

**DRAFT**

**RECORD OF DECISION  
OPERABLE UNIT NO. 7  
SITE 30 - SNEADS FERRY  
ROAD FUEL TANK SLUDGE AREA**

**MARINE CORPS BASE,  
CAMP LEJEUNE, NORTH CAROLINA**

**CONTRACT TASK ORDER 0231**

**MARCH 30, 1995**

*Prepared For:*

**DEPARTMENT OF THE NAVY  
ATLANTIC DIVISION  
NAVAL FACILITIES  
ENGINEERING COMMAND  
*Norfolk, Virginia***

*Under the:*

**LANTDIV CLEAN Program  
Contract N62470-89-D-4814**

*Prepared By:*

**BAKER ENVIRONMENTAL, INC.  
*Coraopolis, Pennsylvania***

**TABLE OF CONTENTS**

Page

**ACRONYMS AND ABBREVIATIONS ..... iv**

**DECLARATION ..... v**

**1.0 INTRODUCTION ..... 1**

**2.0 SITE LOCATION AND DESCRIPTION ..... 1**

**3.0 SITE HISTORY AND ENFORCEMENT ACTIVITIES ..... 2**

**4.0 HIGHLIGHTS OF COMMUNITY PARTICIPATION ..... 3**

**5.0 SCOPE AND ROLE OF THE RESPONSE ACTION ..... 3**

**6.0 SITE CHARACTERISTICS ..... 3**

    Soil ..... 3

    Groundwater ..... 4

    Surface Water ..... 4

    Sediment ..... 5

**7.0 SUMMARY OF SITE RISKS ..... 5**

    Human Health Risk Assessment ..... 5

    Ecological Risk Assessment ..... 6

    Risk Assessment Conclusions ..... 7

**8.0 DESCRIPTION OF THE "NO ACTION" ALTERNATIVE ..... 7**

**9.0 STATUTORY DETERMINATIONS ..... 7**

**10.0 RESPONSIVENESS SUMMARY ..... 8**

    Overview ..... 8

    Background ..... 8

    Summary of Comments Received During the Public Comment  
    Period and Agency Responses ..... 9

## **LIST OF TABLES**

- 1 Summary of Site Risks

## **LIST OF FIGURES**

- 1 Operable Unit No. 7 - Sites 1, 28, and 30
- 2 Site Map
- 3 Surface and Subsurface Soil Sampling Locations
- 4 Groundwater Sampling Locations
- 5 Surface Water and Sediment Sampling Locations
- 6 Flowchart of Potential Exposure Pathways and Receptors

## LIST OF ACRONYMS AND ABBREVIATIONS

ARAR	Applicable or Relevant and Appropriate Requirements
Baker	Baker Environmental, Inc.
BEHP	bis (2-ethylhexyl) phthalate
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
COPC	contaminant of potential concern
CLEJ	Camp Lejeune
DoN	Department of the Navy
EPIC	Environmental Photographic Interpretation Center
FFA	Federal Facilities Agreement
FS	Feasibility Study
GW	Groundwater
HI	Hazard Index
HPIA	Hadnot Point Industrial Area
ICR	Incremental Cancer Risk
IRP	Installation Restoration Program
MCB	Marine Corps Base
NC DEHNR	NC Department of the Environment, Health, and Natural Resources
NCP	National Contingency Plan
NPL	National Priorities List
OU	Operable Unit
PRAP	Proposed Remedial Action Plan
RA	Risk Assessment
RI	Remedial Investigation
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
SARA	Superfund Amendments and Reauthorization Act
SVOC	Semivolatile Organic Compound
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

## DECLARATION

### Site Name and Location

Operable Unit No. 7  
Site 30, Sneads Ferry Road Fuel Tank Sludge Area  
Marine Corps Base  
Camp Lejeune, North Carolina

### Statement of Basis and Purpose

This decision document presents the selected remedy for Site 30 which is part of Operable Unit (OU) No. 7 at Marine Corps Base (MCB), Camp Lejeune. The selected remedy was chosen in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA) and, to the extent practicable, the National Contingency Plan (NCP). This decision is based on the administrative record for OU No. 7.

The Department of the Navy (DoN) and the Marine Corps has obtained concurrence from the State of North Carolina and the United States Environmental Protection Agency (USEPA) Region IV on the selected remedy.

### Description of the Selected Remedy

The selected remedy for Site 30 is the "no action" plan. Under this remedy, no remedial actions or further investigations will be conducted. The results of the remedial investigation (RI) for Site 30 and its associated risk assessments (RAs) indicate that the site conditions are protective of human health and the environment. Therefore, a no action remedy is appropriate.

### Statutory Determinations

The selected remedy is protective of human health and the environment, complies with Federal and State requirements that are legally applicable or relevant and appropriate, and is cost-effective. The statutory preference for treatment is not satisfied because no treatment is necessary in order to protect human health and the environment at Site 30. Contaminant levels detected in the media at the site were found to present no imminent or substantial threat to human health or the environment. A five-year review will not be necessary for this site.

---

Signature (Commanding General, MCB, Camp Lejeune)

---

Date

## **1.0 INTRODUCTION**

Marine Corps Base (MCB), Camp Lejeune was placed on the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) National Priorities List (NPL) on October 4, 1989 (54 Federal Register 41015, October 4, 1989). The United States Environmental Protection Agency (USEPA) Region IV, the North Carolina Department of Environment, Health, and Natural Resources (NC DEHNR) and the United States Department of the Navy (DoN) then entered into a Federal Facilities Agreement (FFA) for MCB, Camp Lejeune in February 1991. The primary purpose of the FFA was to ensure that environmental impacts associated with past and present activities at MCB, Camp Lejeune were thoroughly investigated and appropriate CERCLA response/Resource Conservation and Recovery Act (RCRA) corrective action alternatives were developed and implemented as necessary to protect public health and the environment.

Site 30, the Sneads Ferry Road Fuel Tank Sludge Area, has been investigated as part of a remedial investigation (RI) conducted for Operable Unit (OU) No. 7. The feasibility study (FS), which develops and examines remedial action alternatives for a site, will not be performed for Site 30 since the results of the RI and associated risk assessments (RAs) indicated that no remedial action is necessary at the site.

This document presents the Record of Decision (ROD) which has been prepared to summarize the remedy selection process and to present the selected remedy.

