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**Contract Number N62474-88-D-5086**

**Contract Task Order 0236**

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**NAVAL AIR STATION  
MOFFETT FIELD, CALIFORNIA**

**DRAFT ADDITIONAL  
PETROLEUM SITES INVESTIGATION  
TECHNICAL MEMORANDUM**

**Prepared by**

**PRC ENVIRONMENTAL MANAGEMENT, INC.  
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**June 10, 1994**

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June 10, 1994

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CLEAN Contract Number N62474-88-D-5086  
Contract Task Order 0236

**Subject: Draft Additional Petroleum Sites Investigation Technical Memorandum,  
Naval Air Station Moffett Field**

Dear Stephen and Hubert:

Enclosed please find three copies of the above-referenced report prepared by PRC Environmental Management, Inc. (PRC). Copies have also been sent to the regulatory agencies.

If you have any questions or comments, please call us at (303) 295-1101.

Sincerely,

A handwritten signature in cursive script that reads "Steve Annecone".

Steve Annecone  
Project Engineer

A handwritten signature in cursive script that reads "Michael N. Young".  
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SDA/mkf

Enclosure

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## **1.0 INTRODUCTION**

This technical memorandum documents the results of field investigations to further characterize soil and groundwater contamination at Naval Air Station (NAS) Moffett Field near Mountain View, California. It discusses field activities conducted during January and February 1994 to support the additional investigation of petroleum sites and wastewater tanks and sumps. The specific areas investigated here have been designated as Installation Restoration Program (IRP) Sites 5, 9, 15, and 19.

This technical memorandum is presented in six sections and is accompanied by appendices. Section 1.0 presents an introduction to the investigation and gives an overview of the report organization. Section 2.0 presents the purpose of the investigation. Section 3.0 provides a brief description of background information concerning NAS Moffett Field. Section 4.0 provides a detailed description of the field investigation activities. Section 5.0 presents the results of these activities. Section 6.0 contains references cited in the report. The appendices present the cone penetrometer test (CPT) data, soil boring logs, monitoring well installation diagrams, soil and groundwater sample analytical results, and soil geotechnical results.

## **2.0 PURPOSE AND SCOPE**

The purpose of this investigation was to gather information necessary to further assess the vertical and lateral extent of contamination at Sites 5, 9, 15, and 19. This entailed collecting soil samples, installing groundwater monitoring wells, collecting groundwater samples, and analyzing the resulting soil and water samples to further evaluate the extent of contamination in areas that were inadequately characterized. As indicated in the petroleum sites characterization report (PRC 1994a), site contamination data gaps existed that precluded the completion of a final corrective action plan (CAP). Integration of data derived from the field investigation with existing data should provide the information necessary to complete the final CAP and will aid in the design of any remedial measures that may be necessary.

The Navy has prepared reports from previous investigations at these petroleum sites, including the initial assessment study (IAS) (NEESA 1984), the operable unit 2 remedial investigation report (IT 1993), the tank and sump removal summary report (PRC 1991), and the additional tank and sump field investigation technical memorandum (PRC 1993) among others. Still, further information was

required for these sites before completion of a final CAP. Specific areas addressed by the additional petroleum sites investigation (PRC 1994b) included Site 5 soils and groundwater, Site 9 soils, Site 15 soils and groundwater, and Site 19 soils and groundwater. This technical memorandum describes the field work and reports results from the investigation. The field activities conducted for the investigation of these sites are discussed in detail in Section 4.0.

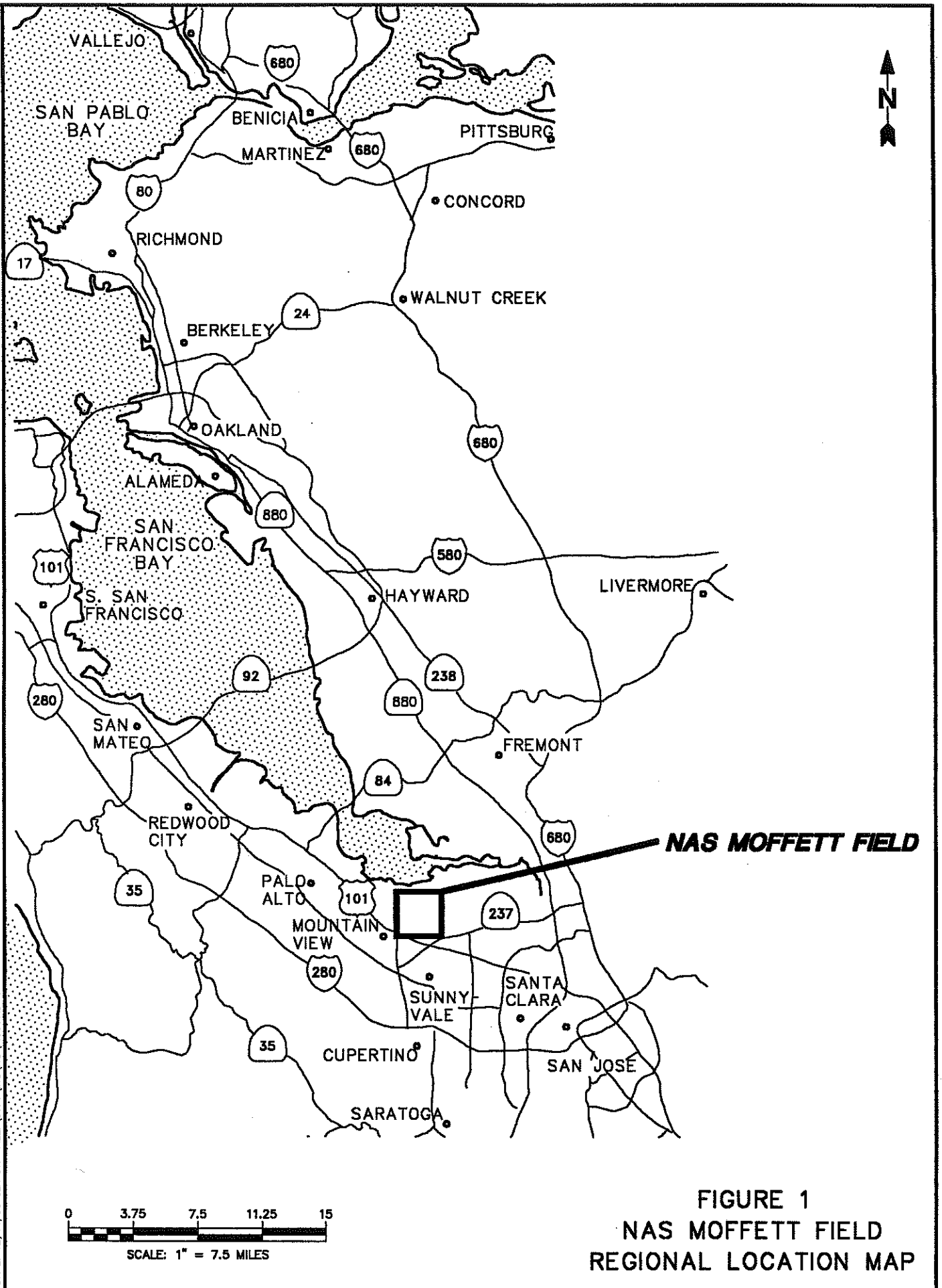
### **3.0 SITE BACKGROUND**

NAS Moffett Field is located about 1 mile from the southern end of San Francisco Bay, adjacent to the cities of Mountain View and Sunnyvale, California (Figure 1). The facility encompasses 2,200 acres in Santa Clara County. Since the 1950s, the primary mission of NAS Moffett Field has been to support antisubmarine warfare training and patrol squadrons. NAS Moffett Field is designated for closure as an active military base under the Department of Defense (DOD) Base Realignment and Closure (BRAC) program. The National Aeronautics and Space Administration (NASA), which operates the Ames Research Center on the northern side of NAS Moffett Field, is scheduled to assume control of the facility by July 1994.

The U.S. Environmental Protection Agency (EPA) proposed NAS Moffett Field as a National Priorities List (NPL) site in June 1986 and placed it on the NPL in July 1987. Placement on the NPL initiated the remedial investigation and feasibility study (RI/FS) process under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Environmental investigation and restoration activities at NAS Moffett Field are coordinated under a federal facilities agreement (FFA) signed by the EPA, the California EPA Department of Toxic Substances Control (DTSC), and the California Regional Water Quality Control Board, San Francisco Bay Region (RWQCB).

The Navy, as part of the IRP, has been identifying and evaluating past hazardous waste sites and controlling the spread of contaminants from these sites. The Navy began its environmental investigation of NAS Moffett Field in 1984 with an IAS to gather data on the past use and disposal of hazardous materials (NEESA 1984). Nineteen sites have been identified as potential sources of waste, including nine sites identified in the IAS and 10 sites added during subsequent investigations (ERM and AR 1986a, 1986b; ESA and JMM 1986; ERM 1987). Data collected during these studies were used to plan the RI/FS for NAS Moffett Field. In December 1991, the Navy, EPA, DTSC, RWQCB formally agreed to the division of NAS Moffett Field into six operable units (OUs) and modified the FFA to incorporate them. The OUs, as originally identified, included:





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FIGURE 1  
NAS MOFFETT FIELD  
REGIONAL LOCATION MAP

- OU1 - IRP Sites 1 and 2 soils
- OU2 - IRP Sites 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17, 18, and 19 soils
- OU3 - IRP Sites 12 and 15 soils
- OU4 - Aquifers on the western side of the station
- OU5 - Aquifers on the eastern side of the station
- OU6 - Wetland areas

In October 1992, EPA determined that the aquifers on the western side of NAS Moffett Field were affected by the regional volatile organic compound (VOC) plume emanating from the Middlefield Ellis Whisman (MEW) Superfund sites and that these aquifers were subject to the 1989 record of decision (ROD) already written for the MEW sites to direct the remediation of these aquifers.

Consequently, OU4 was deleted and OU5 was modified to include all aquifers not part of the regional VOC plume. Similarly, EPA considered the IRP soil sites overlying the regional VOC plume also subject to the MEW ROD. Therefore, OU2 was separated into OU2-West (Sites 8, 9, 10, 14, 16, 17, 18, and 19, which overlie the regional VOC plume) and OU2-East (Sites 3, 4, 6, 7, 10, 11, 13, and 19, which do not overlie the regional VOC plume). Because some of the IRP sites are large or composed of multiple subsites, some are included in both divisions of OU2. In October 1993, the Navy and the regulatory agencies agreed that OU1 also should include groundwater. Therefore, OU1 was redefined as soil and groundwater at Sites 1 and 2 and OU5 was further modified to exclude the groundwater associated with OU1.

In addition, petroleum-contaminated soils (primarily OU3) and groundwater were removed from the RI/FS process pursuant to the CERCLA petroleum exclusion. Regulatory requirements for petroleum sites and wastewater tanks and sumps will be evaluated on a site-specific basis. For example, although excluded from CERCLA, investigation and closure of petroleum tanks should be consistent with the state and federal regulations cited in the FFA: Sections 6001, 7003, and 9007 of the Resource Conservation and Recovery Act (RCRA); Title 40 Code of Federal Regulations (CFR) Part 280; California Health and Safety Code Division 20, Chapters 6.5, 6.7, 6.75 and 6.8; California Water Code Division 7; Title 23 California Code of Regulations Division 3, Chapter 16; and water quality control plans, as applicable. Additionally, the state has prepared general guidance (RWQCB 1990; SWRCB 1989) for petroleum and underground storage tank (UST) investigations and closures. Investigation and closure of wastewater tanks and sumps are not excluded from CERCLA and will be addressed under the provisions of CERCLA.

Site 5, known as the active fuel farm, is still operating as the main fuel facility for NAS Moffett Field. The fuel facilities, including 18 tanks, are located on the eastern edge of NAS Moffett Field, east of Hangars 2 and 3. Site 9 is located on the western side of NAS Moffett Field and includes the old fuel farm (Building 29 area) and the old Naval Exchange (NEX) gas station (Building 31 area). The investigation also included the Tanks 1 and 32 area adjacent to Building 10. These Site 9 areas are inactive and all associated tanks have been removed. The Site 15 sumps recently investigated were Sumps 59, 63, and 130. Sump 59 is an active oil/water separator next to Building 684. Sump 63, located adjacent to Building 142, is active and is used to collect equipment-cleaning wastewaters. Sump 130, formerly referenced as Sump 65, is inactive and was used in the past to neutralize battery wastes near the Building 575 battery locker. A review of drawings of record showed that Sump 65 never existed, and that floor drains were routed to a double-chambered manhole connected to the sanitary sewer system. This manhole is properly referred to as Sump 130 even though previous reports may have called it Sump 65. Because the correct nomenclature was only recently understood, Sump 130 soil and groundwater sample identifications listed in this report include "65" in their prefixes. The Site 19 tanks investigated here included former Tanks 2, 43, and 53. Tanks 2 and 43 were used to store various wastewaters and were located just east of Hangar 3. Tank 53 was located near Marriage Road at the golf course maintenance area and was used to store unleaded gasoline. Tanks 2, 43, and 53 have been removed. More detailed information on these sites can be found in the petroleum sites characterization report (PRC 1994a).

#### **4.0 FIELD ACTIVITIES SUMMARY**

The following sections describe the field activities conducted during this investigation. Each section discusses the field activities including sampling and deviations from the field work plan (PRC 1994b). A summary of the samples collected is included for each activity that involved sampling. Section 5.0 discusses the results from these activities and contains figures showing sample locations.

##### **4.1 GROUND PENETRATING RADAR SURVEY**

A ground penetrating radar (GPR) survey was conducted to find potential underground obstructions in the areas planned for intrusive activities. The survey was performed from January 24 to February 1, 1994. The objective of the survey was to confirm that no underground utilities or other obstructions were located at the areas chosen for investigation. This survey was done in conjunction with a review of drawings showing utility locations.

The GPR survey for this investigation was performed using Geophysical Survey Systems, Inc. SIR-3 equipment. A range of 10 nanoseconds was selected based on desirable equipment response with a 500 megahertz (MHz) transducer. The GPR survey cleared all of the areas proposed for intrusive activities.

## **4.2 CONE PENETROMETER TESTING AND HYDROPUNCH® SAMPLING**

CPTs were conducted to evaluate site subsurface stratigraphy, to select depths for HydroPunch® sampling, and to aid in placement of groundwater monitoring wells. The CPTs were conducted by Gregg In Situ, Inc. of Pacheco, California, between January 25 and February 2, 1994. The tests conducted during this field investigation used an electronic cone which was hydraulically pushed into the ground at a constant rate. Tip resistance, sleeve friction, and pore pressure were continuously measured and logged as the cone was pushed. These data were recorded, processed, and displayed for real-time data acquisition and evaluation. The tests were conducted in accordance with American Society for Testing and Materials (ASTM) standard D3441-86 (ASTM 1993a). The changes in tip resistance and friction indicated variations in lithology. Sandy, noncohesive soils typically have high values of tip resistance and low friction factors, while clayey, cohesive soils have low values of tip resistance and high friction factors. The CPT logs are included in Appendix A.

Groundwater samples were collected during this investigation using a HydroPunch II® probe. The HydroPunch® sampling also was performed by Gregg In Situ, Inc. HydroPunch® sampling requires a second penetration immediately adjacent to the original CPT hole. The HydroPunch II® probe is pushed to the desired depth based on the lithologic interpretation of the CPT log. An intake screen is opened in the probe that allows formation water to fill the probe's sample chamber. A bailer is then used to collect the water for analysis. (This operation also is described as operating the HydroPunch II® sampler in "hydrocarbon mode.") After data and sample collection, CPT and HydroPunch® holes were pressure grouted from total depth to the ground surface by pumping a cement/bentonite mixture into each hole through a tremie pipe. Table 1 summarizes the CPT and HydroPunch® field information. Section 5.2 presents the analytical results from the HydroPunch® samples.

### **4.2.1 Field Activities**

Twenty-two CPTs were conducted at the Site 5 fuel farm area during the field activities. The cone penetrometer was hydraulically pushed through the soils at Site 5 to total depths ranging from 10.88

**TABLE 1**  
**NAS MOFFETT FIELD**  
**ADDITIONAL PETROLEUM SITES INVESTIGATION**  
**CONE PENETROMETER TEST AND HYDROPUNCH® DATA SUMMARY**

CPT Name	Date	Total Depth (Feet BLS)	HydroPunch® Sample Interval (Feet BLS)	North Coordinate (Feet)	East Coordinate (Feet)	Ground Elevation (Feet MSL)
HP5-1	1-25-94	20.88	16.0 - 18.0	338,975	1,553,565	4.94
HP5-2	1-25-94	19.90	12.0 - 14.0	338,773	1,553,576	5.79
HP5-3	1-26-94	19.90	7.0 - 8.0	338,650*	1,553,416*	5.7*
HP5-4	1-25-94	27.94	18.0 - 20.0	338,485	1,553,617	6.29
HP5-5	1-26-94	18.26	16.0 - 17.0	338,503	1,553,798	5.60
HP5-6	1-27-94	18.09	14.0 - 15.5	338,315	1,553,691	6.71
HP5-7	1-31-94	20.88	12.0 - 14.0	338,286	1,533,585	6.98
HP5-8	2-1-94	14.98	12.0 - 14.0	338,211	1,533,501	6.90
HP5-9	2-1-94	20.88	20.0 - 22.0	338,978	1,533,476	12.10
HP5-10	2-1-94	14.49	10.0 - 13.0	338,025	1,533,647	9.70
HP5-11	2-1-94	20.88	10.0 - 13.0	337,933	1,533,620	10.18
HP5-12	2-1-94	20.06	12.0 - 15.0	337,857	1,533,597	10.60
HP5-13	1-31-94	22.03	19.0 - 21.0	337,793	1,533,450	12.74
HP5-14	2-1-94	17.93	15.0 - 17.0	337,313	1,533,484	11.57
HP5-15	2-1-94	14.16	11.0 - 13.0	337,199	1,533,470	13.29
HP5-16	2-2-94	17.77	11.0 - 13.0	337,181	1,533,398	12.94
HP5-17	2-2-94	14.16	11.0 - 13.0	336,957	1,533,341	12.51
HP5-18	2-2-94	15.63	12.0 - 14.0	336,750	1,533,273	13.04
HP5-19	2-2-94	18.75	14.0 - 16.0	336,749	1,533,133	12.25
HP5-20	2-2-94	17.93	14.0 - 16.0	336,694	1,533,091	11.46
HP5-21	2-2-94	10.88	7.0 - 9.0	336,558	1,533,068	11.37
CPT5-34	1-26-94	25.15	Not sampled	NS	NS	NS
HP63-1	1-26-94	17.44	14.0 - 15.0	337,778	1,552,979	7.65
HP65-1	1-27-94	25.31	14.0 - 15.0	335,382	1,553,510	16.39
HPT2-1	1-31-94	13.99	10.0 - 12.0	337,580	1,552,658	10.28
HPT2-2	1-31-94	14.65	12.0 - 14.0	337,575	1,552,698	9.97
HP43-1	1-26-94	20.39	10.0 - 12.5	338,141	1,552,447	8.74
HP43-2	1-27-94	20.06	15.0 - 16.0	338,099	1,552,439	9.53
HP43-3	1-27-94	13.83	11.0 - 12.0	338,123	1,552,476	9.08
HP43-4	1-26-94	25.15	10.0 - 12.5	338,134	1,552,401	9.10
HP53-1	1-31-94	11.70	10.0 - 11.0	341,031	1,552,845	-0.53
HP53-2	1-31-94	13.99	10.0 - 11.0	341,032	1,552,860	-0.86

Notes:

BLS Below land surface  
MSL Mean sea level  
NS Not surveyed

\* CPT is located within 2 feet from Well W5-34. Coordinates and elevation were estimated from this well.

All HydroPunch® samples were collected from the A1 aquifer zone.

Coordinates are based on the California State Plane Coordinate System. Elevations are based on monument H-111 elevation of 17.61 feet.

to 27.94 feet below land surface (BLS). Two CPTs were conducted at Site 15, one near Sump 63 and one near Sump 130. The CPT penetration depths were 17.44 feet BLS (Sump 63) and 25.31 feet BLS (Sump 130). Eight CPTs were conducted at Site 19: two near former Tank 2, four in the former Tank 43 area, and two near former Tank 53. CPT depths ranged from 11.70 to 25.15 feet BLS. Appendix A contains the graphic plots of the CPT data, and Section 5.0 contains maps of the CPT locations.

#### **4.2.2 Sampling**

Groundwater samples were collected from the A1 aquifer zone using a HydroPunch II® probe in the hydrocarbon mode. Penetrations for HydroPunch II® sampling were within 18 inches of CPT locations. Sampling depths in the A1 zone ranged from 7.0 to 22.0 feet BLS. All samples except HP65-1 (near Sump 130) were analyzed for either total petroleum hydrocarbons (TPH) purgeable as gasoline or TPH extractable as diesel or both. In addition, many samples also were analyzed for VOCs, semivolatile organic compounds (SVOCs), and total metals. Section 5.2 presents the analytical results from the HydroPunch® samples.

#### **4.2.3 Work Plan Deviations**

Two CPTs originally planned were not conducted and corresponding samples were not collected because the CPT rig could not access locations due to obstructions by buildings and trees. These locations were HP59-1 and HPT2-3 as specified in the field work plan (PRC 1994b). In addition, the location of HP65-1 had to be shifted approximately 15 feet downgradient (north) due to a large tree near Sump 130. The tree did not allow enough vertical clearance for the CPT rig to operate.

### **4.3 SUBSURFACE SOIL SAMPLING**

Subsurface soil samples were collected during the field investigation. The majority of these samples were collected using the Geoprobe® soil coring system; some samples were collected from soil borings during monitoring well installation. The objectives of the soil samples were to further characterize the nature and extent of contamination in the soils and to assist in the further evaluation of the site lithology and soil physical properties. The soil corings and geotechnical samples were collected using a PRC Geoprobe® van between January 31 and February 10, 1994. The soil borings were drilled by West Hazmat Drilling Corporation of Hayward, California, on February 4, 1994.

#### **4.3.1 Field Activities**

Twenty-three soil locations (GP5-1 through GP5-23) were cored using the Geoprobe® at Site 5, and two borings (SB5-34 and SB5-35) were drilled there and then converted to monitoring wells (W5-34 and W5-35) using an 8-inch outside diameter hollow stem auger. Eighteen soil locations (GP9-1 through GP9-18) were cored at Site 9. Six soil locations (GP59-1 and -2, GP63-1 and -2, and GP65-1 and -2) were cored at Site 15. Twelve soil locations (GPT2-1 through GPT2-3, GP43-1 through GP43-5, and GP53-24 through GP53-27) were cored at Site 19; one boring (SB43-3) was drilled there and then converted to a monitoring well (W43-3). Total depths of the boreholes and coreholes ranged from 8.0 to 20.0 feet BLS. Immediately after opening the acetate liners (Geoprobe®) and split-barrel samplers (augered borings), the soil core was screened using a photoionization detector (PID) and visually inspected for signs of contamination and saturation. A qualified geologist logged each borehole using the core samples. Appendix B contains the borehole lithologic logs prepared using the Unified Soil Classification System (USCS) (ASTM 1993b).

#### **4.3.2 Sampling**

For the sites that had been previously investigated, sampling depths were selected in the field based on visual inspections and PID readings, with the intent of analyzing the most contaminated soil intervals. At most locations, these depths corresponded to regions at or near the water table in unconfined conditions, or near the uppermost saturated zone in confined conditions. At the Site 15 sumps, which had not previously been investigated, samples were collected at a minimum of every 5 feet per state guidance (RWQCB 1990).

Thirty-four soil samples were collected at Site 5 for chemical analysis at a state-certified laboratory. All of these samples were analyzed for TPH extractables; 11 also were analyzed for SVOCs. At Site 9, 22 soil samples were collected and analyzed for TPH purgeables including the benzene, toluene, ethylbenzene, and xylene (BTEX) constituents. Two soil samples from Site 9 also were analyzed for TPH extractables and/or SVOCs, total metals, and VOCs. Twelve Site 15 soil samples were collected for chemical analyses. All of these were analyzed for VOCs and total metals, and eight also were analyzed for both TPH extractables and purgeables, and oil and grease. Fifteen Site 19 soil samples were collected for chemical analyses. Of these, 14 were analyzed for TPH purgeables, and 11 were analyzed for TPH extractables, VOCs, and total metals. In addition, 126 soil samples at these locations were analyzed by the Geoprobe® close support analytical laboratory (CSAL) to provide additional information on the vertical extent of contamination and to provide real-time results.

Table 2 summarizes the soil sample depths and locations.

**TABLE 2**

**NAS MOFFETT FIELD  
ADDITIONAL PETROLEUM SITES INVESTIGATION  
SOIL SAMPLE DATA SUMMARY**

Soil Sample Number	Sample Depth (Feet BLS)	Collection Date	North Coordinate (Feet)	East Coordinate (Feet)	Ground Elevation (Feet MSL)
GP5-1	7.4 9.2 - 11.0	2-7-94	338,434	1,553,433	6.58
GP5-2	9.0 - 11.0	2-4-94	338,257	1,553,319	8.97
GP5-3	11.0 - 13.0	2-4-94	338,330	1,553,544	7.27
GP5-4	9.0 - 11.0 11.0 - 13.0	2-4-94	338,314	1,553,639	6.64
GP5-5	9.0 - 11.0 11.0 - 13.0	2-4-94	338,237	1,553,765	6.48
GP5-6	9.0 - 11.0 11.0 - 13.0	2-4-94	338,158	1,553,796	7.69
GP5-7	9.6 - 11.0 11.3 - 12.7	2-3-94	338,020	1,553,637	9.64
GP5-8	11.0 - 12.0	2-3-94	337,935	1,553,619	10.21
GP5-9	13.0 - 14.0	2-3-94	337,857	1,553,598	10.54
GP5-10	11.2 - 12.1	2-3-94	337,776	1,553,619	9.44
GP5-11	9.0 - 11.0	2-2-94	337,709	1,553,665	10.16
GP5-12	8.8 - 11.0	2-2-94	337,705	1,553,622	9.78
GP5-13	11.0 - 13.0	2-7-94	337,879	1,553,405	8.87
GP5-14	14.0 - 15.0	2-4-94	337,795	1,553,451	12.81
GP5-15	9.5 - 11.0	2-4-94	337,673	1,553,498	9.49
GP5-16	7.0 - 9.0	2-2-94	337,232	1,553,503	12.31
GP5-17	9.0 - 11.0	2-2-94	337,259	1,553,470	11.89
GP5-18	12.0 - 14.0	2-1-94	337,196	1,553,447	13.18
GP5-19	9.0 - 11.0	2-2-94	337,017	1,553,359	12.01
GP5-20	9.0 - 11.0	2-2-94	336,903	1,553,328	12.31
GP5-21	9.0 - 11.0 11.5 - 13.5	2-2-94	336,718	1,553,148	11.46
GP5-22	10.0 - 12.0	2-2-94	336,695	1,553,090	11.49
GP5-23	8.0 - 10.0	2-2-94	336,559	1,553,068	11.29
SB5-34	7.0 18.4	2-4-94	338,652	1,553,416	5.7
SB5-35	6.5 10.5	2-4-94	338,115	1,553,473	7.3



TABLE 2 (Continued)

NAS MOFFETT FIELD  
 ADDITIONAL PETROLEUM SITES INVESTIGATION  
 SOIL SAMPLE DATA SUMMARY

Soil Sample Number	Sample Depth (Feet BLS)	Collection Date	North Coordinate (Feet)	East Coordinate (Feet)	Ground Elevation (Feet MSL)
GP9-1	5.8 - 6.7	2-7-94	336,765	1,548,070	14.25
GP9-2	6.8 - 7.0	2-7-94	336,657	1,548,089	15.14
GP9-3	7.9 - 8.5	2-7-94	336,581	1,548,155	15.77
GP9-4	7.0 - 9.0	2-7-94	336,511	1,547,972	17.03
GP9-5	7.0 - 9.0	2-7-94	336,496	1,547,936	16.59
GP9-6	8.0 - 9.0	2-8-94	336,325	1,548,095	18.40
GP9-7	7.0 - 9.0	2-8-94	336,285	1,548,009	18.54
GP9-8	10.0 - 11.0	2-7-94	336,337	1,547,933	19.16
GP9-9	11.0 - 13.0	2-8-94	336,877	1,548,642	14.22
GP9-10	10.0 - 11.0	2-9-94	336,792	1,548,524	14.51
GP9-11	10.0 - 11.0	2-8-94	336,831	1,548,381	14.34
GP9-12	7.0 - 9.0	2-7-94	336,607	1,548,420	15.25
GP9-13	9.0 - 11.0	2-9-94	336,500	1,548,607	16.84
GP9-14	9.0 - 11.0	2-9-94	336,454	1,548,388	16.53
GP9-15	10.0 - 11.0	2-9-94	336,359	1,548,387	17.80
GP9-16	9.0 - 11.0	2-9-94	336,317	1,548,400	18.02
GP9-17	10.0 - 10.5	2-9-94	336,237	1,548,435	18.26
GP9-18	10.5 - 11.0	2-9-94	335,489	1,548,454	21.20
GP59-1	5.0 - 7.0 9.0 - 11.0	1-31-94	338,850	1,551,476	8.48
GP59-2	5.0 - 7.0 9.0 - 11.0	1-31-94	338,850	1,551,486	8.48
GP63-1	3.0 - 5.0 5.0 - 7.0	1-31-94	337,777	1,552,979	7.57
GP63-2	3.0 - 5.0 5.0 - 7.0	1-31-94	337,763	1,552,983	7.36
GP65-1	5.0 - 7.0 9.0 - 11.0	1-31-94	335,359	1,553,514	16.73
GP65-2	5.0 - 7.0 9.0 - 11.0	2-1-94	335,349	1,553,513	16.70
GPT2-1	9.0 - 11.0	2-1-94	337,579	1,552,657	10.28
GPT2-2	7.0 - 9.0	2-1-94	337,573	1,552,698	10.03
GPT2-3	7.0 - 9.0	2-1-94	337,539	1,552,655	10.48
GP43-1	9.0 - 11.0 11.0 - 13.0	2-1-94	338,141	1,552,448	8.74

**TABLE 2 (Continued)**

**NAS MOFFETT FIELD  
ADDITIONAL PETROLEUM SITES INVESTIGATION  
SOIL SAMPLE DATA SUMMARY**

<b>Soil Sample Number</b>	<b>Sample Depth (Feet BLS)</b>	<b>Collection Date</b>	<b>North Coordinate (Feet)</b>	<b>East Coordinate (Feet)</b>	<b>Ground Elevation (Feet MSL)</b>
GP43-2	9.0 - 11.0	2-1-94	338,097	1,552,439	9.52
GP43-3	9.0 - 11.0	2-1-94	338,122	1,522,475	9.12
GP43-4	9.0 - 11.0	2-1-94	338,072	1,552,445	9.92
GP43-5	7.0 - 9.0 9.0 - 11.0	2-1-94	338,064	1,552,466	9.86
SB43-3	10.5	2-4-94	338,157	1,552,408	8.8
GP53-24	4.0 - 5.4	2-3-94	341,010	1,552,843	-0.96
GP53-25	4.2 - 5.8	2-3-94	341,006	1,552,863	-1.37
GP53-26	5.0 - 5.9	2-3-94	341,038	1,552,878	-0.78
GP53-27	5.0 - 6.0	2-3-94	341,059	1,552,887	-0.29

Notes:

BLS Below land surface

MSL Mean sea level

All soil samples were collected with the Geoprobe® coring system using 1.5-inch diameter acetate liners.

Coordinates are based on the California State Plane Coordinate System. Elevations are based on monument H-111 elevation of 17.61 feet.

Three soil samples also were collected at Sites 5, 9, and 19 (Tank 2) for analysis of their geotechnical characteristics. The geotechnical tests conducted included grain size distribution (ASTM D422-92), Atterburg limits (ASTM D4318-84), and moisture content, density, and porosity (ASTM D2216-92). Section 5.1 discusses the soil sample results. All samples were collected in accordance with the site-wide field sampling plan (FSP) and site-wide quality assurance project plan (QAPjP) (PRC and JMM 1992a and 1992b).

#### **4.3.3 Work Plan Deviations**

Due to indications of contamination and lack of nearby soil data, two depth intervals were sampled at boring SB5-34 even though this was not called for in the work plan. Due to proximity to Tank 26 at Site 5, GP5-10 was analyzed for VOCs in addition to TPH extractables. Soil samples at GP9-19 were not collected due to physical obstructions and because of the immediate proximity of Tank 32, which has been removed since this field investigation. Sidewall samples were collected and analytical results will be included in the draft final version of this report. A soil sample at GPT2-4 was not collected due to lack of GPR clearance. A soil sample at boring SB43-3 was accidentally analyzed for SVOCs instead of TPH purgeables. Only three of the seven geotechnical samples planned were collected due to access and weather difficulties. However, representative samples were collected at Sites 5, 9, and 19. In addition, none of the geotechnical samples were analyzed for saturated hydraulic conductivity due to collection equipment problems. None of the work plan deviations are expected to adversely affect preparation of the final CAP.

#### **4.4 MONITORING WELL COMPLETION AND GROUNDWATER SAMPLING**

Soil borings were drilled and completed as groundwater monitoring wells during the field investigation. These monitoring wells were then developed and sampled. The wells were drilled and installed by West Hazmat Drilling Corporation of Hayward, California on February 4, 1994, and were sampled on February 8 and 9, 1994.

##### **4.4.1 Field Activities**

After drilling and sampling, three soil borings (SB5-34, SB5-35, and SB43-3) were converted into A1 zone groundwater monitoring wells (W5-34, W5-35, and W43-3). All wells were constructed of 2-inch diameter schedule 40 polyvinyl chloride (PVC) casing and 0.01-inch slot size PVC screen.

Wells were constructed with a silica sand pack (2-12 mesh) that extends from the bottom of the well screen to 0.5 to 1.85 feet above the top of the screen. A bentonite pellet seal, about 3 feet thick, was placed above the sand pack. A cement-bentonite grout mixture was placed above the bentonite seal to the land surface. Surface well completions included both flush-mount and aboveground completions. Well W43-3 is subject to vehicular traffic and well W5-34 is on a golf course, so these were completed as flush-mounted wells. This type of well completion includes a christy-box protective cover placed over each well head and mounted flush with the land surface. Well W5-35 was completed above the ground surface. Aboveground completions are appropriate in areas without significant traffic. Steel protective casing and steel guard posts were used to protect the well casing from accidental damage. Screen depths were selected in the field to encompass the uppermost saturated permeable units at each well location because petroleum constituents are anticipated in this interval. Table 3 summarizes the monitoring well completion details and locations for the new wells. Appendix B contains well completion summary logs for the three new wells.

Groundwater monitoring wells were developed to obtain representative groundwater samples which were free of formation sand and silt. Monitoring well development was accomplished by swabbing, bailing, and pumping. Each well was swabbed using a snug-fitting surge block, bailed to remove large quantities of sand and silt, and pumped using an electric submersible pump. Water produced during development was monitored periodically for temperature, pH, specific conductance (SC), and turbidity. Each well was developed until at least three borehole (casing plus sand pack) water volumes had been removed from the well and the monitored parameters had stabilized. All drilling, sampling, well construction, and well development methods followed California and Santa Clara Valley Water District (SCVWD) guidelines (SCVWD 1989).

#### **4.4.2 Sampling**

Groundwater samples were collected from the newly installed monitoring wells to aid in characterizing the nature and extent of groundwater contamination. Samples were collected from each monitoring well according to the following procedure: (1) the static water level was measured, (2) the well was purged of at least three casing plus sand pack volumes of water using an electric submersible pump or a bailer, (3) temperature, SC, pH, and Eh (oxidation-reduction potential) were measured until these parameters did not change more than approximately 10 percent between two successive measurements, and (4) water samples were collected using a disposable polypropylene bailer. The presence of volatile organic vapors at the top of the well casing was monitored using a PID. Bailers were disposed of and pumps were decontaminated after each sampling event.

TABLE 3

NAS MOFFETT FIELD  
 ADDITIONAL PETROLEUM SITES INVESTIGATION  
 MONITORING WELL DATA SUMMARY

Well Name	Well Completion Date	Well Screen Interval (Feet BLS)	Sand Pack Interval (Feet BLS)	North Coordinate (Feet)	East Coordinate (Feet)	Ground Elevation (Feet MSL)	Casing Elevation (Feet MSL)
W5-34	2-4-94	14.85 - 19.85	13.0 - 20.0	338,652	1,553,416	5.7	5.48
W5-35	2-4-94	5.0 - 15.0	4.5 - 15.0	338,115	1,553,473	7.3	9.64
W43-3	2-4-94	7.65 - 17.65	7.0 - 18.0	338,157	1,552,408	8.8	8.36

Notes:

BLS Below land surface  
 MSL Mean sea level

All wells are completed in the A1 aquifer zone and are constructed of 2-inch diameter polyvinyl chloride (PVC) casing and 0.01-inch slot size PVC screen.

Wells W5-34 and W43-3 were flush-mount completions. Well W5-35 was completed above ground.

Coordinates are based on the California State Plane Coordinate System. Elevations are based on monument H-111 elevation of 17.61 feet.

Three groundwater samples were collected from the newly installed wells (one each) for chemical analyses. All groundwater samples collected from monitoring wells were analyzed for TPH extractables and SVOCs, and the sample from Well W43-3 was also analyzed for TPH purgeables, VOCs, and total metals. Section 5.2 discusses the groundwater sample results. Samples were collected in accordance with the site-wide FSP and site-wide QAPjP (PRC and JMM 1992a and 1992b).

#### **4.4.3 Work Plan Deviations**

No work plan deviations occurred during monitoring well installation and groundwater sampling.

## **5.0 RESULTS**

This section presents the analytical results of the field investigation. Interpretations of these results will be presented in the CAP. Analytical results from the organic analyses, with the exception of TPH, were determined using methods described in the EPA contract laboratory program (CLP) statement of work (SOW) (EPA 1991). These analyses involved CLP routine analytical services (RAS) under SOWs OLM01.0. Results for TPH were determined using methods described in the Leaking Underground Fuel Tank (LUFT) Field Manual (SWRCB 1989). A gasoline standard was used to quantify the results of the purgeable TPH analysis. Diesel, JP5, kerosene, and motor oil standards were used to quantify the results of the extractable TPH analysis.

### **5.1 SOIL SAMPLING**

Eighty-three soil samples were collected for state-certified laboratory analysis from the 62 soil sample locations cored or drilled during this investigation. In addition, 126 soil samples were collected for analysis by the Geoprobe® CSAL. In many cases, state-certified laboratory results differed significantly from the CSAL results. In most cases, the CSAL results indicated higher levels of petroleum contamination. These differences may be due to several factors including variations in analytical accuracy, heterogeneous soil materials, contaminant distribution, and different sampling procedures. In addition, the CSAL results are not subject to the same quality control procedures as certified laboratory analyses and are collected for screening purposes only. Additionally, the regulatory agencies require that data from state-certified laboratories be used to support remediation and closure decisions.

The greatest differences between the laboratory and CSAL results are likely attributable to small-scale differences in contaminant distribution within a heterogeneous soil profile and the relatively smaller quantity of sample collected for the CSAL analysis. The CSAL method only requires 2 grams of soil, whereas laboratory methods for TPH purgeables require 115 grams; methods for TPH extractables require approximately 230 grams. Sampling for CSAL analysis allows for biased or focused sampling of the most contaminated layers or zones within a soil profile and is therefore more discrete than the composite sampling for standard laboratory analyses. Geoprobe® CSAL analyses are therefore not as representative of contamination within a soil profile at a site and do not fulfill standard risk assessment requirements.

The following sections summarize the results of laboratory analyses for fuel-related hydrocarbons, VOCs, SVOCs, and metals, as well as soil geotechnical results. Tables contained in these sections present off-site laboratory results for the most frequently detected compounds. The CSAL soil data are included in Appendix D. The soil contamination contour maps that follow are based on existing data, including state-certified laboratory, historical, and Geoprobe® CSAL data. Appendices C and D contain the complete analytical data sets for each sample.

### 5.1.1 Chemical Analysis Samples

Table 4 lists the TPH extractable and SVOC soil analytical results for Site 5. Most of the TPH extractable detections were less than 100 mg/kg, except one detection of 2,000 mg/kg in a sample from boring SB5-35. However, many soil samples analyzed by the CSAL indicated concentrations above 100 mg/kg TPH extractable as JP-5, including 1,970 mg/kg TPH extractable as JP-5 at location GP5-3. Figure 2 shows locations and TPH concentrations of these soil samples, and soil TPH concentration contours based on new and historical TPH data, including the CSAL data.

Table 5 lists TPH purgeable and BTEX soil laboratory analytical results for Site 9 samples. Three of the samples had TPH concentrations greater than 600 mg/kg; these samples also had elevated levels of BTEX compounds. Of the samples analyzed by the CSAL, six samples had TPH purgeable levels over 1,000 mg/kg. Figure 3 presents soil sample locations, TPH analytical results, and TPH concentration contours for Site 9.

Table 6 lists TPH purgeable, TPH extractable, and VOC analytical data for the samples collected near the Site 15 sumps. Only Sump 63 soil samples had elevated TPH concentrations, and these

**TABLE 4**

**NAS MOFFETT FIELD  
ADDITIONAL PETROLEUM SITES INVESTIGATION  
SITE 5 SOIL SAMPLE ANALYTICAL RESULTS  
(Concentrations in mg/kg)**

Sample Number	Sample Depth (Feet BLS)	Sample Date	TPH Extractable	SVOC
GP5-1	7.4 9.2 - 11.0	2-7-94	73 (H) ND	NA NA
GP5-2	9.0 - 11.0	2-4-94	ND	NA
GP5-3	11.0 - 13.0	2-4-94	ND	See Note 1
GP5-4	9.0 - 11.0 11.0 - 13.0	2-4-94	49 (H) 10 (H)	NA NA
GP5-5	9.0 - 11.0 11.0 - 13.0	2-4-94	24 (H) 9.8 (H)	NA NA
GP5-6	9.0 - 11.0 11.0 - 13.0	2-4-94	12 (H) 3.7 (H)	See Notes 1,2 See Note 1
GP5-7	9.6 - 11.0 11.3 - 12.7	2-3-94	73 (H) 16 (H)	NA NA
GP5-8	11.0 - 12.0	2-3-94	11 (H)	NA
GP5-9	13.0 - 14.0	2-3-94	ND	See Notes 1,2
GP5-10	11.2 - 12.1	2-3-94	ND	NA
GP5-11	9.0 - 11.0	2-2-94	ND	See Note 1
GP5-12	8.8 - 11.0	2-2-94	7.8 (K)	See Note 3
GP5-13	11.0 - 13.0	2-7-94	ND	NA
GP5-14	14.0 - 15.0	2-4-94	ND	NA
GP5-15	9.5 - 11.0	2-4-94	ND	ND
GP5-16	7.0 - 9.0	2-2-94	7.6 (H)	NA
GP5-17	9.0 - 11.0	2-2-94	ND	NA
GP5-18	12.0 - 14.0	2-1-94	2.5 (K)	See Note 1
GP5-19	9.0 - 11.0	2-2-94	ND	NA
GP5-20	9.0 - 11.0	2-2-94	3.9 (K)	NA
GP5-21	9.0 - 11.0 11.5 - 13.5	2-2-94	9.8 (K), 6.6 (H) 7.4 (K)	See Note 1 NA



TABLE 4 (Continued)

NAS MOFFETT FIELD  
 ADDITIONAL PETROLEUM SITES INVESTIGATION  
 SITE 5 SOIL SAMPLE ANALYTICAL RESULTS  
 (Concentrations in mg/kg)

Sample Number	Sample Depth (Feet BLS)	Sample Date	TPH Extractable	SVOC
GP5-22	10.0 - 12.0	2-2-94	4.3 (K)	NA
GP5-23	8.0 - 10.0	2-2-94	ND	NA
SB5-34	7.0	2-4-94	17 (H)	NA
	18.4		ND	NA
SB5-35	6.5	2-4-94	2,000 (H)	ND
	10.5		ND	ND

Validation in progress. Validated results will be presented in the draft final report.

