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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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Prepared by:

BAKER ENVIRONMENTAL, INC.
Coraopolis, Pennsylvania

PREFACE

The semiannual monitoring reports that are presented herein describe the procedures, analytical findings, and subsequent recommendations of the monitoring program at Operable Unit (OU) No. 1 (Site 78), Marine Corps Base (MCB), Camp Lejeune, North Carolina. Figure P-1 depicts the location of OU 1. The monitoring reports have been prepared by Baker Environmental, Inc. and submitted to the United States Environmental Protection Agency – Region IV; the North Carolina Department of Environment and Natural Resources; the Environmental Management Department of MCB, Camp Lejeune; and the Naval Facilities Engineering Command, Atlantic Division.

The monitoring program at OU 1 was implemented in response to the Record of Decision (ROD) document signed by MCB, Camp Lejeune on September 15, 1994 (Baker, 1994a). The ROD for OU 1 stipulated that documentation in support of the selected remedy, groundwater extraction and treatment coupled with groundwater monitoring, be maintained for periodic regulatory review.

The principal objectives of the monitoring program at OU 1 are as follows: (1) monitor the potential for human or ecological exposure due to off-site migration of contaminants, and (2) evaluate the effectiveness of the groundwater treatment systems. The semiannual monitoring reports document the findings and provide interested parties with information required to authorize future decisions regarding OU 1. The information presented in the reports will be used to either extend, modify, or discontinue the monitoring program as necessary.

REFERENCES

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

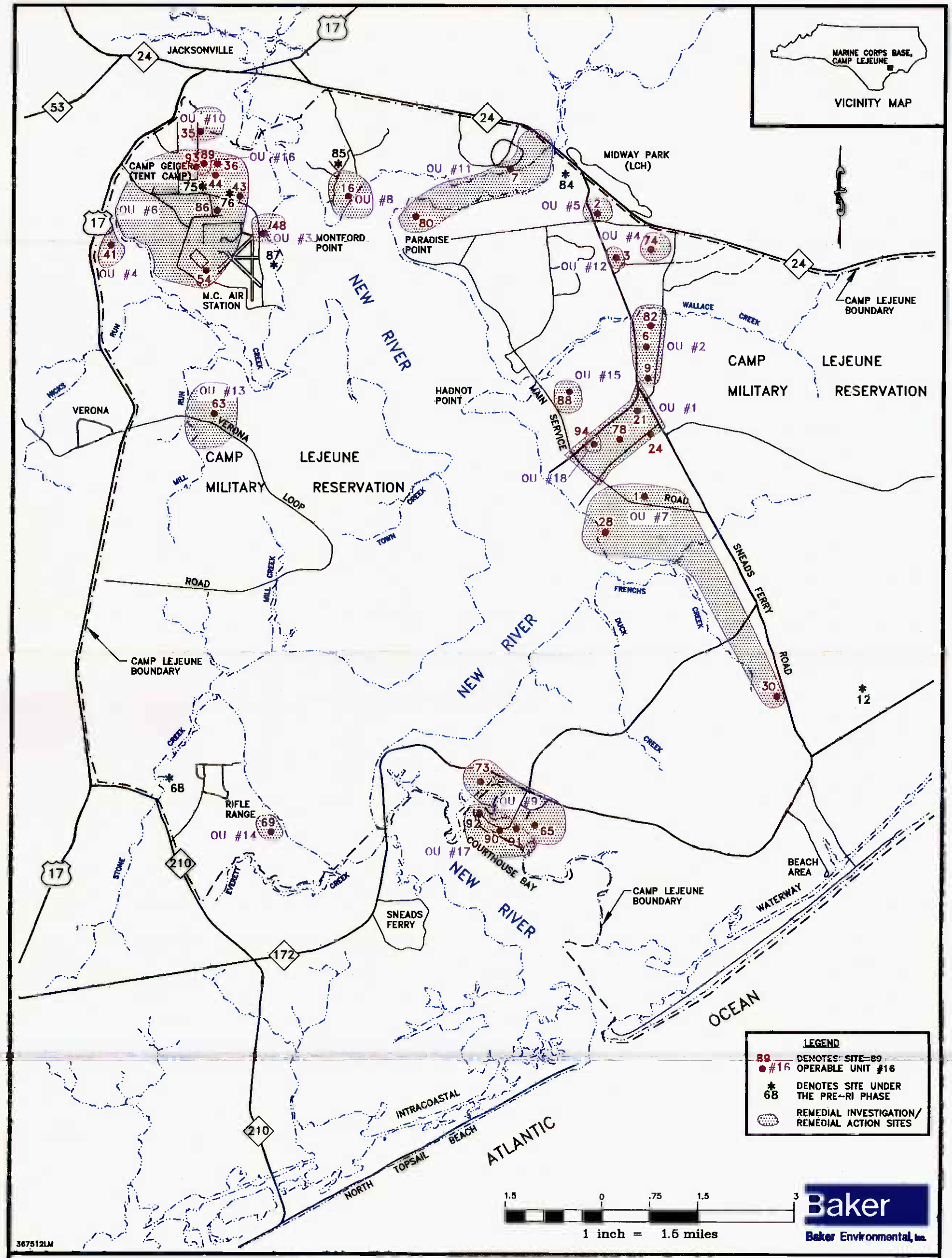

FIGURE P-1

OPERABLE UNIT AND SITE LOCATION MAP
MONITORING AND O&M SUPPORT, CTO-0367

MARINE CORPS BASE, CAMP LEJEUNE
NORTH CAROLINA

02338TTQIV

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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.

Water level measurements at Site 78 were obtained on January 18, 1999. Table 4 provides a summary of the water level measurements and Figure 2 depicts the static elevations and approximate flow direction of shallow groundwater. The groundwater flow regime at Site 78 is relatively consistent. Groundwater flow is generally toward the west-southwest, in the direction of an unnamed tributary to Cogdels Creek and the New River. Groundwater in the southernmost portions of the study area tends to flow in a radial direction, converging in an area of the site that has a lower groundwater elevation than the rest of Site 78. As depicted in Figure 2, the area of lesser hydraulic gradient was observed at shallow monitoring well 78-GW4-1.

Field Observations

Field observations have been recorded during each groundwater sampling event. Recommendations regarding the field observations that follow are presented later within this report.

Field observations from the most recent sampling initiative did not suggest that deterioration of any monitoring wells had occurred. During each sampling event, monitoring wells are inspected for aesthetics, security, and integrity.

ANALYTICAL RESULTS AND FINDINGS

The sections that follow present analytical results and findings from sampling performed at Site 78 during the first calendar quarter of 1999. A summary of all analytical results compiled during the sampling event are presented in Attachment B and corresponding laboratory data sheets are provided in Attachment C.

Three trip blanks were prepared prior to the sampling event, one for each day of sample collection. Trip blanks accompanied the groundwater samples during field collection, shipment, and laboratory analysis. As provided in Table 5, there were no detections of any VOCs in any of the trip blanks.

A summary of detections of VOCs in groundwater is provided in Table 6; a graphic depiction of the data is presented in Figure 3. In general, the analytical data suggest two primary areas of chlorinated solvent contamination at Site 78. The two chlorinated solvent contaminant plumes are primarily limited to the uppermost portion of the surficial aquifer. One area of groundwater contamination is located within the northern portion of the study area and the other is located within the southern portion of the study area. The northern plume area is located in the vicinity of Buildings 900, 901, 902, and 903, surrounding well 78-GW23-1. The southern plume appears to be concentrated in the area surrounding and to the south of well 78-GW09-1.

Southern Contaminant Plume

In the southern plume, contamination is concentrated around well 78-GW09-1 and extends south to monitoring wells 78-GW42, 78-GW04-1, and 78-GW01. Compounds in the southern plume detected at levels exceeding both NCWQS and Federal MCLs include 1,1,1-trichloroethane, 1,1-dichloroethene, trichloroethene, and vinyl chloride. Figure 3 details contaminant concentrations and locations in both the southern and northern plumes.

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 (µg/L). This is below the NCWQS and the Federal MCL for cis-1,2-dichloroethene (both 70 ug/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-dichlorethene, 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-dichlorethene 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 µg/L and the median concentration of vinyl chloride in samples obtained from 78-GW23 during the twelve previous

sampling initiatives is 350 µg/L. The median concentration of trichloroethene in samples obtained from 78-GW23 is 30 µg/L, as compared to the NCWQS of 2.8 µg/L.

Although intermediate well 78-GW24-2 did not contain any VOCs in the present quarter, deep monitoring well 78-GW24-3 contained tetrachlorethene at a concentration of 9 µg/L, exceeding both state and federal standards of 0.7 ug/L and 5.0 ug/L, respectively. Contamination in this deep monitoring well is notable because, with the exception of methylene chloride, there have been no VOCs detected in either the intermediate or deep monitoring well since the first calendar quarter of 1997. This data indicates potential vertical migration of contaminants of the northern plume. Additional monitoring is required to determine if vertical migration is indeed occurring, or if the present detection is anomalous.

Figures 11 and 12 depict the current horizontal extent of total VOCs in shallow groundwater in the northern and southern portions of Site 78 based upon analytical results from the most recent sampling initiative.

GROUNDWATER TREATMENT SYSTEM

Two independent groundwater extraction and treatment systems, maintained by OHM Corporation, have been operating at OU 1 (the Hadnot Point Industrial Area) since December 1994. The systems were designed to collect and treat contaminated groundwater from the uppermost portion of the surficial aquifer in the northern and southern portions of Site 78. The systems were also designed to mitigate the potential for off-site contaminant migration.