## **2.0 SITE LOCATION AND DESCRIPTION**

The study area, Site 30, is one of three sites that make up OU No. 7. Figure 1 shows the location of OU No. 7 and Site 30 within MCB, Camp Lejeune. The site is situated along a tank trail which intersects Sneads Ferry Road from the west, approximately 1 mile south of the intersection with Marines Road, and roughly 4-1/2 miles south of the Hadnot Point Industrial Area (HPIA). The site is also located adjacent to the Combat Town Training Area.

Figure 2 presents a site plan in which the approximate boundary of Site 30 is delineated. This boundary coincides with the estimated extent of a suspected sludge disposal area. The tank trail that leads to the suspected disposal area is occasionally used as part of field training exercises. The surrounding training areas and adjacent artillery ranges are used to prepare specialized personnel for various tactical operations and to simulate amphibious assault conditions.

Much of the site is wooded with trees of less than three inches in diameter and dense understory. The topography is relatively flat with land surface elevations ranging between 32 and 45 feet above mean sea level. There are no major surface water features within the boundary of Site 30. French Creek, located approximately 1,600 feet to the west, is the closest surface water body. The headwaters of the creek are located southwest of the site and flow is toward the north in the direction of the New River. The groundwater flow direction across the site is to the west-northwest.

### 3.0 SITE HISTORY AND ENFORCEMENT ACTIVITIES

Site 30 was reportedly used by a private contractor as a cleaning area for emptied fuel storage tanks from off-site locations. The tanks were used to store leaded gasoline that contained tetraethyl lead and related compounds. Since fuel residuals remaining in the emptied tanks were reportedly washed out at Site 30, the disposal area was suspected to contain fuel sludge and wastewater from the washout of the tanks.

The suspected disposal area measures approximately 7,500 square yards. It is estimated that, at a minimum, 600 gallons of sludge were removed from tanks and drained onto the ground surface during the cleaning process. This estimate is based on the projected volume of material remaining in two 12,000 gallon tanks and the amount of material below their outflow ports. Supplemental information suggests that the site was used for the disposal of similar wastes from other tanks. The composition of the waste is unknown, but it may have contained tetraethyl lead and cleansing compounds.

In 1983, an Initial Assessment Study was conducted by Water and Air Research, Inc. The study identified a number of sites at MCB, Camp Lejeune, including Site 30, as potential sources of contamination.

From 1984 through 1987, a Confirmation Study was conducted by Environmental Science and Engineering, Inc. to investigate the potential contaminant source areas identified during the Initial Assessment Study. At Site 30 the Confirmation Study, which consisted of two rounds of sampling, focused on potential contaminants in groundwater, surface water, and sediment. In groundwater samples, lead was detected at levels exceeding federal and state drinking water standards. In surface water samples, no detectable levels of target compounds were identified. In sediment samples, oil and grease were detected.

In 1992, an interim aerial photographic investigation report was completed by the USEPA's Environmental Photographic Interpretation Center (EPIC). Aerial photographs at Site 30 were taken to depict surface conditions over time and a black-and-white aerial photograph from 1964 was made available. Upon examination of these photographs, there did not appear to be any visual evidence of past waste disposal activities at Site 30.

In addition to the two rounds of groundwater data collected during the Confirmation Study, a third round was collected by Baker Environmental, Inc. (Baker) in April 1993 to support RI scoping activities. A single detection of chloroform was observed in a groundwater sample. However, the detected level suggests that the chloroform may be the result of laboratory contamination, rather than site-related contamination. Metals were also detected in groundwater samples.

Baker conducted an RI at Site 30 from late March through early May 1994. The RI included surface soil, subsurface soil, groundwater, surface water, and sediment investigations. In November 1994, Baker conducted additional groundwater sampling to supplement the RI. Sampling locations during the RI are identified on Figures 3 through 5. More specifically, Figure 3 identifies soil sampling locations, Figure 4 identifies groundwater sampling locations, and Figure 5 identifies surface water and sediment sampling locations. Analytical results from these investigations are described at length in the RI report.

Since there were some contaminants of potential concern (COPCs) detected at Site 30, a human health RA and an ecological RA were conducted as part of the RI. Based on the results of these RAs (which are summarized later in this ROD), the COPCs detected at Site 30 do not appear to present unacceptable human health or ecological risks.

#### **4.0 HIGHLIGHTS OF COMMUNITY PARTICIPATION**

The RI report and Proposed Remedial Action Plan (PRAP) for Site 30 will be released to the public on a date to be determined. These two documents will be made available to the public in the administrative record at information repositories maintained at the Onslow County Public Library and at the MCB, Camp Lejeune Library. Also, all addresses on the Site 30 mailing list will be sent a copy of the Final PRAP and Fact Sheet. The notice of availability of the PRAP and RI document will be published in the "Jacksonville Daily News" on a date to be determined. A public comment period will be held from July 18, 1995, to August 18, 1995. In addition, a public meeting will be held on July 18, 1995, to respond to questions and to accept public comments on a PRAP for Site 30. The public meeting minutes will be transcribed and a copy of the transcript will be made available to the public at the aforementioned libraries. A Responsiveness Summary, included as part of this ROD, has been prepared to respond to the significant comments, criticisms and new relevant information received during the comment period. Upon signing this ROD, MCB, Camp Lejeune and the DoN will publish a notice of availability of this ROD in the local newspaper, and place this ROD in the information repository located in the Onslow County and MCB, Camp Lejeune libraries.

#### **5.0 SCOPE AND ROLE OF THE RESPONSE ACTION**

The remedy proposed for Site 30 is the "no action" plan. This was the only remedial action alternative identified for Site 30 because, based on the RI results, conditions at the site appear to be protective of human health and the environment. Therefore, it was not necessary to conduct an FS for Site 30. Furthermore, no other remedial actions have been implemented at Site 30 in the past.

It should be noted that this proposed remedy only applies to Site 30. Separate RODs will be developed for Sites 1 and 28, which are also included in OU No. 7.

#### **6.0 SITE CHARACTERISTICS**

This site characteristics section briefly describes the nature and extent of COPCs that were detected in the soil, groundwater, surface water, and sediment at Site 30 during the RI. Please note that after being evaluated in the RAs, the COPCs did not appear to pose any significant risks to human health or the environment.

##### *Soil*

None of the surface and subsurface soil samples had metal concentrations exceeding base-specific background levels and therefore, the extent of metals contamination in soils at Site 30 was not addressed. Additionally, semivolatile organic compounds (SVOCs) were not detected in any of the soil samples submitted for analysis and therefore, the extent of SVOC contamination in soil was not addressed.

