA	14.74	13.33	14.89	NA	13.83	14.00
78-GW08	28.72	16.42	17.11	16.64	16.14	15.11	16.06	16.26	13.45	15.27
78-GW09-2	24.76 ⁽²⁾	14.05	14.64	14.00	13.72	12.41	13.51	13.55	11.66	13.10
78-GW09-3	26.97	14.21	14.80	14.17	13.87	15.26	16.51	16.38	11.05	15.92
78-GW10	28.13	17.34	17.44	17.09	16.78	15.21	NA	16.47	12.51	15.62
78-GW11	27.93 ⁽²⁾	16.57	16.52	15.94	15.77	14.02	14.98	15.28	13.53	14.40
78-GW12	30.08	NA	NA	19.82	18.67	18.00	18.87	NA	NA	NA
78-GW14	24.67 ⁽²⁾	17.61	17.91	17.61	17.10	16.86	17.17	16.83	8.39	16.28
78-GW15	26.55 ⁽²⁾	18.33	19.53	19.04	18.85	17.95	18.15	19.09	6.52	20.03
78-GW16	32.40	NA	NA	21.65	21.22	19.68	20.33	20.52	NA	NA
78-GW17-1	30.00	19.06	20.35	20.06	19.82	18.87	16.49	19.83	11.06	18.94
78-GW19	29.07	22.43	21.37	21.94	21.74	19.01	22.23	20.10	NA	NA
78-GW21	33.51	23.66	24.11	23.87	23.70	22.77	23.55	23.33	10.40	23.11
78-GW22A	32.36	26.65	25.74	26.66	26.71	23.78	NA	25.00	6.82	25.54
78-GW23	32.08	23.45	23.62	23.81	23.01	21.04	25.88	21.93	10.30	21.78
78-GW24-1	32.84	26.99	26.02	26.82	26.27	24.43	27.02	24.86	6.51	26.33
78-GW24-2	32.50 ⁽²⁾	22.40	22.27	22.21	21.75	19.06	21.34	20.21	12.58	19.92
78-GW24-3	32.32	21.98	22.19	21.78	21.30	18.64	20.92	19.65	12.86	19.46
78-GW25	32.58	26.27	25.51	25.96	25.53	22.68	25.61	23.76	8.55	24.03
78-GW31-3	25.99	16.78	17.22	16.83	16.41	14.96	16.02	NA	10.52	15.47
78-GW33	29.84	NA	NA	NA	23.48	21.81	23.06	23.42	7.63	22.21
78-GW39	19.44	4.63	NA	4.61	4.44	3.51	4.44	4.02	15.40	4.04

Notes:

⁽¹⁾ Elevation from top of PVC well casing (feet above mean sea level [MSL])

⁽²⁾ New elevation from top of PVC well casing after monitoring well maintenance or conversion (feet above MSL)

SWE = Static water elevation (in feet above MSL)

SWL = Static water level (in feet below casing)

NA = Data not available

TABLE 5

TRIP BLANK ANALYTICAL RESULTS
OPERABLE UNIT NO. 2 - SITE 78
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA

SAMPLE ID	IR78-TB01-99A	IR78-TB02-99A	IR78-TB03-99A
DATE SAMPLED	1/16/99	1/18/99	1/19/99
VOLATILES (ug/L)			
1,1,1-Trichloroethane	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	5 U	5 U	5 U
1,1,2-Trichloroethane	5 U	5 U	5 U
1,1-Dichloroethane	5 U	5 U	5 U
1,1-Dichloroethene	5 U	5 U	5 U
1,2-Dichloroethane	5 U	5 U	5 U
1,2-Dichloropropane	5 U	5 U	5 U
2-Butanone	10 U	10 U	10 U
2-Hexanone	10 U	10 U	10 U
4-Methyl-2-pentanone	10 U	10 U	10 U
Acetone	10 U	10 U	10 U
Benzene	5 U	5 U	5 U
Bromodichloromethane	5 U	5 U	5 U
Bromoform	5 U	5 U	5 U
Bromomethane	5 U	5 U	5 U
Carbon disulfide	5 U	5 U	5 U
Carbon tetrachloride	5 U	5 U	5 U
Chlorobenzene	5 U	5 U	5 U
Chloroethane	5 U	5 U	5 U
Chloroform	5 U	5 U	5 U
Chloromethane	5 U	5 U	5 U
cis-1,2-Dichloroethene	5 U	5 U	5 U
cis-1,3-Dichloropropene	5 U	5 U	5 U
Dibromochloromethane	5 U	5 U	5 U
Ethylbenzene	5 U	5 U	5 U
Methylene chloride	5 U	5 U	5 U
Styrene	5 U	5 U	5 U
Tetrachloroethene	5 U	5 U	5 U
Toluene	5 U	5 U	5 U
trans-1,2-Dichloroethene	5 U	5 U	5 U
trans-1,3-Dichloropropene	5 U	5 U	5 U
Trichloroethene	5 U	5 U	5 U
Vinyl chloride	5 U	5 U	5 U
Xylenes	5 U	5 U	5 U

U = not detected

ug/L = micrograms per liter

TABLE 6

SUMMARY OF GROUNDWATER ANALYTICAL RESULTS
OPERABLE UNIT NO. 1 - SITE 78
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA

Fraction	Detected Contaminants	Comparison Criteria		Concentration Range		Location of Maximum Detection	Detection Frequency	Detections Above	
		NCWQS	MCL	Min.	Max.			NCWQS	MCL
Volatile Organics	1,1,1-Trichloroethane	200	200	230	230	IR78-GW09-99A	1/22	1	1
	1,1-Dichloroethane	700	NE	9	50	IR78-GW09-99A	2/22	0	NA
	1,1-Dichloroethene	7	7	52	52	IR78-GW09-99A	1/22	1	1
	Acetone	700	NE	11	11	IR78-GW23-99A	1/22	0	NA
	Benzene	1	5	18	18	IR78-GW23-99A	1/22	1	1
	Chloroform	0.19	100	4 J	4 J	IR78-GW41-99A	1/22	1	0
	Chloromethane	NE	NE	5	5	IR78-GW42-99A	1/22	NA	NA
	cis-1,2-Dichloroethene	70	70	3 J	7000	IR78-GW23-99A	7/22	2	2
	Ethylbenzene	29	700	8	8	IR78-GW23-99A	1/22	0	0
	Methylene Chloride	5	5	30	30	IR78-GW24-99A	1/22	1	1
	Tetrachloroethene	0.7	5	0.9 J	9	IR78-GW24DW-99A	2/22	2	1
	Toluene	1,000	1,000	4 J	4 J	IR78-GW23-99A, IR78-GW24-99A	2/22	0	0
	trans-1,2-Dichloroethene	70	100	18	140	IR78-GW23-99A	2/22	1	1
	Trichloroethene	2.8	5	6	130	IR78-GW09-99A	6/22	6	6
	Vinyl Chloride	0.015	2	6	360 J	IR78-GW23-99A	3/22	3	3
	Xylenes (Total)	530	10,000	57	57	IR78-GW23-99A	1/22	0	0

Notes:

Concentrations presented in micrograms per liter (µg/L) or parts per billion.

J = Compound Detected at an Estimated Concentration
MCL = Federal Maximum Contaminant Level. Maximum permissible level of a contaminant in water which is delivered to users of public water systems (U.S. Environmental Protection Agency - Drinking Water Regulations and Health Advisories).
NA = Not Applicable
NCWQS = North Carolina Water Quality Standards (North Carolina Administrative Code, Title 15A, Subchapter 2L).
NE = Not Established

**POSITIVE DETECTIONS IN GROUNDWATER
OPERABLE UNIT NO. 2 - SITE 78
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA**

[illegible]

TABLE 7 (Continued)

POSITIVE DETECTIONS IN GROUNDWATER
 OPERABLE UNIT NO. 2 - SITE 78
 MONITORING AND O&M SUPPORT, CTO-0367
 MCB, CAMP LEJEUNE, NORTH CAROLINA

SAMPLE ID	IR78-GW14-99A	IR78-GW15-99A	IR78-GW17-99A	IR78-GW21-99A	IR78-GW22A-99A	IR78-GW23-99A	IR78-GW24-99A	IR78-GW24DW-99A
DATE SAMPLED	1/16/99	1/17/99	1/17/99	1/17/99	1/17/99	1/17/99	1/16/99	1/16/99
VOLATILES (ug/L)								
1,1,1-Trichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acetone	10 U	10 U	10 U	10 U	10 U	11	10 U	10 U
Benzene	5 U	5 U	5 U	5 U	5 U	18	5 U	5 U
Chloroform	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloromethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
cis-1,2-Dichloroethene	5 U	5 U	5 U	5 U	5 U	7000	360	5 U
Ethylbenzene	5 U	5 U	5 U	5 U	5 U	8	5 U	5 U
Methylene chloride	5 U	5 U	5 U	5 U	5 U	5 U	30	5 U
Tetrachloroethene	5 U	5 U	5 U	0.9 J	5 U	5 U	5 U	9
Toluene	5 U	5 U	5 U	5 U	5 U	4 J	4 J	5 U
trans-1,2-Dichloroethene	5 U	5 U	5 U	5 U	5 U	140	18	5 U
Trichloroethene	5 U	5 U	5 U	5 U	5 U	17	14	5 U
Vinyl chloride	5 U	5 U	5 U	5 U	5 U	360 J	25	5 U
Xylenes	5 U	5 U	5 U	5 U	5 U	57	5 U	5 U

TABLE 7 (Continued)

POSITIVE DETECTIONS IN GROUNDWATER
 OPERABLE UNIT NO. 2 - SITE 78
 MONITORING AND O&M SUPPORT, CTO-0367
 MCB, CAMP LEJEUNE, NORTH CAROLINA

SAMPLE ID	IR78-GW24IW-99A	IR78-GW25-99A	IR78-GW39-99A	IR78-GW40-99A	IR78-GW41-99A	IR78-GW42-99A
DATE SAMPLED	1/16/99	1/16/99	1/17/99	1/17/99	1/17/99	1/17/99
VOLATILES (ug/L)						
1,1,1-Trichloroethane	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane	5 U	5 U	5 U	5 U	5 U	9
1,1-Dichloroethene	5 U	5 U	5 U	5 U	5 U	5 U
Acetone	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	5 U	5 U	5 U	5 U	4 J	5 U
Chloromethane	5 U	5 U	5 U	5 U	5 U	5
cis-1,2-Dichloroethene	5 U	5 U	5 U	5 U	5 U	27
Ethylbenzene	5 U	5 U	5 U	5 U	5 U	5 U
Methylene chloride	5 U	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	5 U	5 U	5 U	5 U	5 U	5 U
Toluene	5 U	5 U	5 U	5 U	5 U	5 U
trans-1,2-Dichloroethene	5 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene	5 U	5 U	5 U	5 U	5 U	17
Vinyl chloride	5 U	5 U	5 U	5 U	5 U	6
Xylenes	5 U	5 U	5 U	5 U	5 U	5 U

TABLE 8

**SOUTHERN TREATMENT SYSTEM SAMPLING RESULTS
OPERABLE UNIT NO. 1 - SITE 78, SOUTH PLANT
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA**

Contaminant	January 1999					February 1999					March 1999				
	Plant Influent	Oil/Water Separator Effluent	Air Stripper Effluent	Sand Filter Effluent	Final Effluent	Plant Influent	Oil/Water Separator Effluent	Air Stripper Effluent	Sand Filter Effluent	Final Effluent	Plant Influent	Oil/Water Separator Effluent	Air Stripper Effluent	Sand Filter Effluent	Final Effluent
Volatiles⁽¹⁾															
Benzene	1.8	NA	<1	NA	<1	1.2	NA	<1	NA	<1	<1	NA	<1	NA	<1
cis-1,2-Dichloroethene	122	NA	<1	NA	<1	170	NA	<1	NA	<1	139	NA	<1	NA	<1
trans-1,2-Dichloroethene	<1	NA	<1	NA	<1	1.2	NA	<1	NA	<1	<1	NA	<1	NA	<1
Trichloroethylene	40.5	NA	<1	NA	<1	23.7	NA	<1	NA	<1	25.4	NA	<1	NA	<1
Vinyl Chloride	18	NA	<1	NA	<1	17.6	NA	<1	NA	<1	2.4	NA	<1	NA	<1
Total Metals⁽¹⁾															
Antimony	<5	NA	NA	<5	<5	<5	NA	NA	<5	<5	<5	NA	NA	<5	<5
Arsenic	<5	NA	NA	<5	<5	<5	NA	NA	<5	<5	<5	NA	NA	<5	<5
Beryllium	<5	NA	NA	<5	<5	<5	NA	NA	<5	<5	<5	NA	NA	<5	<5
Chromium	10.6	NA	NA	<10	<10	<10	NA	NA	<10	<10	<10	NA	NA	<10	<10
Iron	200	NA	NA	3,830	206	558	NA	NA	1,780	123	386	NA	NA	201	171
Lead	<3	NA	NA	3.8	3.9	<5	NA	NA	<5	6.1	<3	NA	NA	<3	15.4
Manganese	43.7	NA	NA	<15	<15	163	NA	NA	<15	<15	155	NA	NA	<15	<15
Mercury	<1	NA	NA	<.2	<1	<1	NA	NA	<1	<1	<1	NA	NA	<1	<1
Nickel	<40	NA	NA	<40	<40	<40	NA	NA	<40	<40	<40	NA	NA	<40	<40
Calcium	128,000	NA	NA	129,000	135,000	158,000	NA	NA	150,000	148,000	163,000	NA	NA	154,000	150,000
Wet Chemistry															
Total Dissolved Solids (mg/L)	463	NA	NA	507	528	517	NA	NA	219	486	583	NA	NA	560	542
Total Suspended Solids (mg/L)	<4.00	NA	NA	<4.0	<4.0	5	NA	NA	<4.0	<4.0	<4.0	NA	NA	4	<4.0
pH (su)	7.1	NA	NA	NA	8.2	7.1	NA	NA	NA	8.1	7.2	NA	NA	NA	8
Oil & Grease (mg/L)	<5.0	<5.0	NA	NA	<5.5	<5.0	<5.0	NA	NA	<5.0	8.5	<5.0	NA	NA	<5.0

Notes:

⁽¹⁾ Concentrations reported in micrograms per liter (ug/L) or parts per billion.
NA = Not analyzed.

TABLE 8 (Continued)

SOUTHERN TREATMENT SYSTEM SAMPLING RESULTS
OPERABLE UNIT NO. 1 - SITE 78, SOUTH PLANT
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA

Contaminant	April 1999					May 1999					June 1999				
	Plant Influent	Oil/Water Separator Effluent	Air Stripper Effluent	Sand Filter Effluent	Final Effluent	Plant Influent	Oil/Water Separator Effluent	Air Stripper Effluent	Sand Filter Effluent	Final Effluent	Plant Influent	Oil/Water Separator Effluent	Air Stripper Effluent	Sand Filter Effluent	Final Effluent
Volatiles⁽¹⁾															
Benzene	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.9
Chloromethane	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	29.4
1,1-Dichloroethane	NA	NA	NA	NA	NA	1.8	NA	NA	NA	NA	1.6	NA	NA	NA	3.7
cis-1,2-Dichloroethene	74.9	NA	NA	NA	NA	54.5	NA	NA	NA	3.9	64.1	NA	NA	NA	9.7
trans-1,2-Dichloroethene	NA	NA	NA	NA	NA	1.2	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	NA	NA	NA	NA	NA	NA	NA	6.6	NA	3.3	46.2	NA	26.5	NA	62.8
Trichloroethene	26.2	NA	NA	NA	NA	19.1	NA	1.1	NA	NA	125	NA	1	NA	7.7
Vinyl Chloride	7.4	NA	NA	NA	NA	6.2	NA	NA	NA	3.1	2.2	NA	NA	NA	6.2
Total Metals⁽¹⁾															
Arsenic	NA	NA	NA	7.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	3,730	NA	NA	1,730	1,100	1,530	NA	NA	736	824	501	NA	NA	558	578
Lead	NA	NA	NA	NA	12.2	NA	NA	NA	NA	69.7	NA	NA	NA	NA	3.2
Manganese	221	NA	NA	500	104	212	NA	NA	117	26	97.2	NA	NA	68.1	168
Calcium	149,000	NA	NA	134,000	120,000	152,000	NA	NA	82,400	86,800	1,320	NA	NA	80,600	75,500
Chromium	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.8
Wet Chemistry															
Total Dissolved Solids (mg/L)	478	NA	NA	512	476	444	NA	NA	299	372	416	NA	NA	280	267
Total Suspended Solids (mg/L)	14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pH (su)	5.3	NA	NA	NA	6.4	7.2	NA	NA	NA	7.5	7.1	NA	NA	NA	7.7
Oil & Grease, Gravimetric (mg/L)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	17.5	NA	NA	NA

Notes:

⁽¹⁾ Concentrations reported in micrograms per liter (ug/L) or parts per billion.
NA = Not analyzed.

TABLE 9

NORTHERN TREATMENT SYSTEM SAMPLING RESULTS
OPERABLE UNIT NO. 1 - SITE 78, NORTH PLANT
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA

Contaminant	January 1999					February 1999					March 1999				
	Plant Influent	Oil/Water Separator Effluent	Air Stripper Effluent	Sand Filter Effluent	Final Effluent	Plant Influent	Oil/Water Separator Effluent	Air Stripper Effluent	Sand Filter Effluent	Final Effluent	Plant Influent	Oil/Water Separator Effluent	Air Stripper Effluent	Sand Filter Effluent	Final Effluent
Volatiles⁽¹⁾															
Benzene	25.3	NA	<1	NA	<1	25.3	NA	<2	NA	<1	11	NA	<1	NA	<1
cis-1,2-Dichloroethene	79.1	NA	<1	NA	<1	90.8	NA	<1	NA	<1	44	NA	<1	NA	<1
trans-1,2-Dichloroethene	2	NA	<1	NA	<1	1.9	NA	<1	NA	<1	<1	NA	<1	NA	<1
Trichloroethylene	9.5	NA	<1	NA	<1	9.3	NA	<1	NA	<1	7.4	NA	<1	NA	<1
Vinyl Chloride	210	NA	<1	NA	<1	344	NA	<1	NA	<1	147	NA	<1	NA	<1
Total Metals⁽¹⁾															
Antimony	<5	NA	NA	<5	<5	<5	NA	NA	<5	<5	<5	NA	NA	<5	<5
Arsenic	<5	NA	NA	<5	<5	<5	NA	NA	<5	<5	<5	NA	NA	<5	<5
Beryllium	<5	NA	NA	<5	<5	<5	NA	NA	<5	<5	<5	NA	NA	<5	<5
Chromium	<10	NA	NA	<10	<10	<10	NA	NA	<10	<10	<10	NA	NA	<10	<10
Iron	18,000	NA	NA	1,720	158	9,540	NA	NA	718	511	10,900	NA	NA	1,780	148
Lead	15.6	NA	NA	10	22.7	7.2	NA	NA	4.5	58.8	8.6	NA	NA	8	118
Manganese	80.7	NA	NA	135	24	80.8	NA	NA	117	<15	63.1	NA	NA	63.3	111
Mercury	<1	NA	NA	<1	<1	<1	NA	NA	<1	<1	<1	NA	NA	<1	<1
Nickel	<40	NA	NA	<40	<40	<40	NA	NA	<40	<40	<40	NA	NA	<40	<40
Calcium	81,300	NA	NA	74,800	82	81,500	NA	NA	65,900	75,800	58,800	NA	NA	66,900	68,700
Wet Chemistry															
Total Dissolved Solids (mg/L)	267	NA	NA	256	271	240	NA	NA	227	219	19.6	NA	NA	227	251
Total Suspended Solids (mg/L)	97	NA	NA	6	<4.0	29	NA	NA	<4.0	<4.0	20	NA	NA	6	<4.0
pH (su)	6.7	NA	NA	NA	7.9	6.8	NA	NA	NA	7.8	6.4	NA	NA	NA	7.4
Oil & Grease (mg/L)	6.4	6.2	NA	NA	6.9	<5.0	<5.0	NA	NA	<5.0	<5.0	27.2	NA	NA	12.9

Notes:

⁽¹⁾ Concentrations reported in micrograms per liter (ug/L) or parts per billion.
NA = Not analyzed.