As depicted in Figure 13, the northern treatment system currently includes two active recovery wells (RW-10 and RW12) and five inactive recovery wells (RW-1, RW-2, RW-3, RW4, and RW-11). The southern treatment system includes seven active recovery wells (RW-5, RW-6, RW-7, RW-8, RW13, RW14, and RW15) and one inactive recovery well (RW-9). Shallow groundwater extracted from the surficial aquifer is treated at either the northern or southern treatment plants (Figure 13), then discharged to the sewage treatment plant. Five recovery wells were taken off-line during 1996 due to a low concentration of contaminants in the groundwater being extracted. Another inactive recovery well, RW-11, was taken off-line during 1996 due to a high concentration of solids. The higher concentrations of dissolved and suspended solids in groundwater extracted from RW-11 may have been a result of natural site conditions or poor recovery well construction. Four recovery wells were installed during 1998 as recommended in a previous monitoring report (RW-12, RW-13, RW-14, and RW-15). The newly installed recovery wells have now been connected to the treatment system. Two recovery wells, RW-10 and RW-11, were re-installed to improve extraction effectiveness

The northern and southern treatment systems were designed to handle a maximum influent of 80 gallons per minute (gpm). Because the actual pumping rates are much lower than 80 gpm, the treatment systems are currently operating well below their maximum capacity. Groundwater extraction rates during the most recent evaluation period varied between 2.88 and 9.83 gpm. Based on past experience at MCB, Camp Lejeune, a 100-foot radius of influence is expected for 6-inch diameter recovery wells pumping at 5 gpm (Baker, 1996). Areas of influence between 12 and 82 feet, depending upon the particular extraction rate of each recovery well and the availability of groundwater, were achieved at Site 78 during the evaluation period.

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

treated groundwater during 4,023 hours of operation, or 92 percent of the 4,344 hours possible. Routine maintenance and downtime for installation of extraction well RW-12 accounted for 321 hours of total downtime during the sixth month period. The northern treatment system currently includes two active recovery wells (RW-10 and RW12). The average rate at which groundwater was extracted and treated at the northern treatment plant, while operational, was 3.38 gpm. An extraction rate of between four and eight gpm is more typical of similarly constructed shallow recovery wells (i.e., those less than 35 feet below ground surface). The average rate at which groundwater was extracted via RW-10, 2.25 gpm, is therefore less than what would be expected.

Recovery well RW-10 is situated within the contaminant plume in the northern portion of Site 78, approximately 140 feet upgradient of monitoring well 78-GW23, where VOCs have been detected at concentrations well above water quality standards. The remaining four shallow recovery wells are situated beyond the leading, downgradient edge of the contaminant plume (Figure 13). The four downgradient recovery wells were positioned to limit contaminant migration and intercept the VOC plume as it presumably would travel in the direction of groundwater flow. RW-12 was installed in 1998 near 78-GW23, which historically has the highest contaminant concentrations in the northern plume.

Monthly monitoring activities during the evaluation period included sampling of plant influent, plant effluent, oil and water separator effluent, sand filter effluent, and air stripper effluent. Table 9 presents the monthly sampling results obtained during January through June of 1999 at the northern treatment system. Influent to the northern 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; and nickel. As indicated by a comparison of influent to effluent, the treatment system is decreasing contaminant concentrations in the northern plume.

RECOMMENDATIONS

The Record of Decision (ROD) for OU 1 stipulates that groundwater samples from Site 78 be collected periodically to monitor the possible off-site migration of known contaminants (Baker, 1994a). The sections that follow describe only the recommendations which have recently been implemented and recommendations which are proposed for future consideration.

Implemented Recommendations

Detailed information regarding the recommendations that were implemented prior to July 1998 are provided within previous monitoring reports. It is the intent of this report to provide a thorough listing of only those recommendations and actions implemented subsequent to July 1998.

Sample Analysis Modification

Although not previously proposed, laboratory analysis for VOCs will include the speciation of 1,2-dichloroethene into cis- and trans- isomers as of the present calendar quarter (1999A). Prior to this time, 1,2-dichloroethene (total) was provided on laboratory analytical sheets. Cis- and trans-1,2-dichloroethene are breakdown products of trichloroethene (TCE). Their concentrations are indicators of the progress of the natural attenuation process.

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

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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 Corespondence) .

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 Turbitity 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

TABLE 7

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-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-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
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
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
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
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
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

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

	January 1999					February 1999					March 1999				
Contaminant	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

	April 1999					May 1999					June 1999				
Contaminant	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

	January 1999					February 1999					March 1999				
Contaminant	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

	April 1999					May 1999					June 1999				
Contaminant	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

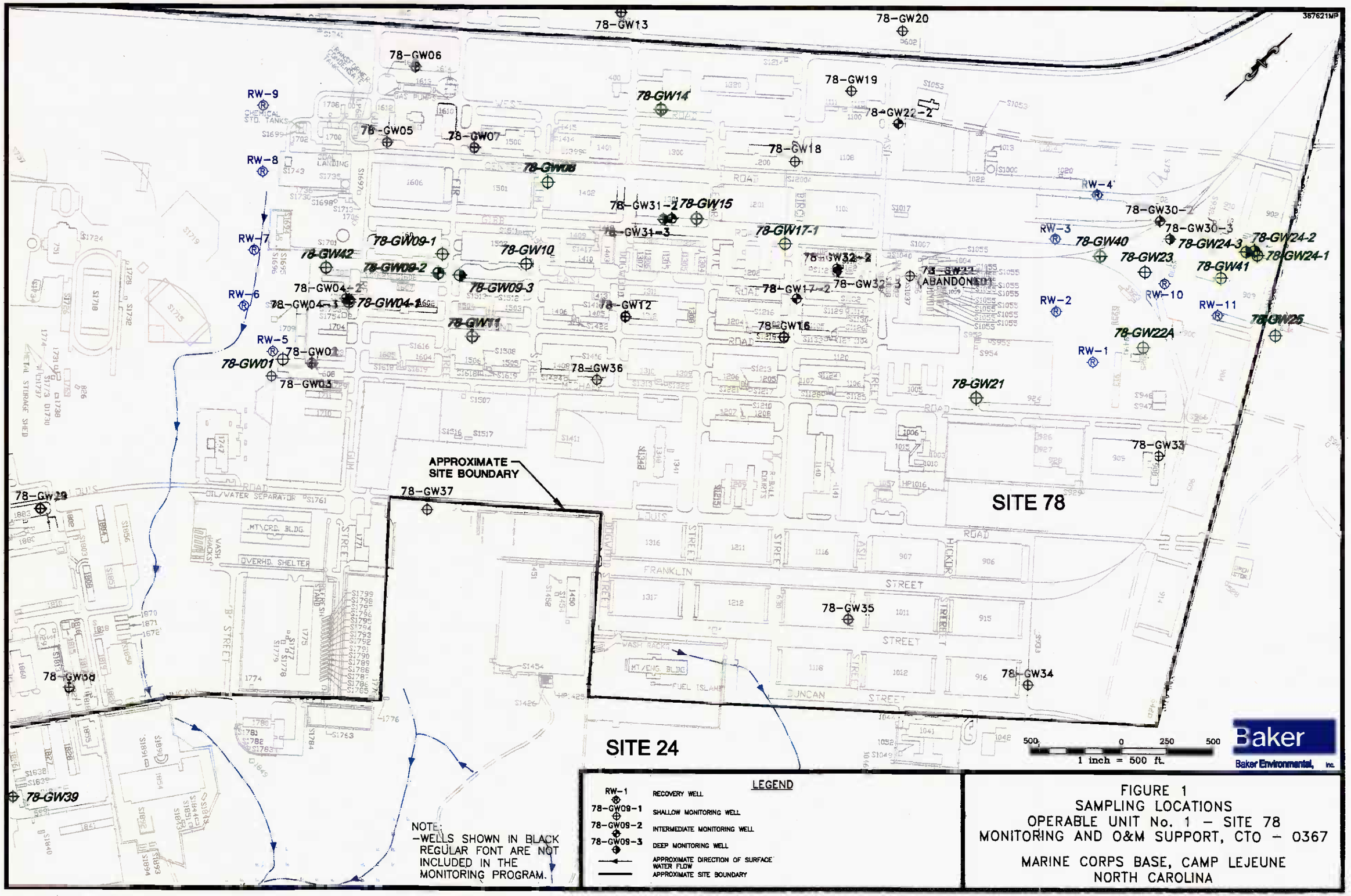


FIGURE 1
SAMPLING LOCATIONS
OPERABLE UNIT No. 1 – SITE 78
MONITORING AND O&M SUPPORT, CTO – 0367

MARINE CORPS BASE, CAMP LEJEUNE
NORTH CAROLINA

0233811B1V

SITE78\367725MP

78-GW20 NA

78-GW13 NA

78-GW19 NA

78-GW14 16.28

78-GW18 NA

78-GW06 14.87

78-GW05 19.25

78-GW07 14.

78-GW08 15.27

78-GW15 20.03

78-GW17-1 18.94

78-GW22-1 (ABANDONED)

78-GW40 NA

78-GW23 21.78

78-GW24 28.33

78-GW41 NA

78-GW25 24.03

78-GW22A 25.54

78-GW21 23.11

78-GW33 22.21

78-GW09-1 NA

78-GW10 15.62

78-GW42 NA

78-GW04-1 12.98

78-GW11 14.4

78-GW12 NA

78-GW16 NA

78-GW36 NA

78-GW01 NA

78-GW02 24.55

78-GW03 25.90

APPROXIMATE SITE BOUNDARY

78-GW37 NA

78-GW29 NA

78-GW38 NA

78-GW35 NA

78-GW34 NA

78-GW39 4.04

SITE 78

SITE 24

NOTE:
-WELLS SHOWN IN BLACK REGULAR FONT ARE NOT INCLUDED IN THE MONITORING PROGRAM.