One volatile organic compound (VOC), 1,1,1-trichloroethane, was identified in the soils at Site 30. Three positive detections of this VOC were recorded in samples retained from the northern central

portion of the study area. The VOC was detected within two surface and one subsurface soil samples at very low concentrations (i.e., less than 3 micrograms per kilogram [ $\mu\text{g}/\text{Kg}$ ]). However, given the limited extent, location along the tank trail, and low concentration of VOC contamination at Site 30, the presence of VOCs in soil is most likely the result of incidental equipment maintenance.

### *Groundwater*

SVOCs were not detected in any of the groundwater samples and therefore, the extent of SVOC contamination in groundwater was not addressed.

One VOC, chloroform, was detected among the three groundwater samples obtained from Site 30. The single positive detection of chloroform was observed in a shallow groundwater sample obtained from monitoring well 30-GW01, located near the center of the suspected disposal area. Chloroform was detected at the concentrations of 9 micrograms per liter ( $\mu\text{g}/\text{L}$ ) and 3  $\mu\text{g}/\text{L}$  during the first and second sampling rounds, respectively. The lack of positive VOC detections in a sample obtained from a downgradient shallow monitoring well suggested that VOCs had not migrated from the suspected disposal area. In addition, chloroform was not detected in any of the surrounding surface and subsurface soil samples. The residual level (i.e., less than 10  $\mu\text{g}/\text{L}$ ) of chloroform that was observed during both sampling rounds, may be the result of incidental spillage of a small quantity rather than disposal. The entire area is used as for training and operation of mechanized vehicles, which may explain the presence of chloroform at this low concentration.

Metals were detected in each of the three groundwater samples. Iron was the only metal detected at levels in excess of either federal or state drinking water standards. A single positive detection of iron from the upgradient shallow monitoring well 30-GW03 exceeded the state standard of 300  $\mu\text{g}/\text{L}$ . However, the iron detection of 692  $\mu\text{g}/\text{L}$  in sample 30-GW03 did not exceed base-specific metals background concentrations. Therefore, this concentration of iron may be indicative of natural site conditions rather than disposal activities.

The decrease of metals concentrations between the first and second sampling rounds was the result of modified sample acquisition procedures. Elevated total metals had been recorded at other MCB, Camp Lejeune sites and are likely the consequence of loose surficial soils. During the second round of groundwater sampling, a low flow purge method was utilized to minimize the presence of suspended solids or colloids in samples that are associated with the surficial soils. The resulting data set yielded a more accurate assessment of existing conditions. Studies conducted at MCB, Camp Lejeune support the opinion that total metal concentrations in groundwater are due more to geologic conditions (i.e., naturally occurring concentrations and unconsolidated soils) and sample acquisition methods than to actual metal concentrations in the surficial aquifer.

### *Surface Water*

VOCs and SVOCs were not detected in the three surface water samples collected for Site 30. As a result, the extent of VOC and SVOC contamination in surface water was not addressed.

Two metals, lead and mercury, were each identified once among the three French Creek surface water samples and, in both cases, at concentrations in excess of surface water screening values. Both lead and mercury were detected in excess of surface water screening values at sample station 30-SW01, located upgradient of the study area. The source of the mercury and lead, however, may have originated from the Combat Town Training Area located northwest of Site 30. French Creek receives drainage from the training area which may help to explain the localized occurrence of these

metals in the upgradient surface water sample. Lead and mercury were detected at trace concentrations of 2.3 and 0.15 µg/L, respectively.

### ***Sediment***

VOCs were not detected in any of the six sediment samples collected from Site 30. In addition, metals were not detected in excess of sediment screening values. As a result, the extent of VOC and metals contamination in sediment was not addressed.

The SVOC, bis(2-ethylhexyl) phthalate (BEHP), was positively detected in two of the six French Creek sediment samples. The two detected concentrations of BEHP were 2,600 µg/Kg and 3,900 µg/Kg. The maximum BEHP detection was observed at sample station 30-SD01, located upgradient of the study area. However, the presence of SVOCs in sediments is not uncommon in areas of high activity. As previously mentioned, Site 30 is within the Combat Town Training Area and receives frequent vehicular traffic.

## **7.0 SUMMARY OF SITE RISKS**

During the RI, a human health RA and an ecological RA were conducted to evaluate the potential risks to human health and the environment resulting from the presence of COPCs at Site 30. The following paragraphs summarize the results of these RAs.

### ***Human Health Risk Assessment***

A baseline human health RA investigated the potential for COPCs to affect human health and/or the environment, both now and in the future, assuming that no further remedial actions are implemented at the site. Hypothetical scenarios, in which hypothetical receptors were assumed to be exposed to the site COPCs, were used to evaluate the actual and potential risks that exist at the site. Both current and future scenarios were developed to determine risks that may presently exist at the site and risks that may exist in the future. For Site 30, the current hypothetical scenario assumed that on-site military personnel were exposed to the site COPCs, and the future hypothetical scenario assumed that future residents (both children and adults) and future construction workers were exposed to the site COPCs. Possible exposure pathways by which these receptors were assumed to come in contact with the COPCs are identified in Figure 6.

In addition, exposure frequencies and durations were identified for each receptor to estimate the amount of time over which receptors would be exposed. For Site 30, on-site military personnel were assumed to be exposed 350 days/year for 4 years, residents were assumed to be exposed for 350 days/year for 6 and 30 years, and construction workers were assumed to be exposed for 90 days/year for one year.

During the risk characterization, numeric values that quantify the total risks associated with the site COPCs (both carcinogenic and noncarcinogenic risks) were generated. For carcinogenic risks, incremental cancer risk (ICR) values were generated. For noncarcinogenic risks, hazard index (HI) values were generated. ICR and HI values were generated for each potential receptor and its respective exposure pathways.

The USEPA considers ICR values between 1.0E-04 and 1.0E-06 to be generally acceptable and protective of human health and the environment. In other words, an ICR less than 1.0E-04 indicates that adverse carcinogenic health effects due to COPC exposure are unlikely. The USEPA also

considers HI values less than 1.0 to be generally acceptable and protective of human health and the environment. In other words, an HI less than 1.0 indicates that adverse noncarcinogenic health effects due to COPC exposure are unlikely. A remedial action may be recommended when ICR and HI values exceed these acceptable levels. However, when ICR and HI values do not exceed these levels, a "no action" plan may be justifiable.