TABLE 9 (Continued)

NORTHERN TREATMENT SYSTEM SAMPLING RESULTS
OPERABLE UNIT NO. 1 - SITE 78, NORTH PLANT
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA

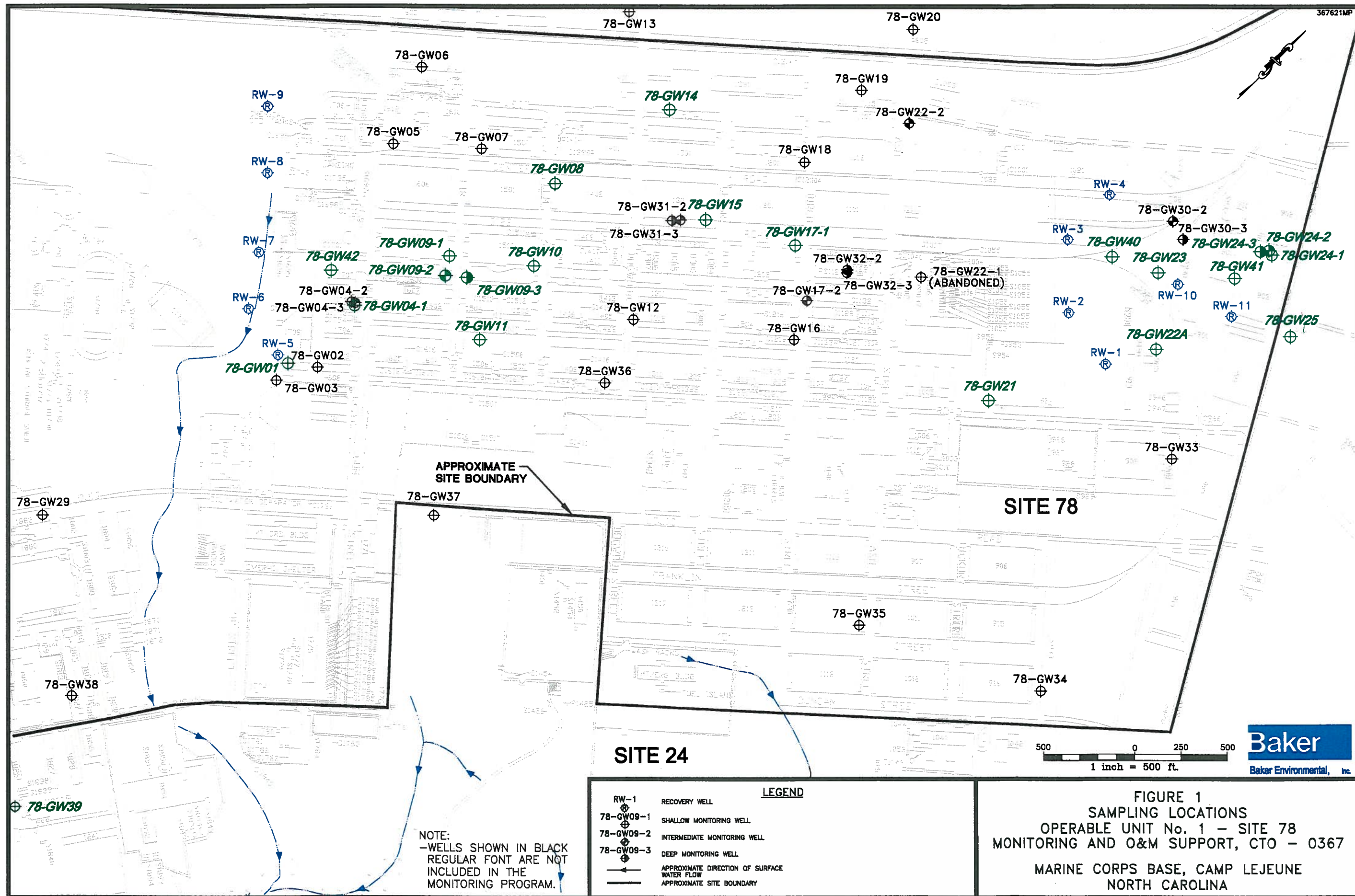
Contaminant	April 1999					May 1999					June 1999				
	Plant Influent	Oil/Water Separator Effluent	Air Stripper Effluent	Sand Filter Effluent	Final Effluent	Plant Influent	Oil/Water Separator Effluent	Air Stripper Effluent	Sand Filter Effluent	Final Effluent	Plant Influent	Oil/Water Separator Effluent	Air Stripper Effluent	Sand Filter Effluent	Final Effluent
Volatiles⁽¹⁾															
Benzene	15.8	NA	NA	NA	NA	17.7	NA	NA	NA	NA	21.8	NA	NA	NA	NA
cis-1,2-Dichloroethene	41.2	NA	NA	NA	NA	67.6	NA	NA	NA	NA	66.7	NA	NA	NA	NA
Ethylbenzene	3	NA	NA	NA	NA	4.2	NA	NA	NA	NA	7.8	NA	5.2	NA	1.5
trans-1,2-Dichloroethene	NA	NA	NA	NA	NA	1.7	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	1.1	NA	NA	NA	NA	1.2	NA	NA	NA	NA	2.6	NA	NA	NA	NA
Trichloroethene	12.2	NA	NA	NA	NA	24.5	NA	NA	NA	NA	35.4	NA	NA	NA	NA
Vinyl Chloride	63.2	NA	NA	NA	NA	96	NA	NA	NA	NA	36.5	NA	NA	NA	NA
Xylenes (total)	11.7	NA	NA	NA	NA	12.3	NA	NA	NA	NA	21.3	NA	5.2	NA	NA
Total Metals⁽¹⁾															
Arsenic	5.6	NA	NA	5.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Iron	5,240	NA	NA	115	134	5,120	NA	NA	4,850	307	11,700	NA	NA	7,150	729
Lead	NA	NA	NA	156	5.5	NA	NA	NA	NA	115	3.3	NA	NA	8.3	NA
Manganese	49	NA	NA	NA	51.5	48.9	NA	NA	44.9	37	42	NA	NA	81.2	142
Calcium	52,500	NA	NA	52,500	50,400	54,300	NA	NA	48,500	51,600	47,600	NA	NA	45,800	39,800
Wet Chemistry															
Total Dissolved Solids (mg/L)	173	NA	NA	183	178	179	NA	NA	184	187	211	NA	NA	184	161
Total Suspended Solids (mg/L)	39	NA	NA	NA	NA	10	NA	NA	NA	NA	21	NA	NA	5	NA
pH (su)	4.4	NA	NA	NA	5.7	6.2	NA	NA	NA	7.4	6.4	NA	NA	NA	7.3
Oil & Grease, Gravimetric (mg/L)	NA	NA	NA	NA	NA	8.3	11.9	NA	NA	NA	5.7	17.5	NA	NA	NA

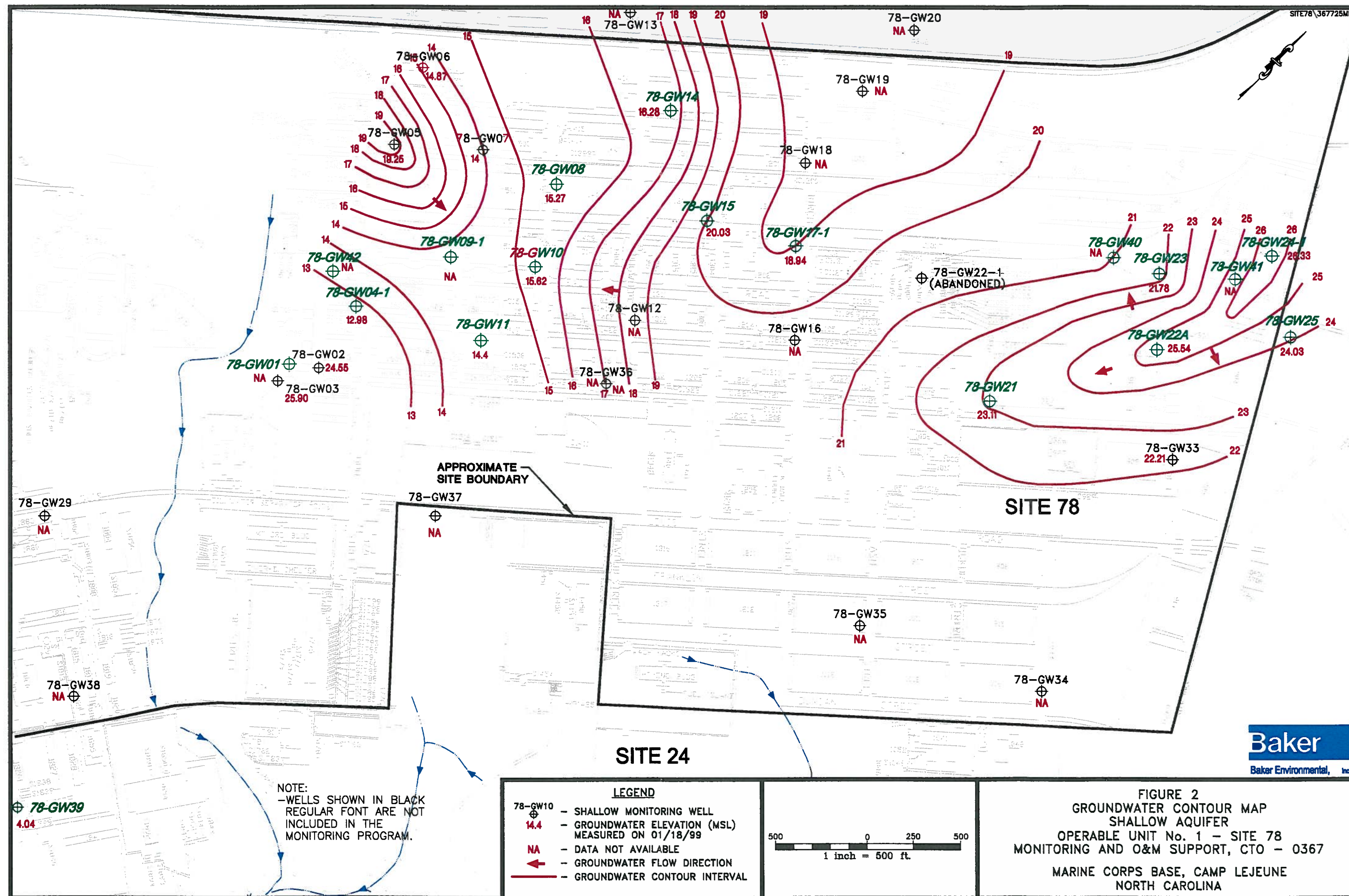
Notes:

⁽¹⁾ Concentrations reported in micrograms per liter (ug/L) or parts per billion.

NA = Not analyzed.

FIGURES





FEDERAL MAXIMUM CONTAMINANT LEVELS (MCLs) AND NORTH CAROLINA WATER QUALITY STANDARDS (NCWQS)

Organic Contaminants	NCWQS	MCL
1,1,1-Trichloroethane	200	200
1,1-Dichloroethane	700	NE
1,1-Dichloroethene	7.0	7.0
Acetone	700	NE
Benzene	1.0	5.0
Chloroform	0.19	100
Chloromethane	NE	NE
Cis-1,2-Dichloroethene	70	70
Ethylbenzene	29	700
Methylene Chloride	5.0	5.0
Tetrachloroethene	0.7	5.0
Toluene	1000	1000
Trans-1,2-Dichloroethene	70	100
Trichloroethene	2.8	5.0
Vinyl Chloride	0.015	2.0
Xylene (Total)	530	10,000

SAMPLE ID	IR78-GW42-99A
SAMPLE DATE	01/17/99
1,1-DICHLOROETHANE	9
CHLOROMETHANE	5
CIS-1,2-DICHLOROETHENE	27
TRICHLOROETHENE	17
VINYL CHLORIDE	6

SAMPLE ID	IR78-GW01-99A
SAMPLE DATE	01/19/99
CIS-1,2-DICHLOROETHENE	4 J
TRICHLOROETHENE	7

SAMPLE ID	IR78-GW04-99A
SAMPLE DATE	01/17/99
CIS-1,2-DICHLOROETHENE	3 J
TRICHLOROETHENE	6

SAMPLE ID	IR78-GW09-99A
SAMPLE DATE	01/17/99
1,1,1-TRICHLOROETHANE	230
1,1-DICHLOROETHANE	50
1,1-DICHLOROETHENE	52
CIS-1,2-DICHLOROETHENE	38
TRICHLOROETHENE	130

SAMPLE ID	IR78-GW09IW-99A
SAMPLE DATE	01/17/99
CIS-1,2-DICHLOROETHENE	10

SAMPLE ID	IR78-GW41-99A
SAMPLE DATE	01/17/99
CHLOROFORM	4 J

SAMPLE ID	IR78-GW24DW-99A
SAMPLE DATE	01/16/99
TETRACHLOROETHENE	9

SAMPLE ID	IR78-GW21-99A
SAMPLE DATE	01/17/99
TETRACHLOROETHENE	0.9 J

SAMPLE ID	IR78-GW23-99A
SAMPLE DATE	01/17/99
ACETONE	11
BENZENE	18 J
CIS-1,2-DICHLOROETHENE	7,000 J
ETHYLBENZENE	8
TOLUENE	4 J
TRANS-1,2-DICHLOROETHENE	140
TRICHLOROETHENE	17
VINYL CHLORIDE	360 J
XYLENES (TOTAL)	57

SAMPLE ID	IR78-GW24-99A
SAMPLE DATE	01/16/99
CIS-1,2-DICHLOROETHENE	360
METHYLENE CHLORIDE	30
TOLUENE	4 J
TRANS-1,2-DICHLOROETHENE	18
TRICHLOROETHENE	14
VINYL CHLORIDE	25

NOTES:

- CONCENTRATIONS PRESENTED IN MICROGRAMS PER LITER OR PARTS PER BILLION.
- EXCEED THE NCWQS SHOWN IN GREEN
- EXCEED BOTH NCWQS AND MCL SHOWN IN RED
- NE = STANDARD NOT ESTABLISHED

LEGEND

- GW09-1 SHALLOW MONITORING WELL
- GW09-2 INTERMEDIATE MONITORING WELL
- GW09-3 DEEP MONITORING WELL

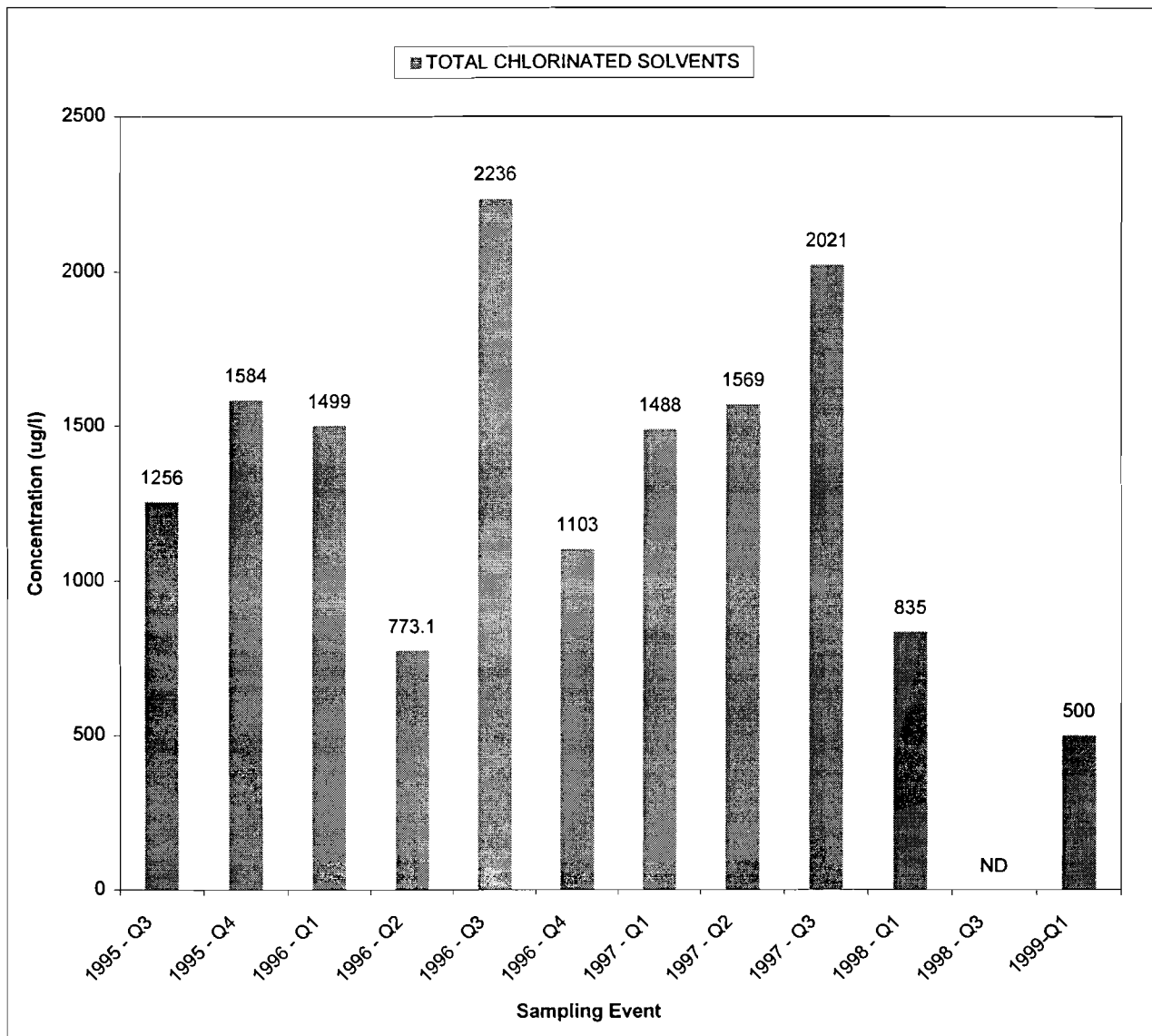
500 0 250 500
1 inch = 500 ft.

FIGURE 3
VOLATILE ORGANIC COMPOUNDS
IN GROUNDWATER
OPERABLE UNIT No. 1 - SITE 78
MONITORING AND O&M SUPPORT, CTO-0367
MARINE CORPS BASE, CAMP LEJEUNE
NORTH CAROLINA

Baker
Baker Environmental, Inc.

