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MCB CAMP LEJUENE  
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ASSESSMENT OF POTENTIAL GROUNDWATER IMPACT FROM OPERABLE UNIT 2  
(OU2) ON PROPOSED LANDFILL SITE WITH TRANSMITTAL MCB CAMP LEJEUNE NC

11/3/1994

S&ME

D2500



November 3, 1994

Dewberry and Davis  
5505 Creedmoor Road  
Suite 150  
Raleigh, North Carolina 27612

Attention: Mr. Tom Austin

Reference: Assessment of Potential Groundwater Impact from  
Operable Unit No. 2 on the Proposed Landfill Site  
Camp Lejeune, North Carolina  
S&ME Project No: 1054-92-003

Dear Mr. Austin:

Please find attached four draft copies of the Assessment of Potential Groundwater Impact from Operable Unit Number 2 on the Proposed Camp Lejeune Landfill Site "G". Please review this document and provide any comments or changes which you feel are necessary.

We appreciate the opportunity to work with Dewberry & Davis on this project. Should you have any questions or require any additional information, please contact us at (919) 872-2660.

Very truly yours,

**S&ME INC.**

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Project Hydrogeologist

  
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WB/AB/ml



## EXECUTIVE SUMMARY

The Department of Environment, Health and Natural Resources, Division of Solid Waste Management (the Division) completed a technical review of the Camp Lejeune Landfill application and concluded that further information was required to complete their review. S&ME, Inc., (S&ME) completed a review of the Remedial Investigation (RI) Report for the Operable Unit Number 2 (OU No. 2) site and performed additional groundwater assessment activities within the landfill site, in order to respond to the Division's requests.

Hydrogeologic conditions at the two sites are consistent with regional conditions in the Jacksonville, North Carolina area. While the groundwater at the OU No. 2 site has been impacted, the extent of contamination from OU-2 appears to have minimal impact on the landfill site.

The assessment was concentrated along the west fringe of the landfill site, adjacent to the OU No.2 site where organic groundwater or soil contamination had been observed. Push probe and conventional soil boring techniques were used at the landfill site to obtain groundwater samples. Samples were analyzed in the field using gas chromatograph (GC) analysis. Selected (duplicate) samples were submitted to a laboratory to confirm the field results.

The assessment concluded that low levels of five EPA Method SW-846 #8021 target compounds were present in some of the samples. Concentrations of the five compounds were in the low parts per billion range ( $\mu\text{g}/\text{l}/\text{ppb}$ ). Laboratory analysis confirmed only two compounds (chloroform and para-isopropyltoluene) to be present in some samples at concentrations of 3 ppb billion or less.

Petroleum hydrocarbons similar to degraded mineral spirits or very old gasoline constitute four of the five compounds detected in the field. The RI Report associated some of the

petroleum hydrocarbons found at OU No.2 with widespread Base use of pesticides with a petroleum-based carrier (Baker, 1993).

The fifth detected compound, chloroform, may be an artifact of the sampling or analytical process. Chloroform levels in the Base's treated drinking water ranged from 7.8 to 16 ppb (August 1994). This is two to five times the laboratory reported values for chloroform in the site groundwater.

Metallic lead was identified in the soil within the backstop areas of Ranges F-9 and F-10. Total lead in groundwater was found to be 90 ppb in the sample from F-10 and 94.6 ppb in well MW-9 during the Phase I Samples from Baker. Elevated levels of chromium were also identified in three site wells.

*Typical in  
groundwater*

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## SECTION 1 - LOCATION AND BACKGROUND

### 1.1 SITE LOCATIONS

The Camp Lejeune landfill site is located within the north central portion of the Camp Lejeune Marine Corps Base in Onslow County, approximately ten miles southeast of the City of Jacksonville, North Carolina. Figure 1 shows a portion of the USGS Camp Lejeune Quadrangle Map identifying the site area.

#### 1.1.1 The Landfill Site

The landfill site (Figure 2) encompasses approximately 170 acres forming a rough triangle, bounded to the west by Piney Green Road, Wallace Creek to the north, and Shell Rock Road to the east. Old Bear Head Creek Road bisects the northern half of the site intersecting Piney Green Road at the northwest corner of the site and Shell Rock Road near the northeast extent of the site.

#### 1.1.2 Operable Unit Number 2

The landfill site is located adjacent to an area of the Base that has been used for storage of military vehicles and supplies and for disposal of liquid and solid wastes and debris. This area, incorporating three sites denoted as sites 6, 9, and 82, has been designated as one of 23 such sites on the Base warranting environmental investigation. This site, designated as Operable Unit Number 2 (OU No.2) is located adjacent to the landfill, across (west of) Piney Green Road. OU No. 2 occupies the area between Holcomb Boulevard and Piney Green Road and from Wallace Creek to just south of Bear Head Creek as shown on Figure 3.

## 1.2 BACKGROUND

Both the landfill site and OU No. 2 site have been evaluated over the course of the last few years by several consultants for the Department of Navy.

### 1.2.1 The Landfill Site

Westinghouse performed a site suitability study of the landfill site, designated as "Site G", in August 1991. The study included the drilling of six soil borings and two monitor wells. The study concluded that the site was suitable for construction of a landfill. Very low levels of several pesticides were found in one (MW-1) of the two monitor wells installed on-site.

S&ME performed a Site Characterization Study of "Site G" in the Spring 1992. The study included the drilling of 11 soil borings, the installation of seven additional monitor wells, and two piezometers. Site soils were evaluated through a testing program to determine their engineering characteristics. Limited analytical tests were performed on site soil and groundwater samples.

The study found no source of the pesticides that had been identified by Westinghouse at the MW-1 location and found no groundwater contamination above the North Carolina Groundwater Standards for pesticides, PCBs, or volatile organic compounds (VOCs). The study also included a review of groundwater quality in the vicinity of the site developed from assessment reports for IAS sites 6 and 82.

Proposed improvements to Piney Green Road and construction of the landfill support facilities were investigated with 16 shallow roadway borings and six geotechnical borings by S&ME in early 1994.

*The levels of pesticides are typical with other areas and were applied at MCBCCJ*

Recently, S&ME has completed the design study of the first phase cell (Phase I) area of the proposed landfill. Twenty-three soil test borings were drilled at the site to evaluate subsurface conditions in the area of the first cell. Groundwater flow conditions were evaluated with the construction of 29 wells and piezometers. Surficial aquifer characteristics were evaluated with a pump test. The results of the recent work are currently being finalized and will be submitted under separate cover.

### 1.2.2 Operable Unit Number 2

IR  
Various studies were performed by the Department of the Navy at Sites 6, 9, and 82 during the period between 1983 and 1981.

An evaluation of IAS Site 6 was performed by Environmental Science & Engineering, Inc. (ES&S) during the summer 1986. The work included the installation of monitor wells, a soil gas survey, and sampling of the monitor wells and three water supply wells located in the area. Trace levels of Trichloroethene (TCE) and other chlorinated alkanes were detected in water supply wells, HP-651, HP-652, and HP-653. TCE was detected in the soil southwest of well HP-652 by the soil gas survey. No contamination was identified in the monitor wells. TCE and vinyl chloride were found in sediment samples obtained from Wallace Creek. (ES&S, 1990)

The presence of VOCs in sediment samples and isolated soil contamination at IAS Site 6, prompted an investigation of surrounding potential source areas. Halliburton NUS performed a field investigation and risk assessment of IAS Site 82, located north of Wallace Creek. The investigation included six shallow soil borings and three monitor wells. In addition, several wells located in the vicinity of Site 6 were resampled. Minimal groundwater contamination was observed.

A Remedial investigation (RI) was conducted at OU No. 2 between August 1992 and May 1993 by Baker Environmental Inc., (Baker). The RI, performed in two phases, focused on various areas of concern within OU No.2, including Lots 201, 203, the wooded areas surrounding the two lots, Site 9, Site 82, Wallace Creek, and Bear Head Creek (Figure 3). Soil, groundwater, surface water and sediment were sampled to evaluate environmental impacts.

*both soil and groundwater have been impacted by past practices at the sites.*

The investigation concluded that soil impacts were minor compared to groundwater impact, and were scattered throughout the three sites. Soil contamination was found from pesticides, PCBs, volatile and semi volatile organic compounds(VOCs and SVOCs), and metals. Impact to the groundwater was primarily concentrated in the northern portion of OU No.2 along Wallace Creek occurring predominately from VOCs. Impact to surface water was minimal. Impact to (surface water) sediments occurred from pesticides, VOCs SVOCs, and some metals. The extent of groundwater contamination was sufficiently established in the vicinity of the landfill site to implement remediation activities. The included risks associated with the contamination was addressed through a risk analysis for the site.

## SECTION 2 - PURPOSE AND SCOPE

### 2.1 PURPOSE

The purpose of the assessment was to determine site conditions sufficiently to respond to requests for additional information by the Division. The Division requested the following: (1) determine what effect contaminants observed at OU-2 have on the landfill site, (2) determine what impacts past use of the landfill site for military operations and/or training has had on the groundwater, (3) determine what effect previous use of the landfill site has had on surface water conditions in the vicinity of the landfill, and (4) summarize the available information in a manner to allow the Division to complete the review process for the landfill site.

### 2.2 SCOPE

The scope of work included a review of the Remedial Investigation Report for the OU No. 2 site, submitted by Baker in June 1993, under contract N62 470-89-D-4814 CTO 0133 to the Department of the Navy. The review concentrated on locating impacted areas within the landfill site that had been identified during the RI, in light of local hydrogeologic conditions.

Once the impacted areas were identified, approximately 30 sample points were installed to obtain samples of the groundwater for analysis of volatile organic compounds for field proofing at the landfill site. The groundwater samples were analyzed in the field with a portable field laboratory using gas chromatograph analysis. The field analyses allowed almost immediate determination of groundwater quality, and guided selection of subsequent sampling locations.

Selected duplicate samples were submitted to a laboratory to confirm the field measurements. These submittals provided quality assurance and quality control for the

field work and provided regulatory data for comparison to North Carolina Groundwater Standards (15A NCAC 2L).

## **SECTION 3 - SUMMARY OF THE REMEDIAL INVESTIGATION OF OPERABLE SITE No. 2**

### **3.1 DESCRIPTION OF THE SITES**

The area located immediately west of the proposed landfill site was designated as an area requiring a remedial investigation/feasibility study to determine if the environmental impact associated with past use of the site constitutes a risk to the environment. The area was classified as Operational Unit Number 2 (OU No.2). OU No. 2 covers an area of approximately 210 acres and consists of three sites, identified as Sites 9, 6 and 82.

Site 9 is referred to as the fire training area, formerly used to conduct training exercises for extinguishing fires caused by flammable liquids. Site 9 encompasses approximately 2.6 acres. It contains an asphalt line fire training pit, above ground storage tanks and a fire tower.

Site 6 is located north of, and adjacent to, Site 9 and is bounded by Piney Green Road to the east and Holcolm Boulevard to the west. Site 6 encompasses approximately 177 acres and includes storage lots 201 and 203. Lot 201 is approximately 25 acres and is currently used for the storage of military vehicles and supplies. Open storage lot 203 is currently inactive and was reportedly utilized in the past for storage and disposal of liquid and solid waste and military debris.

Site 82 is situated at the northern end of OU-2 and is bordered to the north by Wallace Creek, to the east by Piney Green Road, and to the west by Holcomb Boulevard. Site 82 encompasses approximately 30 acres and is predominantly covered with woodlands. This site was reportedly utilized in the past for disposal of miscellaneous liquid and solid wastes and debris. Figure 3 shows the various sites included within OU No.2.

### 3.2 EXTENT OF SOIL CONTAMINATION

*in the boundaries of*

The following comments regarding soil impacts at the OU No. 2 been taken from the Baker report. Our investigation only included a review of the RI Report; no sampling was performed on OU No. 2 by S&ME.

#### 3.2.1 Site 6, Lot 201

The northeast corner of Lot 201, at the former pesticide storage area, has elevated levels of pesticides and volatiles in the soils that may be associated with former waste storage/handling activities. The extent of soil contamination appears to be limited since only two sampling locations (SB16 and SB17) exhibited elevated contaminant levels.

The presence of low levels of pesticides throughout Lot 201 may be indicative of former pest control practices and, according to the Baker Report, is probably not associated with the former storage of pesticides. Low levels of pesticides were detected at similar concentrations throughout the 220-acre OU No. 2 site.

#### 3.2.2 Site 6, Lot 203

Pesticide levels detected in soil at Lot 203 do not appear to be indicative of pesticide disposal. Pesticide levels at Lot 203 are comparable to other portions of OU No. 2. The southeast corner of Lot 203 did not reveal the elevated soil pesticide levels expected if pesticides were disposed of in this area.

*and the MCB  
CLT*

The area of Lot 203 near the former railroad spur may be impacted from previous disposal activities. A limited number of surface and subsurface soil samples collected near the former railroad spur revealed elevated levels of PCBs and PAHs.

Disposal activities may have occurred in the north central portion of Lot 203 (near well 6GW15) where elevated levels of PCBs were detected in subsurface soil samples. In addition to PCBs, elevated levels of PAHs were also detected in this area.

Military training operations at Lot 203 resulted in a substantial amount of buried debris including communication wire, rocket casings, battery packs, small 5-gallon containers, and bivouac wastes. No 55-gallon drums were uncovered in any of the 29 test pit excavations. Trenches identified in historical photographs were primarily excavated as a means to dispose of military-type wastes and not for purposes of disposing hazardous wastes.

According to the Baker Report, numerous drums on the surface of Lot 203 present a potential impact to human health and the environment. Samples collected from these drums indicate that some of the drum contents are hazardous by characteristics. None of the drums were noted to be leaking.

### **3.2.3 Wooded Areas and Site 82**

The wooded area north of Lot 203 (Site 82) exhibited elevated VOC contaminant levels in soil at two locations near the eastern portion of the site. This area is a potential source of VOC contamination in groundwater.

Drums and debris were observed on the surface and subsurface just north of Lot 203 in the wooded area (Site 82) near monitoring wells 6-GW-1S and 6-GW-1D. Sample results of the waste material analyzed identified the waste as No. 6 fuel. The contents of other drums uncovered could not be identified. This area may also be a source of groundwater contamination at Site 82.

PCBs were detected in surface and subsurface soil near Piney Green Road east of Lot 201. Disposal activities may have occurred in this area, which once served as a training area.

Disposal activities may have occurred in the wooded area between Lot 201 and 203. One location (soil boring SB-1) exhibited moderate levels of PCBs, PAHs and pesticides in surface soil. The extent of this contamination appears to be limited in area.

A former disposal area was identified during the test pit investigation in the wooded area between Lot 201 and 203. Numerous 5-gallon containers, bivouac wastes, and battery packs were encountered. All of the containers were rusted and destroyed to the point that their contents could not be identified; however, solvent-like odors were observed by the sampling team. A sample of the sludge material near the containers revealed that the material is hazardous by characteristics due to elevated levels of lead. Chloroform was also detected, but was below TCLP regulatory levels.

#### **3.2.4 Site 9**

Ongoing fire training exercises at Site 9 have not significantly impacted the soil. Low levels of pesticides present at Site 9 are likely the result of former pest control practices and not associated with waste disposal.

### **3.3 EXTENT OF GROUNDWATER CONTAMINATION**

The following comments regarding groundwater impacts at OU No. 2 been taken from the Baker report. Our investigation only included a review of the RI Report; no sampling was performed on OU No. 2 by S&ME.

### **3.3.1 Site 6, Lot 201**

Former waste storage/handling activities at Lot 201 have not adversely impacted groundwater quality in this portion of OU No. 2.

### **3.3.2 Site 6, Lot 203**

Groundwater quality at Lot 203 has not been significantly impacted by former disposal and storage practices. Trace levels of TCE were detected in well 6-GW-15, which is located in the south central portion of Lot 203. The source of VOC contamination in well 6-GW-23 is unknown. Soil samples collected from this borehole as well as other nearby soil borings did not indicate a source.

### **3.3.3 Wooded Areas and Site 82**

Shallow and deep groundwater north of Lot 203 (Site 82) exhibited elevated levels of VOCs. Deep groundwater quality was found to be more degraded than shallow groundwater quality.

According to the Baker Report, the horizontal extent of shallow groundwater contamination is defined. The plume apparently originates just north of Lot 203 (in the southern portion of Site 82) and discharges into Wallace Creek. Contaminants have migrated into the deeper portion of the aquifer as evidenced by elevated VOC levels in deep groundwater monitoring wells.

The horizontal and vertical extent of deep groundwater contamination has been essentially defined. The horizontal extent of off-site contamination west of Site 82 (beyond well 6-GW-37D), however, has not been fully evaluated. Moreover, the vertical extent has been evaluated to a depth of 230 feet. It is unknown at this time whether contamination extends below 230 feet. A clay layer is present at approximately 230 feet which may

impede the vertical migration of contamination. For purposes of conducting the baseline human health and ecological risk assessment, the current deep groundwater database is adequate. For purposes of performing a feasibility study on the deep aquifer, the current database is also adequate to select feasible remedial alternatives. However, additional data points west of Holcomb Boulevard are required to support the design of an alternative which may employ containment/extraction wells.

Groundwater quality in the wooded area south of Lot 203 (near the above-mentioned disposal area) has been impacted by former disposal practices. Elevated levels of VOCs (chloroform, chlorobenzene), and phenol were encountered in wells 6-GW-16 and 6-GW-25.

#### **3.3.4 Site 9**

Groundwater at Site 9 has not been significantly impacted from fire training exercises.

### **3.4 SURFACE WATER AND SEDIMENT CONTAMINATION**

The following comments regarding soil and groundwater impacts at the OU No. 2 been taken from the Baker report. Our investigation only included a review of the RI Report; no sampling was performed on OU No. 2 by S&ME.

#### **3.4.1 Wallace Creek**

The presence of TCE, PCE, and other VOC contaminants in Wallace Creek is due to shallow and possibly deep groundwater discharge.

Surface runoff from the ravine and portions of Site 82 (the wooded area north of Lot 203) have impacted sediment quality. Elevated levels of PAHs and PCBs are present in Wallace Creek. These contaminants were also detected in the ravine.

Pesticides detected in sediment samples have exceeded EPA Region IV sediment screening values. The source of contamination may be due to either runoff from the ravine and/or historical pest control spraying practices. The highest levels of pesticides were detected in two sampling stations that were located just downstream of where the ravine discharges into Wallace Creek. One upstream sampling location exhibited pesticide levels above the sediment screening values. None of the organic chemicals of concern detected in Wallace Creek exceeded applicable water quality standards.

Inorganic levels for aluminum, cadmium, copper, iron, lead, mercury, nickel, silver, and zinc exceeded North Carolina Water Quality Standards (WQS) and/or EPA Region IV acute or chronic WQSVs. Upstream sampling locations were also exhibited inorganic levels which exceeded these standards. The presence of inorganic constituents in Wallace Creek may not be associated with OU No. 2 since no source of inorganic contamination is apparent.

#### **3.4.2 Bear Head Creek**

Sediment quality in Bear Head Creek may be impacted via surface runoff from the wooded areas. Low levels PAHs, pesticides, and PCBs were detected in sampling stations which border Site 6. VOC contaminants were also detected in sediment samples; however, the source of VOC contamination is unknown given that adjacent soil and groundwater did not exhibit VOC contamination. Pesticides in sediment are not likely associated with disposal practices.

Inorganic constituents detected in sediment are not likely the result of disposal practices at Site 6 or 9. Upstream sampling locations also exhibited inorganic constituents above EPA Region IV sediment screening values.

None of the target compound list (TCL) organics detected in Bear Head Creek exceeded applicable water quality criteria values. Dissolved oxygen concentrations and pH values

were below WQS and WQSV at some of the stations, but probably were associated with natural conditions.

Surface water concentrations of aluminum, copper, iron, lead, mercury, nickel, and silver exceeded the WQS and/or WQSV in some of the samples. The exceedances of these target analyte list (TAL) inorganics occurred in upstream and/or downstream samples or were infrequent in occurrence.

### **3.5 CONTAMINATION OBSERVED ON THE LANDFILL SITE**

Completion of the RI for OU No. 2 included sampling of some of the existing shallow monitor wells located on the landfill site, installation of two deep wells and soil sampling at two locations. The first phase sampling included analysis of both organics and inorganics. Analysis for Phase II sampling were only performed for VOCs. Figure 4 shows a summary of all of the soil and groundwater sampling points for the landfill site and on the OU No. 2 site.

#### **3.5.1 Impacts to Site Soil**

Two soil borings were installed within the landfill site during the course of the RI work. Borings, 201N-SB11 and 201N-SB12, were drilled just east of Piney Green Road, south of MW-9. The analytical results showed low levels of pesticides in the subsurface soil in 201N-SB12. No PCBs were observed in either boring. Figure 5 shows a summary of the analytical results of organic analysis for site soils and soils near the landfill site. Positive detections are shown in boxes adjacent to the boring locations. Detections are classified according to total pesticides, PCBs, and total volatile and semi-volatile organics (VOCs and SVOCs) in the surface soil and subsurface soil.

#### **3.5.2 Impacts to Shallow Groundwater**

Although groundwater impacts were observed at OU No. 2, only two on-site areas were indicated as having slight groundwater contamination from VOCs. Well MW-9 was noted as having 2.4 ppb chloroform. BP-6 was observed as having 3.7 ppb chloroform. Both detections were confirmed in the second phase of the RI work.

No VOCs were detected in any of the site wells during the first phase of the RI. No pesticides or PCBs were detected in the site wells, even at MW-1 where pesticides were detected by Westinghouse in 1991.

Inorganics were detected in all of the shallow groundwater wells sampled on the landfill site. Only two metals, chromium and lead, were found at concentrations over the 15A NCAC 2L Standards. MW-9 contained both chromium and lead at 160 and 94.6 ppb. Wells 6-GW-2 and BP-6 contained chromium at 169 ppb and 198 ppb respectively.

### **3.5.3 Deep Groundwater**

Impact to the deep groundwater appeared to be limited to the northwest corner of the landfill site in the vicinity of wells HP-651, 6-GW-2D, and MW-3D. The two deep monitor wells exhibited slight concentrations of VOCs. HP-651 exhibited elevated concentrations of TCE when it was closed in 1985. 6-GW-2 exhibited 1.4 ppb of trichloroethane during the first phase sampling. Well 6-MW-3d was installed during the second phase of the work. Concentrations of 1,2-dichloroethene and trichloroethane were detected in this well at 3.7 and 6.4 ppb respectively. No VOCs were detected in 6-GW-2 during the second phase sampling.

Figure 6 shows the inferred areal extent of groundwater impact on and in the immediate vicinity of the landfill as determined during the RI of OU No. 2. Deep groundwater impact shown by the vertical and horizontal cross-hatched areas is limited to the northwest corner of the landfill site. Shallow groundwater contamination, shown by the angled hatched areas impacts the landfill site at MW-9, located at the center of the western

boundary and in the southeast portion of the landfill site at Well BP-6. A small impact from tetrachloroethene is located just off site at the southwest corner of the site.

## **SECTION 4 - HYDROGEOLOGIC FRAMEWORK**

### **4.1 PHYSIOGRAPHIC SETTING**

North Carolina is divided into three Provinces, based on the physiographic changes of the land mass that occur from the coast to the mountains. These Provinces include; the Coastal Plain, the Piedmont and the Blue Ridge.

The Coastal Plain, located along the eastern third of the state, consists of two natural divisions. The easternmost, or Tidewater region, is characterized by flat to subdued topography and in many areas, poorly drained soils. The western half of the Coastal Plain is higher in elevation, with gently rolling topography, and more well-drained soils. The study area is located in the Tidewater Region.