At Site 30, the environmental media of concern were surface soil, subsurface soil, groundwater, surface water, and sediment. COPCs were not identified in the surface soil or groundwater, but COPCs were identified in the subsurface soil, surface water, and sediment. The COPCs in the subsurface soil included aluminum, arsenic, chromium, cobalt, copper, manganese, mercury, nickel, and vanadium. The COPCs in the surface water included aluminum, lead, manganese, and mercury. The COPCs in the sediment included aluminum, chromium, copper, lead, manganese, nickel, vanadium, and zinc.

Table 1 shows the ICR and HI values generated for each exposure pathway by which these COPCs could potentially reach the receptors. None of the ICR values listed on this table exceed the level of  $1.0E-04$ . Similarly, none of the HI values exceed the level of 1.0. As a result, unacceptable carcinogenic and noncarcinogenic risks do not appear to exist at Site 30, and the site conditions appear to be protective of human health and the environment. Because of these acceptable site conditions, no remedial actions are necessary.

#### *Ecological Risk Assessment*

The objective of the ecological RA is to determine if COPCs are adversely impacting the ecological integrity of the aquatic and terrestrial communities on or adjacent to the site. The ecological RA also evaluates the potential effects of COPCs on sensitive environments including wetlands, protected species, and fish nursery areas. The following paragraphs describe the state of aquatic and terrestrial communities at Site 30 as determined in the ecological RA. The media of concern that were evaluated include surface water, sediment, and surface soil.

At Site 30, metals in surface water appeared to be the only site related COPCs that have the potential to impact aquatic communities. These metals included aluminum, lead, and mercury. However, the concentrations of these surface water metals were higher in the upstream sampling locations than in the downstream sampling locations. As a result, these metals did not appear to be site related and did not warrant a remedial action at Site 30. In sediment, COPCs were not detected at concentrations that could potentially impact aquatic communities.

COPCs in surface soil were not retained for the ecological RA, so surface soil did not appear to impact terrestrial communities. Based on the terrestrial food chain model, one COPC, manganese, had a very small potential to affect raccoons. However, the model indicated that no other terrestrial species were being adversely impacted by COPCs at the site. Therefore, there did not appear to be a significant risk to terrestrial communities from site related COPCs. Furthermore, remedial actions do not appear to be necessary in order to protect the integrity of terrestrial communities.

Several threatened and/or endangered species are known to inhabit MCB, Camp Lejeune. The red-cockade woodpecker, in particular, is known to inhabit Site 30. However, the ecological RA conducted for terrestrial communities did not identify any significant risks within the habitats that these protected species are likely to exist. Therefore, the "no action" plan may be justifiable.

### ***Risk Assessment Conclusions***

Based on the results of the human health and ecological RAs, the conditions at Site 30 are protective of human health and the environment. The human health RA indicates that COPCs identified in subsurface soil, surface water, and sediment do not present unacceptable carcinogenic or noncarcinogenic risks now or in the future. The ecological RA indicates that COPCs detected in surface water, sediment, and surface soil do not present any significant risks to aquatic or terrestrial communities. As a result, no further remedial actions (including environmental investigations and sampling) are recommended for Site 30.

### **8.0 DESCRIPTION OF THE "NO ACTION" ALTERNATIVE**

Because conditions at Site 30 are protective of human health and the environment, the only remedial action alternative identified for the site is the "no action" plan. Therefore, it is the preferred alternative, or the Proposed Plan, for Site 30.

The "no action" plan involves taking no further remedial actions (this includes conducting no further environmental investigations or sampling) at the site. The site and all of the environmental media located within the site will remain as they currently are.

### **9.0 STATUTORY DETERMINATIONS**

A summary of the statutory determinations, and how well the selected remedy meets these determinations, is outlined below.

- **Protection of Human Health and the Environment**

The selected remedy is protective of human health and the environment, as conditions at Site 30 were shown to be protective of human health and the environment.

This remedy will not cause any unacceptable short-term risks or cross-media impacts.

- **Attainment of Applicable or Relevant and Appropriate Requirements (ARARs)**

The selected remedy will attain all ARARs.

- **Utilization of Permanent Solutions and Alternative Treatment Technologies or Resource Recovery Technologies to the Maximum Extent Practicable**

Remedial action alternatives utilizing treatment and/or resource recovery technologies were not developed at Site 30 because the site conditions are protective of human health and the environment. Although it was the only alternative developed, the "no action" plan is a protective and effective alternative and it attains all ARARs. The "no action" plan is also a cost effective solution for the site.

- **Preference for Treatment as a Principal Element**

This alternative does not satisfy the preference for treatment because the "no action" plan was determined to be the most appropriate remedy for Site 30 and, therefore, treatment actions are not necessary.

## **10.0 RESPONSIVENESS SUMMARY**

### *Overview*

To be completed after the public meeting.

### *Background on Community Involvement*

A record review of the MCB, Camp Lejeune files indicates that the community involvement centers mainly on a social nature, including the community outreach programs and base/community clubs. The file search did not locate written Installation Restoration Program concerns of the community. A review of historic newspaper articles indicated that the community is interested in the local drinking and groundwater quality, as well as that of the New River, but that there are no expressed interests or concerns specific to the environmental sites (including Site 30). Two local environmental groups, the Stump Sound Environmental Advocates and the Southeastern Watermen's Association, have posed questions to the base and local officials in the past regarding other environmental issues. These groups were sought as interview participants prior to the development of the Camp Lejeune, IRP, Community Relations Plan. Neither group was available for the interviews.

Community relations activities to date are summarized below:

- Conducted additional community relations interviews, February through March 1990. A total of 41 interviews were conducted with a wide range of persons including base personnel, residents, local officials, and off-base residents.
- Prepared a Community Relations Plan, September 1990.
- Conducted additional community relations interviews, August 1993. Nineteen persons were interviewed, representing local business, civic groups, on- and off-base residents, military and civilian interests.
- Prepared a revised Final Draft Community Relations Plan, February 1994.
- Established two information repositories.
- Established the Administrative Record for all of the sites at the base.
- Released PRAP for public review in repositories, \_\_\_\_\_.
- Released public notice announcing public comment and document availability of the PRAP, \_\_\_\_\_.

- Held Restoration Advisory Board meeting, \_\_\_\_\_, to review PRAP and solicit comments.
- Held public meeting on \_\_\_\_\_, to solicit comments and provide information. Approximately \_\_\_\_ people attended. The public meeting transcript is available in the repositories.

***Summary of Comments Received During the Public Comment Period and Agency Responses***

To be completed after the public meeting.