FIGURE 4

**TOTAL CHLORINATED SOLVENT RESULTS FROM 78-GW09-1
OPERABLE UNIT NO. 1 - SITE 78
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA**



Notes:

Q1 - Quarter 1 (January - March)

Q2 - Quarter 2 (April - June)

Q3 - Quarter 3 (July - September)

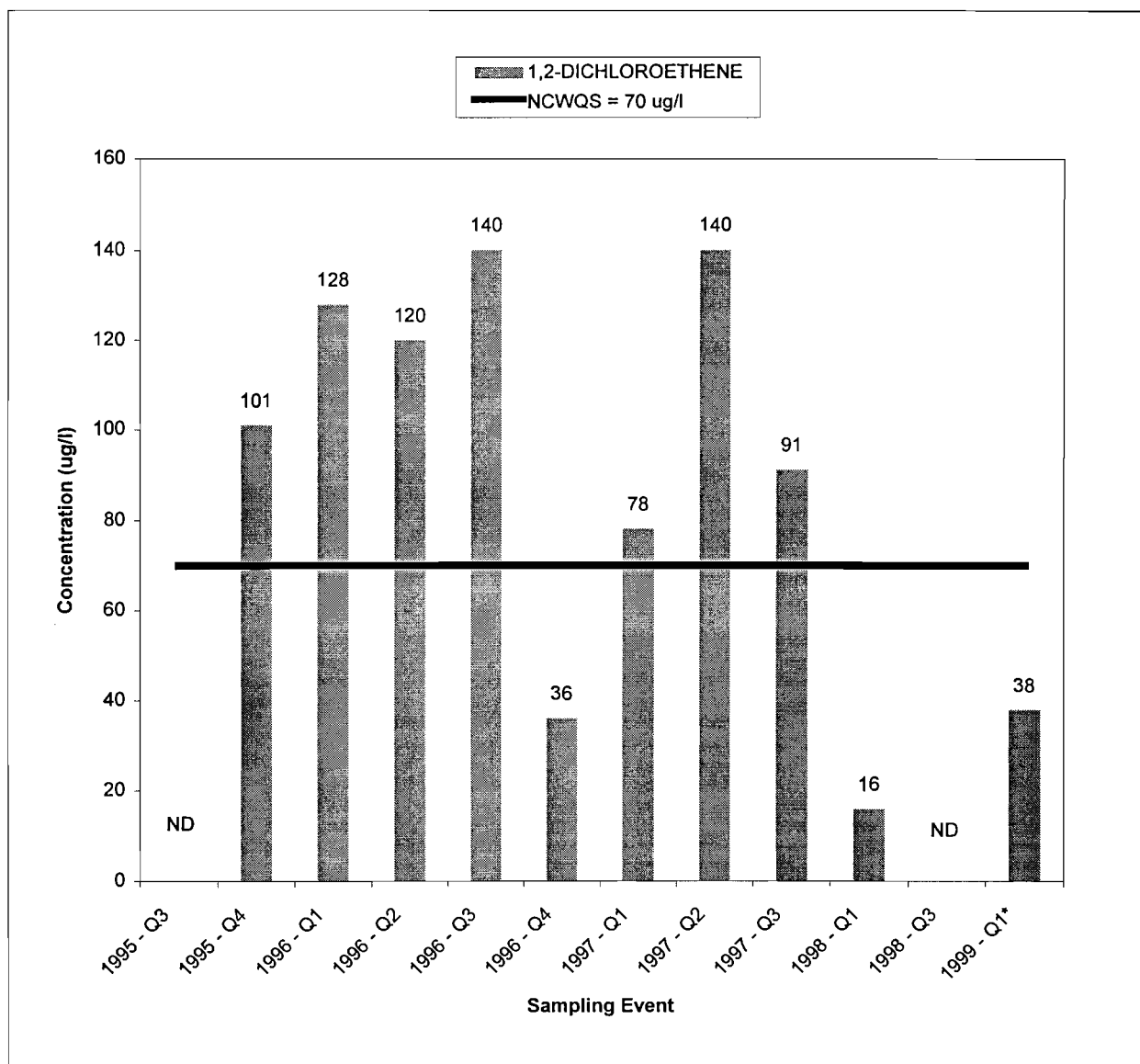
Q4 - Quarter 4 (October - December)

This table has been updated from previously submitted versions. "Total chlorinated solvents" is the sum of positive detections of the following: 1,1,1-Trichloroethane; 1,1,2,2-Tetrachloroethane; 1,1,2-Trichloroethane; 1,1-Dichloroethane; 1,1-Dichloroethene; 1,2-Dichloroethane; 1,2-Dichloropropene; Chlorobenzene; Chloroethane; Chloroform; Chloromethane; cis-1,3-Dichloropropene; 1,2-Dichloroethene (total from 1995 Q3 through 1998 Q4, cis- and trans- isomers starting 1999 Q1); Methylene chloride; Tetrachloroethene; trans-1,3-Dichloropropene; Trichloroethene; and Vinyl chloride.

Contaminant	Mean Detection	Median Detection	Detection Frequency	Detections Above Standards
TOTAL CHLORINATED SOLVENTS	1239	1372	11/12	not applicable

FIGURE 5

1,2-DICHLOROETHENE RESULTS FROM 78-GW09-1
 OPERABLE UNIT NO. 1 - SITE 78
 MONITORING AND O&M SUPPORT, CTO-0367
 MCB, CAMP LEJEUNE, NORTH CAROLINA



Q1 - Quarter 1 (January - March)

Q2 - Quarter 2 (April - June)

Q3 - Quarter 3 (July - September)

Q4 - Quarter 4 (October - December)

Notes:

Federal Maximum Contaminant Level (MCL) = 7 micrograms per liter (ug/l)

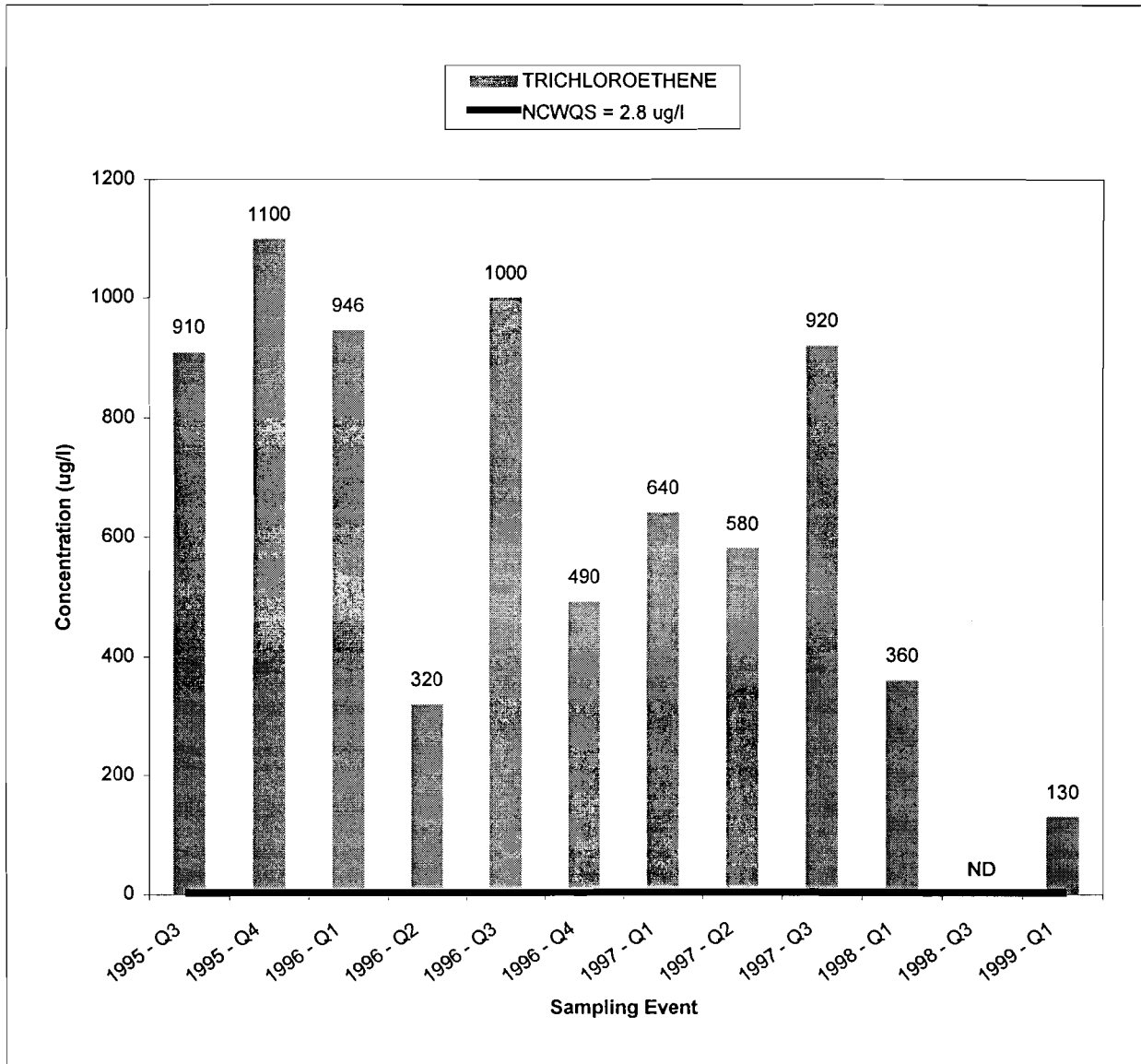
North Carolina Water Quality Standard (NCWQS) = 7 micrograms per liter (ug/l)

* Values reported for 1999 - Q1 are for cis-1,2-dichloroethene

Contaminant	Mean Detection	Median Detection	Detection Frequency	Detections Above Standards
1,2-DICHLOROETHENE (Total)	74	84.5	10/12	7/12

FIGURE 6

TRICHLOROETHENE RESULTS FROM 78-GW09-1
 OPERABLE UNIT NO. 1 - SITE 78
 MONITORING AND O&M SUPPORT, CTO-0367
 MCB, CAMP LEJEUNE, NORTH CAROLINA



Q1 - Quarter 1 (January - March)

Q3 - Quarter 3 (July - September)

Q2 - Quarter 2 (April - June)

Q4 - Quarter 4 (October - December)

Notes:

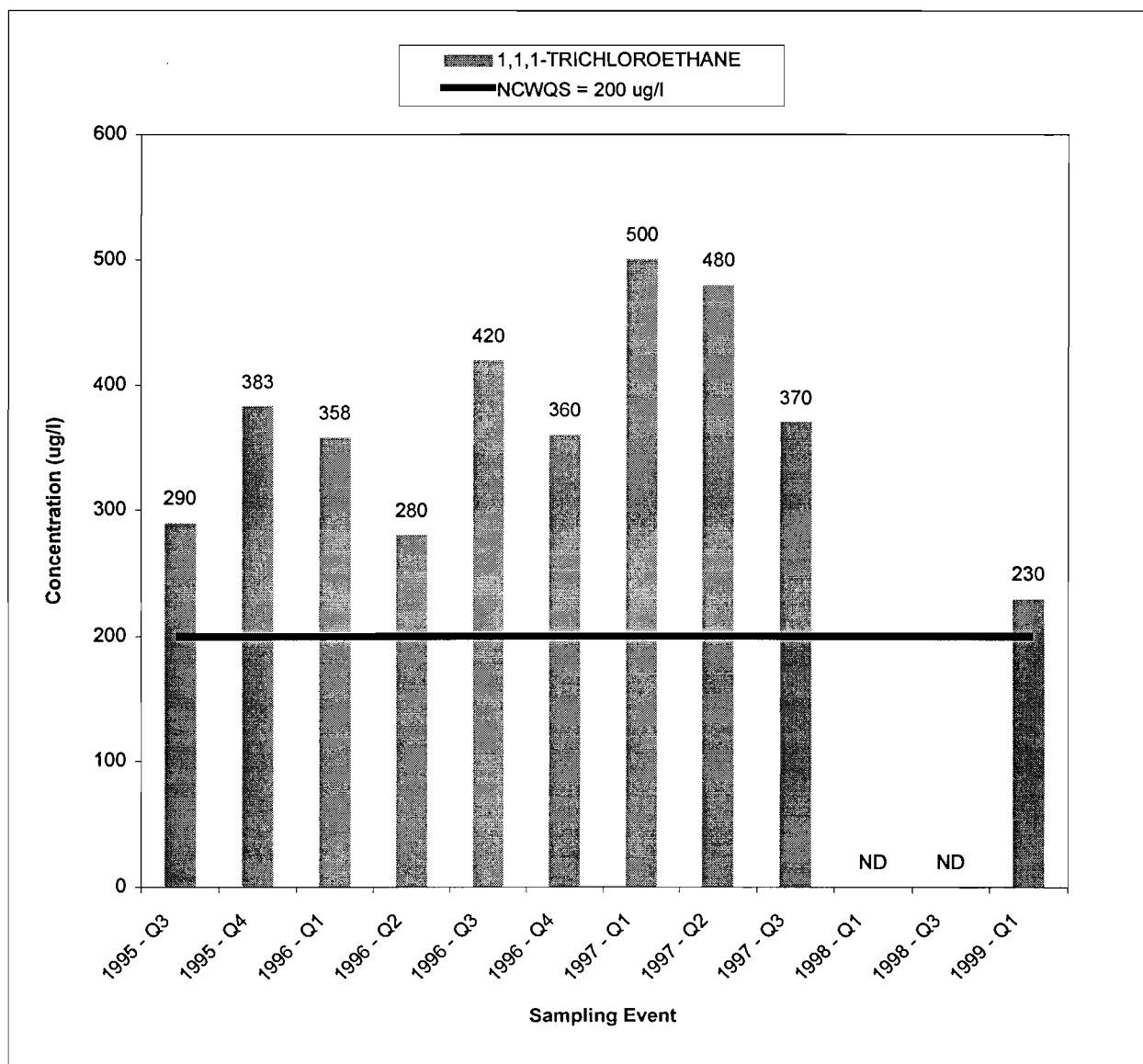
Federal Maximum Contaminant Level (MCL) = 5 micrograms per liter (ug/l)

There is no North Carolina Water Quality Standard (NCWQS)

Contaminant	Mean Detection	Median Detection	Detection Frequency	Detections Above Standards
TRICHLOROETHENE	616	610	11/12	11/12

FIGURE 7

**1,1,1-TRICHLOROETHANE RESULTS FROM 78-GW09-1
OPERABLE UNIT NO. 1 - SITE 78
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA**



Q1 - Quarter 1 (January - March)

Q2 - Quarter 2 (April - June)

Q3 - Quarter 3 (July - September)

Q4 - Quarter 4 (October - December)

Notes:

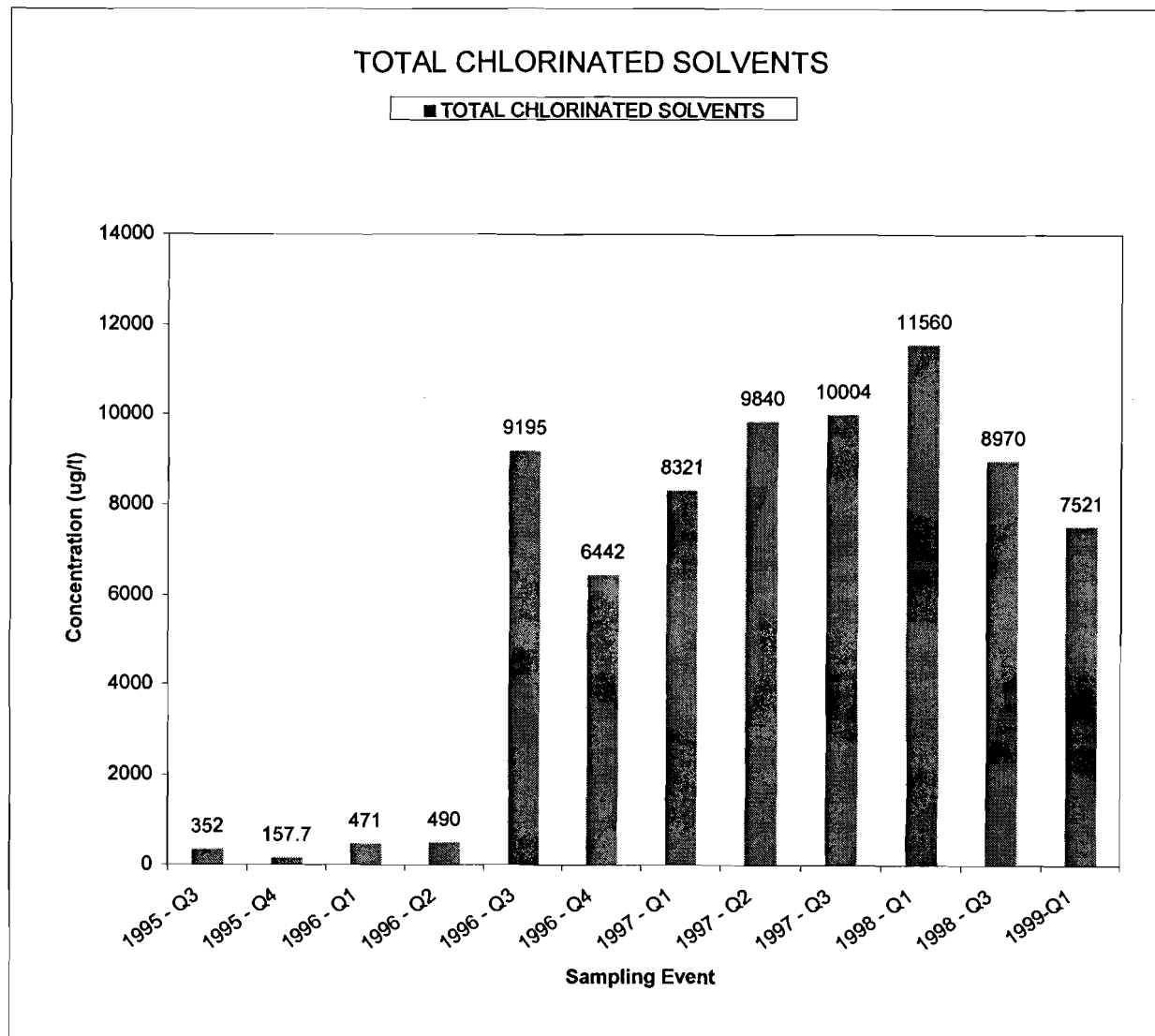
Federal Maximum Contaminant Level (MCL) = 200 micrograms per liter (ug/l)

North Carolina Water Quality Standard (NCWQS) = 200 micrograms per liter (ug/l)

Contaminant	Mean Detection	Median Detection	Detection Frequency	Detections Above Standards
1,1,1-TRICHLOROETHANE	306	359	10/12	10/12

FIGURE 8

**TOTAL CHLORINATED SOLVENT RESULTS FROM 78-GW23
OPERABLE UNIT NO. 1 - SITE 78
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA**



Notes:

Q1 - Quarter 1 (January - March)

Q2 - Quarter 2 (April - June)

Q3 - Quarter 3 (July - September)