LEGEND

78-GW10 – SHALLOW MONITORING WELL

14.4 – GROUNDWATER ELEVATION (MSL) MEASURED ON 01/18/99

NA – DATA NOT AVAILABLE

– GROUNDWATER FLOW DIRECTION

– GROUNDWATER CONTOUR INTERVAL

500 0 250 500
1 inch = 500 ft.

Baker
Baker Environmental, Inc.

FIGURE 2
GROUNDWATER CONTOUR MAP
SHALLOW AQUIFER
OPERABLE UNIT No. 1 – SITE 78
MONITORING AND O&M SUPPORT, CTO – 0367

MARINE CORPS BASE, CAMP LEJEUNE
NORTH CAROLINA

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–Dichlorothene	70	100
Trichloroethene	2.8	5.0
Vinyl Chloride	0.015	2.0
Xylene (Total)	530	10,000

SAMPLE ID	IR78–GW04–99A
SAMPLE DATE	01/17/99
CIS–1,2–DICHLDROETHENE	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–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–GW09IW–99A
SAMPLE DATE	01/17/99
CIS–1,2–DICHLOROETHENE	10

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

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–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–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

78-GW14 78-GW08 78-GW15 78-GW17-1 78-GW09-1 78-GW10 78-GW42 78-GW09-2 78-GW09-3 78-GW41-1 78-GW11 78-GW01 78-GW40 78-GW23 78-GW24-2 78-GW41 78-GW24-1 78-GW26 78-GW22A 78-GW21 78-GW39

APPROXIMATE SITE BOUNDARY

SITE 78

SITE 24

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

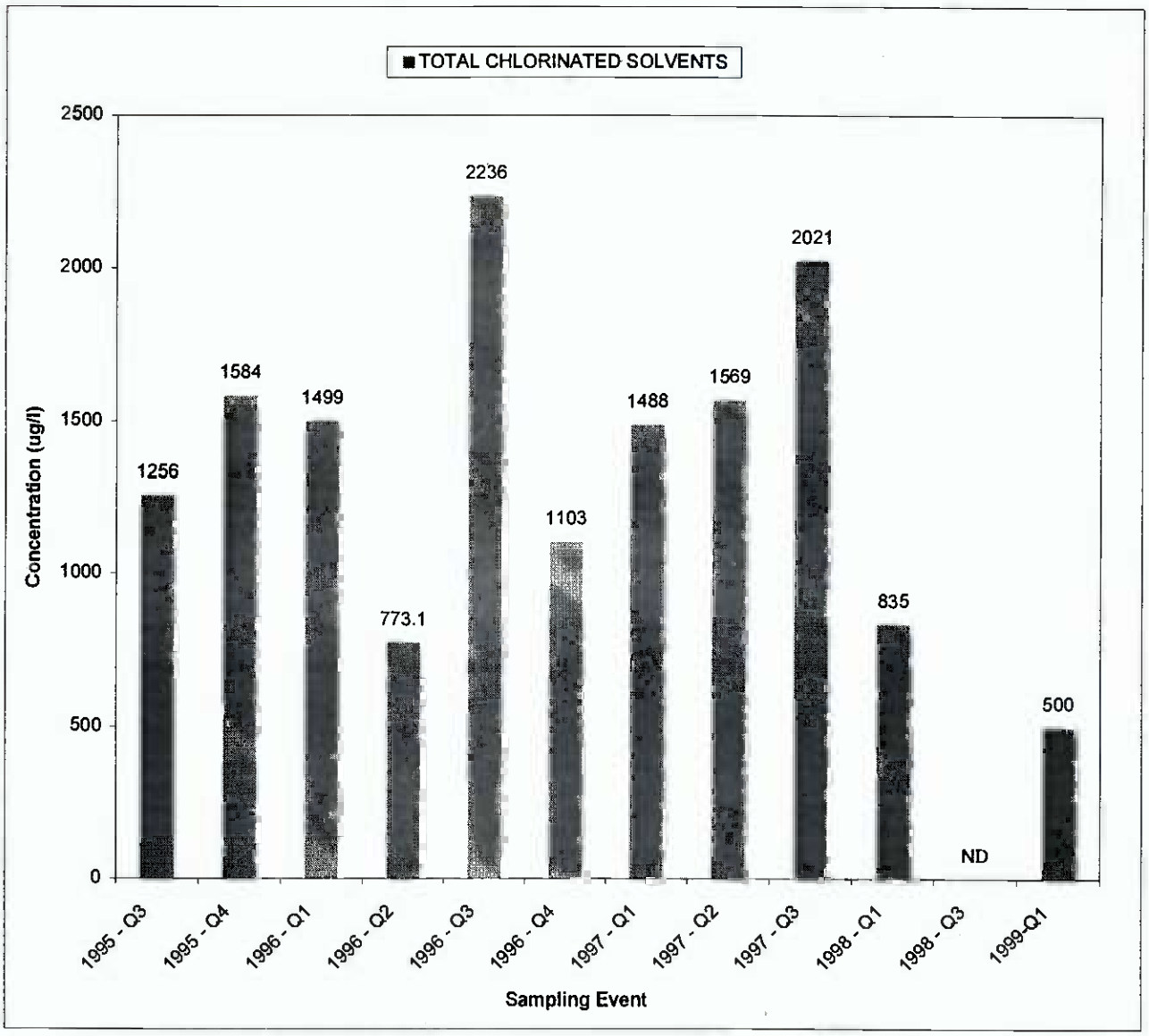
1 inch = 500 ft.

Baker Environmental, Inc.

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

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 LEJEUENE, NORTH CAROLINA



Notes:

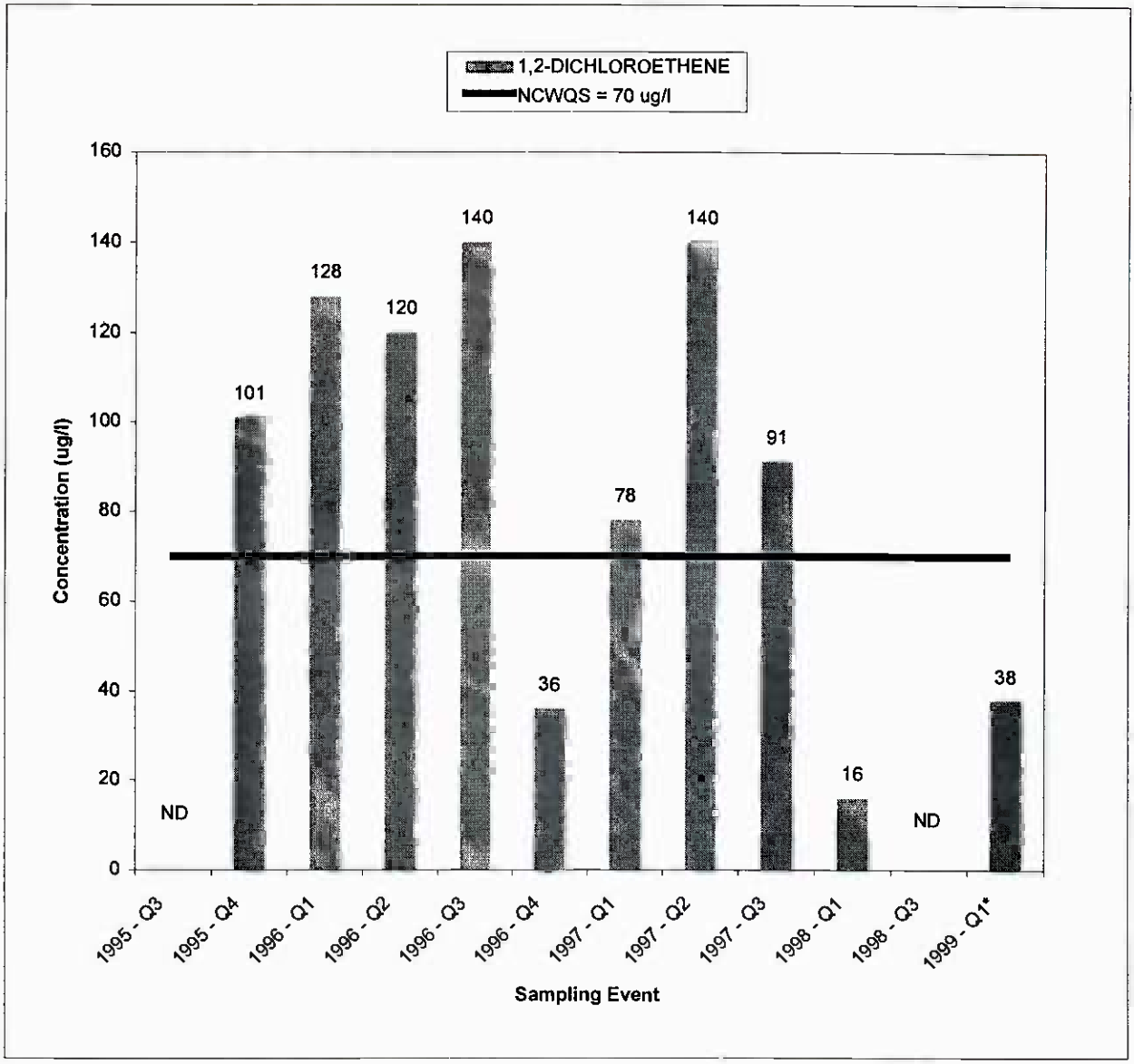
Q1 - Quarter 1 (January - March)
Q2 - Quarter 2 (April - June)
Q3 - Quarter 3 (July - September)
Q4 - Quarter 4 (October - December)