**TABLE**

---

TABLE 1

SUMMARY OF SITE RISKS  
 SITE 30 - SNEADS FERRY ROAD FUEL TANK SLUDGE AREA  
 MARINE CORPS BASE, CAMP LEJEUNE, NORTH CAROLINA

Environmental Media	Exposure Pathway	Current Risk for the Military Receptor		Future Risk for the Child Receptor		Future Risk for the Adult Receptor		Future Risk for the Construction Worker	
		NC Risk	Carc Risk	NC Risk	Carc Risk	NC Risk	Carc Risk	NC Risk	Carc Risk
Subsurface Soil	Ingestion	NA	NA	7.8E-02	1.7E-06	8.4E-03	9.1E-07	1.0E-02	3.7E-08
	Dermal Contact	NA	NA	4.5E-03	9.8E-08	2.4E-03	2.6E-07	4.6E-04	1.7E-09
	Inhalation	NA	NA	6.6E-05	1.6E-10	2.8E-05	3.4E-10	NA	NA
	Total	NA	NA	8.3E-02	1.8E-06	1.1E-02	1.2E-06	1.1E-02	3.9E-08
Surface Water	Ingestion	6.2E-05	NA	NA	NA	NA	NA	NA	NA
	Dermal Contact	5.6E-04	NA	NA	NA	NA	NA	NA	NA
	Total	6.0E-04	NA	NA	NA	NA	NA	NA	NA
Sediment	Ingestion	7.2E-03	NA	NA	NA	NA	NA	NA	NA
	Dermal Contact	2.1E-03	NA	NA	NA	NA	NA	NA	NA
	Total	9.3E-03	NA	NA	NA	NA	NA	NA	NA
	<b>Total</b>	<b>9.9E-03</b>	<b>NA</b>	<b>8.3E-02</b>	<b>1.8E-06</b>	<b>1.1E-02</b>	<b>1.2E-06</b>	<b>1.1E-02</b>	<b>3.9E-08</b>

Notes: NC = Noncarcinogenic Risk (Shaded Areas indicate HI>1.0)  
 Carc = Carcinogenic Risk (Shaded Areas indicate ICR>1.0E-04)  
 NA = Not Applicable

**FIGURES**

---

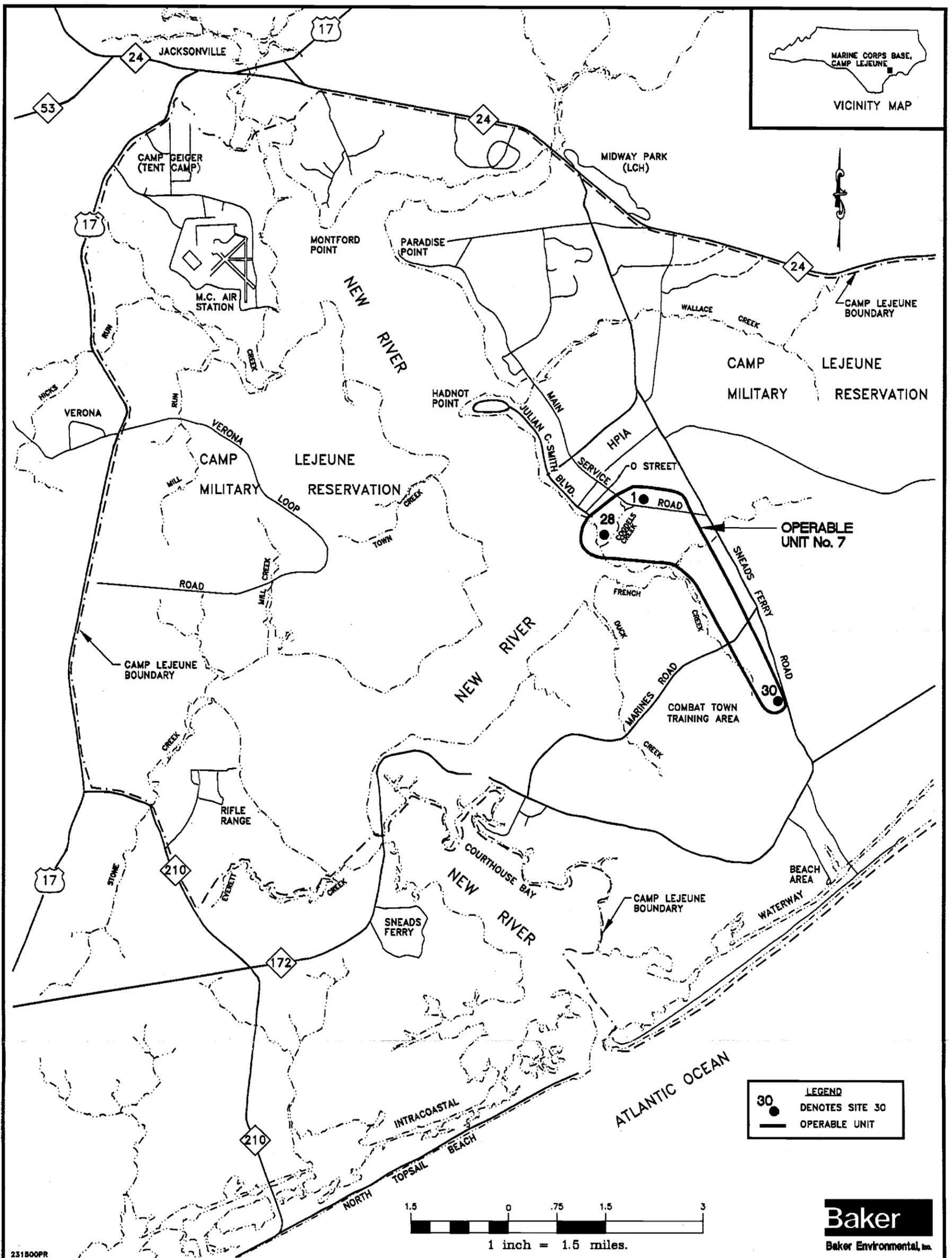
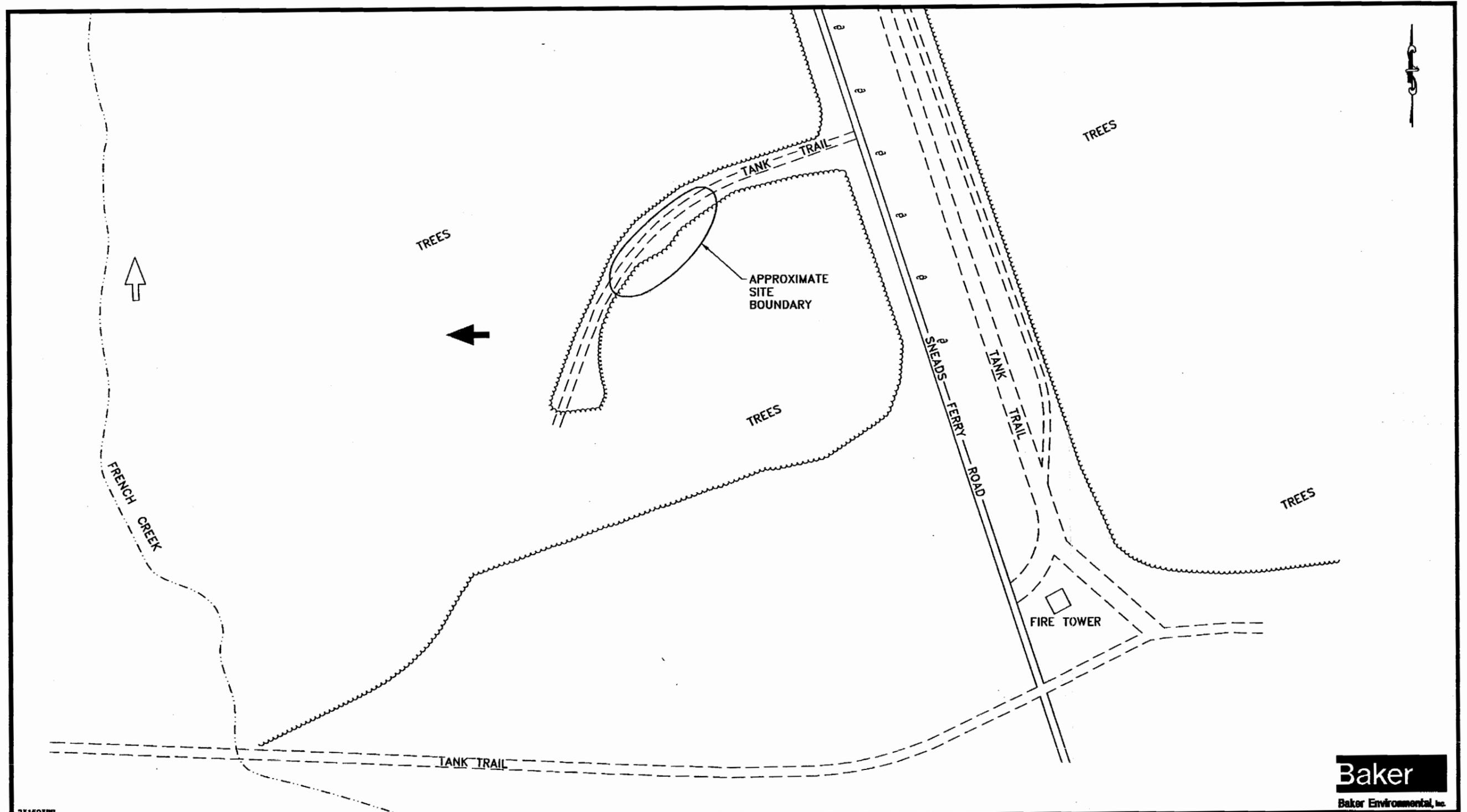