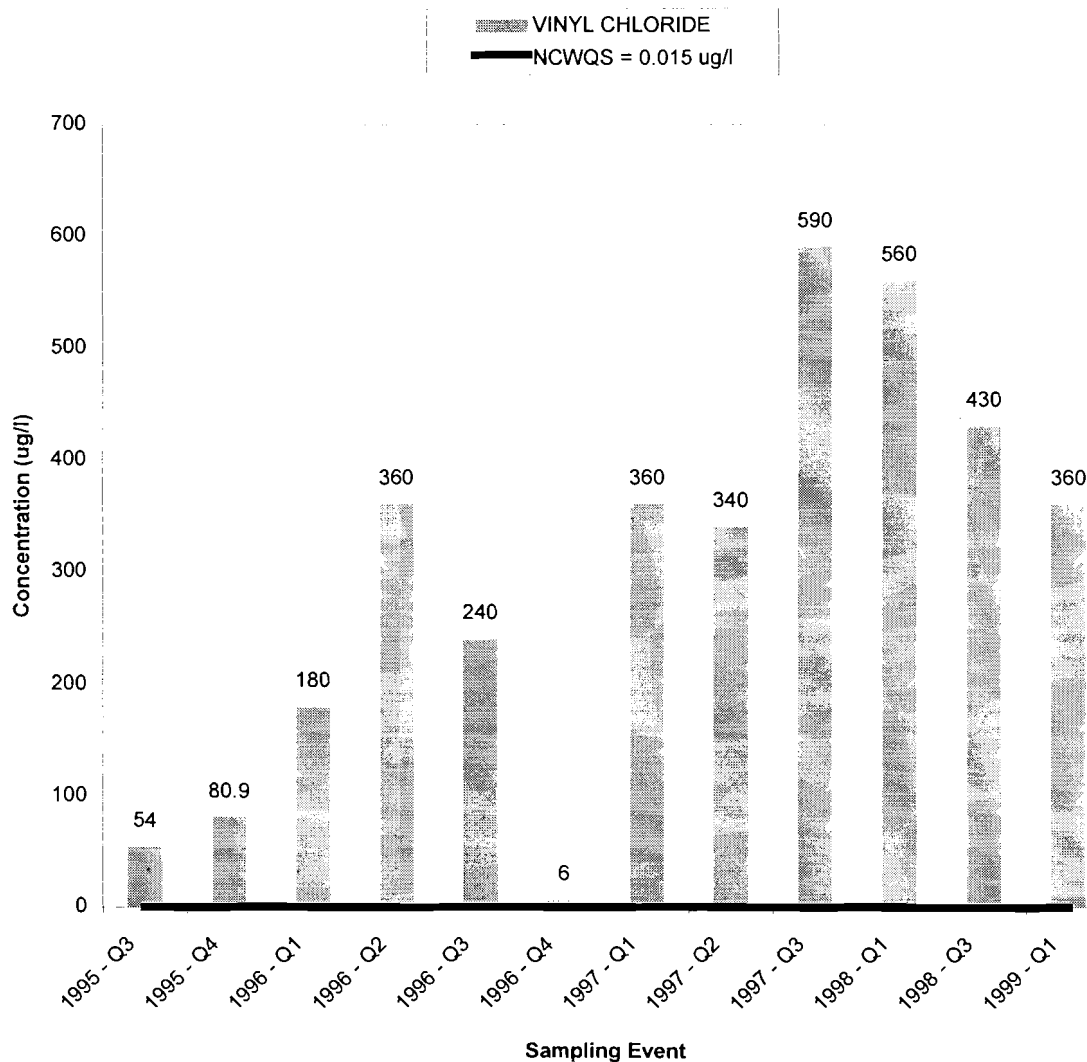
Q4 - Quarter 4 (October - December)

This table has been updated from previously submitted versions. "Total chlorinated solvents" is the sum of positive detections of the following: 1,1,1-Trichloroethane; 1,1,2,2-Tetrachloroethane; 1,1,2-Trichloroethane; 1,1-Dichloroethane; 1,1-Dichloroethene; 1,2-Dichloroethane; 1,2-Dichloropropane; Chlorobenzene; Chloroethane; Chloroform; Chloromethane; cis-1,3-Dichloropropene; 1,2-Dichloroethene (total from 1995 Q3 through 1998 Q4, cis- and trans- isomers starting 1999 Q1); Methylene chloride; Tetrachloroethene; trans-1,3-Dichloropropene; Trichloroethene; and Vinyl chloride.

Contaminant	Mean Detection	Median Detection	Detection Frequency	Detections Above Standards
TOTAL CHLORINATED SOLVENTS	6110	7921	12/12	not applicable

FIGURE 9

VINYL CHLORIDE RESULTS FROM 78-GW23
OPERABLE UNIT NO. 1 - SITE 78
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA



Q1 - Quarter 1 (January - March)

Q2 - Quarter 2 (April - June)

Q3 - Quarter 3 (July - September)

Q4 - Quarter 4 (October - December)

Notes:

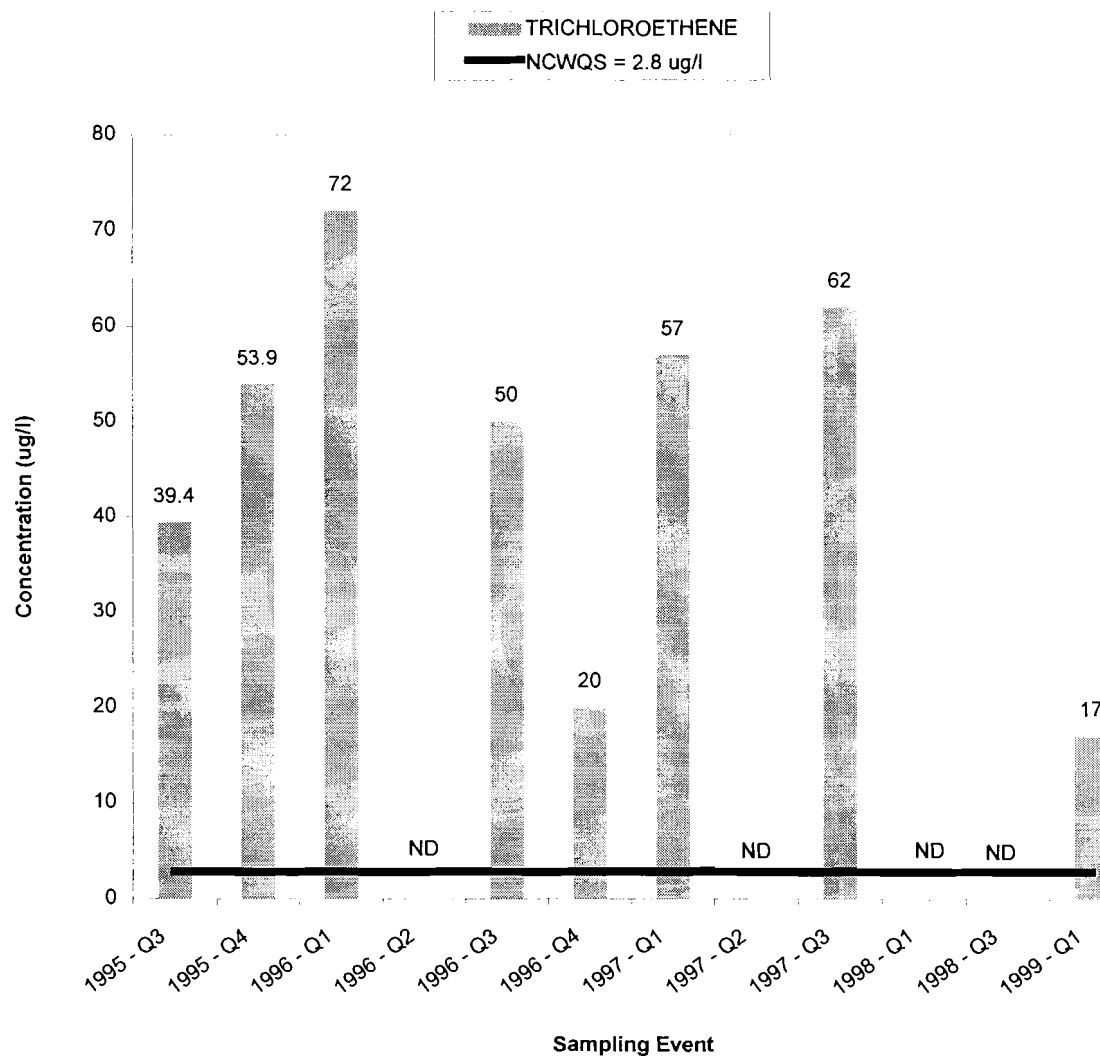
Federal Maximum Contaminant Level (MCL) = 2 micrograms per liter (ug/l)

North Carolina Water Quality Standard (NCWQS) = 0.015 micrograms per liter (ug/l)

Contaminant	Mean Detection	Median Detection	Detection Frequency	Detections Above Standards
VINYL CHLORIDE	297	350	12/12	12/12

FIGURE 10

TRICHLOROETHENE RESULTS FROM 78-GW23
OPERABLE UNIT NO. 1 - SITE 78
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA



Q1 - Quarter 1 (January - March)

Q2 - Quarter 2 (April - June)

Q3 - Quarter 3 (July - September)

Q4 - Quarter 4 (October - December)

Notes:

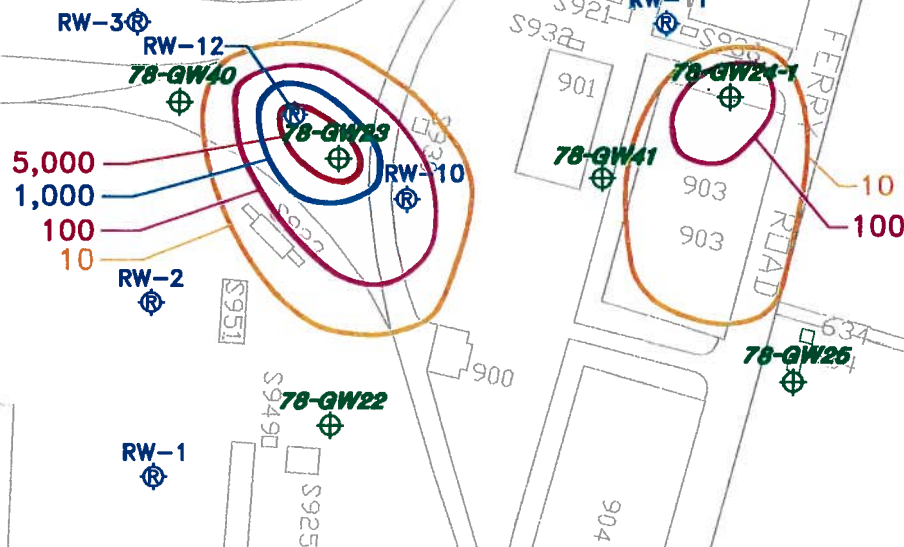
Federal Maximum Contaminant Level (MCL) = 5 micrograms per liter (ug/l)

North Carolina Water Quality Standard (NCWQS) = 2.8 micrograms per liter (ug/l)

ND = Not Detected

Contaminant	Mean Detection	Median Detection	Detection Frequency	Detections Above Standards
TRICHLOROETHENE	31	30	8/12	8/12

WELL I.D.	CONCENTRATION (ug/L)	SAMPLE DATE
78-GW23	7,615	01-17-99
78-GW24-1	451	01-16-99


Baker

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LEGEND

- ⊕ - SHALLOW MONITORING WELL
- ⊗ - GROUNDWATER RECOVERY WELL
- 10- - ISOCONCENTRATION LINE

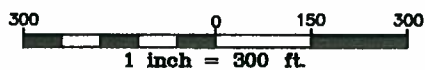
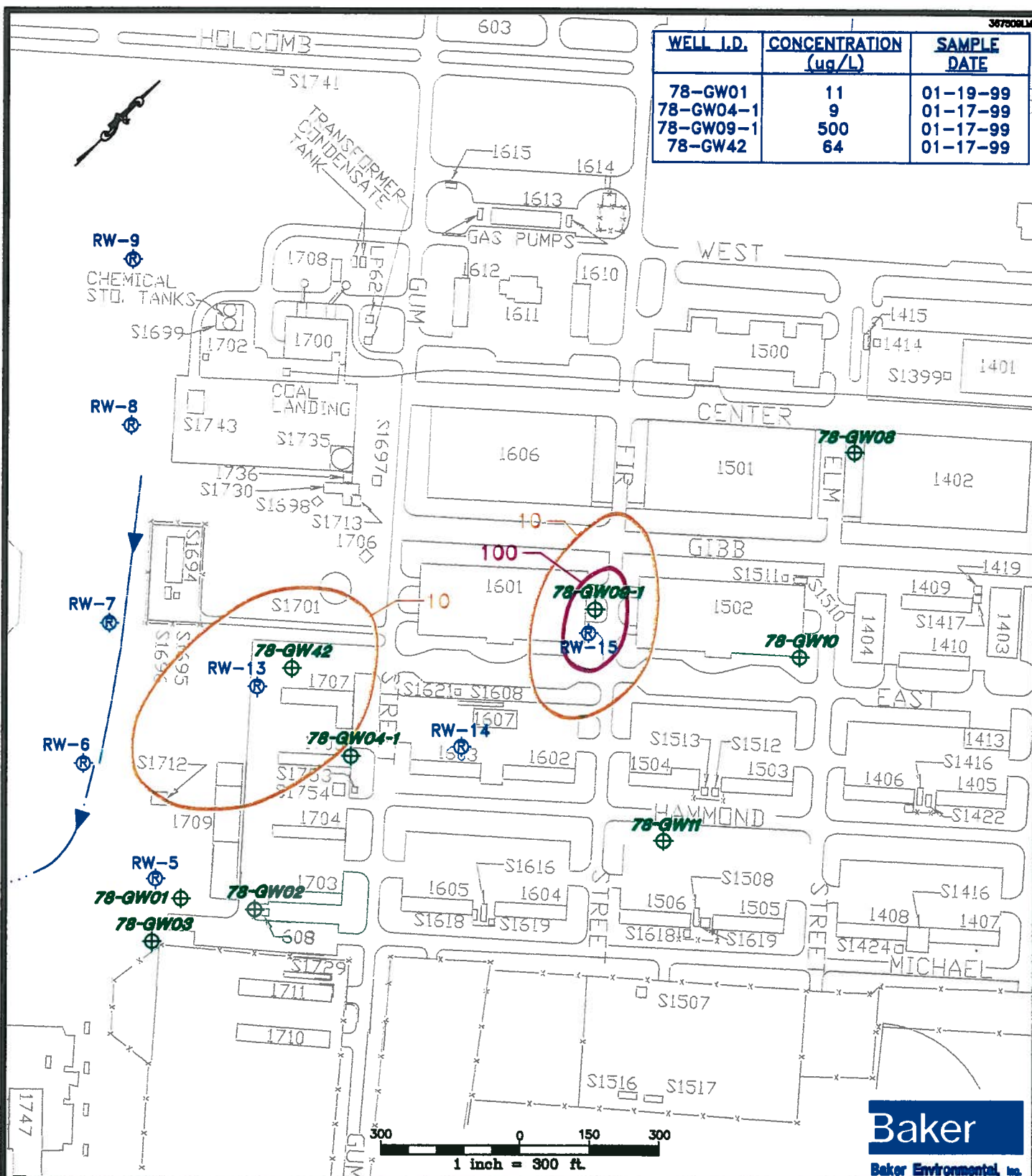


FIGURE 11
TOTAL VOLATILE ORGANIC COMPOUNDS
IN GROUNDWATER-NORTH
OPERABLE UNIT NO. 1 - SITE 78
MONITORING AND O&M, CTO-0367
MARINE CORPS BASE, CAMP LEJEUNE
NORTH CAROLINA

SOURCE: LANTDIV, OCT. 1991

WELL I.D.	CONCENTRATION (ug/L)	SAMPLE DATE
78-GW01	11	01-19-99
78-GW04-1	9	01-17-99
78-GW09-1	500	01-17-99
78-GW42	64	01-17-99



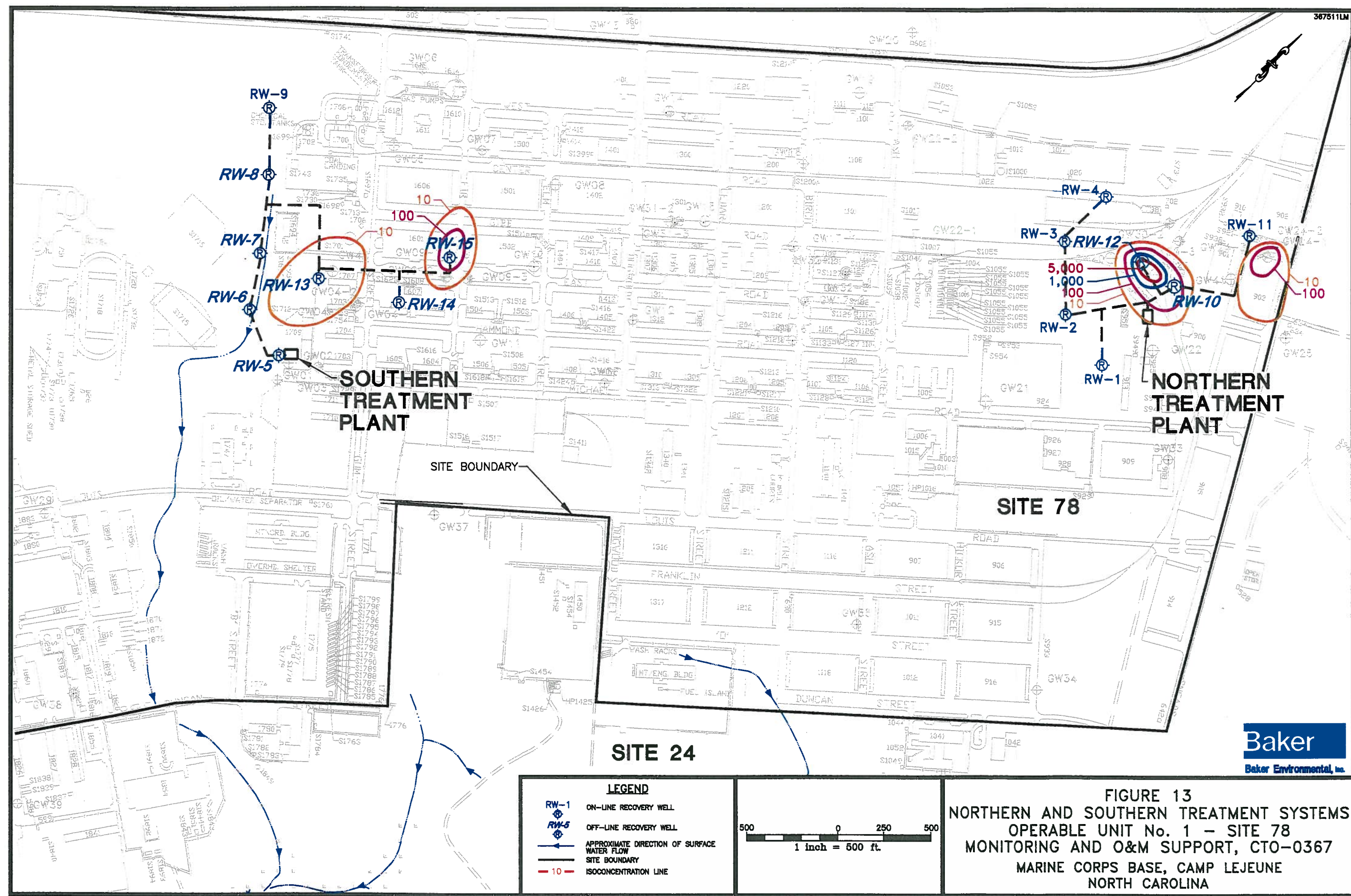
Baker
Baker Environmental, Inc.