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	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 LEJEUENE, NORTH CAROLINA



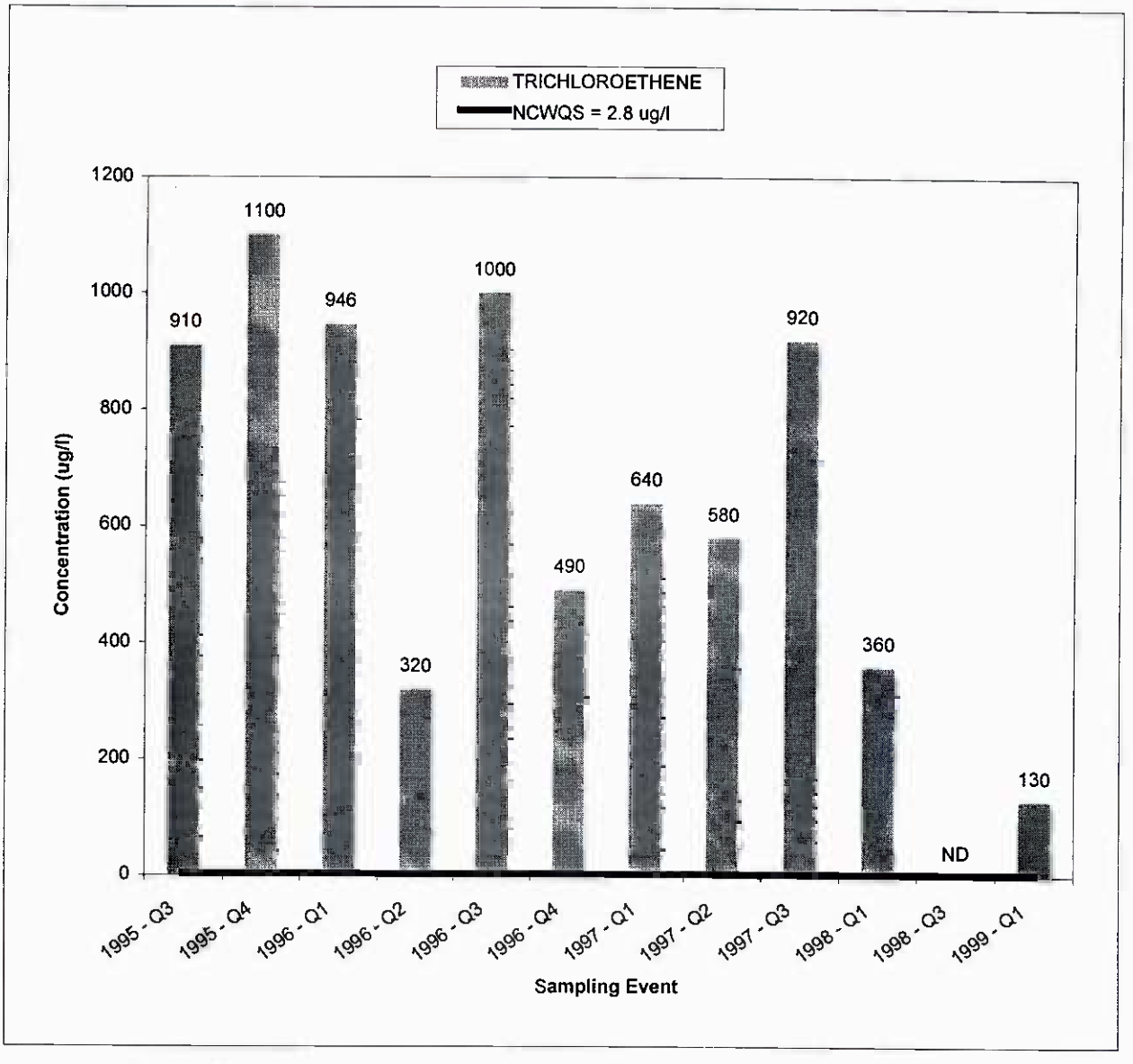
Q1 - Quarter 1 (January - March)
Q2 - Quarter 2 (April - June)
Q3 - Quarter 3 (July - September)
Q4 - Quarter 4 (October - December)

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



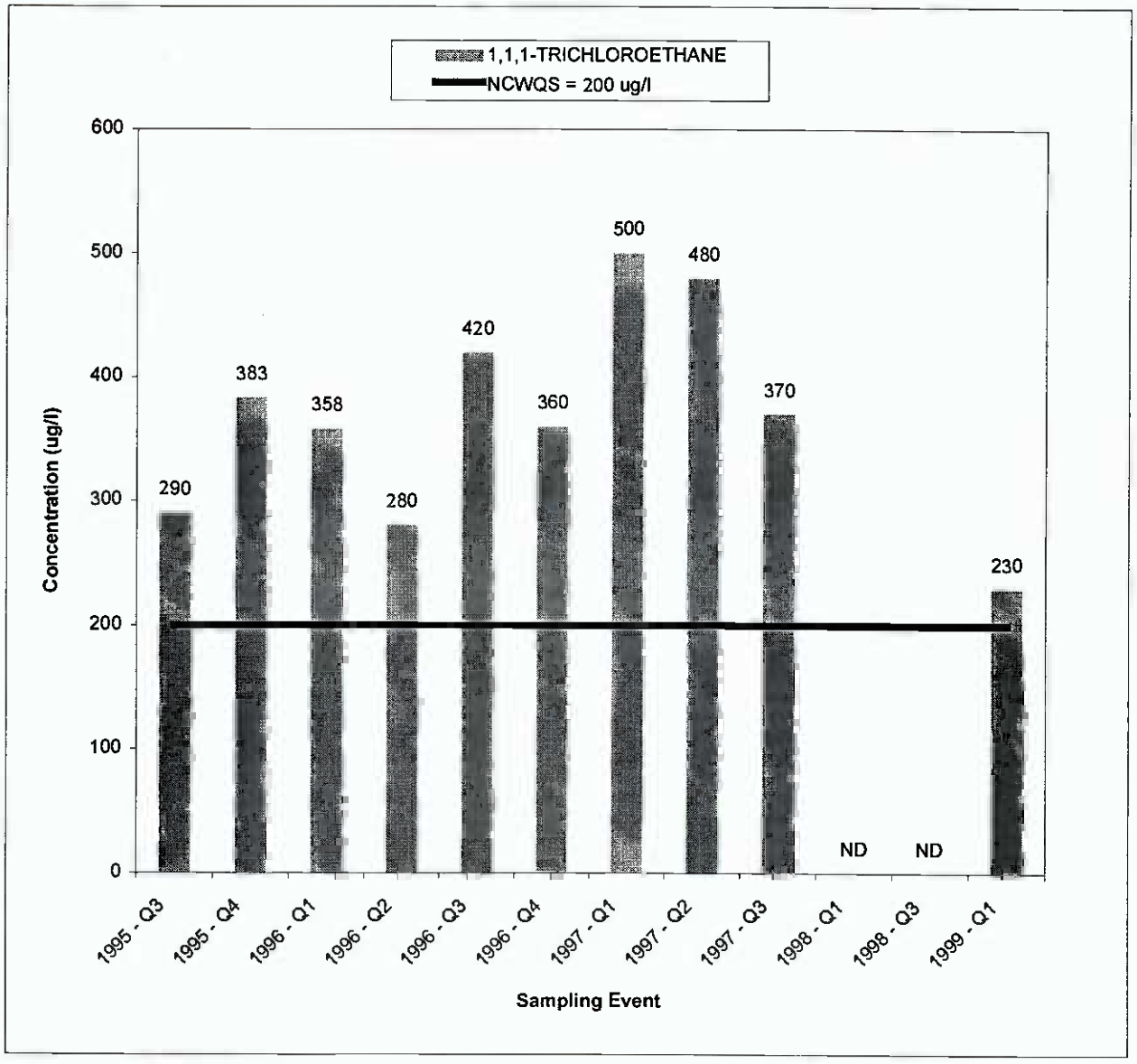
Q1 - Quarter 1 (January - March)
Q2 - Quarter 2 (April - June)
Q3 - Quarter 3 (July - September)
Q4 - Quarter 4 (October - December)

Notes:
Federal Maximum Contaminant Level (MCL) = 5 micrograms per liter (ug/l)
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 LEJEUENE, NORTH CAROLINA