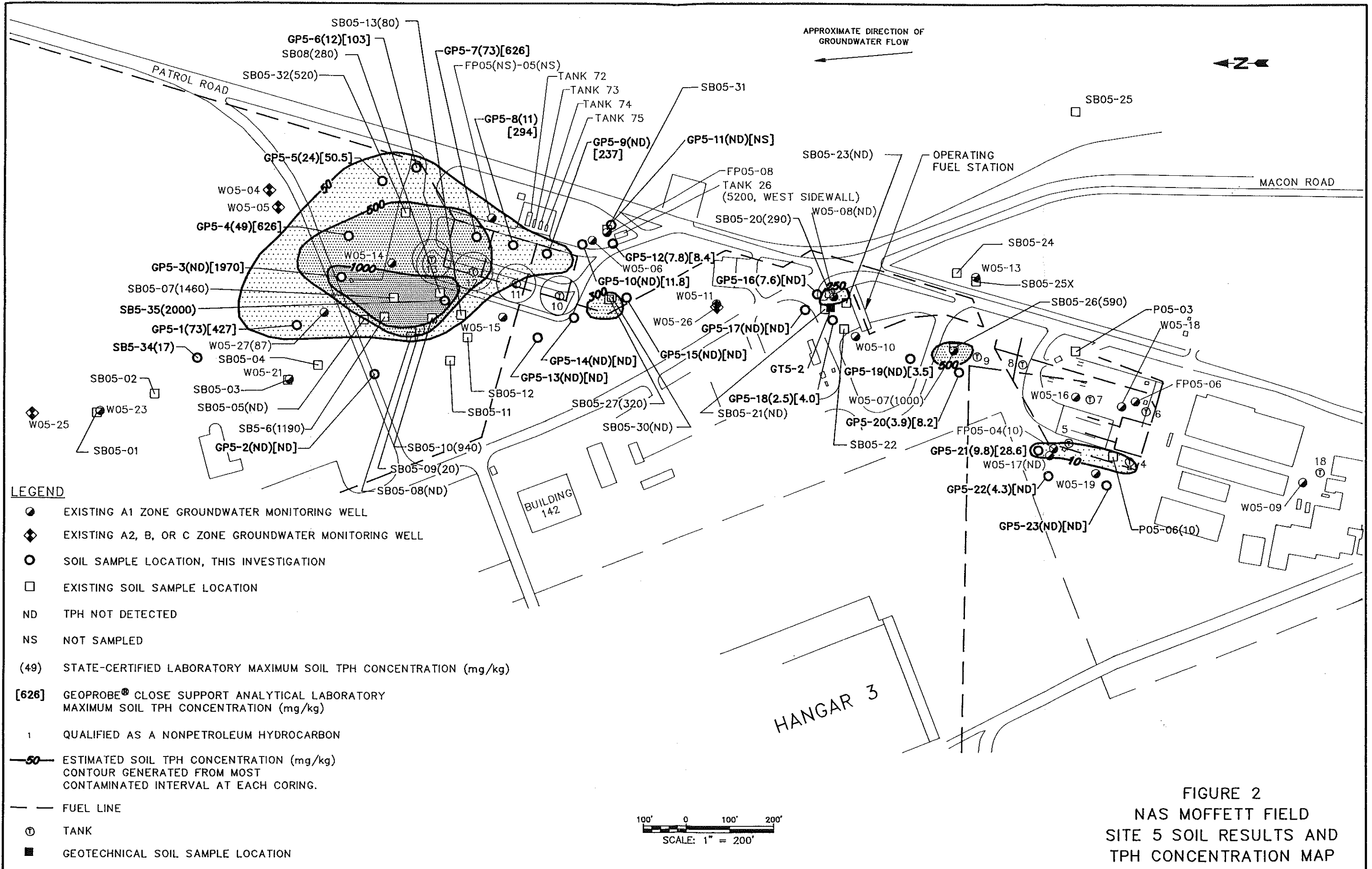
Notes:

- TPH Total petroleum hydrocarbons
- SVOC Semivolatile organic compound
- BLS Below land surface
- ND Not detected
- NA Not analyzed
- K Kerosene
- H TPH other heavy components
- mg/kg Milligrams per kilogram
- µg/kg Micrograms per kilogram

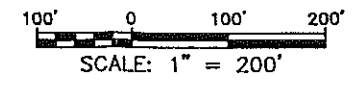
- 1 Bis (2-Ethylhexyl) phthalate detected below detection limits, and also detected in the method blank.
- 2 Butylbenzyl phthalate detected below detection limits, and also detected in the method blank.
- 3 Bis (2-Ethylhexyl) phthalate detected at 590 µg/kg and also detected in the method blank.

All samples were analyzed for TPH extractable as diesel, kerosene, JP-5, and motor oil. No detections of TPH extractable as diesel or JP-5 were observed above the detection limit (1.2 to 1.3 mg/kg). No detections of TPH extractable as motor oil were observed above the detection limit (12 to 13 mg/kg). Detections of TPH extractable as kerosene and as other heavy components are indicated in the table.

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- LEGEND**
- EXISTING A1 ZONE GROUNDWATER MONITORING WELL
  - ◆ EXISTING A2, B, OR C ZONE GROUNDWATER MONITORING WELL
  - SOIL SAMPLE LOCATION, THIS INVESTIGATION
  - EXISTING SOIL SAMPLE LOCATION
  - ND TPH NOT DETECTED
  - NS NOT SAMPLED
  - (49) STATE-CERTIFIED LABORATORY MAXIMUM SOIL TPH CONCENTRATION (mg/kg)
  - [626] GEOPROBE® CLOSE SUPPORT ANALYTICAL LABORATORY MAXIMUM SOIL TPH CONCENTRATION (mg/kg)
  - 1 QUALIFIED AS A NONPETROLEUM HYDROCARBON
  - 50 ESTIMATED SOIL TPH CONCENTRATION (mg/kg) CONTOUR GENERATED FROM MOST CONTAMINATED INTERVAL AT EACH CORING.
  - FUEL LINE
  - Ⓣ TANK
  - GEOTECHNICAL SOIL SAMPLE LOCATION



**FIGURE 2**  
**NAS MOFFETT FIELD**  
**SITE 5 SOIL RESULTS AND**  
**TPH CONCENTRATION MAP**

FILE NAME: 04\0236\RP\SRR\SS-SBL00.DWG DATE: 05/02/94 JAY DN

**TABLE 5**

**NAS MOFFETT FIELD  
ADDITIONAL PETROLEUM SITES INVESTIGATION  
SITE 9 SOIL SAMPLE ANALYTICAL RESULTS  
(Concentrations in mg/kg)**

Sample Name	Sample Depth (Feet BLS)	Sample Date	TPH Purgeable	BTEX
GP9-1	5.8 - 6.7	2-7-94	ND	ND
GP9-2	6.8 - 7.0	2-7-94	700 (L)	3.6 (E), 2.0 (X)
GP9-3	7.9 - 8.5	2-7-94	610 (L)	1.9 (E), 2.4 (X)
GP9-4	7.0 - 9.0	2-7-94	ND	ND
GP9-5	7.0 - 9.0	2-7-94	170 (L)	0.84 (X)
GP9-6	8.0 - 9.0	2-8-94	19 (L)	0.022 (E) 0.022 (X)
GP9-7	7.0 - 9.0	2-8-94	910 (L)	1.4 (B), 1.5 (T), 13 (E), 16 (X)
GP9-8 <sup>1</sup>	10.0 - 11.0	2-7-94	7.2 (L)	0.017 (E), 0.015 (X)
GP9-9	11.0 - 13.0	2-8-94	2.5 (L)	ND
GP9-10	10.0 - 11.0	2-9-94	55 (L)	ND
GP9-11	10.0 - 11.0	2-8-94	20 (L)	ND
GP9-12	7.0 - 9.0	2-7-94	3.1 (L)	ND
GP9-13	9.0 - 11.0	2-9-94	330 (L)	ND
GP9-14	9.0 - 11.0	2-9-94	ND	ND
GP9-15	10.0 - 11.0	2-9-94	2.6 (L)	ND
GP9-16	9.0 - 11.0	2-9-94	ND	ND
GP9-17	10.0 - 10.5	2-9-94	ND	ND
GP9-18 <sup>2</sup>	10.5 - 11.0	2-9-94	NA	NA

Validation in progress. Validated results will be presented in the draft final report.

Notes:

mg/kg	Milligrams per kilogram		
TPH	Total petroleum hydrocarbons	B	Benzene
BLS	Below land surface	T	Toluene
ND	Not detected	E	Ethylbenzene
L	TPH other light components	X	Total xylenes
NA	Not analyzed		

<sup>1</sup> GP9-8 was also analyzed for TPH extractable (9.6 mg/kg other heavy components), VOCs (40 µg/kg acetone, also found in blank, and 2-butanone detected below detection limit), SVOCs (N-nitrosodiphenylamine and bis(2-ethylhexyl)phthalate detected below detection limits), and total metals.

<sup>2</sup> GP9-18 was analyzed for TPH extractable (77 mg/kg TPH other heavy components).

No detections of TPH purgeable as gasoline were observed above the detection limit (1.1 to 1.3 mg/kg).



APPROXIMATE DIRECTION OF GROUNDWATER FLOW

HANGAR 1

W9-45 (SB9-102)

SB9-10

W9-46 (SB9-100)

SB9-11

GP9-13(330)[2450]

SB9-6

88

GP9-9(2.5)[132]

W9-43

W9-27

W61-1

W9-28

W9-23

W9-11

SB9-1

W9-26

W29-5(380)

SB-49

W9-31

W9-24

GP9-10(55)[228]

SB9-2

W29-2(710)

SB-3

SB9-107

W29-6(ND)

WU4-14

W29-1(56)

N245

SB-24 (240)

SB-31 (380)

SB-38 (100)

SB-42 (440)

SB-104(1300)

SB-65(4600)

SB9-106 (2100)

TN-1(4200)

32

GP9-17(ND)[5.2]

GP9-16(ND)[1.0]

GP9-15(2.6)[8.1]

GP9-11(20)[146]

W9-10

SEVERYNS AVENUE

GP9-14(ND)[1.5]

FP9-1(ND)

W9-6

UNDERGROUND STORAGE TANK AREA

NORTH AKRON ROAD

W9-36

GP9-18(77)[1590]

SB9-13

W9-44 (SB9-101)

W9-40

W9-8

SB9-14

N210

GP9-3(610)[1360]

GP9-6(19)[9.6]

GT9-2

FP9-2(ND)

GP9-2(700)[2520]

W9-9(ND)

W56-1(4300)

W9-5

GP9-1(ND)[ND]

SBU4-20 (1600)

W9-47 (SB9-105) (1800)

TN-56C,D(4570)

W9-7

SBU4-17 (70)

W9-39(ND)

GP9-4(ND)[1.3]

GP9-5(170)[528]

GP9-8(7.2)[21]

TN-56A(14)

TN-56B(44.5)

W56-2(407)

GP9-7(910)[2370]

MCCORD AVENUE

LEGEND

- EXISTING GROUNDWATER MONITORING WELL
- SOIL SAMPLE LOCATION, THIS INVESTIGATION
- ⊙ TANK (REMOVED)
- GEOTECHNICAL SOIL SAMPLE LOCATION
- 10- ESTIMATED SOIL TPH CONCENTRATION (mg/kg)
- (610) STATE-CERTIFIED LABORATORY MAXIMUM MEASURED SOIL TPH CONCENTRATION (mg/kg)
- (ND) NO PETROLEUM CONSTITUENTS DETECTED
- [1360] GEOPROBE® CLOSE SUPPORT ANALYTICAL LABORATORY SOIL TPH CONCENTRATION (mg/kg)

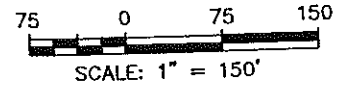


FIGURE 3  
NAS MOFFETT FIELD  
SITE 9 - SOIL  
TPH CONCENTRATION MAP

FILE NAME: 044\0236\SRP\SRP\99-SBLOC.DWG  
DATE: 06/02/94  
JAY DN

**TABLE 6**

**NAS MOFFETT FIELD  
ADDITIONAL PETROLEUM SITES INVESTIGATION  
SITE 15 SOIL SAMPLE ANALYTICAL RESULTS**

Sump	Sample Number	Sample Depth (Feet BLS)	Sample Date	TPH Extractable (mg/kg)	TPH Oil and Grease (mg/kg)	TPH Purgeable (mg/kg)	VOC
59	GP59-1	5.0 - 7.0	1-31-94	ND	ND	ND	See Note 1
		9.0 - 11.0		ND	ND	ND	See Note 1
63	GP63-1	5.0 - 7.0	1-31-94	2.3 (H)	ND	ND	See Note 1
		9.0 - 11.0		ND	ND	ND	See Note 1
63	GP63-2	3.0 - 5.0	1-31-94	ND	ND	ND	See Note 2
		5.0 - 7.0		61 (JP-5)	37	72 (L)	See Note 2
65	GP65-1	3.0 - 5.0	1-31-94	ND	ND	ND	See Note 1
		5.0 - 7.0		17 (H)	33	ND	See Notes 1 and 2
65	GP65-2	5.0 - 7.0	1-31-94	NA	NA	NA	See Note 1
		9.0 - 11.0		NA	NA	NA	See Note 1
65	GP65-2	5.0 - 7.0	2-1-94	NA	NA	NA	See Note 1
		9.0 - 11.0		NA	NA	NA	See Note 1

Validation in progress. Validated results will be presented in the draft final report.

Notes:

- BLS Below land surface
- mg/kg Milligrams per kilogram
- TPH Total petroleum hydrocarbons
- VOC Volatile organic compound
- NA Not analyzed
- ND Not detected
- H TPH other heavy components
- L TPH other light components

- 1 Minor amounts (near or below detection limits) of methylene chloride and/or acetone, also detected in blank.
- 2 Minor amounts (near or below detection limits) of methylene chloride, acetone, carbon disulfide, and/or 2-butanone detected.

No detections of TPH extractable as diesel or kerosene were observed above the detection limit (1.2 mg/kg). No detections of TPH extractable as motor oil were observed above the detection limit (12 mg/kg). Detection limits for TPH as oil and grease were 29 to 31 mg/kg. No detections of TPH purgeable as gasoline were observed above the detection limit (1.2 to 2.5 mg/kg). No detections of TPH purgeable as benzene, toluene, ethylbenzene, or xylenes were observed above the detection limit (6 to 12 µg/kg).

concentrations were less than 100 mg/kg. TPH as oil and grease was detected at concentrations up to 37 mg/kg at GP63-1 but was not detected in the Sump 59 samples. Low concentrations of VOCs were detected, though these detections were common laboratory contaminants and may not indicate VOC contamination due to the sumps. These samples were also analyzed for total metals. No indications of metals contamination were observed. Figures 4, 5, and 6 show soil sample locations (as well as HydroPunch® locations) and TPH concentrations.

Table 7 lists TPH extractable and purgeable and VOC soil analytical results for the Site 19 samples. TPH constituents were not detected in any soil samples except at location GP53-24, which had 2.8 mg/kg of TPH purgeable as gasoline. Tetrachloroethene (PCE), trichloroethene (TCE), and 1,2-dichloroethene (DCE) were detected below their detection limits in some samples. All Tank 2 and Tank 43 soil samples were analyzed for total metals. No indications of metals contamination were observed. Figure 7 shows Tank 2 TPH soil results and TPH concentration contours. Figure 8 shows Tank 43 TPH soil results and a TPH concentration contour. Figure 9 shows both soil and groundwater TPH results for Tank 53, and a soil TPH concentration contour map.

### **5.1.2 Geotechnical Samples**

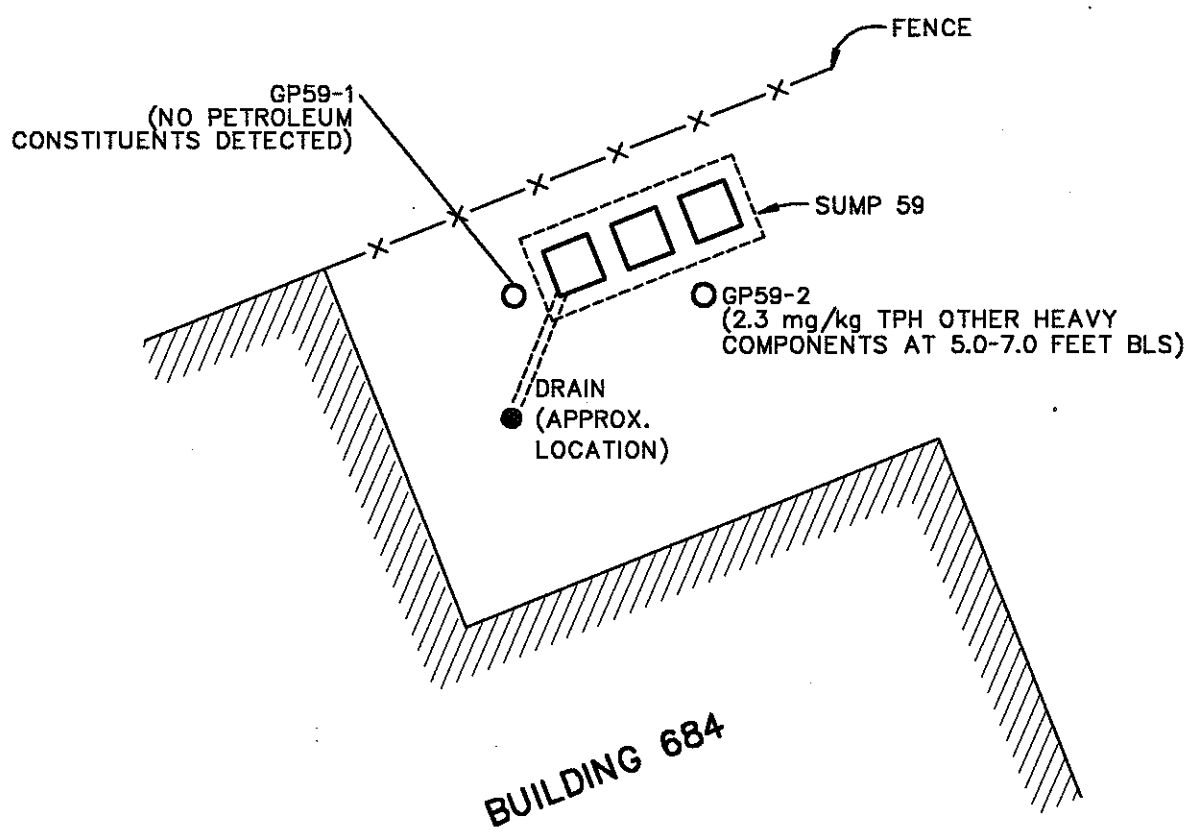
One sample at each of Sites 5, 9, and 19 (GT5-2, GT9-2, and GT2-1) was collected and analyzed for soil geotechnical properties. These properties included plasticity, grain size distribution, porosity, moisture content, percent saturation, and dry bulk density. All geotechnical samples were collected at depths corresponding to petroleum-contaminated interval depths. Because most petroleum contamination resides in the capillary fringe or near the uppermost saturated zone, all samples had greater than 90 percent saturation. All samples were clays or silts, with low sand contents. Sample locations GT5-2, GT9-2, and GT2-1 are shown in Figures 2, 3, and 7 respectively. Table 8 lists the results. Appendix E contains the laboratory data.

## **5.2 GROUNDWATER SAMPLING**

Thirty-one groundwater samples were collected using a HydroPunch II® probe and three groundwater samples were collected from monitoring wells installed during this investigation. The following sections summarize the results of laboratory analyses conducted on these samples for fuel-related hydrocarbons, SVOCs, VOCs, and total metals. Tables contained in these sections present results for the most frequently detected compounds. Appendix F contains the complete analytical data set for each sample.



APPROXIMATE  
DIRECTION OF  
GROUNDWATER  
FLOW



GP59-1  
(NO PETROLEUM  
CONSTITUENTS DETECTED)

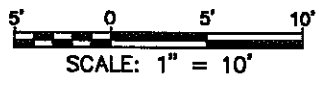
FENCE

SUMP 59

GP59-2  
(2.3 mg/kg TPH OTHER HEAVY  
COMPONENTS AT 5.0-7.0 FEET BLS)

DRAIN  
(APPROX.  
LOCATION)

BUILDING 684



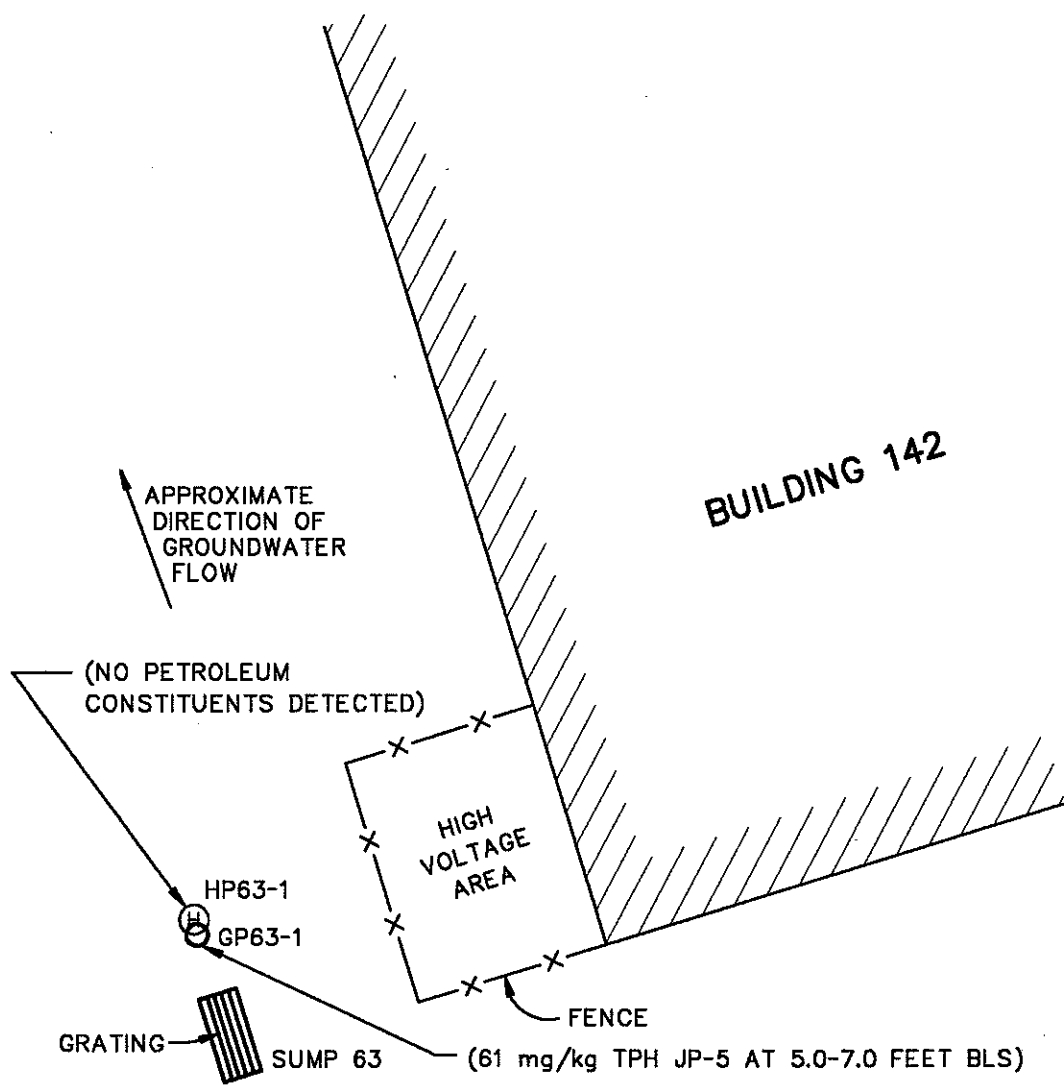
**LEGEND**

- SOIL SAMPLE LOCATION, THIS INVESTIGATION
- BLS BELOW LAND SURFACE
- mg/kg MILLIGRAMS PER KILOGRAM

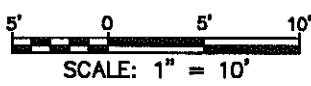
**FIGURE 4**  
**NAS MOFFETT FIELD**  
**SITE 15 - SUMP 59**  
**SOIL SAMPLE LOCATION MAP**

FILE NAME: 044\0236\RP\SRP\SUMP\_59.DWG  
DATE: 05/02/94 JAY DN





GP63-2 ○  
 (17 mg/kg TPH OTHER HEAVY COMPONENTS AT 5.0-7.0 FEET BLS)

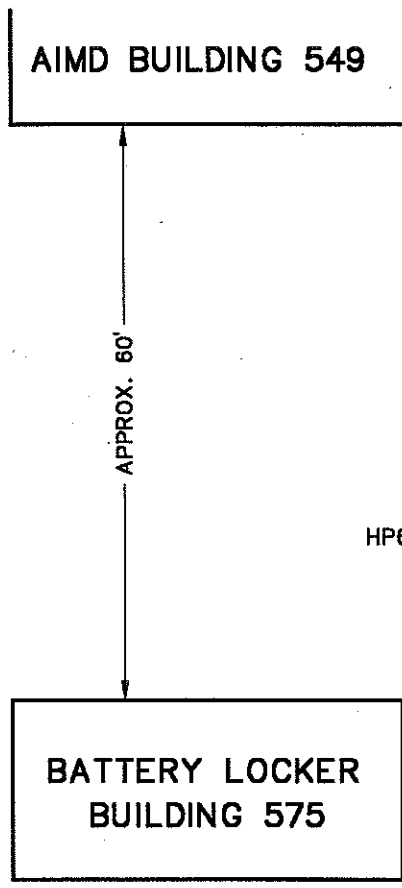
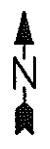


**LEGEND**

- SOIL SAMPLE LOCATION, THIS INVESTIGATION
- Ⓜ HYDROPUNCH® WATER SAMPLE LOCATION, THIS INVESTIGATION
- BLS BELOW LAND SURFACE
- mg/kg MILLIGRAMS PER KILOGRAM

**FIGURE 5**  
**NAS MOFFETT FIELD**  
**SITE 15 - SUMP 63**  
**SOIL AND HYDROPUNCH® SAMPLE**  
**LOCATION MAP**

FILE NAME: 044\0236\RP\SRP\SUMP\_63.DWG DATE: 05/02/94 JAY DN



APPROXIMATE  
DIRECTION OF  
GROUNDWATER  
FLOW

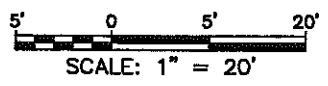
- GP65-1
- — SEWER MANHOLE/SUMP 130
- GP65-2

**LEGEND**

- SOIL SAMPLE LOCATION, THIS INVESTIGATION
- Ⓜ HYDROPUNCH® WATER SAMPLE LOCATION, THIS INVESTIGATION
- AIMD AIRCRAFT INTERMEDIATE MAINTENANCE DEPARTMENT

**NOTES**

SOIL AND GROUNDWATER METALS CONCENTRATIONS  
DO NOT INDICATE CONTAMINATION



**FIGURE 6**  
**NAS MOFFETT FIELD**  
**SITE 15 - SUMP 130**  
**SOIL AND HYDROPUNCH® SAMPLE**  
**LOCATION MAP**

FILE NAME: 044\0236\RP\SRP\SUMP\_65.DWG  
DATE: 06/07/94 BCM DN

TABLE 7

NAS MOFFETT FIELD  
 ADDITIONAL PETROLEUM SITES INVESTIGATION  
 SITE 19 SOIL SAMPLE ANALYTICAL RESULTS

Sample Number	Sample Depth (Feet BLS)	Sample Date	TPH Extractable (mg/kg)	TPH Purgeable (mg/kg)	PCE (µg/kg)	Other VOCs
GPT2-1	9.0 - 11.0	2-1-94	ND	ND	ND	See Note 1
GPT2-2	7.0 - 9.0	2-1-94	ND	ND	ND	See Note 1
GPT2-3	7.0 - 9.0	2-1-94	ND	ND	ND	See Note 1
GP43-1	9.0 - 11.0	2-1-94	ND	ND	3J	See Note 1
	11.0 - 13.0	2-1-94	ND	ND	6J	ND
GP43-2	9.0 - 11.0	2-1-94	ND	ND	2J	See Note 1
GP43-3	9.0 - 11.0	2-1-94	ND	ND	ND	See Note 2
GP43-4	9.0 - 11.0	2-1-94	ND	ND	7J	See Note 3
GP43-5	7.0 - 9.0	2-1-94	ND	ND	4J	ND
	9.0 - 11.0	2-1-94	ND	ND	5J	See Note 1
SB43-3	10.5	2-4-94	ND	NA	ND	See Note 1
GP53-24	4.0 - 5.4	2-3-94	NA	2.8 (G), 0.018 (E), 0.070 (X)	NA	NA
GP53-25	4.2 - 5.8	2-3-94	NA	ND	NA	NA
GP53-26	5.0 - 5.9	2-3-94	NA	ND	NA	NA
GP53-27	5.0 - 6.0	2-3-94	NA	ND	NA	NA

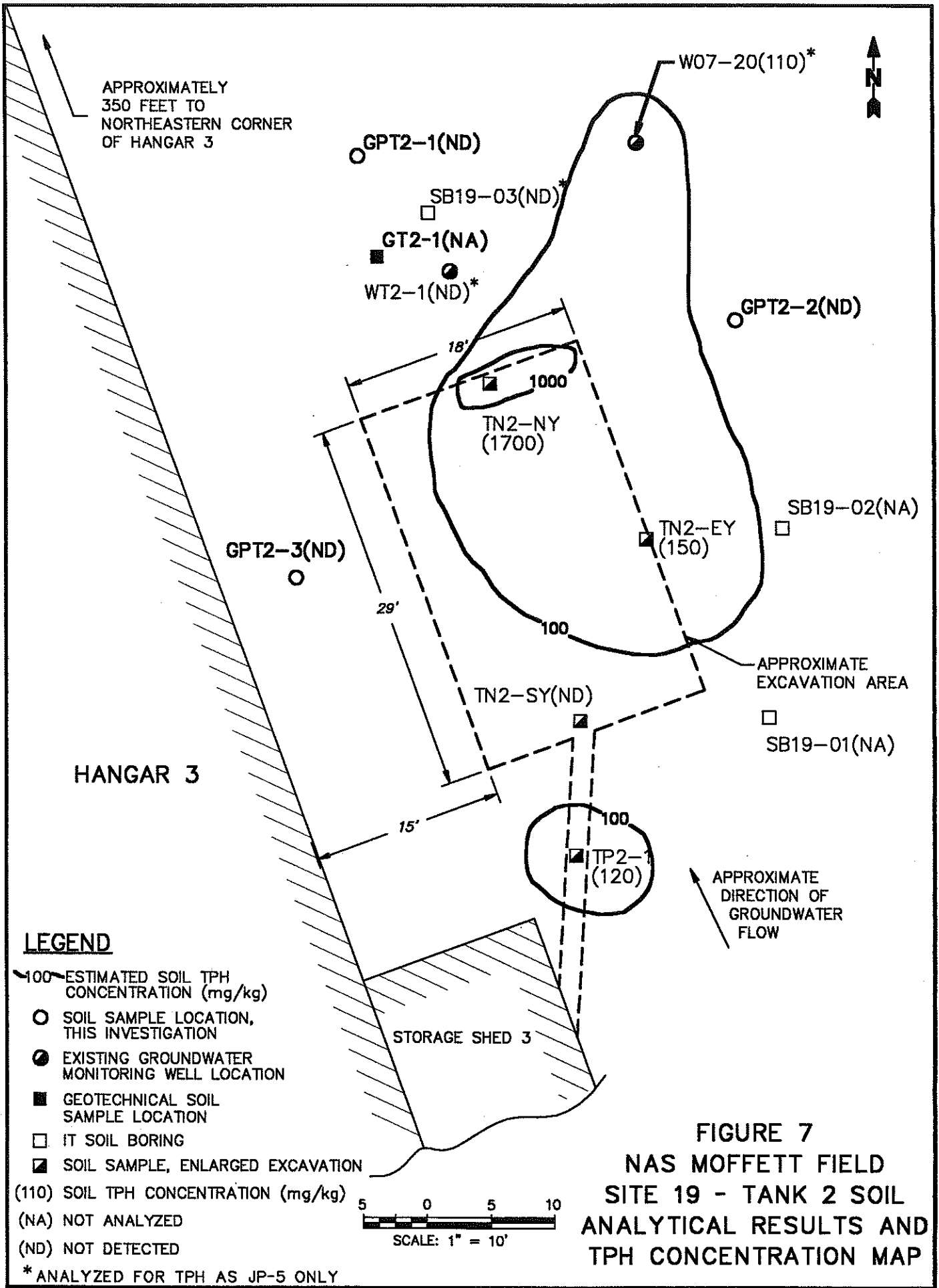
Validation in progress. Validated results will be presented in the draft final report.

Notes:

- |       |                           |    |   |
|-------|---------------------------|----|---|
| BLS   | Below land surface        | ND | Not detected                            |
| PCE   | Tetrachloroethene         | NA | Not analyzed                            |
| VOC   | Volatile organic compound | J  | Estimated value, below detection limits |
| mg/kg | Milligrams per kilogram   | G  | Gasoline                                |
| µg/kg | Micrograms per kilogram   | E  | Ethylbenzene                            |
|       |                           | X  | Xylenes                                 |

- 1 Methylene chloride and/or acetone detected below detection limits.
- 2 Acetone concentration was 16 µg/kg; methylene chloride, carbon disulfide, and 2-butanone all detected below detection limits.
- 3 Methylene chloride, 1,2-dichloroethene, and trichloroethene detected below detection limits.

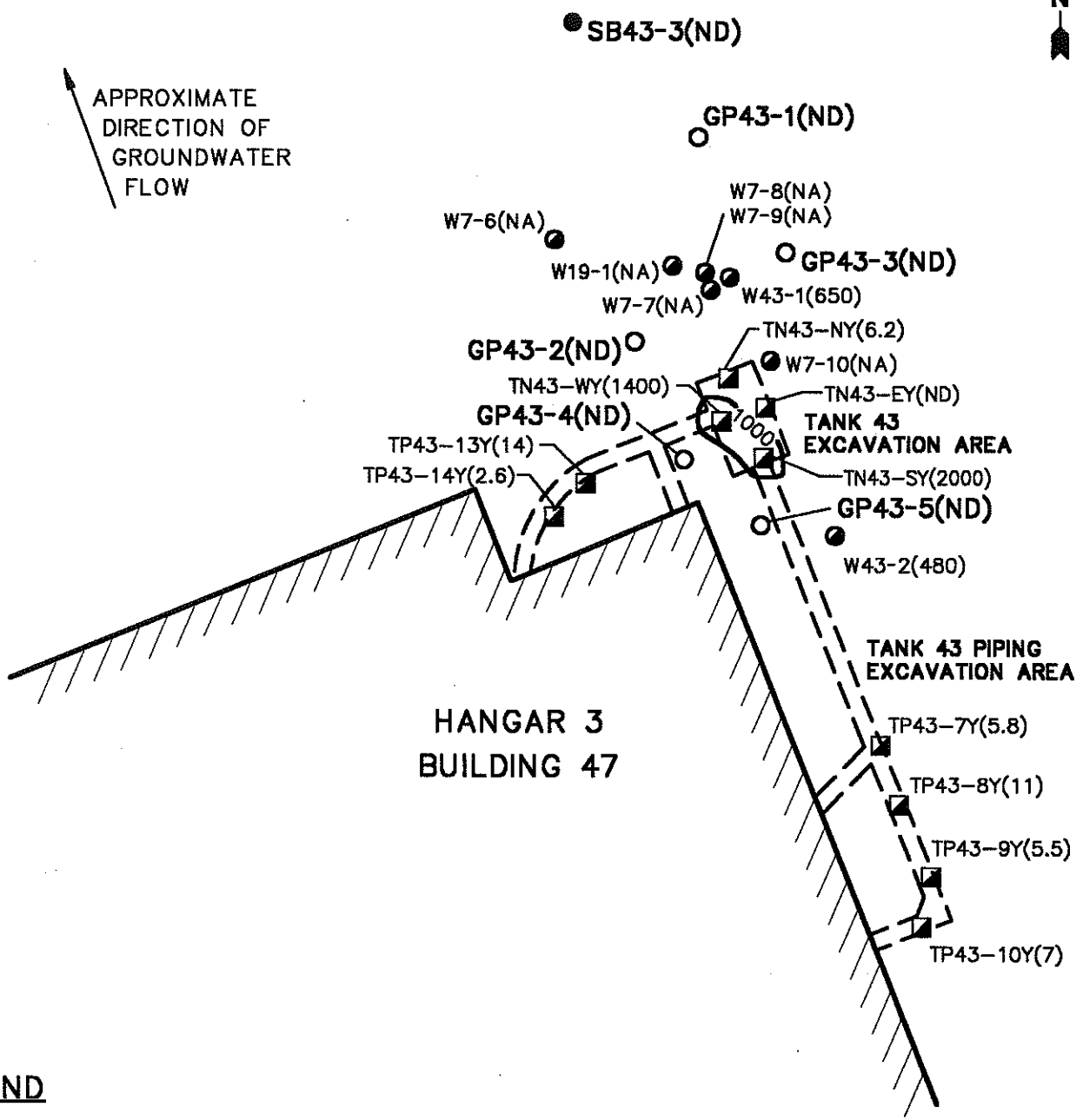
No detections of TPH extractable as diesel, JP-5 or kerosene were observed above the detection limit (1.0 to 1.2 mg/kg). No detections of TPH extractable as motor oil were observed above the detection limit (10 to 12 mg/kg) No detections of TPH purgeable as benzene or toluene were observed above the detection limit (6 to 7 µg/kg).



FILE NAME: 044\0235\RP\SPP\TANK19-2.DWG  
 DATE: 05/02/94 JAY DN



APPROXIMATE  
DIRECTION OF  
GROUNDWATER  
FLOW



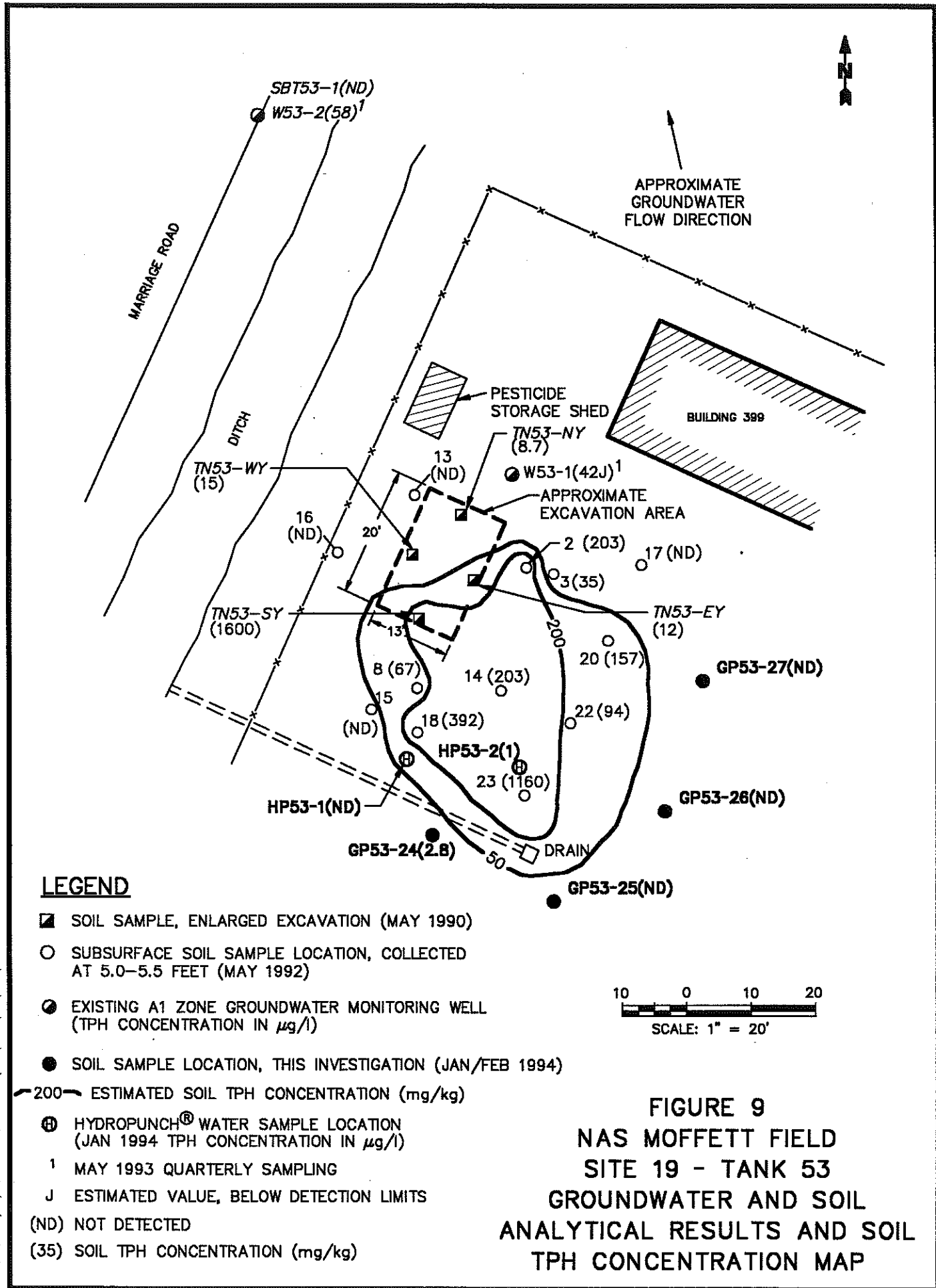
**LEGEND**

- ▣ SOIL SAMPLE, ENLARGED EXCAVATION
- EXISTING A1 ZONE GROUNDWATER MONITORING WELL
- SOIL SAMPLE LOCATION, THIS INVESTIGATION
- SOIL BORING FOR GROUNDWATER MONITORING WELL, THIS INVESTIGATION
- (NA) NOT ANALYZED
- (ND) NOT DETECTED
- (650) TPH CONCENTRATION (mg/kg)
- 1000 ESTIMATED SOIL TPH CONCENTRATION (mg/kg)



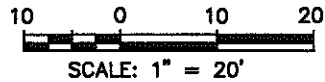
**FIGURE 8**  
**NAS MOFFETT FIELD**  
**SITE 19 - TANK 43**  
**SOIL ANALYTICAL RESULTS AND**  
**TPH CONCENTRATION MAP**

FILE NAME: 044\0236\SRP\TANK19-43.DWG  
 DATE: 05/02/94 JAY DN



**LEGEND**

- SOIL SAMPLE, ENLARGED EXCAVATION (MAY 1990)
- SUBSURFACE SOIL SAMPLE LOCATION, COLLECTED AT 5.0-5.5 FEET (MAY 1992)
- EXISTING A1 ZONE GROUNDWATER MONITORING WELL (TPH CONCENTRATION IN  $\mu\text{g}/\text{l}$ )
- SOIL SAMPLE LOCATION, THIS INVESTIGATION (JAN/FEB 1994)
- 200— ESTIMATED SOIL TPH CONCENTRATION (mg/kg)
- ⊕ HYDROPUNCH® WATER SAMPLE LOCATION (JAN 1994 TPH CONCENTRATION IN  $\mu\text{g}/\text{l}$ )
- 1 MAY 1993 QUARTERLY SAMPLING
- J ESTIMATED VALUE, BELOW DETECTION LIMITS
- (ND) NOT DETECTED
- (35) SOIL TPH CONCENTRATION (mg/kg)



**FIGURE 9**  
**NAS MOFFETT FIELD**  
**SITE 19 - TANK 53**  
**GROUNDWATER AND SOIL**  
**ANALYTICAL RESULTS AND SOIL**  
**TPH CONCENTRATION MAP**

FILE: \044\0235\RP\SRP\TK19-53.DWG  
 DATE: 05/03/94  
 JUL DN

**TABLE 8****NAS MOFFETT FIELD  
ADDITIONAL PETROLEUM SITES INVESTIGATION  
SOIL SAMPLE GEOTECHNICAL RESULTS**

Sample Number	Sample Depth (feet BLS)	Soil Description	Porosity <sup>1</sup> (percent)	Saturation <sup>2</sup> (percent)	Moisture <sup>3</sup> Content (percent)	Plasticity Index <sup>4</sup> (percent)
GT2-1	10.0 - 10.5	Brown sandy clay	33.1	98.7	17.4	10.9
GT5-2	13.0 - 13.5	Gray silt with sand	43.7	92.7	25.7	10.3
GT9-2	9.0 - 9.5	Gray clay	39.9	97.9	23.2	16.6

## Notes:

BLS Below land surface

- <sup>1</sup> Defined as volume of voids divided by total volume
- <sup>2</sup> Defined as volume of water divided by volume of voids
- <sup>3</sup> Defined as mass of water divided by mass of solids
- <sup>4</sup> Defined as liquid limit minus plastic limit

All geotechnical samples were analyzed in February 1994 by Cooper Testing Laboratory, Inc.

### 5.2.1 HydroPunch® Groundwater Samples

Twenty-one groundwater samples were collected from the A1 aquifer zone beneath Site 5 using a HydroPunch II® probe. All of these samples were analyzed for TPH extractables, and some were also analyzed for TPH purgeables and VOCs. The highest TPH detection was 10,000 micrograms per liter ( $\mu\text{g/L}$ ) qualified as TPH extractable as other heavy components at location HP5-3. A review of the chromatogram indicates that this hydrocarbon mixture is JP-5 fuel. This HydroPunch® sample was collected from 7.0 to 8.0 feet BLS in a possible seasonal perched water table. Analytical results for the sample collected from monitoring well W5-34, immediately adjacent to HP5-3, showed only 57  $\mu\text{g/L}$  of TPH extractable as other heavy components. However, well W5-34 was screened at 14.85 to 19.85 feet BLS in the uppermost saturated permeable unit of the A1 aquifer. Two other samples, HP5-10 and HP5-11, had elevated TPH detections, 6,200 and 890  $\mu\text{g/L}$  of TPH extractable as kerosene, respectively. Though identified as kerosene, the analyte is probably JP-5 because no kerosene is known to exist at Site 5 and because the chromatographic patterns of JP-5 fuel and kerosene are very similar. No VOCs were detected at location HP5-12, the only Site 5 sample analyzed for VOCs. Table 9 lists the results. Figure 10 shows sample locations, groundwater results, and a TPH contour plume map.

Ten groundwater samples were collected in the A1 zone at Sites 15 and 19 using the HydroPunch® II probe. No petroleum constituents were detected in the sample from location HP63-1 next to Sump 63, though VOCs were detected below method detection limits. No VOCs were detected in the sample from location HP65-1 near Sump 130, and metals concentrations did not indicate contamination. Site 15 and 19 groundwater samples metals concentrations also did not indicate contamination. Motor oil was detected at 840  $\mu\text{g/L}$  at HPT2-2 at Tank 2; HPT2-1 contained low levels of ethylbenzene. Low concentrations of chlorinated VOCs also were detected in these samples. In the samples from near Tank 43, up to 120  $\mu\text{g/L}$  of TPH extractable as diesel and up to 87  $\mu\text{g/L}$  of PCE were detected. No detections of TPH purgeable as gasoline were observed in the groundwater samples near Tank 53, and only low concentrations of BTEX constituents were detected (up to 1.0  $\mu\text{g/L}$ ). Table 10 summarizes the groundwater analytical results for Sites 15 and 19. Figure 11 shows the locations and TPH concentrations of the groundwater samples near Tank 2. Figure 12 shows Tank 43 TPH groundwater results, TPH groundwater concentration contours, and includes historical TPH groundwater data. Figure 9 includes TPH groundwater results for Tank 53.