LEGEND

- ⊕ - SHALLOW MONITORING WELL
- ⊙ - GROUNDWATER RECOVERY WELL
- 10- - ISOCONCENTRATION LINE

SOURCE: LANTDIV, OCT. 1991

FIGURE 12
TOTAL VOLATILE ORGANIC COMPOUNDS
IN GROUNDWATER—SOUTH
OPERABLE UNIT NO. 1 - SITE 78
MONITORING AND O&M, CTO-0367
MARINE CORPS BASE, CAMP LEJEUNE
NORTH CAROLINA



LEGEND

- RW-1 ON-LINE RECOVERY WELL
- RW-5 OFF-LINE RECOVERY WELL
- APPROXIMATE DIRECTION OF SURFACE WATER FLOW
- SITE BOUNDARY
- - - 10 ISOCONCENTRATION LINE

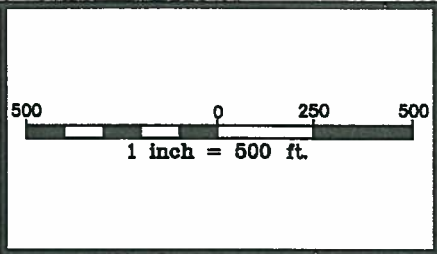


FIGURE 13
NORTHERN AND SOUTHERN TREATMENT SYSTEMS
OPERABLE UNIT No. 1 – SITE 78
MONITORING AND O&M SUPPORT, CTO-0367
MARINE CORPS BASE, CAMP LEJEUNE
NORTH CAROLINA

ATTACHMENTS

ATTACHMENT A
CHAIN OF CUSTODY DOCUMENTATION

COC # 36706 B - 99A

Company Name: <i>Becker Environmental</i>		Project Manager or Contact: <i>Tom Techilcock</i> Phone: (410) 269-2015		Parameters/Method Numbers for Analysis										Chain of Custody Record				
Project No.		Project Name: <i>Camp Lejeune-LTM</i>		No. of Containers TCL Volatiles										 EA Laboratories 19 Loveton Circle Sparks, MD 21152 Telephone: (410) 771-4920 Fax: (410) 771-4407				
Dept.: Task:		ATO Number:												Report Deliverables: 1 2 3 4 D E				
Sample Storage Location:														EDD: Yes/No				
Page 2 of 3				Report #:		DUE TO CLIENT:												
Date	Time	Water	Soil	Sample Identification 19 Characters		No. of Containers											EA Labs Accession Number	Remarks
1/17	1215	X		IR781-GW117-99A		3	X											LPM:
~~1/17~~	~~1555~~	~~X~~		~~IR781-GW091-99A~~		~~3~~	~~X~~											
1/17	1555	X		IR781-GW091-99A		3	X											
1/17	1530	X		IR781-GW091-99A		3	X											
1/17	0930	X		IR781-GW111-99A		3	X											
1/17	0815	X		IR781-GW42-99A		3	X											
1/17	1020	X		IR781-GW104-99A		3	X											
1/17	0925	X		IR781-GW1101-99A		3	X											
1/17	1500	X		IR781-GW411-99A		3	X											
1/17	1600	X		IR781-GW401-99A		3	X											
1/17	1650	X		IR781-GW423-99A		3	X											
1/17	1545	X		IR781-GW221A-99A		3	X											
~~1/17~~	~~0840~~	~~X~~		~~IR061-GW02-99A~~		~~3~~	~~X~~											
~~1/17~~	~~1505~~	~~X~~		~~IR061-GW52B-99A~~		~~3~~	~~X~~											
~~1/17~~	~~1655~~	~~X~~		~~IR061-GW15D-99A~~		~~3~~	~~X~~											
~~1/17~~	~~0915~~	~~X~~		~~IR061-SRW05-99A~~		~~3~~	~~X~~											
~~1/16~~	~~1330~~	~~X~~		~~IR061-GW6103-99A~~		~~3~~	~~X~~											
~~1/17~~	~~1045~~	~~X~~		~~IR061-GW2611A-99A~~		~~3~~	~~X~~											
~~1/18~~	~~1150~~	~~X~~		~~IR061-GW111-99A~~		~~3~~	~~X~~											
Samples by: (Signature)		Date/Time		Relinquished by: (Signature)				Date/Time		Received by: (Signature)				Date/Time				
Relinquished by: (Signature) <i>Ellen Bjorklie</i>		Date/Time 1/18/99 1215		Received by Laboratory: (Signature)				Date/Time		Airbill Number: 806677591602				Sample Shipped by: (Circle) Fed Ex Puro UPS				
Cooler Temp. C pH: ☐ Yes ☐ No		Comments:				Custody Seals Intact ☐ Yes ☐ No				Hand Carried				Other:				
NOTE: Please indicate method number for analyses requested. This will help clarify any questions with laboratory techniques.																		

[illegible]

ATTACHMENT B
MONITORING PROGRAM ANALYTICAL RESULTS

GROUNDWATER ANALYTICAL RESULTS
OPERABLE UNIT NO. 2 - SITE 78
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA
VOLATILE ORGANICS

SAMPLE ID	IR78-GW24IW-99A	IR78-GW25-99A	IR78-GW39-99A	IR78-GW40-99A	IR78-GW41-99A	IR78-GW42-99A
DATE SAMPLED	1/16/99	1/16/99	1/17/99	1/17/99	1/17/99	1/17/99
VOLATILES (ug/L)						
1,1,1-Trichloroethane	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane	5 U	5 U	5 U	5 U	5 U	9
1,1-Dichloroethene	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane	5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone	10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone	10 U	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	5 U	5 U	5 U	5 U	5 U	5 U
Bromodichloromethane	5 U	5 U	5 U	5 U	5 U	5 U
Bromoform	5 U	5 U	5 U	5 U	5 U	5 U
Bromomethane	5 U	5 U	5 U	5 U	5 U	5 U
Carbon disulfide	5 U	5 U	5 U	5 U	5 U	5 U
Carbon tetrachloride	5 U	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	5 U	5 U	5 U	5 U	5 U	5 U
Chloroethane	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	5 U	5 U	5 U	5 U	4 J	5 U
Chloromethane	5 U	5 U	5 U	5 U	5 U	5
cis-1,2-Dichloroethene	5 U	5 U	5 U	5 U	5 U	27
cis-1,3-Dichloropropene	5 U	5 U	5 U	5 U	5 U	5 U
Dibromochloromethane	5 U	5 U	5 U	5 U	5 U	5 U
Ethylbenzene	5 U	5 U	5 U	5 U	5 U	5 U
Methylene chloride	5 U	5 U	5 U	5 U	5 U	5 U
Styrene	5 U	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	5 U	5 U	5 U	5 U	5 U	5 U
Toluene	5 U	5 U	5 U	5 U	5 U	5 U
trans-1,2-Dichloroethene	5 U	5 U	5 U	5 U	5 U	5 U
trans-1,3-Dichloropropene	5 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene	5 U	5 U	5 U	5 U	5 U	17
Vinyl chloride	5 U	5 U	5 U	5 U	5 U	6
Xylenes	5 U	5 U	5 U	5 U	5 U	5 U

GROUNDWATER ANALYTICAL RESULTS
OPERABLE UNIT NO. 2 - SITE 78
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA
VOLATILE ORGANICS

SAMPLE ID	IR78-GW01-99A	IR78-GW04-99A	IR78-GW08-99A	IR78-GW09-99A	IR78-GW09DW-99A	IR78-GW09IW-99A	IR78-GW10-99A	IR78-GW11-99A
DATE SAMPLED	1/19/99	1/17/99	1/17/99	1/17/99	1/17/99	1/17/99	1/17/99	1/17/99
VOLATILES (ug/L)								
1,1,1-Trichloroethane	5 U	5 U	5 U	230	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane	5 U	5 U	5 U	50	5 U	5 U	5 U	5 U
1,1-Dichloroethene	5 U	5 U	5 U	52	5 U	5 U	5 U	5 U
1,2-Dichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Benzene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromodichloromethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromoform	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromomethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon disulfide	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon tetrachloride	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloromethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
cis-1,2-Dichloroethene	4 J	3 J	5 U	38	5 U	10	5 U	5 U
cis-1,3-Dichloropropene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Dibromochloromethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Ethylbenzene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Methylene chloride	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Styrene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Toluene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
trans-1,2-Dichloroethene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
trans-1,3-Dichloropropene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene	7	6	5 U	130	5 U	5 U	5 U	5 U
Vinyl chloride	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Xylenes	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U

GROUNDWATER ANALYTICAL RESULTS
OPERABLE UNIT NO. 2 - SITE 78
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUNE, NORTH CAROLINA
VOLATILE ORGANICS

SAMPLE ID	IR78-GW14-99A	IR78-GW15-99A	IR78-GW17-99A	IR78-GW21-99A	IR78-GW22A-99A	IR78-GW23-99A	IR78-GW24-99A	IR78-GW24DW-99A
DATE SAMPLED	1/16/99	1/17/99	1/17/99	1/17/99	1/17/99	1/17/99	1/16/99	1/16/99
VOLATILES (ug/L)								
1,1,1-Trichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Hexanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Methyl-2-pentanone	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acetone	10 U	10 U	10 U	10 U	10 U	11	10 U	10 U
Benzene	5 U	5 U	5 U	5 U	5 U	18	5 U	5 U
Bromodichloromethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromoform	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bromomethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon disulfide	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbon tetrachloride	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chlorobenzene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloroform	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chloromethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
cis-1,2-Dichloroethene	5 U	5 U	5 U	5 U	5 U	7000	360	5 U
cis-1,3-Dichloropropene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Dibromochloromethane	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Ethylbenzene	5 U	5 U	5 U	5 U	5 U	8	5 U	5 U
Methylene chloride	5 U	5 U	5 U	5 U	5 U	5 U	30	5 U
Styrene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Tetrachloroethene	5 U	5 U	5 U	0.9 J	5 U	5 U	5 U	9
Toluene	5 U	5 U	5 U	5 U	5 U	4 J	4 J	5 U
trans-1,2-Dichloroethene	5 U	5 U	5 U	5 U	5 U	140	18	5 U
trans-1,3-Dichloropropene	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Trichloroethene	5 U	5 U	5 U	5 U	5 U	17	14	5 U
Vinyl chloride	5 U	5 U	5 U	5 U	5 U	360 J	25	5 U
Xylenes	5 U	5 U	5 U	5 U	5 U	57	5 U	5 U

ATTACHMENT C
ANALYTICAL LABORATORY DATA SHEETS

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR78-GW39-99A

Lab Name: EA LABORATORIES

Contract: 990035

Lab Code: EA ENG

Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: #9900249

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

Lab File ID: VH8B9392.D

Level: (low/med) _____

Date Received: 1/19/99

% Moisture: not dec. 0

Date Analyzed: 1/26/99

GC Column: RTX 502.2

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
74-87-3	Chloromethane	5		U
75-01-4	Vinyl Chloride	5		U
74-83-9	Bromomethane	5		U
75-00-3	Chloroethane	5		U
67-64-1	Acetone	10		U
75-35-4	1,1-Dichloroethene	5		U
75-09-2	Methylene Chloride	5		U
75-15-0	Carbon Disulfide	5		U
156-59-2	cis-1,2-Dichloroethene	5		U
156-60-5	trans-1,2-Dichloroethene	5		U
75-34-3	1,1-Dichloroethane	5		U
78-93-3	2-Butanone	10		U
67-66-3	Chloroform	5		U
71-55-6	1,1,1-Trichloroethane	5		U
56-23-5	Carbon Tetrachloride	5		U
107-06-2	1,2-Dichloroethane	5		U
71-43-2	Benzene	5		U
79-01-6	Trichloroethene	5		U
78-87-5	1,2-Dichloropropane	5		U
75-27-4	Bromodichloromethane	5		U
108-10-1	4-Methyl-2-Pentanone	10		U
10061-01-5	cis-1,3-Dichloropropene	5		U
108-88-3	Toluene	5		U
10061-02-6	trans-1,3-Dichloropropene	5		U
79-00-5	1,1,2-Trichloroethane	5		U
591-78-6	2-Hexanone	10		U
127-18-4	Tetrachloroethene	5		U
124-48-1	Chlorodibromomethane	5		U
108-90-7	Chlorobenzene	5		U
100-41-4	Ethylbenzene	5		U
95-47-6	Xylenes (total)	5		U
100-42-5	Styrene	5		U
75-25-2	Bromoform	5		U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR78-GW24DW-99A

Lab Name: EA LABORATORIES Contract: 990035

Lab Code: EA ENG Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: #9900251

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8B9401.D

Level: (low/med) _____ Date Received: 1/19/99

% Moisture: not dec. 0 Date Analyzed: 1/27/99

GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0

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

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
74-87-3	Chloromethane	5		U
75-01-4	Vinyl Chloride	5		U
74-83-9	Bromomethane	5		U
75-00-3	Chloroethane	5		U
67-64-1	Acetone	10		U
75-35-4	1,1-Dichloroethene	5		U
75-09-2	Methylene Chloride	5		U
75-15-0	Carbon Disulfide	5		U
156-59-2	cis-1,2-Dichloroethene	5		U
156-60-5	trans-1,2-Dichloroethene	5		U
75-34-3	1,1-Dichloroethane	5		U
78-93-3	2-Butanone	10		U
67-66-3	Chloroform	5		U
71-55-6	1,1,1-Trichloroethane	5		U
56-23-5	Carbon Tetrachloride	5		U
107-06-2	1,2-Dichloroethane	5		U
71-43-2	Benzene	5		U
79-01-6	Trichloroethene	5		U
78-87-5	1,2-Dichloropropane	5		U
75-27-4	Bromodichloromethane	5		U
108-10-1	4-Methyl-2-Pentanone	10		U
10061-01-5	cis-1,3-Dichloropropene	5		U
108-88-3	Toluene	5		U
10061-02-6	trans-1,3-Dichloropropene	5		U
79-00-5	1,1,2-Trichloroethane	5		U
591-78-6	2-Hexanone	10		U
127-18-4	Tetrachloroethene	9		
124-48-1	Chlorodibromomethane	5		U
108-90-7	Chlorobenzene	5		U
100-41-4	Ethylbenzene	5		U
95-47-6	Xylenes (total)	5		U
100-42-5	Styrene	5		U
75-25-2	Bromoform	5		U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR78-GW24I-99A

Lab Name: EA LABORATORIES

Contract: 990035

Lab Code: EA ENG

Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: #9900252

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

Lab File ID: VH8B9402.D

Level: (low/med) _____

Date Received: 1/19/99

% Moisture: not dec. 0

Date Analyzed: 1/27/99

GC Column: RTX 502.2

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
74-87-3	Chloromethane	5		U
75-01-4	Vinyl Chloride	5		U
74-83-9	Bromomethane	5		U
75-00-3	Chloroethane	5		U
67-64-1	Acetone	10		U
75-35-4	1,1-Dichloroethene	5		U
75-09-2	Methylene Chloride	5		U
75-15-0	Carbon Disulfide	5		U
156-59-2	cis-1,2-Dichloroethene	5		U
156-60-5	trans-1,2-Dichloroethene	5		U
75-34-3	1,1-Dichloroethane	5		U
78-93-3	2-Butanone	10		U
67-66-3	Chloroform	5		U
71-55-6	1,1,1-Trichloroethane	5		U
56-23-5	Carbon Tetrachloride	5		U
107-06-2	1,2-Dichloroethane	5		U
71-43-2	Benzene	5		U
79-01-6	Trichloroethene	5		U
78-87-5	1,2-Dichloropropane	5		U
75-27-4	Bromodichloromethane	5		U
108-10-1	4-Methyl-2-Pentanone	10		U
10061-01-5	cis-1,3-Dichloropropene	5		U
108-88-3	Toluene	5		U
10061-02-6	trans-1,3-Dichloropropene	5		U
79-00-5	1,1,2-Trichloroethane	5		U
591-78-6	2-Hexanone	10		U
127-18-4	Tetrachloroethene	5		U
124-48-1	Chlorodibromomethane	5		U
108-90-7	Chlorobenzene	5		U
100-41-4	Ethylbenzene	5		U
95-47-6	Xylenes (total)	5		U
100-42-5	Styrene	5		U
75-25-2	Bromoform	5		U

IR78-GW24I-99A

SDG No.: _____

Soil Aliquot Volume: (uL)

Q

030053

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR78-TB02-99A

Lab Name: EA LABORATORIES Contract: 990035

Lab Code: EA ENG Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: #9900253

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8B9403.D

Level: (low/med) _____ Date Received: 1/19/99

% Moisture: not dec. 0 Date Analyzed: 1/27/99

GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS No.	Compound	Concentration Units:		Q
		(ug/L or ug/Kg)	ug/L	
74-87-3	Chloromethane	5	U	U
75-01-4	Vinyl Chloride	5	U	U
74-83-9	Bromomethane	5	U	U
75-00-3	Chloroethane	5	U	U
67-64-1	Acetone	10	U	U
75-35-4	1,1-Dichloroethene	5	U	U
75-09-2	Methylene Chloride	5	U	U
75-15-0	Carbon Disulfide	5	U	U
156-59-2	cis-1,2-Dichloroethene	5	U	U
156-60-5	trans-1,2-Dichloroethene	5	U	U
75-34-3	1,1-Dichloroethane	5	U	U
78-93-3	2-Butanone	10	U	U
67-66-3	Chloroform	5	U	U
71-55-6	1,1,1-Trichloroethane	5	U	U
56-23-5	Carbon Tetrachloride	5	U	U
107-06-2	1,2-Dichloroethane	5	U	U
71-43-2	Benzene	5	U	U
79-01-6	Trichloroethene	5	U	U
78-87-5	1,2-Dichloropropane	5	U	U
75-27-4	Bromodichloromethane	5	U	U
108-10-1	4-Methyl-2-Pentanone	10	U	U
10061-01-5	cis-1,3-Dichloropropene	5	U	U
108-88-3	Toluene	5	U	U
10061-02-6	trans-1,3-Dichloropropene	5	U	U
79-00-5	1,1,2-Trichloroethane	5	U	U
591-78-6	2-Hexanone	10	U	U
127-18-4	Tetrachloroethene	5	U	U
124-48-1	Chlorodibromomethane	5	U	U
108-90-7	Chlorobenzene	5	U	U
100-41-4	Ethylbenzene	5	U	U
95-47-6	Xylenes (total)	5	U	U
100-42-5	Styrene	5	U	U
75-25-2	Bromoform	5	U	U

IR78-TB02-99A

Concentration Units:

Page 2 of 2

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR78-GW14-99A

Lab Name: EA LABORATORIES

Contract: 990035

Lab Code: EA ENG

Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: #9900258

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

Lab File ID: VH8B9408.D

Level: (low/med) _____

Date Received: 1/19/99

% Moisture: not dec. 0

Date Analyzed: 1/27/99

GC Column: RTX 502.2

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
74-87-3	Chloromethane	5		U
75-01-4	Vinyl Chloride	5		U
74-83-9	Bromomethane	5		U
75-00-3	Chloroethane	5		U
67-64-1	Acetone	10		U
75-35-4	1,1-Dichloroethene	5		U
75-09-2	Methylene Chloride	5		U
75-15-0	Carbon Disulfide	5		U
156-59-2	cis-1,2-Dichloroethene	5		U
156-60-5	trans-1,2-Dichloroethene	5		U
75-34-3	1,1-Dichloroethane	5		U
78-93-3	2-Butanone	10		U
67-66-3	Chloroform	5		U
71-55-6	1,1,1-Trichloroethane	5		U
56-23-5	Carbon Tetrachloride	5		U
107-06-2	1,2-Dichloroethane	5		U
71-43-2	Benzene	5		U
79-01-6	Trichloroethene	5		U
78-87-5	1,2-Dichloropropane	5		U
75-27-4	Bromodichloromethane	5		U
108-10-1	4-Methyl-2-Pentanone	10		U
10061-01-5	cis-1,3-Dichloropropene	5		U
108-88-3	Toluene	5		U
10061-02-6	trans-1,3-Dichloropropene	5		U
79-00-5	1,1,2-Trichloroethane	5		U
591-78-6	2-Hexanone	10		U
127-18-4	Tetrachloroethene	5		U
124-48-1	Chlorodibromomethane	5		U
108-90-7	Chlorobenzene	5		U
100-41-4	Ethylbenzene	5		U
95-47-6	Xylenes (total)	5		U
100-42-5	Styrene	5		U
75-25-2	Bromoform	5		U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR78-GW25-99A