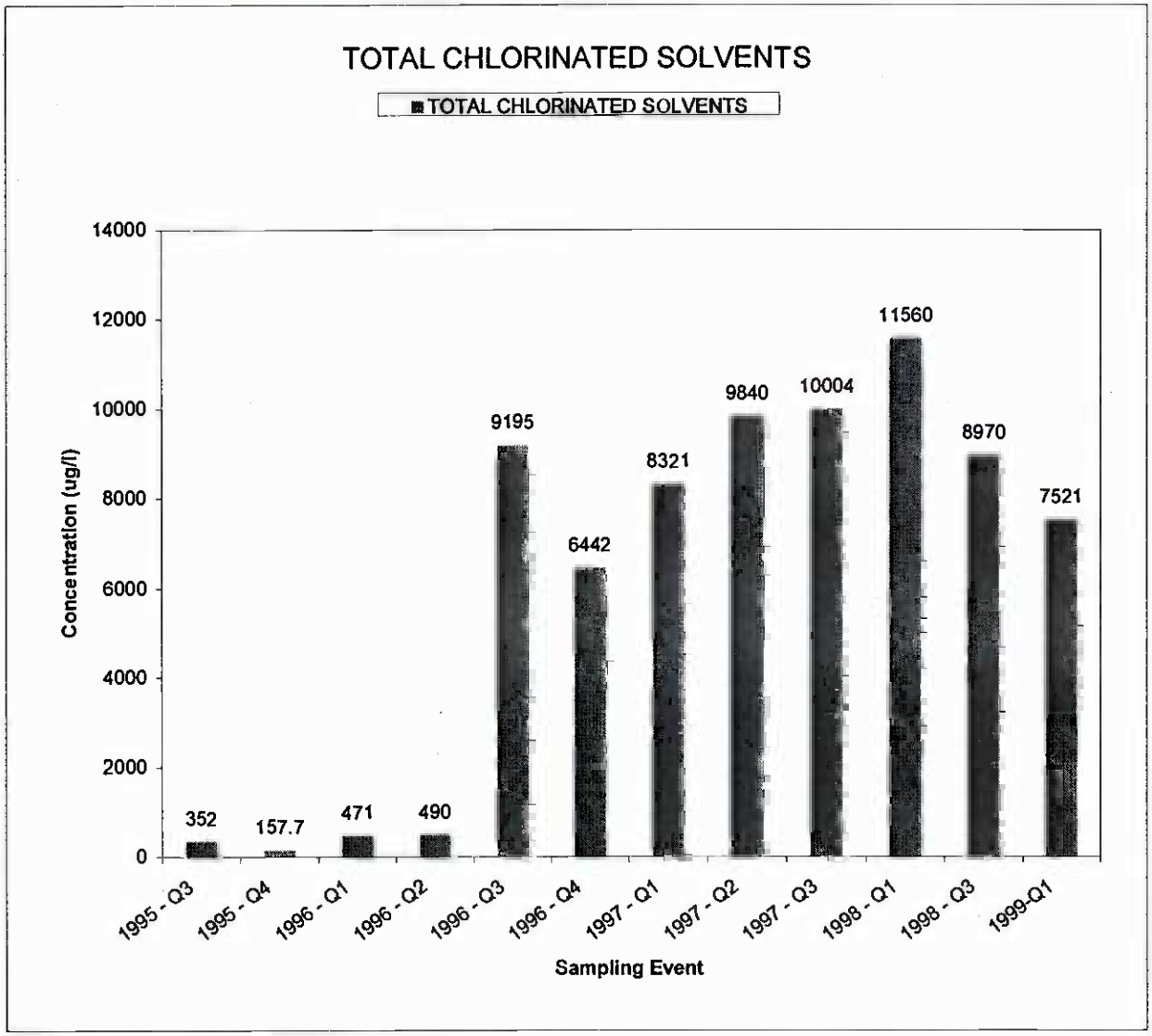
Q1 - Quarter 1 (January - March)
Q2 - Quarter 2 (April - June)
Q3 - Quarter 3 (July - September)
Q4 - Quarter 4 (October - December)

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 LEJEUENE, NORTH CAROLINA



Notes:

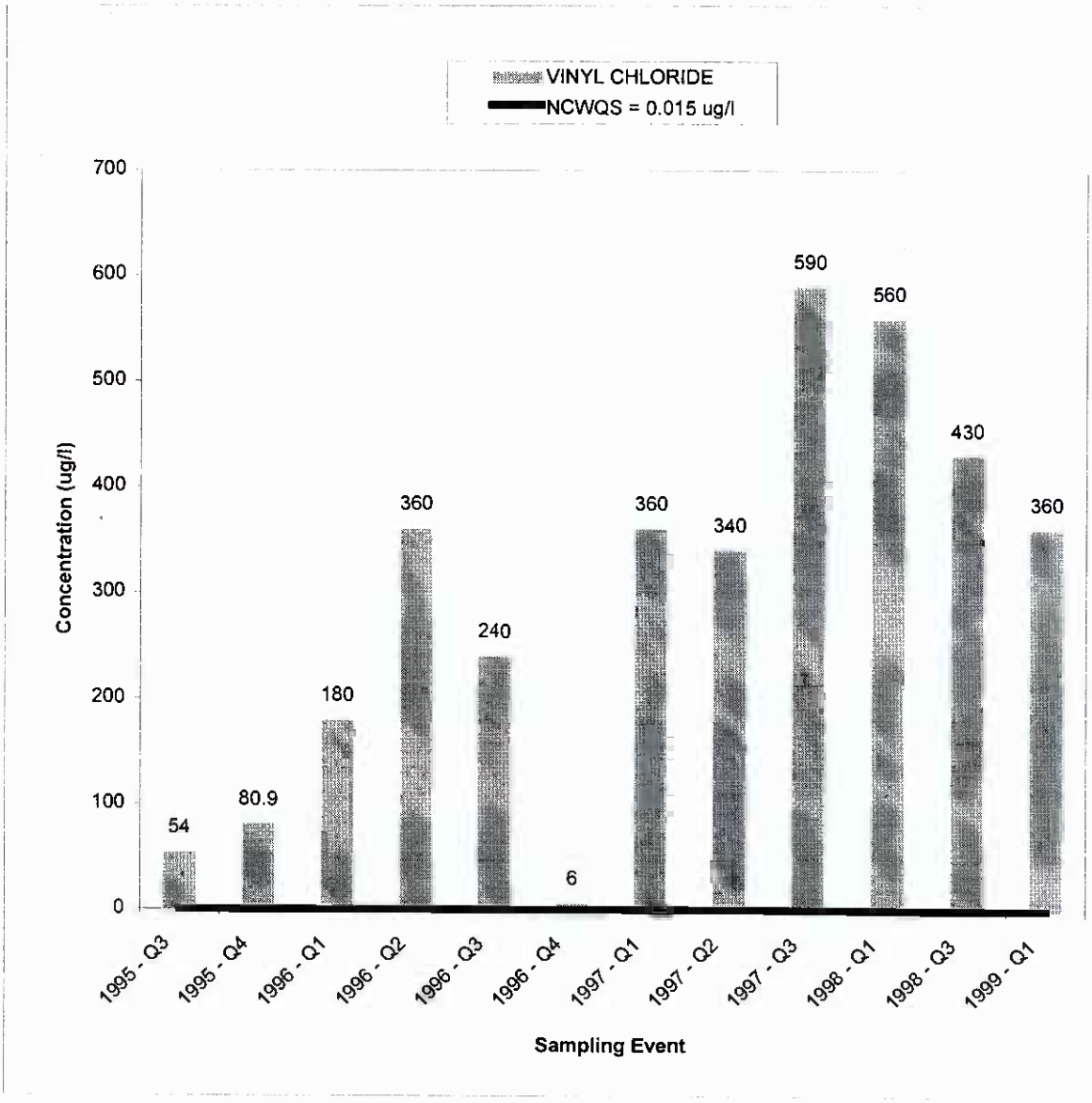
Q1 - Quarter 1 (January - March)
Q2 - Quarter 2 (April - June)
Q3 - Quarter 3 (July - September)
Q4 - Quarter 4 (October - December)