**TABLE 9**

**NAS MOFFETT FIELD  
 ADDITIONAL PETROLEUM SITES INVESTIGATION  
 SITE 5 GROUNDWATER SAMPLE ANALYTICAL RESULTS  
 (Concentrations in  $\mu\text{g/L}$ )**

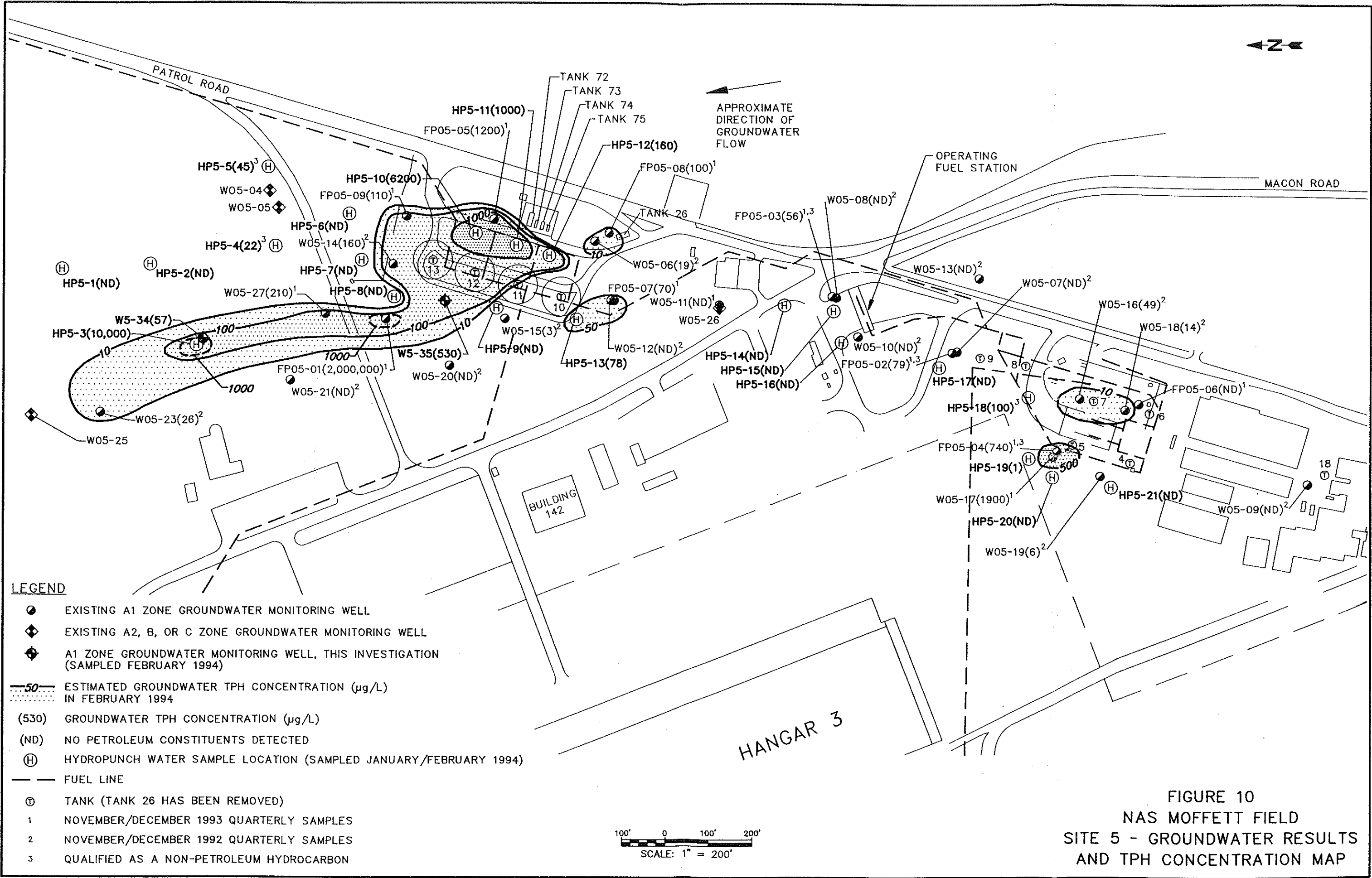
Sample Number	Sample Date	TPH Extractable	TPH Purgeable
HP5 - 1	1-25-94	ND	NA
HP5 - 2	1-25-94	ND	NA
HP5 - 3	1-26-94	10,000 (H)	NA
HP5 - 4	1-25-94	22 J (H)	NA
HP5 - 5	1-26-94	45 J (H)	NA
HP5 - 6	1-27-94	ND	NA
HP5 - 7	1-31-94	ND	NA
HP5 - 8	2-1-94	ND	NA
HP5 - 9	2-1-94	ND	NA
HP5 - 10	2-1-94	6,200 (K), 390 (H)	NA
HP5 - 11	2-1-94	890 (K), 1,000 (H)	NA
HP5 - 12	2-1-94	160 (H)	NA
HP5 - 13	1-31-94	78 (H)	NA
HP5 - 14	2-1-94	ND	NA
HP5 - 15	2-1-94	ND	NA
HP5 - 16	2-2-94	ND	NA
HP5 - 17	2-2-94	ND	NA
HP5 - 18	2-2-94	ND	100 (L)
HP5 - 19	2-2-94	ND	1 (X)
HP5 - 20	2-2-94	ND	NA
HP5 - 21	2-2-94	ND	NA
W5-34	2-8-94	57 (H)	NA
W5-35	2-8-94	530 (K), 72 (H)	NA

Validation in progress. Validated results will be presented in the draft final report.

Notes:

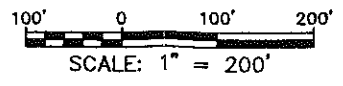
TPH	Total petroleum hydrocarbons	L	TPH other light components
$\mu\text{g/L}$	Micrograms per liter	K	TPH kerosene
ND	Not detected	X	Xylene
NA	Not analyzed	J	Estimated value
H	TPH other heavy components		

No detections of TPH extractable as diesel or JP-5 were observed above the detection limit (50 to 56  $\mu\text{g/L}$ ). No detections of TPH extractable as motor oil were observed above the detection limit (500 to 560  $\mu\text{g/L}$ ). No detections of TPH purgeable as gasoline were observed above the detection limit (50  $\mu\text{g/L}$ ). No detections of TPH purgeable as gasoline were observed above the detection limit (50  $\mu\text{g/L}$ ). No detections of TPH purgeable as benzene, toluene, or ethylbenzene were observed above the detection limit (0.5  $\mu\text{g/L}$ ).



FILE NAME: 044\0238\RP\SRP\95-HPAW1.DWG  
 DATE: 06/07/94 BCM DN

- LEGEND**
- EXISTING A1 ZONE GROUNDWATER MONITORING WELL
  - ◆ EXISTING A2, B, OR C ZONE GROUNDWATER MONITORING WELL
  - ◆ A1 ZONE GROUNDWATER MONITORING WELL, THIS INVESTIGATION (SAMPLED FEBRUARY 1994)
  - 50--- ESTIMATED GROUNDWATER TPH CONCENTRATION (µg/L) IN FEBRUARY 1994
  - (530) GROUNDWATER TPH CONCENTRATION (µg/L)
  - (ND) NO PETROLEUM CONSTITUENTS DETECTED
  - ⊕ HYDROPUNCH WATER SAMPLE LOCATION (SAMPLED JANUARY/FEBRUARY 1994)
  - FUEL LINE
  - ⊙ TANK (TANK 26 HAS BEEN REMOVED)
  - 1 NOVEMBER/DECEMBER 1993 QUARTERLY SAMPLES
  - 2 NOVEMBER/DECEMBER 1992 QUARTERLY SAMPLES
  - 3 QUALIFIED AS A NON-PETROLEUM HYDROCARBON



**FIGURE 10**  
**NAS MOFFETT FIELD**  
**SITE 5 - GROUNDWATER RESULTS**  
**AND TPH CONCENTRATION MAP**

**TABLE 10**  
**NAS MOFFETT FIELD**  
**ADDITIONAL PETROLEUM SITES INVESTIGATION**  
**SITES 15 AND 19 GROUNDWATER SAMPLE ANALYTICAL RESULTS**  
(Concentrations in  $\mu\text{g/L}$ )

Sample Number	Sample Date	TPH Extractable	TPH Purgeable	1,2-DCE	TCE	PCE	Other VOCs	SVOCs
HP63-1	1-26-94	ND	ND	ND	0.9J	ND	See Notes 1,2	NA
HP65-1	1-27-94	NA	NA	ND	ND	ND	See Note 1	NA
HPT2-1	1-31-94	ND	0.9(E)	2	4	4	See Notes 1,3	ND
HPT2-2	1-31-94	840(MO)	ND	0.5J	3	0.9J	See Notes 1,2,3	NA
W43-3	2-9-94	30J(H)	ND	3	1J	0.7J	See Notes 1,2,4	See Note 5
HP43-1	1-26-94	120(D)	ND	17	30	87	See Notes 1,2	NA
HP43-2	1-27-94	43J(H)	ND	14	22	67	See Notes 1,2	NA
HP43-3	1-27-94	ND	ND	12	45	80	See Notes 1,2	See Note 5
HP43-4	1-26-94	ND	ND	3	1J	0.6J	See Notes 1,2,3,6	NA
HP53-1	1-31-94	NA	ND	NA	NA	NA	NA	NA
HP53-2	1-31-94	NA	0.6(T), 1.0(E), 1.0(X)	NA	NA	NA	NA	NA

Validation in progress. Validated results will be presented in the draft final report.

**Notes:**

- |                 |                              |      |   |      |   |
|-----------------|------------------------------|------|---|------|---|
| $\mu\text{g/L}$ | Micrograms per liter         | VOC  | Volatile organic compound               | H    | TPH other heavy components              |
| TPH             | Total petroleum hydrocarbons | SVOC | Semivolatile organic compound           | L    | TPH other light components              |
| DCE             | Dichloroethene               | J    | Estimated value, below detection limits | D    | Diesel                                  |
| TCE             | Trichloroethene              | ND   | Not detected                            | MO   | Motor Oil                               |
| PCE             | Tetrachloroethene            | NA   | Not analyzed                            | BTEX | Benzene, toluene, ethylbenzene, xylenes |
- 
- 1 Methylene chloride and/or acetone detected near or below detection limits.
  - 2 1,1-dichloroethene and 1,1-dichloroethane detected below detection limits.
  - 3 BTEX constituents detected below detection limits.
  - 4 1,1-dichloroethane was 2  $\mu\text{g/L}$  and 1,1,1-trichloroethane estimated at 0.3  $\mu\text{g/L}$
  - 5 Bis (2-ethylhexyl) phthalate and/or butylbenzyl phthalate detected below detection limits
  - 6 Vinyl chloride estimated at 0.5  $\mu\text{g/L}$ .

No detections of TPH extractable as kerosene JP-5 were observed above the detection limit (50 to 56  $\mu\text{g/L}$ ). No detections of TPH purgeable as gasoline were observed above the detection limit (50  $\mu\text{g/L}$ ). No detections of TPH purgeable as benzene were observed above the detection limit (0.5  $\mu\text{g/L}$ ).



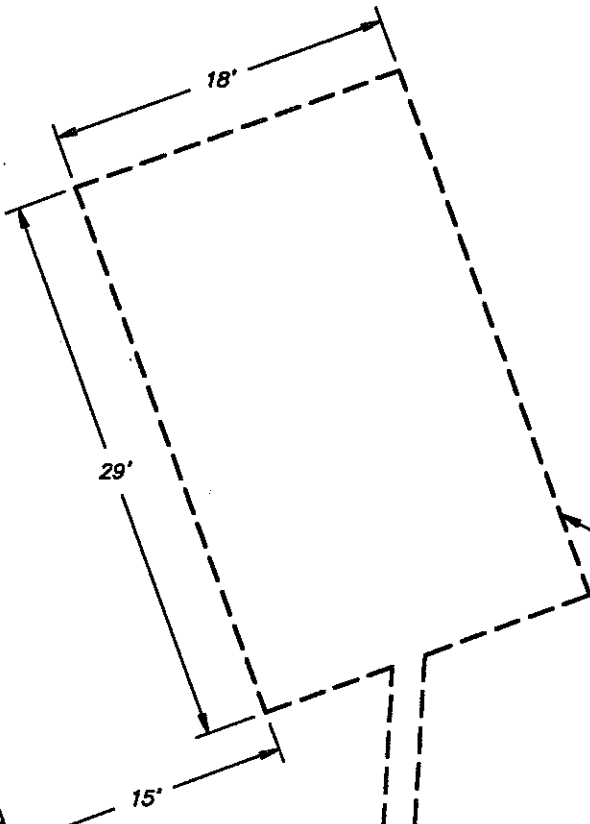
APPROXIMATELY  
350 FEET TO  
NORTHEASTERN CORNER  
OF HANGAR 3

● W07-20(ND)<sup>1</sup>

⊕ HPT2-1(0.9)

● WT2-1(14)<sup>2</sup>

⊕ HPT2-2(840)



APPROXIMATE  
EXCAVATION AREA

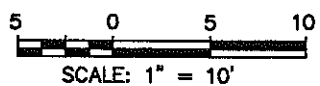
HANGAR 3

APPROXIMATE  
DIRECTION OF  
GROUNDWATER  
FLOW

STORAGE SHED 3

**LEGEND**

- ⊕ HYDROPUNCH® WATER SAMPLE LOCATION, THIS INVESTIGATION
- EXISTING GROUNDWATER MONITORING WELL LOCATION
- (14) TPH CONCENTRATION ( $\mu\text{g}/\text{l}$ )
- (ND) NOT DETECTED
- 1 MAY 1993 QUARTERLY SAMPLING
- 2 DECEMBER 1992 QUARTERLY SAMPLING

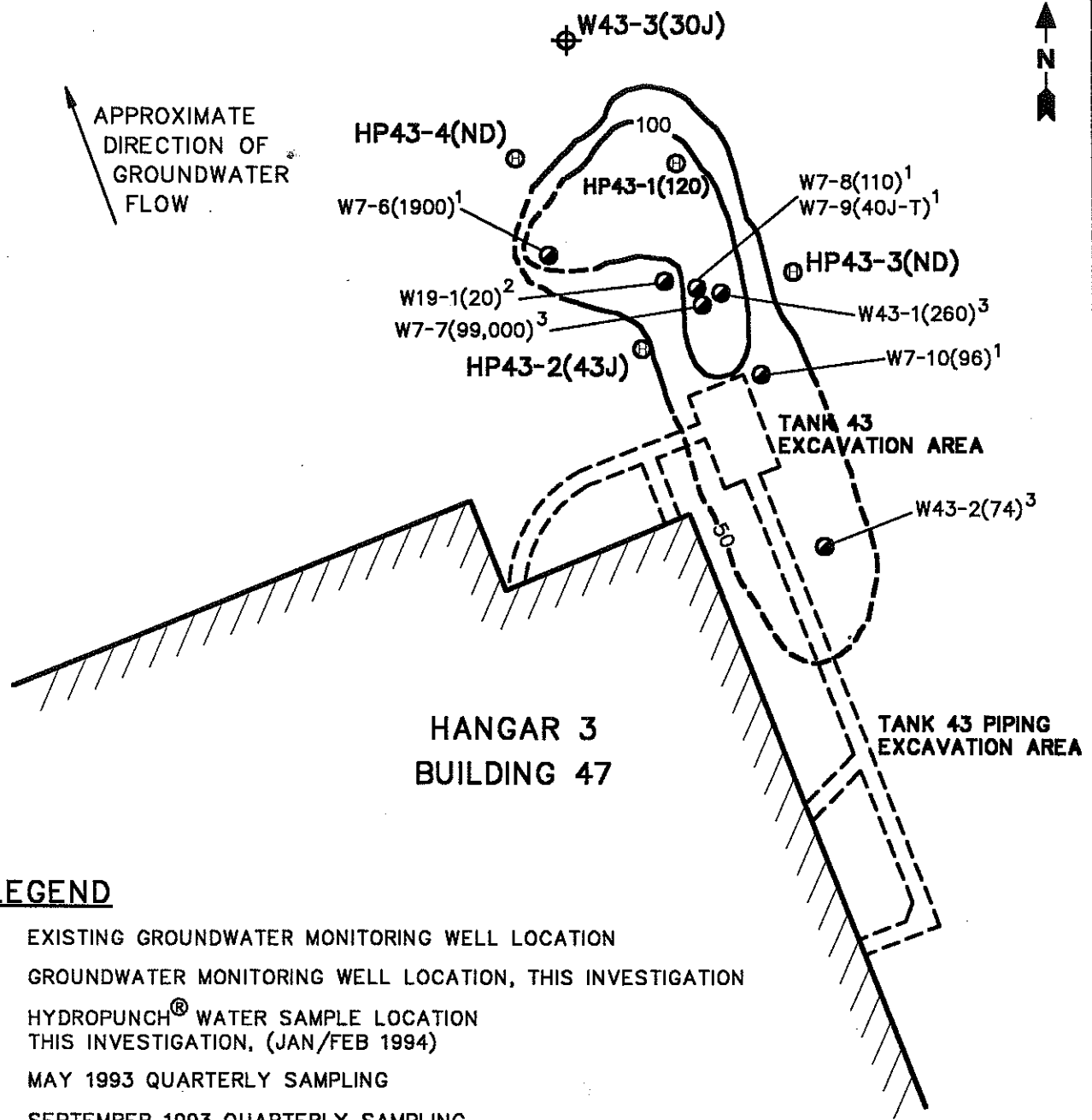


**FIGURE 11  
NAS MOFFETT FIELD  
SITE 19 - TANK 2  
GROUNDWATER TPH ANALYTICAL  
RESULTS MAP**

FILE NAME: 044\0236\VRP\SRP\WATR19-2.DWG  
DATE: 05/02/94 JAY DN



APPROXIMATE  
DIRECTION OF  
GROUNDWATER  
FLOW



### LEGEND

- EXISTING GROUNDWATER MONITORING WELL LOCATION
- ⊕ GROUNDWATER MONITORING WELL LOCATION, THIS INVESTIGATION
- ⊕ HYDROPUNCH® WATER SAMPLE LOCATION THIS INVESTIGATION, (JAN/FEB 1994)
- 1 MAY 1993 QUARTERLY SAMPLING
- 2 SEPTEMBER 1993 QUARTERLY SAMPLING
- 3 DECEMBER 1993 QUARTERLY SAMPLING
- J ESTIMATED VALUE
- J-T ESTIMATED VALUE (DUE TO TENTATIVE IDENTIFICATION OF TARGET COMPOUND)
- (NA) NOT ANALYZED
- (ND) NOT DETECTED
- (74) TPH CONCENTRATION ( $\mu\text{g/l}$ )
- 100 ESTIMATED GROUNDWATER TPH CONCENTRATION ( $\mu\text{g/l}$ )



**FIGURE 12**  
**NAS MOFFETT FIELD**  
**SITE 19 - TANK 3**  
**GROUNDWATER ANALYTICAL RESULTS**  
**AND TPH CONCENTRATION MAP**

FILE NAME: 044\0236\RP\SRP\WTR19-43.DWG  
 DATE: 05/02/94 JAY DN

### 5.2.2 Monitoring Well Groundwater Samples

Three groundwater samples were collected from the A1 aquifer zone from the newly installed wells. TPH was detected in samples from both wells W5-34 and W5-35 at concentrations up to 530  $\mu\text{g/L}$  of TPH extractable as kerosene (probably JP-5) in the sample from well W5-35. These data are also included in Table 9 and in Figure 10. No SVOCs were detected in either of these groundwater samples. A groundwater sample from well W43-3 had an estimated 30  $\mu\text{g/L}$  of TPH extractable as other heavy compounds. Bis (2-ethylhexyl) phthalate also was detected in this sample below method detection limits. Low concentrations of VOCs were also detected in the sample from well W43-3 (see Table 10). The location and TPH concentration detected at well W43-3 is shown in Figure 12.

## 6.0 REFERENCES

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- U.S. Environmental Protection Agency (EPA) 1991. Contract Laboratory Program Statement of Work for Organics Analysis: Multi-media, Multi-concentration. Office of Emergency and Remedial Response, Document Number OLM01.0 and revisions through OLM01.8. August.

**APPENDIX A**

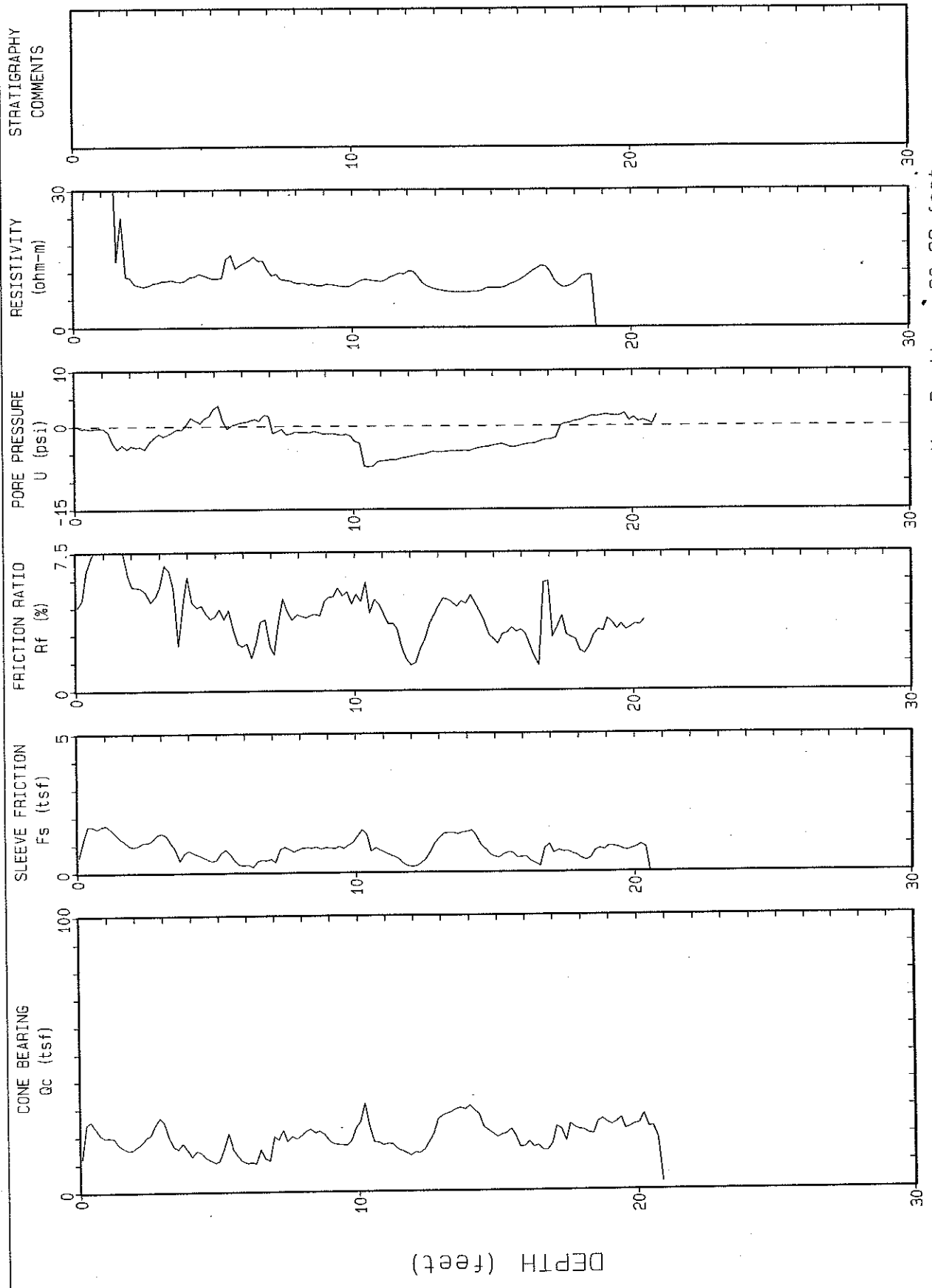
**CONE PENETROMETER TEST LOGS**



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

PRO CORP

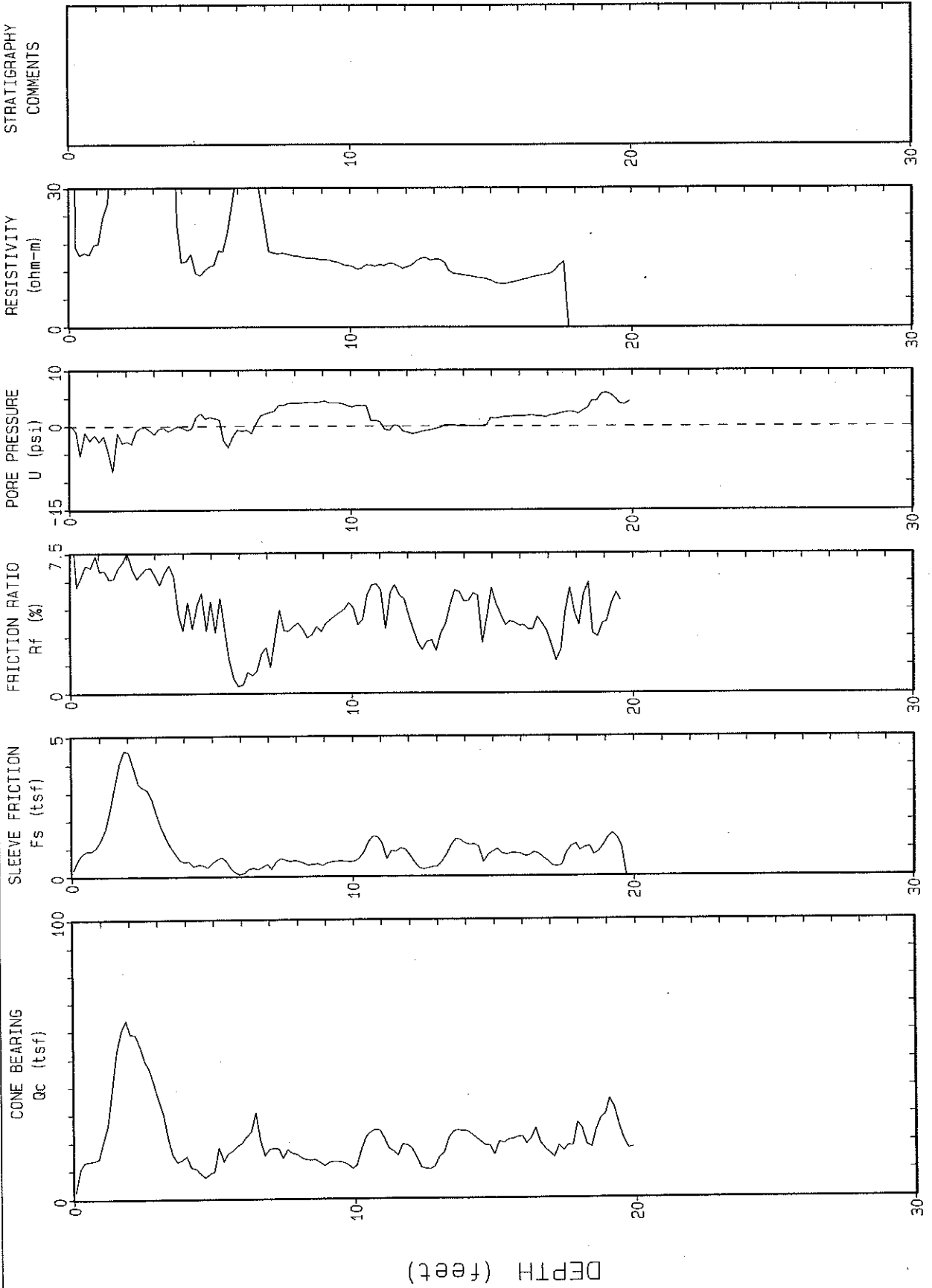
Project : MOFFETT PETRO SI Contractor : GREGG IN SITU File Name : HP5-1.DAT  
Location : HP5-1 Geologist : STEVE ANNECONE CPT Date : 01/25/94



Depth Increment : .164042 m Max Depth : 20.88 feet

# PRO CORP.

Project : MOFFETT PETRO SI Contractor : GREGG IN SITU File Name : HP5-2.DAT  
Location : HP5-2 Geologist : STEVE ANNECONE CPT Date : 01/25/94



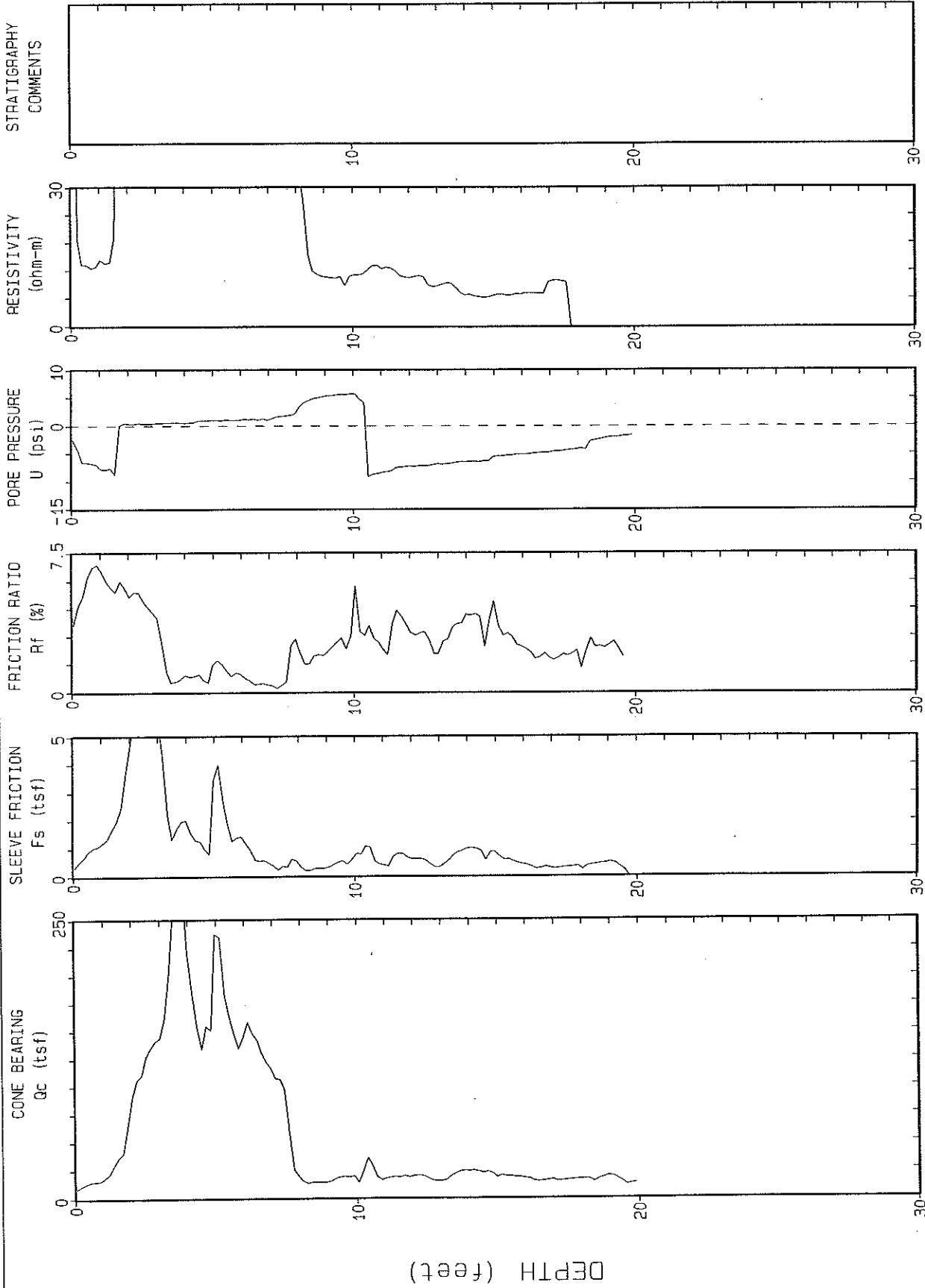
Max Depth : 19.90 feet

Depth Increment : .154042 m

HP5-3.DAT

# PRC CORP

Project : MOFFETT PETRO SI  
 Location : HP5-3  
 Contractor : GREGG IN SITU  
 Geologist : STEVE ANNECONE  
 File Name : HP5-3.DAT  
 CPT Date : 01/26/94



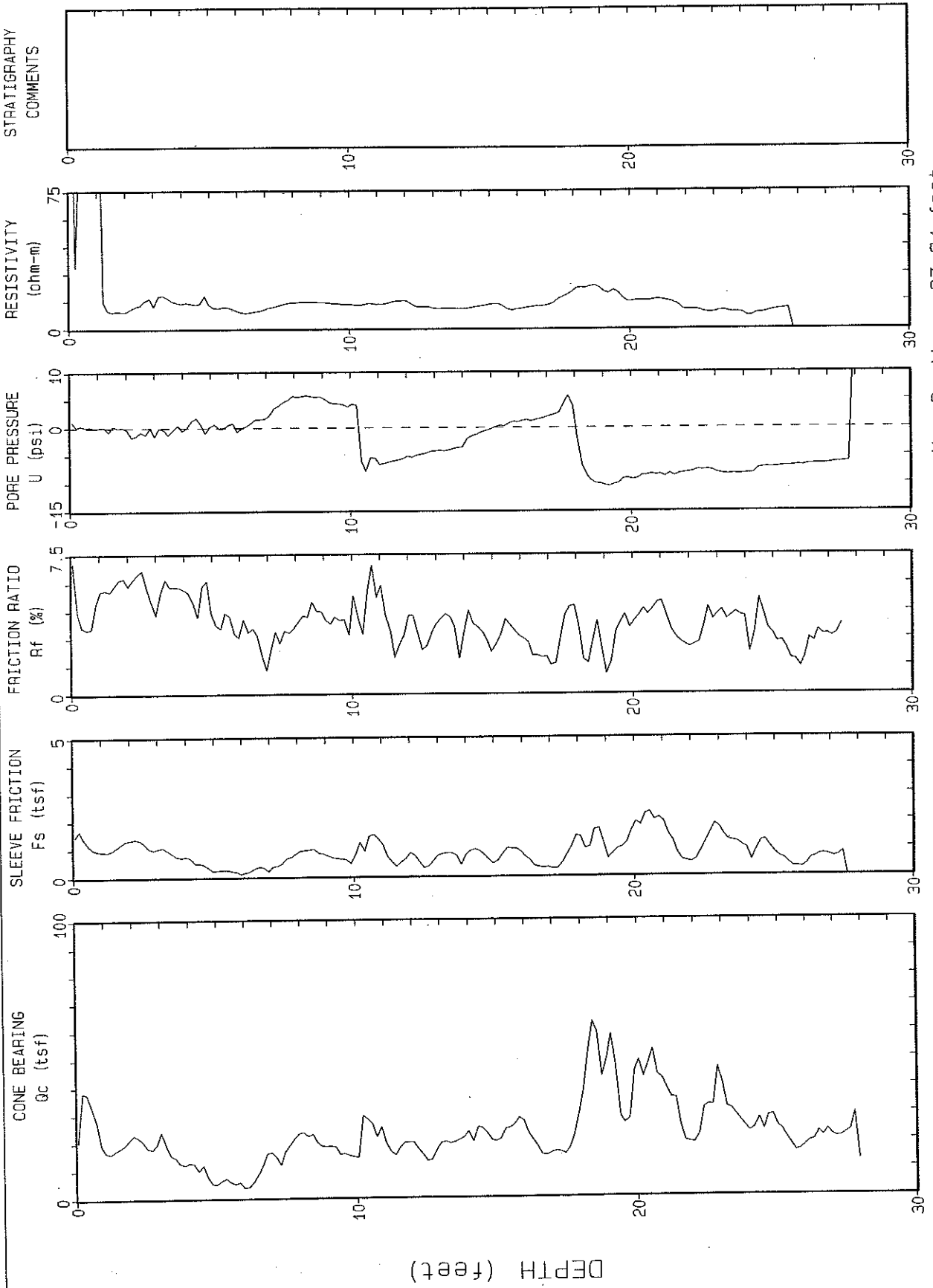
Max Depth : 19.90 feet

Depth Increment : .154042 m

DEPTH (feet)

# PRC CORP

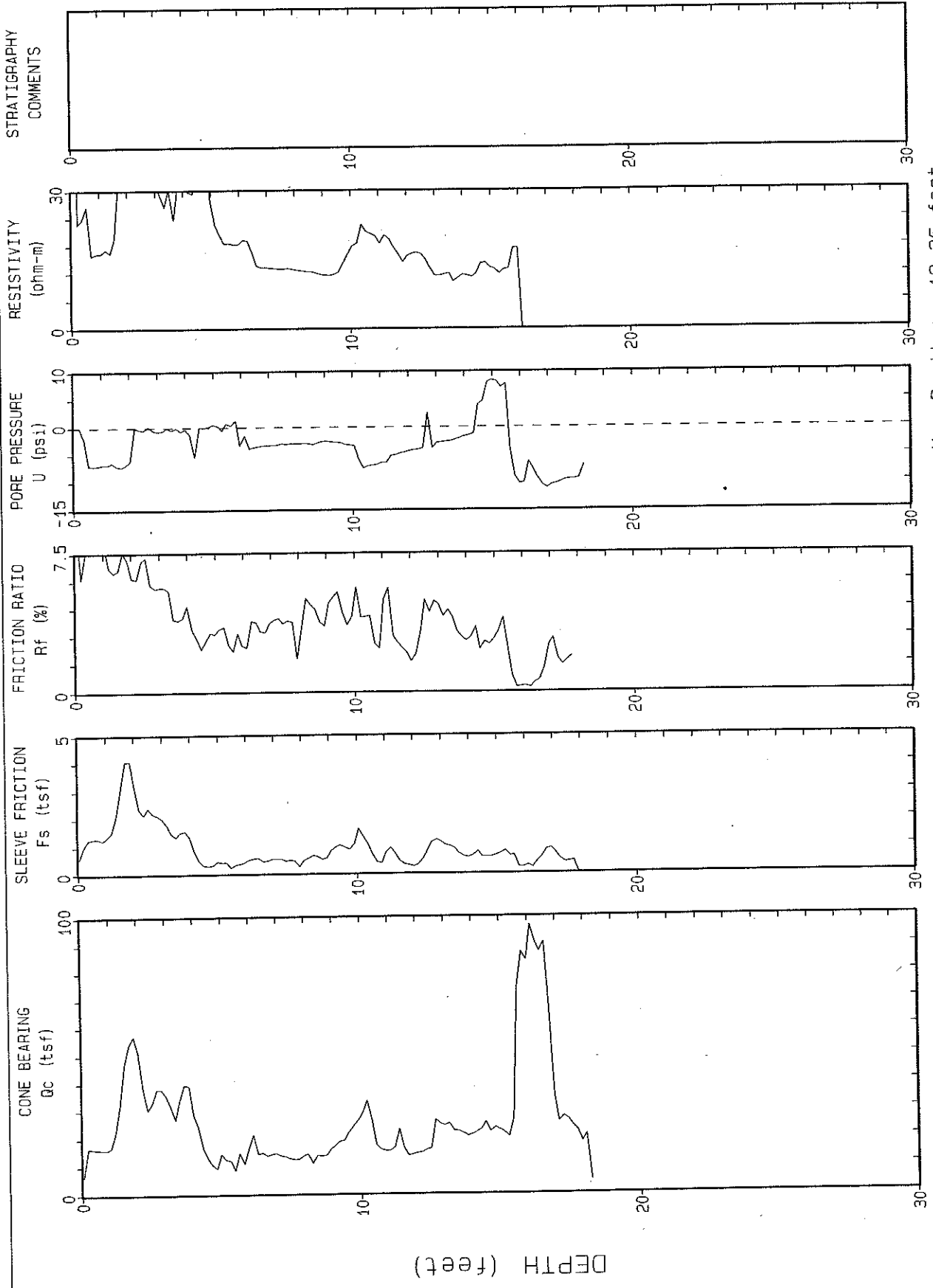
Project : MOFFETT PETRO SI Contractor : GREGG IN SITU File Name : HP5-4.DAT  
Location : HP5-4 Geologist : STEVE ANNECONE CPT Date : 01/25/94



Depth Increment : .164042 m Max Depth : 27.94 feet

# PRC CORP

Project : MOFFETT PETRO SI Contractor : GREGG IN SITU File Name : HP5-5.DAT  
Location : HP5-5 Geologist : STEVE ANNECONE CPT Date : 01/26/94

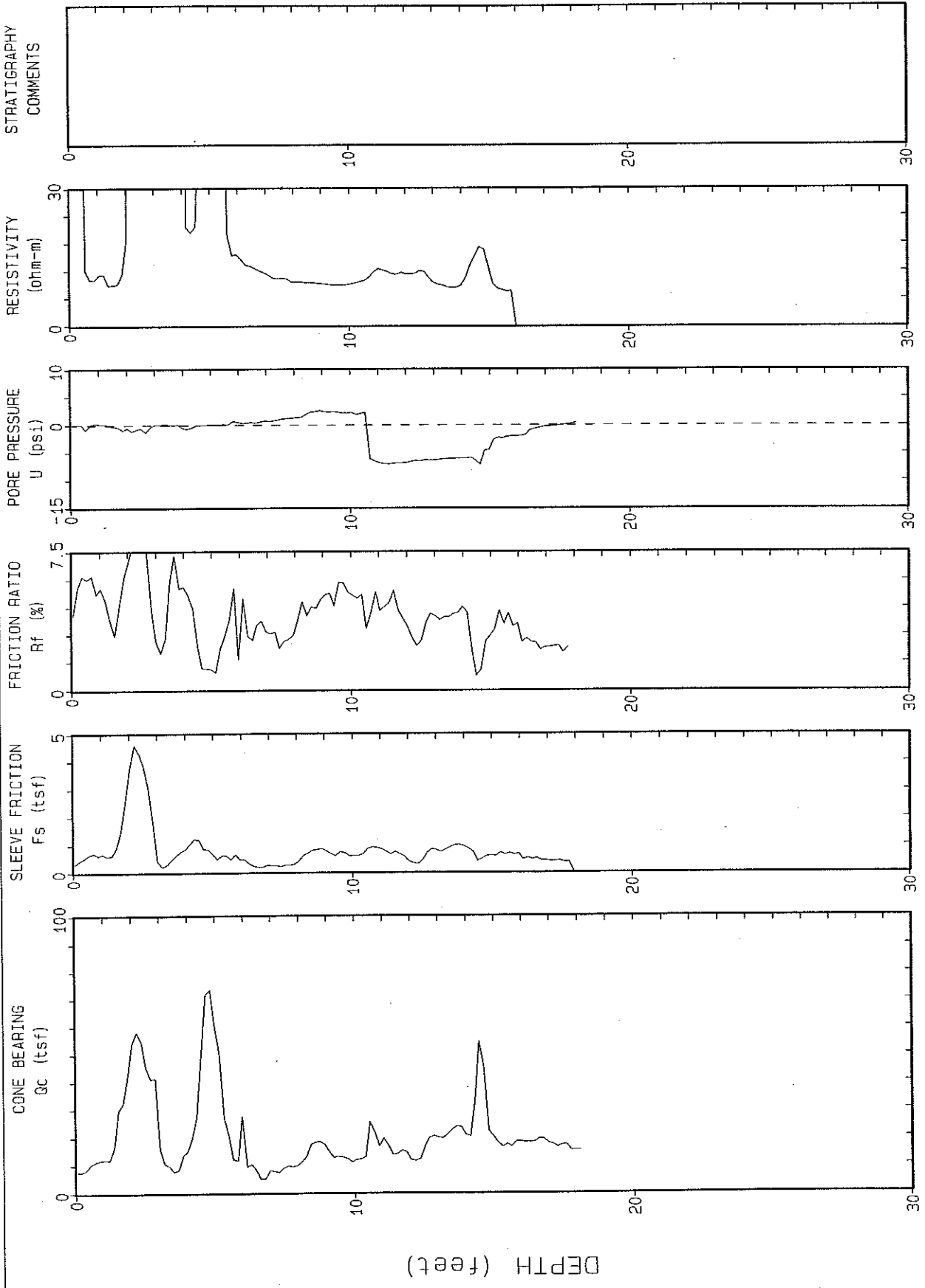


Max Depth : 18.26 feet

Depth Increment : .154042 m

# PRC CORP

Project : MOFFETT PETRO SI Contractor : GREGG IN SITU File Name : HP5-6.DAT  
Location : HP5-6 Geologist : STEVE ANNECONE CPT Date : 01/27/94