Lab Name: EA LABORATORIES Contract: 990035

Lab Code: EA ENG Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: #9900259

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8B9409.D

Level: (low/med) _____ Date Received: 1/19/99

% Moisture: not dec. 0 Date Analyzed: 1/27/99

GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0

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

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
74-87-3	Chloromethane	5		U
75-01-4	Vinyl Chloride	5		U
74-83-9	Bromomethane	5		U
75-00-3	Chloroethane	5		U
67-64-1	Acetone	10		U
75-35-4	1,1-Dichloroethene	5		U
75-09-2	Methylene Chloride	5		U
75-15-0	Carbon Disulfide	5		U
156-59-2	cis-1,2-Dichloroethene	5		U
156-60-5	trans-1,2-Dichloroethene	5		U
75-34-3	1,1-Dichloroethane	5		U
78-93-3	2-Butanone	10		U
67-66-3	Chloroform	5		U
71-55-6	1,1,1-Trichloroethane	5		U
56-23-5	Carbon Tetrachloride	5		U
107-06-2	1,2-Dichloroethane	5		U
71-43-2	Benzene	5		U
79-01-6	Trichloroethene	5		U
78-87-5	1,2-Dichloropropane	5		U
75-27-4	Bromodichloromethane	5		U
108-10-1	4-Methyl-2-Pentanone	10		U
10061-01-5	cis-1,3-Dichloropropene	5		U
108-88-3	Toluene	5		U
10061-02-6	trans-1,3-Dichloropropene	5		U
79-00-5	1,1,2-Trichloroethane	5		U
591-78-6	2-Hexanone	10		U
127-18-4	Tetrachloroethene	5		U
124-48-1	Chlorodibromomethane	5		U
108-90-7	Chlorobenzene	5		U
100-41-4	Ethylbenzene	5		U
95-47-6	Xylenes (total)	5		U
100-42-5	Styrene	5		U
75-25-2	Bromoform	5		U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR78-GW15-99A

Lab Name: EA LABORATORIES Contract: 990035

Lab Code: EA ENG Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: #9900262

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8B9422.D

Level: (low/med) _____ Date Received: 1/19/99

% Moisture: not dec. 0 Date Analyzed: 1/28/99

GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS No.	Compound	Concentration Units:		Q
		(ug/L or ug/Kg)	ug/L	
74-87-3	Chloromethane	5		U
75-01-4	Vinyl Chloride	5		U
74-83-9	Bromomethane	5		U
75-00-3	Chloroethane	5		U
67-64-1	Acetone	10		U
75-35-4	1,1-Dichloroethene	5		U
75-09-2	Methylene Chloride	5		U
75-15-0	Carbon Disulfide	5		U
156-59-2	cis-1,2-Dichloroethene	5		U
156-60-5	trans-1,2-Dichloroethene	5		U
75-34-3	1,1-Dichloroethane	5		U
78-93-3	2-Butanone	10		U
67-66-3	Chloroform	5		U
71-55-6	1,1,1-Trichloroethane	5		U
56-23-5	Carbon Tetrachloride	5		U
107-06-2	1,2-Dichloroethane	5		U
71-43-2	Benzene	5		U
79-01-6	Trichloroethene	5		U
78-87-5	1,2-Dichloropropane	5		U
75-27-4	Bromodichloromethane	5		U
108-10-1	4-Methyl-2-Pentanone	10		U
10061-01-5	cis-1,3-Dichloropropene	5		U
108-88-3	Toluene	5		U
10061-02-6	trans-1,3-Dichloropropene	5		U
79-00-5	1,1,2-Trichloroethane	5		U
591-78-6	2-Hexanone	10		U
127-18-4	Tetrachloroethene	5		U
124-48-1	Chlorodibromomethane	5		U
108-90-7	Chlorobenzene	5		U
100-41-4	Ethylbenzene	5		U
95-47-6	Xylenes (total)	5		U
100-42-5	Styrene	5		U
75-25-2	Bromoform	5		U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR78-GW08-99A

Lab Name: EA LABORATORIES Contract: 990035

Lab Code: EA ENG Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: #9900263

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8B9423.D

Level: (low/med) _____ Date Received: 1/19/99

% Moisture: not dec. 0 Date Analyzed: 1/28/99

GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0

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

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
74-87-3	Chloromethane	5		U
75-01-4	Vinyl Chloride	5		U
74-83-9	Bromomethane	5		U
75-00-3	Chloroethane	5		U
67-64-1	Acetone	10		U
75-35-4	1,1-Dichloroethene	5		U
75-09-2	Methylene Chloride	5		U
75-15-0	Carbon Disulfide	5		U
156-59-2	cis-1,2-Dichloroethene	5		U
156-60-5	trans-1,2-Dichloroethene	5		U
75-34-3	1,1-Dichloroethane	5		U
78-93-3	2-Butanone	10		U
67-66-3	Chloroform	5		U
71-55-6	1,1,1-Trichloroethane	5		U
56-23-5	Carbon Tetrachloride	5		U
107-06-2	1,2-Dichloroethane	5		U
71-43-2	Benzene	5		U
79-01-6	Trichloroethene	5		U
78-87-5	1,2-Dichloropropane	5		U
75-27-4	Bromodichloromethane	5		U
108-10-1	4-Methyl-2-Pentanone	10		U
10061-01-5	cis-1,3-Dichloropropene	5		U
108-88-3	Toluene	5		U
10061-02-6	trans-1,3-Dichloropropene	5		U
79-00-5	1,1,2-Trichloroethane	5		U
591-78-6	2-Hexanone	10		U
127-18-4	Tetrachloroethene	5		U
124-48-1	Chlorodibromomethane	5		U
108-90-7	Chlorobenzene	5		U
100-41-4	Ethylbenzene	5		U
95-47-6	Xylenes (total)	5		U
100-42-5	Styrene	5		U
75-25-2	Bromoform	5		U

Contract: 990035

IR78-GW08-99A

Case No.:

SAS No.:

SDG No.:

Lab Sample ID: #9900263

Lab File ID: VH8B9423.D

Date Received: 1/19/99

Date Analyzed: 1/28/99

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Aliquot Volume: (uL)

(ug/L or ug/Kg)

ug/L

Q

[illegible]

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR78-GW21-99A

Lab Name: EA LABORATORIES

Contract: 990035

Lab Code: EA ENG

Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: #9900264

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

Lab File ID: VH8B9424.D

Level: (low/med) _____

Date Received: 1/19/99

% Moisture: not dec. 0

Date Analyzed: 1/28/99

GC Column: RTX 502.2

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
74-87-3	Chloromethane	5		U
75-01-4	Vinyl Chloride	5		U
74-83-9	Bromomethane	5		U
75-00-3	Chloroethane	5		U
67-64-1	Acetone	10		U
75-35-4	1,1-Dichloroethene	5		U
75-09-2	Methylene Chloride	5		U
75-15-0	Carbon Disulfide	5		U
156-59-2	cis-1,2-Dichloroethene	5		U
156-60-5	trans-1,2-Dichloroethene	5		U
75-34-3	1,1-Dichloroethane	5		U
78-93-3	2-Butanone	10		U
67-66-3	Chloroform	5		U
71-55-6	1,1,1-Trichloroethane	5		U
56-23-5	Carbon Tetrachloride	5		U
107-06-2	1,2-Dichloroethane	5		U
71-43-2	Benzene	5		U
79-01-6	Trichloroethene	5		U
78-87-5	1,2-Dichloropropane	5		U
75-27-4	Bromodichloromethane	5		U
108-10-1	4-Methyl-2-Pentanone	10		U
10061-01-5	cis-1,3-Dichloropropene	5		U
108-88-3	Toluene	5		U
10061-02-6	trans-1,3-Dichloropropene	5		U
79-00-5	1,1,2-Trichloroethane	5		U
591-78-6	2-Hexanone	10		U
127-18-4	Tetrachloroethene	0.9		J
124-48-1	Chlorodibromomethane	5		U
108-90-7	Chlorobenzene	5		U
100-41-4	Ethylbenzene	5		U
95-47-6	Xylenes (total)	5		U
100-42-5	Styrene	5		U
75-25-2	Bromoform	5		U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR78-GW17-99A

Lab Name: EA LABORATORIES Contract: 990036

Lab Code: EA ENG Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: #9900265

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8B9427.D

Level: (low/med) _____ Date Received: 1/19/99

% Moisture: not dec. 0 Date Analyzed: 1/28/99

GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS No.	Compound	Concentration Units:		Q
		(ug/L or ug/Kg)	<u>ug/L</u>	
74-87-3	Chloromethane	5		U
75-01-4	Vinyl Chloride	5		U
74-83-9	Bromomethane	5		U
75-00-3	Chloroethane	5		U
67-64-1	Acetone	10		U
75-35-4	1,1-Dichloroethene	5		U
75-09-2	Methylene Chloride	5		U
75-15-0	Carbon Disulfide	5		U
156-59-2	cis-1,2-Dichloroethene	5		U
156-60-5	trans-1,2-Dichloroethene	5		U
75-34-3	1,1-Dichloroethane	5		U
78-93-3	2-Butanone	10		U
67-66-3	Chloroform	5		U
71-55-6	1,1,1-Trichloroethane	5		U
56-23-5	Carbon Tetrachloride	5		U
107-06-2	1,2-Dichloroethane	5		U
71-43-2	Benzene	5		U
79-01-6	Trichloroethene	5		U
78-87-5	1,2-Dichloropropane	5		U
75-27-4	Bromodichloromethane	5		U
108-10-1	4-Methyl-2-Pentanone	10		U
10061-01-5	cis-1,3-Dichloropropene	5		U
108-88-3	Toluene	5		U
10061-02-6	trans-1,3-Dichloropropene	5		U
79-00-5	1,1,2-Trichloroethane	5		U
591-78-6	2-Hexanone	10		U
127-18-4	Tetrachloroethene	5		U
124-48-1	Chlorodibromomethane	5		U
108-90-7	Chlorobenzene	5		U
100-41-4	Ethylbenzene	5		U
95-47-6	Xylenes (total)	5		U
100-42-5	Styrene	5		U
75-25-2	Bromoform	5		U

Contract: 990036

IR78-GW17-99A

Case No.:

SAS No.:

SDG No.:

Lab Sample ID: #9900265

Lab File ID: VH8B9427.D

Date Received: 1/19/99

Date Analyzed: 1/28/99

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Aliquot Volume: (uL)

(ug/L or ug/Kg)

ug/L

Q

[illegible]

030025

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR78-GW09DW-99A

Lab Name: EA LABORATORIES Contract: 990035

Lab Code: EA ENG Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: #9900248

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8B9389.D

Level: (low/med) _____ Date Received: 1/19/99

% Moisture: not dec. 0 Date Analyzed: 1/26/99

GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS No.	Compound	Concentration Units:		Q
		(ug/L or ug/Kg)	ug/L	
74-87-3	Chloromethane	5		U
75-01-4	Vinyl Chloride	5		U
74-83-9	Bromomethane	5		U
75-00-3	Chloroethane	5		U
67-64-1	Acetone	10		U
75-35-4	1,1-Dichloroethene	5		U
75-09-2	Methylene Chloride	5		U
75-15-0	Carbon Disulfide	5		U
156-59-2	cis-1,2-Dichloroethene	5		U
156-60-5	trans-1,2-Dichloroethene	5		U
75-34-3	1,1-Dichloroethane	5		U
78-93-3	2-Butanone	10		U
67-66-3	Chloroform	5		U
71-55-6	1,1,1-Trichloroethane	5		U
56-23-5	Carbon Tetrachloride	5		U
107-06-2	1,2-Dichloroethane	5		U
71-43-2	Benzene	5		U
79-01-6	Trichloroethene	5		U
78-87-5	1,2-Dichloropropane	5		U
75-27-4	Bromodichloromethane	5		U
108-10-1	4-Methyl-2-Pentanone	10		U
10061-01-5	cis-1,3-Dichloropropene	5		U
108-88-3	Toluene	5		U
10061-02-6	trans-1,3-Dichloropropene	5		U
79-00-5	1,1,2-Trichloroethane	5		U
591-78-6	2-Hexanone	10		U
127-18-4	Tetrachloroethene	5		U
124-48-1	Chlorodibromomethane	5		U
108-90-7	Chlorobenzene	5		U
100-41-4	Ethylbenzene	5		U
95-47-6	Xylenes (total)	5		U
100-42-5	Styrene	5		U
75-25-2	Bromoform	5		U

IR78-GW09DW-99A

Concentration Units:

[illegible]

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR78-GW09IW-99A

Lab Name: EA LABORATORIES

Contract: 990036

Lab Code: EA ENG

Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: #9900266

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

Lab File ID: VH8B9428.D

Level: (low/med) _____

Date Received: 1/19/99

% Moisture: not dec. 0

Date Analyzed: 1/28/99

GC Column: RTX 502.2

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
74-87-3	Chloromethane	5		U
75-01-4	Vinyl Chloride	5		U
74-83-9	Bromomethane	5		U
75-00-3	Chloroethane	5		U
67-64-1	Acetone	10		U
75-35-4	1,1-Dichloroethene	5		U
75-09-2	Methylene Chloride	5		U
75-15-0	Carbon Disulfide	5		U
156-59-2	cis-1,2-Dichloroethene	10		
156-60-5	trans-1,2-Dichloroethene	5		U
75-34-3	1,1-Dichloroethane	5		U
78-93-3	2-Butanone	10		U
67-66-3	Chloroform	5		U
71-55-6	1,1,1-Trichloroethane	5		U
56-23-5	Carbon Tetrachloride	5		U
107-06-2	1,2-Dichloroethane	5		U
71-43-2	Benzene	5		U
79-01-6	Trichloroethene	5		U
78-87-5	1,2-Dichloropropane	5		U
75-27-4	Bromodichloromethane	5		U
108-10-1	4-Methyl-2-Pentanone	10		U
10061-01-5	cis-1,3-Dichloropropene	5		U
108-88-3	Toluene	5		U
10061-02-6	trans-1,3-Dichloropropene	5		U
79-00-5	1,1,2-Trichloroethane	5		U
591-78-6	2-Hexanone	10		U
127-18-4	Tetrachloroethene	5		U
124-48-1	Chlorodibromomethane	5		U
108-90-7	Chlorobenzene	5		U
100-41-4	Ethylbenzene	5		U
95-47-6	Xylenes (total)	5		U
100-42-5	Styrene	5		U
75-25-2	Bromoform	5		U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR78-GW09-99A

Lab Name: EA LABORATORIES

Contract: 990036

Lab Code: EA ENG

Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: #9900267

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

Lab File ID: VH8B9429.D

Level: (low/med) _____

Date Received: 1/19/99

% Moisture: not dec. 0

Date Analyzed: 1/28/99

GC Column: RTX 502.2

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
74-87-3	Chloromethane	5		U
75-01-4	Vinyl Chloride	5		U
74-83-9	Bromomethane	5		U
75-00-3	Chloroethane	5		U
67-64-1	Acetone	10		U
75-35-4	1,1-Dichloroethene	52		
75-09-2	Methylene Chloride	5		U
75-15-0	Carbon Disulfide	5		U
156-59-2	cis-1,2-Dichloroethene	38		
156-60-5	trans-1,2-Dichloroethene	5		U
75-34-3	1,1-Dichloroethane	50		
78-93-3	2-Butanone	10		U
67-66-3	Chloroform	5		U
71-55-6	1,1,1-Trichloroethane	300		E
56-23-5	Carbon Tetrachloride	5		U
107-06-2	1,2-Dichloroethane	5		U
71-43-2	Benzene	5		U
79-01-6	Trichloroethene	130		
78-87-5	1,2-Dichloropropane	5		U
75-27-4	Bromodichloromethane	5		U
108-10-1	4-Methyl-2-Pentanone	10		U
10061-01-5	cis-1,3-Dichloropropene	5		U
108-88-3	Toluene	5		U
10061-02-6	trans-1,3-Dichloropropene	5		U
79-00-5	1,1,2-Trichloroethane	5		U
591-78-6	2-Hexanone	10		U
127-18-4	Tetrachloroethene	5		U
124-48-1	Chlorodibromomethane	5		U
108-90-7	Chlorobenzene	5		U
100-41-4	Ethylbenzene	5		U
95-47-6	Xylenes (total)	5		U
100-42-5	Styrene	5		U
75-25-2	Bromoform	5		U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR78-GW09-99ADL

Lab Name: EA LABORATORIES

Contract: 990036

Lab Code: EA ENG

Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: #9900267DL

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

Lab File ID: VH8B9500.D

Level: (low/med) _____

Date Received: 1/19/99

% Moisture: not dec. 0

Date Analyzed: 2/3/99

GC Column: RTX 502.2

ID: 0.53 (mm)

Dilution Factor: 5.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	<u>ug/L</u>	Q
74-87-3	Chloromethane	25		U
75-01-4	Vinyl Chloride	25		U
74-83-9	Bromomethane	25		U
75-00-3	Chloroethane	25		U
67-64-1	Acetone	50		U
75-35-4	1,1-Dichloroethene	32		D
75-09-2	Methylene Chloride	25		U
75-15-0	Carbon Disulfide	25		U
156-59-2	cis-1,2-Dichloroethene	30		D
156-60-5	trans-1,2-Dichloroethene	25		U
75-34-3	1,1-Dichloroethane	40		D
78-93-3	2-Butanone	50		U
67-66-3	Chloroform	25		U
71-55-6	1,1,1-Trichloroethane	230		D
56-23-5	Carbon Tetrachloride	25		U
107-06-2	1,2-Dichloroethane	25		U
71-43-2	Benzene	25		U
79-01-6	Trichloroethene	100		D
78-87-5	1,2-Dichloropropane	25		U
75-27-4	Bromodichloromethane	25		U
108-10-1	4-Methyl-2-Pentanone	50		U
10061-01-5	cis-1,3-Dichloropropene	25		U
108-88-3	Toluene	25		U
10061-02-6	trans-1,3-Dichloropropene	25		U
79-00-5	1,1,2-Trichloroethane	25		U
591-78-6	2-Hexanone	50		U
127-18-4	Tetrachloroethene	25		U
124-48-1	Chlorodibromomethane	25		U
108-90-7	Chlorobenzene	25		U
100-41-4	Ethylbenzene	25		U
95-47-6	Xylenes (total)	25		U
100-42-5	Styrene	25		U
75-25-2	Bromoform	25		U

IR78-GW09-99ADL

Concentration Units:

(ug/L or ug/Kg)

ug/L

Q

[illegible]

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR78-GW11-99A

Lab Name: EA LABORATORIES

Contract: 990036

Lab Code: EA ENG

Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: #9900268

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

Lab File ID: VH8B9430.D

Level: (low/med) _____

Date Received: 1/19/99

% Moisture: not dec. 0

Date Analyzed: 1/28/99

GC Column: RTX 502.2

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
74-87-3	Chloromethane	5		U
75-01-4	Vinyl Chloride	5		U
74-83-9	Bromomethane	5		U
75-00-3	Chloroethane	5		U
67-64-1	Acetone	10		U
75-35-4	1,1-Dichloroethene	5		U
75-09-2	Methylene Chloride	5		U
75-15-0	Carbon Disulfide	5		U
156-59-2	cis-1,2-Dichloroethene	5		U
156-60-5	trans-1,2-Dichloroethene	5		U
75-34-3	1,1-Dichloroethane	5		U
78-93-3	2-Butanone	10		U
67-66-3	Chloroform	5		U
71-55-6	1,1,1-Trichloroethane	5		U
56-23-5	Carbon Tetrachloride	5		U
107-06-2	1,2-Dichloroethane	5		U
71-43-2	Benzene	5		U
79-01-6	Trichloroethene	5		U
78-87-5	1,2-Dichloropropane	5		U
75-27-4	Bromodichloromethane	5		U
108-10-1	4-Methyl-2-Pentanone	10		U
10061-01-5	cis-1,3-Dichloropropene	5		U
108-88-3	Toluene	5		U
10061-02-6	trans-1,3-Dichloropropene	5		U
79-00-5	1,1,2-Trichloroethane	5		U
591-78-6	2-Hexanone	10		U
127-18-4	Tetrachloroethene	5		U
124-48-1	Chlorodibromomethane	5		U
108-90-7	Chlorobenzene	5		U
100-41-4	Ethylbenzene	5		U
95-47-6	Xylenes (total)	5		U
100-42-5	Styrene	5		U
75-25-2	Bromoform	5		U