### **4.2 REGIONAL GEOLOGY**

The Tidewater area has formed through deposition of an eastward thickening wedge of sediments on crystalline bedrock. The sediments consist of interbedded sands and clays, limestone, sandstone and calcareous clays. Within the site area, the sediments dip to the southeast at approximately 19 feet per mile, with a dip direction of approximately N79E. The total thickness of the sequence of sediments is estimated to be approximately 1500 feet thick in the Jacksonville area (Harned, 1989).

### **4.3 REGIONAL HYDROGEOLOGY**

The Onslow County area is underlain by seven sand and limestone aquifers. The aquifers are separated by less permeable clay and silt beds that function as confining or semi-confining units that separate the aquifers and impede the flow of groundwater between adjacent aquifers. The top two aquifers, the surficial aquifer and the Castle Hayne Aquifer, are of economic importance as potential water supply sources within the county.

Aquifers underlying the Castle Hayne contain excessive chlorides (are salty) for domestic use (Harned 1989).

#### **4.4 SURFACE WATER HYDROLOGY OF THE SITE AREA**

Both the landfill site and OU No. 2 are drained by tributaries of the New River. Wallace Creek forms the northern boundary for both sites. Bear Head Creek lies 500 feet south of the landfill and flows to the west through the southern portion of OU No.2. Bear Head Creek empties into Wallace Creek, approximately one mile west of the landfill. Wallace Creek flows into the New River two miles west of the site area. The New river empties into the Atlantic Ocean through the New River Inlet, approximately twelve miles south of the site area. Both surface water bodies are classified by the state as SB Class waters in the vicinity of the two sites.

#### **4.5 GEOLOGY OF THE SITE AREA**

Surficial soil conditions were found to be generally uniform at both sites. Typically, surficial soils within 35 feet of the ground surface consist of unconsolidated deposits of sand that range from relatively clean fine sand to silty or clayey fine sand. Occasional thin discontinuous clay lenses are present in the sands. Deeper soils were also found to be consistent to the 80 foot termination depth at the landfill and to deeper depths at OU No.2. The RI Report classified these soils as the "upper silty sand" unit. This unit was described as ranging between 40 and 140 feet in depth: thickest in the north portion of the OU No. 2 site, thinning to the south. The upper silty sand unit was described as having thin, discontinuous lenses of clay and limestone. No limestone was encountered in the 80 foot deep borings recently drilled by S&ME at the landfill site.

The RI Report described a limestone unit present beneath the upper silty sand. This unit was reported as also thinning to the south, from a maximum thickness of approximately

80 feet at the northern extent of OU No.2, to 5 feet near the southern extent. The report described the limestone unit as being underlain by a lower silty sand unit.

The upper soils are classified as undifferentiated deposits of Quaternary age. The underlying sands, clays, and limestone are classified as the Cape Fear Formation of Tertiary Age.

#### **4.6 HYDROGEOLOGY OF THE SITE AREA**

The surficial aquifer is comprised of a series of sediments that are predominant sands. The underlying Castle Hayne aquifer is 150 to 350 feet thick. This aquifer is tapped by approximately 100 wells located on the Base to obtain water supplies. Most of the wells utilize multiple screen intervals to span the formation thickness.

Surficial groundwater patterns in the vicinity of the two sites have been evaluated through a series of shallow monitor wells finished at depths of 35 feet or less. The depth to groundwater varies between less than two feet in the vicinity of Wallace Creek and Bear Head Creek to 16 to 18 feet in better drained portions of the sites. The depth to the water table generally corresponds to the topographic variations of the sites. However shallow groundwater conditions exist within the central portion of the landfill site. This area represents a groundwater divide. Within the north portions of both sites, groundwater drains to the north toward Wallace Creek. South of the divide, groundwater drains toward Bear Head Creek. Gradients within the surficial aquifer average between 0.012 and 0.004 feet per foot (Baker, 1993).

Deep groundwater flow patterns were evaluated from a network of deep monitor wells primarily located in and around OU No. 2. The RI Report describes deep groundwater flow as being toward the west with local penetrations in the vicinity of Wallace Creek and Bear Head Creek. Gradients in the deep aquifer range between 0.003 and 0.004 feet per foot. Figure 7 shows groundwater surface contours determined for the landfill site on

September 23, 1994. Nested well pairs within both sites exhibit a strong downward gradient between the shallow wells and deeper wells. The gradient decreases to almost zero along the western edge of OU No. 2, where discharge of the deep aquifer is suspected to occur into the New River. Local groundwater discharges into Wallace Creek are also suspected northwest of OU No. 2.

Overall, shallow and deep groundwater patterns are similar. This suggests that the two aquifers are at least partially hydraulically connected, and within the study area, infiltration recharging the surficial aquifer will eventually migrate downward into the deeper soils.

## **SECTION 5 - INVESTIGATIVE PROCEDURES**

The assessment to evaluate the impact of OU No. 2 contaminants on the landfill site utilized push probe and conventional soil boring techniques to advance sampling tools to the water table. Geoprobe borings were recommended for use in obtaining groundwater samples for the assessment. A series of grid points were established along the east side of Piney Green Road. Groundwater samples obtained from probe locations and selected monitor wells were analyzed in the field with a portable laboratory using gas chromatography analysis. Results were used to direct subsequent assessment activities. Selected duplicate samples were submitted to an analytical laboratory to confirm the field results.

### **5.1 DETERMINATION OF SAMPLE LOCATIONS**

The grid points were established at intervals of 200 feet, originating 50 feet south of Old Bear Head Creek Road, with more closely spaced gridpoints to the south. The north-south gridline closest to Piney Green Road was established as line "A". Additional north-south gridlines were located at 200 foot intervals moving to the east of line A. These lines were designated as line "C", 200 feet east of "A" and line "E", located 400 feet east of "A".

Positive detections obtained in samples at gridline "A" points were followed by collection of subsequent samples further east along gridlines "C" and finally "E". Intermediate points at intervals of 100 feet were investigated at some locations, intermediate of the primary sample lines described above, along gridlines "B" (located 100 feet east and "D" located 300 feet east of "A". Figure 4 shows the location of the sample locations. Each location is designated by the gridline and south of Old Bear Head Creek Road.

## **5.2 GEOPROBE BORINGS**

Direct push methods and conventional soil borings were used to obtain the groundwater samples for the assessment. For the borings that were probed, steel piping with an expendable tip was pushed into the soil to a depth slightly below the water table. The piping was raised slightly from the tip and a groundwater sample was obtained from the piping with a Waterra-type sampling device.

Difficulty was encountered with the fine-grained site soils entering the probe tip and in pushing the piping at some of the locations due to relative densities in the sandy soils. In order to increase productivity, conventional drilling methods were used to advance borings at some locations to the water table surface using hollow stem augers. After drilling to slightly below the water table, perforated 1-inch diameter PVC piping was placed in the augers and the augers were withdrawn from the boring.

Temporary wells were installed in the vicinity of the F-9 and F-10 Ranges by advancing a boring to a depth below the water table with a hand auger. A two-inch PVC well point was installed in the borehole.

## **5.3 GROUNDWATER SAMPLING**

### **5.3.1 Probe Locations**

Sampling of the probes and borings was performed with sections of decontaminated polyethylene tubing that had a check valve attached to the bottom of the tubing. The tubing was inserted into the steel probe piping or PVC piping when the borings were advanced with augers. The tubing was quickly raised and lowered. The check valve in the tubing allowed a sample of groundwater to be pumped to the ground surface for collection in 40 ml VOA containers. Two containers were completely filled so that no

head space in the vial. The filled vials were immediately returned to the field laboratory where they were placed under refrigeration pending analysis.

Duplicate samples were obtained from selected boring or probe points for analysis by a certified laboratory. The duplicates were obtained using the same tubing and methodology as the original samples. The samples were refrigerated immediately after collection, maintained and shipped to the laboratory under standard Chain of Custody protocol.

### **5.3.2 Well Locations**

Groundwater samples were also obtained from a number of existing monitor wells at the site and were analyzed in the field. Samples were obtained from the wells with the use of bailers and standard sampling techniques. The wells were purged of at least three well volumes of water. After purging, a sample of the groundwater was obtained with the same bailer used for purging. The sample was transferred to the 40 ml vial and handled as discussed above.

In addition to the existing wells, two temporary wells were installed and sampled at ranges F-9 and F-10. The wells were purged and sampled with a bailer as described above. Samples were obtained for analysis of total lead. A second sampling was obtained from each well for analysis of dissolved lead by filtering samples in the field, allowing the contents of the bailer to drain into the sample container through a 0.45 micron filter.

### **5.3.3 Ground Surface**

During the course of the work, some dried material was observed on the ground surface, within the maintained grassed area east of Piney Green Road, that resembled dried waste water sludge. This material was mixed with organic free water and submitted for laboratory analysis to determine if any Method 8021 analytes were present.

## **5.4 ABANDONMENT OF SAMPLE POINTS**

After collection of duplicate samples for laboratory analysis, the sampling points were abandoned by removing any PVC casing and sampling tubing from the boring. The borings were filled with neat cement grout. The grout was mixed with a Chemgrout mixer, using a mix proportion of 5.5 gallons of water to each sack of cement. The grout was pumped into the borehole with a tremie pipe.

## **5.5 ANALYTICAL PROCEDURES**

### **5.5.1 Comparison of Methodologies**

The Division recognizes EPA Method 8260A as a means of determining volatile organic compounds in a variety of solid waste matrices. This method is applicable to nearly all types of samples, regardless of water content, including groundwater aqua sludges, caustic liquors, acid liquors, waste solvents, oily waste, tars, fiber waste, polymeric emulsions, filter cakes, spent carbons, spent catalysts, soils and sediments.

The portable laboratory is unable to perform the 8260A analysis in the field. EPA Method 8021 is also used for the identification of volatile organic compounds. This method is also suitable for determination of these compounds in a variety of solid waste matrices and is applicable to nearly all types of samples regardless, of water content.

EPA Method 8021 is amenable to field use and was presented by S&ME as a substitute for Method 8260 for the assessment work. The detection limits are similar for both analyses and most of the Method 8260 targets can be detected with the 8021 analysis. Table 1 shows a comparison of analytes for the two methods, showing that most of the Method 8260A compounds are also targets for the 8021 analysis. All of the compounds detected during the assessment are targets for both analyses.

## **5.5.2 Field Analytical Procedures**

Field analyses were conducted between September 19 and September 27, 1994. S&ME's mobile chromatography lab was set up at the Camp Lejeune landfill site to analyze groundwater samples generated during the site assessment activities. A total of 45 samples were analyzed by EPA Method 8021 (SW846, third edition). The laboratory utilizes a SRI Model 8610 capillary Gas Chromatograph that uses flame ionization detection followed in series by an electrolytic conductivity detector (FID/ELCD). The GC output data is compared to a database of internal standards to quantify concentrations of the target compounds. Displays of the GC peaks are provided during the analysis on a computer monitor and as printed chromatograms. The field detections are summarized on laboratory reports that are included in the Appendix I.

## **5.5.3 Laboratory Analytical Procedures**

Duplicate samples from selected sample points were submitted to IEA Laboratories in North Billerica, Massachusetts for analysis of volatile organic compounds by EPA Method 8260A. The purpose of the laboratory analysis was to evaluate the accuracy of the field work and to provide certifiable results that would be suitable to address regulatory requirements of the Division. In addition to the organic analyses, two sets of groundwater samples were submitted for analysis of dissolved and total lead. The samples were analyzed by SW 846 Method 239.2.

## **5.5.4 Quality Assurance/Quality Control**

The assessment included the collection of various blanks to be analyzed with the field equipment as a means of assuring quality control of the assessment. The water source used for decontamination of the equipment was analyzed prior to the initiation of the field activities. A sample of tap water was obtained from a faucet near buildings 824 and 827, that house shower and head facilities. The blank was labelled as "Background" and

analyzed. A rinse blank was prepared by pouring organic-free water through a new piece of the tubing that was used to collect water samples to assure the tubing was not a source of any volatile organic compounds. The water was captured in two 40 ml vials and was submitted as "Sample 1". A third (method) blank was also prepared by filling two vials with organic-free water. The vials were labelled simply as "Sample 2" and submitted along with a group of site groundwater samples during the course of the field activities to evaluate the accuracy of the field analyses. Laboratory reports for the blank samples are included at the end of Appendix I.

## **SECTION 6 - RESULTS OF THE ASSESSMENT**

The assessment found very low levels of five (Method 8021) target analytes to be present in some of the groundwater samples. Concentrations of the compounds, in many cases, were slightly above detection limits of 2 parts per billion ( $\mu\text{g/L}$ ) for the field analyses.

Laboratory analysis by Method 8260A confirmed only two compounds (chloroform and para-isopropyltoluene) to be present at concentrations of 3 parts per billion ( $\mu\text{g/l}$ ) or less.

### **6.1 ANALYTICAL RESULTS**

#### **6.1.1 Bromochloromethane**

Field analysis with the GC noted one chlorinated compound that exhibited a retention time that shifted between 15.95 minutes to 16.45 minutes over the course of several days. Slight shifting of retention times is unavoidable with field GC equipment due to the manufacturing constraints of portable equipment and the difficulty in maintaining uniform ambient air temperatures around the GC column during the tests. Two compounds, bromochloromethane and chloroform have similar elution times. The retention window for chloroform is 15.9 to 16.2 minutes. The retention window for bromochloroform ranges between 16.2 and 16.5 minutes. Based on an average of a number of analysis, the retention time seemed to favor bromochloromethane and the compound was reported as bromochloromethane during the field assessment.

#### **6.1.2 Chloroform**

The analytical laboratory, IEA, identified low concentrations of chloroform in the duplicate samples submitted for analysis, suggesting that the bromochloromethane identified in the

field should actually be identified as chloroform. Comparison of peak areas for both compounds indicates that if the compound is classified as chloroform, the reported bromochloroform concentrations should be divided by 1.8. Table 3-1 shows a summary of the field analyses. The first column of the table shows the bromochloromethane detections. Calculated chloroform readings are shown in parentheses. For example at A-600, the 21.6 ppb of bromochloromethane probably should be reported as 11.2 ppb chloroform. Tables 3-2 and 3-3 show bromochloromethane (chloroform) detections for the remaining grid points and selected monitor wells.

### **6.1.3 Petroleum Hydrocarbons**

Four petroleum hydrocarbons were identified in some of the groundwater samples by the field GC. The petroleum hydrocarbons occupied relatively narrow band of elution times: they are similar to degraded mineral spirits or perhaps, very old gasoline. The four compounds identified were: para-isopropyltoluene, isopropyl benzene, sec-butylbenzene and meta xylene.

Para-isopropyltoluene was observed in eight out of 40 samples that were analyzed in the field. Concentrations ranged between 2.3 ppb and 23.8 ppb. The highest concentration was found in well 82-MW-30 located at the northwestern corner of the site. Within the probe borings, concentrations ranged between the minimum value, just above the detection limits of 2.0 ppb, to 13.9 ppb. Grid locations B-2900 and C-2900 had the highest values.

Isopropyl benzene was detected in four out of 40 samples analyzed in the field. Concentrations ranged from just above the detection limits to 10.7 ppb. The highest concentrations, 8.0 and 10.7 ppb, were found at sample locations C-400 and C-2900 respectively.

Meta-xylene and sec-butylbenzene were each observed in one out of 40 sampling points. Meta-xylene was observed at a concentration of 2.6 ppb at gridpoint C-500. The butyl benzene was observed at 2.7 ppb in the sample obtained from 82-MW-30.

The laboratory analyses performed by IEA detected para-isopropyltoluene in two samples, C-2900 and 82-MW-30, at 2.0 ppb and 3.0 ppb. Methylene chloride was detected in five samples. However, methylene chloride was also detected in the method blank at a similar concentration. The field blank contains no methylene chloride, therefore it is likely that the groundwater samples do not contain methylene chloride, but that this compound is a laboratory contaminant. Table 4 illustrates the laboratory detections for duplicate samples.

#### **6.1.5 Total and Dissolved Lead**

IEA failed to detect any dissolved lead in either of the filtered groundwater samples from ranges F-9 and F-10, above the method quantitation limits of 3 ppb. Total lead ranged from 11 ppb in sample F-9, to 90 ppb from sample F-10. Thus, the lead concentrations may be the result of analyzing soil particles in the water sample.

#### **6.1.6 Suspected Wastewater Sludge**

Neither the Field GC or the laboratory detected any Method 8120 or Method 8260 analytes (including chloroform) in the sample of material thought to be waste water sludge that was obtained along Piney Green Road.

## SECTION 7 - SITE IMPACT

### 7.1 EXTENT OF GROUNDWATER IMPACT

The assessment suggests that very low concentrations of a few volatile organic compounds may be present in the groundwater in several areas of the landfill site. Concentrations are in the range of a few parts per billion ( $\mu\text{g/l}$ ).

#### 7.1.1 Chloroform

Low levels of chloroform were observed in 13 of the 40 locations sampled. Chloroform was observed in the northwestern quadrant of the site, 500 feet to 1200 feet south of Old Bear Head Creek Road along Piney Green Road. The impacted area extended into the site (east), approximately 200 feet. Figure 8A suggests the axis of the plume appears to be oriented in a northeast-southwest direction, possibly off-site into the vicinity of G-GW-25. Highest concentrations appear to be along Piney Green Road. It is our understanding that potable water and raw water lines are located east of Piney Green Road. A connection between leakage of the treated water line and the chloroform observed in groundwater has not been established.

Chloroform was also identified within the south quadrant of the site (Figure 9B) in the proposed Phase I area in wells BP-6, MW-26, and MW-28. Chloroform was not detected in wells MW-31, MW-29, MW-13, or in the gridpoints in the southwest corner of the site. Treated water supplies for the training area are routed along Shell Rock Road from the vicinity of Lot 201 west of the site. Leakage of treated water combined with extremely flat groundwater gradients in this area may be responsible for the chloroform plume.

### 7.1.2 Petroleum Hydrocarbons

Highest concentrations of para-isopropyltoluene and butyl benzene (the only occurrence) were noted in well 82-MW-30. The sample obtained from this well was of poor quality, containing an abundance of organic debris with the appearance of decayed wood and plant matter. The observed debris, combined with the fact that this well was formerly blocked with debris, raises a question as to the validity of the sample results. Currently this well functions adequately to provide water level information. It should be replaced with a new well if quantitative groundwater data is needed in this area of the site.

A second plume of petroleum hydrocarbons is present in the northwest quadrant of the site, approximately 400 feet south of Old Bear Head Creek Road, extending approximately 300 feet into the site. This plume appears to be oriented northwest-southwest.

Hydrocarbons were also observed at gridpoint A-1400 at a total concentration of 7.2 ppb. Figure 8 shows the estimated areal extent of these areas.

Hydrocarbon compounds were also detected within one area at the southwestern corner of the site in probe locations A, B and C-2900. Maximum concentrations of 24.6 ppb were found at C-2900, with concentrations decreasing in B-2900 and A-2900.

All of the hydrocarbons detected have a density of less than 1.0 and are insoluble to slightly soluble in water. Petroleum hydrocarbons readily degrade in aerobic conditions. Low gradients at the site suggest little movement of the plumes.

### **7.1.3 Metals**

Metallic lead was identified in the soil within the backstop areas of Ranges F-9 and F-10. Two sets of analyses were performed on groundwater samples obtained from these areas to assess whether the metallic lead present in the soil has impacted the groundwater in these areas. Results of the analyses indicates that dissolved lead is below the limits of detection. Total lead was found to be 0.11 and 0.090 mg/l from samples F-9 and F-10 respectively; the sample from F-10 exceeds the NCGWQ Standards. However, the sample obtained from F-10 contained some suspended soil and should be resampled to confirm elevated lead level for regulatory comparison.

## TABLES

**TABLE 1**  
**LISTING OF TARGET COMPOUNDS**  
**EPA METHOD 8021**  
**CAMP LEJEUNE LANDFILL**  
**S&ME PROJECT NO. 1054-92-003**

<b>COMPOUND</b>	<b>DETECTION LIMIT (µg/l)</b>	<b>COMPOUND</b>	<b>DETECTION LIMIT (µg/l)</b>
1,1 Dichloroethylene	2.0	Ethylbenzene	2.0
Methylene Chloride	2.0	<i>meta</i> -Xylene	2.0
<i>trans</i> -1,2-Dichloroethylene	2.0	<i>para</i> -Xylene	2.0
1,1-Dichloropropane	2.0	<i>ortho</i> -Xylene	2.0
2,2-Dichloropropane	2.0	Styrene	2.0
<i>cis</i> -1,2,-Dichloroethylene	2.0	Isopropylbenzene	2.0
Chloroform	2.0	Bromoform	2.0
Bromochloromethane	2.0	1,1,2,2-Tetrachloroethane	2.0
1,1,1-Trichloroethane	2.0	1,2,3-Trichloropropane	2.0
1,1-Dichloropropylene	2.0	<i>n</i> -Propylbenzene	2.0
Carbon Tetrachloride	2.0	Bromobenzene	2.0
1,2-Dichloroethane	2.0	1,3,5-Trimethylbenzene	2.0
Benzene	2.0	2-Chlorotoluene	2.0
Trichloroethylene	2.0	4-Chlorotoluene	2.0
1,2-Dichloropropane	2.0	<i>tert</i> -Butylbenzene	2.0
Bromodichloromethane	2.0	1,2,4-Trimethylbenzene	2.0
Dibromomethane	2.0	<i>sec</i> -Butylbenzene	2.0
<i>cis</i> -1,3-Dichloropropylene	2.0	<i>para</i> -Isopropyltoluene	2.0
Toulene	2.0	1,3-Dichlorobenzene	2.0
<i>trans</i> -1,3-Dichloropropylene	2.0	1,4-Dichlorobenzene	2.0
1,1,2-Trichloroethane	2.0	<i>n</i> -Butylbenzene	2.0
1,3-Dichloropropane	2.0	1,2-Dichlorobenzene	2.0
Tetrachloroethylene	2.0	1,2-Dibromo-3-chloropropane	2.0
Chlorodibromomethane	2.0	1,2,4-Trichlorobenzene	2.0
1,2-Dibromoethane	2.0	Hexachlorobutadiene	2.0
Chlorobenzene	2.0	Naphthalene	2.0
1,1,1,2-Tetrachloroethane	2.0	1,2,3-Trichlorobenzene	2.0

**TABLE 2**  
**LISTING OF TARGET COMPOUNDS - EPA METHOD 8260A**  
**CAMP LEJEUNE LANDFILL**  
**S&ME PROJECT NO. 1054-92-003**

PRIORITY POLLUTANT COMPOUNDS	PRACTICAL QUANTITATION LIMITS (µg/l)	OTHER TCL COMPOUNDS	PRACTICAL QUANTITATION LIMITS (µg/l)
Benzene	1	Acetone	20
Bromodichloromethane	1	2-Butanone	20
Bromoform	1	<i>n</i> -Butylbenzene	1
Bromomethane	2	<i>s</i> -Butylbenzene	1
Carbon tetrachloride	1	<i>t</i> -Butylbenzene	1
Chlorobenzene	1	Carbon disulfide	1
Chloroethane	2	2-Chlorotoluene	1
2-Chloroethylvinyl ether	1	4-Chlorotoluene	1
Chloroform	1	1,2-Dibromomethane	1
Chloromethane	2	2-Hexanone	10
Dibromochloromethane	1	Hexachlorobutadiene	0.6
1,2-Dichlorobenzene	1	Isopropylbenzene	1
1,3-Dichlorobenzene	1	<i>p</i> -Isopropyltoluene	1
1,4-Dichlorobenzene	1	4-Methyl-2-pentanone	10
1,1-Dichloroethane	1	Methyl- <i>t</i> -butyl ether	1
1,2-Dichloroethane	1	Naphthalene	1
1,1-Dichloroethene	1	<i>n</i> -Propylbenzene	1
1,2-Dichloroethenes (Total)	1	Styrene	1
1,2-Dichloropropane	1	1,1,1,2-Tetrachloroethane	1
<i>cis</i> -1,3-Dichloropropene	0.5	1,2,3-Trichlorobenzene	1
<i>trans</i> -1,3-Dichloropropene	0.5	1,2,4-Trichlorobenzene	1
Ethylbenzene	1	1,2,4-Trimethylbenzene	1
Methylene chloride	1	1,3,5-Trimethylbenzene	1
1,1,2,2-Tetrachloroethane	1	Vinyl acetate	10
Tetrachloroethene	1	Xylenes	1
Toluene	1		
1,1,1-Trichloroethane	1		
1,1,2-Trichloroethane	1		
Trichloroethene	1		
Trichlorofluoromethane	1		
Vinyl chloride	2		

**TABLE 3-1**  
**RESULTS OF FIELD ANALYSES by METHOD EPA 8021 for "A" GRID LOCATIONS**  
**CAMP LEJEUNE LANDFILL**  
**S&ME PROJECT NUMBER 1054-92-003**

Sample Grid Location	Bromochloromethane (Chloroform)	Isopropylbenzene	sec-Butylbenzene	para-Isopropyltoluene	meta-Xylene
A-00					
A-200					
A-400				4.4	
A-500	3.5 (BGL)				
A-600	21.6 (12)				
A-800	13.8 (7.7)				
A-1000	9.5 (5.3)				
A-1200	14.0 (7.8)				
A-1400		2.3		4.9	
A-1600					
A-2700					
A-2900				2.3	
A-3100					
A-3300					
A-3500					

Note: Numbers represent all detections above the detection limits of 2 µg/l for EPA Method SW-846 #8021 target analytes. Numbers in parentheses represent corresponding chloroform concentrations.