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 LEJEUENE, NORTH CAROLINA



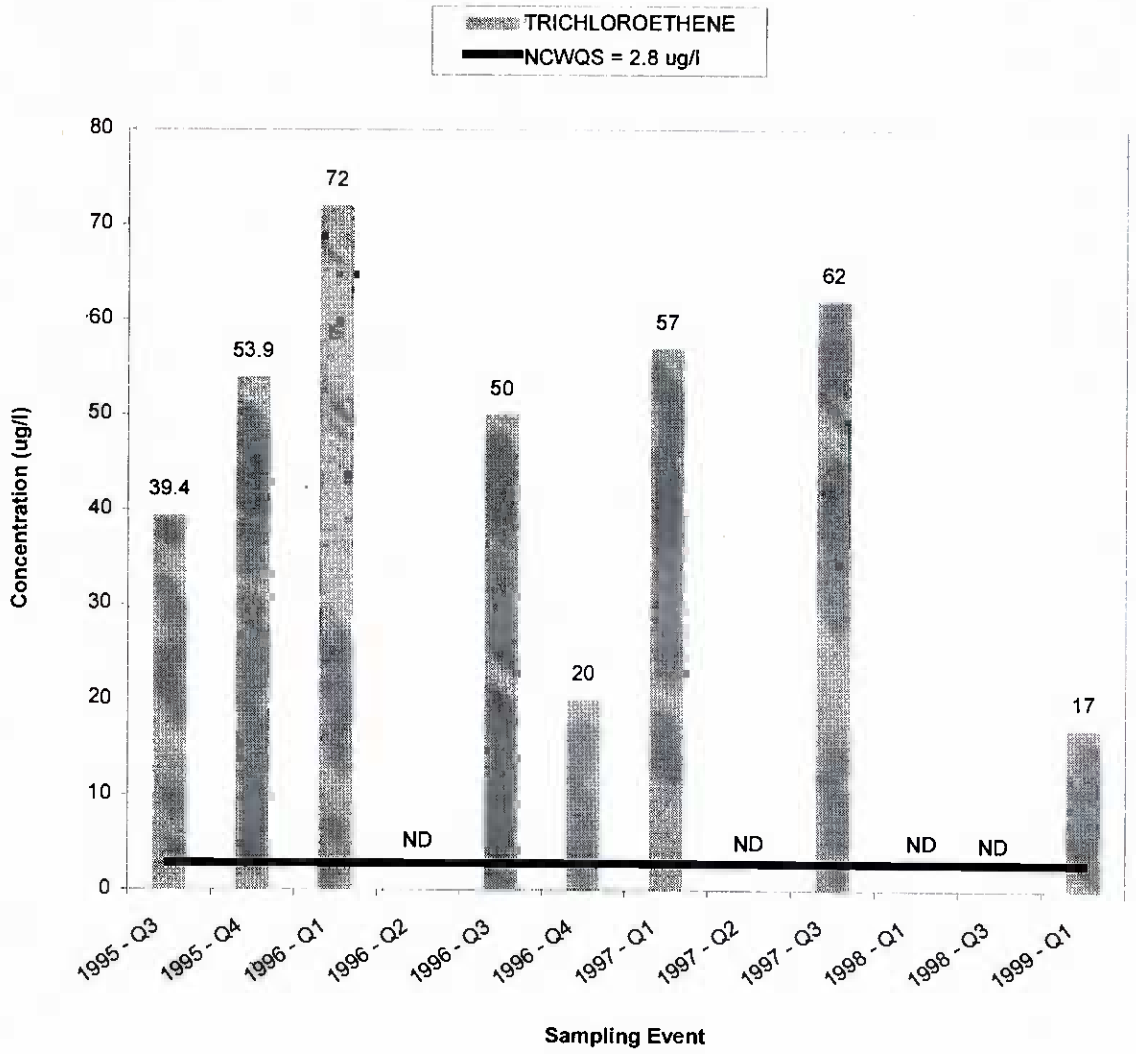
Q1 - Quarter 1 (January - March)
Q2 - Quarter 2 (April - June)
Q3 - Quarter 3 (July - September)
Q4 - Quarter 4 (October - December)

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

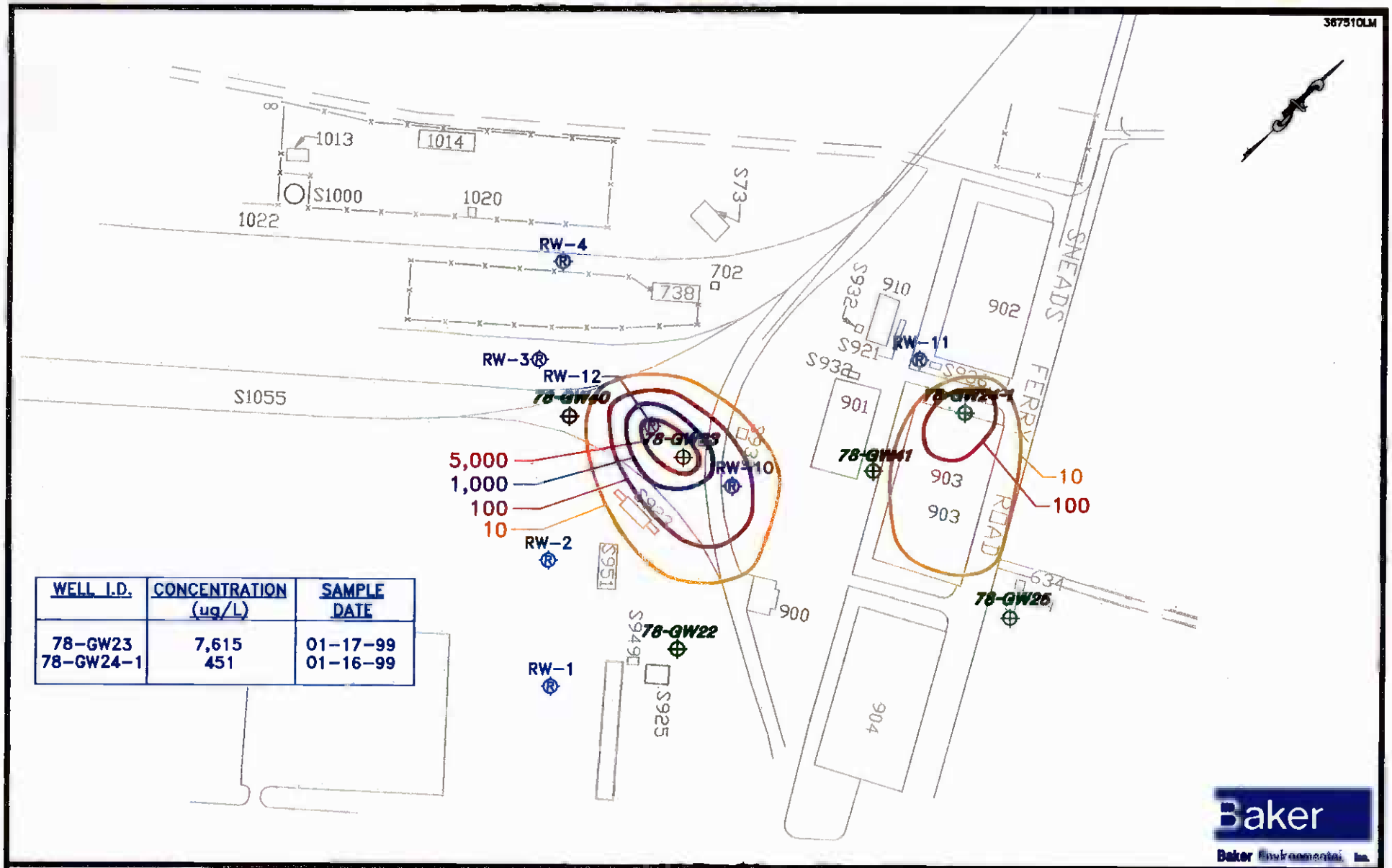
TRICHLOROETHENE RESULTS FROM 78-GW23
OPERABLE UNIT NO. 1 - SITE 78
MONITORING AND O&M SUPPORT, CTO-0367
MCB, CAMP LEJEUENE, NORTH CAROLINA



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

LEGEND

⊕ – SHALLOW MONITORING WELL

Ⓡ – GROUNDWATER RECOVERY WELL

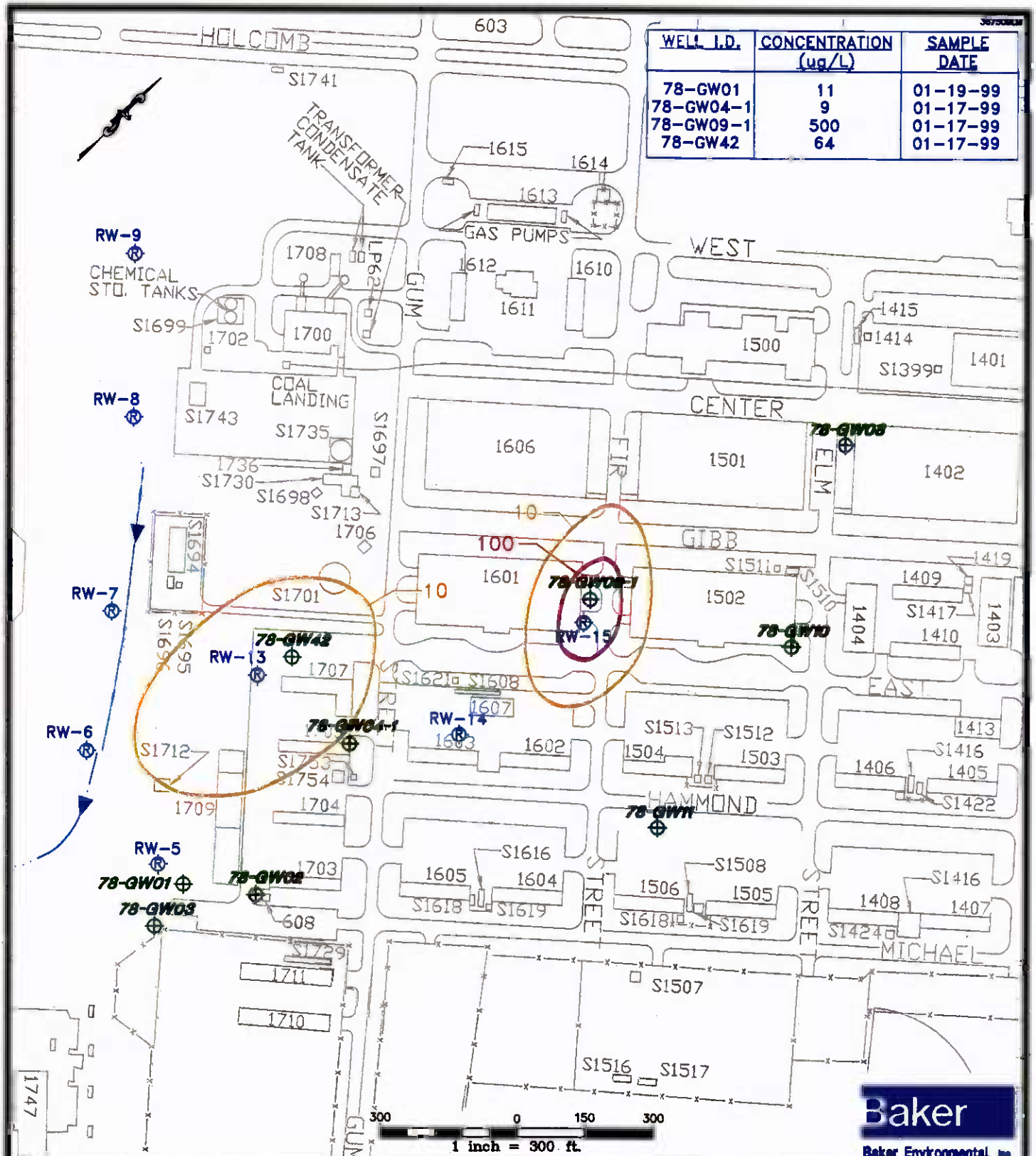
–10– – ISOCONCENTRATION LINE

SOURCE: LANTDIV, OCT. 1991

300 0 150 300

1 inch = 300 ft.