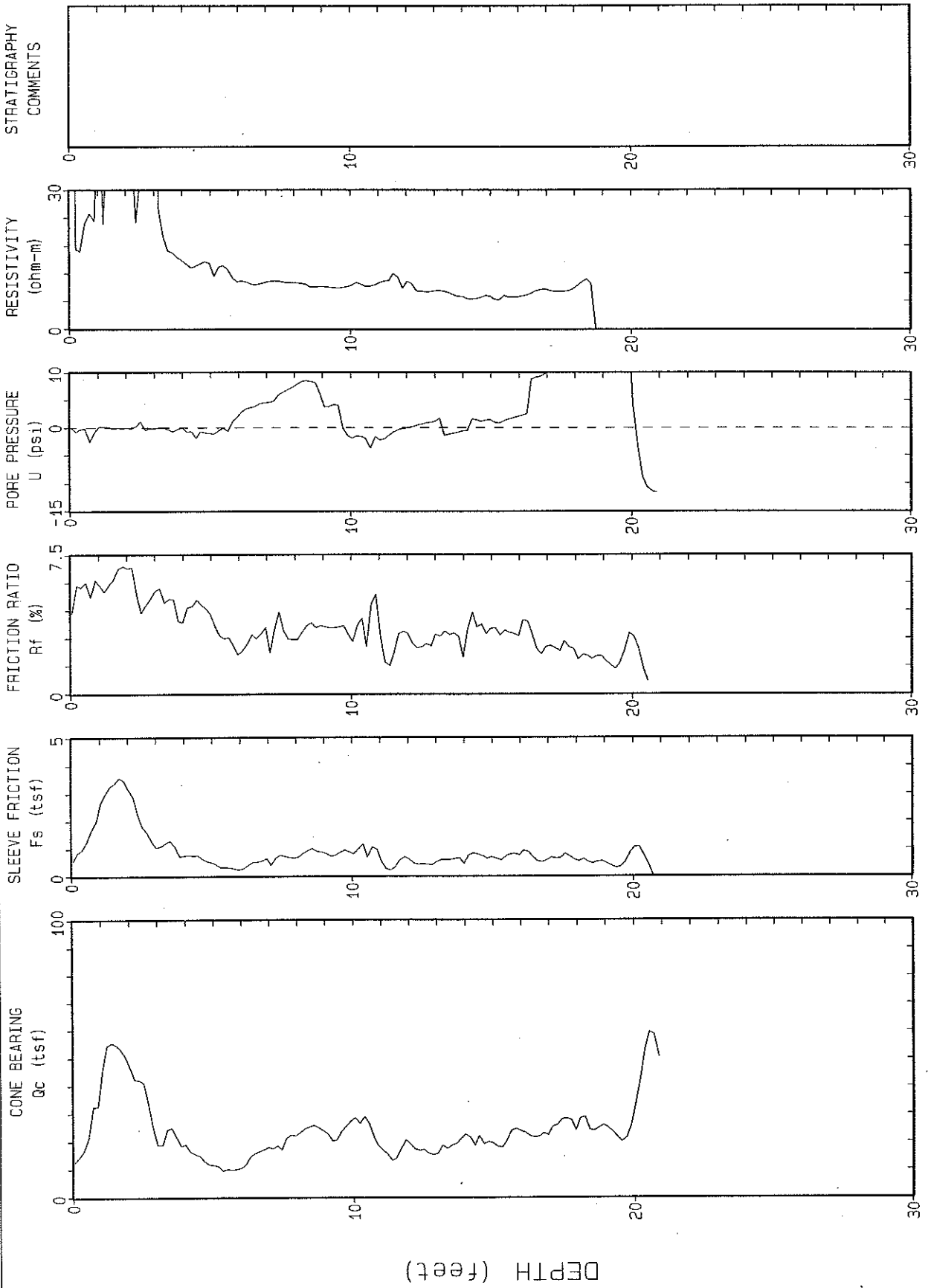


Max Depth : 18.09 feet

Depth Increment : .164042 m

# PRO CORP.

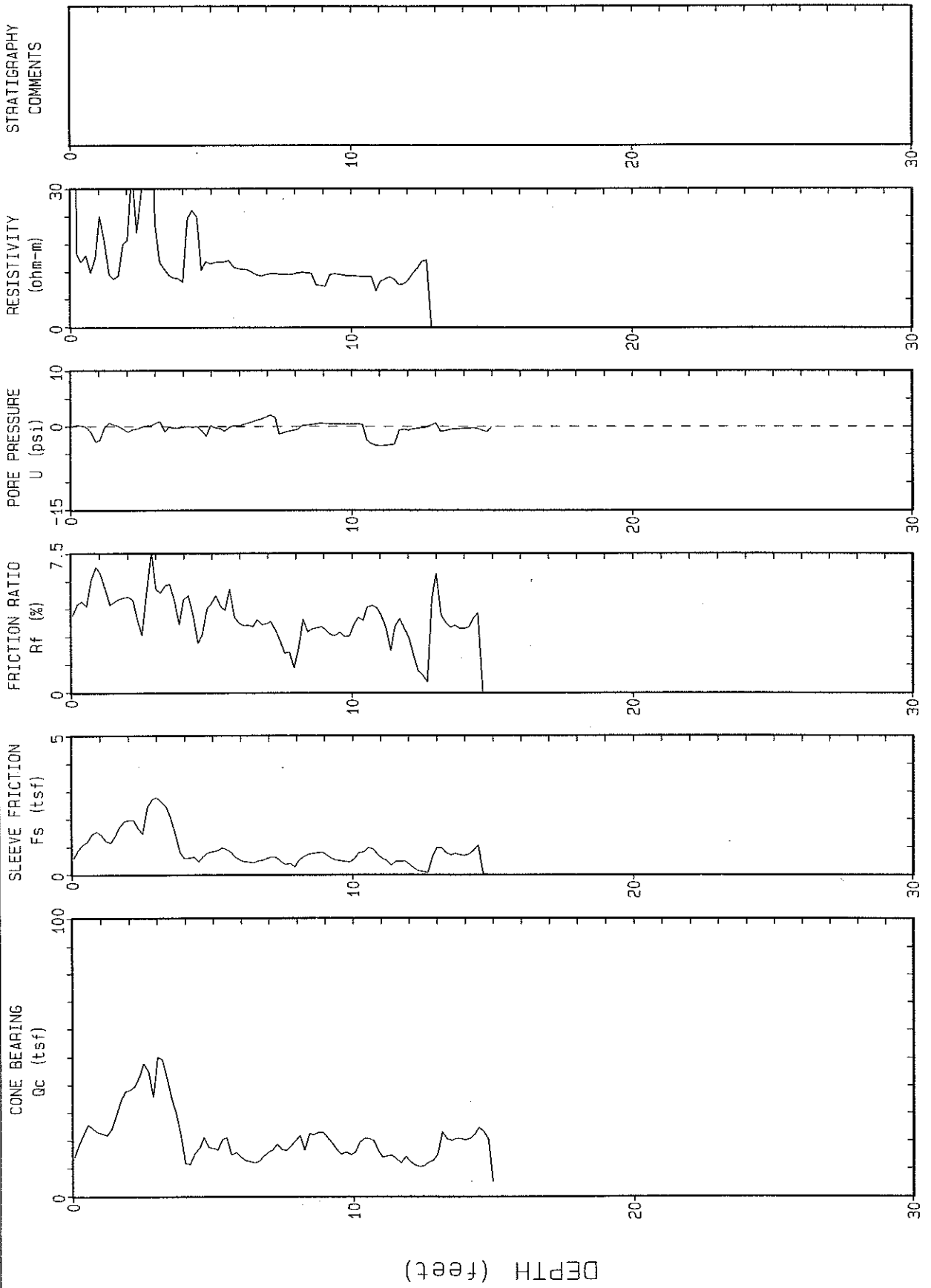
Project : MOFFETT PETRO SI Contractor : GREGG IN SITU File Name : HP5-7.DAT  
Location : HP5-7 Engineer : STEVE ANNECONE CPT Date : 01/31/94



Depth Increment : .164042 m Max Depth : 20.88 feet

Project : MOFFETT PETRO SI Contractor : GREGG IN SITU File Name : HP5-8.DAT  
Location : HP5-8 Engineer : STEVE ANNECONE CPT Date : 02/01/94

# PRO CORP



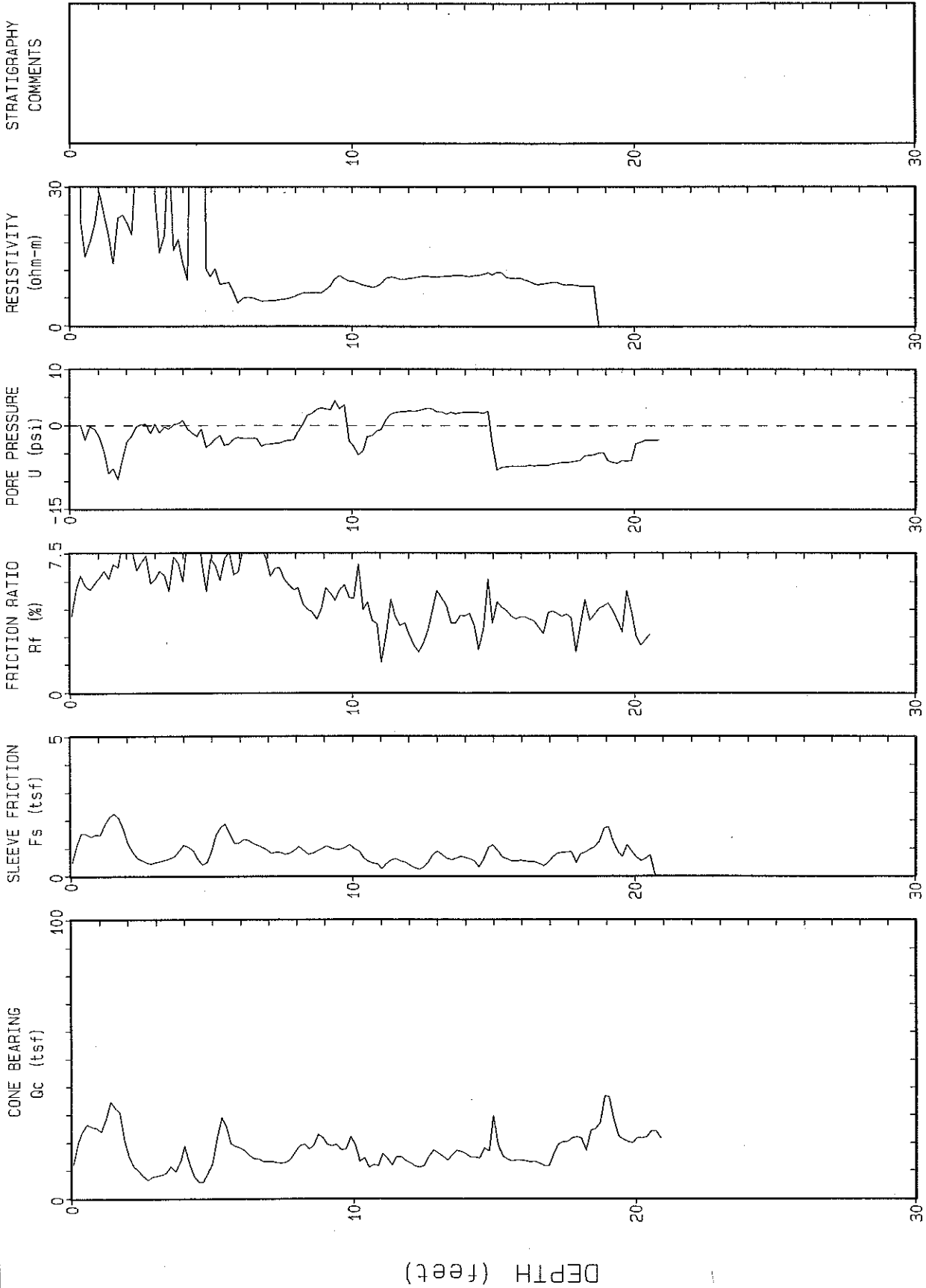
Max Depth : 14.98 feet

Depth Increment : .164042 m



# PRC CORP

Project : MOFFETT PETRO SI Contractor : GREGG IN SITU File Name : HP5-9.DAT  
Location : HP5-9 Engineer : STEVE ANNECONE CPT Date : 02/01/94

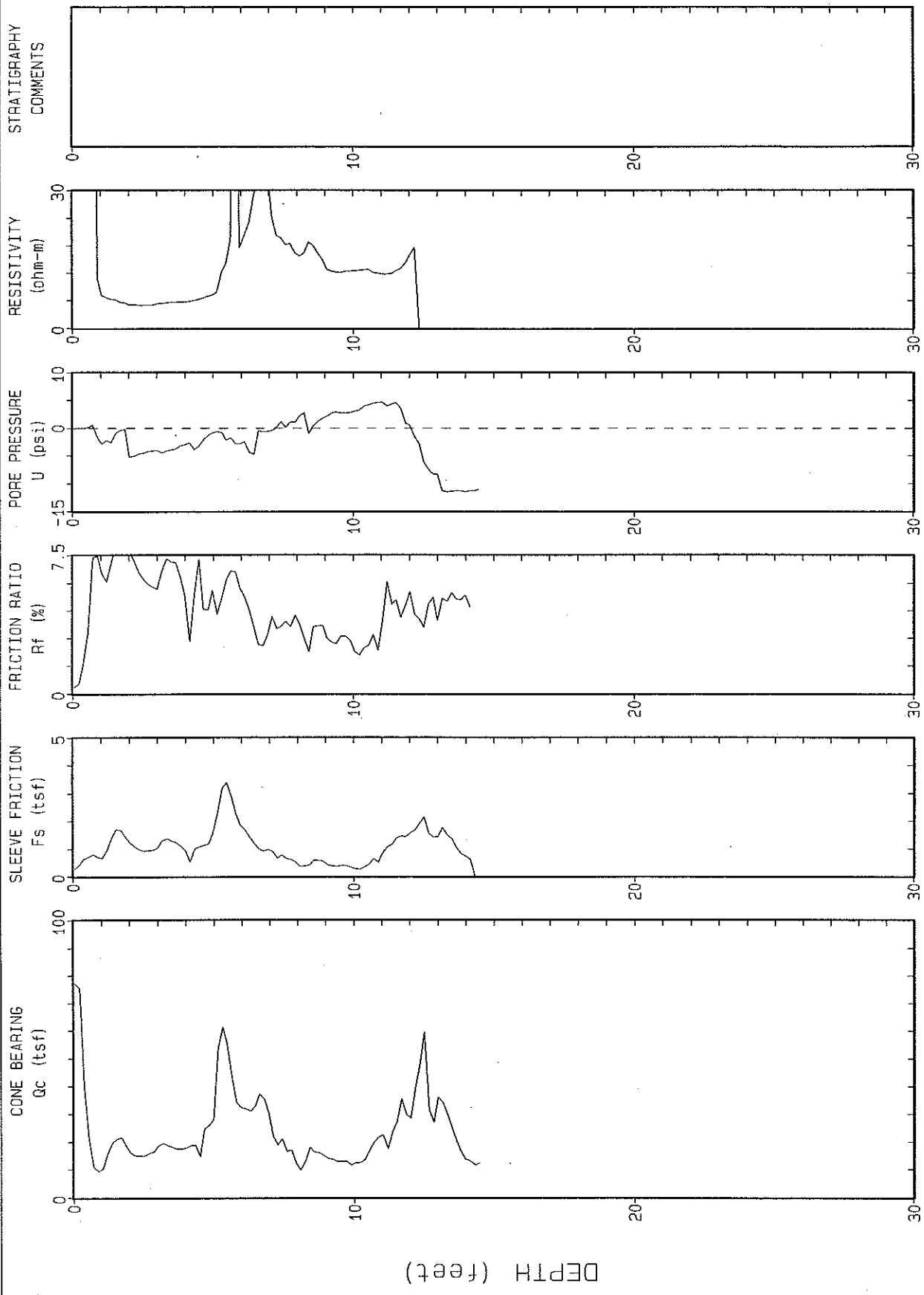


Depth Increment : .164042 m Max Depth : 20.88 feet

HP5-10.DAT 02/01/94 STEVE ANNECONE GREGG IN SITU

# PRO CORP

Project : MOFFETT PETRO SI Contractor : GREGG IN SITU File Name : HP5-10.DAT  
 Location : HP5-10 Engineer : STEVE ANNECONE CPT Date : 02/01/94

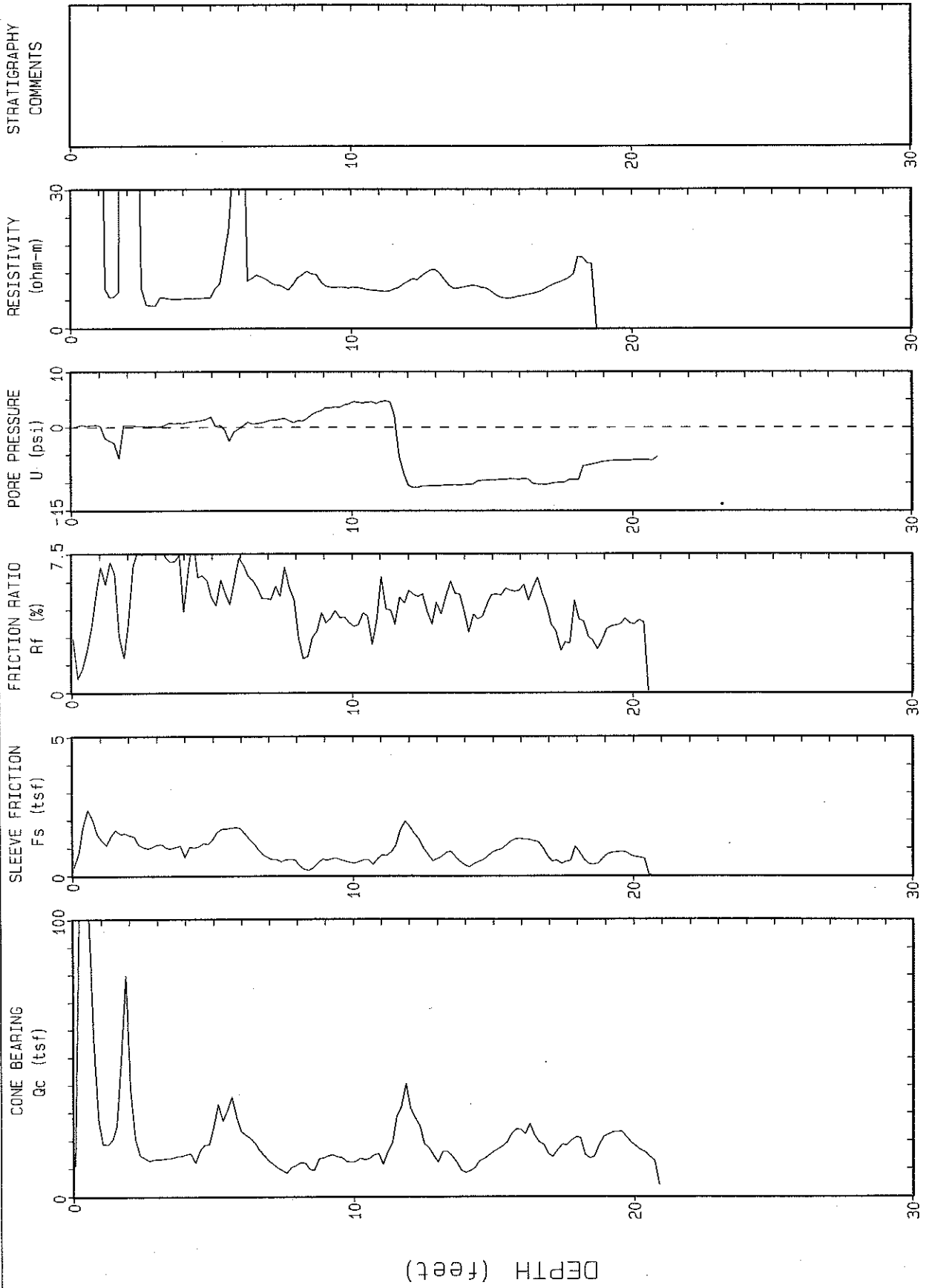


Depth Increment : .154042 m Max Depth : 14.49 feet

DEPTH (feet)

# PRC CORP.

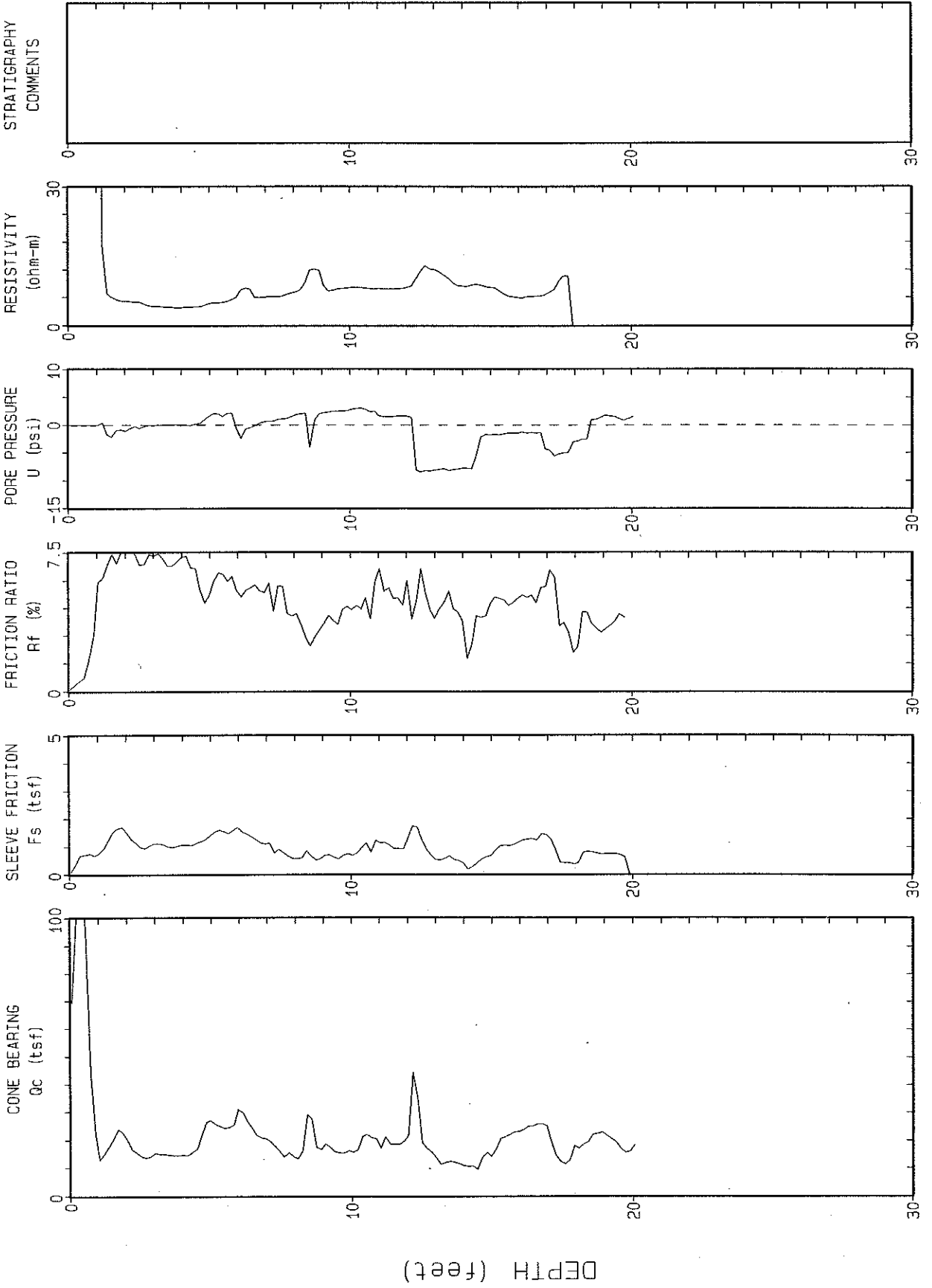
Project : MOFFETT PETRO SI Contractor : GREGG IN SITU File Name : HP5-11.DAT  
Location : HP5-11 Engineer : STEVE ANNECONE CPT Date : 02/01/94



Depth Increment : .164042 m Max Depth : 20.88 feet

Project : MOFFETT PETRO SI Contractor : GREGG IN SITU File Name : HP5-12.DAT  
Location : HP5-12 Engineer : STEVE ANNECONE CPT Date : 02/01/94

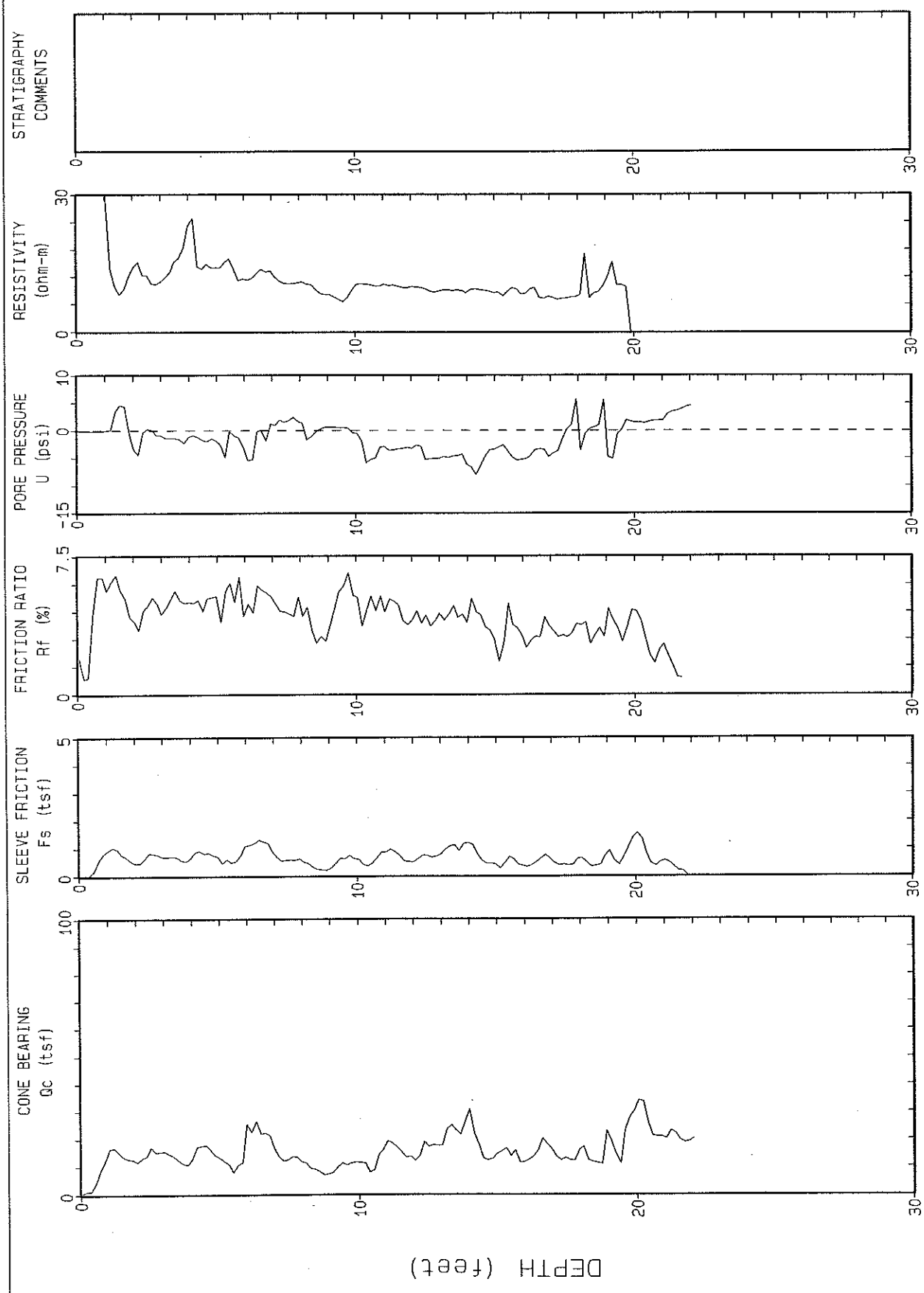
# PRO CORP



Depth Increment : .164042 m Max Depth : 20.06 feet

# PRC CORP

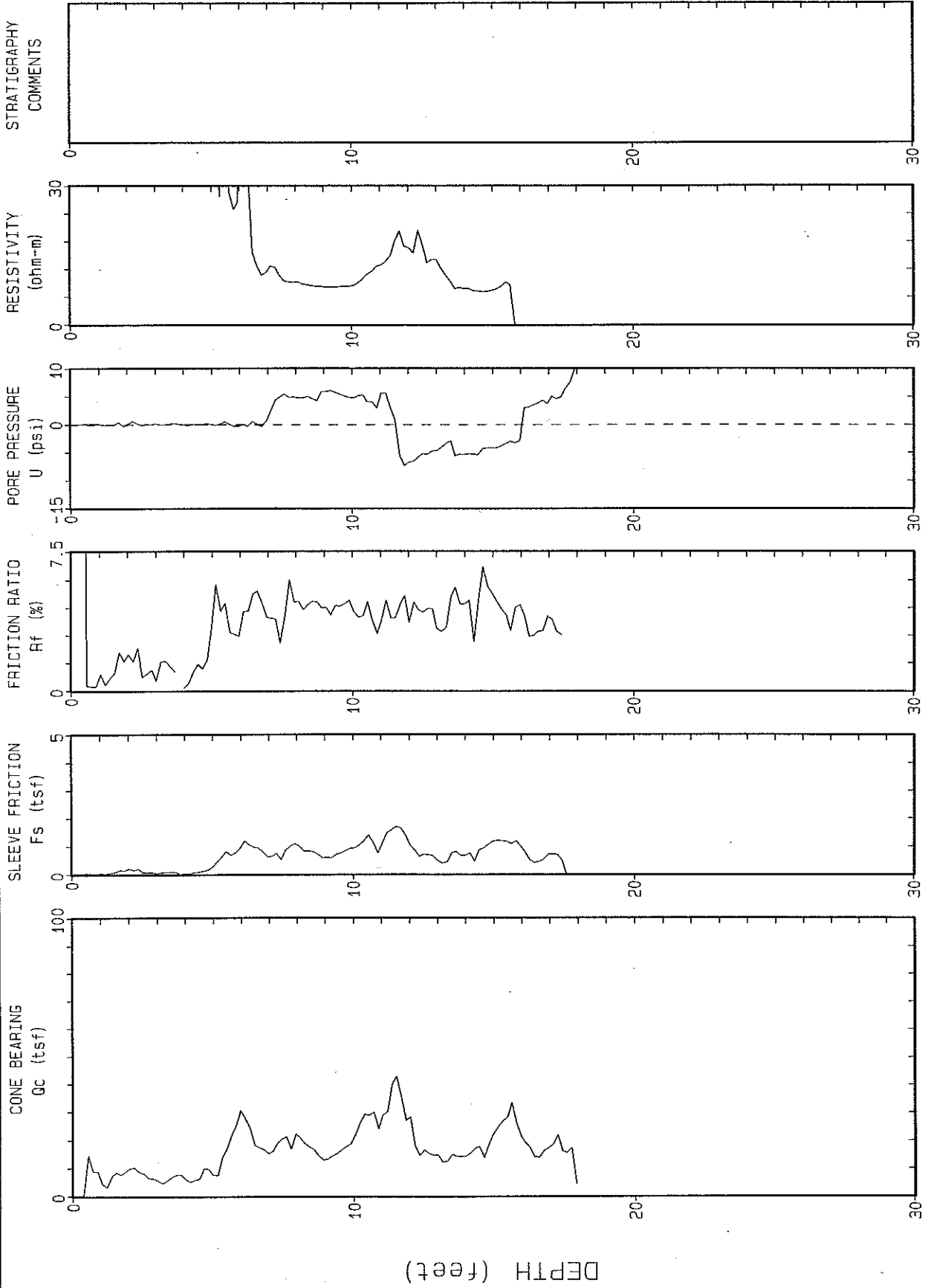
Project : MOFFETT PETRO SI    Contractor : GREGG IN SITU    File Name : HP5-13.DAT  
 Location : HP5-13    Engineer : STEVE ANNECONE    CPT Date : 01/31/94



Depth Increment : .164042 m    Max Depth : 22.03 feet

# PRC CORP

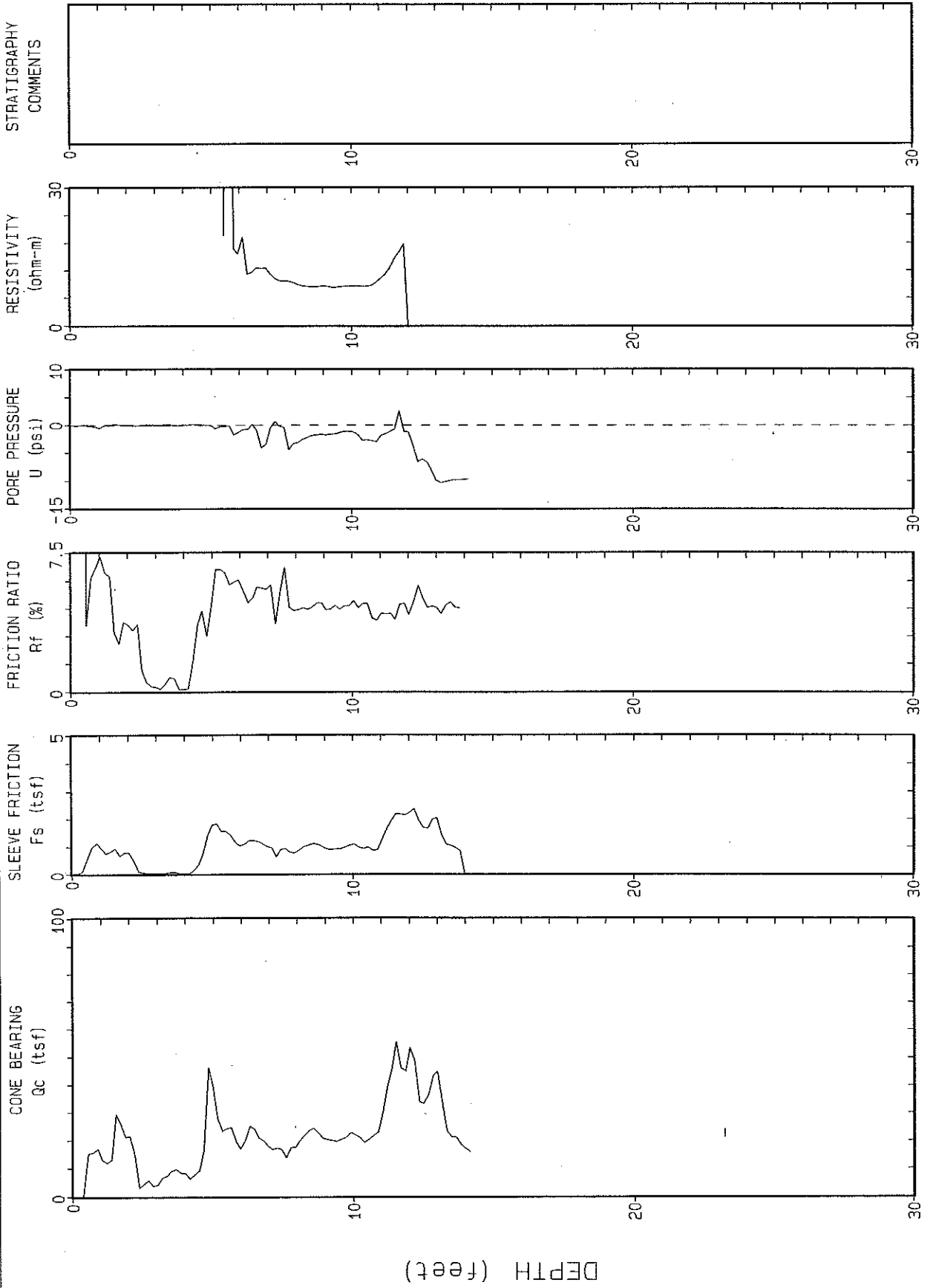
Project : MOFFETT PETRO SI    Contractor : GREGG IN SITU    File Name : HP5-14.DAT  
Location : HP5-14    Engineer : STEVE ANNECONE    CPT Date : 02/01/94



Depth Increment : .154042 m    Max Depth : 17.93 feet

# PRC CORP

Project : MOFFETT PETRO SI Contractor : GREGG IN SITU File Name : HP5-15.DAT  
Location : HP5-15 Engineer : STEVE ANNECONE CPT Date : 02/01/94

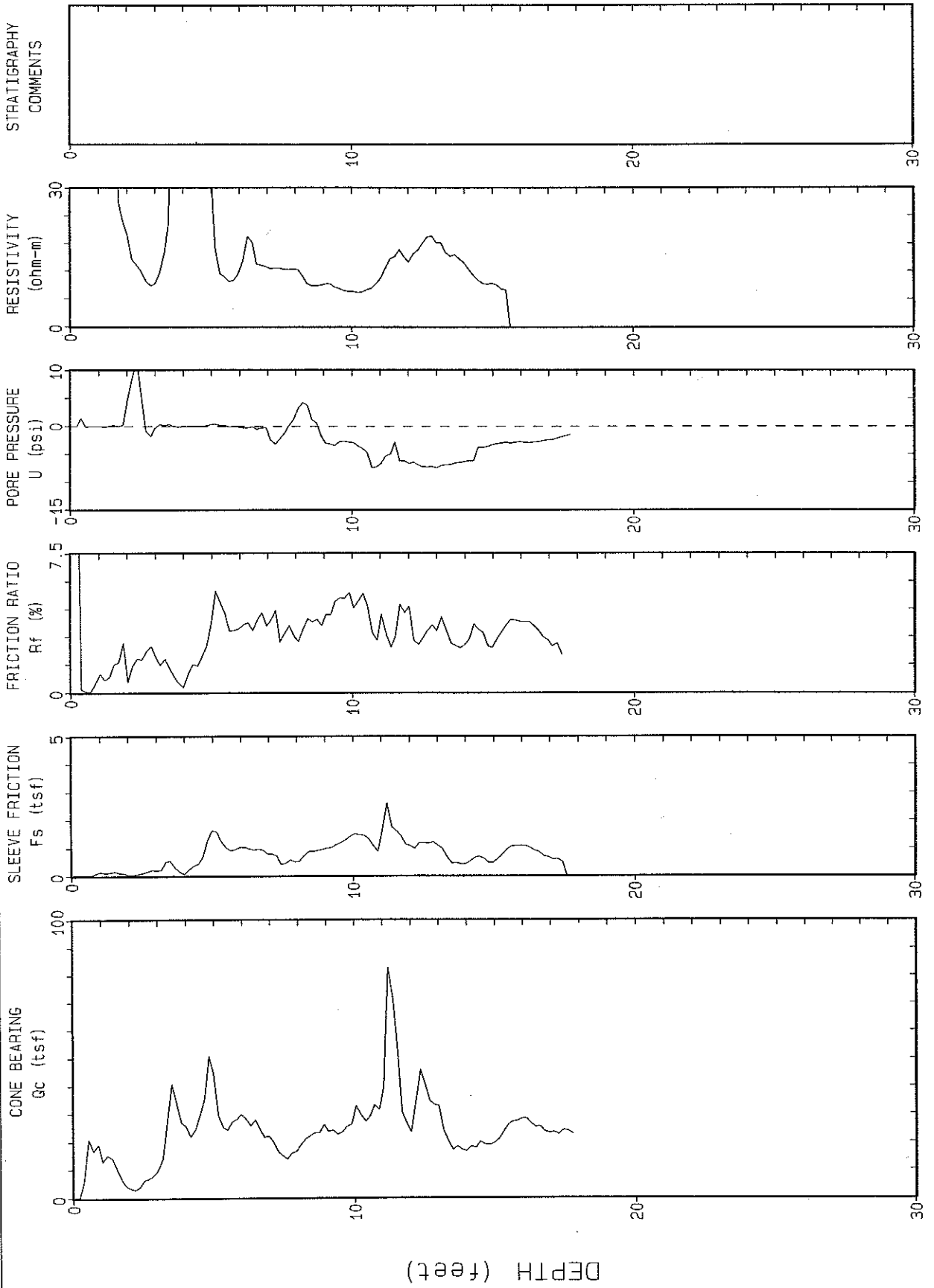


Depth Increment : .164042 m

Max Depth : 14.16 feet

# PRO CORP

Project : MOFFETT PETRO SI Contractor : GREGG IN SITU File Name : HP5-16.DAT  
Location : HP5-16 Engineer : STEVE ANNECONE CPT Date : 02/02/94



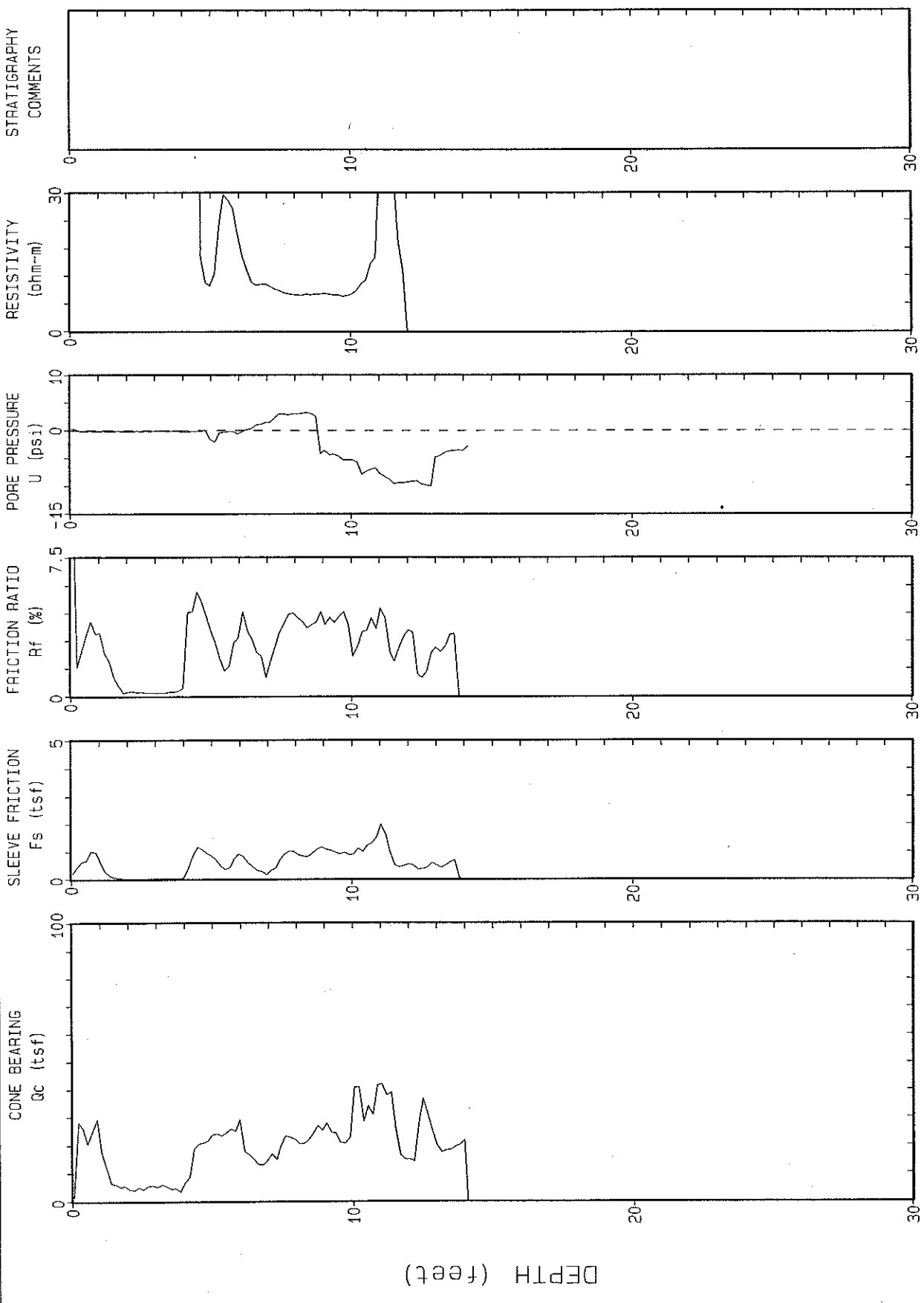
Max Depth : 17.77 feet

Depth Increment : .164042 m



Project : MOFFETT PETRO SI Contractor : GREGG IN SITU File Name : HP5-17.DAT  
 Location : HP5-17 Engineer : STEVE ANNECONE CPT Date : 02/02/94