**TABLE 3-2**  
**RESULTS OF FIELD ANALYSES by METHOD EPA 8021 for "B" Through "E" GRID LOCATIONS**  
**CAMP LEJEUNE LANDFILL**  
**S&ME PROJECT NUMBER 1054-92-003**

Sample Grid Location	Bromochloromethane (Chloroform)	Isopropylbenzene	sec-Butylbenzene	para-Isopropyltoluene	meta-Xylene
B-2900				11.5	
C-250(Deep)					
C-400		8.0		9.7	
C-500	7.0 (3.9)	2.1		3.6	2.6
C-600	4.2 (2.3)				
C-700	3.3 (BQL)				
C-800					
C-1200					
C-1400					
C-2900		10.7		13.9	
D-500					
D-600				6.5	
E-600					

Note: Numbers represent all detections above the detection limits of 2 µg/l for EPA Method SW-846 #8021 target analytes. Numbers in parentheses represent corresponding chloroform concentrations.

**TABLE 3-3**  
**RESULTS OF FIELD ANALYSES by METHOD EPA 8021 for SELECTED MONITOR WELLS**  
**CAMP LEJEUNE LANDFILL**  
**S&ME PROJECT NUMBER 1054-92-003**

Well Location	Bromochloromethane (Chloroform)	Isopropylbenzene	sec-Butylbenzene	para-Isopropytoluene	meta-Xylene
6-GW-2	11.0 (6.1)				
82-MW-30			2.7	23.8	
BP-6	8.2 (4.6)				
MW-9	4.9 (2.7)				
MW-10					
MW-13					
MW-21					
MW-26	11.1 (6.2)				
MW-27					
MW-28	5.7 (3.2)				
MW-29					
MW-31					

Note: Numbers represent all detections above the detection limits of 2  $\mu\text{g/l}$  for EPA Method SW-846 #8021 target analytes. Numbers in parentheses represent corresponding chloroform concentrations.

**TABLE 4**  
**RESULTS OF LABORATORY ANALYSES by EPA METHOD 8260A for SELECTED GROUNDWATER SAMPLES**  
**CAMP LEJEUNE LANDFILL**  
**S&ME PROJECT NUMBER 1054-92-003**

Sample Grid or Well Location	Chloroform $\mu\text{g/l}$	para-Isopropyltoluene $\mu\text{g/l}$	Methylene Chloride $\mu\text{g/l}$
A-600	3.0		
C-250 (Deep)			1B
C-500	1.0		2B
C-700	1.0		
C-2900		2.0	1B
82-MW-30		3.0	1B
BP-6	3.0		
MW-9	2.0		1B
MW-26	3.0		

Note: "B" denotes the method blank was found to contain this compound. Since the concentration reported in the samples is approximately the same concentration as was found in the blank, detection of compound is probably attributable to laboratory conditions and not to groundwater conditions.

**TABLE 5**  
**COMPARISON OF POSITIVE DETECTIONS - ORGANICS IN GROUNDWATER**  
**CAMP LEJEUNE LANDFILL**  
**S&ME PROJECT NUMBER 1054-92-003**

Monitor Well BP-6					
Compound Detected	Remedial Investigation of OU-#2 Baker Environmental Inc.		Site Assessment Landfill Site S&ME, October, 1994		Allowable groundwater Concentration (15A NCAC 2L)
	Phase I Sample	Phase II Sample	Field GC Method 8021	Laboratory Analysis Method 8260A	
Chloroform	ND	3.7	4.4*	3.0	0.19

Monitor Well MW-9					
Compound Detected	Remedial Investigation of OU-#2 Baker Environmental Inc.		Site Assessment Landfill Site S&ME, October, 1994		Allowable groundwater Concentration (15A NCAC 2L)
	Phase I Sample	Phase II Sample	Field GC Method 8021	Laboratory Analysis Method 8260A	
Chloroform	ND	2.4	2.7*	2.0	0.19

Note: All concentrations shown are  $\mu\text{g/l}$  (ppb)

\*Concentrations shown are revised to reflect concentrations of chloroform.

**TABLE 5 (Con't)**  
**COMPARISON OF POSITIVE DETECTIONS - ORGANICS IN GROUNDWATER**  
**CAMP LEJEUNE LANDFILL**  
**S&ME PROJECT NUMBER 1054-92-003**

<b>Monitor Well 6GW-2</b>					
Compound Detected	Remedial Investigation of OU-#2 Baker Environmental Inc.		Site Assessment Landfill Site S&ME, October, 1994		Allowable groundwater Concentration (15A NCAC 2L)
	Phase I Sample	Phase II Sample	Field GC Method 8021	Laboratory Analysis Method 8260A	
Chloroform	ND	ND	6.1*	Not Analyzed	0.19

<b>Monitor Well 82-MW-30</b>					
Compound Detected	Remedial Investigation of OU-#2 Baker Environmental Inc.		Site Assessment Landfill Site S&ME, October, 1994		Allowable groundwater Concentration (15A NCAC 2L)
	Phase I Sample	Phase II Sample	Field GC Method 8021	Laboratory Analysis Method 8260A	
Sec-Butylbenzene		Not Target Analyte	2.7	ND	No Detectable Quantity
para- isopropyltoluene	Not Sampled for in Phase I	Not Target Analyte	23.8	3.0	No Detectable Quantity

Note: All concentrations shown are  $\mu\text{g/l}$  (ppb)

\*Concentrations shown are revised to reflect concentrations of chloroform.

**TABLE 6**  
**SUMMARY OF TOTAL METAL CONCENTRATIONS IN GROUNDWATER**  
**CAMP LEJEUNE LANDFILL**  
**S&ME PROJECT NO. 1054-92-003**

PARAMETER	MONITOR WELLS					15A NCAC 2L ALLOWABLE CONCENTRATIONS IN GROUNDWATER
	MW-2	MW-3	MW-8	MW-9	BP-6	
Aluminum	23000 J	991	46500	164000	229000	
Antimony						
Arsenic			6.2 B	6.2 JB	7.2 NJ	50
Barium	74.6 B	25.4 JB	84.5 B	185 B	257	2000
Beryllium						
Calcium		446 B	1490 B	1880 B	2070 B	
Chromium	15.4		42.2	160	198	50
Cobalt						
Copper				30.8	35.6	1000
Iron	2890 J	888	10600 J	37000 J	47000 J	3000
Lead	10.4	1 B	10.7	94.6	64.4	15
Magnesium	763 B	444 B	2080 B	5610	6970	50
Manganese	6.8 B		20.8	64	84.5	
Mercury			0.07 B	0.14 B	0.11 B	1.1
Nickel				21.7 B	27.4 B	100
Potassium	1480 B	839 B	4220 B	6050	9040	
Sodium	2560 JB	3250 JB	3970 JB	3810 JB	3600 JB	
Vanadium	19.6 B	2.7 B	52.8	157	209	
Zinc				47.8	56.6	2100

Notes:

N/A = Not applicable

All concentrations in  $\mu\text{g/l}$

B = reported value is less than Contract Required Detection Limit (CRDL), but greater than Instrument Detection Limit (IDL)

J = value is estimated

JB = value is estimated below the CRDL, but greater than the IDL

**TABLE 7**  
**SUMMARY OF DISSOLVED METAL CONCENTRATIONS IN GROUNDWATER**  
**CAMP LEJEUNE LANDFILL**  
**S&ME PROJECT NO. 1054-92-003**

PARAMETER	MONITOR WELLS					15A NCAC 2L ALLOWABLE CONCENTRATIONS IN GROUNDWATER
	MW-2	MW-3	MW-8	MW-9	BP-6	
Aluminum	652					
Antimony						
Arsenic						50
Barium	43.7 JB					2000
Calcium		437 B				
Chromium	15.4		42.2	160	198	50
Cobalt						
Iron		536			J	3000
Lead	10.4	1 B	10.7	94.6	64.4	15
Magnesium	297 JB	424 JB	371 J	981 JB	557 JB	50
Manganese	6.8 B		20.8	64	84.5	
Nickel				21.7 B	27.4 B	100
Potassium		976 B	1720 B			
Silver						
Sodium	2730 JB	3540 JB	4160 JB	3530 JB	3410 JB	
Vanadium	19.6 B	2.7 B	52.8	157	209	
Zinc				47.8	56.6	2100

Notes:

N/A = Not applicable

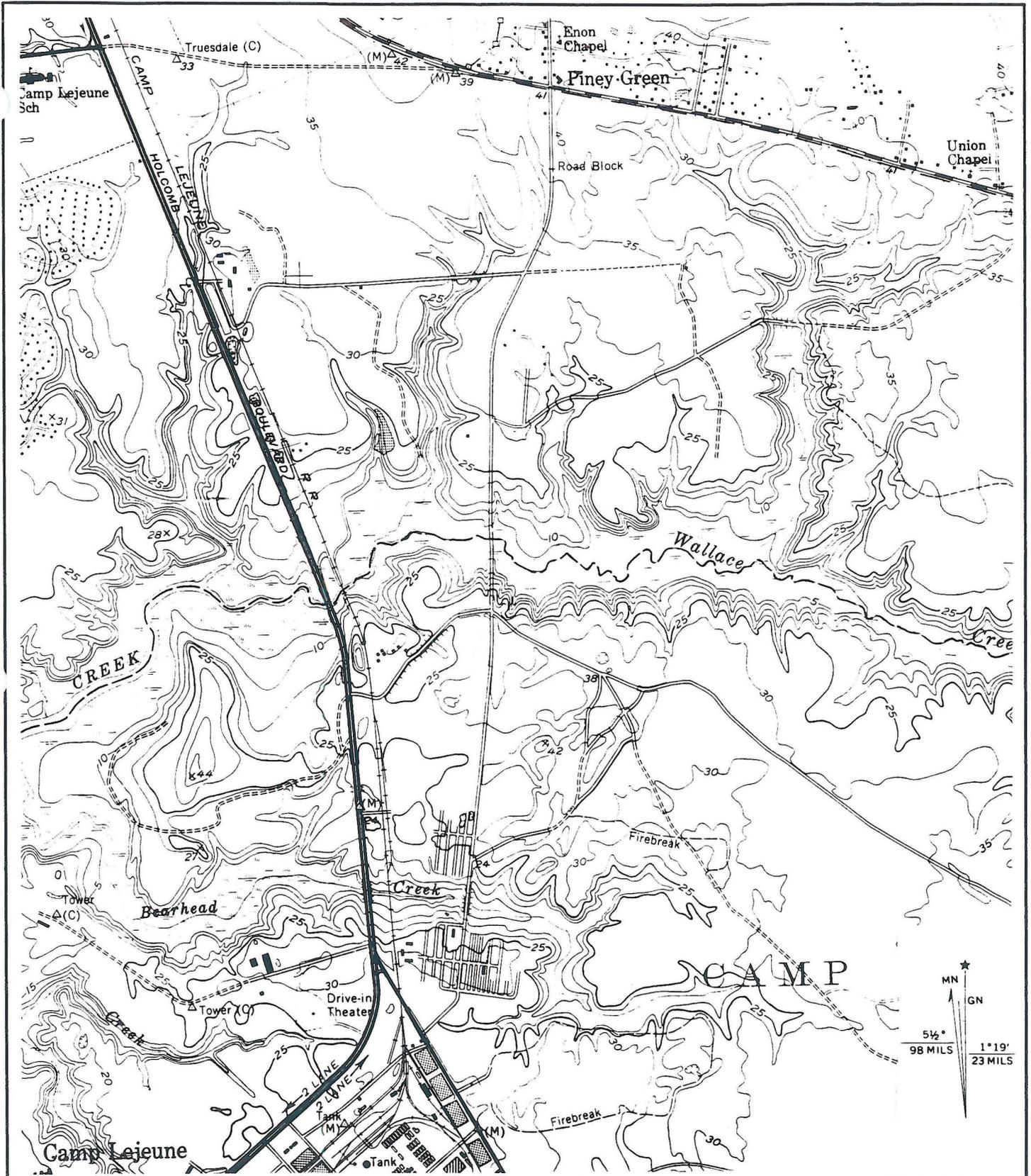
All concentrations in  $\mu\text{g/l}$

B = reported value is less than Contract Required Detection Limit (CRDL), but greater than Instrument Detection Limit (IDL)

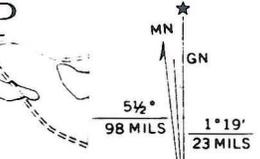
J = value is estimated

JB = value is estimated below the CRDL, but greater than the IDL

## FIGURES



**CAMP LEJEUNE QUADRANGLE**  
 NORTH CAROLINA—ONSLOW CO.  
 7.5 MINUTE SERIES (TOPOGRAPHIC)



SITE AREA  
 CAMP LEJEUNE LANDFILL ASSESSMENT  
 MARINE CORPS BASE  
 CAMP LEJEUNE, NORTH CAROLINA



Job No. 1054-92-003  
 Scale: 1" = 2000'  
 Fig No. 1

CURRENT SITE USAGE AND TOPOGRAPHY  
 CAMP LEJUNE LANDFILL ASSESSMENT  
 MARINE CORPS BASE  
 CAMP LEJUNE, NORTH CAROLINA

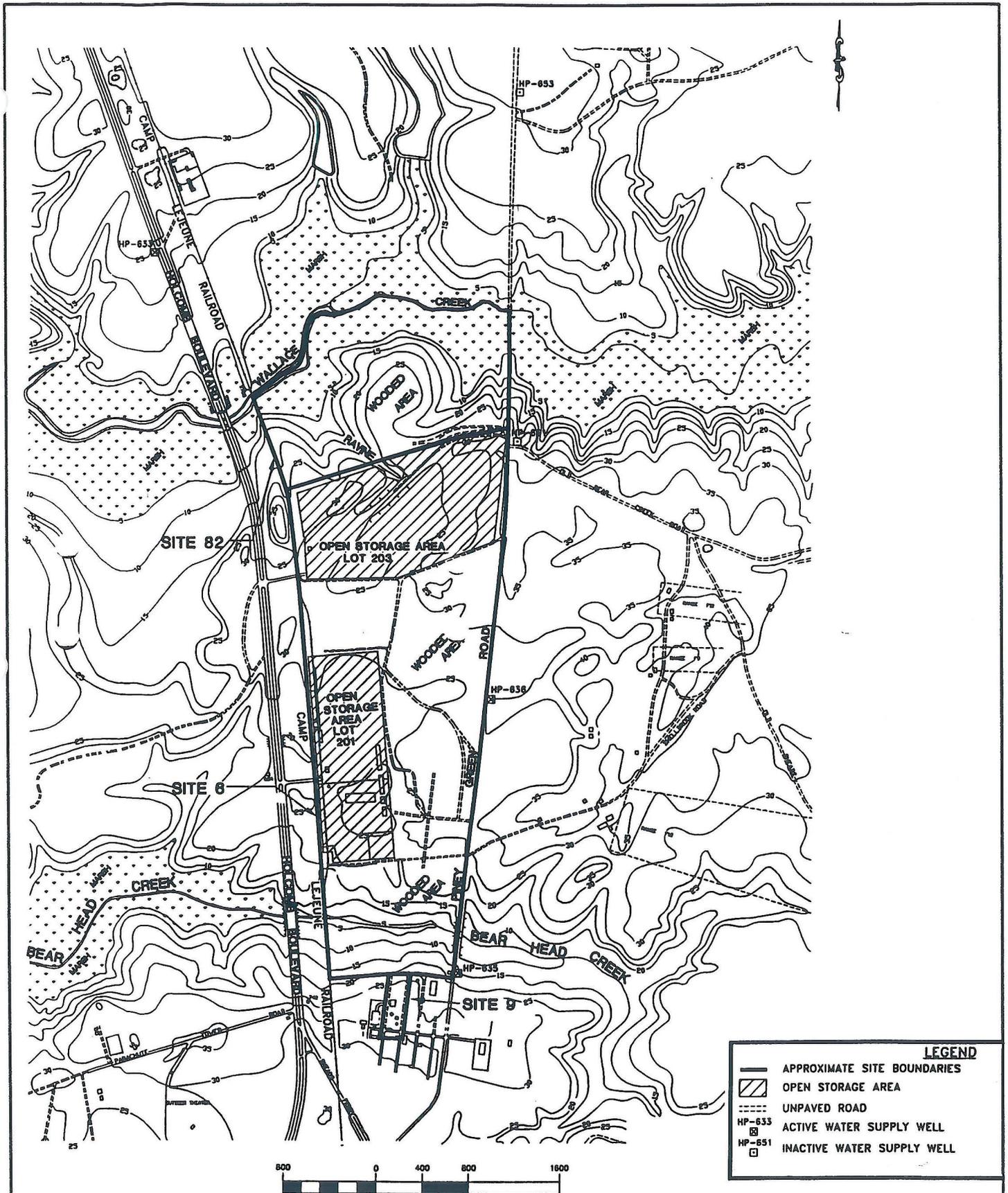


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ENVIRONMENTAL SERVICES - ENGINEERING - TESTING

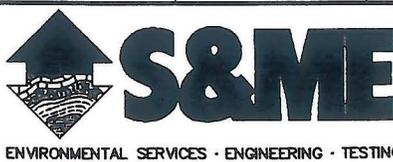
Job No. 1054-92-003  
 Scale: 1" = 300'  
 Fig No. 2



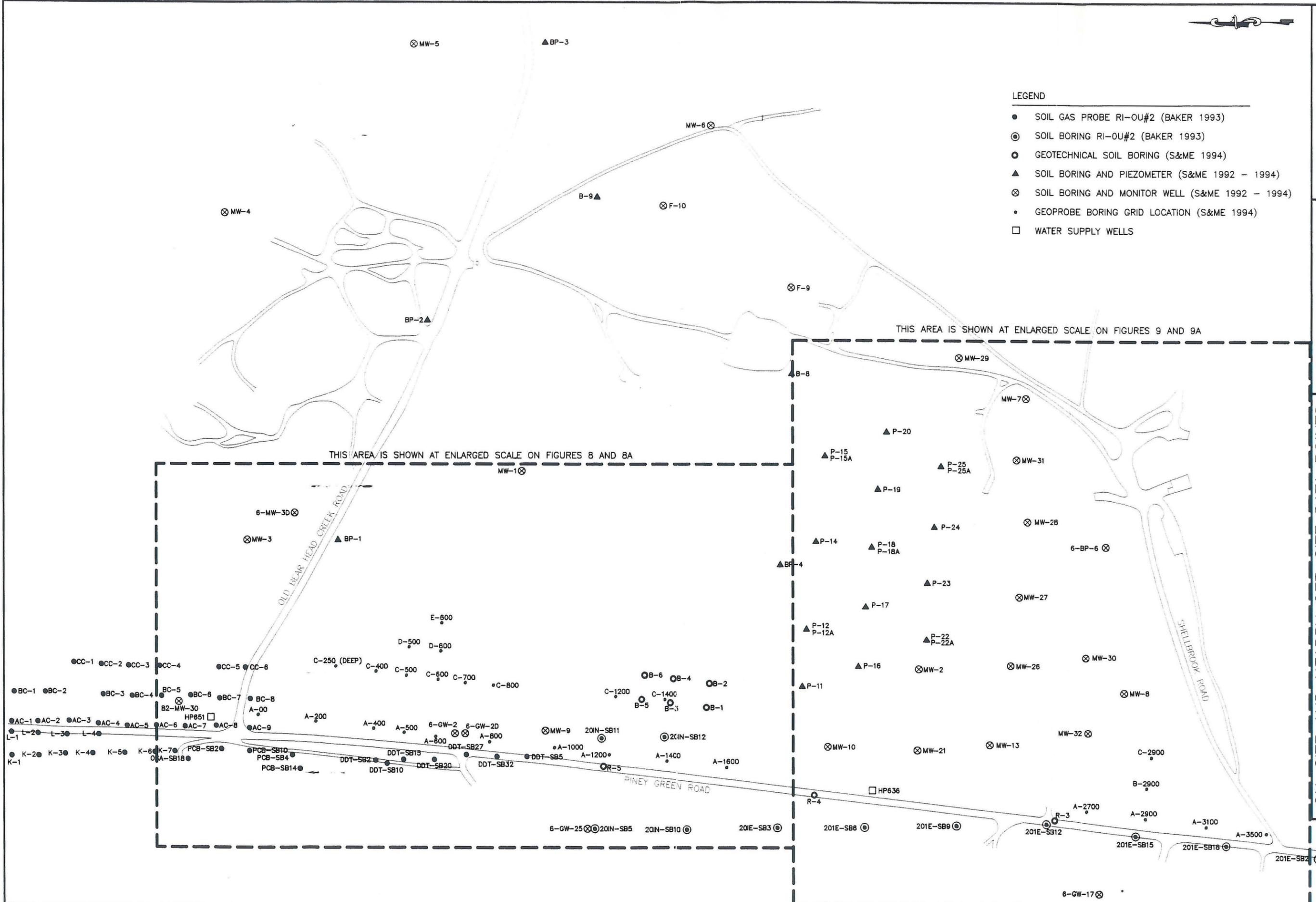


SOURCE: RI REPORT FOR OPERABLE UNIT No. 2 (BAKER 1993)

OPERABLE UNIT No. 2 AREA  
 (SITES 6, 9, AND 82)  
 CAMP LEJEUNE LANDFILL ASSESSMENT  
 MARINE CORPS BASE  
 CAMP LEJEUNE, NORTH CAROLINA