FIGURE 1  
 OPERABLE UNIT No. 7 - SITES 1, 28, AND 30  
 MARINE CORPS BASE, CAMP LEJEUNE

MARINE CORPS BASE, CAMP LEJEUNE  
 NORTH CAROLINA

00251 IIBIZ



231503PR

**Baker**  
Baker Environmental, Inc.

LEGEND	
	ASPHALT ROAD
	UNIMPROVED ROAD (TANK TRAIL)
	UTILITY POLE
	CREEK
	VEGETATION
	APPROXIMATE GROUNDWATER FLOW DIRECTION
	APPROXIMATE SURFACE WATER FLOW DIRECTION

SOURCE: LANTDIV, FEB. 1992 AND W.K. DICKSON, JUNE 1994

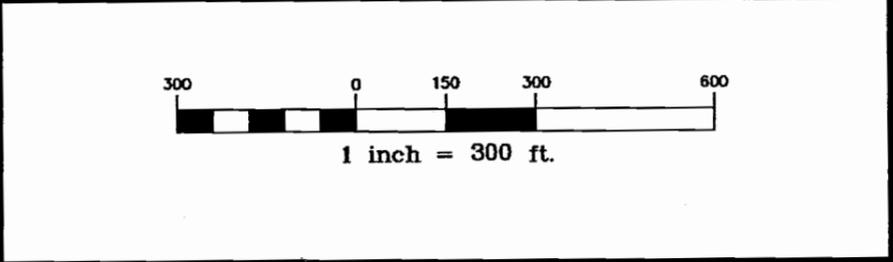
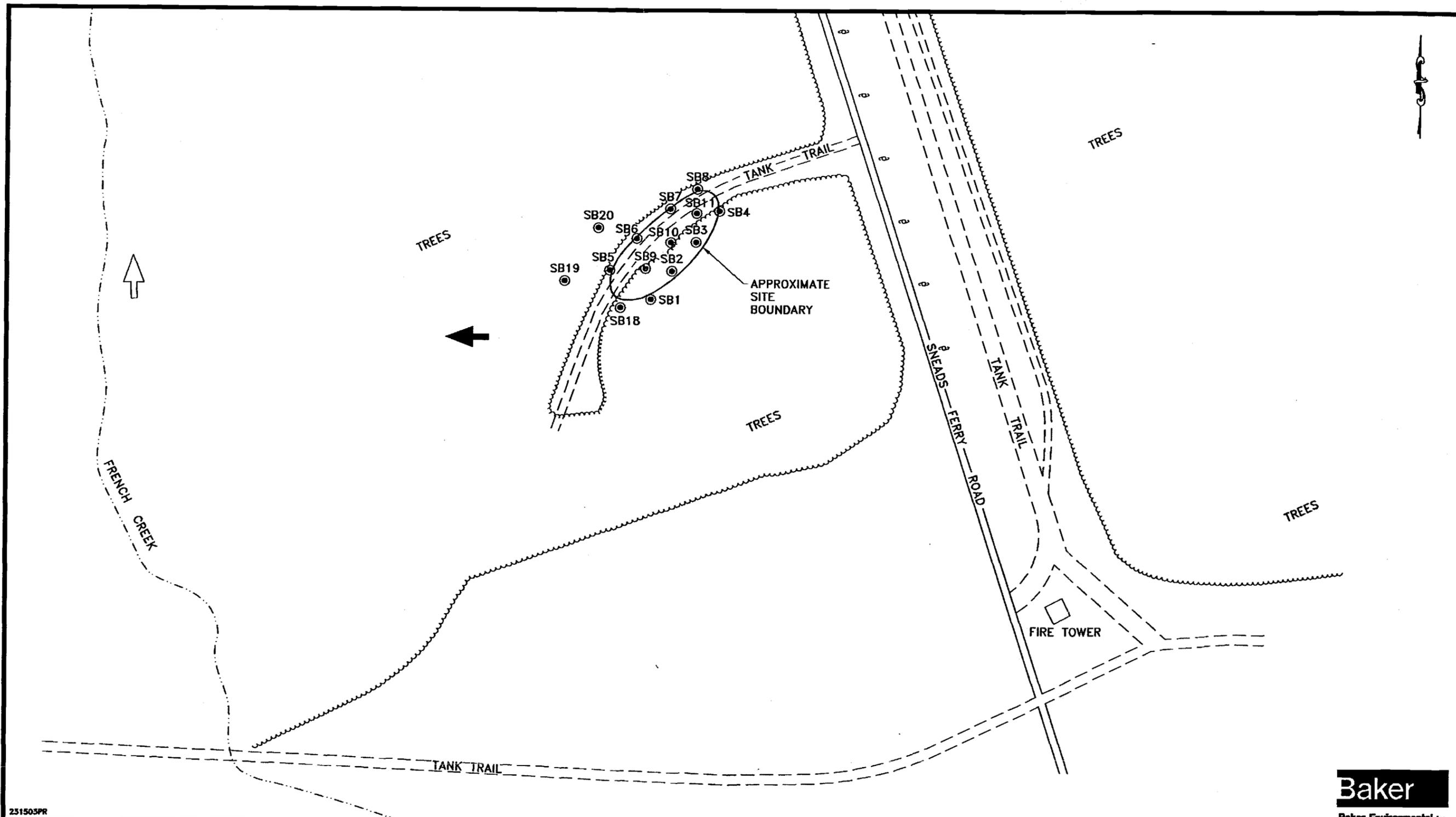


