03.01- 5/31/94 - 00626

INSTALLATION RESTORATION DIVISION

UNITED STATES MARINE CORPS

COMMANDING GENERAL
AC/S EMD IRD
MARINE CORPS BASE
PSC BOX 20004
CAMP LEJEUNE, NC 28542-0004

ATTN: Kate Landman

DATE: 31 May 1994

FAX #: (804) 322-4805

FROM: Walt Haven

COMMENTS: Here are the pages you did not receive previously.

Whitney

AOI Comments - Draft Work Plan
Sites 3, 7, 16, 80

Matt -
Walt had trouble faxing this to me - this is the ~~the~~ whole set. (I think I traced down all the missing pages!)
-Kate

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PAGE 1 OF 11 PAGES

DRAFT

REMEDIAL INVESTIGATION/FEASIBILITY STUDY WORK PLAN FOR OPERABLE UNIT NO. 8 (SITE 16) OPERABLE UNIT NO. 11 (SITES 7 AND 80) OPERABLE UNIT NO. 12 (SITE 3) CAMP LEJEUNE, NORTH CAROLINA

CONTRACT TASK ORDER 0233

APRIL 4, 1994

Prepared for:

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

Under:

LANTDIV CLEAN Program
Contract N62470-89-D-4814

Prepared by:

BAKER ENVIRONMENTAL, INC.
Coraopolis, Pennsylvania

Base development and is used solely for rifle qualification training. The small group of barracks, located at the Rifle Range, are used for two-week periods by troops assigned to range training.

2.1.2 History and Mission

Construction of MCB Camp Lejeune began in 1941 with the objective of developing the "Worlds Most Complete Amphibious Training Base." Construction of the base started at Hadnot Point, where the major functions of the base are centered. Development at the Camp Lejeune Complex is primarily in five geographical locations under the jurisdiction of the Base Command. These areas include Camp Geiger, Montford Point, Courthouse Bay, Mainside, and the Rifle Range Area. Site 16 is located in the Montford Point Area; Sites 7, 80, and 3 are located on the Mainside.

The MCB organization functions as the host command to the two Fleet Marine Force Atlantic (FMFLANT) tenant activities -- Headquarters of the II Marine Amphibious Division and the 2nd FSSG. The MCB host organization mission is to provide housing, training facilities, logistical support and certain administrative support for tenant units and for other units assigned to MCB Camp Lejeune and to conduct specialized schools and other training maneuvers, as directed.

The mission of the 6th Marine Amphibious Brigade is to provide the Command element for a brigade-size Marine Air Ground Task Force (MAGTF) with the primary mission of preparing to join up with LantCom MPS equipment and to conduct subsequent combat operations.

The mission of the 2nd Marine Division is to execute amphibious assault operations, and other operations as may be directed, which are supported by Marine aviation and force service support units. With the aircraft wing, the Marine division provides combined arms for service with the Fleet in the seizure or defense of advanced naval bases and for the conduct of land operations essential to the prosecution of a naval campaign.

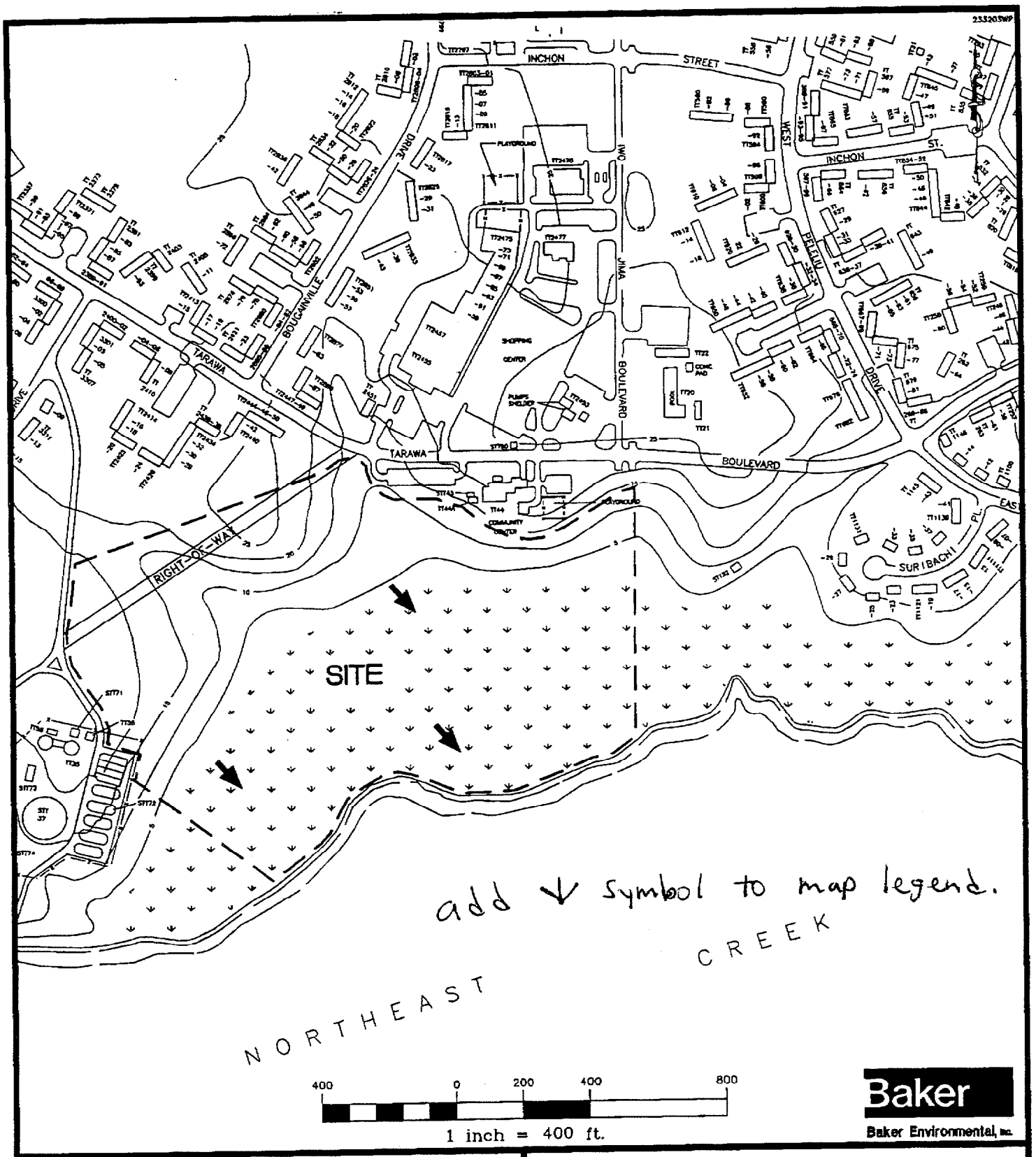
The mission of the 2nd FSSG is to command, administer and train assigned units in order to provide combat service and technical support as required by Headquarters FMFLANT and its subordinate command in accomplishment of the overall FMFLANT mission.