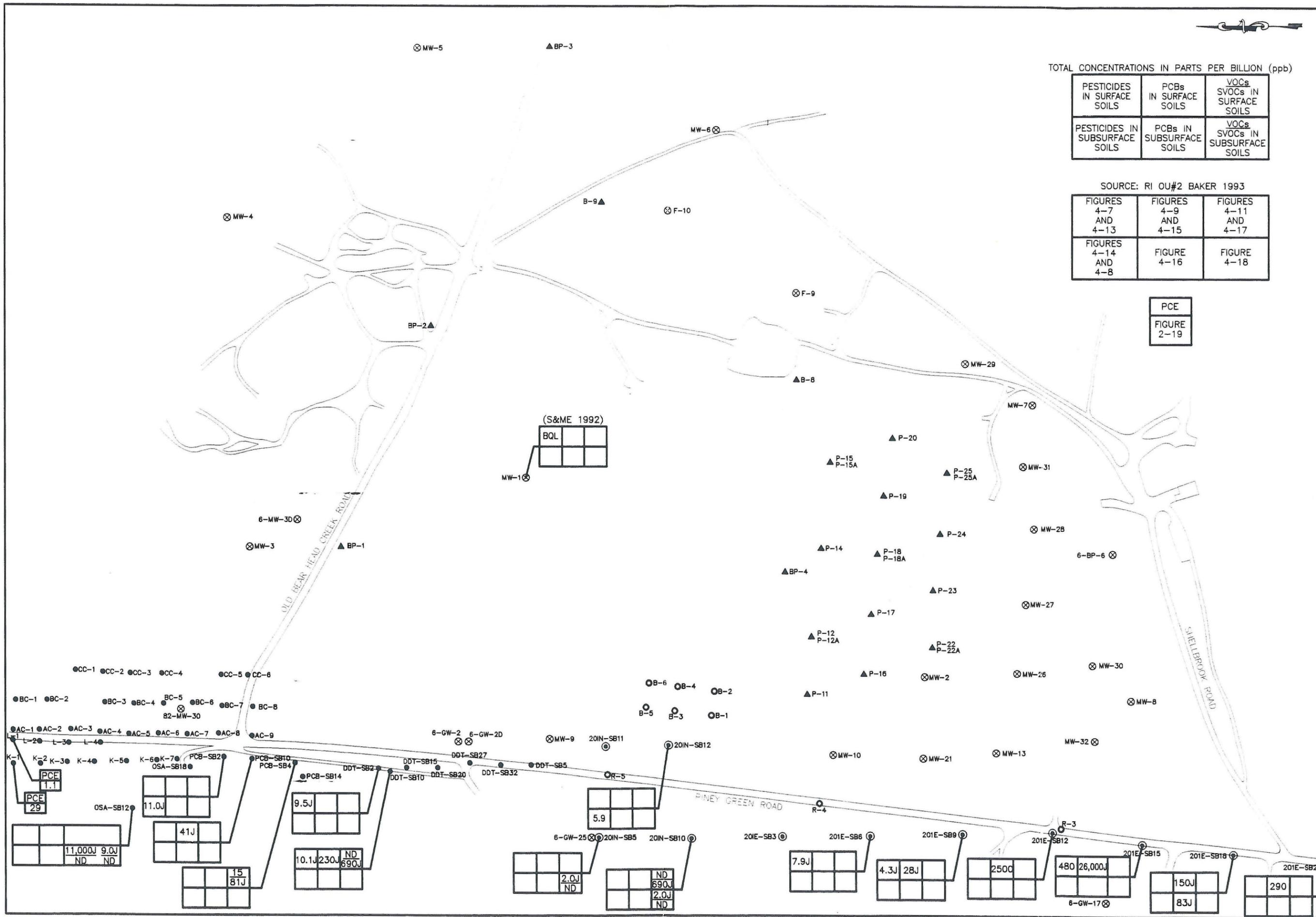


Job No. 1054-92-003  
 Scale: AS SHOWN  
 Fig No. 3



Job No. 1054-92-003  
 Scale: 1" = 300'  
 Fig No. 4

ON-SITE AND NEARBY OFF-SITE DATA POINTS (BORINGS, PROBES, PIEZOMETERS AND WELLS)  
 CAMP LEJUNE LANDFILL ASSESSMENT  
 MARINE CORPS BASE  
 CAMP LEJUNE, NORTH CAROLINA



TOTAL CONCENTRATIONS IN PARTS PER BILLION (ppb)

PESTICIDES IN SURFACE SOILS	PCBs IN SURFACE SOILS	VOCs SVOCs IN SURFACE SOILS
PESTICIDES IN SUBSURFACE SOILS	PCBs IN SUBSURFACE SOILS	VOCs SVOCs IN SUBSURFACE SOILS

SOURCE: RI OU#2 BAKER 1993

FIGURES 4-7 AND 4-13	FIGURES 4-9 AND 4-15	FIGURES 4-11 AND 4-17
FIGURES 4-14 AND 4-8	FIGURE 4-16	FIGURE 4-18

PCE  
FIGURE 2-19

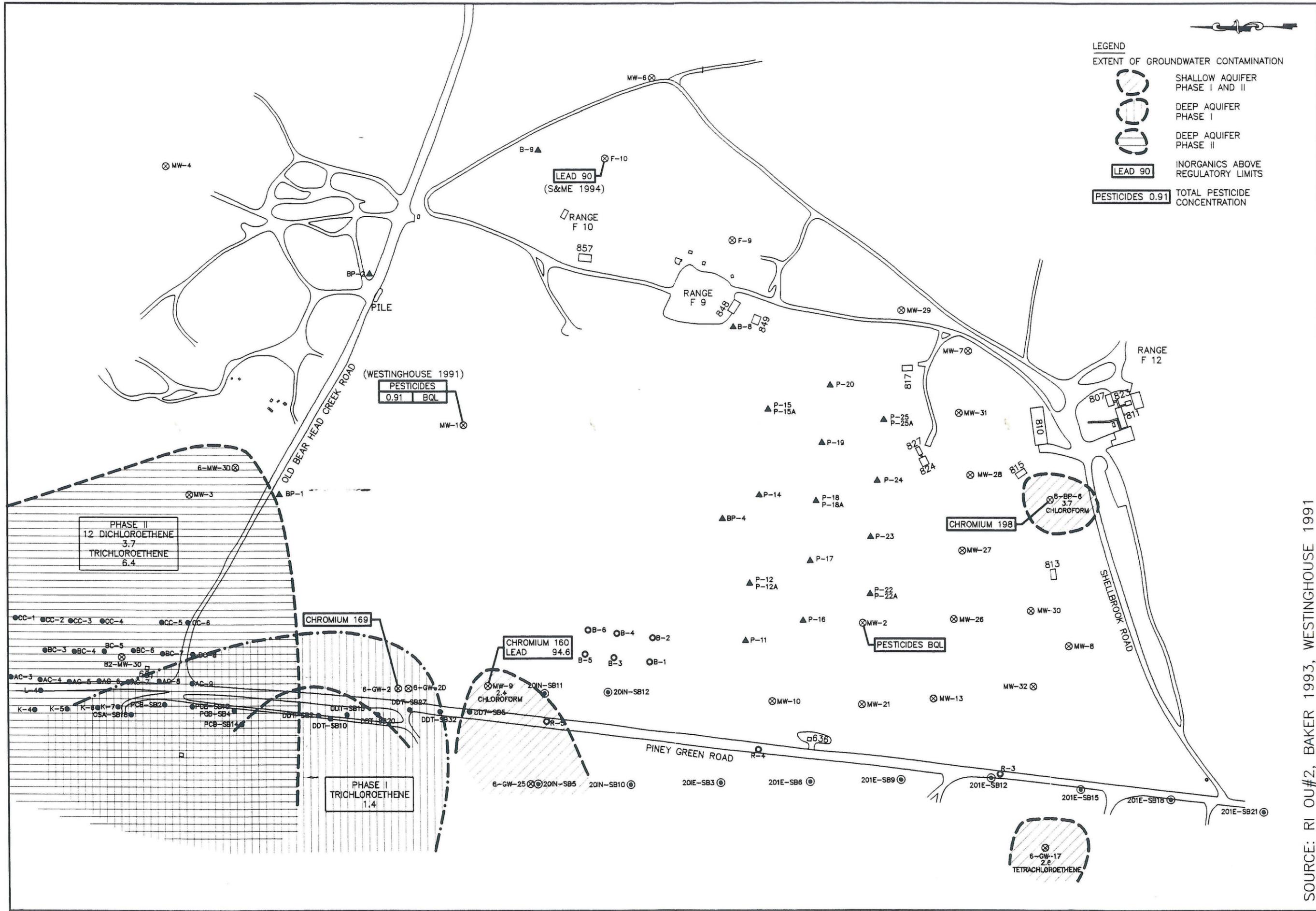
(S&ME 1992)  
BQL

Job No. 1054-92-003  
Scale: 1" = 300'  
Fig No. 5



SOIL CONTAMINATION - ORGANICS  
FROM RI REPORT FOR OU#2 (BAKER 1993)  
CAMP LEJEUNE LANDFILL ASSESSMENT  
MARINE CORPS BASE  
CAMP LEJEUNE, NORTH CAROLINA

CC-1	CC-2	CC-3	CC-4	CC-5	CC-6	BC-1	BC-2	BC-3	BC-4	BC-5	BC-6	BC-7	BC-8	AC-1	AC-2	AC-3	AC-4	AC-5	AC-6	AC-7	AC-8	AC-9	6-MW-3D	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-12	MW-13	MW-14	MW-15	MW-16	MW-17	MW-18	MW-19	MW-20	MW-21	MW-22	MW-23	MW-24	MW-25	MW-26	MW-27	MW-28	MW-29	MW-30	MW-31	MW-32	BP-1	BP-2	BP-3	BP-4	BP-5	BP-6	BP-7	BP-8	BP-9	BP-10	P-1	P-2	P-3	P-4	P-5	P-6	P-7	P-8	P-9	P-10	P-11	P-12	P-12A	P-13	P-14	P-15	P-15A	P-16	P-17	P-18	P-18A	P-19	P-20	P-21	P-22	P-22A	P-23	P-24	P-25	P-25A	OSA-SB12	OSA-SB18	PCB-SB2	PCB-SB4	PCB-SB10	PCB-SB14	DDT-SB2	DDT-SB10	DDT-SB15	DDT-SB20	DDT-SB27	DDT-SB32	DDT-SB5	20IN-SB5	20IN-SB10	20IN-SB11	20IN-SB12	20IN-SB15	20IN-SB18	20IN-SB21	20IN-SB27	20IN-SB30	20IN-SB32	20E-SB3	20E-SB6	20E-SB9	20E-SB12	20E-SB15	20E-SB18	20E-SB21	6-GW-17	6-GW-25	6-GW-2	6-GW-2D	R-3	R-4	R-5	11,000J ND	9.0J ND	41J	15 81J	10.1J 230J ND 690J	9.5J	5.9	2.0J ND	ND 690J 2.0J ND	7.9J	4.3J 28J	2500	480 26,000J	150J 83J	290	11,000J ND	9.0J ND	41J	15 81J	10.1J 230J ND 690J	9.5J	5.9	2.0J ND	ND 690J 2.0J ND	7.9J	4.3J 28J	2500	480 26,000J	150J 83J	290
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**LEGEND**

EXTENT OF GROUNDWATER CONTAMINATION

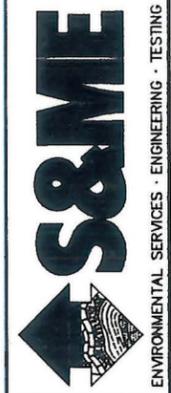
- SHALLOW AQUIFER PHASE I AND II
- DEEP AQUIFER PHASE I
- DEEP AQUIFER PHASE II

**LEAD 90** INORGANICS ABOVE REGULATORY LIMITS

**PESTICIDES 0.91** TOTAL PESTICIDE CONCENTRATION

SOURCE: RI OU#2, BAKER 1993, WESTINGHOUSE 1991

GROUNDWATER CONTAMINATION  
 CAMP LEJEUNE LANDFILL ASSESSMENT  
 MARINE CORPS BASE  
 CAMP LEJEUNE, NORTH CAROLINA



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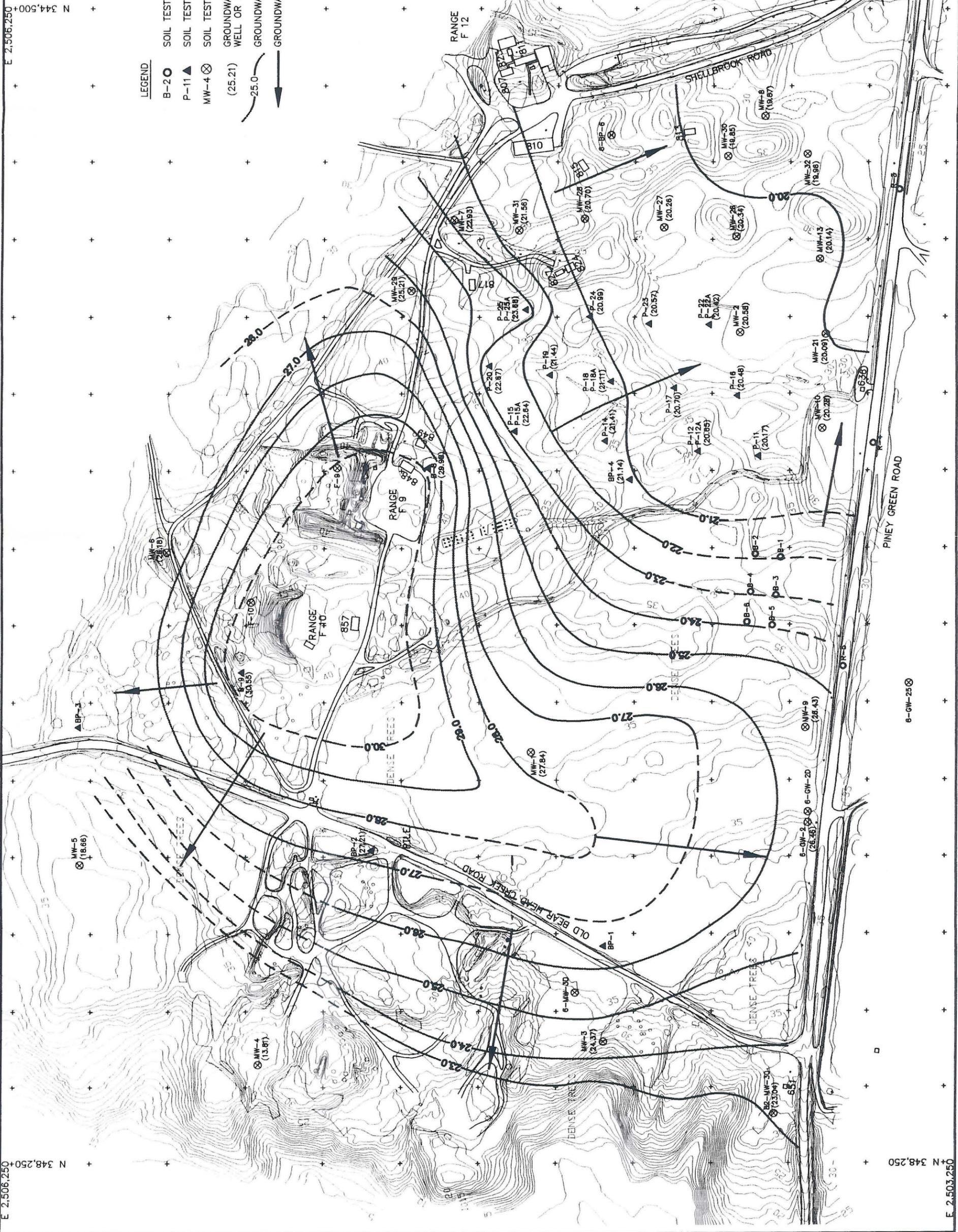
Job No. 1054-92-003  
 Scale: 1" = 300'  
 Fig No. 6

GROUNDWATER LEVELS - SEPT. 23, 1994  
 CAMP LEJUNE LANDFILL ASSESSMENT  
 MARINE CORPS BASE  
 CAMP LEJUNE, NORTH CAROLINA



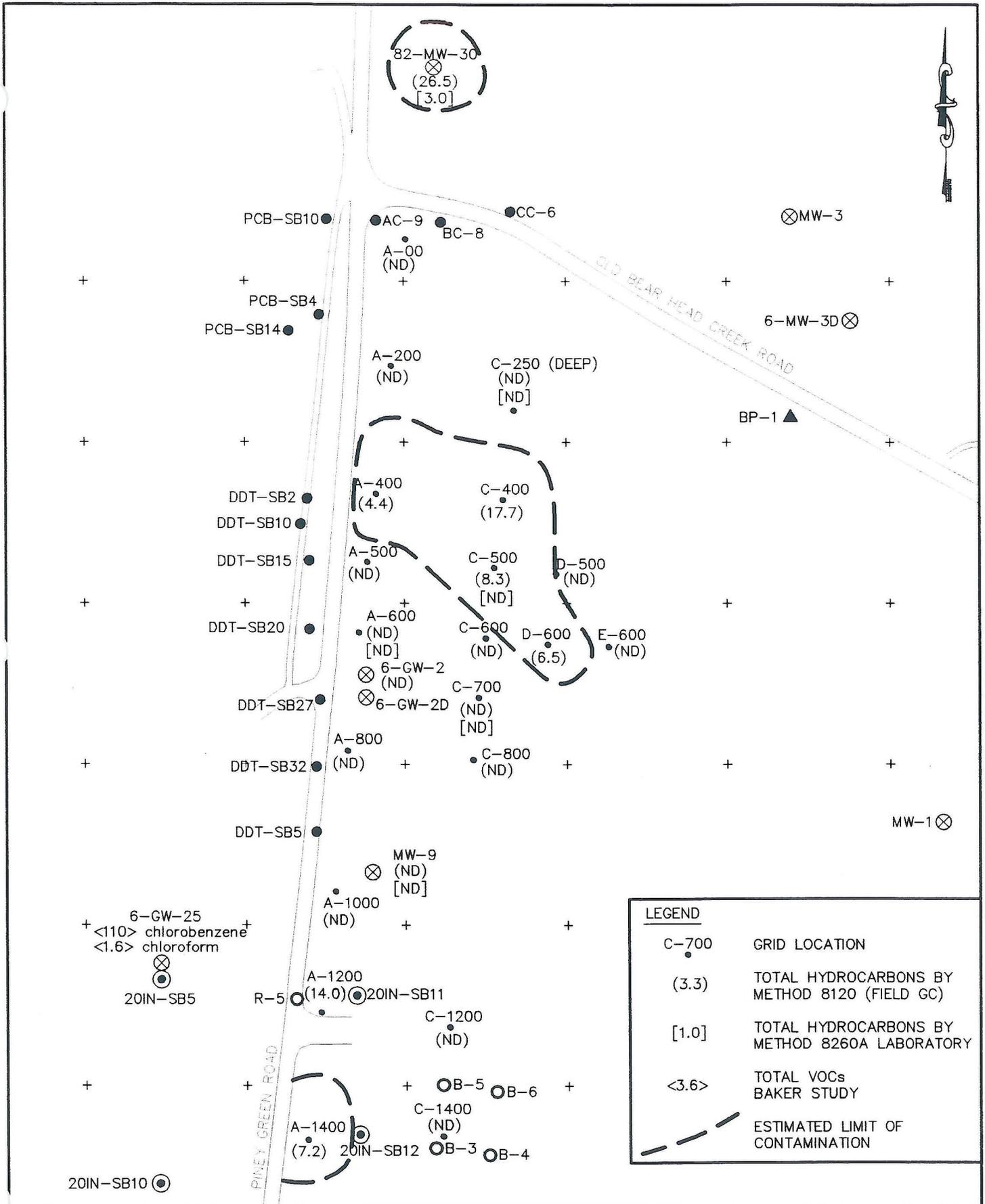
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 Fax (919) 790-9827

Job No. 1054-92-003  
 Scale: 1" = 300'  
 Fig No. 7



- LEGEND**
- B-2 ○ SOIL TEST BORING
  - P-11 ▲ SOIL TEST BORING AND PIEZOMETER
  - MW-4 ⊗ SOIL TEST BORING AND MONITOR WELL
  - (25.21) GROUNDWATER ELEVATION IN WELL OR PIEZOMETER
  - 25.0 GROUNDWATER CONTOUR
  - GROUNDWATER FLOW DIRECTION

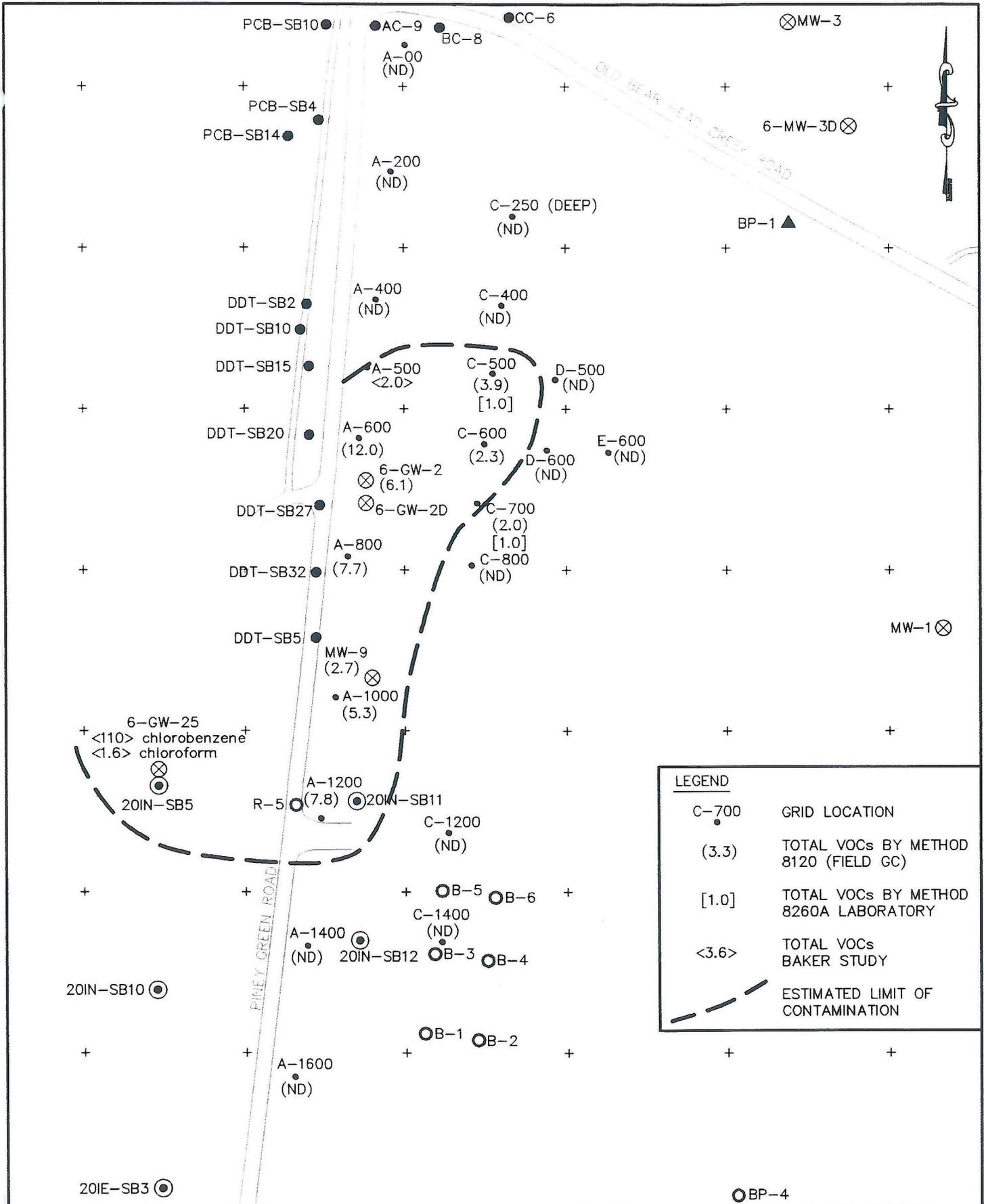




SHALLOW GROUNDWATER  
CONTAMINATION - HYDROCARBONS  
CAMP LEJEUNE LANDFILL (PHASE I)  
MARINE CORPS BASE  
CAMP LEJEUNE, NORTH CAROLINA