FIGURE 2  
SITE MAP  
SITE 30 - SNEADS FERRY ROAD FUEL  
TANK SLUDGE AREA  
MARINE CORPS BASE, CAMP LEJEUNE  
NORTH CAROLINA



231503PR



**LEGEND**

- SB1 SOIL BORING LOCATION
- ➔ APPROXIMATE GROUNDWATER FLOW DIRECTION
- ↗ APPROXIMATE SURFACE WATER FLOW DIRECTION

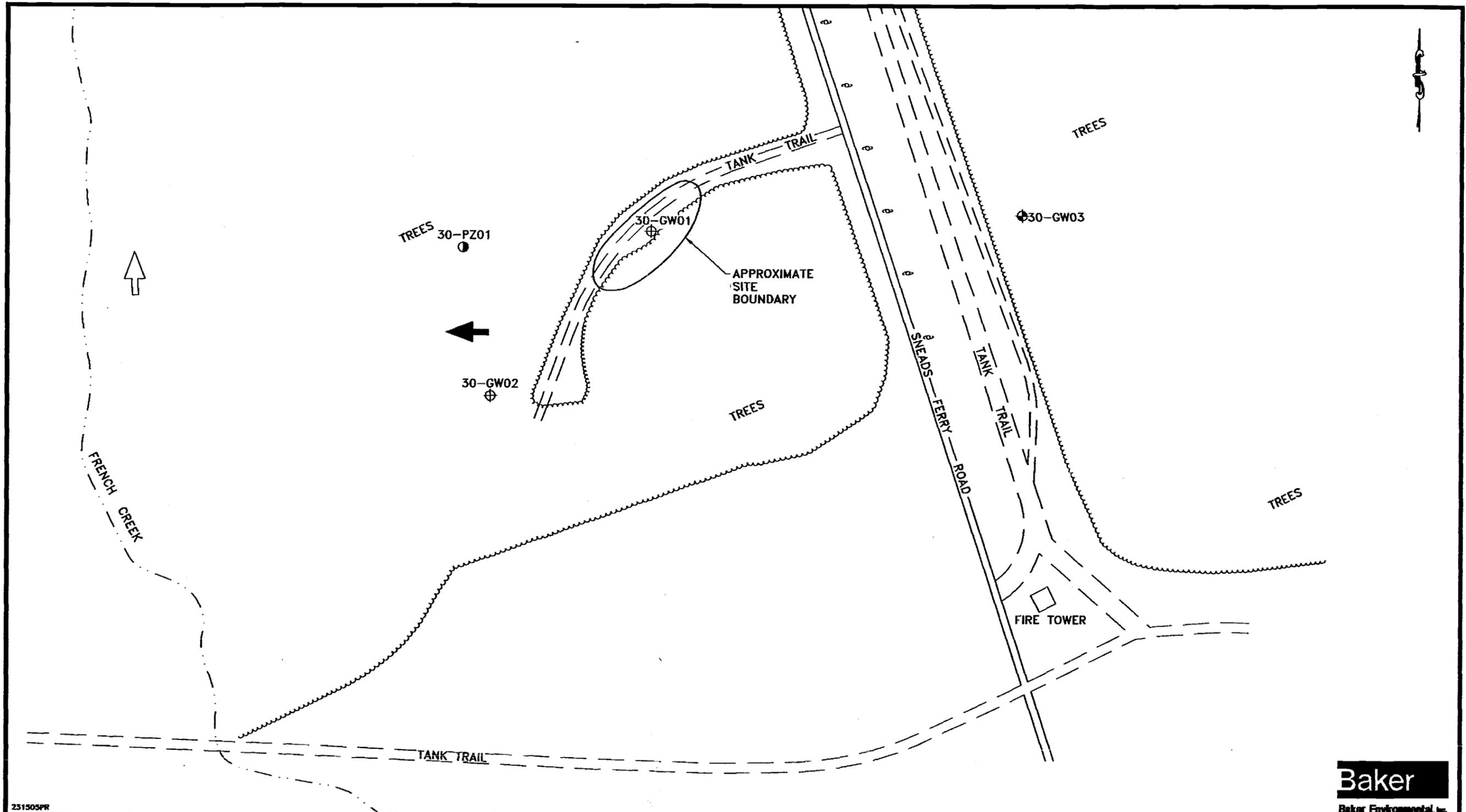
SOURCE: LANTDIV, FEB. 1992 AND W.K. DICKSON, JUNE 1994

300 0 150 300 600

1 inch = 300 ft.