2.1.3 Previous Investigations

In response to the passage of CERCLA, the DoN initiated the Navy Assessment and Control of Installation Pollutants (NACIP) program to identify, investigate, and clean up past hazardous waste disposal sites at Navy installations. The NACIP investigations were conducted by the Navy Energy and Environmental Support Activity (NEESA) and consisted of Initial Assessment Studies (IAS) and Confirmation Studies. IAS are similar to the USEPA's Preliminary Assessments/Site Investigations (PAs/SIs). Confirmation Studies are similar to USEPA's RI/FS. When the Superfund Amendment and Reauthorization Act (SARA) was passed in 1986, the DoN dissolved the NACIP in favor of the Installation Restoration Program (IRP), which adopted USEPA Superfund terminology and procedures.

The IAS for MCB Camp Lejeune was conducted by Water and Air Research, Inc., (WAR) in 1983. The IAS identified a number of sites at MCB Camp Lejeune as potential sources of contamination, including the sites discussed in this RI/FS Work Plan. Based on historical records, aerial photographs, field inspections, and personnel interviews, the IAS identified 76 sites at MCB Camp Lejeune as potential sources of contamination. Of these 76 sites, 27 sites warranted further investigation to assess potential long-term impacts based on contamination characteristics, migration pathways, and pollutant receptors.

Halliburton NUS Environmental Corporation (Halliburton NUS), under Contract Number 62470-90-R-7629 prepared Site Inspection Reports for the Department of the Navy, Atlantic Division, for MCB, Camp