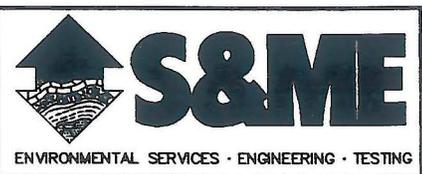


Job No. 1054-92-003  
Scale: 1" = 200'  
Fig No. 8

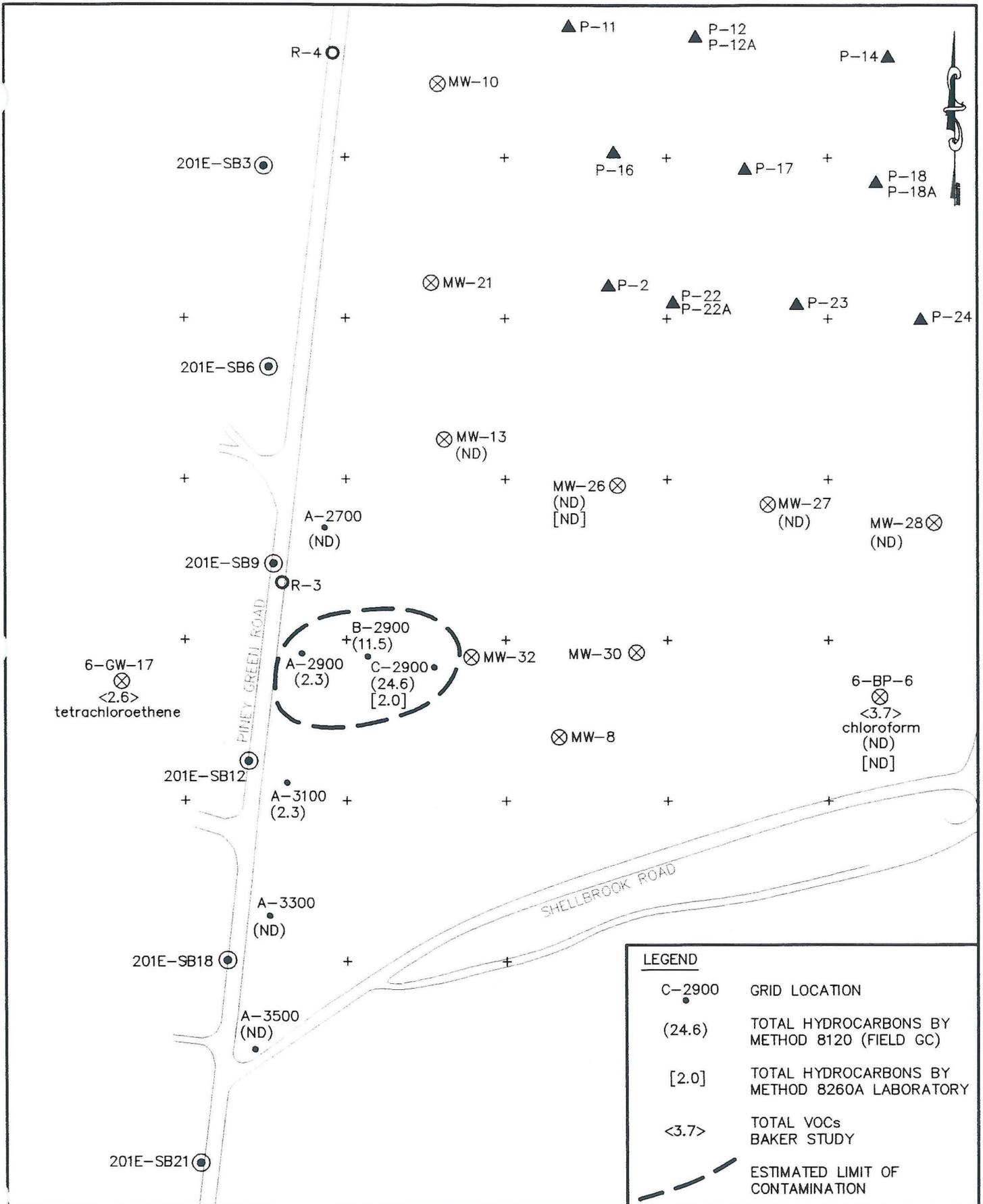


LEGEND	
C-700	GRID LOCATION
(3.3)	TOTAL VOCs BY METHOD 8120 (FIELD GC)
[1.0]	TOTAL VOCs BY METHOD 8260A LABORATORY
<3.6>	TOTAL VOCs BAKER STUDY
	ESTIMATED LIMIT OF CONTAMINATION

SHALLOW GROUNDWATER  
 CONTAMINATION - CHLOROFORM  
 CAMP LEJEUNE LANDFILL (PHASE I)  
 MARINE CORPS BASE  
 CAMP LEJEUNE, NORTH CAROLINA



Job No. 1054-92-003  
 Scale: 1" = 200'  
 Fig No. 8A

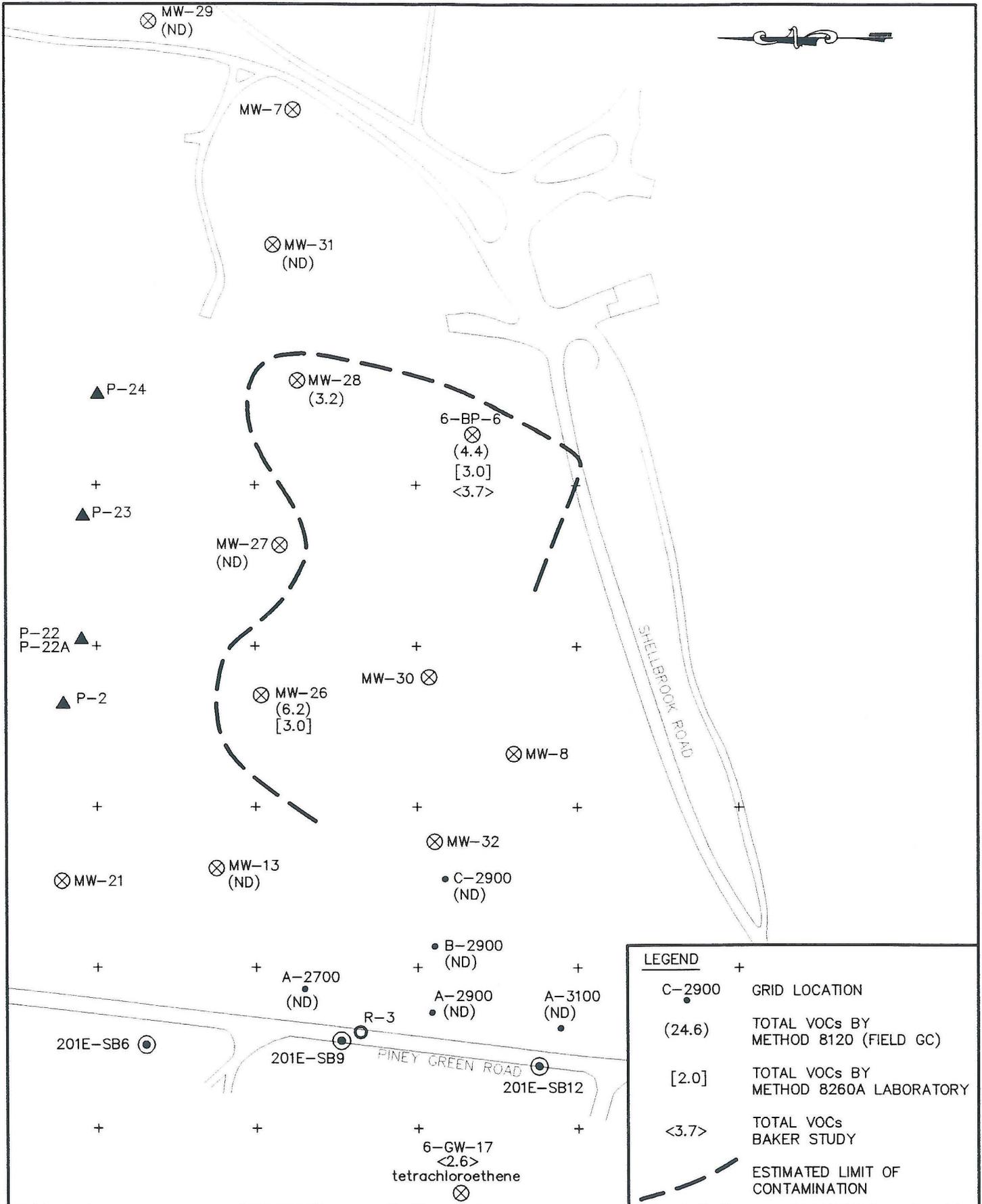


LEGEND	
C-2900	GRID LOCATION
(24.6)	TOTAL HYDROCARBONS BY METHOD 8120 (FIELD GC)
[2.0]	TOTAL HYDROCARBONS BY METHOD 8260A LABORATORY
<3.7>	TOTAL VOCs BAKER STUDY
	ESTIMATED LIMIT OF CONTAMINATION

SHALLOW GROUNDWATER  
CONTAMINATION – HYDROCARBONS  
CAMP LEJEUNE LANDFILL (PHASE I)  
MARINE CORPS BASE  
CAMP LEJEUNE, NORTH CAROLINA

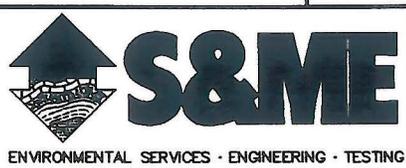


Job No. 1054-92-003  
Scale: 1" = 200'  
Fig No. 9

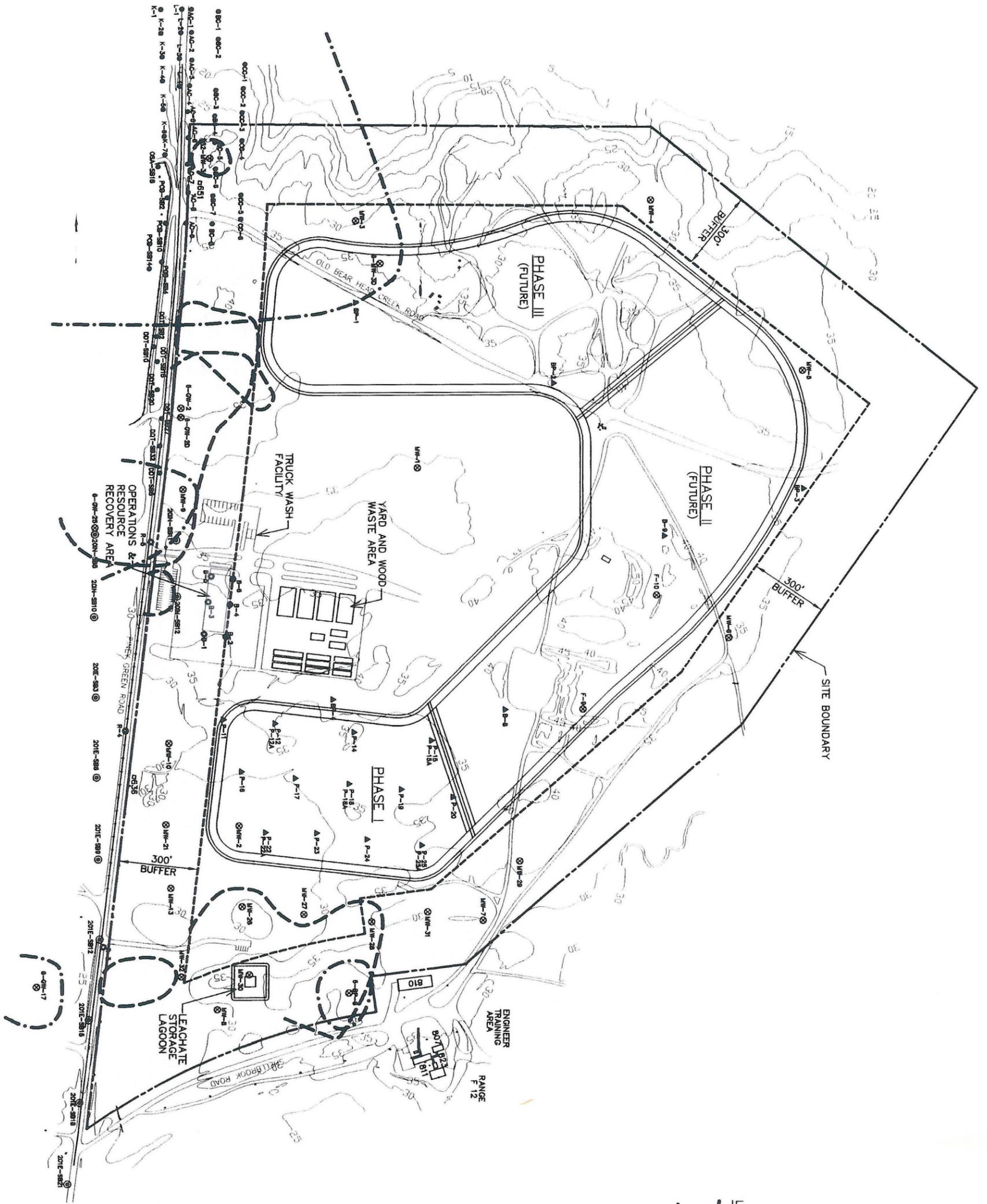


LEGEND	
+	GRID LOCATION
●	C-2900
(24.6)	TOTAL VOCs BY METHOD 8120 (FIELD GC)
[2.0]	TOTAL VOCs BY METHOD 8260A LABORATORY
<3.7>	TOTAL VOCs BAKER STUDY
- - -	ESTIMATED LIMIT OF CONTAMINATION

SHALLOW GROUNDWATER  
CONTAMINATION - CHLOROFORM  
CAMP LEJEUNE LANDFILL (PHASE I)  
MARINE CORPS BASE  
CAMP LEJEUNE, NORTH CAROLINA



Job No. 1054-92-003  
Scale: 1" = 200'  
Fig No. 9A



**LEGEND**  
 - - - AREA OF GROUNDWATER IMPACT (S&ME 1994)  
 - - - AREA OF GROUNDWATER IMPACT (BAKER 1993)

GROUNDWATER IMPACTS RELATED TO PROPOSED SITE USAGE  
 CAMP LEJEUNE LANDFILL ASSESSMENT  
 MARINE CORPS BASE  
 CAMP LEJEUNE, NORTH CAROLINA



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Job No. 1054-92-003  
 Scale: 1" = 400'  
 Fig No. 10

**APPENDIX I**

**FIELD LABORATORY REPORTS**

**EPA METHOD 8021**

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/20/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/21/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	A-00

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	BDL	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/20/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/21/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	A-200

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	BDL	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

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COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/21/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/21/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	A-400

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	BDL	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

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COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	4.4	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/22/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/23/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	A-500

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	3.5	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

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COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/21/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/21/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	A-600

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	21.6	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

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COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/21/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/21/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	A-800

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	13.8	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/21/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/21/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	A-1000

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	9.5	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
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## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/21/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/21/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	A-1200

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	14.0	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/21/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/21/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	A-1400

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	BDL	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	2.3	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	4.9	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/21/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/22/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	A-1600

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	BDL	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/22/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/22/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	A-2700

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	BDL	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/22/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/22/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	A-2900

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	BDL	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	2.3	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/22/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/22/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	A-3100

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	BDL	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/22/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/22/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	A-3300

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	BDL	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/22/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/22/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	A-3500

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	BDL	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

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COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/27/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/27/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	B-2900

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	BDL	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	11.5	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/28/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	10/1/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	C-250, Deep

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	BDL	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

  
 Stephen J. LeBlanc  
 GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/27/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/27/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	C-400

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	BDL	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	8.0	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	9.7	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

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Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/26/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/26/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	C-500

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	7.0	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	2.6	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	2.1	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	3.6	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/22/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/22/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	C-600

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	4.2	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/22/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/23/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	C-700

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	3.3	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/22/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/22/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	C-800

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	BDL	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

  
 Stephen J. LeBlanc  
 GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/28/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	10/1/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	C-1200

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	BDL	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

  
 Stephen J. LeBlanc  
 GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/28/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	10/1/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	C-1400

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	BDL	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/27/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/27/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	C-2900

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	BDL	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	10.7	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	13.9	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/26/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/26/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	D-500

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	BDL	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/22/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/23/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	D-600

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	BDL	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

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COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	6.5	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/26/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/26/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	E-600

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	BDL	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/22/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/22/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	GGW-2

*well G-GW-2*

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	11.0	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/22/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/22/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	82-MW-30

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	BDL	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	2.7	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	23.8	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/21/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/22/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	BP-6

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	8.0	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/26/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/26/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	BP-6-2

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	8.2	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/22/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/22/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	MW-9

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	4.9	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/28/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	10/1/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	MW-10

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	BDL	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/26/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/26/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	MW-13

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	BDL	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

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COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/28/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	10/1/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	MW-21

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	BDL	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/26/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/26/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	MW-26

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	11.1	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/26/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/26/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	MW-27

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	BDL	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/26/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/26/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	MW-28

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	5.7	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/28/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	10/1/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	MW-29

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	BDL	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/26/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/26/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	MW-31

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	BDL	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

  
 Stephen J. LeBlanc  
 GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/28/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	10/1/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	MW-31

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	BDL	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/20/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/20/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	Background

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	BDL	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/26/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/26/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	Sample 1

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	BDL	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/26/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	9/26/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	Sample 2

### RESULTS

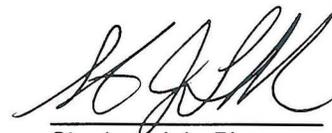
COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	BDL	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

## RESULTS OF LABORATORY ANALYSIS

CLIENT:	S&ME-Raleigh	COLLECTION DATE:	9/28/94
PROJECT NAME:	Camp Lejeune	ANALYSIS DATE:	10/1/94
PROJECT NUMBER:	1054-92-003	SAMPLE MATRIX:	Water
ANALYSIS:	EPA 8021	SAMPLE NAME:	Sludge

### RESULTS

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
1,1-Dichloroethylene	75-35-4	BDL	ug/L	2.0 ug/L
Methylene Chloride	75-09-2	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,2-Dichloroethylene	156-60-5	BDL	ug/L	2.0 ug/L
1,1-Dichloroethane	75-34-3	BDL	ug/L	2.0 ug/L
2,2-Dichloropropane	594-20-7	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,2-Dichloroethylene	156-59-2	BDL	ug/L	2.0 ug/L
Chloroform	67-66-3	BDL	ug/L	2.0 ug/L
Bromochloromethane	74-97-5	BDL	ug/L	2.0 ug/L
1,1,1-Trichloroethane	71-55-6	BDL	ug/L	2.0 ug/L
1,1-Dichloropropylene	563-58-6	BDL	ug/L	2.0 ug/L
Carbon Tetrachloride	56-23-5	BDL	ug/L	2.0 ug/L
1,2-Dichloroethane	107-06-2	BDL	ug/L	2.0 ug/L
Benzene	71-43-2	BDL	ug/L	2.0 ug/L
Trichloroethylene	79-01-6	BDL	ug/L	2.0 ug/L
1,2-Dichloropropane	78-87-5	BDL	ug/L	2.0 ug/L
Bromodichloromethane	75-27-4	BDL	ug/L	2.0 ug/L
Dibromomethane	74-95-3	BDL	ug/L	2.0 ug/L
<i>cis</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
Toluene	108-88-3	BDL	ug/L	2.0 ug/L
<i>trans</i> -1,3-Dichloropropylene	542-75-6	BDL	ug/L	2.0 ug/L
1,1,2-Trichloroethane	79-00-5	BDL	ug/L	2.0 ug/L
1,3-Dichloropropane	142-28-9	BDL	ug/L	2.0 ug/L
Tetrachloroethylene	127-18-4	BDL	ug/L	2.0 ug/L
Chlorodibromomethane	124-48-1	BDL	ug/L	2.0 ug/L
1,2-Dibromoethane	106-93-4	BDL	ug/L	2.0 ug/L
Chlorobenzene	108-90-7	BDL	ug/L	2.0 ug/L
1,1,1,2-Tetrachloroethane	630-20-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit

Continued on next page

COMPOUND	CAS No.	RESULTS	UNITS	DET. LIMIT
Ethylbenzene	100-41-4	BDL	ug/L	2.0 ug/L
<i>meta</i> -Xylene	108-38-3	BDL	ug/L	2.0 ug/L
<i>para</i> -Xylene	106-42-3	BDL	ug/L	2.0 ug/L
<i>ortho</i> -Xylene	95-47-6	BDL	ug/L	2.0 ug/L
Styrene	100-42-5	BDL	ug/L	2.0 ug/L
Isopropylbenzene	98-82-8	BDL	ug/L	2.0 ug/L
Bromoform	75-25-2	BDL	ug/L	2.0 ug/L
1,1,2,2-Tetrachloroethane	79-34-5	BDL	ug/L	2.0 ug/L
1,2,3-Trichloropropane	96-18-4	BDL	ug/L	2.0 ug/L
<i>n</i> -Propylbenzene	103-65-1	BDL	ug/L	2.0 ug/L
Bromobenzene	108-86-1	BDL	ug/L	2.0 ug/L
1,3,5-Trimethylbenzene	108-67-8	BDL	ug/L	2.0 ug/L
2-Chlorotoluene	95-49-8	BDL	ug/L	2.0 ug/L
4-Chlorotoluene	106-43-4	BDL	ug/L	2.0 ug/L
<i>tert</i> -Butylbenzene	98-06-6	BDL	ug/L	2.0 ug/L
1,2,4-Trimethylbenzene	95-63-6	BDL	ug/L	2.0 ug/L
<i>sec</i> -Butylbenzene	135-98-8	BDL	ug/L	2.0 ug/L
<i>para</i> -Isopropyltoluene	99-87-6	BDL	ug/L	2.0 ug/L
1,3-Dichlorobenzene	541-73-1	BDL	ug/L	2.0 ug/L
1,4-Dichlorobenzene	106-46-7	BDL	ug/L	2.0 ug/L
<i>n</i> -Butylbenzene	104-51-8	BDL	ug/L	2.0 ug/L
1,2-Dichlorobenzene	95-50-1	BDL	ug/L	2.0 ug/L
1,2-Dibromo-3-chloropropane	96-12-8	BDL	ug/L	2.0 ug/L
1,2,4-Trichlorobenzene	120-82-1	BDL	ug/L	2.0 ug/L
Hexachlorobutadiene	87-68-3	BDL	ug/L	2.0 ug/L
Naphthalene	91-20-3	BDL	ug/L	2.0 ug/L
1,2,3-Trichlorobenzene	87-61-6	BDL	ug/L	2.0 ug/L

BDL = Below Detection Limit



Stephen J. LeBlanc  
GC Chemist

**APPENDIX II**

**ANALYTICAL LABORATORY REPORTS**

**EPA 8260A**



Mr. Walt Beckwith  
S & ME  
P. O. Box 58069  
Raleigh, NC 27658

October 14, 1994

Dear Mr. Beckwith:

Please find enclosed the analytical results of the sample(s) received at our laboratory on September 30, 1994. This report contains sections addressing the following information at a minimum:

- analytical results
- chain-of-custody (if applicable)

<b>Client Project #</b>	1054-92003	<b>Client Project Name</b>	CAMP LEJUNE
<b>IEA Report #</b>	S144-001	<b>Purchase Order #</b>	N/A

Copies of this analytical report and supporting data are maintained in our files for a minimum of 3 years unless special arrangements are made. Unless specifically indicated, all analytical testing was performed at the IEA-Massachusetts laboratory.