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



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

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

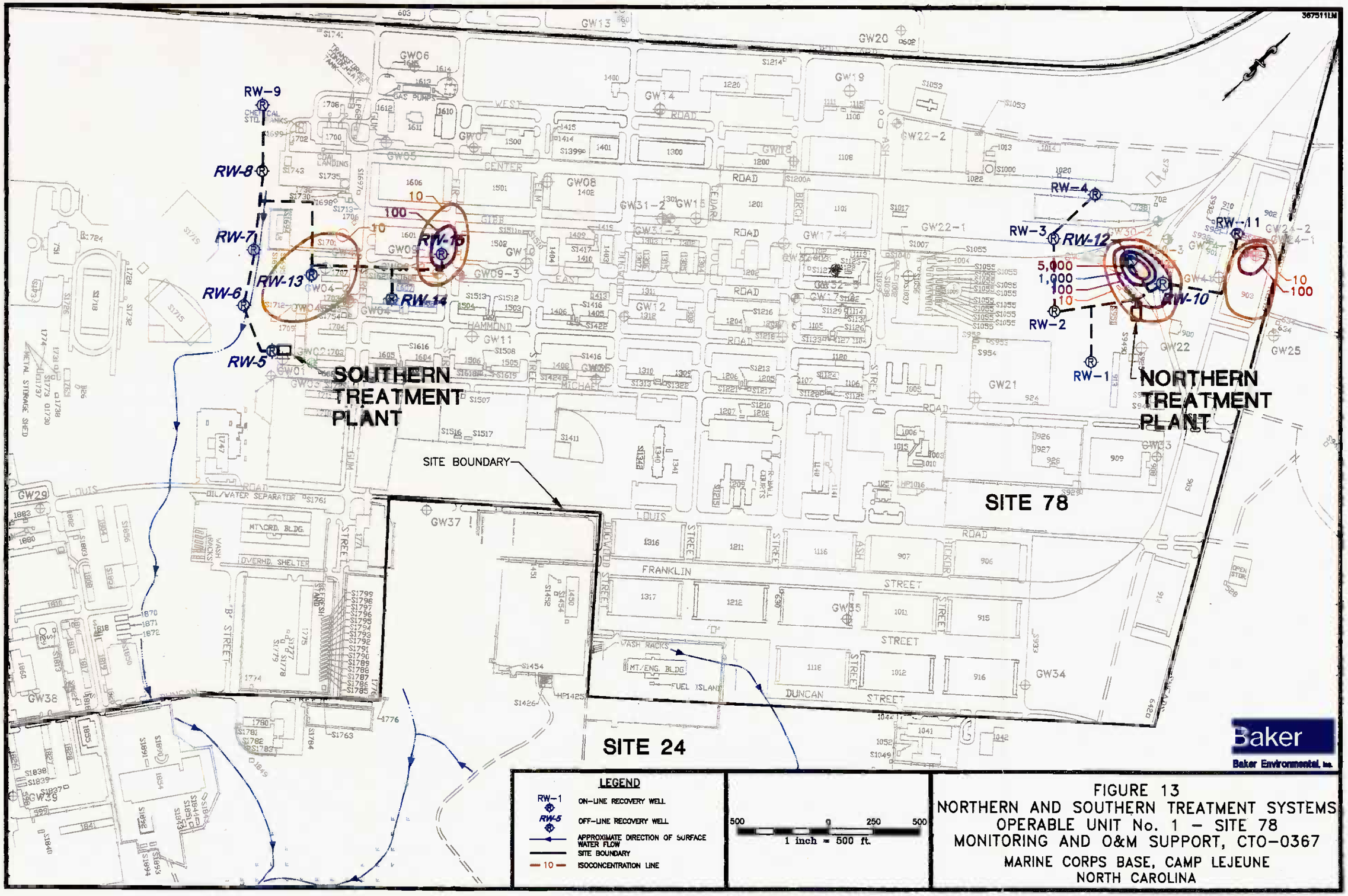


FIGURE 13
NORTHERN AND SOUTHERN TREATMENT SYSTEMS
OPERABLE UNIT No. 1 – SITE 78
MONITORING AND O&M SUPPORT, CTO-0367
MARINE CORPS BASE, CAMP LEJEUNE
NORTH CAROLINA

ATTACHMENTS

ATTACHMENT A
CHAIN OF CUSTODY DOCUMENTATION

COC # 36706-99A

Company Name: Baker Environmental Inc.	Project Manager or Contact: Tom Trebilcock Phone: (412) 269-2015
Project No. Dept.: Task:	Project Name: Camp Lejeune, LTM
Sample Storage Location:	ATO Number:
Page 1 of 3	Report #:

Parameters/Method Numbers for Analysis

Chain of Custody Record

EA Laboratories
19 Loveton Circle
Sparks, MD 21152
Telephone: (410) 771-4920
Fax: (410) 771-4407

Report Deliverables: 1 2 3 4 D E
EDD: Yes/No
DUE TO CLIENT: _____

1999 Date	Time	Water	Soil	Sample Identification 19 Characters	No. of Containers	TCL Volatiles 8260A	TCL Semivolatiles 8270	EA Labs Accession Number	Remarks
1/18	1000	X		IR13-TB01-99A	2	X			LPM:
1/16	0830	X		IR13-GW06-99A	2		X		
1/18	0910	X		IR13-GW02-99A	2		X		
1/17	1355	X		IR17SI-GW09DW-99A	3	X			
1/17	0845	X		IR17SI-GW39-99A	3	X			
1/16	1135	X		IR06-GW37D-99A	3	X			
1/16	1150	X		IR17SI-GW24DW-99A	3	X			
1/16	1250	X		IR17SI-GW24I-99A	3	X			
1/15	1045	X		IR17SI-TB02-99A	3	X			
1/15	1130	X		IR06-TB02-99A	3	X			
1/16	0940	X		IR13-GW04-99A	3	X			
1/16	1540	X		IR13-GW15-99A	3	X			
1/16	0900	X		IR06-GW44DW	3	X			
1/16	1545	X		IR17SI-GW14I-99A	3	X			
1/16	1700	X		IR17SI-GW25-99A	3	X			
1/16	1210	X		IR13-GW02-99A	3	X			
1/16	1130	X		IR13-GW02-99A	3	X			
1/17	1130	X		IR17SI-GW15-99A	3	X			
1/17	1350	X		IR17SI-GW09-99A	3	X			
1/17	1345	X		IR17SI-GW21-99A	3	X			

Samples by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
Relinquished by: (Signature) Ellen Rychlec	Date/Time 1/19/99 1505	Received by Laboratory: (Signature)	Date/Time	Airbill Number: 806677591602	Sample Shipped by: (Circle) Fed Ex. Puro. UPS Hand Carried Other:

Cooler Temp. ____C pH: ☐ Yes ☐ No Comments: Custody Seals Intact ☐ Yes ☐ No

NOTE: Please indicate method number for analyses requested. This will help clarify any questions with laboratory techniques.

PINK—Project Manager

Shaded Areas for Lab Use Only

COC # 36705B-99A

Company Name:	Project Manager or Contact:
Baker Environmental Inc	Tom Trebilcock Phone: (412) 269-2015
Project No. Dept.: Task:	Project Name: Camp Lejeune - LTM
Sample Storage Location:	ATO Number:
Page 2 of 2	Report #:

Parameters/Method Numbers for Analysis

Date	Time	Water	Soil	Sample Identification 19 Characters	No. of Containers	TCL Volatiles 8260A
1/16	0915	X		IR78-GW24-99A	3	X
1/16	1000	X		IR78-TB01-99A	3	X
~~1/16~~	~~0930~~	~~X~~		~~IR06-GW04D-99A~~	~~3~~	~~X~~
~~1/16~~	~~1120~~	~~X~~		~~IR06-GW30D-99A~~	~~3~~	~~X~~
~~1/16~~	~~1610~~	~~X~~		~~IR06-MW26D02-99A~~	~~3~~	~~X~~

Chain of Custody Record

EA Laboratories
19 Loveton Circle
Sparks, MD 21152
Telephone: (410) 771-4920
Fax: (410) 771-4407

Report Deliverables: 1 2 3 4 D E

EDD: Yes/No

DUE TO CLIENT: _____

EA Labs Accession Number	Remarks
	LPM:

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

Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	Airbill Number:	Sample Shipped by: (Circle)
Ellen Bradley	1/16/99 1210			806775914 18	Fed Ex. Puro. UPS Hand Car Other:

Cooler Temp. 0 C pH: ☐ Yes ☐ No Comments: Custody Seals Intact ☐ Yes ☐ No

NOTE: Please indicate method number for analyses requested. This will help clarify any questions with laboratory techniques.