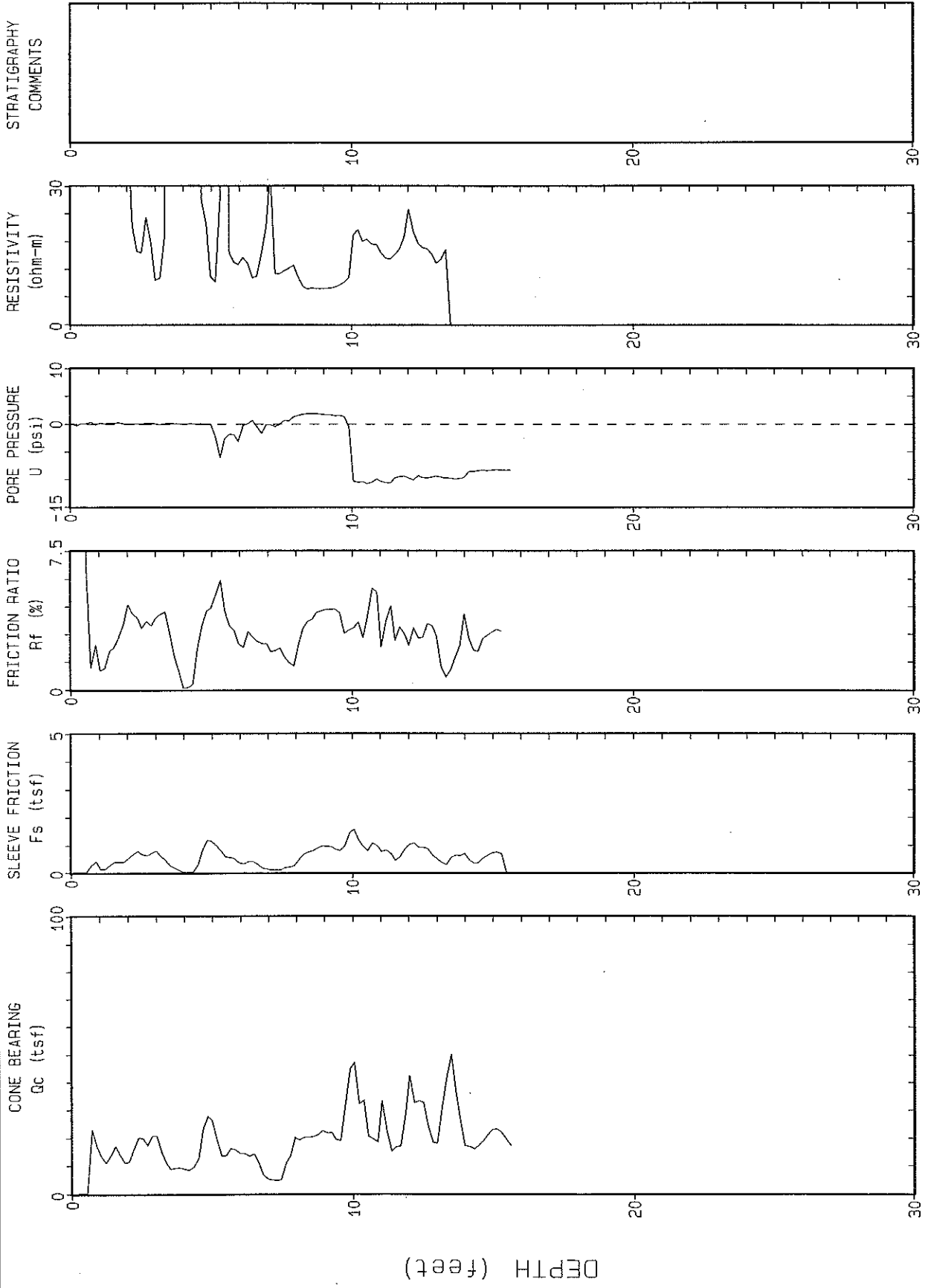
PRC CORP



Depth Increment : .164042 m Max Depth : 14.16 feet

# PRO CORP

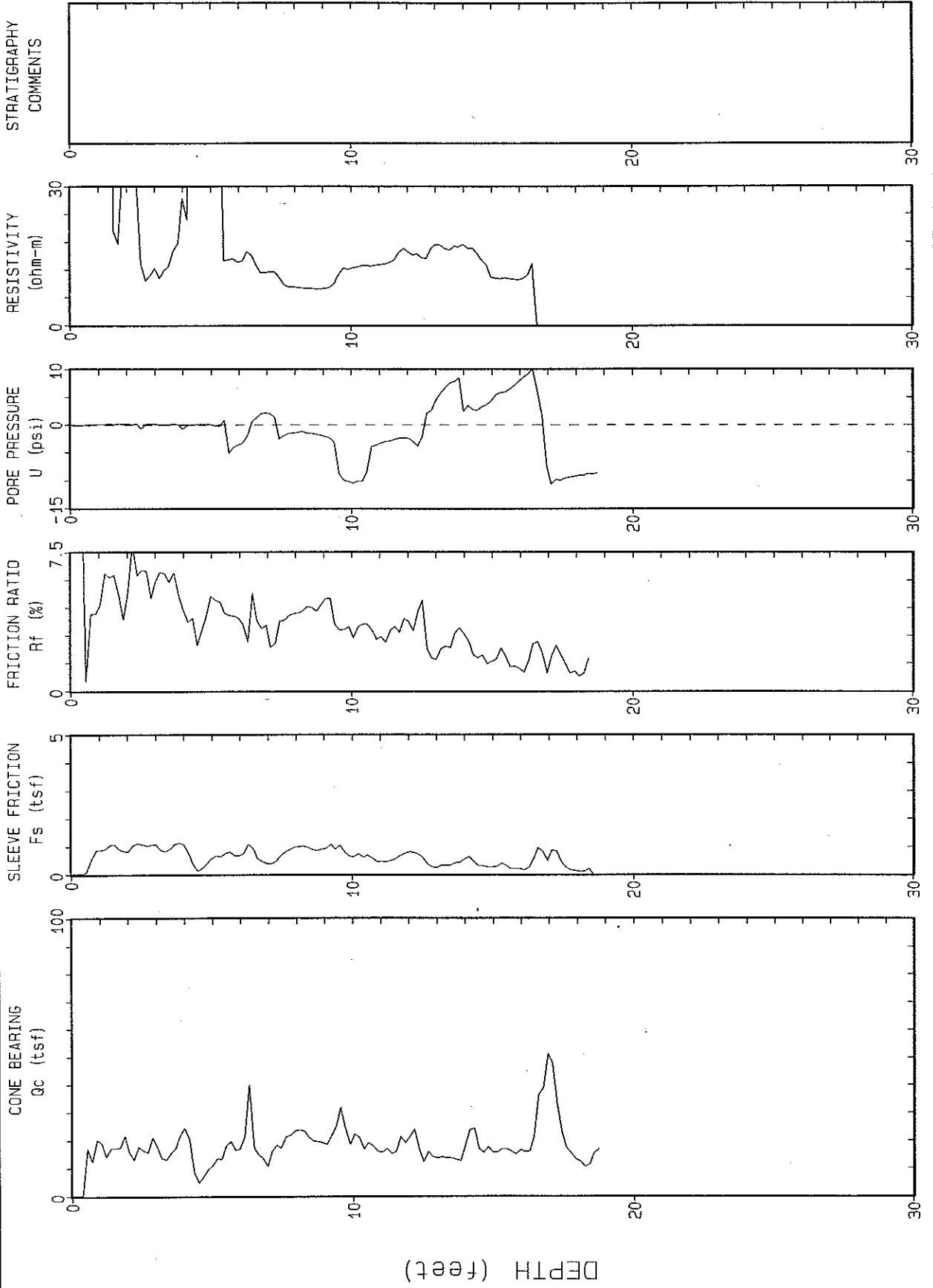
Project : MOFFETT PETRO SI Contractor : GREGG IN SITU File Name : HP5-18.DAT  
Location : HP5-18 Engineer : STEVE ANNECONE CPT Date : 02/02/94



Depth Increment : .164042 m Max Depth : 15.63 feet

# PRO CORP

Project : MOFFETT PETRO SI Contractor : GREGG IN SITU File Name : HP5-19.DAT  
Location : HP5-19 Engineer : STEVE ANNECONE CPT Date : 02/02/94

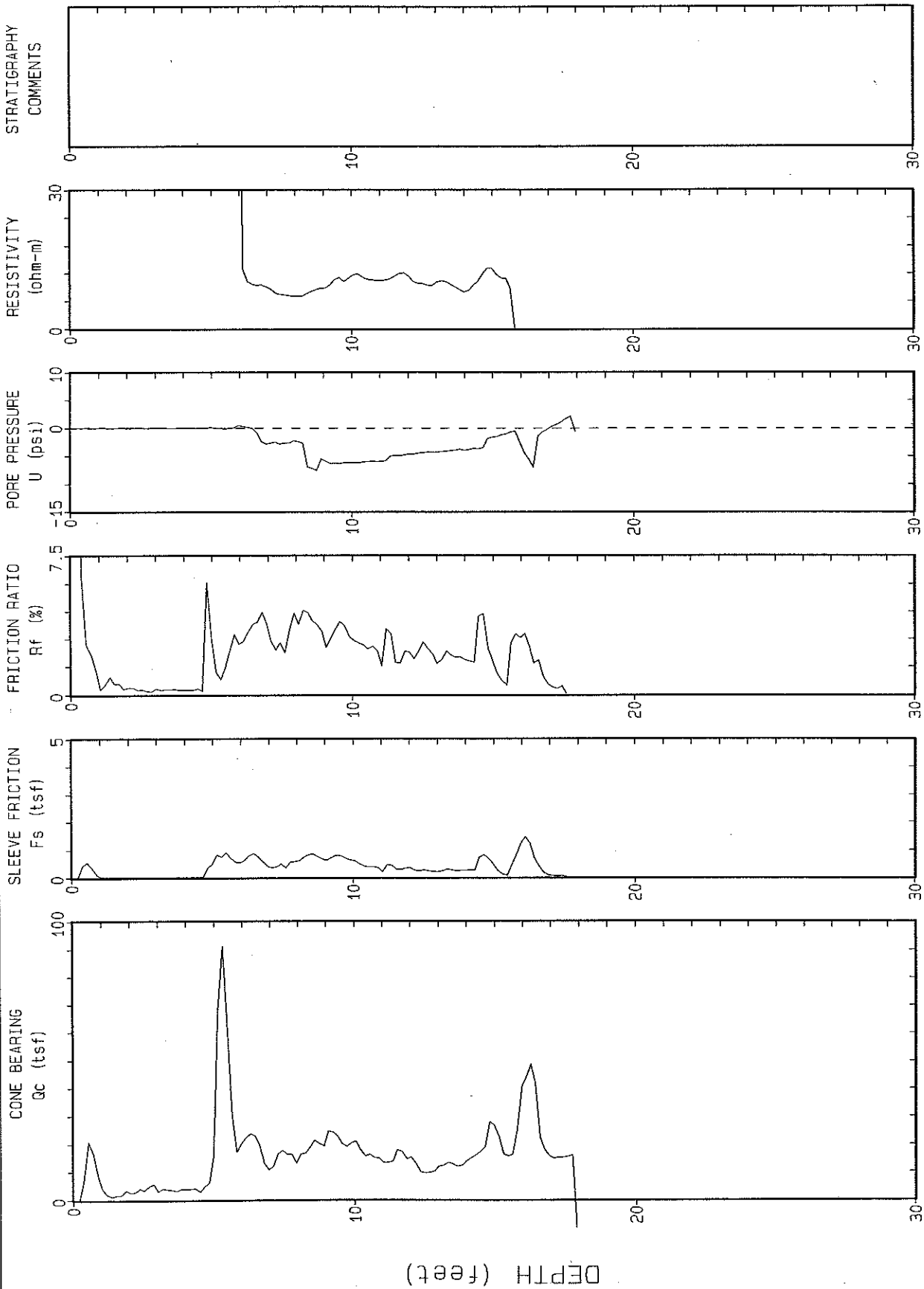


Depth Increment : .164042 m

Max Depth : 18.75 feet

# PRO CORP

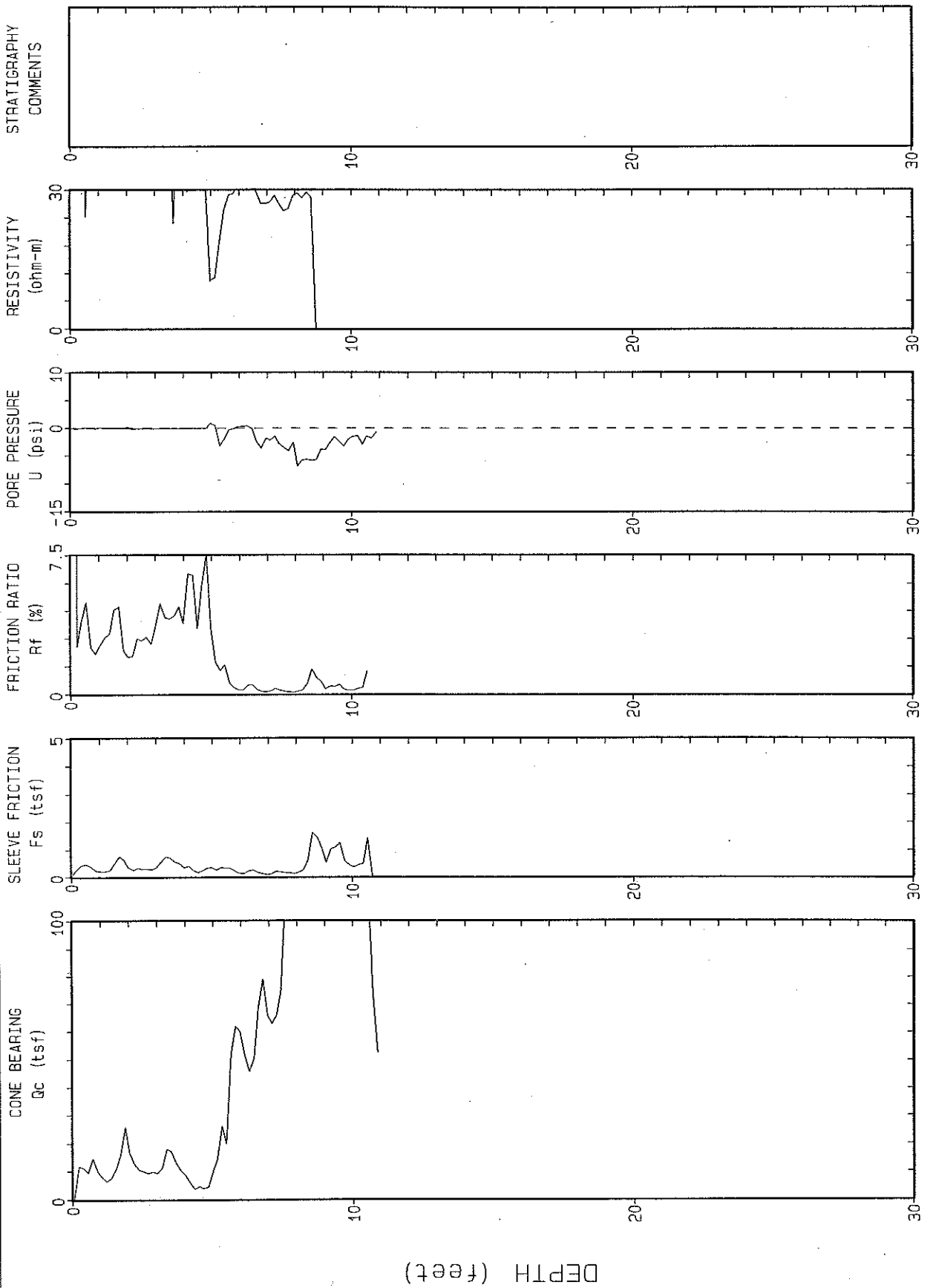
Project : MOFFETT PETRO SI Contractor : GREGG IN SITU File Name : HP5-20.DAT  
Location : HP5-20 Engineer : STEVE ANNECONE CPT Date : 02/02/94



Depth Increment : .164042 m Max Depth : 17.93 feet

# PRC CORP

Project : MOFFETT PETRO SI Contractor : GREGG IN SITU File Name : HP5-21.DAT  
Location : HP5-21 Engineer : STEVE ANNECONE CPT Date : 02/02/94

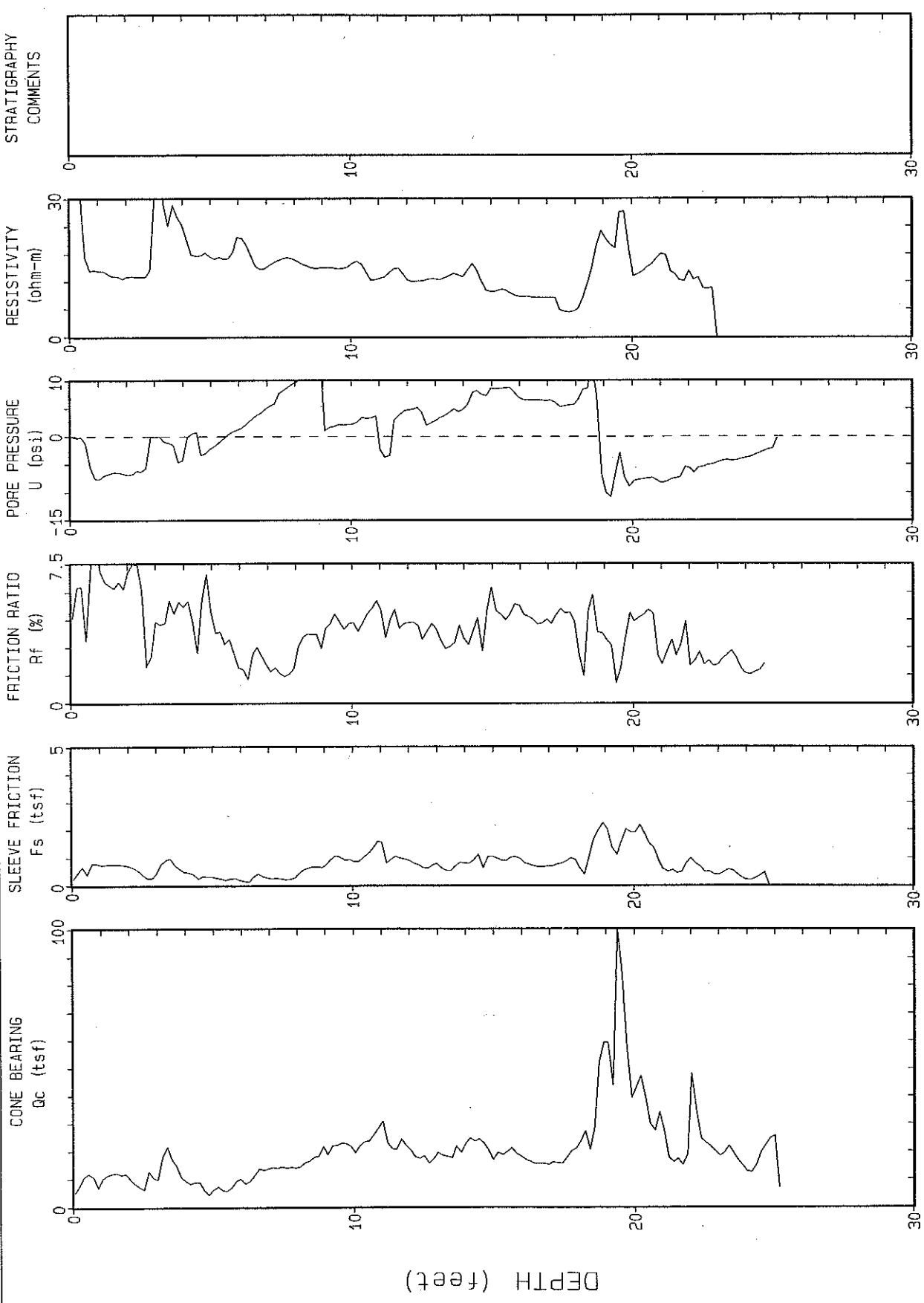


Max Depth : 10.88 feet

Depth Increment : .164042 m

# PRO CORP

Project : MOFFETT PETRO SI    Contractor : GREGG IN SITU    File Name : W5-34.DAT  
 Location : W5-34                      Geologist : STEVE ANNECONE    CPT Date : 01/26/94

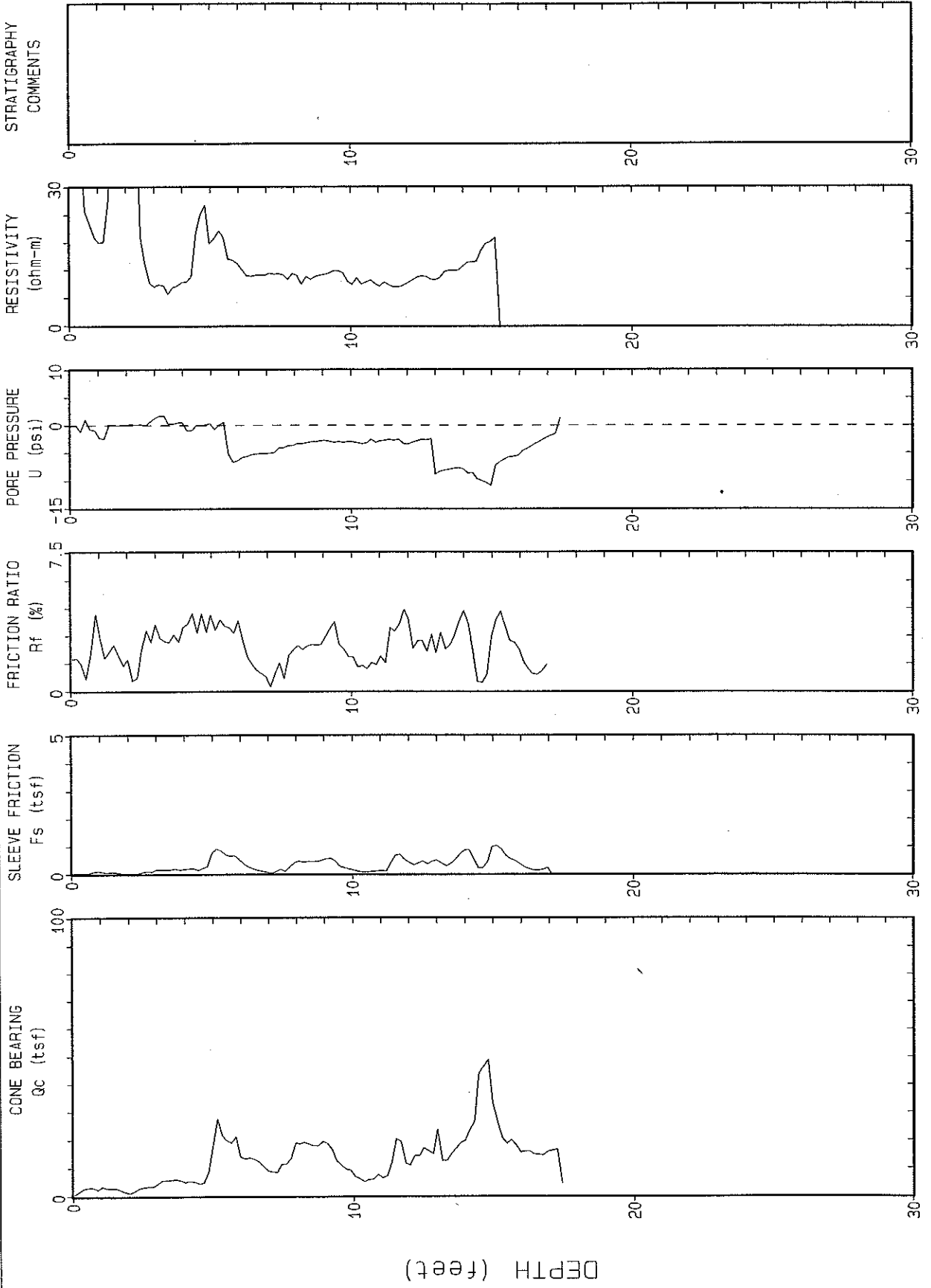


Depth Increment : .164042 m                      Max Depth : 25.15 feet

DEPTH (feet)

# PRO CORP.

Project : MOFFETT SITE 19    Contractor : GREGG IN SITU    File Name : HP63-1.DAT  
Location : HP63-1    Geologist : STEVE ANNECONE    CPT Date : 01/26/94

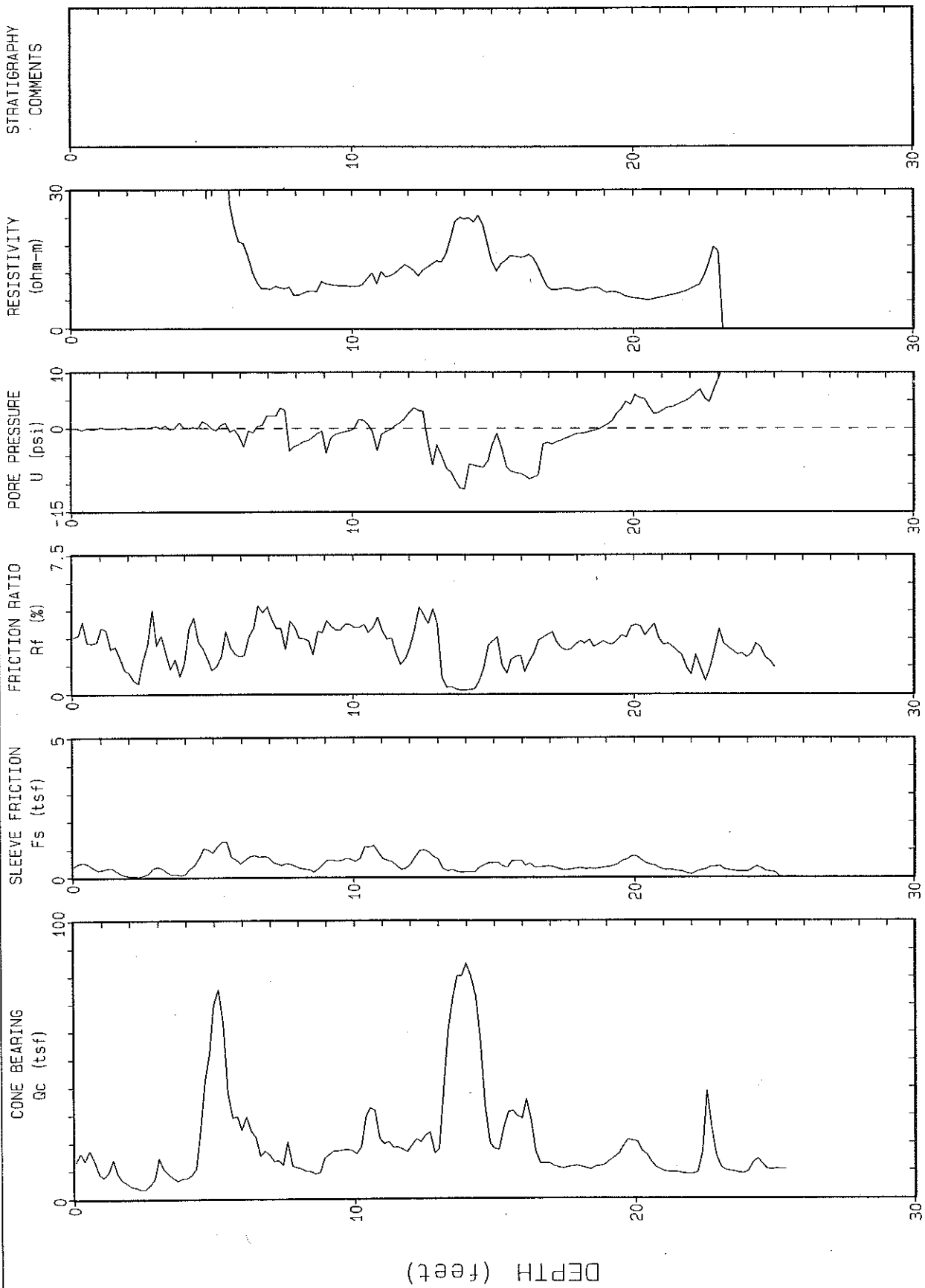


Max Depth : 17.44 feet

Depth Increment : .164042 m

# PRO CORP

Project : MOFFETT FIELD    Contractor : GREGG IN SITU    File Name : HP65-1.DAT  
Location : HP65-1    Geologist : STEVE ANNECONE    CPT Date : 01/27/94

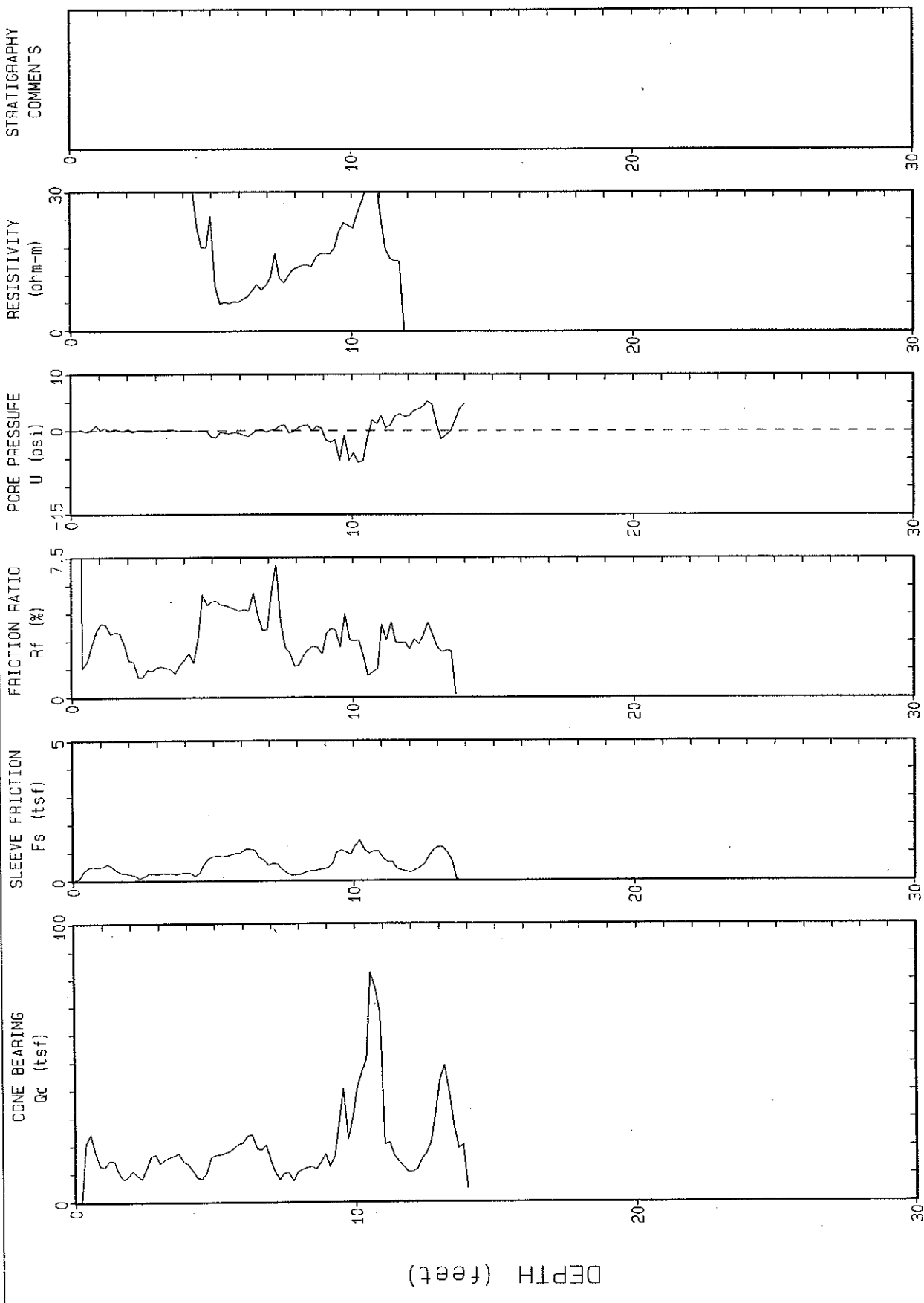


Depth Increment : .164042 m    Max Depth : 25.31 feet



**PRC CORP**

Project : MOFFETT SITE 19    Contractor : GREGG IN SITU    File Name : HPT2-1.DAT  
Location : HPT2-1    Engineer : STEVE ANNECONE    CPT Date : 01/31/94



Depth Increment : .164042 m

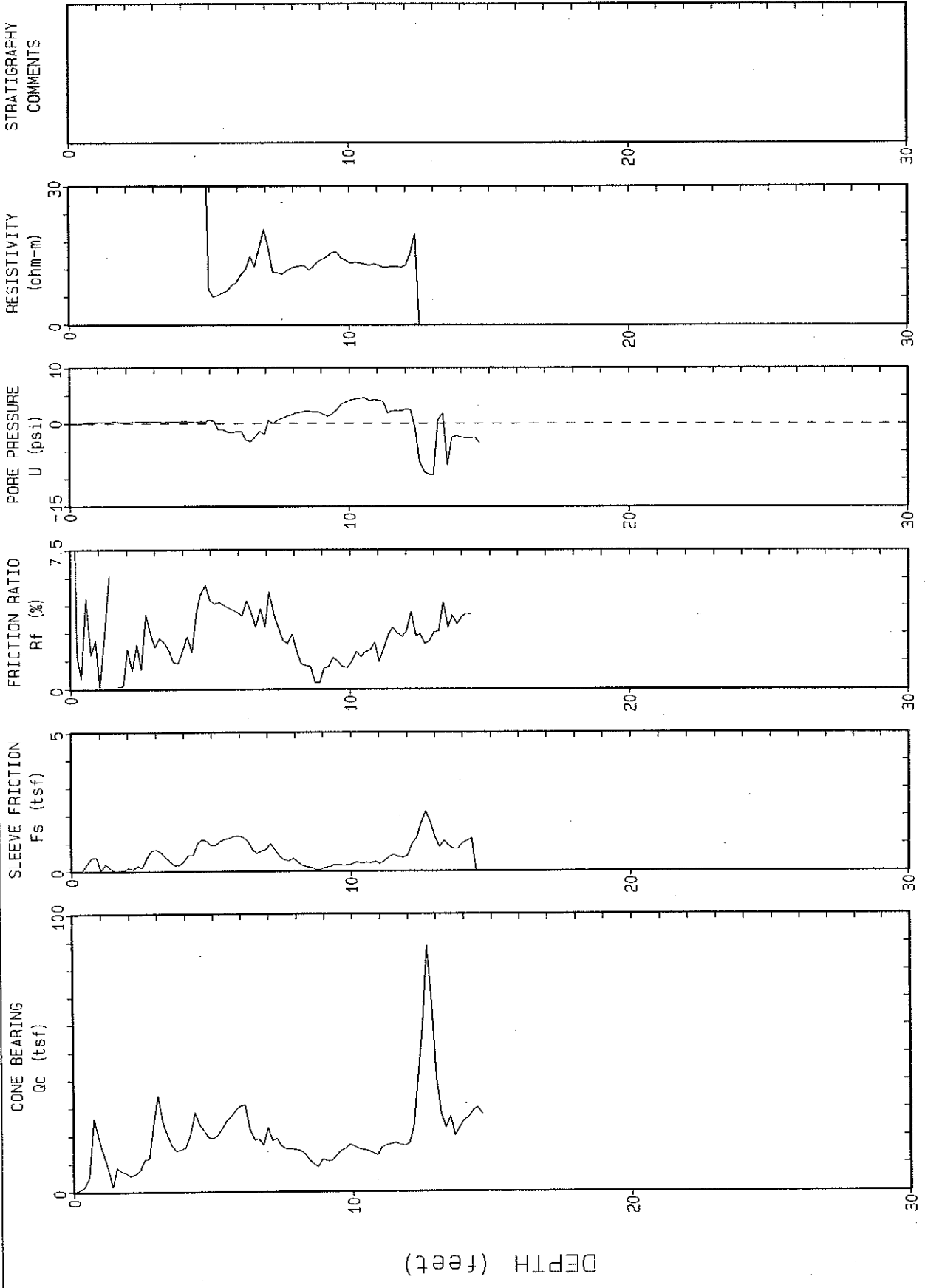
Max Depth : 13.99 feet

# PRO CORP

Project : MOFFETT SITE 19  
Location : HPT2-2

Contractor : GREGG IN SITU  
Engineer : STEVE ANNECONE

File Name : HPT2-2.DAT  
CPT Date : 01/31/94

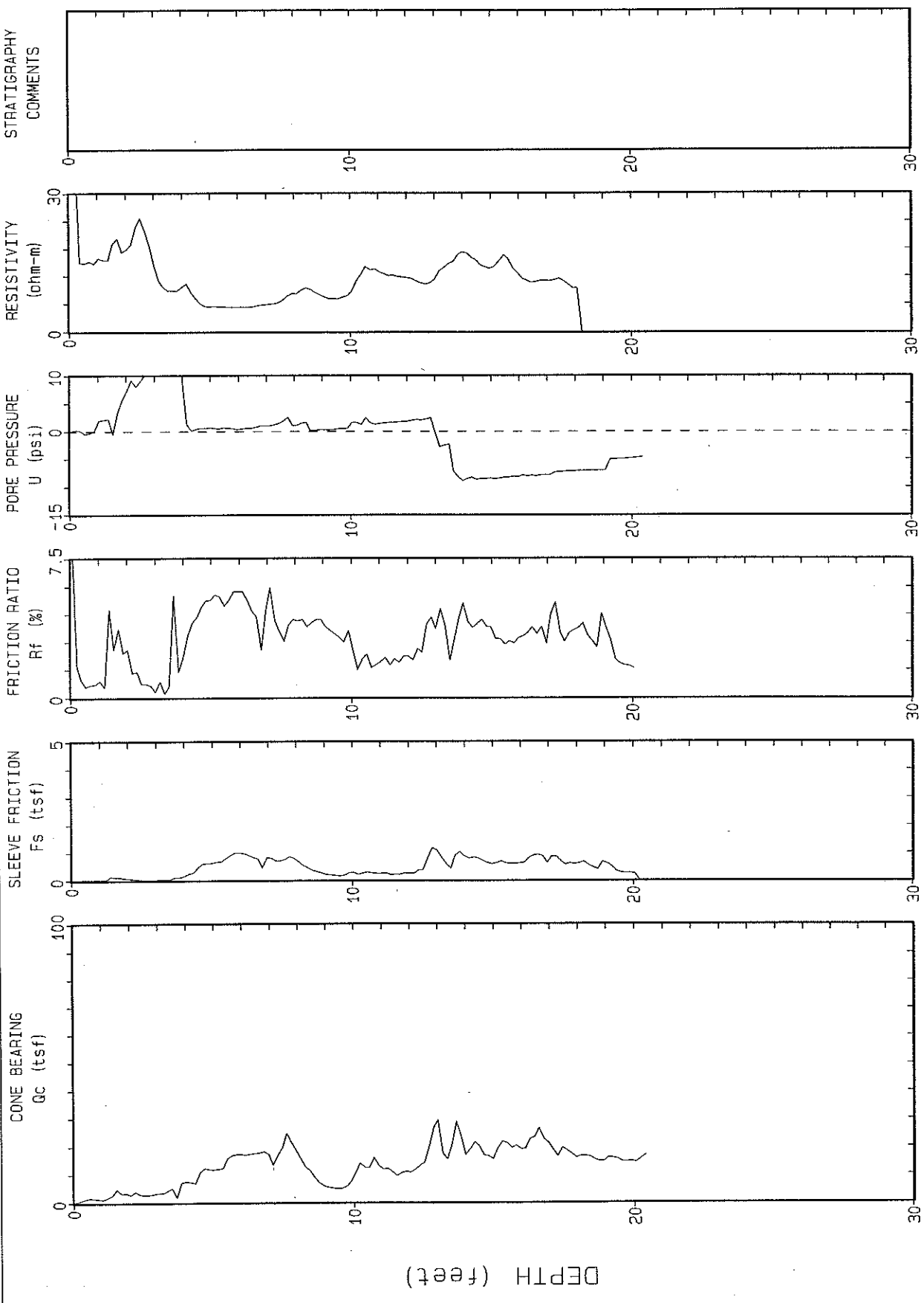


Depth Increment : .164042 m

Max Depth : 14.65 feet

Project : MOFFETT SITE 19  
 Location : HP43-1  
 Contractor : GREGG IN SITU  
 Geologist : STEVE ANNECONE  
 File Name : HP43-1.DAT  
 CPT Date : 01/26/94

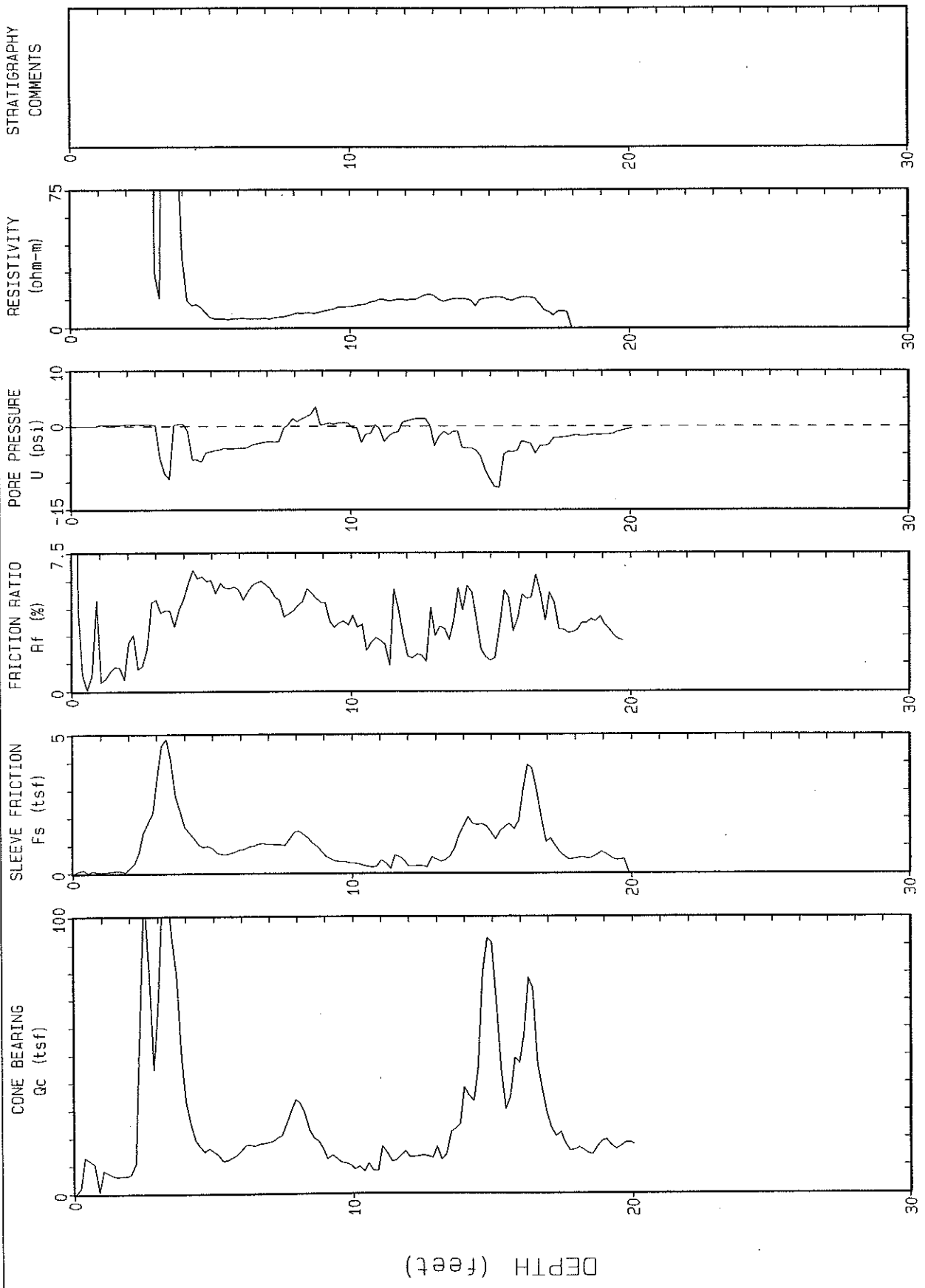
# PRC CORP



Depth Increment : .164042 m  
 Max Depth : 20.39 feet

Project : MOFFETT SITE 19    Contractor : GREGG IN-SITU    File Name : HP43-2.DAT  
 Location : HP43-2    Geologist : STEVE ANNECONE    CPT Date : 01/27/94

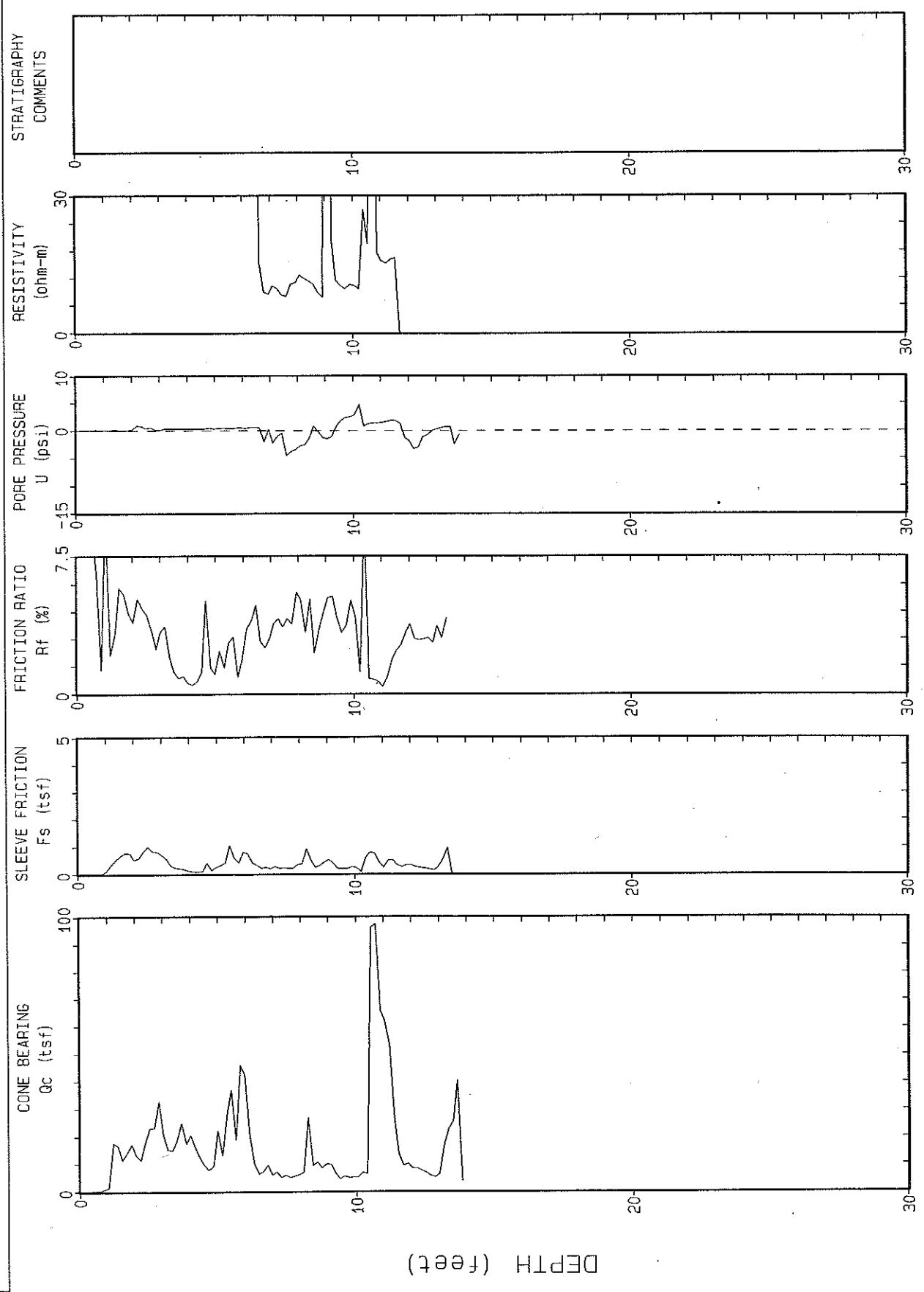
# PRC CORP.