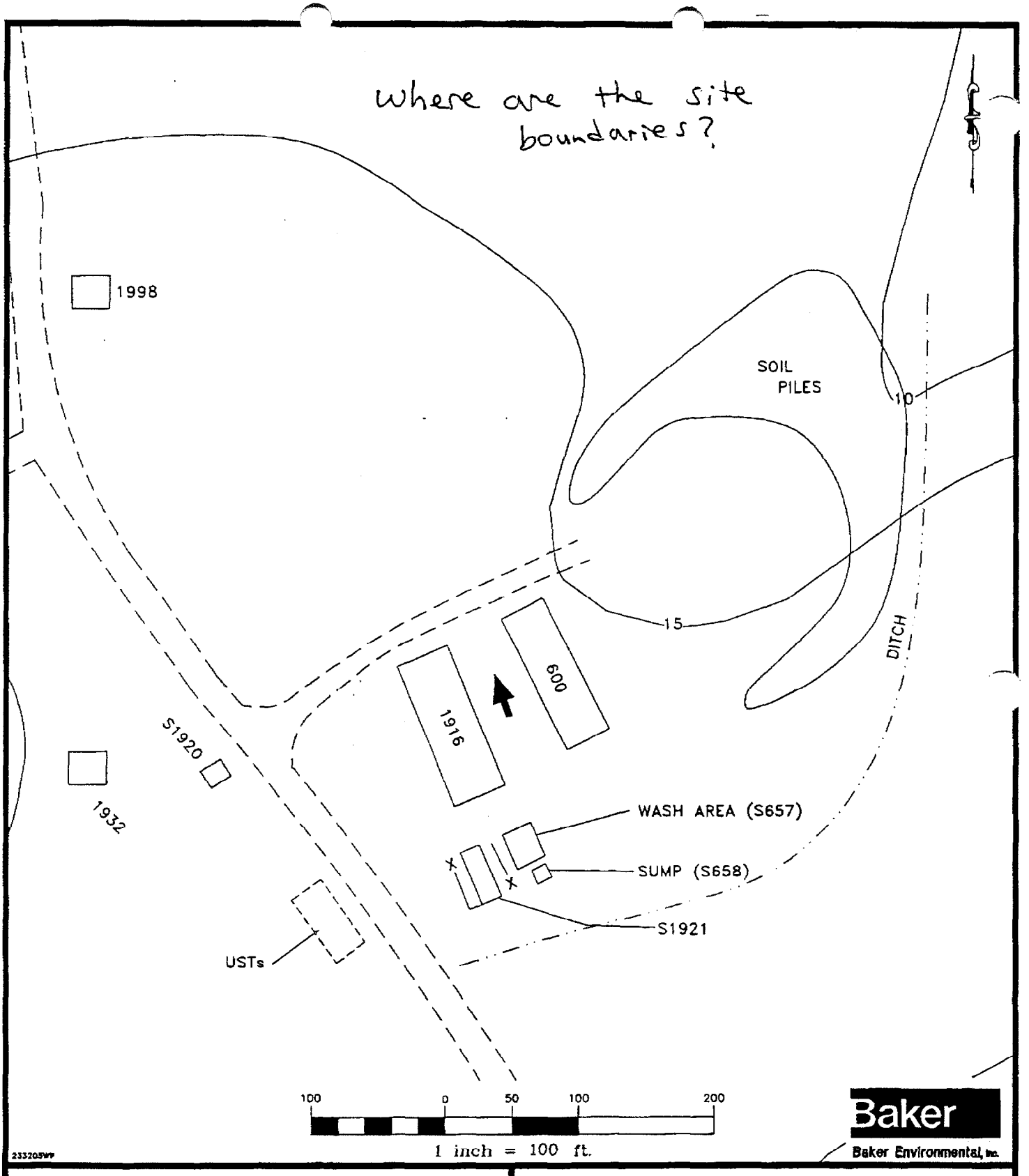
LEGEND

→ GENERAL GROUNDWATER FLOW DIRECTION

SOURCE: LANTDIV., FEB. 1992

FIGURE 2-5
SITE LOCATION MAP
SITE 7 – TARAWA TERRACE DUMP
CTO-0233

MARINE CORPS BASE, CAMP LEJEUNE
NORTH CAROLINA

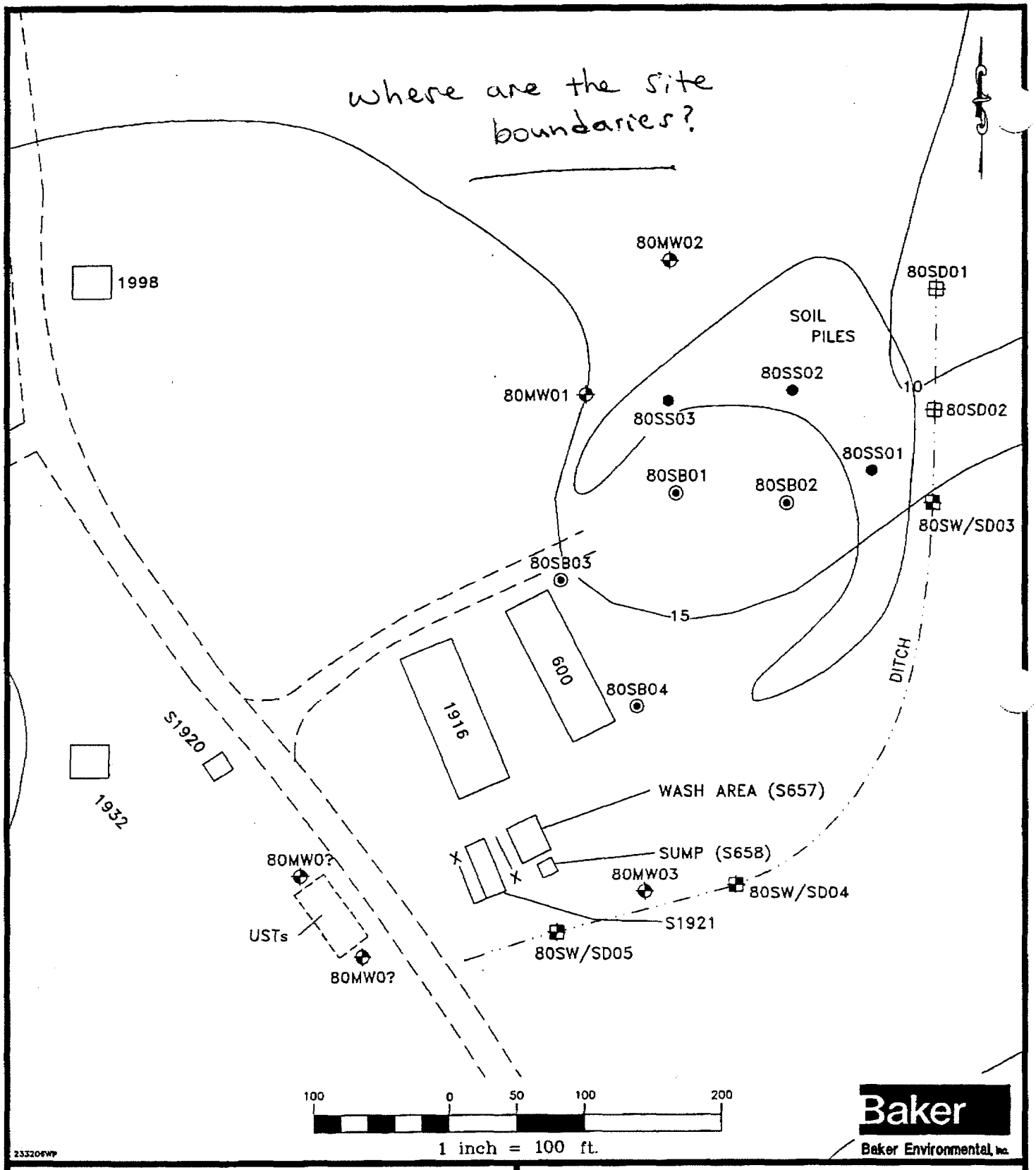


LEGEND

→ GENERAL GROUNDWATER FLOW DIRECTION

SOURCE: LANTDIV, FEB. 1992

FIGURE 2-7
SITE LOCATION MAP
SITE 80 – PARADISE POINT
GOLF COURSE MAINTENANCE AREA
CTO-0233
MARINE CORPS BASE, CAMP LEJEUNE
NORTH CAROLINA



LEGEND

80MW01 ◈	EXISTING MONITORING WELL INSTALLED BY HALLIBURTON NUS, NOVEMBER 1991
80SB01 ◉	EXISTING SOIL BORING INSTALLED BY HALLIBURTON NUS, NOVEMBER 1991
80SD01 ⊞	EXISTING SEDIMENT SAMPLE INSTALLED BY HALLIBURTON NUS, NOVEMBER 1991
80SW/SD03 ⊞	EXISTING SURFACE WATER/SEDIMENT SAMPLE INSTALLED BY HALLIBURTON NUS, NOVEMBER 1991
80SS01 ●	EXISTING SURFACE SOIL SAMPLE INSTALLED BY HALLIBURTON NUS, NOVEMBER 1991

SOURCE: LANTDIV, FEB. 1992

FIGURE 2-8
PREVIOUS INVESTIGATION SAMPLING LOCATIONS
SITE 80 – PARADISE POINT GOLF COURSE MAINTENANCE AREA
CTO-0233
MARINE CORPS BASE, CAMP LEJEUNE
NORTH CAROLINA

2.5 Operable Unit No. 12 (Site 3) - Old Creosote Plant

This section addressees the setting, site topography and drainage features, site history, site geology and hydrogeology for Site 80 - Old Creosote Plant. Section 2.5.5 discusses previous investigation findings.

2.5.1 Site Location and Setting

The Old Creosote Plant area is located on the mainside portion of MCB Camp Lejeune, approximately one quarter mile east of Holcomb Boulevard and one mile north of Wallace Creek. The general site location is shown on Figure 2-9. Remnants of the former creosote plant including a chimney, concrete pads, and train rails are present in the southern portion of the site. The cleared area in the northern portion of the site was reported to be the location of the former sawmill.

The site area encompasses approximately 5 acres, is generally flat and unpaved, and is intersected by a dirt access road. Access to the site is unrestricted. The study area can be directly accessed from Holcomb Boulevard. The Camp Lejeune Railroad lies approximately 200 feet to the west of the study area. The remainder of the area is surrounded by woods.

2.5.2 Site Topography and Drainage

The study area is relatively flat, mostly cleared parcel of land. During periods of heavy rain the western area of the site exhibited several areas of standing water. Surface water runoff from the site flows in both an easterly and westerly direction since runoff ditches flank both the eastern and western edges of the site. To the east is a small drainageway in which ponded water is evident during periods of heavy rain. To the west of the site are drainage areas which parallel the Camp Lejeune Railroad and Holcomb Boulevard. None of these potential drainage areas were under flow conditions during the March 1994 reconnaissance.

2.5.3 Site History

The old creosote plant reportedly operated from 1951 to 1952 to supply treated lumber during construction of the base railroad. Logs were cut into railroad ties at an on-site sawmill, then pressure treated with hot creosote stored in a railroad tank car. There is no indication of creosote disposal on site, and records show that creosote remaining in the pressure chamber at the end of the treatment cycle was stored for future use. Historical information indicates that the on-site sawmill was located the north of the current dirt access road.