**FIGURE 3**  
**SURFACE AND SUBSURFACE SOIL SAMPLING LOCATIONS**  
**SITE 30 - SNEADS FERRY ROAD FUEL**  
**TANK SLUDGE AREA**

MARINE CORPS BASE, CAMP LEJEUNE  
 NORTH CAROLINA



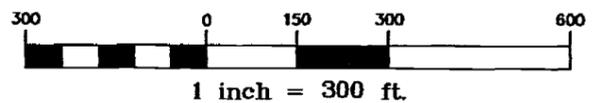
**Baker**  
Baker Environmental, Inc.

251505PR

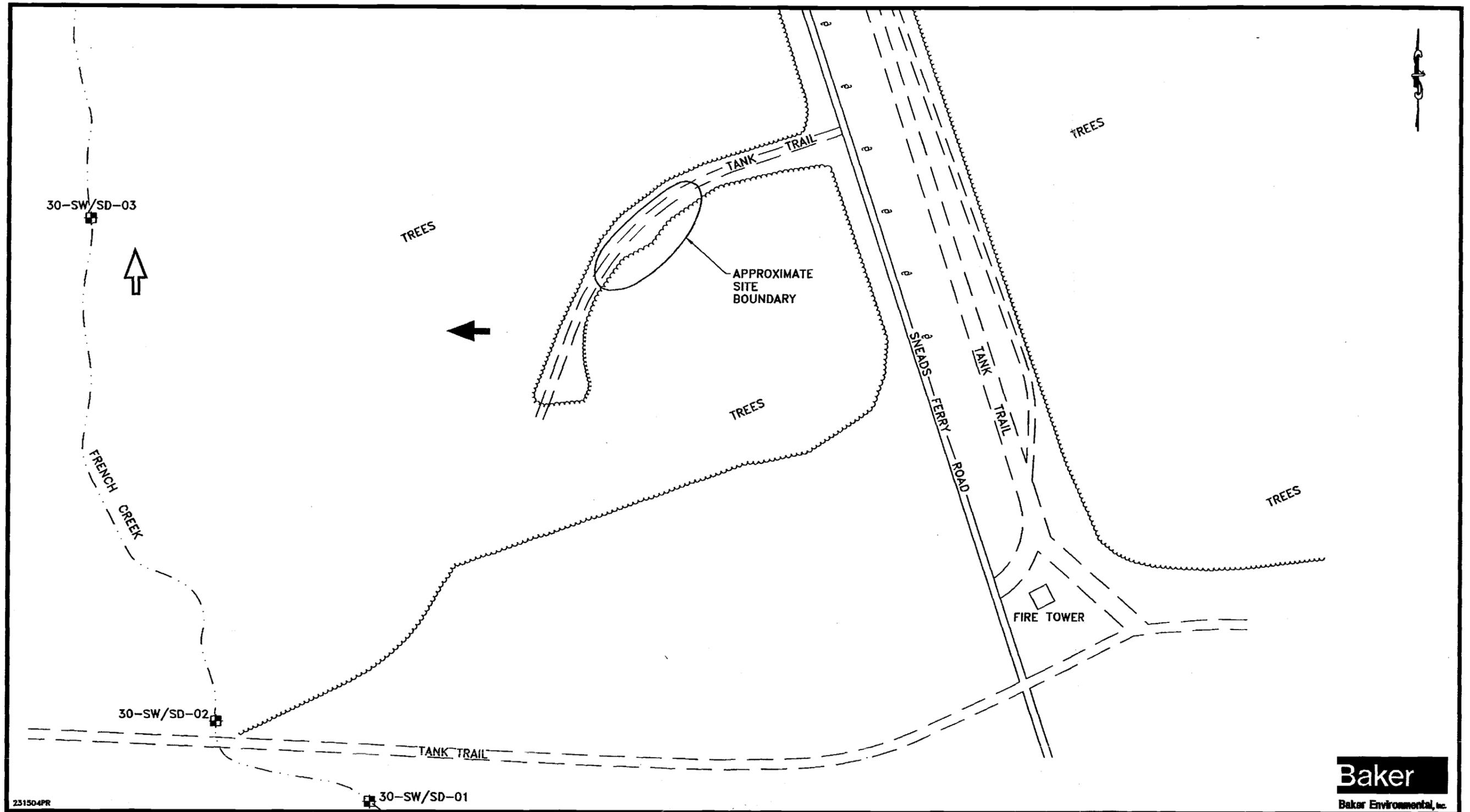
**LEGEND**

- 30-GW01 SHALLOW MONITORING WELL INSTALLED DURING THE CONFIRMATION STUDY
- 30-GW3 SHALLOW MONITORING WELL INSTALLED DURING THE RI
- 30-PZ01 TEMPORARY PIEZOMETER INSTALLED DURING THE RI
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- APPROXIMATE SURFACE WATER FLOW DIRECTION

SOURCE: LANTDIV, FEB. 1992 AND W.K. DICKSON, JUNE 1994



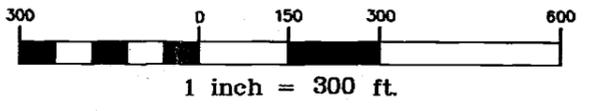
**FIGURE 4**  
**GROUNDWATER SAMPLING LOCATIONS**  
**SITE 30 - SNEADS FERRY ROAD FUEL**  
**TANK SLUDGE AREA**  
**MARINE CORPS BASE, CAMP LEJEUNE**  
**NORTH CAROLINA**



**Baker**  
Baker Environmental, Inc.

251504PR

LEGEND	
30-SW/SD-01	SURFACE WATER/SEDIMENT SAMPLE LOCATION
➔	APPROXIMATE GROUNDWATER FLOW DIRECTION
↘	APPROXIMATE SURFACE WATER FLOW DIRECTION



**FIGURE 5**  
**SURFACE WATER AND SEDIMENT SAMPLING LOCATIONS**  
**SITE 30 - SNEADS FERRY ROAD**  
**FUEL TANK SLUDGE AREA**  
**MARINE CORPS BASE, CAMP LEJEUNE**  
**NORTH CAROLINA**

SOURCE: LANTDIV, FEB. 1992 AND W.K. DICKSON, JUNE 1994

FIGURE 6

FLOWCHART OF POTENTIAL EXPOSURE PATHWAYS AND RECEPTORS  
SITE 30: SNEADS FERRY ROAD FUEL TANK SLUDGE AREA