Depth Increment : .164042 m    Max Depth : 20.06 feet

Project : MOFFETT SITE 19    Contractor : GREGG IN SITU    File Name : HP43-3.DAT  
 Location : HP43-3            Geologist : STEVE ANNECONE    CPT Date : 01/27/94

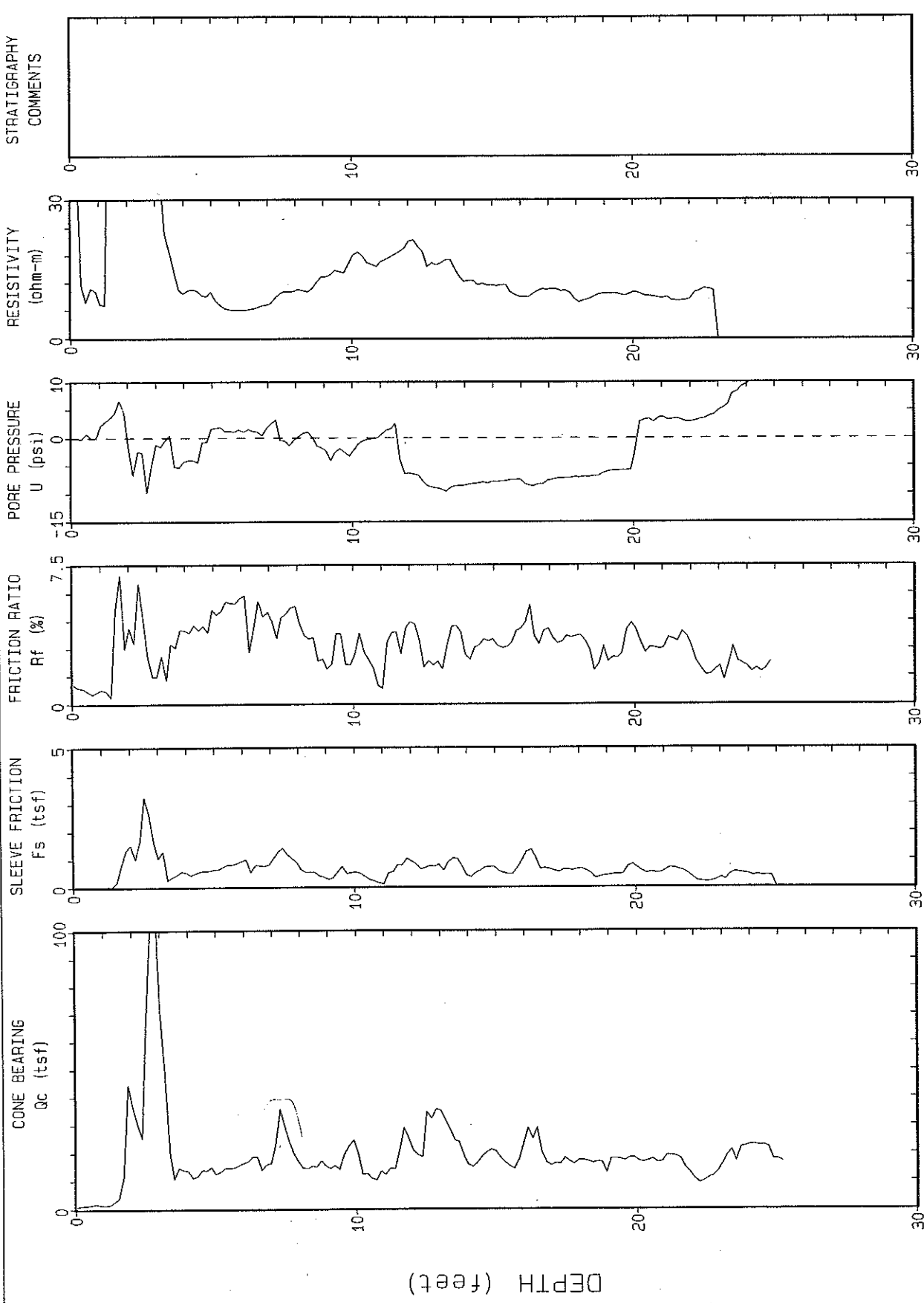
# PRO CORP



Depth Increment : .164042 m                      Max Depth : 13.83 feet

# PRO CORP

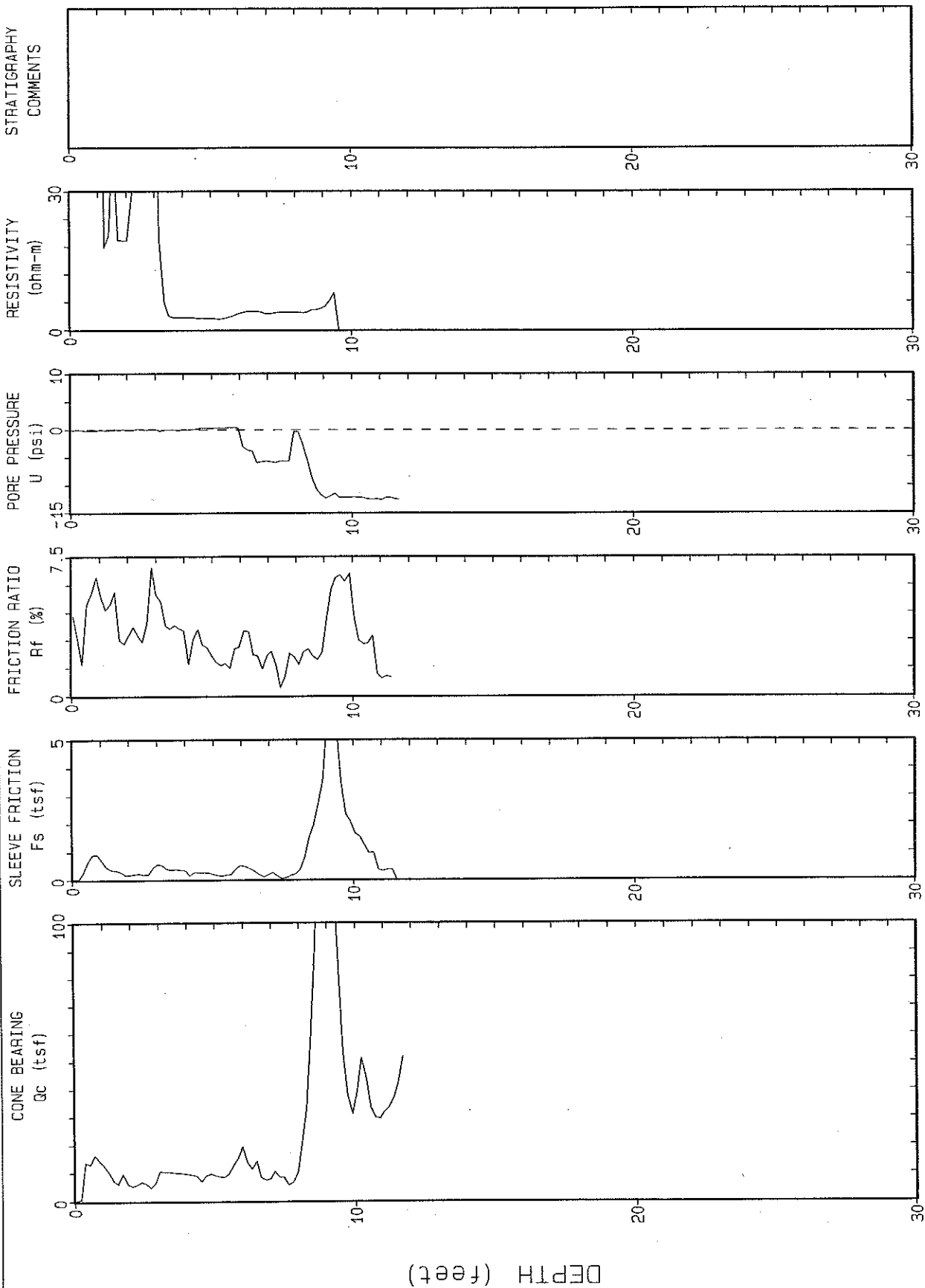
Project : MOFFETT SITE 19    Contractor : GREGG IN SITU    File Name : HP43-4.DAT  
Location : HP43-4    Geologist : STEVE ANNECONE    CPT Date : 01/26/94



Depth Increment : .164042 m    Max Depth : 25.15 feet

# PRC CORP

Project : MOFFETT SITE 19    Contractor : GREGG IN SITU    File Name : HP53-1.DAT  
 Location : HP53-1            Engineer : STEVE ANNECONE    CPT Date : 01/31/94

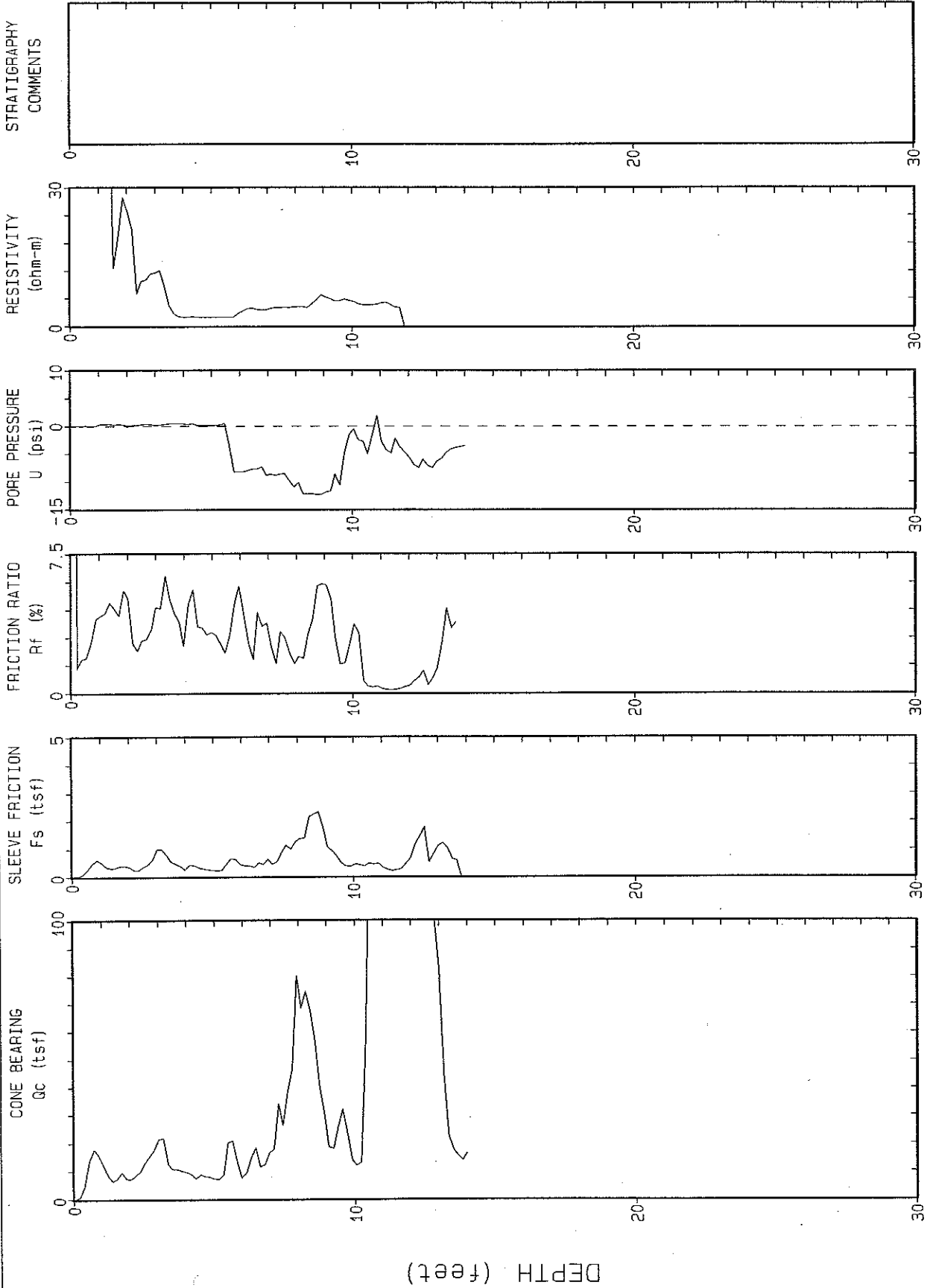


Depth Increment : .164042 m                      Max Depth : 11.70 feet

DEPTH (feet)

# PRO CORP.

Project : MOFFETT SITE 19 Contractor : GREGG IN SITU File Name : HP53-2.DAT  
Location : HP53-2 Engineer : STEVE ANNECONE CPT Date : 01/31/94



Depth Increment : .164042 m Max Depth : 13.99 feet



**APPENDIX B**  
**SOIL BORING LOGS AND WELL COMPLETION RECORDS**

# FIELD BORELOG

PRC ENVIRONMENTAL MANAGEMENT, INC.

SHEET 1 OF 1

LOCATION OF BOREHOLE	JOB NO.: 044-0236IRPSFW	BOREHOLE DESIGNATION: SB5-34
	CLIENT: U.S. Navy	SURFACE ELEVATION: 5.7 MSL
	SITE: 5	DEPTH TO WATER:
	SUBSITE: 8 inch	LOGGED BY: Willis Wilcoxon
	DRILLING CO.: West Hazmat	DRILLING DATE(S): 2/4/94
	DRILLING PERSONNEL/METHOD: Tom Wright, Rubin Reyaz, Juan Lajes/HSA with 2 foot split spoon.	

SAMPLER TYPE	SAMPLE DEPTH		RECOVERED		HEADSPACE SCREENING (eg. BACK DRUMING)	ANALYS		WELL INFO	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	TOP	BOT	DRIVEN	TIME		PTS	CL				
drill	0			0851							Drilled to 5.0 feet below ground then begin split spoon sample collection.
		5									
SS	5		2.0/2.0	0855						GM	5.0 to 5.4 feet: SOIL; black, moist, dense, earthy odor. 5.4 to 6.4 feet: GRAVEL; brown, sandy, some silt, dry.
		7									
	7		2.3/2.0	0900		X					6.4 to 6.8 feet: GRAVEL; gray, loose, poorly sorted fine sand to 1 inch gravel, wet, moderate petroleum odor. 6.8 to 7.0 feet: CLAY; light olive brown (2.5Y 5/4), silty, dense, wet, moderate petroleum odor, some gravel, some concretions. 7.0 to 7.6 feet: SLOUGH; gravel from above. 7.6 to 9.3 feet: CLAY; light olive brown, as above, moist, paleosoil at 9.0 feet.
		9									
	9		2.0/2.0	0905							9.3 to 11.0 feet: CLAY; as above, moist to wet, moderate petroleum odor.
		11									
	11		2.2/2.0	0910							11.0 to 13.2 feet: CLAY; as above, moist to wet.
		13								CL	
	13		1.8/2.0	0915							13.0 to 15.0 feet: CLAY; olive yellow (2.5Y 5/6) with light olive brown mottling, moist, dense, some concretions, no odor to trace petroleum odor. Note: Driller reports water in hole at 0915.
		15									
	15		2.0/2.0	0920							15.0 to 17.0 feet: CLAY; as above, no odor to trace odor, collect TPHd at 17.0 feet. 17.0 to 17.5 feet: CLAY; olive and black, very soft, wet to saturated, partially organic, strong petroleum odor, possibly slough from above.
		17									
	17		2.3/2.0	0925							17.5 to 18.4 feet: CLAY; olive brown (2.5Y 4/4), moderately dense, moist, concretions, no odor, collect sample at 18.4 feet, grades to sand.
		19				X					
	19									SM	18.4 to 19.0 feet: SAND; medium to very fine grain, cohesive, silty, saturated, moderately well sorted, grades finer downward to silty very fine sand, very dark brown zone at 18.6 feet.
		20									Drill to 20.0 feet, construct W5-34(A1).

# FIELD BORELOG

<b>LOCATION OF BOREHOLE</b>	<b>JOB NO.:</b> 044-0236IRPSFW	<b>BOREHOLE DESIGNATION:</b> SB5-35
	<b>CLIENT:</b> U.S. Navy	<b>SURFACE ELEVATION:</b> 7.3 MSL
	<b>SITE:</b> 5	<b>DEPTH TO WATER:</b> 6.8 BGS
	<b>SUBSITE:</b> 8 inch	<b>LOGGED BY:</b> Willis Wilcoxon
	<b>DRILLING CO.:</b> West Hazmat	<b>DRILLING DATE(S):</b> 2/4/94
	<b>DRILLING PERSONNEL/METHOD:</b> Tom Wright, Rubin Reyez, Jaun Lajes/HSA with 2 foot split spoon.	

SAMPLER TYPE	SAMPLE DEPTH		RECOVERED S IN. SAMPLE DRIVEN	TIME	HEADSPACE SCREENING (IN. BACK GROUND)	ANLYS		WELL INFO.	DEPTH (FEET)	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	TOP	BOT.				PHYS	CHEM				
drill	0			1055							Drill to 5.0 feet then begin continuous split spoon core sampling.
									1		
									2		
									3		
									4		
	5								5		5.0 to 5.4 feet: SOIL; black, organic.
SS	5		2.2/2.0	1100					5	CL	5.4 to 6.2 feet: CLAY; olive (5Y 5/4), dense, damp, moderately strong petroleum odor.
									6		6.2 to 7.2 feet: SILT; grading to sand, olive gray, very fine grain, silty, moist, strong petroleum odor.
	7					X			6	ML	
									7		7.0 to 10.8 feet: CLAY; gray at top (7.2), as above then grades to light olive brown, dense, moist, strong petroleum odor grading to weak petroleum odor with depth.
	7		2.2/2.0	1103					7		
									8	CL	
	9								8		
									9		
	9		2.3/2.0	1107					9		
									10		
									10		
	11					X			10		10.8 to 11.2 feet: SAND; olive brown (2.5Y 4/3), soft, very silty, wet, no odor.
									11		11.2 to 13.0 feet: SILT; olive mottled brown, dense, moist, no apparent odor, some concretions.
	11		2.0/2.0	1110					11		
									12	SM	
									13		
	13		2.0/2.0	1112					13		13.0 to 15.0 feet: SILT; olive mottled olive brown, firm, moist to very moist, some fine sand, no odor.
									14		
									15		Total depth drilled and cored at 15.0 feet.
	15								15		
									16		Note: Driller says water at 6.8 feet below ground at 1112. Driller measures water at 6.5 feet below ground at 1122.
									17		
									18		
									19		
									20		

# FIELD BORELOG

<p><b>LOCATION OF BOREHOLE</b></p>	<b>JOB NO.:</b> 044-0236IRPSFW		<b>BOREHOLE DESIGNATION:</b> SB43-3	
	<b>CLIENT:</b> U.S. Navy		<b>SURFACE ELEVATION:</b> 8.8 MSL	
	<b>SITE:</b> Site 19, Tank 43		<b>DEPTH TO WATER:</b> 9.0 BGS	
	<b>SUBSITE:</b> 8 inch		<b>LOGGED BY:</b> Willis Wilcoxon	
	<b>DRILLING CO.:</b> West Hazmat		<b>DRILLING DATE(S):</b> 2/4/94	
	<b>DRILLING PERSONNEL/METHOD:</b> Tom Wright, Rubin Reyez, Juan Lajes/HSA with 2 foot split spoon.			

SAMPLER TYPE	SAMPLE DEPTH		RECOVERED DRIVEN	TIME	HEADSPACE SCREENING (in) BACK GROUND	ANLYS		WELL INFO.	USCS SOIL TYPE GRAPHIC LOG	SOIL DESCRIPTION
	TOP	BOT.				PHYS	CHEM			
drill	0									Drill to 5.0 feet below ground then begin split spoon sample collection.
	5									
	5		2.1/2.0	1345						5.0 to 5.6 feet: CLAY; dark gray brown, moderately dense, plastic, moist, earthy odor.
										5.6 to 7.0 feet: CLAY; black, organic, moist, earthy odor.
	7									
	7		1.9/2.0	1349					CL	7.0 to 10.8 feet: CLAY; olive brown (2.5Y 4/3) grading to light olive brown (2.5Y 5/4), dense grading to slightly dense, then becoming dense, grades to moist at 9.0 feet.
										Note: Driller observes water on 9.0 to 11.0 foot spoon, water level measured at 9.0 feet below ground.
	9									
	9		2.0/2.0	1354						
	11						X			
	11		2.0/2.0	1357					SC	10.8 to 11.0 feet: SAND; olive brown, fine to very fine grain, silty to very silty, cohesive, saturated, very soft, no odor.
										11.0 to 13.0 feet: CLAY; olive brown (2.5Y 5/4), dense, moist, no odor.
	13									
	13		2.0/2.0	1400						13.0 to 13.7 feet: SLOUGH.
										13.7 to 14.5 feet: SAND; olive brown, silty to very silty, cohesive, saturated, no odor.
	15									
	15		2.0/2.0	1405						14.5 to 14.9 feet: CLAY; olive brown, as above.
										14.9 to 16.0 feet: SANDY SILT; olive brown, very fine sand, very soft grading to dense, saturated grading to wet, grades to clay.
	17									
	17									16.0 to 17.0 feet: CLAY; olive brown, silty, dense, moist, no odor.
										Total depth of split spoon sampling 17.0 feet.
	18									Drill to 18.0 feet, build well.
	19									
	20									

**MONITORING WELL COMPLETION DIAGRAM**

3-FOOT DIAMETER  
CONCRETE PAD

FLUSH-MOUNTED  
PROTECTIVE CASING

ELEVATION TOC: 5.48 FEET

GROUND  
ELEVATION: 5.70 FEET

**WELL**

WELL NO.: W5-34

BOREHOLE NO.: SB5-34

SITE: NAS Moffett Field

SUBSITE: Site 5, Golf Course

DATE: 02-04-94

**SURFACE COMPLETION DETAILS  
(TYPE OF INSTALLATION)**

ABOVE GROUND

FLUSH MOUNT

**MEASURING POINT**

TOP OF CASING

GROUND SURFACE

TOP OF PROTECTIVE CASING

**DRILLING INFORMATION**

DRILLING COMPANY:

West Hazmat

DRILLING METHOD:

Hollow Stem Auger

DRILLING DATE(S):

2/4/94

INSTALLATION DATE(S):

2/4/94

BOTTOM OF WELL

20.0 FEET:

CEMENT/BENTONITE GROUT

FROM 0.0 TO 10.5 FT. BELOW GROUND

BENTONITE SLURRY

FROM 10.5 TO 13.0 FT. BELOW GROUND

2 inch PVC RISER CASING

FROM 0.0 TO 14.85 FT. BELOW GROUND

2/12 SAND PACK

FROM 13.0 TO 20.0 FT. BELOW GROUND

0.01 SLOT PVC SCREEN

FROM 14.85 TO 19.9 FT. BELOW GROUND

WATER ADDED DURING DRILLING

YES  GALLONS: 3

NO

TOTAL DEPTH OF BOREHOLE: 20.0 FT.

8 Inch BOREHOLE

BACKFILL MATERIAL: None

**MONITORING WELL COMPLETION DIAGRAM**

3-FOOT DIAMETER  
CONCRETE PAD

3-FOOT  
PROTECTIVE  
STEEL POSTS  
EMBEDDED IN  
CONCRETE

LOCKING PROTECTIVE CASING

ELEVATION TOC: 9.64 FEET

← STICK UP: 2.34 FEET

← GROUND  
ELEVATION: 7.30 FEET

WELL

WELL NO.: W5-35

BOREHOLE NO.: SB5-35

SITE: NAS Moffett Field

SUBSITE: Site 5, Fuel Farm

DATE: 02-04-94

SURFACE COMPLETION DETAILS  
(TYPE OF INSTALLATION)

ABOVE GROUND

FLUSH MOUNT

MEASURING POINT

TOP OF CASING

GROUND SURFACE

TOP OF PROTECTIVE CASING

DRILLING INFORMATION

DRILLING COMPANY:

West Hazmat

DRILLING METHOD:

Hollow Stem Auger

DRILLING DATE(S):

2/4/94

INSTALLATION DATE(S):

2/4/94

BOTTOM OF WELL

15.0 FEET:

CEMENT/BENTONITE GROUT

FROM 0 TO 3.5 FT. BELOW GROUND

BENTONITE SLURRY

FROM 3.5 TO 4.5 FT. BELOW GROUND

2 inch PVC RISER CASING

FROM 0.0 TO 5.0 FT. BELOW GROUND

2/12 SAND PACK

FROM 4.5 TO 15.0 FT. BELOW GROUND

0.01 SLOT PVC SCREEN

FROM 5.0 TO 15.0 FT. BELOW GROUND

WATER ADDED DURING DRILLING

YES  GALLONS:

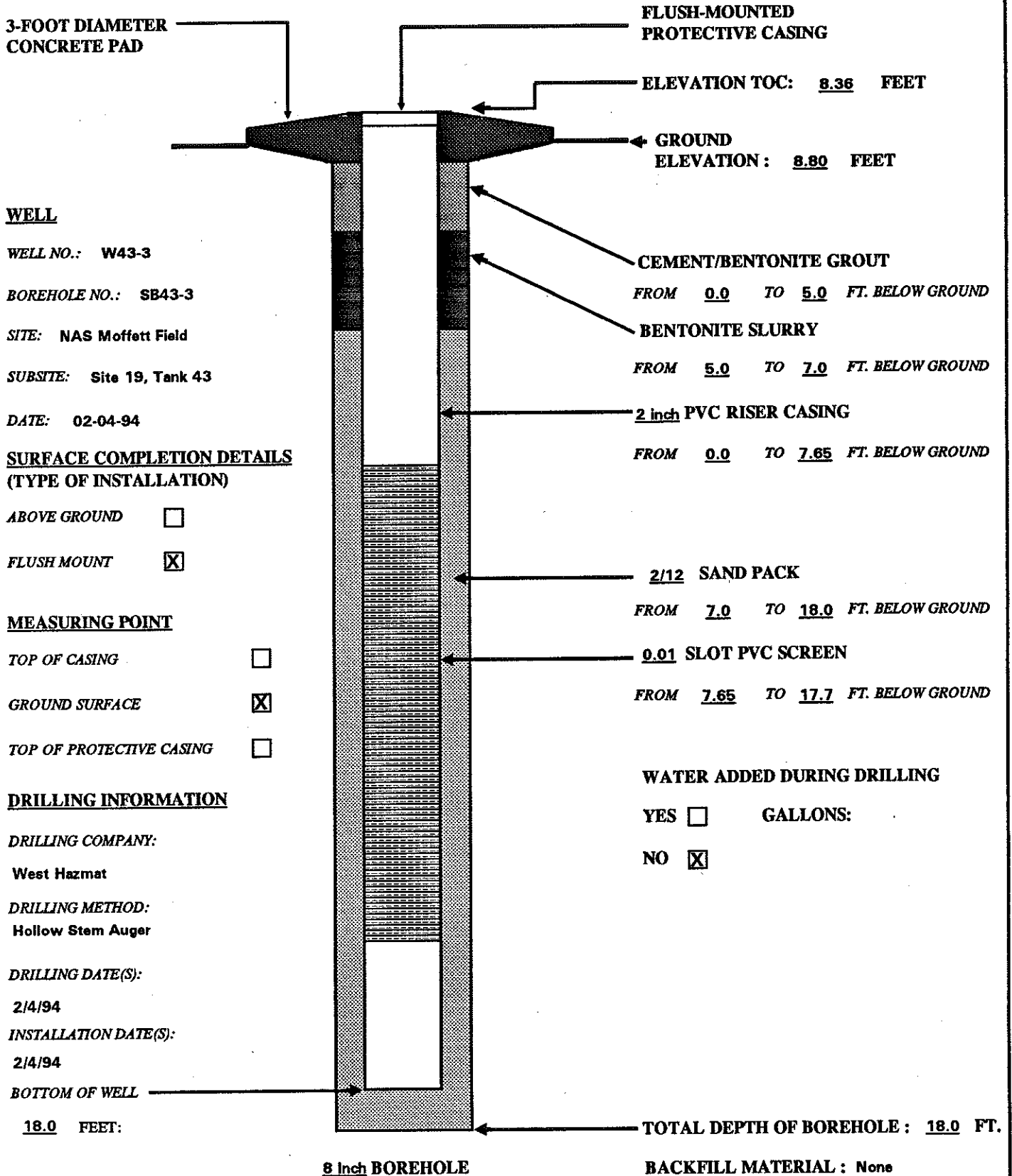
NO

8 inch BOREHOLE

TOTAL DEPTH OF BOREHOLE: 15.0 FT.

BACKFILL MATERIAL: None

**MONITORING WELL COMPLETION DIAGRAM**



**WELL**

WELL NO.: W43-3

BOREHOLE NO.: SB43-3

SITE: NAS Moffett Field

SUBSITE: Site 19, Tank 43

DATE: 02-04-94

**SURFACE COMPLETION DETAILS  
(TYPE OF INSTALLATION)**

ABOVE GROUND

FLUSH MOUNT

**MEASURING POINT**

TOP OF CASING

GROUND SURFACE

TOP OF PROTECTIVE CASING

**DRILLING INFORMATION**

DRILLING COMPANY:

West Hazmat

DRILLING METHOD:

Hollow Stem Auger

DRILLING DATE(S):

2/4/94

INSTALLATION DATE(S):

2/4/94

BOTTOM OF WELL

18.0 FEET:

FLUSH-MOUNTED  
PROTECTIVE CASING

ELEVATION TOC: 8.36 FEET

GROUND  
ELEVATION: 8.80 FEET

CEMENT/BENTONITE GROUT

FROM 0.0 TO 5.0 FT. BELOW GROUND

BENTONITE SLURRY

FROM 5.0 TO 7.0 FT. BELOW GROUND

2 inch PVC RISER CASING

FROM 0.0 TO 7.65 FT. BELOW GROUND

2/12 SAND PACK

FROM 7.0 TO 18.0 FT. BELOW GROUND

0.01 SLOT PVC SCREEN

FROM 7.65 TO 17.7 FT. BELOW GROUND

WATER ADDED DURING DRILLING

YES  GALLONS:

NO

8 inch BOREHOLE

TOTAL DEPTH OF BOREHOLE: 18.0 FT.

BACKFILL MATERIAL: None

**APPENDIX C**  
**SOIL SAMPLE ANALYTICAL DATA**



TPH Extractable ANALYSIS

Form TPH -- EPA Specification OLM 01.1.1 (format A)

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 10:02:24

Concentrations in UG/KG Matrix: SOIL

Compound	GP43-1 (11-13)		GP43-1 (9-11)		GP43-2 (9-11)		GP43-3 (9-11)		GP43-4 (9-11)			
	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
TPHD	1200 U	1200 U		1200 U	1200 U		1000 U	1000 U	1200 U	1200 U		
KEROSENE	1200 U	1200 U		1200 U	1200 U		10000 U	10000 U	12000 U	1200 U		
TPHMO	1200 U	1200 U		1200 U	1200 U		1000 U	1000 U	1200 U	1200 U		
JP5	1200 U	1200 U		1200 U	1200 U		1000 U	1000 U	1200 U	1200 U		
TPHOTHH	1200 U	1200 U		1200 U	1200 U		1000 U	1000 U	1200 U	1200 U		

Compound	GP43-5 (7-9)		GP43-5 (9-11)		GP5-1 (7.4)		GP5-1 (9.2-11.0)		GP5-10 (11.2 - 12.1)			
	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
TPHD	1200 U	1200 U		1200 U	1200 U		1200 U	1200 U	1300 U	1300 U		
KEROSENE	1200 U	1200 U		1200 U	1200 U		12000 U	12000 U	13000 U	1300 U		
TPHMO	1200 U	1200 U		1200 U	1200 U		1200 U	1200 U	1300 U	1300 U		
JP5	1200 U	1200 U		1200 U	1200 U		1200 U	1200 U	1300 U	1300 U		
TPHOTHH	1200 U	1200 U		1200 U	1200 U		73000	1200 U	1300 U	1300 U		

Val - Validity Refer to data qualifier definitions.

Com - Comments  
 MA - Not Analyzed

Comments:  
 D - Laboratory Duplicate  
 EB - Equipment Blank  
 FB - Field Blank  
 TB - Trip Blank

MS - Matrix Spike  
 MSD - Matrix Spike Duplicate

TPH Extractable ANALYSIS

Form TPH -- EPA Specification OLM 01.1.1 (format A)

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 10:02:24

Concentrations in UG/KG Matrix: SOIL

Compound	GP5-11 (9.0-11.0)			GP5-12 (8.8-11.0)			GP5-13 (11.0-13.0)			GP5-14 (14-15)			GP5-15 (9.5-11)		
	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
TPHD	1200 U			1200 U			1300 U			1200 U			1300 U		
KEROSENE	1200 U			7800 U			1300 U			1200 U			1300 U		
TPHMO	12000 U			12000 U			13000 U			12000 U			13000 U		
JP5	1200 U			1200 U			1300 U			1200 U			1300 U		
TPHOTHH	1200 U			1200 U			1300 U			1200 U			1300 U		

Compound	GP5-16 (7.0-9.0)			GP5-17 (9.0-11.0)			GP5-18 (12-14)			GP5-19 (9.0-11.0)			GP5-2 (9-11)		
	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
TPHD	1200 U			1200 U			1300 U			1200 U			1200 U		
KEROSENE	1200 U			1200 U			2500 U			1200 U			1200 U		
TPHMO	12000 U			12000 U			13000 U			12000 U			12000 U		
JP5	1200 U			1200 U			1300 U			1200 U			1200 U		
TPHOTHH	7600			1200 U			1300 U			1200 U			1200 U		

Val - Validity Refer to data qualifier definitions.

Com - Comments  
 NA - Not Analyzed

Comments:  
 D - Laboratory Duplicate  
 EB - Equipment Blank  
 FB - Field Blank  
 TB - Trip Blank

MS - Matrix Spike  
 MSD - Matrix Spike Duplicate

TPH Extractable ANALYSIS

Form TPH -- EPA Specification OLM 01.1.1 (format A)

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 10:02:24

Concentrations in UG/KG Matrix: SOIL

Compound	GP5-20 (9.0-11.0)		GP5-21 (11.5-13.5)		GP5-21 (9.0-11.0)		GP5-22 (10.0-12.0)		GP5-23 (8.0-10.0)			
	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
TPHD	1200 U	1300 U		1300 U	1200 U		1300 U	1300 U		1200 U	1200 U	
KEROSENE	3900	7400		7400	9800		4300	4300		1200 U	1200 U	
TPHMO	12000 U	13000 U		13000 U	12000 U		13000 U	13000 U		12000 U	12000 U	
JPS	1200 U	1300 U		1300 U	1200 U		1300 U	1300 U		1200 U	1200 U	
TPHOTHH	1200 U	1300 U		1300 U	6600		1300 U	1300 U		1200 U	1200 U	

Compound	GP5-3 (11-13)		GP5-4 (11-13)		GP5-4 (9-11)		GP5-5 (11-13)		GP5-5 (9-11)			
	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
TPHD	1200 U	1300 U		1300 U	1200 U		1300 U	1300 U		1300 U	1300 U	
KEROSENE	1200 U	1300 U		1300 U	1200 U		1300 U	1300 U		1300 U	1300 U	
TPHMO	12000 U	13000 U		13000 U	12000 U		13000 U	13000 U		13000 U	13000 U	
JPS	1200 U	1300 U		1300 U	1200 U		1300 U	1300 U		1300 U	1300 U	
TPHOTHH	1200 U	10000		10000	49000		9800	9800		24000	24000	

Val - Validity Refer to data qualifier definitions.

Com - Comments

NA - Not Analyzed

Comments:

D - Laboratory Duplicate

EB - Equipment Blank

FB - Field Blank

TB - Trip Blank

MS - Matrix Spike

MSD - Matrix Spike Duplicate

TPH Extractable ANALYSIS

Form TPH -- EPA Specification OLM 01.1.1 (format A)

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 10:02:24

Concentrations in UG/KG Matrix: SOIL

Compound	GP5-6 (11-13)		GP5-6 (9-11)		GP5-7 (11.3 - 12.7)		GP5-7 (9.6 - 11)		GP5-8 (11 - 12)	
	Result	Val	Result	Com	Result	Com	Result	Com	Result	Com
TPHD	1300 U	1200 U	1200 U		1200 U		1200 U		1200 U	
KEROSENE	1300 U	1200 U	1200 U		1200 U		1200 U		1200 U	
TPHMO	13000 U	12000 U	12000 U		12000 U		12000 U		12000 U	
JPS	1300 U	1200 U	1200 U		1200 U		1200 U		1200 U	
TPROTHH	3700	12000	12000		16000		73000		11000	

Compound	GP5-9 (13 - 14)		GP59-1 (5.0-7.0)		GP59-1 (9.0-11.0)		GP59-2 (5.0-7.0)		GP59-2 (9.0-11.0)	
	Result	Val	Result	Com	Result	Com	Result	Com	Result	Com
TPHD	1700 U	1200 U	1200 U		1200 U		1200 U		1200 U	
KEROSENE	1700 U	1200 U	1200 U		1200 U		1200 U		1200 U	
TPHMO	17000 U	12000 U	12000 U		12000 U		12000 U		12000 U	
JPS	1700 U	1200 U	1200 U		1200 U		1200 U		1200 U	
TPROTHH	1700 U	1200 U	1200 U		1200 U		2300		1200 U	

Val - Validity Refer to data qualifier definitions.

Com - Comments

NA - Not Analyzed

Comments:

D - Laboratory Duplicate

EB - Equipment Blank

FB - Field Blank

TB - Trip Blank

MS - Matrix Spike

MSD - Matrix Spike Duplicate

TPH Extractable ANALYSIS

Form TPH -- EPA Specification OLM 01.1.1 (format A)

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 10:02:24

Concentrations in UG/KG Matrix: SOIL

Compound	GP63-1 (3.0-5.0)		GP63-2 (3.0-5.0)		GP63-1 (5.0-7.0)		GP63-2 (5.0-7.0)		GP63-2 (5.0-7.0)		GP9-18 (10.5-11)	
	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
TPHD	1200 U	1200 U		1200 U	1200 U		1200 U	1200 U		1200 U	1200 U	
KEROSENE	1200 U	1200 U		1200 U	1200 U		1200 U	1200 U		1200 U	1200 U	
TPHMO	1200 U	12000 U		12000 U	12000 U		12000 U	12000 U		12000 U	12000 U	
JPS	1200 U	1200 U		61000	1200 U		1200 U	1200 U		1200 U	1200 U	
TPHOTHH	1200 U	1200 U		1200 U	1200 U		17000	17000		77000	77000	

Compound	GP9-8 (10.0-11.0)		GP9-8 (10.0-11.0)		GP9-8 (10.0-11.0)		GPT2-1 (9-11)		GPT2-2 (7-9)		GPT2-3 (7-9)	
	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
TPHD	1200 U	1200 U		1300 U	1300 U		1100 U	1100 U		1200 U	1200 U	
KEROSENE	1200 U	1200 U		1300 U	1300 U		1100 U	1100 U		1200 U	1200 U	
TPHMO	1200 U	12000 U		13000 U	13000 U		11000 U	11000 U		12000 U	12000 U	
JPS	1200 U	1200 U		1300 U	1300 U		1100 U	1100 U		1200 U	1200 U	
TPHOTHH	9000	9000		9600	9600		1100 U	1100 U		1200 U	1200 U	

Val - Validity Refer to data qualifier definitions.

Com - Comments

NA - Not Analyzed

Comments:

- D - Laboratory Duplicate
- EB - Equipment Blank
- FB - Field Blank
- TB - Trip Blank

- MS - Matrix Spike
- MSD - Matrix Spike Duplicate

TPH Extractable ANALYSIS

Form TPH -- EPA Specification OLM 01.1.1 (format A)

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 10:02:24

Concentrations in UG/KG Matrix: SOIL

Compound	PRC Sample ID EPA Sample # Date Received Date Extracted Date Analyzed	SB43-3(10.5) SB43-3(10.5) 02/07/94 02/11/94 02/16/94			SB5-34(18.4) SB5-34(18.4) 02/07/94 02/11/94 02/15/94			SB5-34(7.0) SB5-34(7) 02/07/94 02/11/94 02/15/94			SB5-35(10.5) SB5-35(10.5) 02/07/94 02/11/94 02/16/94			SB5-35(10.5) SB5-35(10.5) 02/07/94 02/15/94 02/16/94		
		Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
TPHD		1200 U	1200 U		1200 U	1200 U		1200 U	1200 U		1200 U	1200 U		1200 U	1200 U	
KEROSENE		1200 U	1200 U		1200 U	1200 U		1200 U	1200 U		1200 U	1200 U		1200 U	1200 U	
TPHMO		12000 U	12000 U		12000 U	12000 U		12000 U	12000 U		12000 U	12000 U		12000 U	12000 U	
JP5		1200 U	1200 U		1200 U	1200 U		1200 U	1200 U		1200 U	1200 U		1200 U	1200 U	
TPHOTHH		1200 U	1200 U		1200 U	1200 U		16000	1200 U		1200 U	1200 U		1200 U	1200 U	

Compound	PRC Sample ID EPA Sample # Date Received Date Extracted Date Analyzed	SB5-35(6.5) SB5-35(6.5) 02/07/94 02/11/94 02/17/94			Result			Val			Com				
		Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com		
TPHD		6100 U	6100 U												
KEROSENE		6100 U	6100 U												
TPHMO		61000 U	61000 U												
JP5		6100 U	6100 U												
TPHOTHH		2000000 X													

Val - Validity Refer to data qualifier definitions.

Com - Comments

NA - Not Analyzed

D - Laboratory Duplicate

EB - Equipment Blank

FB - Field Blank

TB - Trip Blank

MS - Matrix Spike

MSD - Matrix Spike Duplicate

PRC Environmental Management

Client ID: GP59-1 (5.0-7.0)  
MPCLI ID: 9402001 - 05C  
Matrix: SOIL

Date collected: 01/31/94  
Date received: 01/31/94

---

Test description	Method	Result	Report Limit Units	Prep Date	Run Date	QC Batch
Oil and Grs	5520/EPA 413	ND	30 mg/kg	02/02	02/03	0087A

---

PRC Environmental Management

Client ID: GP59-1 (9.0-11.0)

Date collected: 01/31/94

MPELI ID: 9402001 - 06C

Date received: 01/31/94

Matrix: SOIL

---

Test description	Method	Result	Report Limit Units	Prep Date	Run Date	QC Batch
Oil and Grs	5520/EPA 413	ND	29 mg/kg	02/02	02/03	0087A

---



PRC Environmental Management

Client ID: GP59-2 (5.0-7.0)  
MPELI ID: 9402001 - 07C  
Matrix: SOIL

Date collected: 01/31/94  
Date received: 01/31/94

---

Test description	Method	Result	Report Limit Units	Prep Date	Run Date	QC Batch
Oil and Grs	5520/EPA 413	ND	30 mg/kg	02/02	02/03	0087A

---

PRC Environmental Management

Client ID: GP59-2 (9.0-11.0)  
MPELI ID: 9402001 - 08C  
Matrix: SOIL

Date collected: 01/31/94  
Date received: 01/31/94

---

Test description	Method	Result	Report Limit Units	Prep Date	Run Date	QC Batch
Oil and Grs	5520/EPA 413	ND	29 mg/kg	02/02	02/03	0087A

---

PRC Environmental Management

Client ID: GP63-1 (3.0-5.0)  
MPELI ID: 9402001 - 01C  
Matrix: SOIL

Date collected: 01/31/94  
Date received: 01/31/94

Test description	Method	Result	Report Limit Units	Prep Date	Run Date	QC Batch
Oil and Grs	5520/EPA 413	ND	29 mg/kg	02/02	02/03	0087A

PRC Environmental Management

Client ID: GP63-1 (5.0-7.0)  
MPELI ID: 9402001 - 02C  
Matrix: SOIL

Date collected: 01/31/94  
Date received: 01/31/94

---

Test description	Method	Result	Report Limit Units	Prep Date	Run Date	QC Batch
Oil and Grs	5520/EPA 413	37	31 mg/kg	02/02	02/03	0087A

---

PRC Environmental Management

Client ID: GP63-2 (3.0-5.0)  
MPELI ID: 9402001 - 03C  
Matrix: SOIL

Date collected: 01/31/94  
Date received: 01/31/94

Test description	Method	Result	Report Limit Units	Prep Date	Run Date	QC Batch
Oil and Grs	5520/EPA 413	ND	30 mg/kg	02/02	02/03	<del>0097A</del>

*6087A*  
*MP*  
*3/4/94*

PRC Environmental Management

Client ID: GP63-2 (5.0-7.0)  
MPELI ID: 9402001 - 04C  
Matrix: SOIL

Date collected: 01/31/94  
Date received: 01/31/94

Test description	Method	Result	Report Limit Units	Prep Date	Run Date	QC Batch
Oil and Grs	5520/EPA 413	33	30 mg/kg	02/02	02/03	0087A

TPH Purgeable GAS & BETX ANALYSIS

Form TPH -- EPA Specification OLM 01.1.1 (format A)

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 05/11/94 11:37:09

Concentrations in UG/KG Matrix: SOIL

Compound	GP43-1 (11-13) GP431(11-13) 02/02/94 02/04/94		GP43-2 (9-11) GP43-2(9-11) 02/02/94 02/04/94		GP43-3 (9-11) GP43-3(9-11) 02/02/94 02/04/94		GP43-4 (9-11) GP43-4(9-11) 02/02/94 02/04/94	
	Result	Val	Result	Val	Result	Val	Result	Val
BENZENE	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U
TOLUENE	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U
ETHYLBENZ	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U
XYLENE	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U
TPHG	1200 U	1200 U	1200 U	1200 U	1300 U	1300 U	1200 U	1200 U
TPHOTHL	1200 U	1200 U	1200 U	1200 U	1300 U	1300 U	1200 U	1200 U

Compound	GP43-5 (7-9) GP43-5(7-9) 02/02/94 02/04/94		GP53-24 (4 - 5.4) GP53-24 4-54 02/04/94 02/10/94		GP53-25 (4.2 - 5.8) GP5325 42-58 02/04/94 02/10/94		GP53-26 (5 - 5.9) GP53-26 5-59 02/04/94 02/10/94	
	Result	Val	Result	Val	Result	Val	Result	Val
BENZENE	6 U	6 U	6 U	6 U	6 U	6 U	7 U	7 U
TOLUENE	6 U	6 U	6 U	6 U	6 U	6 U	7 U	7 U
ETHYLBENZ	6 U	6 U	18	18	6 U	6 U	7 U	7 U
XYLENE	6 U	6 U	70	70	6 U	6 U	7 U	7 U
TPHG	1200 U	1200 U	2800	2800	1300 U	1300 U	1300 U	1300 U
TPHOTHL	1200 U	1200 U	1200 U	1200 U	1300 U	1300 U	1300 U	1300 U

Val - Validity Refer to data qualifier definitions.  
 Com - Comments  
 NA - Not Analyzed

Comments:  
 D - Laboratory Duplicate  
 EB - Equipment Blank  
 FB - Field Blank  
 TB - Trip Blank

MS - Matrix Spike  
 MSD - Matrix Spike Duplicate

TPH Purgeable GAS & BETX ANALYSIS

Form TPH -- EPA Specification OLM 01.1.1 (format A)

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 05/11/94 11:37:09

Concentrations in UG/KG Matrix: SOIL

Compound	GP53-27 (5 - 6)		GP59-1 (5.0-7.0)		GP59-1 (9.0-11.0)		GP59-2 (5.0-7.0)		GP59-2 (9.0-11.0)	
	Result	Val	Result	Com	Result	Com	Result	Val	Result	Com
BENZENE	7 U	6 U	6 U		6 U		6 U	6 U	6 U	
TOLUENE	7 U	6 U	6 U		6 U		6 U	6 U	6 U	
ETHYLBENZ	7 U	6 U	6 U		6 U		6 U	6 U	6 U	
XYLENE	7 U	6 U	6 U		6 U		6 U	6 U	6 U	
TPHG	1300 U	1200 U	1200 U		1200 U		1200 U	1200 U	1200 U	
TPROTHL	1300 U	1200 U	1200 U		1200 U		1200 U	1200 U	1200 U	

Compound	GP63-1 (3.0-5.0)		GP63-1 (5.0-7.0)		GP63-2 (3.0-5.0)		GP63-2 (5.0-7.0)		GP9-1 (5.8-6.7)	
	Result	Val	Result	Com	Result	Com	Result	Val	Result	Com
BENZENE	6 U	12 U	12 U		6 U		6 U	6 U	6 U	
TOLUENE	6 U	12 U	12 U		6 U		6 U	6 U	6 U	
ETHYLBENZ	6 U	12 U	12 U		6 U		6 U	6 U	6 U	
XYLENE	6 U	12 U	12 U		6 U		6 U	6 U	6 U	
TPHG	1200 U	2500 U	2500 U		1200 U		1200 U	1100 U	1100 U	
TPROTHL	1200 U	7200 U	7200 U		1200 U		1200 U	1100 U	1100 U	

Val - Validity Refer to data qualifier definitions.