2.5.4 Site Geology and Hydrogeology

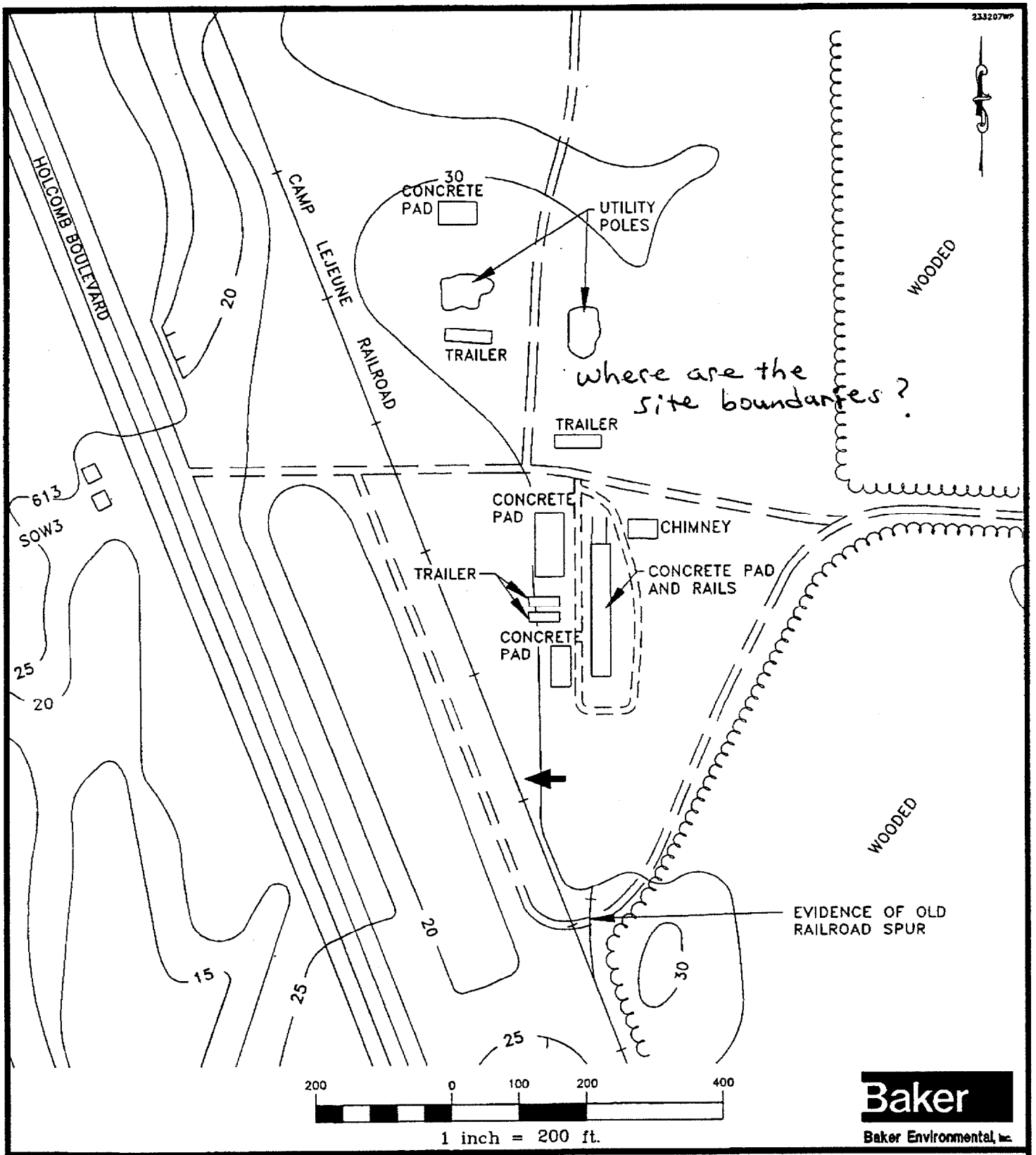
Based on the drilling program employed during previous investigations, the soil investigation was confined to the top 25 feet of the subsurface. As a result, the geologic conditions at the site have been defined only to a depth of 25 feet.

what type of rock?

The shallow subsurface geology of the study area consist of a surficial layer of unconsolidated fine grained sand with varying amounts of silt and rock fragments. This surficial layer is underlain by fine grained sand with thin, discontinuous silty sand lenses. Soil density ranges from very loose to medium dense.

The water table is located near the surface sands at depths ranging from approximately 8 to 25 feet below the ground surface. The large range in the groundwater levels is believed to be caused by a rapid and pronounced change in surface topography across a relatively small area (Halliburton NUS, 1991); however, this will be verified during the RI. Along the western edge of the site is a 10- to 15-foot drop in elevation to the Camp Lejeune Railroad bed. The close proximity of well 3MW01 to this drop off, ~~result~~ in a low water level in the wells. Based on the general topography of the site it is likely that local groundwater