WHITE—EA Laboratories YELLOW—EA Laboratories PINK—Project Manager *Shaded Areas for Lab Use Only*

COC # 36706 B - 99A

Company Name: Baker Environmental	Project Manager or Contact: Tom Trebilcock Phone: (412) 269-2015	Parameters/Method Numbers for Analysis	Chain of Custody Record
Project No. Dept.: Task:	Project Name: Camp Lejeune - LTM		EA Laboratories, 19 Loveton Circle, Sparks, MD 21152, Telephone: (410) 771-4920, Fax: (410) 771-4407
Sample Storage Location:	ATO Number:		Report Deliverables: 1 2 3 4 D E; EDD: Yes/No; DUE TO CLIENT:
Page 2 of 3	Report #:		

1999 Date	Time	Water	Soil	Sample Identification 19 Characters	No. of Containers	TCL Volatiles	EA Labs Accession Number	Remarks
1/17	1215	X		IR78-GW117-99A	3	X		LPM:
~~1/17~~	~~1555~~	~~X~~		~~IR78-GW09IW-99A~~	~~3~~	~~X~~		
1/17	1555	X		IR78-GW09IW-99A	3	X		
1/17	1530	X		IR78-GW091-99A	3	X		
1/17	0930	X		IR78-GW111-99A	3	X		
1/17	0815	X		IR78-GW121-99A	3	X		
1/17	1020	X		IR78-GW101-99A	3	X		
1/17	0925	X		IR78-GW110-99A	3	X		
1/17	1500	X		IR78-GW111-99A	3	X		
1/17	1600	X		IR78-GW101-99A	3	X		
1/17	1650	X		IR78-GW123-99A	3	X		
1/17	1545	X		IR78-GW121A-99A	3	X		
~~1/17~~	~~0840~~	~~X~~		~~IR06 DRW02-99A~~	~~3~~	~~X~~		
~~1/17~~	~~1505~~	~~X~~		~~IR06 GW35D 99A~~	~~3~~	~~X~~		
~~1/17~~	~~1655~~	~~X~~		~~IR06-GW150-99A~~	~~3~~	~~X~~		
~~1/17~~	~~0915~~	~~X~~		~~IR06 SRW05 99A~~	~~3~~	~~X~~		
~~1/16~~	~~1230~~	~~X~~		~~IR06 GW01D3-99A~~	~~3~~	~~X~~		
~~1/17~~	~~1045~~	~~X~~		~~IR06-GW28IW-99A~~	~~3~~	~~X~~		
~~1/18~~	~~1150~~	~~X~~		~~IR03-GW111W-99A~~	~~3~~	~~X~~		

Samples by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
Relinquished by: (Signature) Ellen Bradley	Date/Time 1/18/99 1405	Received by Laboratory: (Signature)	Date/Time	Airbill Number: 806677591602	Sample Shipped by: (Circle) Fed Ex. Puro. UPS Hand Carried Other:

Cooler Temp. ___ C pH: ☐ Yes ☐ No Comments: Custody Seals Intact ☐ Yes ☐ No

NOTE: Please indicate method number for analyses requested. This will help clarify any questions with laboratory techniques.

WHITE—EA Laboratories YELLOW—EA Laboratories PINK—Project Manager *Shaded Areas for Lab Use Only*

COC # 36701-99A

Company Name:	Project Manager or Contact:
Baker Environmental Inc	Tom Trebilcock Phone: (412) 269-2015
Project No. / Dept.: / Task:	Project Name: Camp Lejeune - LTM
Sample Storage Location:	ATO Number:
Page 1 of 2	Report #:

Parameters/Method Numbers for Analysis

Chain of Custody Record

EA Laboratories
19 Loveton Circle
Sparks, MD 21152
Telephone: (410) 771-4920
Fax: (410) 771-4407

Report Deliverables: 1 2 3 4 D E
EDD: Yes/No
DUE TO CLIENT: _____

Date	Time	Water	Soil	Sample Identification 19 Characters	No. of Containers	TCL VOAs 8260A	Dissolved Gases RSK 175	Nitrate 300.0	TOC Walkley Black	Nitrite 300.0	NH3 350.2	Orthophosphate 300.0	Sulfate 300.0	TOM 351.1/350.2	TAL Metals CLP SOW ILM05.0	EA Labs Accession Number	Remarks
1/19	1045	X		I878-GW011-99A	3	X											LPM:
1/19	1103	X		I878-GW012-99A	3	X											
1/19	1120	X		I878-GW013-99A	3	X											
1/19	0620	X		I878-GW014-99A	3	X											
1/19	1430	X		I878-GW015-99A	3	X											
1/19	1245	X		I878-GW016-99A	6	X	X	X					X				
1/19	1145	X		I878-GW017-99A	6	X	X	X					X				
1/19	1345	X		I878-GW018-99A	17	X	X	X	X	X	X	X	X	X			
1/19	1515	X		I878-GW019-99A	6	X	X	X					X				
1/19	1600	X		I878-GW020-99A	1										X		
1/19	1630	X		I878-GW007-99A	1										X		
1/19	1215	X		I878-GW021-99A	3	X											
1/19	1400	X		I878-GW022-99A	6	X	X	X					X				
1/19	1330	X		I878-GW023-99A	6	X	X	X					X				
1/19	1300	X		I878-GW024-99A	6	X	X	X					X				
1/19	1145	X		I878-GW025-99A	1	X							X				
1/19	1052	X		I878-GW026-99A	3	X											
1/19	1530	X		I878-TB03-99A	3	X											

Sampled by: (Signature)	Date/Time	Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time
Relinquished by: (Signature)	Date/Time	Received by Laboratory: (Signature)	Date/Time	Airbill Number: 806677591576	Sample Shipped by: (Circle) Fed Ex. Puro. UPS Hand Carried Other:

Cooler Temp. ____C pH: ☐ Yes ☐ No Comments: Custody Seals Intact ☐ Yes ☐ No

NOTE: Please indicate method number for analyses requested. This will help clarify any questions with laboratory techniques.

WHITE—EA Laboratories YELLOW—EA Laboratories PINK—Project Manager *Shaded Areas for Lab Use Only*

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)

CAS No.	Compound	Concentration Units: (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-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)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	5	U

FORM I VOA   3/90

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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)

CAS No.	Compound	Concentration Units: (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

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: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
79-34-5	1,1,2,2-Tetrachloroethane	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)

CAS No.	Compound	Concentration Units: (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-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: (ug/L or ug/Kg) ug/L

CAS No.	Compound	Concentration	Q
79-34-5	1,1,2,2-Tetrachloroethane	5	U

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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: (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-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: (ug/L or ug/Kg) ug/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	5	U

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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)

CAS No.	Compound	Concentration Units: (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-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: (ug/L or ug/Kg) ug/L

CAS No.	Compound	Concentration (ug/L)	Q
79-34-5	1,1,2,2-Tetrachloroethane	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: (ug/L or ug/Kg) ug/L

CAS No.	Compound		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)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	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: (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: (ug/L or ug/Kg) ug/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	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: (ug/L or ug/Kg) ug/L

CAS No.	Compound		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-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)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	5	U

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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)

CAS No.	Compound	Concentration Units: (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-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)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	5	U

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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)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		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-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: (ug/L or ug/Kg) ug/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	5	U

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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: (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

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)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
79-34-5	1,1,2,2-Tetrachloroethane	5	U

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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)

CAS No.	Compound	Concentration Units: (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-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: (ug/L or ug/Kg) ug/L

CAS No.	Compound	Concentration	Q
79-34-5	1,1,2,2-Tetrachloroethane	5	U

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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)

CAS No.	Compound	Concentration Units: (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-GW09-99A

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)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	5	U

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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)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	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

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: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
79-34-5	1,1,2,2-Tetrachloroethane	25	U

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)

CAS No.	Compound	Concentration Units: (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-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: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
79-34-5	1,1,2,2-Tetrachloroethane	5	U

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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: (ug/L or ug/Kg) ug/L	Q
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

030031

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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: (ug/L or ug/Kg) ug/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	5	U

020052

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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)

CAS No.	Compound	Concentration Units: (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

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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)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	5	U

020059

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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: (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

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)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	Concentration	Q
79-34-5	1,1,2,2-Tetrachloroethane	5	U

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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: (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	4	J
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

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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)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound	Concentration	Q
79-34-5	1,1,2,2-Tetrachloroethane	5	U

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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)

CAS No.	Compound	Concentration Units: (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

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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)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	5	U

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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) ug/L	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

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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)

Concentration Units: (ug/L or ug/Kg) ug/L

CAS No.	Compound		Q
79-34-5	1,1,2,2-Tetrachloroethane	5	U

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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: (ug/L or ug/Kg) ug/L	Q
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-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: (ug/L or ug/Kg) ug/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	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)

CAS No.	Compound	Concentration Units: (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-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)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	5	U

030038

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EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

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)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (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

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EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

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)

CAS NO.	COMPOUND	CONCENTRATION UNITS: (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

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EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

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

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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: (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	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
95-47-6	Xylenes (total)	5	U
100-42-5	Styrene	5	U
75-25-2	Bromoform	5	U

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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: (ug/L or ug/Kg) ug/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	5	U

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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)

CAS No.	Compound	Concentration Units: (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.

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)

CAS No.	Compound	Concentration Units: (ug/L or ug/Kg) ug/L	Q
79-34-5	1,1,2,2-Tetrachloroethane	5	U

030096

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 th esand 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 asand 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. February 28, 1999
Senior Project Manager

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. May 31, 1999
Senior Project Manager

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	