We appreciate your selection of our services and welcome any questions or suggestions you may have relative to this report. Please contact your customer service representative at (617) 272-5212 for any additional information. Thank you for utilizing our services and we hope you will consider us for your future analytical needs.

I have reviewed and approved the enclosed data for final release.

Sincerely,

*Michael F. Wheeler* 10/14/94  
for

Michael F. Wheeler, Ph.D.  
Laboratory Director  
IEA-Massachusetts

MW/slh

DOC# RPF00300.MA

Analysis Report: EPA Method 8260A  
(PAGE 1 OF 2 PAGES)

Client:	S & ME	IEA ID:	S144-001-01
Project:	1054-92003 CAMP LEJUNE	Sample:	82-MW-30
Report Date:	10/14/94	Type:	Water
Collected:	09/22/94	Container:	VOA
Received:	09/30/94		
Analyzed:	10/06/94		
By:	GMT	Dilution Factor:	1

Priority Pollutant Compounds

Number	Compound	PQL (ug/L)	Result (ug/L)
1	Benzene	1	BQL
2	Bromodichloromethane	1	BQL
3	Bromoform	1	BQL
4	Bromomethane	2	BQL
5	Carbon tetrachloride	1	BQL
6	Chlorobenzene	1	BQL
7	Chloroethane	2	BQL
8	2-Chloroethylvinyl ether	1	BQL
9	Chloroform	1	BQL
10	Chloromethane	2	BQL
11	Dibromochloromethane	1	BQL
12	1,2-Dichlorobenzene	1	BQL
13	1,3-Dichlorobenzene	1	BQL
14	1,4-Dichlorobenzene	1	BQL
15	1,1-Dichloroethane	1	BQL
16	1,2-Dichloroethane	1	BQL
17	1,1-Dichloroethene	1	BQL
18	1,2-Dichloroethenes (Total)	1	BQL
19	1,2-Dichloropropane	1	BQL
20	cis-1,3-Dichloropropene	0.5	BQL
21	trans-1,3-Dichloropropene	0.5	BQL
22	Ethylbenzene	1	BQL
23	Methylene chloride	1	1B
24	1,1,2,2-Tetrachloroethane	1	BQL
25	Tetrachloroethene	1	BQL
26	Toluene	1	BQL
27	1,1,1-Trichloroethane	1	BQL
28	1,1,2-Trichloroethane	1	BQL
29	Trichloroethene	1	BQL
30	Trichlorofluoromethane	1	BQL
31	Vinyl chloride	2	BQL

Doc# MSF11800.MA



Analysis Report: EPA Method 8260A  
(PAGE 2 OF 2 PAGES)

Client: S & ME IEA ID: S144-001-01  
Project: 1054-92003 CAMP LEJUNE Sample: 82-MW-30

Other TCL Compounds \*

Number	Compound	PQL (ug/L)	Result (ug/L)
32	Acetone	20	BQL
33	2-Butanone	20	BQL
34	n-Butylbenzene	1	BQL
35	s-Butylbenzene	1	BQL
36	t-Butylbenzene	1	BQL
37	Carbon disulfide	1	BQL
38	2-Chlorotoluene	1	BQL
39	4-Chlorotoluene	1	BQL
40	1,2-Dibromoethane	1	BQL
41	2-Hexanone	10	BQL
42	Hexachlorobutadiene	0.6	BQL
43	Isopropylbenzene	1	BQL
44	p-Isopropyltoluene	1	3
45	4-Methyl-2-pentanone	10	BQL
46	Methyl-t-butyl ether	1	BQL
47	Naphthalene	1	BQL
48	n-Propylbenzene	1	BQL
49	Styrene	1	BQL
50	1,1,1,2-Tetrachloroethane	1	BQL
51	1,2,3-Trichlorobenzene	1	BQL
52	1,2,4-Trichlorobenzene	1	BQL
53	1,2,4-Trimethylbenzene	1	BQL
54	1,3,5-Trimethylbenzene	1	BQL
55	Vinyl acetate	10	BQL
56	Xylenes	1	BQL

Surrogate Standard Recovery:

1,2-Dichloroethane-d4	100 %
Toluene-d8	99 %
Bromofluorobenzene	101 %

COMMENTS:

BQL = Below Quantitaiton Limit.  
PQL = Practical Quantitation Limit.  
B = Compound in blank

Doc# MSF11800.MA





# IEA

An Aquarion Company

Analysis Report: EPA Method 8260A  
(PAGE 1 OF 2 PAGES)

Client:	S & ME	IEA ID:	S144-001-02
Project:	1054-92003 CAMP LEJUNE	Sample:	MW-9
Report Date:	10/14/94	Type:	Water
Collected:	09/22/94	Container:	VOA
Received:	09/30/94		
Analyzed:	10/06/94		
By:	GMT	Dilution Factor:	1

Priority Pollutant Compounds

Number	Compound	PQL (ug/L)	Result (ug/L)
1	Benzene	1	BQL
2	Bromodichloromethane	1	BQL
3	Bromoform	1	BQL
4	Bromomethane	2	BQL
5	Carbon tetrachloride	1	BQL
6	Chlorobenzene	1	BQL
7	Chloroethane	2	BQL
8	2-Chloroethylvinyl ether	1	BQL
9	Chloroform	1	2
10	Chloromethane	2	BQL
11	Dibromochloromethane	1	BQL
12	1,2-Dichlorobenzene	1	BQL
13	1,3-Dichlorobenzene	1	BQL
14	1,4-Dichlorobenzene	1	BQL
15	1,1-Dichloroethane	1	BQL
16	1,2-Dichloroethane	1	BQL
17	1,1-Dichloroethene	1	BQL
18	1,2-Dichloroethenes (Total)	1	BQL
19	1,2-Dichloropropane	1	BQL
20	cis-1,3-Dichloropropene	0.5	BQL
21	trans-1,3-Dichloropropene	0.5	BQL
22	Ethylbenzene	1	BQL
23	Methylene chloride	1	1B
24	1,1,2,2-Tetrachloroethane	1	BQL
25	Tetrachloroethene	1	BQL
26	Toluene	1	BQL
27	1,1,1-Trichloroethane	1	BQL
28	1,1,2-Trichloroethane	1	BQL
29	Trichloroethene	1	BQL
30	Trichlorofluoromethane	1	BQL
31	Vinyl chloride	2	BQL

Doc# MSF11800.MA





# IEA

An Aquarion Company

Analysis Report: EPA Method 8260A  
(PAGE 2 OF 2 PAGES)

Client: S & ME IEA ID: S144-001-02  
Project: 1054-92003 CAMP LEJUNE Sample: MW-9

Other TCL Compounds \*

Number	Compound	PQL (ug/L)	Result (ug/L)
32	Acetone	20	BQL
33	2-Butanone	20	BQL
34	n-Butylbenzene	1	BQL
35	s-Butylbenzene	1	BQL
36	t-Butylbenzene	1	BQL
37	Carbon disulfide	1	BQL
38	2-Chlorotoluene	1	BQL
39	4-Chlorotoluene	1	BQL
40	1,2-Dibromoethane	1	BQL
41	2-Hexanone	10	BQL
42	Hexachlorobutadiene	0.6	BQL
43	Isopropylbenzene	1	BQL
44	p-Isopropyltoluene	1	BQL
45	4-Methyl-2-pentanone	10	BQL
46	Methyl-t-butyl ether	1	BQL
47	Naphthalene	1	BQL
48	n-Propylbenzene	1	BQL
49	Styrene	1	BQL
50	1,1,1,2-Tetrachloroethane	1	BQL
51	1,2,3-Trichlorobenzene	1	BQL
52	1,2,4-Trichlorobenzene	1	BQL
53	1,2,4-Trimethylbenzene	1	BQL
54	1,3,5-Trimethylbenzene	1	BQL
55	Vinyl acetate	10	BQL
56	Xylenes	1	BQL

Surrogate Standard Recovery:

1,2-Dichloroethane-d4	97 %
Toluene-d8	101 %
Bromofluorobenzene	100 %

COMMENTS:

BQL = Below Quantitation Limit.  
PQL = Practical Quantitation Limit.  
B = Compound in blank

Doc# MSF11800.MA





# IEA

An Aquarion Company

Analysis Report: EPA Method 8260A  
(PAGE 1 OF 2 PAGES)

Client:	S & ME	IEA ID:	S144-001-04
Project:	1054-92003 CAMP LEJUNE	Sample:	C-700
Report Date:	10/14/94	Type:	Water
Collected:	09/23/94	Container:	VOA
Received:	09/30/94		
Analyzed:	10/06/94		
By:	GMT	Dilution Factor:	1

Priority Pollutant Compounds

Number	Compound	PQL (ug/L)		Result (ug/L)
1	Benzene	1		BQL
2	Bromodichloromethane	1		BQL
3	Bromoform	1		BQL
4	Bromomethane	2		BQL
5	Carbon tetrachloride	1		BQL
6	Chlorobenzene	1		BQL
7	Chloroethane	2		BQL
8	2-Chloroethylvinyl ether	1		BQL
9	Chloroform	1	1	
10	Chloromethane	2		BQL
11	Dibromochloromethane	1		BQL
12	1,2-Dichlorobenzene	1		BQL
13	1,3-Dichlorobenzene	1		BQL
14	1,4-Dichlorobenzene	1		BQL
15	1,1-Dichloroethane	1		BQL
16	1,2-Dichloroethane	1		BQL
17	1,1-Dichloroethene	1		BQL
18	1,2-Dichloroethenes (Total)	1		BQL
19	1,2-Dichloropropane	1		BQL
20	cis-1,3-Dichloropropene	0.5		BQL
21	trans-1,3-Dichloropropene	0.5		BQL
22	Ethylbenzene	1		BQL
23	Methylene chloride	1		BQL
24	1,1,2,2-Tetrachloroethane	1		BQL
25	Tetrachloroethene	1		BQL
26	Toluene	1		BQL
27	1,1,1-Trichloroethane	1		BQL
28	1,1,2-Trichloroethane	1		BQL
29	Trichloroethene	1		BQL
30	Trichlorofluoromethane	1		BQL
31	Vinyl chloride	2		BQL

Doc# MSF11800.MA



Analysis Report: EPA Method 8260A  
(PAGE 2 OF 2 PAGES)

Client: S & ME IEA ID: S144-001-04  
Project: 1054-92003 CAMP LEJUNE Sample: C-700

Other TCL Compounds \*

Number	Compound	PQL (ug/L)	Result (ug/L)
32	Acetone	20	BQL
33	2-Butanone	20	BQL
34	n-Butylbenzene	1	BQL
35	s-Butylbenzene	1	BQL
36	t-Butylbenzene	1	BQL
37	Carbon disulfide	1	BQL
38	2-Chlorotoluene	1	BQL
39	4-Chlorotoluene	1	BQL
40	1,2-Dibromoethane	1	BQL
41	2-Hexanone	10	BQL
42	Hexachlorobutadiene	0.6	BQL
43	Isopropylbenzene	1	BQL
44	p-Isopropyltoluene	1	BQL
45	4-Methyl-2-pentanone	10	BQL
46	Methyl-t-butyl ether	1	BQL
47	Naphthalene	1	BQL
48	n-Propylbenzene	1	BQL
49	Styrene	1	BQL
50	1,1,1,2-Tetrachloroethane	1	BQL
51	1,2,3-Trichlorobenzene	1	BQL
52	1,2,4-Trichlorobenzene	1	BQL
53	1,2,4-Trimethylbenzene	1	BQL
54	1,3,5-Trimethylbenzene	1	BQL
55	Vinyl acetate	10	BQL
56	Xylenes	1	BQL

Surrogate Standard Recovery:

1,2-Dichloroethane-d4	94 %
Toluene-d8	106 %
Bromofluorobenzene	100 %

COMMENTS:

BQL = Below Quantitation Limit.  
PQL = Practical Quantitation Limit.

Doc# MSF11800.MA





# IEA

An Aquarion Company

Analysis Report: EPA Method 8260A  
(PAGE 1 OF 2 PAGES)

Client:	S & ME	IEA ID:	S144-001-03
Project:	1054-92003 CAMP LEJUNE	Sample:	A-600
Report Date:	10/14/94	Type:	Water
Collected:	09/23/94	Container:	VOA
Received:	09/30/94		
Analyzed:	10/06/94		
By:	GMT	Dilution Factor:	1

Priority Pollutant Compounds

Number	Compound	PQL (ug/L)	Result (ug/L)
1	Benzene	1	BQL
2	Bromodichloromethane	1	BQL
3	Bromoform	1	BQL
4	Bromomethane	2	BQL
5	Carbon tetrachloride	1	BQL
6	Chlorobenzene	1	BQL
7	Chloroethane	2	BQL
8	2-Chloroethylvinyl ether	1	BQL
9	Chloroform	1	3
10	Chloromethane	2	BQL
11	Dibromochloromethane	1	BQL
12	1,2-Dichlorobenzene	1	BQL
13	1,3-Dichlorobenzene	1	BQL
14	1,4-Dichlorobenzene	1	BQL
15	1,1-Dichloroethane	1	BQL
16	1,2-Dichloroethane	1	BQL
17	1,1-Dichloroethene	1	BQL
18	1,2-Dichloroethenes (Total)	1	BQL
19	1,2-Dichloropropane	1	BQL
20	cis-1,3-Dichloropropene	0.5	BQL
21	trans-1,3-Dichloropropene	0.5	BQL
22	Ethylbenzene	1	BQL
23	Methylene chloride	1	BQL
24	1,1,2,2-Tetrachloroethane	1	BQL
25	Tetrachloroethene	1	BQL
26	Toluene	1	BQL
27	1,1,1-Trichloroethane	1	BQL
28	1,1,2-Trichloroethane	1	BQL
29	Trichloroethene	1	BQL
30	Trichlorofluoromethane	1	BQL
31	Vinyl chloride	2	BQL

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Analysis Report: EPA Method 8260A  
(PAGE 2 OF 2 PAGES)

Client: S & ME IEA ID: S144-001-03  
Project: 1054-92003 CAMP LEJUNE Sample: A-600

Other TCL Compounds \*

Number	Compound	PQL (ug/L)	Result (ug/L)
32	Acetone	20	BQL
33	2-Butanone	20	BQL
34	n-Butylbenzene	1	BQL
35	s-Butylbenzene	1	BQL
36	t-Butylbenzene	1	BQL
37	Carbon disulfide	1	BQL
38	2-Chlorotoluene	1	BQL
39	4-Chlorotoluene	1	BQL
40	1,2-Dibromoethane	1	BQL
41	2-Hexanone	10	BQL
42	Hexachlorobutadiene	0.6	BQL
43	Isopropylbenzene	1	BQL
44	p-Isopropyltoluene	1	BQL
45	4-Methyl-2-pentanone	10	BQL
46	Methyl-t-butyl ether	1	BQL
47	Naphthalene	1	BQL
48	n-Propylbenzene	1	BQL
49	Styrene	1	BQL
50	1,1,1,2-Tetrachloroethane	1	BQL
51	1,2,3-Trichlorobenzene	1	BQL
52	1,2,4-Trichlorobenzene	1	BQL
53	1,2,4-Trimethylbenzene	1	BQL
54	1,3,5-Trimethylbenzene	1	BQL
55	Vinyl acetate	10	BQL
56	Xylenes	1	BQL

Surrogate Standard Recovery:

1,2-Dichloroethane-d4	97 %
Toluene-d8	109 %
Bromofluorobenzene	100 %

COMMENTS:

BQL = Below Quantitaiton Limit.  
PQL = Practical Quantitation Limit.

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# IEA

An Aquarion Company

Analysis Report: EPA Method 8260A  
(PAGE 1 OF 2 PAGES)

Client:	S & ME	IEA ID:	S144-001-05
Project:	1054-92003 CAMP LEJUNE	Sample:	MW-26
Report Date:	10/14/94	Type:	Water
Collected:	09/27/94	Container:	VOA
Received:	09/30/94		
Analyzed:	10/06/94		
By:	GMT	Dilution Factor:	1

Priority Pollutant Compounds

Number	Compound	PQL (ug/L)	Result (ug/L)
1	Benzene	1	BQL
2	Bromodichloromethane	1	BQL
3	Bromoform	1	BQL
4	Bromomethane	2	BQL
5	Carbon tetrachloride	1	BQL
6	Chlorobenzene	1	BQL
7	Chloroethane	2	BQL
8	2-Chloroethylvinyl ether	1	BQL
9	Chloroform	1	3
10	Chloromethane	2	BQL
11	Dibromochloromethane	1	BQL
12	1,2-Dichlorobenzene	1	BQL
13	1,3-Dichlorobenzene	1	BQL
14	1,4-Dichlorobenzene	1	BQL
15	1,1-Dichloroethane	1	BQL
16	1,2-Dichloroethane	1	BQL
17	1,1-Dichloroethene	1	BQL
18	1,2-Dichloroethenes (Total)	1	BQL
19	1,2-Dichloropropane	1	BQL
20	cis-1,3-Dichloropropene	0.5	BQL
21	trans-1,3-Dichloropropene	0.5	BQL
22	Ethylbenzene	1	BQL
23	Methylene chloride	1	BQL
24	1,1,2,2-Tetrachloroethane	1	BQL
25	Tetrachloroethene	1	BQL
26	Toluene	1	BQL
27	1,1,1-Trichloroethane	1	BQL
28	1,1,2-Trichloroethane	1	BQL
29	Trichloroethene	1	BQL
30	Trichlorofluoromethane	1	BQL
31	Vinyl chloride	2	BQL

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# IEA

An Aquarion Company

Analysis Report: EPA Method 8260A  
(PAGE 2 OF 2 PAGES)

Client: S & ME IEA ID: S144-001-05  
Project: 1054-92003 CAMP LEJUNE Sample: MW-26

Other TCL Compounds \*

Number	Compound	PQL (ug/L)	Result (ug/L)
32	Acetone	20	BQL
33	2-Butanone	20	BQL
34	n-Butylbenzene	1	BQL
35	s-Butylbenzene	1	BQL
36	t-Butylbenzene	1	BQL
37	Carbon disulfide	1	BQL
38	2-Chlorotoluene	1	BQL
39	4-Chlorotoluene	1	BQL
40	1,2-Dibromoethane	1	BQL
41	2-Hexanone	10	BQL
42	Hexachlorobutadiene	0.6	BQL
43	Isopropylbenzene	1	BQL
44	p-Isopropyltoluene	1	BQL
45	4-Methyl-2-pentanone	10	BQL
46	Methyl-t-butyl ether	1	BQL
47	Naphthalene	1	BQL
48	n-Propylbenzene	1	BQL
49	Styrene	1	BQL
50	1,1,1,2-Tetrachloroethane	1	BQL
51	1,2,3-Trichlorobenzene	1	BQL
52	1,2,4-Trichlorobenzene	1	BQL
53	1,2,4-Trimethylbenzene	1	BQL
54	1,3,5-Trimethylbenzene	1	BQL
55	Vinyl acetate	10	BQL
56	Xylenes	1	BQL

Surrogate Standard Recovery:

1,2-Dichloroethane-d4	102 %
Toluene-d8	105 %
Bromofluorobenzene	102 %

COMMENTS:

BQL = Below Quantitaiton Limit.  
PQL = Practical Quantitation Limit.

Doc# MSF11800.MA





# IEA

An Aquarion Company

Analysis Report: EPA Method 8260A  
(PAGE 1 OF 2 PAGES)

Client:	S & ME	IEA ID:	S144-001-06
Project:	1054-92003 CAMP LEJUNE	Sample:	BP-6
Report Date:	10/14/94	Type:	Water
Collected:	09/27/94	Container:	VOA
Received:	09/30/94		
Analyzed:	10/06/94		
By:	GMT	Dilution Factor:	1

Priority Pollutant Compounds

Number	Compound	PQL (ug/L)	Result (ug/L)
1	Benzene	1	BQL
2	Bromodichloromethane	1	BQL
3	Bromoform	1	BQL
4	Bromomethane	2	BQL
5	Carbon tetrachloride	1	BQL
6	Chlorobenzene	1	BQL
7	Chloroethane	2	BQL
8	2-Chloroethylvinyl ether	1	BQL
9	Chloroform	1	3
10	Chloromethane	2	BQL
11	Dibromochloromethane	1	BQL
12	1,2-Dichlorobenzene	1	BQL
13	1,3-Dichlorobenzene	1	BQL
14	1,4-Dichlorobenzene	1	BQL
15	1,1-Dichloroethane	1	BQL
16	1,2-Dichloroethane	1	BQL
17	1,1-Dichloroethene	1	BQL
18	1,2-Dichloroethenes (Total)	1	BQL
19	1,2-Dichloropropane	1	BQL
20	cis-1,3-Dichloropropene	0.5	BQL
21	trans-1,3-Dichloropropene	0.5	BQL
22	Ethylbenzene	1	BQL
23	Methylene chloride	1	BQL
24	1,1,2,2-Tetrachloroethane	1	BQL
25	Tetrachloroethene	1	BQL
26	Toluene	1	BQL
27	1,1,1-Trichloroethane	1	BQL
28	1,1,2-Trichloroethane	1	BQL
29	Trichloroethene	1	BQL
30	Trichlorofluoromethane	1	BQL
31	Vinyl chloride	2	BQL

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Analysis Report: EPA Method 8260A  
(PAGE 2 OF 2 PAGES)

Client: S & ME IEA ID: S144-001-06  
Project: 1054-92003 CAMP LEJUNE Sample: BP-6

Other TCL Compounds \*

Number	Compound	PQL (ug/L)	Result (ug/L)
32	Acetone	20	BQL
33	2-Butanone	20	BQL
34	n-Butylbenzene	1	BQL
35	s-Butylbenzene	1	BQL
36	t-Butylbenzene	1	BQL
37	Carbon disulfide	1	BQL
38	2-Chlorotoluene	1	BQL
39	4-Chlorotoluene	1	BQL
40	1,2-Dibromoethane	1	BQL
41	2-Hexanone	10	BQL
42	Hexachlorobutadiene	0.6	BQL
43	Isopropylbenzene	1	BQL
44	p-Isopropyltoluene	1	BQL
45	4-Methyl-2-pentanone	10	BQL
46	Methyl-t-butyl ether	1	BQL
47	Naphthalene	1	BQL
48	n-Propylbenzene	1	BQL
49	Styrene	1	BQL
50	1,1,1,2-Tetrachloroethane	1	BQL
51	1,2,3-Trichlorobenzene	1	BQL
52	1,2,4-Trichlorobenzene	1	BQL
53	1,2,4-Trimethylbenzene	1	BQL
54	1,3,5-Trimethylbenzene	1	BQL
55	Vinyl acetate	10	BQL
56	Xylenes	1	BQL

Surrogate Standard Recovery:

1,2-Dichloroethane-d4	96 %
Toluene-d8	100 %
Bromofluorobenzene	98 %

COMMENTS:

BQL = Below Quantitaiton Limit.  
PQL = Practical Quantitation Limit.