results



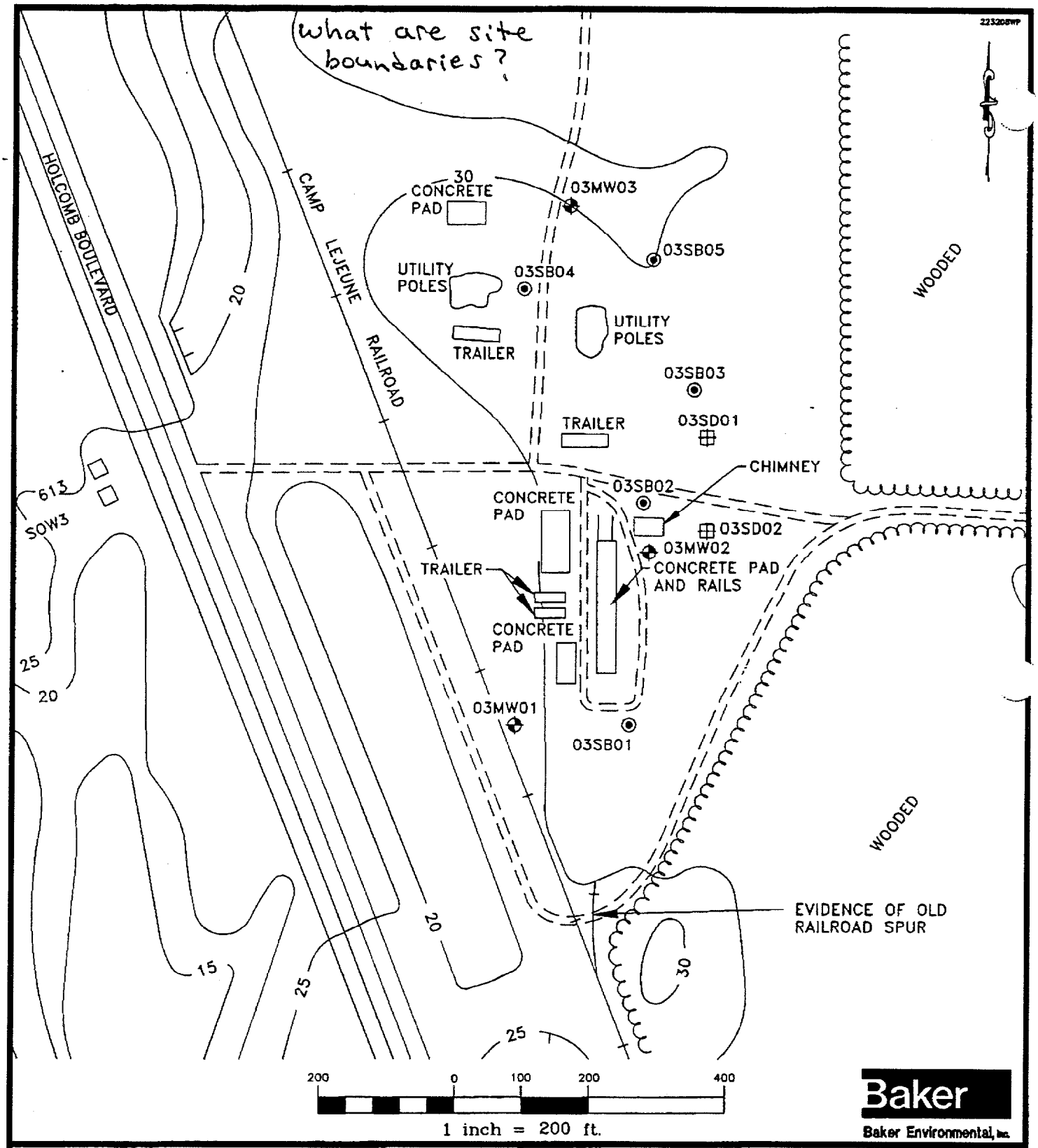
LEGEND

→ GENERAL GROUNDWATER FLOW DIRECTION

SOURCE: LANTDIV, FEB. 1992

FIGURE 2-9
SITE LOCATION MAP
SITE 3 - OLD CREOSOTE PLANT
CTO-0233

MARINE CORPS BASE, CAMP LEJEUNE
NORTH CAROLINA

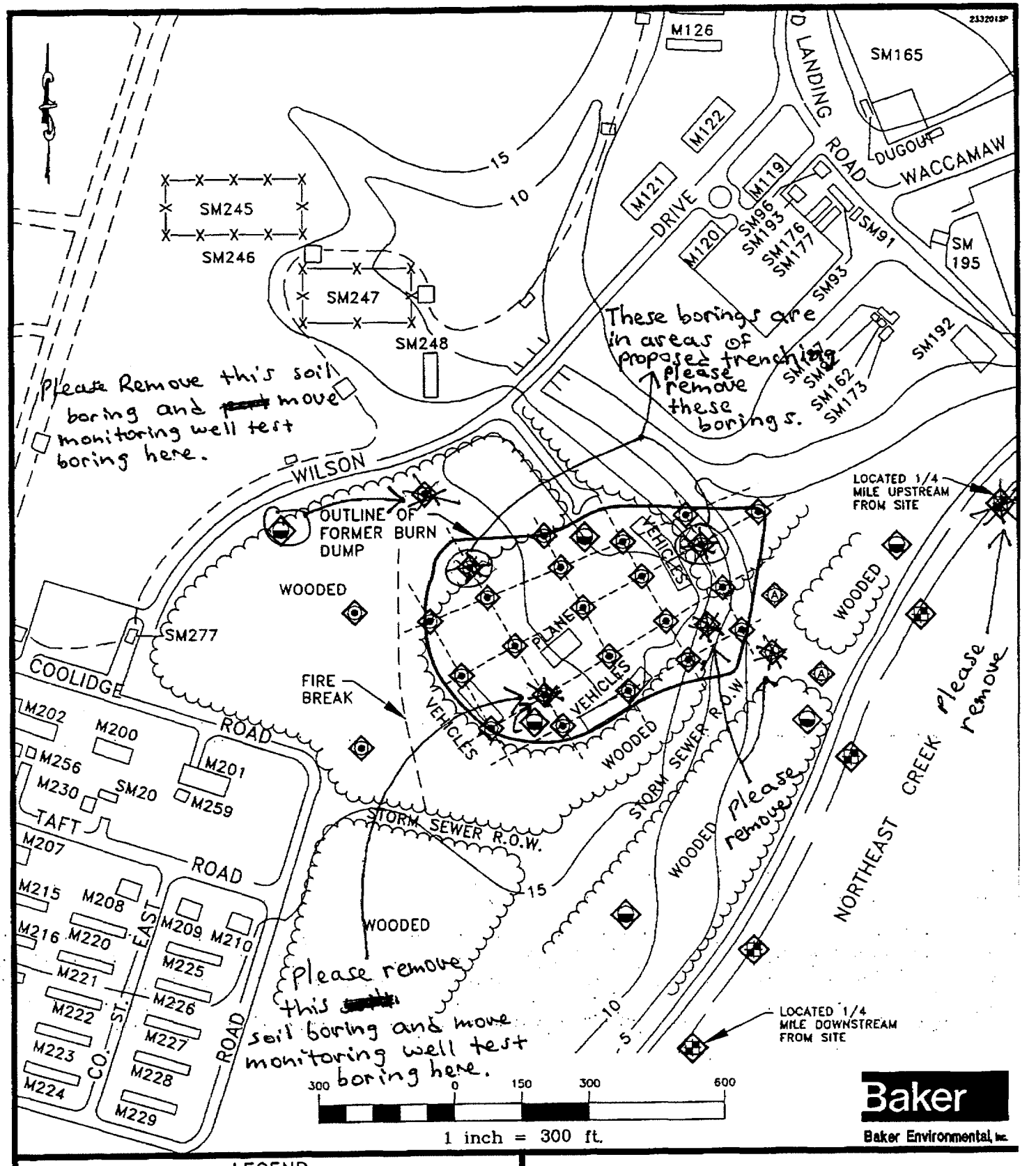


LEGEND

- 03MW01 ⊕ MONITORING WELL INSTALLED BY HALLIBURTON NUS, NOVEMBER 1991
- 03SB01 ◉ SOIL BORING INSTALLED BY HALLIBURTON NUS, NOVEMBER 1991
- 03SD01 ⊞ SEDIMENT SAMPLE LOCATION INSTALLED BY HALLIBURTON NUS, NOVEMBER 1991

SOURCE: LANTDIV, FEB. 1992

FIGURE 2-10
PREVIOUS INVESTIGATION SAMPLING LOCATIONS
SITE 3 – OLD CREOSOTE PLANT
CTO-0233
MARINE CORPS BASE, CAMP LEJEUNE
NORTH CAROLINA