Com - Comments

NA - Not Analyzed

Comments:  
 D - Laboratory Duplicate  
 EB - Equipment Blank  
 FB - Field Blank  
 TB - Trip Blank

MS - Matrix Spike  
 MSD - Matrix Spike Duplicate



TPH Purgeable GAS & BETX ANALYSIS

Form TPH -- EPA Specification OLM 01.1.1 (format A)

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 05/11/94 11:37:09

Concentrations in UG/KG Matrix: SOIL

Compound	GP9-10 (10-11)		GP9-11 (10-11)		GP9-12 (7.0-9.0)		GP9-13 (9.0-11)		GP9-14 (9.0 - 11.0)	
	Result	Com	Result	Com	Result	Com	Result	Com	Result	Com
BENZENE	25 U		6 U		6 U		230 U		6 U	
TOLUENE	25 U		6 U		6 U		230 U		6 U	
ETHYLBENZ	25 U		6 U		6 U		230 U		6 U	
XYLENE	25 U		6 U		6 U		230 U		6 U	
TPHG	5000 U		1200 U		1100 U		45000 U		1200 U	
TPHOTHL	55000		20000		3100		330000		1200 U	

Compound	GP9-15 (10.0 - 11.0)		GP9-16 (9.0 - 11.0)		GP9-17 (10.0 - 10.5)		GP9-2 (6.8-7.0)		GP9-3 (7.9-8.5)	
	Result	Com	Result	Com	Result	Com	Result	Com	Result	Com
BENZENE	6 U		6 U		6 U		240 U		230 U	
TOLUENE	6 U		6 U		6 U		240 U		230 U	
ETHYLBENZ	6 U		6 U		6 U		3600		1900	
XYLENE	6 U		6 U		6 U		2000		2400	
TPHG	1200 U		1200 U		1200 U		48000 U		46000 U	
TPHOTHL	2600		1200 U		1200 U		700000		610000	

Val - Validity Refer to data qualifier definitions.

Com - Comments

NA - Not Analyzed

Comments:

D - Laboratory Duplicate

EB - Equipment Blank

FB - Field Blank

TB - Trip Blank

MS - Matrix Spike

MSD - Matrix Spike Duplicate

TPH Purgeable GAS & BETX ANALYSIS

Form TPH -- EPA Specification OLM 01.1.1 (format A)

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 05/11/94 11:37:09

Concentrations in UG/KG Matrix: SOIL

Compound	GP9-4 (7.0-9.0) GP9-4(7-9) 02/08/94 02/15/94		GP9-5 (7.0-9.0) GP9-5(7-9) 02/08/94 02/15/94		GP9-6 (8.0-9.0) GP9-6(8-9) 02/08/94 02/15/94		GP9-7 (7.0-9.0) GP9-7(7-9) 02/08/94 02/17/94		GP9-8 (10.0-11.0) GP9-8(10-11) 02/08/94 02/15/94			
	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
BENZENE	6 U	6 U		60 U	6 U		1400	6 U		6 U		
TOLUENE	6 U	6 U		60 U	6 U		1500	6 U		6 U		
ETHYLBENZ	6 U	6 U		60 U	22		13000	17		17		
XYLENE	6 U	6 U		840	22		16000	15		15		
TPHG	1200 U	1200 U		12000 U	1200 U		49000 U	1200 U		1200 U		
TPHOTHL	1200 U	170000		170000	19000		910000	7200		7200		

Compound	GP9-9 (11-13) GP9-9 11-13 02/09/94 02/16/94		GPT2-1 (9-11) GPT221(9-11) 02/02/94 02/05/94		GPT2-2 (7-9) GPT2-2(7-9) 02/02/94 02/05/94		GPT2-3 (7-9) GPT223(79) 02/02/94 02/04/94		
	Result	Val	Com	Result	Val	Com	Result	Val	Com
BENZENE	7 U	7 U		6 U	6 U		6 U	6 U	
TOLUENE	7 U	7 U		6 U	6 U		6 U	6 U	
ETHYLBENZ	7 U	7 U		6 U	6 U		6 U	6 U	
XYLENE	7 U	7 U		6 U	6 U		6 U	6 U	
TPHG	1400 U	1400 U		1100 U	1200 U		1200 U	1200 U	
TPHOTHL	2500	1100 U		1100 U	1200 U		1200 U	1200 U	

Val - Validity Refer to data qualifier definitions.  
 Com - Comments  
 NA - Not Analyzed

Comments:  
 D - Laboratory Duplicate  
 EB - Equipment Blank  
 FB - Field Blank  
 TB - Trip Blank

MS - Matrix Spike  
 MSD - Matrix Spike Duplicate

VOLATILE ORGANIC ANALYSIS

Form 1A -- EPA Specification OLM 01.1.1 (format A)

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 09:39:26

Concentrations in UG/KG Matrix: SOIL

Compound	GP43-1 (11-13) GP431(11-13) 02/02/94 02/06/94		GP43-1 (9-11) GP43-1911 02/02/94 02/06/94		GP43-2 (9-11) GP43-2(9-11) 02/02/94 02/06/94		GP43-3 (9-11) GP43-3(9-11) 02/02/94 02/06/94		GP43-4 (9-11) GP43-4(9-11) 02/02/94 02/06/94			
	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Chloromethane	12 U	12 U		12 U	12 U		13 U	12 U		12 U	12 U	
Bromomethane	12 U	12 U		12 U	12 U		13 U	12 U		12 U	12 U	
Vinyl Chloride	12 U	12 U		12 U	12 U		13 U	12 U		12 U	12 U	
Chloroethane	12 U	12 U		12 U	12 U		13 U	12 U		12 U	12 U	
Methylene Chloride	12 U	12 U		12 U	12 U		1 J	0.9 J		12 U	12 U	
Acetone	12 U	3 J		12 U	12 U		16 J	12 U		12 U	12 U	
Carbon Disulfide	12 U	12 U		12 U	12 U		1 J	12 U		12 U	12 U	
1,1-Dichloroethene	12 U	12 U		12 U	12 U		13 U	12 U		12 U	12 U	
1,1-Dichloroethane	12 U	12 U		12 U	12 U		13 U	12 U		12 U	12 U	
1,2-Dichloroethene (total)	12 U	12 U		12 U	12 U		13 U	12 U		12 U	12 U	
Chloroform	12 U	12 U		12 U	12 U		13 U	12 U		12 U	12 U	
1,2-Dichloroethane	12 U	12 U		12 U	12 U		13 U	12 U		12 U	12 U	
2-Butanone	12 U	12 U		12 U	12 U		3 J	12 U		12 U	12 U	
1,1,1-Trichloroethane	12 U	12 U		12 U	12 U		13 U	12 U		12 U	12 U	
Carbon Tetrachloride	12 U	12 U		12 U	12 U		13 U	12 U		12 U	12 U	
Bromodichloromethane	12 U	12 U		12 U	12 U		13 U	12 U		12 U	12 U	
1,2-Dichloropropane	12 U	12 U		12 U	12 U		13 U	12 U		12 U	12 U	
cis-1, 3-Dichloropropene	12 U	12 U		12 U	12 U		13 U	12 U		12 U	12 U	
Trichloroethene	12 U	12 U		12 U	12 U		13 U	12 U		12 U	12 U	
Dibromochloromethane	12 U	12 U		12 U	12 U		13 U	12 U		12 U	12 U	
1,1,2-Trichloroethane	12 U	12 U		12 U	12 U		13 U	12 U		12 U	12 U	
Benzene	12 U	12 U		12 U	12 U		13 U	12 U		12 U	12 U	
trans-1, 3-Dichloropropene	12 U	12 U		12 U	12 U		13 U	12 U		12 U	12 U	
Bromoform	12 U	12 U		12 U	12 U		13 U	12 U		12 U	12 U	
4-Methyl-2-Pentanone	12 U	12 U		12 U	12 U		13 U	12 U		12 U	12 U	
2-Hexanone	12 U	12 U		12 U	12 U		13 U	12 U		12 U	12 U	
Tetrachloroethene	6 J	3 J		12 U	12 U		2 J	12 U		12 U	12 U	
1,1,2,2-Tetrachloroethane	12 U	12 U		12 U	12 U		13 U	12 U		12 U	12 U	
Toluene	12 U	12 U		12 U	12 U		13 U	12 U		12 U	12 U	
Chlorobenzene	12 U	12 U		12 U	12 U		13 U	12 U		12 U	12 U	
Ethylbenzene	12 U	12 U		12 U	12 U		13 U	12 U		12 U	12 U	
Styrene	12 U	12 U		12 U	12 U		13 U	12 U		12 U	12 U	
Xylene (total)	12 U	12 U		12 U	12 U		13 U	12 U		12 U	12 U	

Val - Validity Refer to data qualifier definitions.  
 Com - Comments  
 NA - Not Analyzed  
 D - Laboratory Duplicate  
 EB - Equipment Blank  
 FB - Field Blank  
 TB - Trip Blank  
 MS - Matrix Spike  
 MSD - Matrix Spike Duplicate

VOLATILE ORGANIC ANALYSIS

Form 1A -- EPA Specification OLM 01.1.1 (format A)

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 09:39:26

Concentrations in UG/KG Matrix: SOIL

Compound	GP43-5 (7-9) GP43-5(7-9) 02/02/94 02/06/94		GP43-5 (9-11) GP43-5(9-11) 02/02/94 02/06/94		GP5-10 (11.2 - 12.1) GP5-10 02/04/94 02/07/94		GP5-11 (9.0-11.0) GP5-11(9-11) 02/03/94 02/11/94		GP5-12 (8.8-11.0) GP5-12(8-11) 02/03/94 02/11/94			
	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Chloromethane	12 U	13 U		12 U	13 U		12 U	12 U		12 U	12 U	
Bromomethane	12 U	13 U		12 U	13 U		12 U	12 U		12 U	12 U	
Vinyl Chloride	12 U	13 U		12 U	13 U		12 U	12 U		12 U	12 U	
Chloroethane	12 U	1 J		12 U	2 J		12 U	2 J		12 U	2 J	
Methylene Chloride	12 U	11 J		12 U	11 J		12 U	14 B		12 U	29 B	
Acetone	12 U	12 U		12 U	13 U		12 U	12 U		12 U	12 U	
Carbon Disulfide	12 U	12 U		12 U	13 U		12 U	12 U		12 U	12 U	
1,1-Dichloroethene	12 U	12 U		12 U	13 U		12 U	12 U		12 U	12 U	
1,1-Dichloroethane	12 U	12 U		12 U	13 U		12 U	12 U		12 U	12 U	
1,2-Dichloroethene (total)	12 U	12 U		12 U	13 U		12 U	12 U		12 U	12 U	
Chloroform	12 U	12 U		12 U	13 U		12 U	12 U		12 U	12 U	
1,2-Dichloroethane	12 U	12 U		12 U	13 U		12 U	12 U		12 U	12 U	
2-Butanone	12 U	12 U		12 U	13 U		12 U	12 U		12 U	12 U	
1,1,1-Trichloroethane	12 U	12 U		12 U	13 U		12 U	12 U		12 U	12 U	
Carbon Tetrachloride	12 U	12 U		12 U	13 U		12 U	12 U		12 U	12 U	
Bromodichloromethane	12 U	12 U		12 U	13 U		12 U	12 U		12 U	12 U	
1,2-Dichloropropane	12 U	12 U		12 U	13 U		12 U	12 U		12 U	12 U	
cis-1, 3-dichloropropene	12 U	12 U		12 U	13 U		12 U	12 U		12 U	12 U	
Trichloroethene	12 U	12 U		12 U	13 U		12 U	12 U		12 U	12 U	
Dibromochloromethane	12 U	12 U		12 U	13 U		12 U	12 U		12 U	12 U	
1,1,2-Trichloroethane	12 U	12 U		12 U	13 U		12 U	12 U		12 U	12 U	
Benzene	12 U	12 U		12 U	13 U		12 U	12 U		12 U	12 U	
trans-1, 3-Dichloropropene	12 U	12 U		12 U	13 U		12 U	12 U		12 U	12 U	
Bromoform	12 U	12 U		12 U	13 U		12 U	12 U		12 U	12 U	
4-Methyl-2-Pentanone	12 U	12 U		12 U	13 U		12 U	12 U		12 U	12 U	
2-Hexanone	12 U	4 J		12 U	5 J		12 U	12 U		12 U	12 U	
Tetrachloroethene	12 U	12 U		12 U	13 U		12 U	12 U		12 U	12 U	
1,1,2,2-Tetrachloroethane	12 U	12 U		12 U	13 U		12 U	12 U		12 U	12 U	
Toluene	12 U	12 U		12 U	13 U		12 U	12 U		12 U	12 U	
Chlorobenzene	12 U	12 U		12 U	13 U		12 U	12 U		12 U	12 U	
Ethylbenzene	12 U	12 U		12 U	13 U		12 U	12 U		12 U	12 U	
Styrene	12 U	12 U		12 U	13 U		12 U	12 U		12 U	12 U	
Xylene (total)	12 U	12 U		12 U	13 U		12 U	12 U		12 U	12 U	

Val - Validity Refer to data qualifier definitions.  
 Com - Comments  
 NA - Not Analyzed

Comments:  
 D - Laboratory Duplicate  
 EB - Equipment Blank  
 FB - Field Blank  
 TB - Trip Blank

MS - Matrix Spike  
 MSD - Matrix Spike Duplicate

VOLATILE ORGANIC ANALYSIS

Form 1A -- EPA Specification OLM 01.1.1 (format A)

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 09:39:26

Concentrations in UG/KG Matrix: SOIL

Compound	GP59-1 (5.0-7.0)		GP59-1 (9.0-11.0)		GP59-2 (5.0-7.0)		GP59-2 (9.0-11.0)		GP63-1 (3.0-5.0)	
	Result	Com	Result	Com	Result	Com	Result	Com	Result	Com
Chloromethane	12 U		12 U		12 U		12 U		12 U	
Bromomethane	12 U		12 U		12 U		12 U		12 U	
Vinyl Chloride	12 U		12 U		12 U		12 U		12 U	
Chloroethane	12 U		12 U		12 U		12 U		12 U	
Methylene Chloride	20 B		44 B		2 BJ		3 BJ		2 J	
Acetone	18 B		38 B		7 BJ		4 BJ		48	
Carbon Disulfide	12 U		12 U		12 U		12 U		12 U	
1,1-Dichloroethene	12 U		12 U		12 U		12 U		12 U	
1,1-Dichloroethane	12 U		12 U		12 U		12 U		12 U	
1,2-Dichloroethene (total)	12 U		12 U		12 U		12 U		12 U	
Chloroform	12 U		12 U		12 U		12 U		12 U	
1,2-Dichloroethane	12 U		12 U		12 U		12 U		12 U	
2-Butanone	12 U		12 U		12 U		12 U		12 U	
1,1,1-Trichloroethane	12 U		12 U		12 U		12 U		12 U	
Carbon Tetrachloride	12 U		12 U		12 U		12 U		12 U	
Bromodichloromethane	12 U		12 U		12 U		12 U		12 U	
1,2-Dichloropropane	12 U		12 U		12 U		12 U		12 U	
cis-1, 3-Dichloropropene	12 U		12 U		12 U		12 U		12 U	
Trichloroethene	12 U		12 U		12 U		12 U		12 U	
Dibromochloromethane	12 U		12 U		12 U		12 U		12 U	
1,1,2-Trichloroethane	12 U		12 U		12 U		12 U		12 U	
Benzene	12 U		12 U		12 U		12 U		12 U	
trans-1, 3-Dichloropropene	12 U		12 U		12 U		12 U		12 U	
Bromoform	12 U		12 U		12 U		12 U		12 U	
4-Methyl-2-Pentanone	12 U		12 U		12 U		12 U		12 U	
2-Hexanone	12 U		12 U		12 U		12 U		12 U	
Tetrachloroethene	12 U		12 U		12 U		12 U		12 U	
1,1,2,2-Tetrachloroethane	12 U		12 U		12 U		12 U		12 U	
Toluene	12 U		12 U		12 U		12 U		12 U	
Chlorobenzene	12 U		12 U		12 U		12 U		12 U	
Ethylbenzene	12 U		12 U		12 U		12 U		12 U	
Styrene	12 U		12 U		12 U		12 U		12 U	
Xylene (total)	12 U		12 U		12 U		12 U		12 U	

Val - Validity Refer to data qualifier definitions.  
 Com - Comments  
 NA - Not Analyzed

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VOLATILE ORGANIC ANALYSIS

Form 1A -- EPA Specification OLM 01.1.1 (format A)

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 09:39:26

Concentrations in UG/KG Matrix: SOIL

Compound	GP63-1 (5.0-7.0)		GP63-2 (3.0-5.0)		GP63-2 (5.0-7.0)		GP65-1 (5.0-7.0)		GP65-1 (9.0-11.0)			
	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Chloromethane	12 U	12 U		12 U	12 U		12 U	11 U		12 U	12 U	
Bromomethane	12 U	12 U		12 U	12 U		12 U	11 U		12 U	12 U	
Vinyl Chloride	12 U	12 U		12 U	12 U		12 U	11 U		12 U	12 U	
Chloroethane	2 J	2 BJ		2 BJ	2 BJ		11 U	2 BJ		2 J	2 J	
Methylene Chloride	78	7 BJ		7 BJ	14 B		11 U	11 U		12 U	12 U	
Acetone	0.6 J	0.6 J		12 U	0.6 J		11 U	11 U		12 U	12 U	
Carbon Disulfide	12 U	12 U		12 U	12 U		11 U	11 U		12 U	12 U	
1,1-Dichloroethene	12 U	12 U		12 U	12 U		11 U	11 U		12 U	12 U	
1,1-Dichloroethane	12 U	12 U		12 U	12 U		11 U	11 U		12 U	12 U	
1,2-Dichloroethene (total)	12 U	12 U		12 U	12 U		11 U	11 U		12 U	12 U	
Chloroform	12 U	12 U		12 U	12 U		11 U	11 U		12 U	12 U	
1,2-Dichloroethane	12 U	12 U		12 U	12 U		11 U	11 U		12 U	12 U	
2-Butanone	6 J	12 U		12 U	12 U		11 U	11 U		12 U	12 U	
1,1,1-Trichloroethane	12 U	12 U		12 U	12 U		11 U	11 U		12 U	12 U	
Carbon Tetrachloride	12 U	12 U		12 U	12 U		11 U	11 U		12 U	12 U	
Bromodichloromethane	12 U	12 U		12 U	12 U		11 U	11 U		12 U	12 U	
1,2-Dichloropropane	12 U	12 U		12 U	12 U		11 U	11 U		12 U	12 U	
cis-1, 3-Dichloropropene	12 U	12 U		12 U	12 U		11 U	11 U		12 U	12 U	
Trichloroethene	12 U	12 U		12 U	12 U		11 U	11 U		12 U	12 U	
Dibromochloromethane	12 U	12 U		12 U	12 U		11 U	11 U		12 U	12 U	
1,1,2-Trichloroethane	12 U	12 U		12 U	12 U		11 U	11 U		12 U	12 U	
Benzene	12 U	12 U		12 U	12 U		11 U	11 U		12 U	12 U	
trans-1, 3-Dichloropropene	12 U	12 U		12 U	12 U		11 U	11 U		12 U	12 U	
Bromoform	12 U	12 U		12 U	12 U		11 U	11 U		12 U	12 U	
4-Methyl-2-Pentanone	12 U	12 U		12 U	12 U		11 U	11 U		12 U	12 U	
2-Hexanone	12 U	12 U		12 U	12 U		11 U	11 U		12 U	12 U	
Tetrachloroethene	12 U	12 U		12 U	12 U		11 U	11 U		12 U	12 U	
1,1,2,2-Tetrachloroethane	12 U	12 U		12 U	12 U		11 U	11 U		12 U	12 U	
Toluene	12 U	12 U		12 U	12 U		11 U	11 U		12 U	12 U	
Chlorobenzene	12 U	12 U		12 U	12 U		11 U	11 U		12 U	12 U	
Ethylbenzene	12 U	12 U		12 U	12 U		11 U	11 U		12 U	12 U	
Styrene	12 U	12 U		12 U	12 U		11 U	11 U		12 U	12 U	
Xylene (total)	12 U	12 U		12 U	12 U		11 U	11 U		12 U	12 U	

Val - Validity Refer to data qualifier definitions.

Com - Comments

NA - Not Analyzed

Comments:

D - Laboratory Duplicate

EB - Equipment Blank

FB - Field Blank

TB - Trip Blank

MS - Matrix Spike

MSD - Matrix Spike Duplicate

VOLATILE ORGANIC ANALYSIS

Form 1A -- EPA Specification OLM 01.1.1 (format A)

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 09:39:26

Concentrations in UG/KG Matrix: SOIL

Compound	GP65-2 (5.0-7.0)		GP65-2 (9.0-11.0)		GP9-8 (10-11.0)		GPT2-1 (9-11)		GPT2-2 (7-9)	
	Result	Com	Result	Com	Result	Com	Result	Com	Result	Com
Chloromethane	11 U		12 U		13 U		11 U		12 U	
Bromomethane	11 U		12 U		13 U		11 U		12 U	
Vinyl Chloride	11 U		12 U		13 U		11 U		12 U	
Chloroethane	11 U		12 U		13 U		11 U		12 U	
Methylene Chloride	2 BJ		2 BJ		13 U		11 U		1 J	
Acetone	3 BJ		12 U		40 B		4 J		12 U	
Carbon Disulfide	11 U		12 U		13 U		11 U		12 U	
1,1-Dichloroethene	11 U		12 U		13 U		11 U		12 U	
1,1-Dichloroethane	11 U		12 U		13 U		11 U		12 U	
1,2-Dichloroethene (total)	11 U		12 U		13 U		11 U		12 U	
Chloroform	11 U		12 U		13 U		11 U		12 U	
1,2-Dichloroethane	11 U		12 U		13 U		11 U		12 U	
2-Butanone	11 U		12 U		11 J		11 U		12 U	
1,1,1-Trichloroethane	11 U		12 U		13 U		11 U		12 U	
Carbon Tetrachloride	11 U		12 U		13 U		11 U		12 U	
Bromodichloromethane	11 U		12 U		13 U		11 U		12 U	
1,2-Dichloropropane	11 U		12 U		13 U		11 U		12 U	
cis-1, 3-Dichloropropene	11 U		12 U		13 U		11 U		12 U	
Trichloroethene	11 U		12 U		13 U		11 U		12 U	
Dibromochloromethane	11 U		12 U		13 U		11 U		12 U	
1,1,2-Trichloroethane	11 U		12 U		13 U		11 U		12 U	
Benzene	11 U		12 U		13 U		11 U		12 U	
trans-1, 3-Dichloropropene	11 U		12 U		13 U		11 U		12 U	
Bromoform	11 U		12 U		13 U		11 U		12 U	
4-Methyl-2-Pentanone	11 U		12 U		13 U		11 U		12 U	
2-Hexanone	11 U		12 U		13 U		11 U		12 U	
Tetrachloroethene	11 U		12 U		13 U		11 U		12 U	
1,1,2,2-Tetrachloroethane	11 U		12 U		13 U		11 U		12 U	
Toluene	11 U		12 U		13 U		11 U		12 U	
Chlorobenzene	11 U		12 U		13 U		11 U		12 U	
Ethylbenzene	11 U		12 U		13 U		11 U		12 U	
Styrene	11 U		12 U		13 U		11 U		12 U	
Xylene (total)	11 U		12 U		13 U		11 U		12 U	

Val - Validity Refer to data qualifier definitions.  
 Com - Comments  
 NA - Not Analyzed  
 Comments:  
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 MS - Matrix Spike  
 MSD - Matrix Spike Duplicate

VOLATILE ORGANIC ANALYSIS

Form 1A -- EPA Specification OLM 01.1.1 (format A)

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 09:39:26

Concentrations in UG/KG Matrix: SOIL

Compound	GPT2-3 (7-9)		SB43-3(10.5)		GPT2-3(7-9)		SB43-3		GPT2-3(7-9)		SB43-3	
	Result	Com	Result	Com	Result	Com	Result	Com	Result	Com	Result	Com
Chloromethane	12 U		12 U		12 U		12 U		12 U		12 U	
Bromomethane	12 U		12 U		12 U		12 U		12 U		12 U	
Vinyl Chloride	12 U		12 U		12 U		12 U		12 U		12 U	
Chloroethane	12 U		12 U		12 U		12 U		12 U		12 U	
Methylene Chloride	1 J		1 BJ		1 BJ		1 BJ		1 BJ		1 BJ	
Acetone	12 U		12 U		12 U		12 U		12 U		12 U	
Carbon Disulfide	12 U		12 U		12 U		12 U		12 U		12 U	
1,1-Dichloroethene	12 U		12 U		12 U		12 U		12 U		12 U	
1,1-Dichloroethane	12 U		12 U		12 U		12 U		12 U		12 U	
1,2-Dichloroethene (total)	12 U		12 U		12 U		12 U		12 U		12 U	
Chloroform	12 U		12 U		12 U		12 U		12 U		12 U	
1,2-Dichloroethane	12 U		12 U		12 U		12 U		12 U		12 U	
2-Butanone	12 U		12 U		12 U		12 U		12 U		12 U	
1,1,1-Trichloroethane	12 U		12 U		12 U		12 U		12 U		12 U	
Carbon Tetrachloride	12 U		12 U		12 U		12 U		12 U		12 U	
Bromodichloromethane	12 U		12 U		12 U		12 U		12 U		12 U	
1,2-Dichloropropane	12 U		12 U		12 U		12 U		12 U		12 U	
cis-1, 3-Dichloropropene	12 U		12 U		12 U		12 U		12 U		12 U	
Trichloroethene	12 U		12 U		12 U		12 U		12 U		12 U	
Dibromochloromethane	12 U		12 U		12 U		12 U		12 U		12 U	
1,1,2-Trichloroethane	12 U		12 U		12 U		12 U		12 U		12 U	
Benzene	12 U		12 U		12 U		12 U		12 U		12 U	
trans-1, 3-Dichloropropene	12 U		12 U		12 U		12 U		12 U		12 U	
Bromoform	12 U		12 U		12 U		12 U		12 U		12 U	
4-Methyl-2-Pentanone	12 U		12 U		12 U		12 U		12 U		12 U	
2-Hexanone	12 U		12 U		12 U		12 U		12 U		12 U	
Tetrachloroethene	12 U		12 U		12 U		12 U		12 U		12 U	
1,1,2,2-Tetrachloroethane	12 U		12 U		12 U		12 U		12 U		12 U	
Toluene	12 U		12 U		12 U		12 U		12 U		12 U	
Chlorobenzene	12 U		12 U		12 U		12 U		12 U		12 U	
Ethylbenzene	12 U		12 U		12 U		12 U		12 U		12 U	
Styrene	12 U		12 U		12 U		12 U		12 U		12 U	
Xylene (total)	12 U		12 U		12 U		12 U		12 U		12 U	

Val - Validity Refer to data qualifier definitions.

Com - Comments  
 NA - Not Analyzed

Comments:

D - Laboratory Duplicate  
 EB - Equipment Blank  
 FB - Field Blank  
 TB - Trip Blank

MS - Matrix Spike  
 MSD - Matrix Spike Duplicate



SEMIVOLATILE ORGANIC ANALYSIS

Form 18C -- EPA Specification OLM 01.1.1 (format A)

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 09:50:11

Concentrations in UG/KG Matrix: SOIL

Compound	GP5-11 (9.0-11.0)		GP5-12 (8.8-11.0)		GP5-11 (9.0-11.0)		GP5-12 (8.8-11.0)	
	Result	Com	Result	Com	Result	Com	Result	Com
Phenol	390 U		400 U		950 U		980 U	
bis(2-chloroethyl)ether	390 U		400 U		950 U		980 U	
2-Chlorophenol	390 U		400 U		390 U		400 U	
1,3-Dichlorobenzene	390 U		400 U		390 U		400 U	
1,4-Dichlorobenzene	390 U		400 U		390 U		400 U	
1,2-Dichlorobenzene	390 U		400 U		390 U		400 U	
2-Methylphenol	390 U		400 U		390 U		400 U	
2,2'-oxybis(1-Chloropropane)	390 U		400 U		950 U		980 U	
4-Methylphenol	390 U		400 U		950 U		980 U	
N-Nitroso-di-n-propylamine	390 U		400 U		390 U		400 U	
Hexachloroethane	390 U		400 U		390 U		400 U	
Nitrobenzene	390 U		400 U		390 U		400 U	
Isophorone	390 U		400 U		950 U		980 U	
2-Nitrophenol	390 U		400 U		390 U		400 U	
2,4-Dimethylphenol	390 U		400 U		390 U		400 U	
bis(2-chloroethoxy)methane	390 U		400 U		390 U		400 U	
2,4-Dichlorophenol	390 U		400 U		390 U		400 U	
1,2,4-Trichlorobenzene	390 U		400 U		390 U		400 U	
Naphthalene	390 U		400 U		390 U		400 U	
4-Chloroaniline	390 U		400 U		390 U		400 U	
Hexachlorobutadiene	390 U		400 U		390 U		400 U	
4-Chloro-3-methylphenol	390 U		400 U		390 U		400 U	
2-Methylnaphthalene	390 U		400 U		390 U		400 U	
Hexachlorocyclopentadiene	390 U		400 U		390 U		400 U	
2,4,6-Trichlorophenol	950 U		400 U		390 U		400 U	
2,4,5-Trichlorophenol	390 U		400 U		390 U		400 U	
2-Chloronaphthalene	950 U		400 U		390 U		400 U	
2-Nitroaniline	390 U		400 U		390 U		400 U	
Dimethylphthalate	390 U		400 U		390 U		400 U	
Acenaphthylene	390 U		400 U		390 U		400 U	
2,6-Dinitrotoluene	950 U		400 U		390 U		400 U	
3-Nitroaniline	390 U		400 U		390 U		400 U	
Acenaphthene	390 U		400 U		390 U		400 U	
2,4-Dinitrophenol								
4-Nitrophenol								
Dibenzofuran								
2,4-Dinitrotoluene								
Diethylphthalate								
4-Chlorophenyl-phenylether								
Fluorene								
4-Nitroaniline								
4,6-Dinitro-2-methylphenol								
N-Nitrosodiphenylamine (1)								
4-Bromophenyl-phenylether								
Hexachlorobenzene								
Pentachlorophenol								
Phenanthrene								
Anthracene								
Carbazole								
Di-n-butylphthalate								
Fluoranthene								
Pyrene								
Butylbenzylphthalate								
3,3'-Dichlorobenzidine								
Benzo(a)anthracene								
Chrysene								
bis(2-Ethylhexyl)phthalate								
Di-n-octylphthalate								
Benzo(b)fluoranthene								
Benzo(k)fluoranthene								
Benzo(a)pyrene								
Indeno(1,2,3-cd)pyrene								
Dibenz(a,h)anthracene								
Benzo(g,h,i)perylene								

Val - Validity Refer to data qualifier definitions.  
 Com - Comments  
 NA - Not Analyzed

Comments:  
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 FB - Field Blank  
 TB - Trip Blank

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 MSD - Matrix Spike Duplicate

SEMIVOLATILE ORGANIC ANALYSIS

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 09:50:11

Form 18C -- EPA Specification OLM 01.1.1 (format A)  
 Concentrations in UG/KG Matrix: SOIL

Compound	GP5-15 (9.5-11)		GP5-18 (12-14)		GP5-15 (9.5-11)		GP5-18 (12-14)	
	Result	Val	Com	Result	Val	Com	Result	Val
Phenol	420 U	420 U		420 U			1000 U	1000 U
bis(2-Chloroethyl) ether	420 U	420 U		420 U			1000 U	1000 U
2-Chlorophenol	420 U	420 U		420 U			420 U	420 U
1,3-Dichlorobenzene	420 U	420 U		420 U			420 U	420 U
1,4-Dichlorobenzene	420 U	420 U		420 U			420 U	420 U
1,2-Dichlorobenzene	420 U	420 U		420 U			420 U	420 U
2-Methylphenol	420 U	420 U		420 U			420 U	420 U
2,2'-oxybis(1-Chloropropane)	420 U	420 U		420 U			1000 U	1000 U
4-Methylphenol	420 U	420 U		420 U			1000 U	1000 U
N-Nitroso-di-n-propylamine	420 U	420 U		420 U			420 U	420 U
Hexachloroethane	420 U	420 U		420 U			420 U	420 U
Nitrobenzene	420 U	420 U		420 U			1000 U	1000 U
Isophorone	420 U	420 U		420 U			420 U	420 U
2-Nitrophenol	420 U	420 U		420 U			420 U	420 U
2,4-Dimethylphenol	420 U	420 U		420 U			420 U	420 U
bis(2-Chloroethoxy)methane	420 U	420 U		420 U			420 U	420 U
2,4-Dichlorophenol	420 U	420 U		420 U			420 U	420 U
1,2,4-Trichlorobenzene	420 U	420 U		420 U			420 U	420 U
Naphthalene	420 U	420 U		420 U			420 U	420 U
4-Chloroaniline	420 U	420 U		420 U			420 U	420 U
Hexachlorobutadiene	420 U	420 U		420 U			420 U	420 U
4-Chloro-3-methylphenol	420 U	420 U		420 U			420 U	420 U
2-Methylnaphthalene	420 U	420 U		420 U			420 U	420 U
Hexachlorocyclopentadiene	420 U	420 U		420 U			420 U	420 U
2,4,6-Trichlorophenol	1000 U	1000 U		1000 U			420 U	420 U
2,4,5-Trichlorophenol	420 U	420 U		420 U			420 U	420 U
2-Chloronaphthalene	1000 U	1000 U		1000 U			420 U	420 U
2-Nitroaniline	420 U	420 U		420 U			420 U	420 U
Dimethylphthalate	420 U	420 U		420 U			420 U	420 U
Acenaphthylene	420 U	420 U		420 U			420 U	420 U
2,6-Dinitrotoluene	420 U	420 U		420 U			420 U	420 U
3-Nitroaniline	1000 U	1000 U		1000 U			420 U	420 U
Acenaphthene	420 U	420 U		420 U			420 U	420 U

Val - Validity Refer to data qualifier definitions.  
 Com - Comments  
 NA - Not Analyzed  
 D - Laboratory Duplicate MS - Matrix Spike  
 EB - Equipment Blank MSD - Matrix Spike Duplicate  
 FB - Field Blank  
 TB - Trip Blank

SEMIVOLATILE ORGANIC ANALYSIS

Form 18C -- EPA Specification OLM 01.1.1 (format A)

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 09:50:11

Concentrations in UG/KG Matrix: SOIL

Compound	GP5-21 (9.0-11.0)		GP5-3 (11-13)		GP5-21 (9.0-11.0)		GP5-3 (11-13)	
	Result	Com	Result	Com	Result	Com	Result	Com
Phenol	410 U		410 U		990 U		1000 U	
bis(2-Chloroethyl)ether	410 U		410 U		990 U		1000 U	
2-Chlorophenol	410 U		410 U		410 U		410 U	
1,3-Dichlorobenzene	410 U		410 U		410 U		410 U	
1,4-Dichlorobenzene	410 U		410 U		410 U		410 U	
1,2-Dichlorobenzene	410 U		410 U		410 U		410 U	
2-Methylphenol	410 U		410 U		410 U		410 U	
2,2'-oxybis(1-Chloropropane)	410 U		410 U		410 U		410 U	
4-Methylphenol	410 U		410 U		990 U		1000 U	
N-Nitroso-di-n-propylamine	410 U		410 U		990 U		1000 U	
Hexachloroethane	410 U		410 U		410 U		410 U	
Nitrobenzene	410 U		410 U		410 U		410 U	
Isophorane	410 U		410 U		990 U		1000 U	
2-Nitrophenol	410 U		410 U		410 U		410 U	
2,4-Dimethylphenol	410 U		410 U		410 U		410 U	
bis(2-Chloroethoxy)methane	410 U		410 U		410 U		410 U	
2,4-Dichlorophenol	410 U		410 U		410 U		410 U	
1,2,4-Trichlorobenzene	410 U		410 U		410 U		410 U	
Naphthalene	410 U		410 U		410 U		410 U	
4-Chloroaniline	410 U		410 U		410 U		410 U	
Hexachlorobutadiene	410 U		410 U		410 U		410 U	
4-Chloro-3-methylphenol	410 U		410 U		410 U		410 U	
2-Methylnaphthalene	410 U		410 U		410 U		410 U	
Hexachlorocyclopentadiene	410 U		410 U		410 U		410 U	
2,4,6-Trichlorophenol	990 U		1000 U		410 U		410 U	
2,4,5-Trichlorophenol	410 U		410 U		410 U		410 U	
2-Chloronaphthalene	410 U		410 U		410 U		410 U	
2-Nitroaniline	990 U		1000 U		410 U		410 U	
Dimethylphthalate	410 U		410 U		410 U		410 U	
Acenaphthylene	410 U		410 U		410 U		410 U	
2,6-Dinitrotoluene	410 U		410 U		410 U		410 U	
3-Nitroaniline	990 U		1000 U		410 U		410 U	
Acenaphthene	410 U		410 U		410 U		410 U	
2,4-Dinitrophenol								
Dibenzofuran								
2,4-Dinitrotoluene								
Diethylphthalate								
4-Chlorophenyl-phenylether								
Fluorene								
4-Nitroaniline								
4,6-Dinitro-2-methylphenol								
N-Nitrosodiphenylamine (1)								
4-Bromophenyl-phenylether								
Hexachlorobenzene								
Pentachlorophenol								
Phenanthrene								
Anthracene								
Carbazole								
Di-n-butylphthalate								
Fluoranthene								
Pyrene								
Butylbenzylphthalate								
3,3'-Dichlorobenzidine								
Benzo(a)anthracene								
Chrysene								
bis(2-Ethylhexyl)phthalate								
Di-n-octylphthalate								
Benzo(b)fluoranthene								
Benzo(k)fluoranthene								
Benzo(a)pyrene								
Indeno(1,2,3-cd)pyrene								
Dibenz(a,h)anthracene								
Benzo(g,h,i)perylene								

Val - Validity Refer to data qualifier definitions.  
 Com - Comments  
 NA - Not Analyzed

Comments:  
 D - Laboratory Duplicate  
 EB - Equipment Blank  
 FB - Field Blank  
 TB - Trip Blank

MS - Matrix Spike  
 MSD - Matrix Spike Duplicate

SEMIVOLATILE ORGANIC ANALYSIS

Form 18C -- EPA Specification OLM 01.1.1 (format A)

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 09:50:11

Concentrations in UG/KG Matrix: SOIL

Compound	GP5-6 (11-13)		GP5-6 (9-11)		GP5-6 (11-13)		GP5-6 (9-11)	
	Result	Com	Result	Com	Result	Com	Result	Com
Phenol	430 U		410 U		1100 U		1000 U	
bis(2-Chloroethyl)ether	430 U		410 U		1100 U		1000 U	
2-Chlorophenol	430 U		410 U		430 U		410 U	
1,3-Dichlorobenzene	430 U		410 U		430 U		410 U	
1,4-Dichlorobenzene	430 U		410 U		430 U		410 U	
1,2-Dichlorobenzene	430 U		410 U		430 U		410 U	
2-Methylphenol	430 U		410 U		430 U		410 U	
2,2'-oxybis(1-Chloropropane)	430 U		410 U		1100 U		1000 U	
4-Methylphenol	430 U		410 U		1100 U		1000 U	
N-Nitroso-di-n-propylamine	430 U		410 U		430 U		410 U	
Hexachloroethane	430 U		410 U		430 U		410 U	
Nitrobenzene	430 U		410 U		430 U		410 U	
Isophorone	430 U		410 U		1100 U		1000 U	
2-Nitrophenol	430 U		410 U		430 U		410 U	
2,4-Dimethylphenol	430 U		410 U		430 U		410 U	
bis(2-Chloroethoxy)methane	430 U		410 U		430 U		410 U	
2,4-Dichlorophenol	430 U		410 U		430 U		410 U	
1,2,4-Trichlorobenzene	430 U		410 U		430 U		410 U	
Naphthalene	430 U		410 U		430 U		410 U	
4-Chloroaniline	430 U		410 U		430 U		410 U	
Hexachlorobutadiene	430 U		410 U		430 U		410 U	
4-Chloro-3-methylphenol	430 U		410 U		430 U		410 U	
2-Methylnaphthalene	430 U		410 U		430 U		410 U	
Hexachlorocyclopentadiene	430 U		410 U		120 BJ		270 BJ	
2,4,6-Trichlorophenol	1100 U		1000 U		430 U		410 U	
2-Chloronaphthalene	430 U		410 U		430 U		410 U	
2-Nitroaniline	1100 U		1000 U		430 U		410 U	
Dimethylphthalate	430 U		410 U		430 U		410 U	
Acenaphthylene	430 U		410 U		430 U		410 U	
2,6-Dinitrotoluene	430 U		410 U		430 U		410 U	
3-Nitroaniline	1100 U		1000 U		430 U		410 U	
Acenaphthene	430 U		410 U		430 U		410 U	
2,4-Dinitrophenol								
Dibenzofuran								
2,4-Dinitrotoluene								
Diethylphthalate								
4-Chlorophenyl-phenylether								
Fluorene								
4-Nitroaniline								
4,6-Dinitro-2-methylphenol								
N-Nitrosodiphenylamine (1)								
4-Bromophenyl-phenylether								
Hexachlorobenzene								
Pentachlorophenol								
Phenanthrene								
Anthracene								
Carbazole								
Di-n-butylphthalate								
Fluoranthene								
Pyrene								
Butylbenzylphthalate								
3,3'-Dichlorobenzidine								
Benzo(a)anthracene								
Chrysene								
bis(2-Ethylhexyl)phthalate								
Di-n-octylphthalate								
Benzo(b)fluoranthene								
Benzo(k)fluoranthene								
Benzo(a)pyrene								
Indeno(1,2,3-cd)pyrene								
Dibenzo(a,h)anthracene								
Benzo(g,h,i)perylene								

Val - Validity Refer to data qualifier definitions.  
 Com - Comments  
 NA - Not Analyzed  
 Comments:  
 D - Laboratory Duplicate  
 EB - Equipment Blank  
 FB - Field Blank  
 TB - Trip Blank  
 MS - Matrix Spike  
 MSD - Matrix Spike Duplicate



SEMI-VOLATILE ORGANIC ANALYSIS

Form 18C -- EPA Specification OLM 01.1.1 (format A)

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 09:50:11

Concentrations in UG/KG Matrix: SOIL

Compound	SB43-3(10.5)		SB5-35(10.5)		SB43-3(10.5)		SB5-35(10.5)	
	Result	Com	Result	Com	Result	Com	Result	Com
Phenol	410 U		400 U		990 U		980 U	
bis(2-Chloroethyl)ether	410 U		400 U		990 U		980 U	
2-Chlorophenol	410 U		400 U		410 U		400 U	
1,3-Dichlorobenzene	410 U		400 U		410 U		400 U	
1,4-Dichlorobenzene	410 U		400 U		410 U		400 U	
1,2-Dichlorobenzene	410 U		400 U		410 U		400 U	
2-Methylphenol	410 U		400 U		410 U		400 U	
2,2'-oxybis(1-Chloropropane)	410 U		400 U		410 U		400 U	
4-Methylphenol	410 U		400 U		990 U		980 U	
N-Nitroso-di-n-propylamine	410 U		400 U		990 U		980 U	
Hexachloroethane	410 U		400 U		43 BJ		400 U	
Nitrobenzene	410 U		400 U		410 U		400 U	
Isophorone	410 U		400 U		410 U		400 U	
2-Nitrophenol	410 U		400 U		990 U		980 U	
2,4-Dimethylphenol	410 U		400 U		410 U		400 U	
bis(2-Chloroethoxy)methane	410 U		400 U		410 U		400 U	
2,4-Dichlorophenol	410 U		400 U		410 U		400 U	
1,2,4-Trichlorobenzene	410 U		400 U		410 U		400 U	
Naphthalene	410 U		400 U		410 U		400 U	
4-Chloroaniline	410 U		400 U		410 U		400 U	
Hexachlorobutadiene	410 U		400 U		410 U		400 U	
4-Chloro-3-methylphenol	410 U		400 U		410 U		400 U	
2-Methylnaphthalene	410 U		400 U		410 U		400 U	
Hexachlorocyclopentadiene	410 U		400 U		410 U		400 U	
2,4,6-Trichlorophenol	990 U		400 U		410 U		400 U	
2,4,5-Trichlorophenol	410 U		400 U		410 U		400 U	
2-Chloronaphthalene	990 U		400 U		410 U		400 U	
2-Nitroaniline	410 U		400 U		410 U		400 U	
Dimethylphthalate	410 U		400 U		410 U		400 U	
Acenaphthylene	410 U		400 U		410 U		400 U	
2,6-Dinitrotoluene	990 U		400 U		410 U		400 U	
3-Nitroaniline	410 U		400 U		410 U		400 U	
Acenaphthene	410 U		400 U		410 U		400 U	
2,4-Dinitrophenol								
4-Nitrophenol								
Dibenzofuran								
2,4-Dinitrotoluene								
Diethylphthalate								
4-Chlorophenyl-phenylether								
Fluorene								
4-Nitroaniline								
4,6-Dinitro-2-methylphenol								
N-Nitrosodiphenylamine (1)								
4-Bromophenyl-phenylether								
Hexachlorobenzene								
Pentachlorophenol								
Phenanthrene								
Anthracene								
Carbazole								
Di-n-butylphthalate								
Fluoranthene								
Pyrene								
Butylbenzylphthalate								
3,3'-Dichlorobenzidine								
Benzo(a)anthracene								
Chrysene								
bis(2-Ethylhexyl)phthalate								
Di-n-octylphthalate								
Benzo(b)fluoranthene								
Benzo(k)fluoranthene								
Benzo(a)pyrene								
Indeno(1,2,3-cd)pyrene								
Dibenzo(a,h)anthracene								
Benzo(g,h,i)perylene								