Doc# MSF11800.MA





# IEA

An Aquarion Company

Analysis Report: EPA Method 8260A  
(PAGE 1 OF 2 PAGES)

Client:	S & ME	IEA ID:	S144-001-07
Project:	1054-92003 CAMP LEJUNE	Sample:	C-2900
Report Date:	10/14/94	Type:	Water
Collected:	09/27/94	Container:	VOA
Received:	09/30/94		
Analyzed:	10/07/94		
By:	GMT	Dilution Factor:	1

### Priority Pollutant Compounds

Number	Compound	PQL (ug/L)	Result (ug/L)
1	Benzene	1	BQL
2	Bromodichloromethane	1	BQL
3	Bromoform	1	BQL
4	Bromomethane	2	BQL
5	Carbon tetrachloride	1	BQL
6	Chlorobenzene	1	BQL
7	Chloroethane	2	BQL
8	2-Chloroethylvinyl ether	1	BQL
9	Chloroform	1	BQL
10	Chloromethane	2	BQL
11	Dibromochloromethane	1	BQL
12	1,2-Dichlorobenzene	1	BQL
13	1,3-Dichlorobenzene	1	BQL
14	1,4-Dichlorobenzene	1	BQL
15	1,1-Dichloroethane	1	BQL
16	1,2-Dichloroethane	1	BQL
17	1,1-Dichloroethene	1	BQL
18	1,2-Dichloroethenes (Total)	1	BQL
19	1,2-Dichloropropane	1	BQL
20	cis-1,3-Dichloropropene	0.5	BQL
21	trans-1,3-Dichloropropene	0.5	BQL
22	Ethylbenzene	1	BQL
23	Methylene chloride	1	1B
24	1,1,2,2-Tetrachloroethane	1	BQL
25	Tetrachloroethene	1	BQL
26	Toluene	1	BQL
27	1,1,1-Trichloroethane	1	BQL
28	1,1,2-Trichloroethane	1	BQL
29	Trichloroethene	1	BQL
30	Trichlorofluoromethane	1	BQL
31	Vinyl chloride	2	BQL

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# IEA

An Aquarion Company

Analysis Report: EPA Method 8260A  
(PAGE 2 OF 2 PAGES)

Client: S & ME IEA ID: S144-001-07  
Project: 1054-92003 CAMP LEJUNE Sample: C-2900

Other TCL Compounds \*

Number	Compound	PQL (ug/L)	Result (ug/L)
32	Acetone	20	BQL
33	2-Butanone	20	BQL
34	n-Butylbenzene	1	BQL
35	s-Butylbenzene	1	BQL
36	t-Butylbenzene	1	BQL
37	Carbon disulfide	1	BQL
38	2-Chlorotoluene	1	BQL
39	4-Chlorotoluene	1	BQL
40	1,2-Dibromoethane	1	BQL
41	2-Hexanone	10	BQL
42	Hexachlorobutadiene	0.6	BQL
43	Isopropylbenzene	1	BQL
44	p-Isopropyltoluene	1	2
45	4-Methyl-2-pentanone	10	BQL
46	Methyl-t-butyl ether	1	BQL
47	Naphthalene	1	BQL
48	n-Propylbenzene	1	BQL
49	Styrene	1	BQL
50	1,1,1,2-Tetrachloroethane	1	BQL
51	1,2,3-Trichlorobenzene	1	BQL
52	1,2,4-Trichlorobenzene	1	BQL
53	1,2,4-Trimethylbenzene	1	BQL
54	1,3,5-Trimethylbenzene	1	BQL
55	Vinyl acetate	10	BQL
56	Xylenes	1	BQL

Surrogate Standard Recovery:

1,2-Dichloroethane-d4	111 %
Toluene-d8	111 %
Bromofluorobenzene	99 %

COMMENTS:

- BQL = Below Quantitaiton Limit.
- PQL = Practical Quantitation Limit.
- B = Compound in blank

Doc# MSF11800.MA





# IEA

An Aquarion Company

Analysis Report: EPA Method 8260A  
(PAGE 1 OF 2 PAGES)

Client:	S & ME	IEA ID:	S144-001-08
Project:	1054-92003 CAMP LEJUNE	Sample:	C-500
Report Date:	10/14/94	Type:	Water
Collected:	09/27/94	Container:	VOA
Received:	09/30/94		
Analyzed:	10/07/94		
By:	GMT	Dilution Factor:	1

### Priority Pollutant Compounds

Number	Compound	PQL (ug/L)	Result (ug/L)
1	Benzene	1	BQL
2	Bromodichloromethane	1	BQL
3	Bromoform	1	BQL
4	Bromomethane	2	BQL
5	Carbon tetrachloride	1	BQL
6	Chlorobenzene	1	BQL
7	Chloroethane	2	BQL
8	2-Chloroethylvinyl ether	1	BQL
9	Chloroform	1	1
10	Chloromethane	2	BQL
11	Dibromochloromethane	1	BQL
12	1,2-Dichlorobenzene	1	BQL
13	1,3-Dichlorobenzene	1	BQL
14	1,4-Dichlorobenzene	1	BQL
15	1,1-Dichloroethane	1	BQL
16	1,2-Dichloroethane	1	BQL
17	1,1-Dichloroethene	1	BQL
18	1,2-Dichloroethenes (Total)	1	BQL
19	1,2-Dichloropropane	1	BQL
20	cis-1,3-Dichloropropene	0.5	BQL
21	trans-1,3-Dichloropropene	0.5	BQL
22	Ethylbenzene	1	BQL
23	Methylene chloride	1	2B
24	1,1,2,2-Tetrachloroethane	1	BQL
25	Tetrachloroethene	1	BQL
26	Toluene	1	BQL
27	1,1,1-Trichloroethane	1	BQL
28	1,1,2-Trichloroethane	1	BQL
29	Trichloroethene	1	BQL
30	Trichlorofluoromethane	1	BQL
31	Vinyl chloride	2	BQL

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# IEA

An Aquarion Company

Analysis Report: EPA Method 8260A  
(PAGE 2 OF 2 PAGES)

Client: S & ME IEA ID: S144-001-08  
Project: 1054-92003 CAMP LEJUNE Sample: C-500

Other TCL Compounds \*

Number	Compound	PQL (ug/L)	Result (ug/L)
32	Acetone	20	BQL
33	2-Butanone	20	BQL
34	n-Butylbenzene	1	BQL
35	s-Butylbenzene	1	BQL
36	t-Butylbenzene	1	BQL
37	Carbon disulfide	1	BQL
38	2-Chlorotoluene	1	BQL
39	4-Chlorotoluene	1	BQL
40	1,2-Dibromoethane	1	BQL
41	2-Hexanone	10	BQL
42	Hexachlorobutadiene	0.6	BQL
43	Isopropylbenzene	1	BQL
44	p-Isopropyltoluene	1	BQL
45	4-Methyl-2-pentanone	10	BQL
46	Methyl-t-butyl ether	1	BQL
47	Naphthalene	1	BQL
48	n-Propylbenzene	1	BQL
49	Styrene	1	BQL
50	1,1,1,2-Tetrachloroethane	1	BQL
51	1,2,3-Trichlorobenzene	1	BQL
52	1,2,4-Trichlorobenzene	1	BQL
53	1,2,4-Trimethylbenzene	1	BQL
54	1,3,5-Trimethylbenzene	1	BQL
55	Vinyl acetate	10	BQL
56	Xylenes	1	BQL

Surrogate Standard Recovery:

1,2-Dichloroethane-d4	105 %
Toluene-d8	110 %
Bromofluorobenzene	100 %

COMMENTS:

BQL = Below Quantitaiton Limit.  
PQL = Practical Quantitation Limit.  
B = Compound in blank

Doc# MSF11800.MA





# IEA

An Aquarion Company

Analysis Report: EPA Method 8260A  
(PAGE 1 OF 2 PAGES)

Client:	S & ME	IEA ID:	S144-001-09
Project:	1054-92003 CAMP LEJUNE	Sample:	C-250 DEEP
Report Date:	10/14/94	Type:	Water
Collected:	09/28/94	Container:	VOA
Received:	09/30/94		
Analyzed:	10/07/94		
By:	GMT	Dilution Factor:	1

Priority Pollutant Compounds

Number	Compound	PQL (ug/L)	Result (ug/L)
1	Benzene	1	BQL
2	Bromodichloromethane	1	BQL
3	Bromoform	1	BQL
4	Bromomethane	2	BQL
5	Carbon tetrachloride	1	BQL
6	Chlorobenzene	1	BQL
7	Chloroethane	2	BQL
8	2-Chloroethylvinyl ether	1	BQL
9	Chloroform	1	BQL
10	Chloromethane	2	BQL
11	Dibromochloromethane	1	BQL
12	1,2-Dichlorobenzene	1	BQL
13	1,3-Dichlorobenzene	1	BQL
14	1,4-Dichlorobenzene	1	BQL
15	1,1-Dichloroethane	1	BQL
16	1,2-Dichloroethane	1	BQL
17	1,1-Dichloroethene	1	BQL
18	1,2-Dichloroethenes (Total)	1	BQL
19	1,2-Dichloropropane	1	BQL
20	cis-1,3-Dichloropropene	0.5	BQL
21	trans-1,3-Dichloropropene	0.5	BQL
22	Ethylbenzene	1	BQL
23	Methylene chloride	1	1B
24	1,1,2,2-Tetrachloroethane	1	BQL
25	Tetrachloroethene	1	BQL
26	Toluene	1	BQL
27	1,1,1-Trichloroethane	1	BQL
28	1,1,2-Trichloroethane	1	BQL
29	Trichloroethene	1	BQL
30	Trichlorofluoromethane	1	BQL
31	Vinyl chloride	2	BQL

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# IEA

An Aquarion Company

Analysis Report: EPA Method 8260A  
(PAGE 2 OF 2 PAGES)

Client: S & ME IEA ID: S144-001-09  
Project: 1054-92003 CAMP LEJUNE Sample: C-250 DEEP

Other TCL Compounds \*

Number	Compound	PQL (ug/L)	Result (ug/L)
32	Acetone	20	BQL
33	2-Butanone	20	BQL
34	n-Butylbenzene	1	BQL
35	s-Butylbenzene	1	BQL
36	t-Butylbenzene	1	BQL
37	Carbon disulfide	1	BQL
38	2-Chlorotoluene	1	BQL
39	4-Chlorotoluene	1	BQL
40	1,2-Dibromoethane	1	BQL
41	2-Hexanone	10	BQL
42	Hexachlorobutadiene	0.6	BQL
43	Isopropylbenzene	1	BQL
44	p-Isopropyltoluene	1	BQL
45	4-Methyl-2-pentanone	10	BQL
46	Methyl-t-butyl ether	1	BQL
47	Naphthalene	1	BQL
48	n-Propylbenzene	1	BQL
49	Styrene	1	BQL
50	1,1,1,2-Tetrachloroethane	1	BQL
51	1,2,3-Trichlorobenzene	1	BQL
52	1,2,4-Trichlorobenzene	1	BQL
53	1,2,4-Trimethylbenzene	1	BQL
54	1,3,5-Trimethylbenzene	1	BQL
55	Vinyl acetate	10	BQL
56	Xylenes	1	BQL

Surrogate Standard Recovery:

1,2-Dichloroethane-d4	102 %
Toluene-d8	108 %
Bromofluorobenzene	99 %

COMMENTS:

- BQL = Below Quantitaiton Limit.
- PQL = Practical Quantitation Limit.
- B = Compound in blank

Doc# MSF11800.MA





# IEA

An Aquarion Company

Analysis Report: EPA Method 8260A  
(PAGE 1 OF 2 PAGES)

Client:		IEA ID:	Method Blank (10/06)
Project:		Sample:	
Report Date:	10/14/94	Type:	Water
Collected:		Container:	
Received:			
Analyzed:	10/06/94		
By:	GMT	Dilution Factor:	1

Priority Pollutant Compounds

Number	Compound	PQL (ug/L)	Result (ug/L)
1	Benzene	1	BQL
2	Bromodichloromethane	1	BQL
3	Bromoform	1	BQL
4	Bromomethane	2	BQL
5	Carbon tetrachloride	1	BQL
6	Chlorobenzene	1	BQL
7	Chloroethane	2	BQL
8	2-Chloroethylvinyl ether	1	BQL
9	Chloroform	1	BQL
10	Chloromethane	2	BQL
11	Dibromochloromethane	1	BQL
12	1,2-Dichlorobenzene	1	BQL
13	1,3-Dichlorobenzene	1	BQL
14	1,4-Dichlorobenzene	1	BQL
15	1,1-Dichloroethane	1	BQL
16	1,2-Dichloroethane	1	BQL
17	1,1-Dichloroethene	1	BQL
18	1,2-Dichloroethenes (Total)	1	BQL
19	1,2-Dichloropropane	1	BQL
20	cis-1,3-Dichloropropene	0.5	BQL
21	trans-1,3-Dichloropropene	0.5	BQL
22	Ethylbenzene	1	BQL
23	Methylene chloride	1	1
24	1,1,2,2-Tetrachloroethane	1	BQL
25	Tetrachloroethene	1	BQL
26	Toluene	1	BQL
27	1,1,1-Trichloroethane	1	BQL
28	1,1,2-Trichloroethane	1	BQL
29	Trichloroethene	1	BQL
30	Trichlorofluoromethane	1	BQL
31	Vinyl chloride	2	BQL

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# IEA

An Aquarion Company

Analysis Report: EPA Method 8260A  
(PAGE 2 OF 2 PAGES)

Client:  
Project:

IEA ID: Method Blank (10/06)  
Sample:

Other TCL Compounds \*

Number	Compound	PQL (ug/L)	Result (ug/L)
32	Acetone	20	BQL
33	2-Butanone	20	BQL
34	n-Butylbenzene	1	BQL
35	s-Butylbenzene	1	BQL
36	t-Butylbenzene	1	BQL
37	Carbon disulfide	1	BQL
38	2-Chlorotoluene	1	BQL
39	4-Chlorotoluene	1	BQL
40	1,2-Dibromoethane	1	BQL
41	2-Hexanone	10	BQL
42	Hexachlorobutadiene	0.6	BQL
43	Isopropylbenzene	1	BQL
44	p-Isopropyltoluene	1	BQL
45	4-Methyl-2-pentanone	10	BQL
46	Methyl-t-butyl ether	1	BQL
47	Naphthalene	1	BQL
48	n-Propylbenzene	1	BQL
49	Styrene	1	BQL
50	1,1,1,2-Tetrachloroethane	1	BQL
51	1,2,3-Trichlorobenzene	1	BQL
52	1,2,4-Trichlorobenzene	1	BQL
53	1,2,4-Trimethylbenzene	1	BQL
54	1,3,5-Trimethylbenzene	1	BQL
55	Vinyl acetate	10	BQL
56	Xylenes	1	BQL

Surrogate Standard Recovery:

1,2-Dichloroethane-d4	100 %
Toluene-d8	103 %
Bromofluorobenzene	96 %

COMMENTS:

BQL = Below Quantitation Limit.

PQL = Practical Quantitation Limit.

Corresponding Samples: S144-001-01, S144-001-02

Doc# MSF11800.MA





# IEA

An Aquarion Company

Analysis Report: EPA Method 8260A  
(PAGE 1 OF 2 PAGES)

Client:		IEA ID:	Method Blank (10/07)
Project:		Sample:	
Report Date:	10/14/94	Type:	Water
Collected:		Container:	
Received:			
Analyzed:	10/07/94		
By:	GMT	Dilution Factor:	1

Priority Pollutant Compounds

Number	Compound	PQL (ug/L)	Result (ug/L)
1	Benzene	1	BQL
2	Bromodichloromethane	1	BQL
3	Bromoform	1	BQL
4	Bromomethane	2	BQL
5	Carbon tetrachloride	1	BQL
6	Chlorobenzene	1	BQL
7	Chloroethane	2	BQL
8	2-Chloroethylvinyl ether	1	BQL
9	Chloroform	1	BQL
10	Chloromethane	2	BQL
11	Dibromochloromethane	1	BQL
12	1,2-Dichlorobenzene	1	BQL
13	1,3-Dichlorobenzene	1	BQL
14	1,4-Dichlorobenzene	1	BQL
15	1,1-Dichloroethane	1	BQL
16	1,2-Dichloroethane	1	BQL
17	1,1-Dichloroethene	1	BQL
18	1,2-Dichloroethenes (Total)	1	BQL
19	1,2-Dichloropropane	1	BQL
20	cis-1,3-Dichloropropene	0.5	BQL
21	trans-1,3-Dichloropropene	0.5	BQL
22	Ethylbenzene	1	BQL
23	Methylene chloride	1	2
24	1,1,2,2-Tetrachloroethane	1	BQL
25	Tetrachloroethene	1	BQL
26	Toluene	1	BQL
27	1,1,1-Trichloroethane	1	BQL
28	1,1,2-Trichloroethane	1	BQL
29	Trichloroethene	1	BQL
30	Trichlorofluoromethane	1	BQL
31	Vinyl chloride	2	BQL

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# IEA

An Aquarion Company

Analysis Report: EPA Method 8260A  
(PAGE 2 OF 2 PAGES)

Client: IEA ID: Method Blank (10/07)  
Project: Sample:

Other TCL Compounds \*

Number	Compound	PQL (ug/L)	Result (ug/L)
32	Acetone	20	BQL
33	2-Butanone	20	BQL
34	n-Butylbenzene	1	BQL
35	s-Butylbenzene	1	BQL
36	t-Butylbenzene	1	BQL
37	Carbon disulfide	1	BQL
38	2-Chlorotoluene	1	BQL
39	4-Chlorotoluene	1	BQL
40	1,2-Dibromoethane	1	BQL
41	2-Hexanone	10	BQL
42	Hexachlorobutadiene	0.6	BQL
43	Isopropylbenzene	1	BQL
44	p-Isopropyltoluene	1	BQL
45	4-Methyl-2-pentanone	10	BQL
46	Methyl-t-butyl ether	1	BQL
47	Naphthalene	1	BQL
48	n-Propylbenzene	1	BQL
49	Styrene	1	BQL
50	1,1,1,2-Tetrachloroethane	1	BQL
51	1,2,3-Trichlorobenzene	1	BQL
52	1,2,4-Trichlorobenzene	1	BQL
53	1,2,4-Trimethylbenzene	1	BQL
54	1,3,5-Trimethylbenzene	1	BQL
55	Vinyl acetate	10	BQL
56	Xylenes	1	BQL

Surrogate Standard Recovery:

1,2-Dichloroethane-d4	111 %
Toluene-d8	110 %
Bromofluorobenzene	101 %

COMMENTS:

BQL = Below Quantitation Limit.

PQL = Practical Quantitation Limit.

Corresponding Samples: S144-001-07, S144-001-08, S144-001-09

Doc# MSF11800.MA





3000 WESTON PKWY.  
 CARY, N.C. 27513  
 PH # 919-877-0090  
 FAX # 919-877-0427

# CHAIN OF CUSTODY RECORD

REGULATORY CLASSIFICATION - PLEASE SPECIFY

NPDES  DRINKING WATER  RCRA  OTHER \_\_\_\_\_

NO: 06443

Page 1 of 1

COMPANY  
**S&ME Inc.**

PROJECT # **1054-92003**  
 PROJECT NAME **Camp Lejeune**

SAMPLERS: (SIGNATURE)  
*Walter Beckwith*

SAMPLE I.D.	DATE	TIME	C	G/P	STATION LOCATION	# CONTAINERS OF	REQUESTED PARAMETERS											
							SOIL	WATER										
B2-MW-30	9/22	10:23	*	*		3	*	*	Report Results to: Walt Beckwith % S&ME P.O. Box 58069 Raleigh NC 27658 Phone 919-877-2640 FAX 919-790-9827									
MW-9	9/22	2:30	*	*		3	*	*										
A-600	9/23	10:30	*	*		3	*	*										
C-700	9/23	2:30	*	*		3	*	*										
MN-26	9/27	3:00	*	*		3	*	*										
BP-6	9/27	3:20	*	*		3	*	*										
C-2900	9/27	3:50	*	*		3	*	*										
C-500	9/27	5:15	*	*		3	*	*										
C-250 deep	9/28	9:30	*	*		3	*	*										

RELINQUISHED BY (SIGNATURE) *A. J. [unclear]* DATE **9/15/92** TIME [unclear] RECEIVED BY *Walter Beckwith* DATE **9/15/92** TIME [unclear]

IEA QUOTE NO. **W5409291** IEA RUSH NO. [unclear]

RELINQUISHED BY (SIGNATURE) *Walter Beckwith* DATE **9/29** TIME **5:00** RECEIVED FOR LAB BY [unclear] DATE [unclear] TIME [unclear]

PROJECT MANAGER (PLEASE PRINT) **Walter Beckwith** P.O. NO. **4824**

REMARKS ON SAMPLE RECEIPT

BOTTLE INTACT  CUSTODY SEALS  
 PRESERVED  SEALS INTACT  
 CHILLED  SEE REMARKS

FIELD REMARKS



# IEA

An Aquarion Company

October 28, 1994

Walt Beckwith  
S&ME Raleigh  
P.O. Box 58069  
Raleigh, NC 27658-8069

IEA Project No.: 170211/9410355  
IEA Reference No.: W9410185  
Client Project I.D.: 1054-92-003

Dear Mr. Beckwith,

Transmitted herewith are the results of analyses on four samples submitted to our laboratory.

The sample(s) were received intact.

Analyses were performed according to approved methodologies and meet the requirements of the IEA Quality Assurance Program except where noted. Please see the enclosed reports for your results and a copy of the Chain of Custody documentation.

Thank you for selecting IEA for your sample analysis. Please do not hesitate to call your project manager representative at 1-919-677-0090 or 1-800-444-9919 should you have any questions regarding this report. We look forward to serving you in the future.

Very truly yours,

IEA, Inc.