Contract: 990036

IR78-GW11-99A

Case No.:

SAS No.:

SDG No.:

Lab Sample ID: #9900268

Lab File ID: VH8B9430.D

Date Received: 1/19/99

0

Date Analyzed: 1/28/99

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Aliquot Volume: (uL)

(ug/L or ug/Kg)

ug/L

Q

[illegible]

0300.13

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR78-GW42-99A

Lab Name: EA LABORATORIES Contract: 990036

Lab Code: EA ENG Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: #9900269

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8B9431.D

Level: (low/med) _____ Date Received: 1/19/99

% Moisture: not dec. 0 Date Analyzed: 1/28/99

GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS No.	Compound	Concentration Units:		Q
		(ug/L or ug/Kg)	ug/L	
74-87-3	Chloromethane	5		
75-01-4	Vinyl Chloride	6		
74-83-9	Bromomethane	5		U
75-00-3	Chloroethane	5		U
67-64-1	Acetone	10		U
75-35-4	1,1-Dichloroethene	5		U
75-09-2	Methylene Chloride	5		U
75-15-0	Carbon Disulfide	5		U
156-59-2	cis-1,2-Dichloroethene	27		
156-60-5	trans-1,2-Dichloroethene	5		U
75-34-3	1,1-Dichloroethane	9		
78-93-3	2-Butanone	10		U
67-66-3	Chloroform	5		U
71-55-6	1,1,1-Trichloroethane	5		U
56-23-5	Carbon Tetrachloride	5		U
107-06-2	1,2-Dichloroethane	5		U
71-43-2	Benzene	5		U
79-01-6	Trichloroethene	17		
78-87-5	1,2-Dichloropropane	5		U
75-27-4	Bromodichloromethane	5		U
108-10-1	4-Methyl-2-Pentanone	10		U
10061-01-5	cis-1,3-Dichloropropene	5		U
108-88-3	Toluene	5		U
10061-02-6	trans-1,3-Dichloropropene	5		U
79-00-5	1,1,2-Trichloroethane	5		U
591-78-6	2-Hexanone	10		U
127-18-4	Tetrachloroethene	5		U
124-48-1	Chlorodibromomethane	5		U
108-90-7	Chlorobenzene	5		U
100-41-4	Ethylbenzene	5		U
95-47-6	Xylenes (total)	5		U
100-42-5	Styrene	5		U
75-25-2	Bromoform	5		U

IR78-GW42-99A

Contract: 990036

SDG No.:

Lab Sample ID: #9900269

Lab File ID: VH8B9431.D

Date Received: 1/19/99

Date Analyzed: 1/28/99

Dilution Factor: 1.0

Soil Aliquot Volume: (uL)

ug/L

Q

[illegible]

020052

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR78-GW04-99A

Lab Name: EA LABORATORIES Contract: 990036

Lab Code: EA ENG Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: #9900270

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8B9432.D

Level: (low/med) _____ Date Received: 1/19/99

% Moisture: not dec. 0 Date Analyzed: 1/28/99

GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0

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

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
74-87-3	Chloromethane	5		U
75-01-4	Vinyl Chloride	5		U
74-83-9	Bromomethane	5		U
75-00-3	Chloroethane	5		U
67-64-1	Acetone	10		U
75-35-4	1,1-Dichloroethene	5		U
75-09-2	Methylene Chloride	5		U
75-15-0	Carbon Disulfide	5		U
156-59-2	cis-1,2-Dichloroethene	3		J
156-60-5	trans-1,2-Dichloroethene	5		U
75-34-3	1,1-Dichloroethane	5		U
78-93-3	2-Butanone	10		U
67-66-3	Chloroform	5		U
71-55-6	1,1,1-Trichloroethane	5		U
56-23-5	Carbon Tetrachloride	5		U
107-06-2	1,2-Dichloroethane	5		U
71-43-2	Benzene	5		U
79-01-6	Trichloroethene	6		
78-87-5	1,2-Dichloropropane	5		U
75-27-4	Bromodichloromethane	5		U
108-10-1	4-Methyl-2-Pentanone	10		U
10061-01-5	cis-1,3-Dichloropropene	5		U
108-88-3	Toluene	5		U
10061-02-6	trans-1,3-Dichloropropene	5		U
79-00-5	1,1,2-Trichloroethane	5		U
591-78-6	2-Hexanone	10		U
127-18-4	Tetrachloroethene	5		U
124-48-1	Chlorodibromomethane	5		U
108-90-7	Chlorobenzene	5		U
100-41-4	Ethylbenzene	5		U
95-47-6	Xylenes (total)	5		U
100-42-5	Styrene	5		U
75-25-2	Bromoform	5		U

Contract: 990036

IR78-GW04-99A

Case No.:

SAS No.:

SDG No.:

Lab Sample ID: #9900270

Lab File ID: VH8B9432.D

Date Received: 1/19/99

0

Date Analyzed: 1/28/99

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Aliquot Volume: (uL)

Concentration Units:

Compound

(ug/L or ug/Kg)

ug/L

Q

[illegible]

020659

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR78-GW10-99A

Lab Name: EA LABORATORIES Contract: 990036

Lab Code: EA ENG Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: #9900271

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8B9433.D

Level: (low/med) _____ Date Received: 1/19/99

% Moisture: not dec. 0 Date Analyzed: 1/28/99

GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS No.	Compound	Concentration Units:		Q
		(ug/L or ug/Kg)	ug/L	
74-87-3	Chloromethane	5		U
75-01-4	Vinyl Chloride	5		U
74-83-9	Bromomethane	5		U
75-00-3	Chloroethane	5		U
67-64-1	Acetone	10		U
75-35-4	1,1-Dichloroethene	5		U
75-09-2	Methylene Chloride	5		U
75-15-0	Carbon Disulfide	5		U
156-59-2	cis-1,2-Dichloroethene	5		U
156-60-5	trans-1,2-Dichloroethene	5		U
75-34-3	1,1-Dichloroethane	5		U
78-93-3	2-Butanone	10		U
67-66-3	Chloroform	5		U
71-55-6	1,1,1-Trichloroethane	5		U
56-23-5	Carbon Tetrachloride	5		U
107-06-2	1,2-Dichloroethane	5		U
71-43-2	Benzene	5		U
79-01-6	Trichloroethene	5		U
78-87-5	1,2-Dichloropropane	5		U
75-27-4	Bromodichloromethane	5		U
108-10-1	4-Methyl-2-Pentanone	10		U
10061-01-5	cis-1,3-Dichloropropene	5		U
108-88-3	Toluene	5		U
10061-02-6	trans-1,3-Dichloropropene	5		U
79-00-5	1,1,2-Trichloroethane	5		U
591-78-6	2-Hexanone	10		U
127-18-4	Tetrachloroethene	5		U
124-48-1	Chlorodibromomethane	5		U
108-90-7	Chlorobenzene	5		U
100-41-4	Ethylbenzene	5		U
95-47-6	Xylenes (total)	5		U
100-42-5	Styrene	5		U
75-25-2	Bromoform	5		U

IR78-GW10-99A

Contract: 990036

Case No.:

SAS No.:

SDG No.:

Lab Sample ID: #9900271

Lab File ID: VH8B9433.D

Date Received: 1/19/99

0

Date Analyzed: 1/28/99

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Aliquot Volume: (uL)

(ug/L or ug/Kg)

ug/L

Q

[illegible]

030055

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR78-GW41-99A

Lab Name: EA LABORATORIES Contract: 990036

Lab Code: EA ENG Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: #9900272

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VH8B9440.D

Level: (low/med) _____ Date Received: 1/19/99

% Moisture: not dec. 0 Date Analyzed: 1/29/99

GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS No.	Compound	Concentration Units:		Q
		(ug/L or ug/Kg)	ug/L	
74-87-3	Chloromethane	5	U	U
75-01-4	Vinyl Chloride	5	U	U
74-83-9	Bromomethane	5	U	U
75-00-3	Chloroethane	5	U	U
67-64-1	Acetone	10	U	U
75-35-4	1,1-Dichloroethene	5	U	U
75-09-2	Methylene Chloride	5	U	U
75-15-0	Carbon Disulfide	5	U	U
156-59-2	cis-1,2-Dichloroethene	5	U	U
156-60-5	trans-1,2-Dichloroethene	5	U	U
75-34-3	1,1-Dichloroethane	5	U	U
78-93-3	2-Butanone	10	U	U
67-66-3	Chloroform	4	J	U
71-55-6	1,1,1-Trichloroethane	5	U	U
56-23-5	Carbon Tetrachloride	5	U	U
107-06-2	1,2-Dichloroethane	5	U	U
71-43-2	Benzene	5	U	U
79-01-6	Trichloroethene	5	U	U
78-87-5	1,2-Dichloropropane	5	U	U
75-27-4	Bromodichloromethane	5	U	U
108-10-1	4-Methyl-2-Pentanone	10	U	U
10061-01-5	cis-1,3-Dichloropropene	5	U	U
108-88-3	Toluene	5	U	U
10061-02-6	trans-1,3-Dichloropropene	5	U	U
79-00-5	1,1,2-Trichloroethane	5	U	U
591-78-6	2-Hexanone	10	U	U
127-18-4	Tetrachloroethene	5	U	U
124-48-1	Chlorodibromomethane	5	U	U
108-90-7	Chlorobenzene	5	U	U
100-41-4	Ethylbenzene	5	U	U
95-47-6	Xylenes (total)	5	U	U
100-42-5	Styrene	5	U	U
75-25-2	Bromoform	5	U	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR78-GW40-99A

Lab Name: EA LABORATORIES

Contract: 990036

Lab Code: EA ENG

Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: #9900273

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

Lab File ID: VH8B9441.D

Level: (low/med) _____

Date Received: 1/19/99

% Moisture: not dec. 0

Date Analyzed: 1/29/99

GC Column: RTX 502.2

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	<u>ug/L</u>	Q
74-87-3	Chloromethane	5		U
75-01-4	Vinyl Chloride	5		U
74-83-9	Bromomethane	5		U
75-00-3	Chloroethane	5		U
67-64-1	Acetone	10		U
75-35-4	1,1-Dichloroethene	5		U
75-09-2	Methylene Chloride	5		U
75-15-0	Carbon Disulfide	5		U
156-59-2	cis-1,2-Dichloroethene	5		U
156-60-5	trans-1,2-Dichloroethene	5		U
75-34-3	1,1-Dichloroethane	5		U
78-93-3	2-Butanone	10		U
67-66-3	Chloroform	5		U
71-55-6	1,1,1-Trichloroethane	5		U
56-23-5	Carbon Tetrachloride	5		U
107-06-2	1,2-Dichloroethane	5		U
71-43-2	Benzene	5		U
79-01-6	Trichloroethene	5		U
78-87-5	1,2-Dichloropropane	5		U
75-27-4	Bromodichloromethane	5		U
108-10-1	4-Methyl-2-Pentanone	10		U
10061-01-5	cis-1,3-Dichloropropene	5		U
108-88-3	Toluene	5		U
10061-02-6	trans-1,3-Dichloropropene	5		U
79-00-5	1,1,2-Trichloroethane	5		U
591-78-6	2-Hexanone	10		U
127-18-4	Tetrachloroethene	5		U
124-48-1	Chlorodibromomethane	5		U
108-90-7	Chlorobenzene	5		U
100-41-4	Ethylbenzene	5		U
95-47-6	Xylenes (total)	5		U
100-42-5	Styrene	5		U
75-25-2	Bromoform	5		U

020074

IR78-GW40-99A

Lab Name: EA LABORATORIES

Contract: 990036

Lab Code: EA ENG Case No.: _____

SAS No.: _____

SDG No.:

Matrix: (soil/water) WATER

Lab Sample ID: #9900273

Sample wt/vol:	5.0	(g/mL)	ML
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Lab File ID: VH8B9441.D

Level: (low/med) _____

Date Received: 1/19/99

% Moisture: not dec. 0

Date Analyzed: 1/29/99

GC Column: RTX 502.2

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Concentration Units:

(ug/L or ug/Kg)

ug/L

Q

[illegible]

000075

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR78-GW23-99A

Lab Name: EA LABORATORIES

Contract: 990036

Lab Code: EA ENG

Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: #9900274

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

Lab File ID: VH8B9442.D

Level: (low/med) _____

Date Received: 1/19/99

% Moisture: not dec. 0

Date Analyzed: 1/29/99

GC Column: RTX 502.2

ID: 0.53 (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	5	U
75-01-4	Vinyl Chloride	600	E
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
67-64-1	Acetone	11	
75-35-4	1,1-Dichloroethene	5	U
75-09-2	Methylene Chloride	5	U
75-15-0	Carbon Disulfide	5	U
156-59-2	cis-1,2-Dichloroethene	4100	E
156-60-5	trans-1,2-Dichloroethene	140	
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	18	
79-01-6	Trichloroethene	17	
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
10061-01-5	cis-1,3-Dichloropropene	5	U
108-88-3	Toluene	4	J
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
124-48-1	Chlorodibromomethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	8	
95-47-6	Xylenes (total)	57	
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U

0000

Lab Name: EA LABORATORIES

Contract: 990036

IR78-GW23-99A

Lab Code: EA ENG Case No.:

SAS No.: _____

SDG No.:

Matrix: (soil/water) WATER

Lab Sample ID: #9900274

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

Lab File ID: VH8B9442.D

Level: (low/med)

Date Received: 1/19/99

% Moisture:	not dec.	0
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Date Analyzed: 1/29/99

GC Column: RTX 502.2 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

Concentration Units:

(ug/L or ug/Kg)

ug/L

Q

[illegible]

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR78-GW23-99ADL

Lab Name: EA LABORATORIES

Contract: 990036

Lab Code: EA ENG

Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: #9900274DL

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

Lab File ID: VH8B9502.D

Level: (low/med) _____

Date Received: 1/19/99

% Moisture: not dec. 0

Date Analyzed: 2/3/99

GC Column: RTX 502.2

ID: 0.53 (mm)

Dilution Factor: 100.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CAS No.	Compound	Concentration Units:		Q
		(ug/L or ug/Kg)	<u>ug/L</u>	
74-87-3	Chloromethane	500		U
75-01-4	Vinyl Chloride	360		JD
74-83-9	Bromomethane	500		U
75-00-3	Chloroethane	500		U
67-64-1	Acetone	1000		U
75-35-4	1,1-Dichloroethene	500		U
75-09-2	Methylene Chloride	500		U
75-15-0	Carbon Disulfide	500		U
156-59-2	cis-1,2-Dichloroethene	7000		D
156-60-5	trans-1,2-Dichloroethene	500		U
75-34-3	1,1-Dichloroethane	500		U
78-93-3	2-Butanone	1000		U
67-66-3	Chloroform	500		U
71-55-6	1,1,1-Trichloroethane	500		U
56-23-5	Carbon Tetrachloride	500		U
107-06-2	1,2-Dichloroethane	500		U
71-43-2	Benzene	500		U
79-01-6	Trichloroethene	500		U
78-87-5	1,2-Dichloropropane	500		U
75-27-4	Bromodichloromethane	500		U
108-10-1	4-Methyl-2-Pentanone	1000		U
10061-01-5	cis-1,3-Dichloropropene	500		U
108-88-3	Toluene	500		U
10061-02-6	trans-1,3-Dichloropropene	500		U
79-00-5	1,1,2-Trichloroethane	500		U
591-78-6	2-Hexanone	1000		U
127-18-4	Tetrachloroethene	500		U
124-48-1	Chlorodibromomethane	500		U
108-90-7	Chlorobenzene	500		U
100-41-4	Ethylbenzene	500		U
95-47-6	Xylenes (total)	500		U
100-42-5	Styrene	500		U
75-25-2	Bromoform	500		U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR78-GW22A-99A

Lab Name: EA LABORATORIES

Contract: 990036

Lab Code: EA ENG

Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: #9900275

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

Lab File ID: VH8B9445.D

Level: (low/med) _____

Date Received: 1/19/99

% Moisture: not dec. 0

Date Analyzed: 1/29/99

GC Column: RTX 502.2

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
74-87-3	Chloromethane	5		U
75-01-4	Vinyl Chloride	5		U
74-83-9	Bromomethane	5		U
75-00-3	Chloroethane	5		U
67-64-1	Acetone	10		U
75-35-4	1,1-Dichloroethene	5		U
75-09-2	Methylene Chloride	5		U
75-15-0	Carbon Disulfide	5		U
156-59-2	cis-1,2-Dichloroethene	5		U
156-60-5	trans-1,2-Dichloroethene	5		U
75-34-3	1,1-Dichloroethane	5		U
78-93-3	2-Butanone	10		U
67-66-3	Chloroform	5		U
71-55-6	1,1,1-Trichloroethane	5		U
56-23-5	Carbon Tetrachloride	5		U
107-06-2	1,2-Dichloroethane	5		U
71-43-2	Benzene	5		U
79-01-6	Trichloroethene	5		U
78-87-5	1,2-Dichloropropane	5		U
75-27-4	Bromodichloromethane	5		U
108-10-1	4-Methyl-2-Pentanone	10		U
10061-01-5	cis-1,3-Dichloropropene	5		U
108-88-3	Toluene	5		U
10061-02-6	trans-1,3-Dichloropropene	5		U
79-00-5	1,1,2-Trichloroethane	5		U
591-78-6	2-Hexanone	10		U
127-18-4	Tetrachloroethene	5		U
124-48-1	Chlorodibromomethane	5		U
108-90-7	Chlorobenzene	5		U
100-41-4	Ethylbenzene	5		U
95-47-6	Xylenes (total)	5		U
100-42-5	Styrene	5		U
75-25-2	Bromoform	5		U

010097

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR78-GW24-99A

Lab Name: EA LABORATORIES Contract: 990031

Lab Code: EA ENG Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 9900208

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC3A1057.D

Level: (low/med) LOW Date Received: 1/18/99

% Moisture: not dec. _____ Date Analyzed: 1/25/99

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	5	U	
75-01-4	Vinyl Chloride	25		
74-83-9	Bromomethane	5	U	
75-00-3	Chloroethane	5	U	
67-64-1	Acetone	10	U	
75-35-4	1,1-Dichloroethene	5	U	
75-09-2	Methylene Chloride	5	U	
75-15-0	Carbon Disulfide	5	U	
75-34-3	1,1-Dichloroethane	5	U	
78-93-3	2-Butanone	10	U	
156-60-5	trans-1,2-Dichloroethene	18		
67-66-3	Chloroform	5	U	
71-55-6	1,1,1-Trichloroethane	5	U	
56-23-5	Carbon Tetrachloride	5	U	
156-59-2	cis-1,2-Dichloroethene	380	E	
107-06-2	1,2-Dichloroethane	5	U	
71-43-2	Benzene	5	U	
79-01-6	Trichloroethene	14		
78-87-5	1,2-Dichloropropane	5	U	
75-27-4	Bromodichloromethane	5	U	
108-10-1	4-Methyl-2-Pentanone	10	U	
10061-01-5	cis-1,3-Dichloropropene	5	U	
108-88-3	Toluene	4	J	
10061-02-6	trans-1,3-Dichloropropene	5	U	
79-00-5	1,1,2-Trichloroethane	5	U	
591-78-6	2-Hexanone	10	U	
127-18-4	Tetrachloroethene	5	U	
124-48-1	Chlorodibromomethane	5	U	
108-90-7	Chlorobenzene	5	U	
100-41-4	Ethylbenzene	5	U	
1330-20-7	Xylenes (total)	5	U	
100-42-5	Styrene	5	U	
75-25-2	Bromoform	5	U	
79-34-5	1,1,2,2-Tetrachloroethane	5	U	