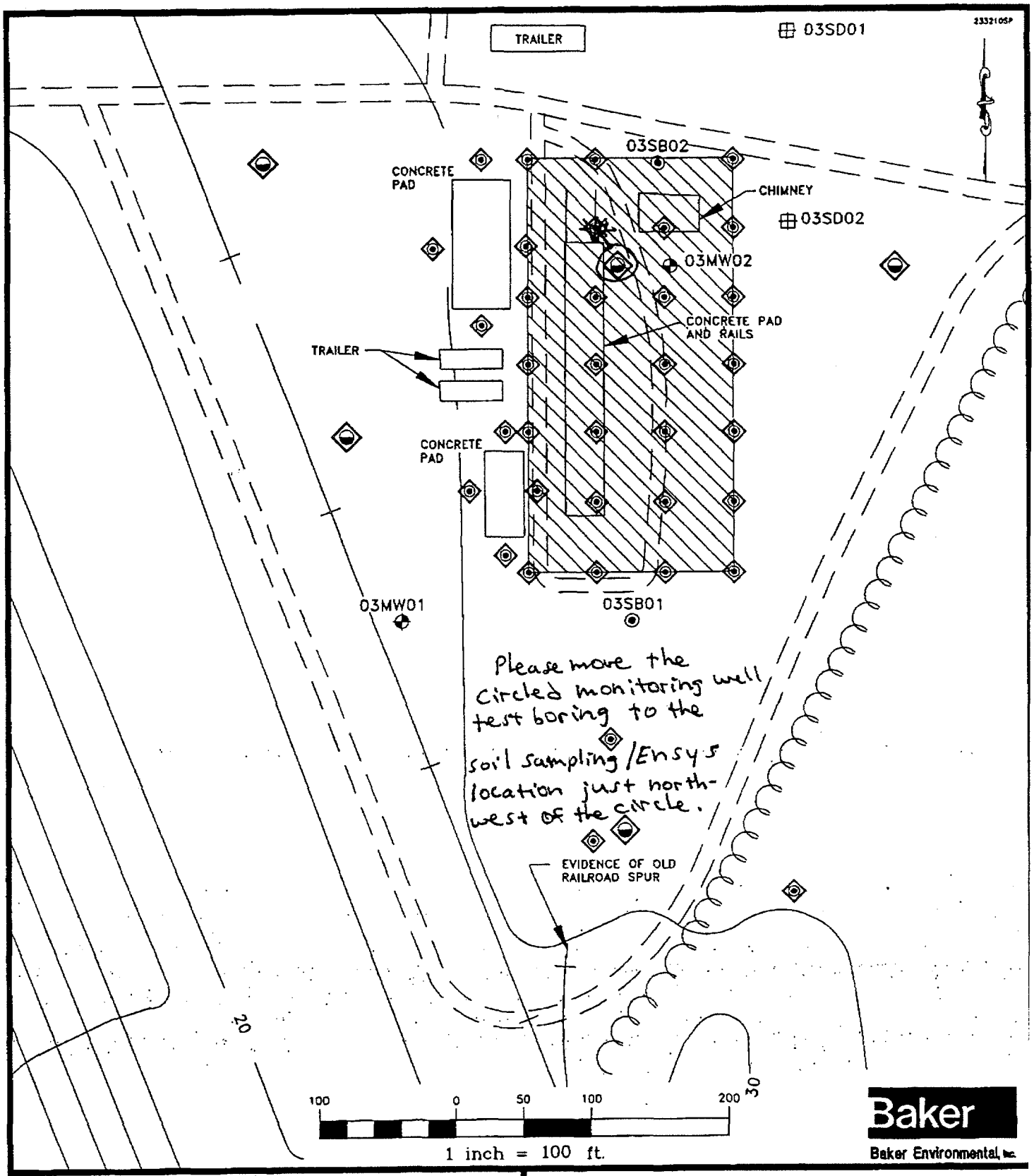
LEGEND

- PROPOSED HAND AUGER SAMPLE LOCATION
- PROPOSED SOIL BORING LOCATION
- PROPOSED SURFACE WATER/SEDIMENT SAMPLE LOCATION
- PROPOSED SOIL BORING (MONITORING WELL TEST BORING)

SOURCE: LANTDIV, FEB., 1992

FIGURE 3-1
SOIL INVESTIGATION
SITE 16-MONTFORD POINT BURN DUMP
CTO-0233

MARINE CORPS BASE, CAMP LEJUENE
NORTH CAROLINA

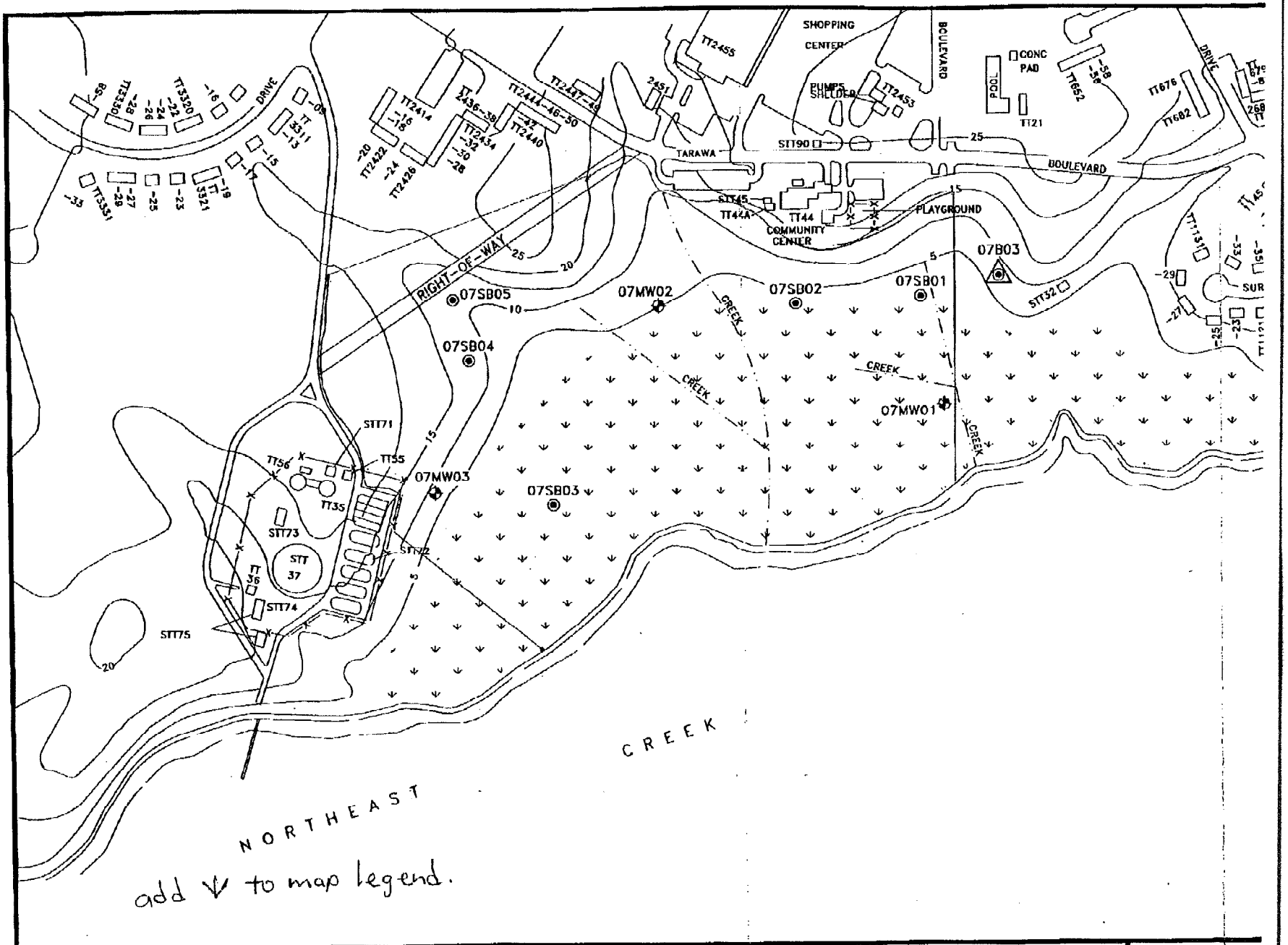


LEGEND

- 03MW01 — MONITORING WELL INSTALLED BY HALLIBURTON NUS, NOVEMBER 1991
- 03SB01 — SOIL BORING INSTALLED BY HALLIBURTON NUS, NOVEMBER 1991
- 03SD01 — SEDIMENT SAMPLE LOCATION INSTALLED BY HALLIBURTON NUS, NOVEMBER 1991
- PROPOSED ENSYS TESTING
- PROPOSED SOIL BORING (MONITORING WELL TEST BORING)
- AREA OF CONCERN

SOURCE: LANTDIV, FEB. 1992

FIGURE 3-10
SOIL INVESTIGATION
SOUTH AREA – SITE 3
OLD CREOSOTE PLANT
CTO-0233
MARINE CORPS BASE, CAMP LEJEUNE
NORTH CAROLINA



add ↓ to map legend.