William R. Drago  
Laboratory Director





**IEA**  
An Aquarion Company

## IEA-NORTH CAROLINA CERTIFICATIONS

Certifying State	Program Type	Lab ID #
Alabama	DW	40210
California	DW, WW Radiolog.	1768 I-1018 (Rad)
Connecticut	DW	
Florida	DW WW (CompQAP)	87350 E87439 QAP#930007G
Georgia	DW	None
Kansas	DW, HW	E-158 (DW) E-1189 (HW)
Kentucky	DW	90049
Massachusetts	DW, WW	M-NC039
New Jersey	DW, WW Radiolog.	67719 67681
New York	Radiolog.	11422
North Carolina	DW WW Radiolog.	DW 37720 WW 84 Rad 37720
South Carolina	DW WW	99021
Tennessee	DW UST App List	02914
Utah	Radiolog. RCRA	E-206 E-226
Virginia	DW	00179
West Virginia	DW	9908C
Wisconsin	WW	998051010

DW=Drinking Water WW=Wastewater HW=Hazardous Waste Radiolog.=Radiological

Industrial & Environmental Analysts, Inc. (IEA)

IEA Project #: 170-211  
IEA Sample #: 9410355-01 Matrix: Water  
Client Name: S&ME Raleigh Date Received: 10/19/94  
Client Proj. I.D.: 1054-92-003 Date Sampled: 10/17/94  
Sample I.D.: F-9

Parameter	Method	Quantitation Limits	Results	Date Prepared	Date Analyzed	Analyst
T-Lead	239.2 CLP-M	0.003 mg/L	0.011 mg/L	10/21/94	10/24/94	JDJ

Comments:

Industrial & Environmental Analysts, Inc. (IEA)

IEA Project #: 170-211  
IEA Sample #: 9410355-02 Matrix: Water  
Client Name: S&ME Raleigh Date Received: 10/19/94  
Client Proj. I.D.: 1054-92-003 Date Sampled: 10/17/94  
Sample I.D.: F-9 Dissolved

Parameter	Method	Quantitation Limits	Results	Date Prepared	Date Analyzed	Analyst
D-Lead	239.2 CLP-M	0.003 mg/L	BQL	N/A	10/24/94	JDJ

Comments:

Industrial & Environmental Analysts, Inc. (IEA)

IEA Project #: 170-211  
IEA Sample #: 9410355-03 Matrix: Water  
Client Name: S&ME Raleigh Date Received: 10/19/94  
Client Proj. I.D.: 1054-92-003 Date Sampled: 10/17/94  
Sample I.D.: F-10

Parameter	Method	Quantitation Limits	Results	Date Prepared	Date Analyzed	Analyst
T-Lead	239.2 CLP-M	0.003 mg/L	0.090 mg/L	10/21/94	10/24/94	JDJ

Comments:

Industrial & Environmental Analysts, Inc. (IEA)

IEA Project #: 170-211  
IEA Sample #: 9410355-04 Matrix: Water  
Client Name: S&ME Raleigh Date Received: 10/19/94  
Client Proj. I.D.: 1054-92-003 Date Sampled: 10/17/94  
Sample I.D.: F-10 Dissolved

Parameter	Method	Quantitation Limits	Results	Date Prepared	Date Analyzed	Analyst
D-Lead	239.2 CLP-M	0.003 mg/L	BQL	N/A	10/24/94	JDJ

Comments:

Industrial & Environmental Analysts, Inc. (IEA)

IEA Project #: 170-211  
IEA Sample #: 9410355 Matrix: Water  
Client Name: S&ME Raleigh Date Received: N/A  
Client Proj. I.D.: 1054-92-003 Date Sampled: N/A  
Sample I.D.: QC Blank

Parameter	Method	Quantitation Limits	Results	Date Prepared	Date Analyzed	Analyst
T-Lead	239.2 CLP-M	0.003 mg/L	BQL	10/21/94	10/24/94	JDJ

Comments:

Corresponding samples 9410355-01 and 9410355-03

## ABBREVIATIONS

A	=	Amenable
Alk	=	Alkalinity as CaCO <sub>3</sub>
Bcrb	=	Alkalinity as Bicarbonate
BOD	=	Biochemical Oxygen Demand
BQL	=	Below Quantitation Limit
c/100mL	=	Colonies per 100 mL of Sample
CEC	=	Cation Exchange Capacity
Chrom	=	Chromotropic
COD	=	Chemical Oxygen Demand
Crb	=	Alkalinity as Carbonate
D	=	Dissolved
DO	=	Dissolved Oxygen
DOC	=	Dissolved Organic Carbon
D/T	=	Distillation/Titration
E	=	Extractable (Prepped by Std M 3030C)
F	=	Free
Hex	=	Hexavalent
Hyd	=	Hydroxide
ISE	=	Ion Selective Electrode
mmpy	=	Millimeter per Year
MPN	=	Most Probable Number
N/A	=	Not Applicable
R	=	Reactivity
SA	=	Spike Added
SSR	=	Spike Sample Results
SR	=	Sample Results
Sp Cond	=	Specific Conductance
SM	=	Settleable Matter
SPC	=	Standard Plate Count
T	=	Total
TDS	=	Total Dissolved Solids
TKN	=	Total Kjeldahl Nitrogen
TMLSS	=	Total Mixed Liquor Suspended Solids
TOC	=	Total Organic Carbon
TON	=	Total Organic Nitrogen
TOX	=	Total Organic Halogens
TS	=	Total Solids
TSS	=	Total Suspended Solids
TVS	=	Total Volatile Solids
VSS	=	Volatile Suspended Solids
WAD	=	Weak and Dissociable



**APPENDIX III**

**TOXICOLOGY PROFILE FOR CHLOROFORM**

This Toxicology Profile is provided for information purposes on an "as is" basis only. S&ME, Inc. disclaims all responsibility and liability for the accuracy or completeness of, and makes no warranties express or implied about, the information contained herein. Consultation with appropriate regulatory agencies for additional information is advised.

## Toxicology Profile

**CHLOROFORM**  
**CAS RN 67-66-3**

July 1991

S&ME, Inc.  
P.O. Box 58069  
Raleigh, North Carolina 27658-8069

## CHLOROFORM

### Occurrence

Chloroform enters the environment through its use as an industrial and pharmaceutical chemical. It is used as a solvent, extractant, and chemical intermediate in a wide variety of industrial and pharmaceutical processes. It is also formed during the chlorination of drinking water, sewage, and cooling water for electrical steam generating plants (National Library of Medicine, 1990).

Chloroform is manufactured by the limited reduction of carbon tetrachloride to chloroform, decomposition of pentachloroethane with aluminum chloride, electrolysis of alkali-metal or alkaline-earth metal chlorides in aqueous alcohol solution, or monoxide and hydrogen chloride under pressure at approximately 40 °C in the presence of catalytic oxides (Kirk-Othmer Condensed Encyclopedia of Chemical Technology, 1985).

### Chemical and Physical Properties

Chloroform occurs as a clear, colorless, volatile liquid (International Agency for Research on Cancer, 1979). It has a pleasant, ethereal, nonirritating odor, while its taste is described as a sweet, burning taste (U.S. Environmental Protection Agency, 1980; International Agency for Research on Cancer, 1979). The following chemical and physical properties have been identified for chloroform (Merck Index, 1983; U.S. Coast Guard, Department of Transportation, 1984-1985; Sax, 1984; Flick, 1985; Montgomery and Welkom, 1990).

Boiling point	61.7 °C
Melting point	- 63.5 °C
Molecular weight	119.39
Specific gravity	1.4832 at 20/4 °C
Heat of vaporization	106.7 Btu/lb
Water solubility	8,000 mg/L at 20 °C
Vapor pressure	100 mm Hg at 10.4 °C
Viscosity	5.63 millipoises at 20 °C
Octanol/water partition coefficient	1.97

Chloroform is soluble in acetone and carbon disulfide (Montgomery and Welkom, 1990; Clayton and Clayton, 1981-1982). It is miscible with ethanol, ether, benzene, and ligroin (Montgomery and Welkom, 1990). Liquid chloroform will attack some forms of plastics, rubber, and coatings when it comes into contact with these substances (National Library of Medicine, 1990).

### Use

Chloroform is a chemical intermediate in the production of fluorocarbon 22 (a refrigerant also called chlorodifluoromethane), tribromomethane, dyes, synthetic rubber, and some pesticides. In agriculture, it is used as a soil fumigant and insecticide as well as to prevent the growth of mildew on tobacco seedlings

(National Library of Medicine, 1990). It is used as a polymer chain transfer agent in some chemical reactions. The dry cleaning industry also uses chloroform as a cleaning agent.

### Environmental Fate and Behavior

Chloroform enters the environment through releases during its use as an industrial solvent, extractant, and chemical intermediate; its use in agriculture; and its use by dry cleaners (U.S. Environmental Protection Agency, 1980). It also enters the environment through its indirect production as a byproduct of the chlorination of drinking water, sewage, and cooling water for electric power plants. Estimated releases of chloroform to the atmosphere in 1980 were as follows (Kayser *et al.*, 1982).

Source of Release	Amount of Release (kilograms)
Pulp and paper bleaching	12.1 X 10 <sup>6</sup>
Chlorination of water	32.45 X 10 <sup>6</sup>
Pharmaceutical extractions	15.25 X 10 <sup>6</sup>
Automobile exhaust	9.85 X 10 <sup>6</sup>
Atmospheric decomposition of trichloroethylene	4.5 X 10 <sup>6</sup>
Chloroform production	3.70 X 10 <sup>6</sup>
Vinyl chloride monomer production	1.87 X 10 <sup>6</sup>
Transportation and storage loss	1.77 X 10 <sup>6</sup>
Fluorocarbon 22 production	1.5 X 10 <sup>6</sup>
Fumigant usage	3.8 X 10 <sup>6</sup>

Estimates of releases of chloroform to soils in 1980, as measured in kilograms, were 2.90 X 10<sup>5</sup> from pharmaceutical extractions and 2.0 X 10<sup>5</sup> from production of vinyl chloride monomer (Kayser *et al.*, 1982).

Upon release to the atmosphere, part of the chloroform will react with hydroxyl radicals. The estimated half-life of chloroform is 80 days due to this reaction, which accounts for a 0.9 percent loss of chloroform on sunny days (Hampson, 1980; Singh *et al.*, 1981). Chloroform in the atmosphere is more reactive in photochemical smog conditions, particularly when nitrogen oxides are present. Under these conditions, chloroform has a degradation rate of 0.8 percent per hour (Dimitriadis and Joshi, 1977). That portion of the chloroform that does not react with hydroxyl radicals will be subject to removal by precipitation, though it may be transported long distances prior to its removal.

Most chloroform that is released to soils is expected to evaporate rapidly because of its high vapor pressure. The chloroform that does not evaporate will not adsorb tightly to soils, especially those soils that have a low organic content, so there is a possibility that it may leach through the soils into the ground water. In soils, chloroform is adsorbed most strongly to peat moss, less strongly to clay, slightly to dolomite limestone, and not at all to sand (Hutzler *et al.*, 1983).

Most chloroform that is released into water will be lost through evaporation to the atmosphere. Four laboratory studies of the evaporation of chloroform estimated that it would have a half-life of 3 to 5.6 hours under moderate mixing conditions (Smith *et al.*, 1980; Rathbun and Tai, 1981; Lyman *et al.*, 1982; Robert

and Dandliker, 1983). A modelling study of chloroform predicted half-lives of 36 hours in rivers, 40 hours in ponds, and 9 to 10 days in lakes (U.S. Environmental Protection Agency, 1984).

Small amounts of chloroform will become adsorbed to sediments following its entry into water bodies. Photodegradation and hydrolysis are also negligible factors in the loss of chloroform from water (Mabey and Mill, 1978; Jensen and Rosenberg, 1975). Bioconcentration of chloroform in aquatic species will not be an important fate mechanism, based on calculated bioconcentration factors for four fish species (Barrows *et al.*, 1980; Anderson and Lusty, 1980). However, biodegradation may be an important fate mechanism under certain conditions, such as those where microbial populations acclimated to the presence of chloroform exist (National Library of Medicine, 1990). Under aerobic conditions, some investigators have reported little or no degradation of chloroform within 25 weeks, while others have reported up to 49 percent within 7 days and 100 percent within 28 days, though some of the loss may have resulted from evaporation (Bouwer *et al.*, 1981; Kawasaki, 1980; Heukelekian and Rand, 1955; Tabak *et al.*, 1981).

### Human Exposure

Humans are exposed to chloroform primarily through the air that they breathe and their drinking water. They may also ingest chloroform in their food or have dermal contact with it.

Average background atmospheric chloroform concentrations in the northern hemisphere were measured at 17.1 parts per trillion (ppt; Singh, 1977). In rural and remote areas of the United States, concentrations averaged 40 ppt, while urban and suburban areas averaged 72 ppt (Brodzinsky and Singh, 1982). Wallace *et al.* (1986) and Andelman (1985a and b) investigated chloroform concentrations inside buildings and found a range of levels from 0.07 to 3.6  $\mu\text{g}/\text{m}^3$ . In addition, chloroform has been detected in the air above and near swimming pools (both indoor and outdoor) and during showering (Armstrong and Golden, 1986; Andelman, 1985 a and b). It is estimated that the average daily intake of chloroform by inhalation in the United States in rural, urban, and source-contaminated areas is 4.0, 4.0 to 68, and 4.0 to 260 micrograms, respectively (National Library of Medicine, 1990).

Surface waters in 14 heavily industrialized river basins in the United States contained chloroform in 70 percent of the 204 samples collected (Ewing *et al.*, 1977). Eleven water utilities on the Ohio River measured chloroform in their raw water supplies in 68 percent of the samples collected for testing (Ohio River Valley Water Sanitation Committee, 1979). The concentrations ranged up to 4.8 ppb with an average of 0.8 ppb. Eleven of 13 locations tested for the presence of chloroform in Lakes Erie, Michigan, and Huron tested positive, with concentrations ranging from 1 to 30 ppb (Konasewich *et al.*, 1978).

Chloroform has been measured in drinking water supplies in the United States during the U.S. Environmental Protection Agency's 1975 National Organics Reconnaissance Survey (NORS) and the U.S. Environmental Protection Agency's 1976 to 1977 National Organic Monitoring Study (NOMS). Combined results of the two surveys detected chloroform in 99.5 percent of the finished drinking water samples from 137 cities. Concentrations ranged from below detection limits to 311  $\mu\text{g}/\text{L}$ , with most concentrations ranging between 32 and 68  $\mu\text{g}/\text{L}$  (Brass *et al.*, 1977; Symons *et al.*, 1975). Chloroform was also measured in the finished

waters of Canadian treatment facilities, with an occurrence rate of 93 to 97 percent (Coleman *et al.*, 1976). Concentrations ranged up to 110 parts per billion (ppb), while concentrations measured in raw water were 2 to 6 ppb on average. The average concentrations of chloroform in finished waters were higher in summer, with an average concentration of 35 ppb, than winter, with an average concentration of 21 ppb. This seasonal difference has also been observed in the United States (Kasso and Wells, 1981a).

It is estimated that the average daily intake of chloroform from drinking water in the United States is 64 to 136 micrograms (National Library of Medicine, 1990). The principal source of chloroform in drinking water is the chlorination of naturally occurring humic materials found in the raw water supplies (Cech *et al.*, 1982; Bellar *et al.*, 1974). The concentration of chloroform increases with time, thus the concentration of chloroform in drinking water has been found to increase as it moves through water distribution systems (Kasso and Wells, 1981b; Varma *et al.*, 1984).

Chloroform has been detected in precipitation over Japan (Kato *et al.*, 1980; Morita *et al.*, 1974). It has also been measured in precipitation over Los Angeles at 250 parts per trillion (ppt; Kawamura and Kaplan, 1983).

Some types of food are known to contain traces of chloroform, and it is suspected that additional research might show food to be a major source of human exposure to chloroform (National Library of Medicine, 1990). Based on scarce data, Kayser *et al.* (1982) estimated that a typical person ingests 0.04 mg/day of chloroform. Entz *et al.* (1982) measured chloroform in varying concentrations in dairy products, meat, oil and fat, and beverages. The highest individual levels were measured in soft drinks (9 to 178 ppb), butter (56 ppb), cheese (15 to 17 ppb), and mayonnaise (34 ppb). Residues of chloroform have also been detected in fumigated sorghum, barley, and corn, but these dissipated after 60 days of aeration at 17 °C (International Agency for Research on Cancer, 1979). In four urban areas of the United States, chloroform has been detected in seven of eight samples of mothers' milk (Pellizzari *et al.*, 1982).

Occupational exposure to chloroform may occur for some workers. Concentrations of chloroform in the air of a facility manufacturing medicinal goods were 23 to 128 parts per million (ppm), and in a facility manufacturing film concentrations were 7 to 170 ppm during a 5-year study (National Library of Medicine, 1990). Concentrations in a police forensic laboratory ranged from 2.6 to 46.4 ppm, with an 8-hour time-weighted average of 15.8 ppm (Santodonato *et al.*, 1981). Wallace (1986) found elevated chloroform levels in the breath of people who worked at a paint store, had been in a paint store, or had used pesticides.

## Toxicity

Chloroform toxicity in humans may be chronic or acute. Symptoms of toxic exposure in humans include a sweetish odor on the breath, dilated pupils, cold and clammy skin, initial excitation alternating with apathy, loss of sensation, abolition of motor functions, liver and renal damage as indicated by elevated serum enzyme levels, prostration, unconsciousness, coma, and eventually death (Kayser *et al.*, 1982; International Agency for Research on Cancer, 1979). Acute exposure to chloroform at a concentration of 4,096 parts per million (ppm) resulted in a fainting sensation and vomiting (American Conference of Governmental Industrial Hygienists, 1971). Dizziness and salivation have been reported after a few minutes of exposure to a

concentration of 1,475 ppm. Fatigue and headache have been reported in people that have been exposed to 1,024 ppm of chloroform for several hours. Habitual inhalation of chloroform for 12 years caused psychiatric and neurologic symptoms of depression, loss of appetite, hallucination, ataxia, and dysarthria in a 33-year-old man (National Institute for Occupational Safety and Health, 1974). Other symptoms of habitual use include moodiness, mental and physical sluggishness, nausea, rheumatic pain, and delirium. Rapid death from chloroform exposure occurs as a result of cardiac arrest, while delayed death results from liver and kidney damage caused by chronic chloroform exposure (International Agency for Research on Cancer, 1979).

Exposure of animals to high concentrations of chloroform had varying effects. Mice exposed to 8,000 ppm of chloroform died following a 3-hour exposure period, while rabbits died after exposure to 12,500 ppm for two hours. (Doull *et al.*, 1980). However, dogs survived much higher concentrations of chloroform. Acute exposure of animals to chloroform may result in death due to respiratory arrest, while exposure at lower levels had a primary toxicity response of hepatotoxicity that eventually led to formation of fatty liver tissue and centrilobular necrosis. Forty percent inhibition of microsomal drug-metabolizing enzyme activity occurred in rats given 1.05 ml/kg of chloroform approximately 24 hours before they were sacrificed. It was unclear whether the inhibition from chloroform exposure was a result of hepatic necrosis or a subtle effect on the microsomal enzyme system.

Groups of Strain A mice were exposed to varying concentrations of chloroform (International Agency for Research on Cancer, 1979). Nonmetastasizing hepatomas and cirrhosis occurred in all surviving female mice that were given 0.8 or 0.4 mg/kg body weight per dose. No hepatomas were observed in those mice that received the two lowest dose levels (0.1 and 0.2 mg/kg) or in the controls. Rats exposed to subanesthetic doses suffered from ferrotoxicity and retarded growth rates. In addition, those exposed to 100 ppm had a low number of acaudate fetuses with imperforated anuses.

Five strains of *Salmonella typhimurium*, with and without S-9 microsomal-enzyme preparation, were exposed to chloroform. No evidence of potential mutagenicity was observed (Van Abbe *et al.*, 1982). Genetic damage attributed to chloroform was studied in *Rattus norvegicus* and *Mus musculus*. Sharma and Anand (1984) observed aneuploidy, stages of fuzziness, and despiralization and stickiness of chromosomes. They concluded that one of the end products of metabolic activation caused the changes.

### Carcinogenicity

Chloroform is a suspected human carcinogen and a known animal carcinogen (International Agency for Research on Cancer, 1979; National Library of Medicine, 1990). Studies have suggested that a reactive metabolite of chloroform rather than chloroform is responsible for its carcinogenicity (Pohl *et al.*, 1979).

Groups of 50 male and 50 female B6C3F1 mice were treated with doses of chloroform varying from 100 to 500 mg/kg body weight for 92 to 93 weeks from the age of 5 weeks (National Cancer Institute, 1976). The occurrence of hepatocellular carcinomas in all treated groups of mice was statistically significant ( $p < 0.0001$ ) when compared to the control groups that received only corn oil, the vehicle for chloroform

Agency	Type of Limit or Criteria	Limit or Criteria
ACGIH (1980)	TLV, TWA	10 ppm or 49 mg/m <sup>3</sup>
OSHA (1989)	Transitional Limit (PEL) (C) <sup>a</sup>	50 ppm or 240 mg/m <sup>3</sup> for duration of 15 minutes
OSHA (1989)	Final Rule Limit (TWA)	2 ppm or 9.78 mg/m <sup>3</sup>
U.S. EPA (1988)	RCRA Ground Water Monitoring List	0.5 µg/L, Method SW 846-8010
NIOSH (1986)	REL	2 ppm or 9.78 mg/m <sup>3</sup>
U.S. EPA (1987c)	MCL	0.10 mg/L for total trihalomethanes, including chloroform
U.S. EPA (1989)	Reportable Quantity	10 lbs.
RSPA (1989)	Reportable Quantity	10 lbs.
U.S. EPA (1990)	RfD <sub>o</sub> , Oral, Subchronic	1E-2, uncertainty factor of 1,000
U.S. EPA (1990)	RfD, Oral, Chronic	1E-2, uncertainty factor of 1,000
U.S. EPA (1990)	RfD, Inhalation	Not determined at this time
U.S. EPA (1990)	Q <sup>a</sup> , Oral	1.7E-7
U.S. EPA (1990)	Q <sup>a</sup> , Inhalation	2.3E-5

<sup>a</sup>(C) denotes a ceiling limit.

## Definitions

The following abbreviations and terms have been used in the above tables and sections of this toxicological profile.

**TLV, TWA** - The American Conference of Governmental Industrial Hygienists (ACGIH) defines the threshold limit value-time weighted average (TLV,TWA), as the time-weighted average concentration of a chemical that most workers may be exposed to repeatedly without adverse effects during a normal 8-hour work day and a 40-hour work week.

**PEL** - The Occupational Safety and Health Administration (OSHA) has defined permissible exposure limits (PEL's) for air contaminants in the work place. Existing PEL's are now referred to as transitional limits and new or revised PEL's are called final rule limits. For transitional limits, time-weighted averages, an employee's exposure to regulated chemicals should not exceed the 8-hour time-weighted average given for that chemical in any 8-hour shift of a 40-hour work week. For the final rule limit, time weighted average, an employee's average airborne exposure is limited in any 8-hour work shift of a 40-hour week to a set, chemical-specific concentration that may not be exceeded.

**REL** - The National Institute for Occupational Safety and Health (NIOSH) has been authorized by the Occupational Safety and Health Act of 1970 to develop recommendations for limits of exposure (REL's) to potentially hazardous substances or conditions in the work place.

**Ground Water Monitoring List** - The Resource Conservation and Recovery Act (RCRA) requires the U.S. Environmental Protection Agency to establish limits on hazardous substances in ground water at RCRA land-based hazardous disposal units. These hazardous substances, the maximum that is allowed in ground water, and the appropriate laboratory method for their detection are listed in the Ground Water Monitoring List.

**Reportable Quantities** - The U.S. Environmental Protection Agency (U.S. EPA) and the Research and Special Programs Administration of the U.S. Department of Transportation (RSPA) have established reportable quantities for hazardous substances that are designated under Section 101 (14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

**RfD** - The U.S. Environmental Protection Agency (U.S. EPA) has established reference doses (RfD's) for some chemicals. RfD's are calculated toxicity values that are used for evaluating noncarcinogenic effects on humans exposed to specific chemicals at Superfund sites.

**Q<sup>a</sup>** - The U.S. Environmental Protection Agency (U.S. EPA) has calculated slope factors (Q<sup>a</sup>), which calculate the cancer risk per unit dose of a specific chemical and express it as risk per mg/kg/day.

**MCL** - The U.S. Environmental Protection Agency (U.S. EPA) is required under Section 1401 of the Safe Drinking Water Act, as amended in 1988, to establish maximum contaminant levels for contaminants in drinking water. These are enforceable, chemical-specific standards, which the U.S. EPA sets as close as possible to the MCLG's as determined by the use of best available technology.

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