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR78-GW24-99ADL

Lab Name: EA LABORATORIES Contract: 990031

Lab Code: EA ENG Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 9900208DL

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC3A1180.D

Level: (low/med) LOW Date Received: 1/18/99

% Moisture: not dec. _____ Date Analyzed: 2/1/99

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 5.0

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

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg)	UG/L	Q
74-87-3	Chloromethane	25	U	
75-01-4	Vinyl Chloride	21	JD	
74-83-9	Bromomethane	25	U	
75-00-3	Chloroethane	25	U	
67-64-1	Acetone	50	U	
75-35-4	1,1-Dichloroethene	25	U	
75-09-2	Methylene Chloride	30	D	
75-15-0	Carbon Disulfide	25	U	
75-34-3	1,1-Dichloroethane	25	U	
78-93-3	2-Butanone	50	U	
156-60-5	trans-1,2-Dichloroethene	25	U	
67-66-3	Chloroform	25	U	
71-55-6	1,1,1-Trichloroethane	25	U	
56-23-5	Carbon Tetrachloride	25	U	
156-59-2	cis-1,2-Dichloroethene	360	D	
107-06-2	1,2-Dichloroethane	25	U	
71-43-2	Benzene	25	U	
79-01-6	Trichloroethene	25	U	
78-87-5	1,2-Dichloropropane	25	U	
75-27-4	Bromodichloromethane	25	U	
108-10-1	4-Methyl-2-Pentanone	50	U	
10061-01-5	cis-1,3-Dichloropropene	25	U	
108-88-3	Toluene	25	U	
10061-02-6	trans-1,3-Dichloropropene	25	U	
79-00-5	1,1,2-Trichloroethane	25	U	
591-78-6	2-Hexanone	50	U	
127-18-4	Tetrachloroethene	25	U	
124-48-1	Chlorodibromomethane	25	U	
108-90-7	Chlorobenzene	25	U	
100-41-4	Ethylbenzene	25	U	
1330-20-7	Xylenes (total)	25	U	
100-42-5	Styrene	25	U	
75-25-2	Bromoform	25	U	
79-34-5	1,1,2,2-Tetrachloroethane	25	U	

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR78-TB01-99A

Lab Name: EA LABORATORIES Contract: 990031

Lab Code: EA ENG Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: 9900209

Sample wt/vol: 5.0 (g/ml) ML Lab File ID: VC3A1058.D

Level: (low/med) LOW Date Received: 1/18/99

% Moisture: not dec. _____ Date Analyzed: 1/25/99

GC Column: DB-624 ID: 0.25 (mm) Dilution Factor: 1.0

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

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) UG/L Q

74-87-3	Chloromethane	5	U
75-01-4	Vinyl Chloride	5	U
74-83-9	Bromomethane	5	U
75-00-3	Chloroethane	5	U
67-64-1	Acetone	10	U
75-35-4	1,1-Dichloroethene	5	U
75-09-2	Methylene Chloride	5	U
75-15-0	Carbon Disulfide	5	U
75-34-3	1,1-Dichloroethane	5	U
78-93-3	2-Butanone	10	U
156-60-5	trans-1,2-Dichloroethene	5	U
67-66-3	Chloroform	5	U
71-55-6	1,1,1-Trichloroethane	5	U
56-23-5	Carbon Tetrachloride	5	U
156-59-2	cis-1,2-Dichloroethene	5	U
107-06-2	1,2-Dichloroethane	5	U
71-43-2	Benzene	5	U
79-01-6	Trichloroethene	5	U
78-87-5	1,2-Dichloropropane	5	U
75-27-4	Bromodichloromethane	5	U
108-10-1	4-Methyl-2-Pentanone	10	U
10061-01-5	cis-1,3-Dichloropropene	5	U
108-88-3	Toluene	5	U
10061-02-6	trans-1,3-Dichloropropene	5	U
79-00-5	1,1,2-Trichloroethane	5	U
591-78-6	2-Hexanone	10	U
127-18-4	Tetrachloroethene	5	U
124-48-1	Chlorodibromomethane	5	U
108-90-7	Chlorobenzene	5	U
100-41-4	Ethylbenzene	5	U
1330-20-7	Xylenes (total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U
79-34-5	1,1,2,2-Tetrachloroethane	5	U

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR78GW0199A

Lab Name: EA LABORATORIES Contract: _____

Lab Code: EA ENG Case No.: _____ SAS No.: _____ SDG No.: _____

Matrix: (soil/water) WATER Lab Sample ID: #9900369

Sample wt/vol: 5.0 (g/mL) ML Lab File ID: VE5B9576.D

Level: (low/med) _____ Date Received: 1/20/99

% Moisture: not dec. _____ Date Analyzed: 1/28/99

GC Column: RTX 502.2 ID: 0.53 (mm) Dilution Factor: 1.0

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

CAS No.	Compound	Concentration Units:		Q
		(ug/L or ug/Kg)	ug/L	
74-87-3	Chloromethane	5		U
75-01-4	Vinyl Chloride	5		U
74-83-9	Bromomethane	5		U
75-00-3	Chloroethane	5		U
67-64-1	Acetone	10		U
75-35-4	1,1-Dichloroethene	5		U
75-09-2	Methylene Chloride	5		U
75-15-0	Carbon Disulfide	5		U
156-59-2	cis-1,2-Dichloroethene	4		J
156-60-5	trans-1,2-Dichloroethene	5		U
75-34-3	1,1-Dichloroethane	5		U
78-93-3	2-Butanone	10		U
67-66-3	Chloroform	5		U
71-55-6	1,1,1-Trichloroethane	5		U
56-23-5	Carbon Tetrachloride	5		U
107-06-2	1,2-Dichloroethane	5		U
71-43-2	Benzene	5		U
79-01-6	Trichloroethene	7		
78-87-5	1,2-Dichloropropane	5		U
75-27-4	Bromodichloromethane	5		U
108-10-1	4-Methyl-2-Pentanone	10		U
10061-01-5	cis-1,3-Dichloropropene	5		U
108-88-3	Toluene	5		U
10061-02-6	trans-1,3-Dichloropropene	5		U
79-00-5	1,1,2-Trichloroethane	5		U
591-78-6	2-Hexanone	10		U
127-18-4	Tetrachloroethene	5		U
124-48-1	Chlorodibromomethane	5		U
108-90-7	Chlorobenzene	5		U
100-41-4	Ethylbenzene	5		U
85-47-6	Xylenes (total)	5		U
100-42-5	Styrene	5		U
75-25-2	Bromoform	5		U

Contract:

SDG No.: _____

Soil Aliquot Volume: _____ (uL)

Q

1A
VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

IR78TB0399A

Lab Name: EA LABORATORIES

Contract: _____

Lab Code: EA ENG

Case No.: _____

SAS No.: _____

SDG No.: _____

Matrix: (soil/water) WATER

Lab Sample ID: #9900383

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

Lab File ID: VE5B9589.D

Level: (low/med) _____

Date Received: 1/20/99

% Moisture: not dec. _____

Date Analyzed: 1/29/99

GC Column: RTX 502.2

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

Concentration Units:

CAS No.	Compound	(ug/L or ug/Kg)	ug/L	Q
74-87-3	Chloromethane	5		U
75-01-4	Vinyl Chloride	5		U
74-83-9	Bromomethane	5		U
75-00-3	Chloroethane	5		U
67-64-1	Acetone	10		U
75-35-4	1,1-Dichloroethene	5		U
75-09-2	Methylene Chloride	5		U
75-15-0	Carbon Disulfide	5		U
156-59-2	cis-1,2-Dichloroethene	5		U
156-60-5	trans-1,2-Dichloroethene	5		U
75-34-3	1,1-Dichloroethane	5		U
78-93-3	2-Butanone	10		U
67-66-3	Chloroform	5		U
71-55-6	1,1,1-Trichloroethane	5		U
56-23-5	Carbon Tetrachloride	5		U
107-06-2	1,2-Dichloroethane	5		U
71-43-2	Benzene	5		U
79-01-6	Trichloroethene	5		U
78-87-5	1,2-Dichloropropane	5		U
75-27-4	Bromodichloromethane	5		U
108-10-1	4-Methyl-2-Pentanone	10		U
10061-01-5	cis-1,3-Dichloropropene	5		U
108-88-3	Toluene	5		U
10061-02-6	trans-1,3-Dichloropropene	5		U
79-00-5	1,1,2-Trichloroethane	5		U
591-78-6	2-Hexanone	10		U
127-18-4	Tetrachloroethene	5		U
124-48-1	Chlorodibromomethane	5		U
108-90-7	Chlorobenzene	5		U
100-41-4	Ethylbenzene	5		U
85-47-6	Xylenes (total)	5		U
100-42-5	Styrene	5		U
75-25-2	Bromoform	5		U

IR78TB0399A

Contract:

SAS No.:

SDG No.:

WATER

Lab Sample ID: #9900383

5.0 (g/mL) ML

Lab File ID: VE5B9589.D

Date Received: 1/20/99

Date Analyzed: 1/29/99

ID: 0.53 (mm)

Dilution Factor: 1.0

(uL)

Soil Aliquot Volume: (uL)

(ug/L or ug/Kg)

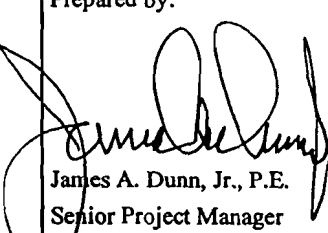
ug/L

Q

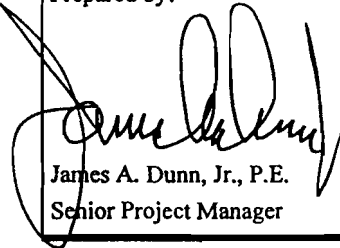
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ATTACHMENT D
MONTHLY REMEDIAL SYSTEM PROGRESS REPORTS

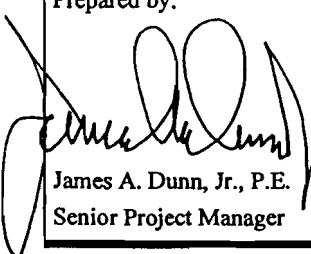
Monthly Report – January 1999
Site 78 Hadnot Point MCB Camp Lejeune, North Carolina
Contract N62420-93-D-3032
Delivery Order 0175

AFVR Events	Product Recovery	
Current period	111	
Total to date	5065	
	North Plant	South Plant
Period of Performance	1/1 – 1/31/98	1/1 – 1/31/98
Duration	31 days	31 days
Product Recovery	0	0
Previously reported	0	0
Treated Groundwater		
Estimated rate	3.06 gpm	5.78 gpm
Duration	731 hours	670 hours
Estimated total treated this period	134,258 gallons	232,288 gallons
Treatment System Performance		
1. North Plant - Treated 6,500 gallons from AFVR events. 2. The South Plant was down to work on pump controllers and circuit breaker tripping over weekend; the North Plant was down to allow for installation of well 12. 3. Normal maintenance has included 12 bag filter changes North Plant, 10 bag filter changes South Plant, back-washing sand filters and carbon units, solids management both plants and E 405 calcium surfactant agent at both plants.		
1. The volumes of treated groundwater have been based upon actual readings from the flowmeters installed at each plant.		
Prepared by:  James A. Dunn, Jr., P.E. Senior Project Manager		
		January 31, 1999

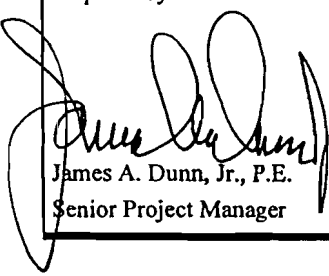
Monthly Report – February 1999
Site 78 Hadnot Point MCB Camp Lejeune, North Carolina
Contract N62420-93-D-3032
Delivery Order 0175

AFVR Events	Product Recovery	
Current period	200	
Total to date	5265	
	North Plant	South Plant
Period of Performance	2/1 – 2/28/98	2/1 – 2/28/98
Duration	28 days	28 days
Product Recovery	0	0
Previously reported	0	0
Treated Groundwater		
Estimated rate	2.88 gpm	7.50 gpm
Duration	500 hours	477 hours
Estimated total treated this period	86,460 gallons	214,748 gallons
Treatment System Performance		
1. North Plant - Treated 4,900 gallons from AFVR events, 1,500 gallons from TT-2477, 4,500 gallons from Building 1115 and 6,850 from Jones AFVR events. 2. The South Plant was down to clean the air stripper and replace all gaskets, modify the blower, replace all gauges on the sand filters and pumps, clean the secondary pumps and sump pumps, and perform the semi-annual maintenance activities. The North was down to clean the stripping tower and repair internals, modify the blower, replace the sight glass and pump controller, rework the sand filters and perform semi-annual maintenance on all equipment. 3. Normal maintenance has included 10 bag filter changes North Plant, 7 bag filter changes South Plant, back-washing sand filters and carbon units, solids management both plants and E 405 calcium surfactant agent at both plants.		
1. The volumes of treated groundwater have been based upon actual readings from the flowmeters installed at each plant.		
Prepared by:  James A. Dunn, Jr., P.E. Senior Project Manager		
February 28, 1999		

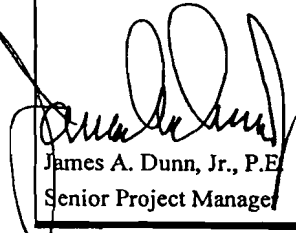
Monthly Report -- March 1999
 Site 78 Hadnot Point MCB Camp Lejeune, North Carolina
 Contract N62420-93-D-3032
 Delivery Order 0175

AFVR Events	Product Recovery	
Current period	260	
Total to date	5525	
	North Plant	South Plant
Period of Performance	3/1 - 3/31/99	3/1 - 3/31/99
Duration	31 days	31 days
Product Recovery	0	0
Previously reported	0	0
Treated Groundwater		
Estimated rate	4.73 gpm	6.14 gpm
Duration	734 hours	614 hours
Estimated total treated this period	179,396 gallons	226,126 gallons
Treatment System Performance		
1. North Plant - Treated 4,500 gallons from AFVR events, 11,400 gallons from Building 1115, HPFF and BM-820 and 12,967 from Jones AFVR events. 2. The South Plant was down to repair the air leak between wells 6 & 7 and to tie-in the new wells. 3. Normal maintenance has included 12 bag filter changes North Plant, 9 bag filter changes South Plant, back-washing sand filters and carbon units, solids management both plants and E 405 calcium surfactant agent at both plants.		
1. The volumes of treated groundwater have been based upon actual readings from the flowmeters installed at each plant.		
Prepared by:  James A. Dunn, Jr., P.E. Senior Project Manager		
March 31, 1999		

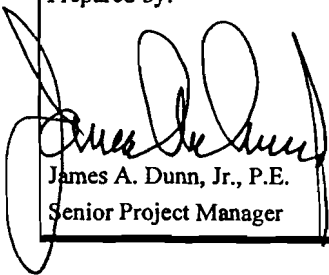
Monthly Report – April 1999
 Site 78 Hadnot Point MCB Camp Lejeune, North Carolina
 Contract N62420-93-D-3032
 Delivery Order 0175

AFVR Events	Product Recovery	
Current period	260	
Total to date	5525	
	North Plant	South Plant
Period of Performance	4/1 – 4/30/99	4/1 – 4/30/99
Duration	28.7 days	24.4 days
Product Recovery	232	0
Previously reported	0	0
Treated Groundwater		
Estimated rate	3.42 gpm	8.77 gpm
Duration	686 hours	586 hours
Estimated total treated this period	147,550 gallons	396,638 gallons
Treatment System Performance		
1. North Plant - Treated 2,050 gallons from AFVR events and 4,780 from Jones AFVR events. South Plant treated 52,800 gallons from Building 25 and 9,000 gallons of produced water from HPFF SVE systems. 2. The South Plant was down to repair the air leak between the plant and well 5 and to repair chemical pumps. The North plant was down to clean solids from system. 3. Normal maintenance has included 13 bag filter changes North Plant, 11 bag filter changes South Plant, back-washing sand filters and carbon units, solids management both plants and E 405 calcium surfactant agent at both plants.		
1. The volumes of treated groundwater have been based upon actual readings from the flowmeters installed at each plant.		
Prepared by:  James A. Dunn, Jr., P.E. Senior Project Manager		
April 30, 1999		

Monthly Report – May 1999
Site 78 Hadnot Point MCB Camp Lejeune, North Carolina
Contract N62420-93-D-3032
Delivery Order 0175

AFVR Events	Product Recovery	
Current period	145	
Total to date	5670	
	North Plant	South Plant
Period of Performance	5/1 – 5/31/99	5/1 – 5/31/99
Duration	30.75 days	29.08 days
Product Recovery	0	0
Previously reported	0	0
Treated Groundwater		
Estimated rate	2.94 gpm	8.12 gpm
Duration	738 hours	698 hours
Estimated total treated this period	129,981 gallons	339,971 gallons
Treatment System Performance		
1. North Plant - Treated 1,500 gallons from AFVR events, 3,300 from Jones AFVR events and 2,000 gallons IDW water from Site 73. South Plant treated 50,400 gallons from Building 25 and 21,600 gallons of produced water from SVE systems. 2. The South Plant was down to clean the air stripper and to repair chemical pumps. 3. Normal maintenance has included 11 bag filter changes North Plant, 12 bag filter changes South Plant, back-washing sand filters and carbon units, solids management both plants and E 405 calcium surfactant agent at both plants.		
1. The volumes of treated groundwater have been based upon actual readings from the flowmeters installed at each plant.		
Prepared by:  James A. Dunn, Jr., P.E. Senior Project Manager		
May 31, 1999		

Monthly Report – June 1999
 Site 78 Hadnot Point MCB Camp Lejeune, North Carolina
 Contract N62420-93-D-3032
 Delivery Order 0175

AFVR Events	Product Recovery	
Current period	242	
Total to date	5912	
	North Plant	South Plant
Period of Performance	6/1 – 6/30/99	6/1 – 6/30/99
Duration	26.42 days	26.75 days
Product Recovery	0	0
Previously reported	0	0
Treated Groundwater		
Estimated rate	3.28 gpm	9.83 gpm
Duration	634 hours	642 hours
Estimated total treated this period	103,069 gallons	307,865 gallons
Treatment System Performance		
1. North Plant - Treated 1,750 gallons from AFVR events, 11,011 from Jones AFVR events and 9,000 gallons water from SVE production at HPFF. South Plant treated 67,000 gallons from Building 25 and 3,600 gallons of produced water from SVE systems. 2. The South Plant was down to work on well controllers, work on control console and to clean surge, floc and effluent tanks. 3. Normal maintenance has included 11 bag filter changes North Plant, 12 bag filter changes South Plant, back-washing sand filters and carbon units, solids management both plants and E 405 calcium surfactant agent at both plants.		
1. The volumes of treated groundwater have been based upon actual readings from the flowmeters installed at each plant.		
Prepared by:  James A. Dunn, Jr., P.E. Senior Project Manager		
June 30, 1999		