LEGEND

07MW01 EXISTING MONITORING WELL INSTALLED BY HALLIBURTON NUS, NOVEMBER 1991

07SB01 EXISTING SOIL BORING INSTALLED BY HALLIBURTON NUS, NOVEMBER 1991

07B03 EXISTING BACKGROUND SOIL BORING INSTALLED BY HALLIBURTON NUS, NOVEMBER 1991

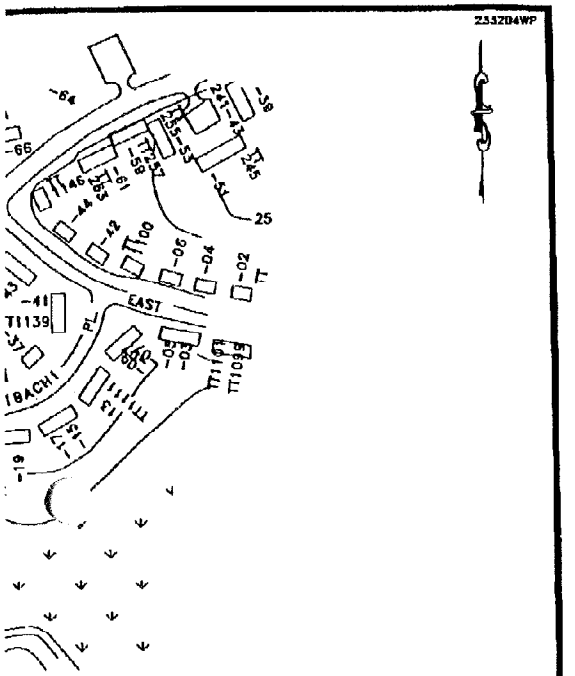
SOURCE: LANTDIV, FEB. 1992

300 0 150 300 600

1 inch = 300 ft.

PREVIOUS SITE

MA

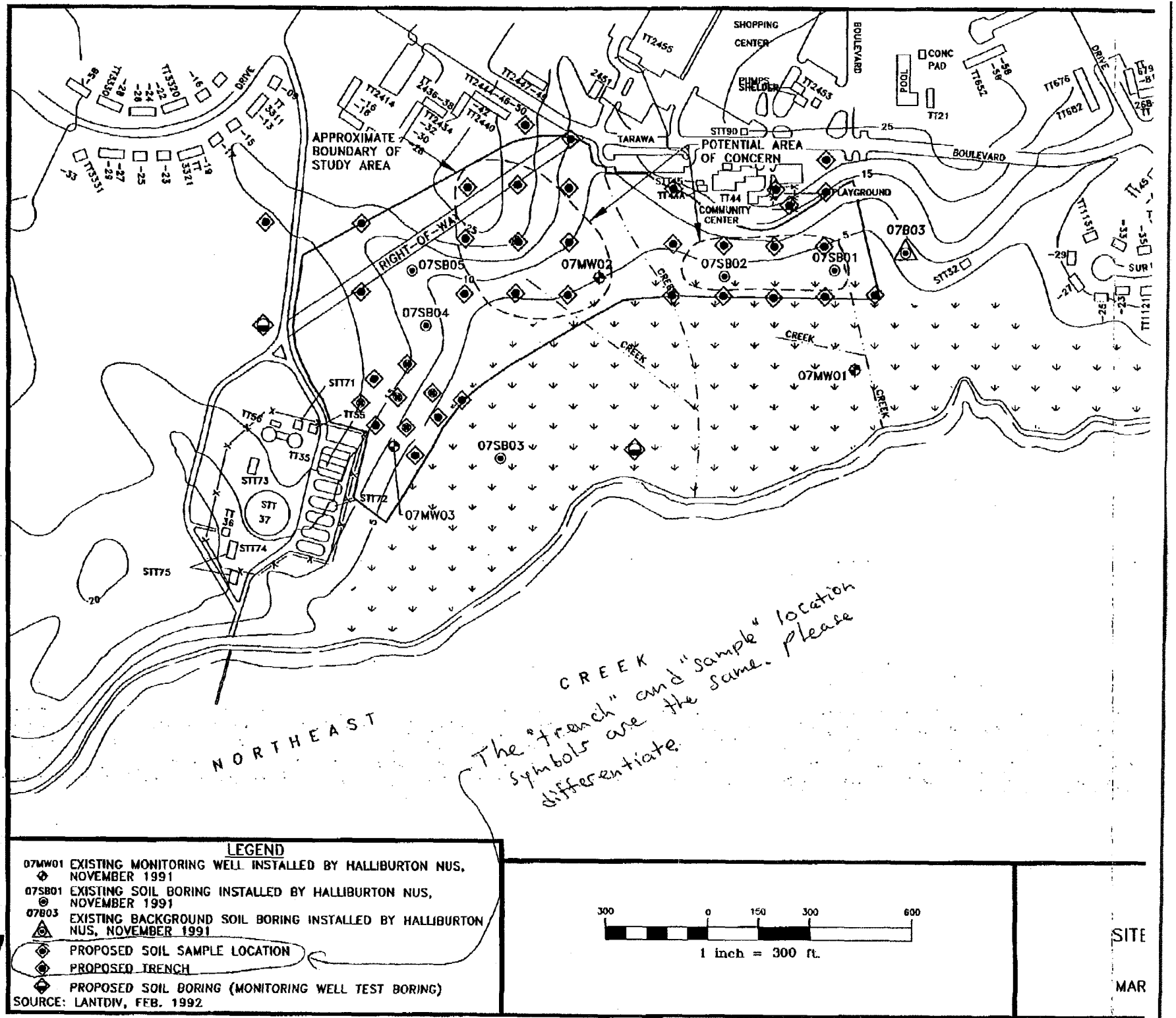


Baker

Baker Environmental, Inc.

FIGURE 2-6
INVESTIGATION SAMPLE LOCATIONS
7 – TARAWA TERRACE DUMP
CTO-0233

RINE CORPS BASE, CAMP LEJEUNE
NORTH CAROLINA



LEGEND

07MW01 EXISTING MONITORING WELL INSTALLED BY HALLIBURTON NUS, NOVEMBER 1991

07SB01 EXISTING SOIL BORING INSTALLED BY HALLIBURTON NUS, NOVEMBER 1991

07B03 EXISTING BACKGROUND SOIL BORING INSTALLED BY HALLIBURTON NUS, NOVEMBER 1991

PROPOSED SOIL SAMPLE LOCATION

PROPOSED TRENCH

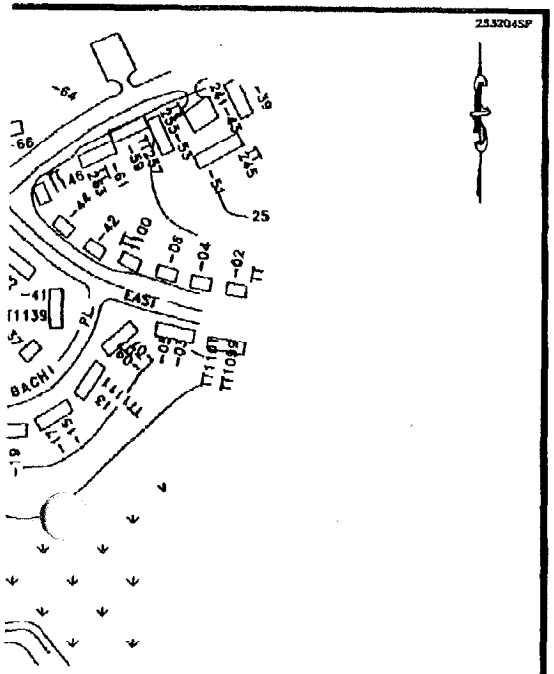
PROPOSED SOIL BORING (MONITORING WELL TEST BORING)

SOURCE: LANTDIV, FEB. 1992

300 0 150 300 600

1 inch = 300 ft.

The "trench" and "sample" location symbols are the same. Please differentiate.

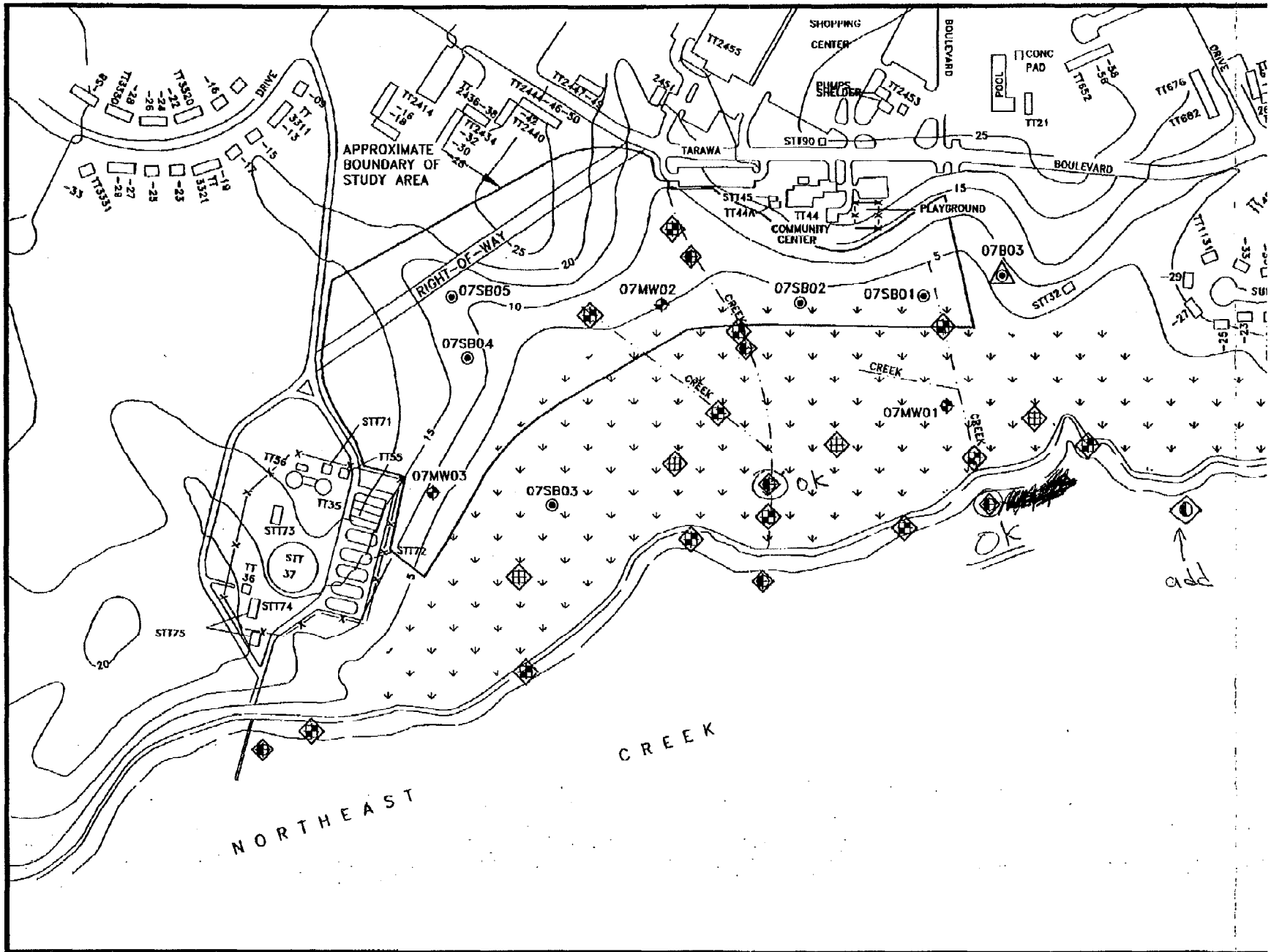


Baker

Baker Environmental, Inc.

FIGURE 3-4
SOIL INVESTIGATION
7-TARAWA TERRACE DUMP
CTO-0233

INE CORPS BASE, CAMP LEJEUNE
NORTH CAROLINA



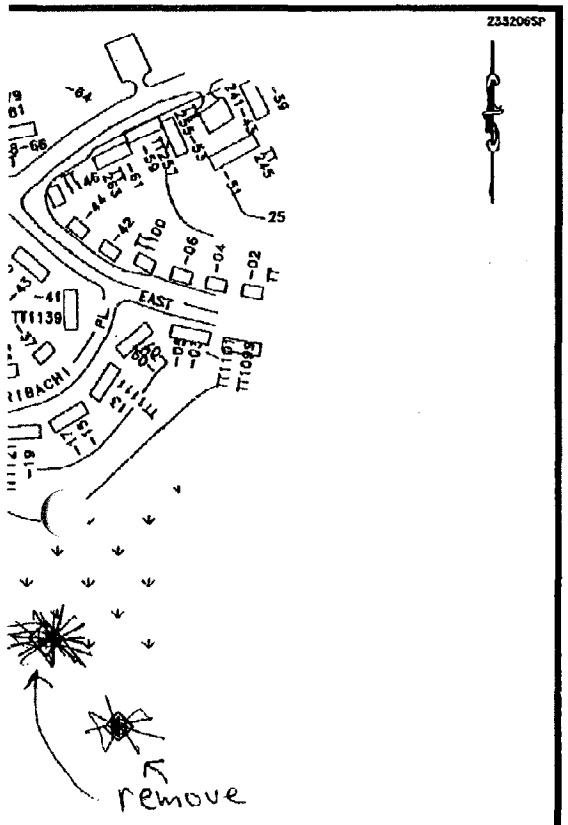
LEGEND

- 07MW01 — EXISTING MONITORING WELL INSTALLED BY HALLIBURTON NUS, NOVEMBER 1991
- 07SB01 — EXISTING SOIL BORING INSTALLED BY HALLIBURTON NUS, NOVEMBER 1991
- 07B03 — EXISTING BACKGROUND SOIL BORING INSTALLED BY HALLIBURTON NUS, NOVEMBER 1991
- PROPOSED SURFACE WATER/SEDIMENT SAMPLE LOCATION
- PROPOSED SEDIMENT SAMPLE LOCATION
- PROPOSED BENTHIC SAMPLE LOCATION

SOURCE: LANTDIV, FEB. 1992

300 0 150 300 600

1 inch = 300 ft.



Baker

Baker Environmental, Inc.

FIGURE 3-6
ECOLOGICAL INVESTIGATION
E 7-TARAWA TERRACE DUMP
CTO-0233

INE CORPS BASE, CAMP LEJEUNE
NORTH CAROLINA

****
*** ACTIVITY REPORT ***
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to Matt Bartman
1st 4 pages of Cena's letter

Still need
① 21 pages
② 10 pages
} Attachments

Walt's comments to Ray - 8 pages

Walt's Comments on 3, 7, 16 & 30 - need to get complete from CLET.

~~Dan Bonk~~
~~NC DEHNR~~ ~~5 pages~~
~~VEXA~~