Val - Validity Refer to data qualifier definitions.  
 Com - Comments  
 NA - Not Analyzed

Comments:  
 D - Laboratory Duplicate MS - Matrix Spike  
 EB - Equipment Blank MSD - Matrix Spike Duplicate  
 FB - Field Blank  
 TB - Trip Blank

SEMIVOLATILE ORGANIC ANALYSIS

Form 18C -- EPA Specification OLM 01.1.1 (format A)

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 09:50:11

Concentrations in UG/KG Matrix: SOIL

Compound	SB5-35(6.5)		SB5-35(6.5)		Compound	SB5-35(6.5)		Result	Com	Val	Com	Result	Val	Com
	PRC Sample ID	EPA Sample #	Date Received	Date Analyzed		PRC Sample ID	EPA Sample #							
Phenol	SB5-35(6.5)	SB53565	02/07/94	03/01/94	2,4-Dinitrophenol	980 U		980 U						
bis(2-Chloroethyl)ether					4-Nitrophenol	400 U		400 U						
2-Chlorophenol					Dibenzofuran	400 U		400 U						
1,3-Dichlorobenzene					2,4-Dinitrotoluene	400 U		400 U						
1,4-Dichlorobenzene					Diethylphthalate	400 U		400 U						
1,2-Dichlorobenzene					4-Chlorophenyl-phenylether	400 U		400 U						
2-Methylphenol					Fluorene	400 U		400 U						
2,2'-oxybis(1-Chloropropane)					4-Nitroaniline	980 U		980 U						
4-Methylphenol					4,6-Dinitro-2-methylphenol	980 U		980 U						
N-Nitroso-di-n-propylamine					N-Nitrosodiphenylamine (1)	400 U		400 U						
Hexachloroethane					4-Bromophenyl-phenylether	400 U		400 U						
Nitrobenzene					Hexachlorobenzene	400 U		400 U						
Isophorone					Pentachlorophenol	980 U		980 U						
2-Nitrophenol					Phenanthrene	400 U		400 U						
2,4-Dimethylphenol					Anthracene	400 U		400 U						
bis(2-Chloroethoxy)methane					Carbazole	400 U		400 U						
2,4-Dichlorophenol					Di-n-butylphthalate	400 U		400 U						
1,2,4-Trichlorobenzene					Fluoranthene	400 U		400 U						
Naphthalene					Pyrene	400 U		400 U						
4-Chloroaniline					Butylbenzylphthalate	400 U		400 U						
Hexachlorobutadiene					3,3'-Dichlorobenzidine	400 U		400 U						
4-Chloro-3-methylphenol					Benzo(a)anthracene	400 U		400 U						
2-Methylnaphthalene					Chrysene	400 U		400 U						
Hexachlorocyclopentadiene					bis(2-Ethylhexyl)phthalate	400 U		400 U						
2,4,6-Trichlorophenol					Di-n-octylphthalate	400 U		400 U						
2,4,5-Trichlorophenol					Benzo(b)fluoranthene	400 U		400 U						
2-Chloronaphthalene					Benzo(k)fluoranthene	400 U		400 U						
2-Nitroaniline					Benzo(a)pyrene	400 U		400 U						
Dimethylphthalate					Indeno(1,2,3-cd)pyrene	400 U		400 U						
Acenaphthylene					Dibenz(a,h)anthracene	400 U		400 U						
2,6-Dinitrotoluene					Benzo(g,h,i)perylene	400 U		400 U						
3-Nitroaniline														
Acenaphthene														

Val - Validity Refer to data qualifier definitions.  
 Com - Comments  
 NA - Not Analyzed  
 Comments:  
 D - Laboratory Duplicate MS - Matrix Spike  
 EB - Equipment Blank MSD - Matrix Spike Duplicate  
 FB - Field Blank  
 TB - Trip Blank

INORGANIC ANALYSIS

Form I -- EPA Specification ILM 01.0 (format A)

Project : MOFFETT  
 Lab. : ETC/MID PAC  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 10:24:58

Concentrations in MG/KG Matrix: SOIL

PRC Sample ID EPA Sample # Date Received	GP43-1 (9-11) GP9-11 02/02/94			GP43-2 (9-11) GP2911 02/02/94			GP43-3 (9-11) GP3911 02/02/94			GP43-4 (9-11) GP4911 02/02/94		
	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Aluminum	20900.00			18200.00			23400.00			16100.00		
Antimony	10.80 BN			7.30 UN			7.90 UN			7.30 UN		
Arsenic	5.60 +			4.00			4.80 S			4.90 S		
Barium	616.00			125.00			232.00			119.00		
Beryllium	11.60			0.46 B			0.63 B			0.45 B		
Cadmium	11.80 *			0.95 U*			1.30 *			1.20 *		
Calcium	70800.00 *			29400.00 *			24200.00 *			62200.00 *		
Chromium	111.00			64.30			73.60			61.30		
Cobalt	126.00			12.60			15.20			11.90		
Copper	96.60			32.60			40.50			29.90		
Iron	28700.00			28000.00			8.00			6.50		
Lead	8.10			7.20			8.00			6.50		
Magnesium	15500.00			13600.00			19200.00			15700.00		
Manganese	605.00			527.00			470.00			410.00		
Mercury	0.26 N*			0.36 N*			0.99 N*			0.12 UN*		
Nickel	189.00			72.30			84.00			72.40		
Potassium	1200.00 B			1700.00			1420.00			917.00 B		
Selenium	0.76 BNH			0.71 UN			0.89 BNH			0.71 UNW		
Silver	11.50			0.48 U			0.51 U			0.47 U		
Sodium	270.00 B			255.00 B			1070.00 B			252.00 B		
Thallium	0.73 UN			0.71 U			0.76 U			0.71 U		
Vanadium	175.00			62.40			65.20			54.60		
Zinc	182.00			58.70			66.20			54.60		
Cyanide												

Val - Validity Refer to data qualifier definitions.

Com - Comments

NA - Not Analyzed

Comments:

D - Laboratory Duplicate

EB - Equipment Blank

FB - Field Blank

TB - Trip Blank

MS - Matrix Spike

MSD - Matrix Spike Duplicate



INORGANIC ANALYSIS

Form I -- EPA Specification ILM 01.0 (format A)

Project : MOFFETT  
 Lab. : ETC/MID PAC  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 10:24:58

Concentrations in MG/KG Matrix: SOIL

Analyte	GP43-5 (7-9) GP57-9 02/02/94		GP43-5 (9-11) GP5911 02/02/94		GP5-11 (9.0-11.0) GP5-11 02/03/94		GP5-12 (8.8-11.0) GP5-12 02/03/94		GP59-1 (5.0-7.0) GP59-1 01/31/94			
	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Aluminum	24300.00	UN		20200.00	7.40	UN	17000.00	14900.00		23600.00	7.40	UN
Antimony	7.60	UN		7.50	UN		7.40	7.50		7.40	UN	
Arsenic	4.50	S		4.20	S		3.50	5.70		4.70		
Barium	285.00			178.00	*		109.00	189.00	*	226.00	*	
Beryllium	0.60	B		0.37	B		0.48	0.41	B	0.48	B	
Cadmium	0.98	U*		0.96	U*		1.40	0.97	U	0.95	UN	
Calcium	59000.00	*		33800.00	*		19100.00	49700.00		34800.00		
Chromium	77.00			71.20			49.30	49.80	E	68.70		
Cobalt	14.30			13.20			8.80	8.10	B	12.30		
Copper	37.80			33.20			31.70	30.20	E	34.80		
Iron	32200.00			28500.00			26600.00	24200.00		31500.00		
Lead	10.00			6.90			6.00	5.50	BN*	12.90	NS*	
Magnesium	22900.00			15100.00			11700.00	12100.00		17200.00		
Manganese	637.00			656.00			363.00	331.00	N*	671.00		
Mercury	0.25	N*		0.12	UN*		0.12	0.12	U*	0.12	UN	
Nickel	80.90			85.80			59.90	53.90	*	75.60		
Potassium	1730.00			1840.00			1640.00	1040.00	B	1780.00		
Selenium	0.74	UN		0.72	UN		0.71	0.73	U	0.71	UN	
Silver	0.49	U		0.48	U		0.47	0.48	U	0.48	U	
Sodium	461.00	B		292.00	B		220.00	190.00	B	394.00	B	
Thallium	0.74	U		0.72	U		0.71	0.73	UM	0.71	UN	
Vanadium	68.00			66.00			52.50	46.40	E	62.30		
Zinc	66.20			59.40			59.50	54.30		63.00	E	
Cyanide												

Val - Validity Refer to data qualifier definitions.

Com - Comments

NA - Not Analyzed

Comments:  
 D - Laboratory Duplicate  
 EB - Equipment Blank  
 FB - Field Blank  
 TB - Trip Blank

MS - Matrix Spike  
 MSD - Matrix Spike Duplicate

INORGANIC ANALYSIS

Form I -- EPA Specification ILM 01.0 (format A)

Project : MOFFETT  
 Lab. : ETC/MID PAC  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 10:24:58

Concentrations in MG/KG Matrix: SOIL

Analyte	GP59-1 (9.0-11.0) XP59-1 01/31/94			GP59-2 (5.0-7.0) GP59-2 01/31/94			GP59-2 (9.0-11.0) XP59-2 01/31/94			GP63-1 (3.0-5.0) GP63-1 01/31/94			GP63-1 (5.0-7.0) XP63-1 01/31/94		
	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Aluminum	14800.00			25300.00			18400.00			15700.00			14600.00		
Antimony	7.30 UN			7.50 UN			7.30 UN			7.30 UN			7.60 UN		
Arsenic	2.70			3.60			4.70			3.60			3.30		
Barium	119.00			190.00			209.00			133.00			113.00		
Beryllium	0.25 B			0.48 B			0.32 B			0.33 B			0.35 B		
Cadmium	0.94 UN			0.97 UN			0.94 UN			0.95 UN			0.98 UN		
Calcium	16800.00			34800.00			37200.00			48400.00			9580.00		
Chromium	51.90			70.60			57.50			55.90			57.70		
Cobalt	10.30 B			12.90			9.20 B			8.80 B			12.50		
Copper	27.30			33.00			26.10			24.00			32.60		
Iron	25100.00			30200.00			25300.00			23400.00			26500.00		
Lead	7.80 NS*			13.80 NS*			6.30 NS**			7.80 NS*			5.20 N*		
Magnesium	12400.00			17200.00			14300.00			14000.00			12300.00		
Manganese	376.00			554.00			411.00			395.00			473.00		
Mercury	2.10 N			0.29 N			0.12 UN			0.12 UN			0.12 UN		
Nickel	62.30			71.60			66.60			61.70			76.90		
Potassium	1310.00			1560.00			1470.00			891.00 B			1260.00		
Selenium	0.70 UNW			0.73 UN			0.71 UN			0.71 UNW			0.74 UN		
Silver	0.47 U			0.49 U			0.47 U			0.47 U			0.49 U		
Sodium	202.00 B			325.00 B			237.00 B			224.00 B			182.00 B		
Thallium	0.70 UNW			0.73 UN			0.71 UNW			0.71 UNW			0.74 UN		
Vanadium	51.00			73.30			59.60			55.00			52.20		
Zinc	56.40 E			60.90 E			51.20 E			48.50 E			60.90 E		
Cyanide															

Val - Validity Refer to data qualifier definitions.

Com - Comments

NA - Not Analyzed

Comments:

D - Laboratory Duplicate

EB - Equipment Blank

FB - Field Blank

TB - Trip Blank

MS - Matrix Spike

MSD - Matrix Spike Duplicate

INORGANIC ANALYSIS

Form I -- EPA Specification 1LM 01.0 (format A)

Project : MOFFETT  
 Lab. : ETC/MID PAC  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 10:24:58

Concentrations in MG/KG Matrix: SOIL

PRC Sample ID EPA Sample # Date Received	GP63-2 (3.0-5.0)			GP63-2 (5.0-7.0)			GP65-1 (5.0-7.0)			GP65-1 (9.0-11.0)			GP65-2 (5.0-7.0)		
	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Aluminum	13400.00			16800.00			16100.00			21000.00			15400.00		
Antimony	7.40	UN		6.60	UN		7.50	UN		7.90			7.00	UN	
Arsenic	3.50			4.40			2.70			173.00			3.90		
Barium	143.00			140.00			106.00			0.58	B		92.40		
Beryllium	0.38	B		0.33	B		0.37	B		0.91	UN		0.39	B	
Cadmium	0.95	UN		0.98	UN		0.86	UN		1.40	N		0.91	UN	
Calcium	33300.00			16300.00			27700.00			29900.00			30600.00		
Chromium	46.80			73.70			40.80			64.00			46.60		
Cobalt	9.50	B		12.70			10.70			12.40			9.50	B	
Copper	24.10			34.60			21.90			39.10			25.50		
Iron	22700.00			27900.00			29300.00			32800.00			25100.00		
Lead	8.10	NS*		7.40	N**		4.20	NS*		8.60	NS*		3.30	NS*	
Magnesium	12400.00			12700.00			10800.00			13600.00			14000.00		
Manganese	370.00			397.00			411.00			484.00			394.00		
Mercury	0.12	UN		0.12	UN		0.35	N		0.85	N		1.50	N	
Nickel	56.70			81.00			45.20			79.30			71.70		
Potassium	789.00	B		1430.00			1470.00			1850.00			1150.00		
Selenium	0.71	UN		0.74	UN		0.64	UN		0.72	UN		0.68	UN	
Silver	0.48	U		0.49	U		0.43	U		0.48	U		0.45	U	
Sodium	202.00	B		217.00	B		339.00	B		255.00	B		419.00	B	
Thallium	0.71	UNH		0.74	UN		0.64	UN		0.72	UN		0.68	UN	
Vanadium	46.60			61.60			62.60			63.30			54.10		
Zinc	45.10	E		59.80	E		57.90	E		79.30	E		51.80	E	
Cyanide															

Val - Validity Refer to data qualifier definitions.

Com - Comments

NA - Not Analyzed

Comments:

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TB - Trip Blank

MS - Matrix Spike

MSD - Matrix Spike Duplicate

INORGANIC ANALYSIS

Form I -- EPA Specification ILM 01.0 (format A)

Project : MOFFETT  
 Lab. : ETC/MID PAC  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 10:24:58

Concentrations in MG/KG Matrix: SOIL

PRC Sample ID EPA Sample # Date Received	GP65-2 (9.0-11.0)			GP9-8 (10.0-11.0)			GPT2-1 (9-11) GP-911 02/02/94			GPT2-2 (7-9) GP-279 02/02/94			GPT2-3 (7-9) GP12-3 02/02/94		
	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Aluminum	20700.00			16000.00			21100.00			13800.00			19100.00		
Antimony	7.40 UN			7.60 UN			7.20 UN			7.70 UN			7.60 UN		
Arsenic	9.50 S			2.20 BNS			4.60 S			4.50 S			5.50		
Barium	198.00			183.00 *			161.00			132.00			158.00		
Beryllium	0.59 B			0.43 B			0.55 B			0.31 B			0.39 B		
Cadmium	0.96 UN			1.50 N			1.40 *			1.00 U*			0.98 U*		
Calcium	12500.00			39700.00 *			43000.00 *			173000.00 *			77600.00 *		
Chromium	67.10			56.10			64.30			48.00			58.10		
Cobalt	15.00			10.70 B			9.70 B			8.10 B			7.60 B		
Copper	42.30			35.00 *			23.00			22.50			25.40		
Iron	33700.00			26600.00			30200.00			19000.00			24600.00		
Lead	6.60 NS*			8.20 N			5.60			5.60			7.20		
Magnesium	13400.00			13200.00			13100.00			16600.00			16200.00		
Manganese	822.00			421.00 N*			587.00			411.00			318.00		
Mercury	0.35 N			0.12 UN			0.15 N*			0.15 N*			0.64 N*		
Nickel	88.00			77.50			65.70			54.00			56.10		
Potassium	1860.00			1250.00			2010.00			700.00 B			1450.00		
Selenium	0.72 UMNW			0.74 U			0.71 BN			0.75 UNW			0.73 UNW		
Silver	0.48 U			0.49 U			0.46 U			0.50 U			0.49 U		
Sodium	238.00 B			180.00 B			175.00 B			326.00 B			297.00 B		
Thallium	0.72 UNW			0.74 UNW			0.69 UN			0.75 UN			0.73 UN		
Vanadium	68.10			52.20			64.00			45.40			59.60		
Zinc	79.00 E			61.20 E			61.80			39.40			51.00		
Cyanide															

Val - Validity Refer to data qualifier definitions.

Com - Comments

NA - Not Analyzed

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INORGANIC ANALYSIS

Form I -- EPA Specification ILM 01.0 (format A)

Project : MOFFETT  
 Lab. : ETC/MID PAC  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 10:24:58

Concentrations in MG/KG Matrix: SOIL

PRC Sample ID EPA Sample # Date Received	SB43-3(10.5) SB43-3 02/07/94											
	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Analyte												
Aluminum	17000.00											
Antimony	7.70	UN										
Arsenic	5.90	N										
Barium	378.00	*										
Beryllium	0.46	B										
Cadmium	2.00	N										
Calcium	103000.00	*										
Chromium	53.50											
Cobalt	8.40	B										
Copper	30.20	*										
Iron	24100.00											
Lead	7.90	MS										
Magnesium	15300.00											
Manganese	338.00	N*										
Mercury	0.98	UN										
Nickel	66.00	*										
Potassium	1280.00											
Selenium	1.10	B										
Silver	0.50	U										
Sodium	231.00	B										
Thallium	0.74	UN										
Vanadium	51.70											
Zinc	52.10	E										
Cyanide												

Val - Validity Refer to data qualifier definitions.

Com - Comments

NA - Not Analyzed

Comments:

D - Laboratory Duplicate

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**APPENDIX D**  
**GEOPROBE® CSAL SOIL ANALYTICAL DATA**

**APPENDIX D**

**NAS MOFFETT FIELD  
ADDITIONAL PETROLEUM SITES INVESTIGATION  
GEOPROBE CLOSE SUPPORT ANALYTICAL LABORATORY  
SOIL SAMPLE ANALYTICAL RESULTS  
(Concentrations in mg/kg)**

Sample Number (Depth, Feet BLS)	TPH Purgeable as Gasoline	TPH Extractable as Diesel Fuel	TPH Extractable as JP-5	Benzene	Toluene	Ethylbenzene	Xylenes (Total)
GP5-1 (7.4)	ND	ND	427	ND	ND	0.003J	0.008
GP5-1 (9.2-11)	ND	ND	ND	ND	ND	ND	0.004J
GP5-2 (7-9)	ND	ND	ND	ND	ND	ND	ND
GP5-2 (9-11)	ND	ND	ND	ND	ND	ND	0.012
GP5-3 (7.5-8.5)	ND	ND	1,970E	ND	ND	ND	3.39
GP5-3 (9-11)	ND	ND	ND	ND	ND	ND	0.008
GP5-3 (11-13)	ND	ND	ND	ND	ND	ND	0.003J
GP5-4 (7-9)	ND	ND	ND	ND	ND	ND	ND
GP5-4 (9-11)	14.0	ND	626	1.07	ND	ND	1.28
GP5-4 (11-13)	2.17	ND	34.9	0.266	ND	ND	0.080
GP5-5 (9-11)	ND	ND	50.5	0.086	ND	ND	0.036
GP5-5 (11-12)	ND	ND	9.26	0.035	ND	ND	0.008
GP5-6 (7-9)	ND	ND	ND	ND	ND	ND	0.004J
GP5-6 (10-11)	13.0	ND	103	1.51	ND	0.277	ND
GP5-6 (11-12)	ND	ND	3.13J	0.047	ND	ND	0.012
GP5-7 (9.6-11)	ND	ND	626	0.620	ND	0.198	0.428
GP5-7 (11.3-12.7)	43.0	ND	33.4	6.65E	ND	0.457	0.370

APPENDIX D (Continued)

NAS MOFFETT FIELD  
 ADDITIONAL PETROLEUM SITES INVESTIGATION  
 GEOPROBE CLOSE SUPPORT ANALYTICAL LABORATORY  
 SOIL SAMPLE ANALYTICAL RESULTS  
 (Concentrations in mg/kg)

Sample Number (Depth, Feet BLS)	TPH Purgeable as Gasoline	TPH Extractable as Diesel Fuel	TPH Extractable as JP-5	Benzene	Toluene	Ethylbenzene	Xylenes (Total)
GP5-8 (8-9)	ND	ND	294	0.442	ND	0.448	0.320
GP5-8 (11.5)	203	ND	136	26.3E	ND	1.90	0.952
GP5-8 (13.8)	7.05	ND	ND	0.040	ND	0.047	0.019
GP5-9 (8.1)	ND	ND	ND	ND	ND	ND	ND
GP5-9 (10-11)	32.2	ND	237	3.72E	ND	0.487	0.275
GP5-9 (12-13)	16.7	ND	ND	2.60E	ND	0.096	0.036
GP5-9 (13-14)	57.1	ND	ND	8.65E	ND	0.374	0.147
GP5-9 (15)	5.77	ND	ND	0.916	ND	0.025	0.010
GP5-10 (10)	ND	ND	11.8	0.070	ND	ND	0.067
GP5-10 (11.2-12.1)	ND	ND	ND	ND	ND	ND	0.006
GP5-12 (9.0)	ND	ND	8.39	0.015	ND	ND	0.027
GP5-12 (9-11)	ND	ND	ND	0.014	ND	ND	ND
GP5-13 (8-9)	ND	ND	ND	ND	ND	ND	0.020
GP5-13 (10-11)	ND	ND	ND	ND	ND	ND	0.021
GP5-13 (11-13)	ND	ND	ND	ND	ND	ND	0.006
GP5-14 (8.7-9)	ND	ND	ND	ND	ND	ND	0.014
GP5-14 (12.8-13)	ND	ND	ND	ND	ND	ND	0.018



APPENDIX D (Continued)

NAS MOFFETT FIELD  
 ADDITIONAL PETROLEUM SITES INVESTIGATION  
 GEOPROBE CLOSE SUPPORT ANALYTICAL LABORATORY  
 SOIL SAMPLE ANALYTICAL RESULTS  
 (Concentrations in mg/kg)

Sample Number (Depth, Feet BLS)	TPH Purgeable as Gasoline	TPH Extractable as Diesel Fuel	TPH Extractable as JP-5	Benzene	Toluene	Ethylbenzene	Xylenes (Total)
GP5-14 (14.8-15)	ND	ND	ND	ND	ND	ND	0.005
GP5-15 (8.5-9)	ND	ND	ND	ND	ND	ND	0.004J
GP5-15 (9.5-11)	ND	ND	ND	ND	ND	ND	ND
GP5-16 (7-9)	ND	ND	ND	ND	ND	ND	ND
GP5-17 (7-9)	ND	ND	ND	ND	ND	0.005	0.008
GP5-17 (9-11)	ND	ND	2.98J	ND	ND	0.014	0.012
GP5-18 (12-14)	ND	ND	4.00J	ND	ND	ND	0.003J
GP5-19 (7-9)	ND	ND	ND	ND	ND	ND	ND
GP5-19 (9-11)	ND	ND	3.49J	ND	ND	0.010	0.018
GP5-20 (10)	ND	ND	ND	ND	ND	ND	ND
GP5-20 (9-11)	ND	ND	8.15	ND	ND	ND	ND
GP5-21 (9-11)	ND	ND	5.54	0.215	ND	ND	0.005
GP5-21 (11.5-13.5)	11.5	ND	28.6	1.91	ND	ND	ND
GP5-22 (8-10)	ND	ND	ND	ND	ND	ND	ND
GP5-22 (10-12)	ND	ND	ND	ND	ND	ND	ND
GP5-23 (10)	ND	ND	ND	ND	ND	ND	ND

APPENDIX D (Continued)

NAS MOFFETT FIELD  
 ADDITIONAL PETROLEUM SITES INVESTIGATION  
 GEOPROBE CLOSE SUPPORT ANALYTICAL LABORATORY  
 SOIL SAMPLE ANALYTICAL RESULTS  
 (Concentrations in mg/kg)

Sample Number (Depth, Feet BLS)	TPH Purgeable as Gasoline	TPH Extractable as Diesel Fuel	TPH Extractable as JP-5	Benzene	Toluene	Ethylbenzene	Xylenes (Total)
GP9-1 (6.3)	ND	ND	ND	ND	ND	ND	0.009
GP9-2 (6.8-7)	2,520E	ND	ND	13.1E	12.9E	26.9E	55.5E
GP9-3 (7.4-8)	1,360E	ND	ND	2.32E	3.47E	7.02E	22.8E
GP9-4 (5-7)	1.31	ND	ND	ND	ND	ND	0.022
GP9-4 (7-9)	0.75J	ND	ND	0.005	ND	0.003J	0.023
GP9-5 (5-7)	1.05	ND	ND	ND	ND	ND	0.019
GP9-5 (7-9)	528	ND	ND	3.59E	2.73E	ND	10.84E
GP9-6 (5-7)	2.72	ND	ND	0.017	0.014	ND	0.043
GP9-6 (8-9)	9.58	ND	ND	0.038	0.021	0.084	0.088
GP9-7 (5-7)	40.1	ND	ND	0.451	0.167	1.24	0.589
GP9-7 (7-9)	2,370E	ND	ND	21.0E	10.8E	40.6E	38.6E
GP9-8 (5-7)	ND	ND	ND	ND	ND	ND	0.003J
GP9-8 (7-9)	ND	ND	ND	ND	ND	ND	0.004J
GP9-8 (10-11)	21.0	ND	ND	0.309	0.210	ND	0.419
GP9-9 (6-7)	ND	ND	ND	ND	ND	ND	0.004J
GP9-9 (8.5-9)	16.0	290	ND	1.19	0.054	0.552	0.442
GP9-9 (9.5-11)	4.99	75.9	ND	0.289	ND	0.252	0.106

APPENDIX D (Continued)

NAS MOFFETT FIELD  
 ADDITIONAL PETROLEUM SITES INVESTIGATION  
 GEOPROBE CLOSE SUPPORT ANALYTICAL LABORATORY  
 SOIL SAMPLE ANALYTICAL RESULTS  
 (Concentrations in mg/kg)

Sample Number (Depth, Feet BLS)	TPH Purgeable as Gasoline	TPH Extractable as Diesel Fuel	TPH Extractable as JP-5	Benzene	Toluene	Ethylbenzene	Xylenes (Total)
GP9-9 (11-13)	132	401	ND	10.7E	6.91E	3.47E	2.50
GP9-9 (13-15)	0.56J	ND	ND	ND	ND	ND	0.009
GP9-10 (8-9)	1.17	13.1	ND	0.126	0.003J	0.010	0.013
GP9-10 (10-11)	20.0	370	ND	0.802	0.116	1.09	0.554
GP9-10 (11-12)	228	447	ND	17.9E	1.51	5.37E	3.35E
GP9-10 (13-15)	2.97	ND	ND	0.241	0.020	0.020	0.024
GP9-11 (7-8)	36.7	ND	ND	1.37	0.945	0.766	1.28
GP9-11 (8-9)	3.03	ND	ND	0.009	ND	0.015	0.008
GP9-11 (10-11)	146	ND	ND	3.18E	1.38	3.46E	6.79E
GP9-11 (14.5-15)	13.5	ND	ND	0.669	0.142	0.244	0.513
GP9-12 (5-7)	0.78J	ND	ND	0.007	ND	ND	0.008
GP9-12 (7-9)	1,380E	ND	ND	30.3E	18.1E	12.3E	9.76E
GP9-13 (5-7)	ND	ND	ND	0.003J	ND	ND	0.004J
GP9-13 (7-9)	ND	ND	ND	0.010	ND	ND	ND
GP9-13 (9-11)	2,450E	ND	ND	75.2E	42.7E	26.6E	19.9E
GP9-14 (5-7)	1.48	ND	ND	ND	ND	ND	0.021
GP9-14 (7-9)	ND	ND	ND	ND	ND	ND	0.004J

APPENDIX D (Continued)

NAS MOFFETT FIELD  
 ADDITIONAL PETROLEUM SITES INVESTIGATION  
 GEOPROBE CLOSE SUPPORT ANALYTICAL LABORATORY  
 SOIL SAMPLE ANALYTICAL RESULTS  
 (Concentrations in mg/kg)

Sample Number (Depth, Feet BLS)	TPH Purgeable as Gasoline	TPH Extractable as Diesel Fuel	TPH Extractable as JP-5	Benzene	Toluene	Ethylbenzene	Xylenes (Total)
GP9-14 (9-11)	1.02	ND	ND	ND	ND	ND	0.016
GP9-15 (5-7)	ND	ND	ND	ND	ND	ND	0.003J
GP9-15 (7-9)	1.00	ND	ND	0.006	ND	ND	0.018
GP9-15 (9-11)	ND	8.07	ND	0.024	ND	ND	0.007
GP9-16 (6-7)	0.98J	ND	ND	0.018	0.006	0.004J	0.012
GP9-16 (7.5-8.5)	0.62J	ND	ND	0.025	ND	ND	0.006
GP9-16 (9-11)	1.02	ND	ND	0.026	ND	ND	0.012
GP9-17 (5-7)	ND	ND	ND	0.019	ND	ND	0.003J
GP9-17 (7-9)	ND	ND	ND	0.016	ND	ND	0.004J
GP9-17 (10-10.5)	5.20	ND	ND	0.658	ND	ND	ND
GP9-18 (5-7)	ND	ND	ND	ND	ND	ND	0.008
GP9-18 (7-9)	ND	107	ND	ND	ND	ND	0.007
GP9-18 (9.5-10.5)	ND	20.0	ND	ND	ND	ND	0.024
GP9-18 (10.5-11)	ND	1,590E	ND	0.018	ND	0.879	0.923
GP59-1 (7-9)	ND	ND	ND	ND	ND	ND	ND
GP59-1 (9-11)	ND	ND	ND	ND	ND	ND	ND
GP59-1 (11-13)	ND	ND	ND	ND	ND	ND	ND

APPENDIX D (Continued)

NAS MOFFETT FIELD  
 ADDITIONAL PETROLEUM SITES INVESTIGATION  
 GEOPROBE CLOSE SUPPORT ANALYTICAL LABORATORY  
 SOIL SAMPLE ANALYTICAL RESULTS  
 (Concentrations in mg/kg)

Sample Number (Depth, Feet BLS)	TPH Purgeable as Gasoline	TPH Extractable as Diesel Fuel	TPH Extractable as JP-5	Benzene	Toluene	Ethylbenzene	Xylenes (Total)
GP59-2 (5-7)	ND	ND	ND	ND	ND	ND	ND
GP59-2 (11-13)	ND	ND	ND	ND	ND	ND	ND
GP63-1 (3-5)	ND	ND	ND	ND	ND	ND	ND
GP63-1 (5-7)	ND	ND	98.5 (See Note 1)	ND	ND	ND	0.016
GP63-2 (3-5)	ND	ND	ND	ND	ND	ND	ND
GP63-2 (5-7)	ND	ND	2.72J	ND	ND	ND	ND
GP12-1 (9-11)	ND	ND	ND	ND	ND	ND	ND
GP12-2 (7-9)	ND	ND	ND	ND	ND	ND	ND
GP12-3 (7-9)	ND	ND	ND	ND	ND	ND	ND
GP43-1 (9-11)	ND	ND	ND	ND	ND	ND	ND
GP43-1 (11-13)	ND	ND	ND	ND	ND	ND	ND
GP43-2 (9-11)	ND	ND	ND	ND	ND	ND	ND
GP43-3 (9-11)	ND	ND	ND	ND	ND	ND	ND
GP43-4 (9-11)	ND	ND	ND	ND	ND	ND	ND
GP43-5 (7-9)	ND	ND	ND	ND	ND	ND	ND
GP43-5 (9-11)	ND	ND	ND	ND	ND	ND	ND

APPENDIX D (Continued)

NAS MOFFETT FIELD  
 ADDITIONAL PETROLEUM SITES INVESTIGATION  
 GEOPROBE CLOSE SUPPORT ANALYTICAL LABORATORY  
 SOIL SAMPLE ANALYTICAL RESULTS  
 (Concentrations in mg/kg)

Sample Number (Depth, Feet BLS)	TPH Purgeable as Gasoline	TPH Extractable as Diesel Fuel	TPH Extractable as JP-5	Benzene	Toluene	Ethylbenzene	Xylenes (Total)
GP53-24 (4-6)	ND	ND	ND	0.028	ND	0.006	0.009
GP53-24 (5.1)	ND	ND	3.60J	0.064	ND	0.006	0.013
GP53-24 (6.6)	ND	ND	ND	ND	ND	ND	ND
GP53-25 (4.2-4.8)	ND	ND	ND	ND	ND	ND	ND
GP53-25 (6.2)	ND	ND	ND	ND	ND	ND	ND
GP53-26 (5-5.4)	ND	ND	ND	0.056	ND	ND	ND
GP53-26 (6.3)	ND	ND	ND	ND	ND	ND	ND
GP53-27 (5.6)	ND	ND	ND	ND	ND	ND	ND
GP53-27 (6.7)	ND	ND	ND	ND	ND	ND	ND

Notes:

- BLS Below land surface
- J Estimated concentration, value below detection limits
- E Sample exhibited peaks above the calibration range
- ND Not detected

Detection limit was 1.0 mg/kg for TPH purgeable as gasoline.  
 Detection limit was 5.0 mg/kg for TPH extractable as diesel fuel and JP-5.  
 Detection limit was 0.005 mg/kg for benzene, toluene, ethylbenzene and xylenes.

- 1 Chromatographic pattern indicated petroleum heavier than JP-5.

# DATA SHEET FOR CLASSIFICATION TEST

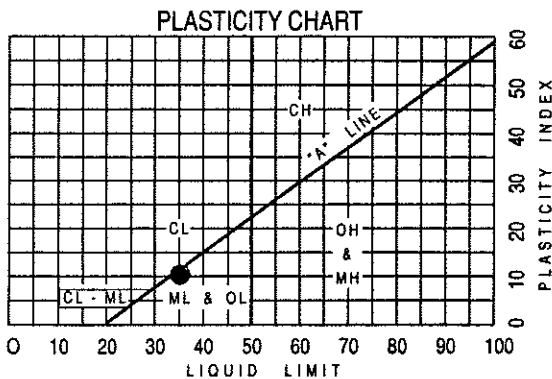
COOPER TESTING LABORATORY, INC.

SUMMARY:	ASTM D 4318
LIQUID LIMIT <u>36</u>	PLASTICITY INDEX <u>10</u>
% GRAVEL _____ SAND _____ FINES _____	CLASSIFICATION <u>ML</u>

JOB OK-07 (REL - MOFFETT) 044-0236IRPSFN BORING NO. GTS-2 SAMPLE NO. \_\_\_\_\_ DEPTH 13-13.5  
 DATE TESTED 2/21/54 BY DL COMPUTED BY \_\_\_\_\_ CHECKED BY \_\_\_\_\_  
 DESCRIPTION OF SOIL GRAY CLAY, MOTTLED BROWN

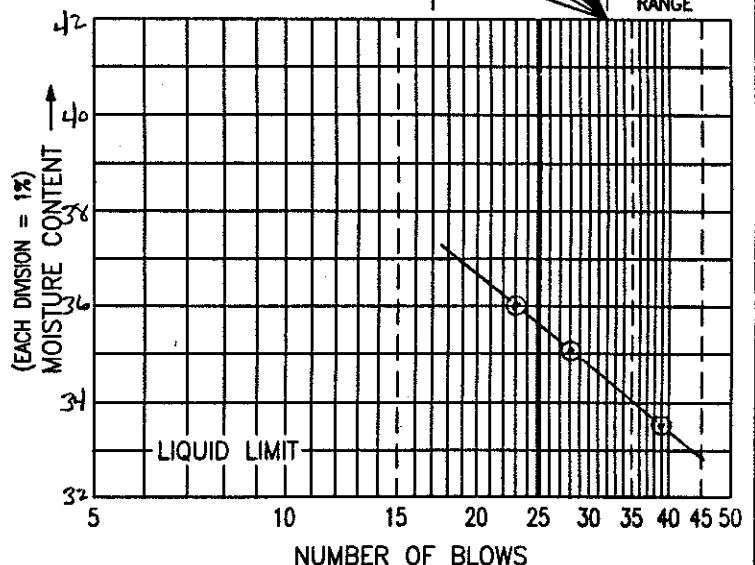
EIS		PLASTIC LIMIT			LIQUID LIMIT			
DISH NUMBER		A-29	A-4	A-32	B-16	B-6	B-52	18
WT. IN GMS.	MOIST SOIL & DISH	17.15	15.67	16.84	10.38	9.52	11.33	10.22
	DRY SOIL & DISH	16.08	14.75	15.84	8.77	8.24	10.16	9.68
	MOISTURE	1.07	0.92	1.00	1.61	1.28	1.17	1.54
	DISH	11.84	11.15	11.89	4.30	4.43	6.67	4.29
	DRY SOIL	4.24	3.60	3.95	4.47	3.81	3.49	4.39
MOISTURE CONTENT, %		25.2	25.6	25.3	36.0	33.6	33.5	35.1
					23	39	33	28
		NUMBER OF BLOWS						

This line is 1/8" thick



LIQUID LIMIT 35.7  
 PLASTIC LIMIT 25.4  
 PLASTICITY INDEX 10.3

## FLOW CURVE



## WASH ANALYSIS (# 200 SIEVE)

	BEFORE WASH	AFTER WASH
WT. OF DISH & OVEN - DRY SOIL		
WT. OF DISH NO. _____		
WT. OF OVEN - DRY SOIL		

% COARSE SOIL \_\_\_\_\_

## SIEVE ANALYSIS

U.S. SIEVE NUMBER	CUMULATIVE WEIGHT RETAINED	CUMULATIVE % RETAINED	CUMULATIVE % PASSING
3"			
3/4"			
#4			
#10			
#40			
#200			
PAN		100	0

\* USE APPROPRIATE SLOPE TO EXTRAPOLATE ONE-POINT LIQUID LIMIT TRIALS (BETWEEN 17 AND 32 BLOWS) TO THE 25-BLOW LINE.

DATE

CHECKED BY

NAME

LOCATION

# DATA SHEET FOR CLASSIFICATION TEST

COOPER TESTING LABORATORY, INC.

SUMMARY:	ASTM D 4318
LIQUID LIMIT <u>34</u>	PLASTICITY INDEX <u>17</u>
% GRAVEL _____ SAND _____ FINES _____	CLASSIFICATION <u>CL</u>

JOB 096-07 (PRC - MOFFETT) 044-02361R3SFN BORING NO. 679-2 SAMPLE NO. \_\_\_\_\_ DEPTH 9-9.5

DATE TESTED 2/21/94 BY DC COMPUTED BY \_\_\_\_\_ CHECKED BY \_\_\_\_\_

DESCRIPTION OF SOIL GRAY CLAY

E452A

PLASTIC LIMIT

LIQUID LIMIT

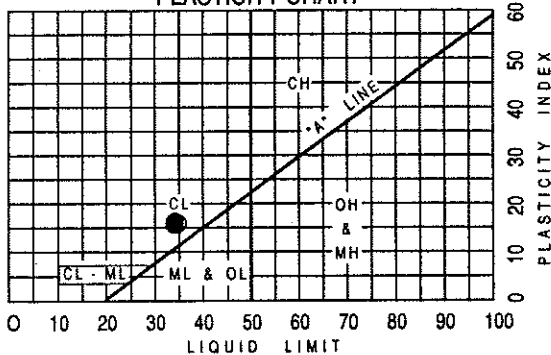
DISH NUMBER	
WT. IN GMS.	MOIST SOIL & DISH
	DRY SOIL & DISH
	MOISTURE
	DISH
	DRY SOIL
MOISTURE CONTENT, %	

A-7	A-36	A-33
15.89	17.28	17.68
15.22	16.46	16.80
0.67	0.82	0.88
11.46	11.81	11.79
3.76	4.65	5.01
17.8	17.6	17.6

B-17	B-51	B-10	B-54
9.87	12.08	12.83	15.61
8.53	10.20	10.69	13.30
1.34	1.88	2.14	2.31
4.37	4.48	4.41	4.79
4.16	5.72	6.28	6.51
32.2	32.9	34.1	35.5
42	31	26	20
NUMBER OF BLOWS			

This line is 1/8" thick.

PLASTICITY CHART



LIQUID LIMIT 34.3  
 PLASTIC LIMIT 17.7  
 PLASTICITY INDEX 16.6

WASH ANALYSIS (# 200 SIEVE)

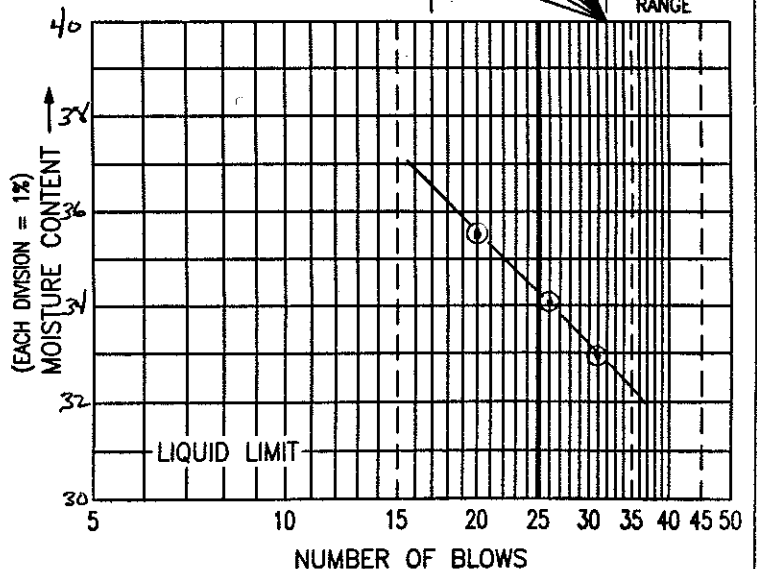
	BEFORE WASH	AFTER WASH
WT. OF DISH & OVEN - DRY SOIL		
WT. OF DISH NO. _____		
WT. OF OVEN - DRY SOIL		

% COARSE SOIL \_\_\_\_\_

SIEVE ANALYSIS

U.S. SIEVE NUMBER	CUMULATIVE WEIGHT RETAINED	CUMULATIVE % RETAINED	CUMULATIVE % PASSING
3"			
3/4"			
#4			
#10			
#40			
#200			
PAN		100	0

FLOW CURVE



\* USE APPROPRIATE SLOPE TO EXTRAPOLATE ONE-POINT LIQUID LIMIT TRIALS (BETWEEN 17 AND 32 BLOWS) TO THE 25-BLOW LINE.

DATE

CHECKED BY

NAME

LOCATION



# DATA SHEET FOR CLASSIFICATION TEST

COOPER TESTING LABORATORY, INC.

SUMMARY:	ASTM D 4318
LIQUID LIMIT <u>26</u>	PLASTICITY INDEX <u>11</u>
% GRAVEL _____ SAND _____ FINES _____	CLASSIFICATION <u>CL</u>

JOB 096-07 (PRC - HOFFET) BORING NO. GT2-1 SAMPLE NO. \_\_\_\_\_ DEPTH 10-10.5  
 DATE TESTED 2/21/94 BY DC COMPUTED BY \_\_\_\_\_ CHECKED BY \_\_\_\_\_  
 DESCRIPTION OF SOIL Brown SANDY CLAY

E32

PLASTIC LIMIT

LIQUID LIMIT

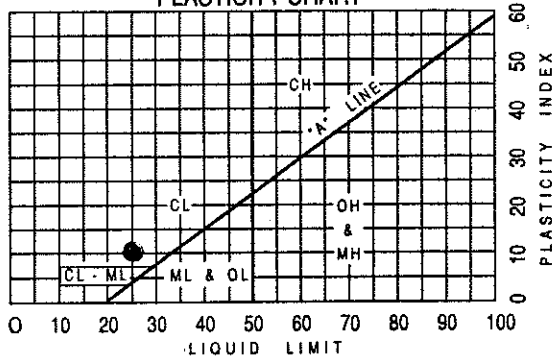
DISH NUMBER	
WT. IN GMS.	MOIST SOIL & DISH
	DRY SOIL & DISH
	MOISTURE
	DISH
	DRY SOIL
MOISTURE CONTENT, %	

A-23	A-1	A-30
17.86	19.33	16.16
16.98	18.30	15.60
0.88	1.03	0.56
11.22	11.50	11.76
5.76	6.50	3.84
15.3	15.1	14.6

B-50	B-1	28	B-7
12.84	14.03	11.39	14.25
11.07	12.00	10.02	12.25
1.77	2.03	1.37	2.0
4.39	4.47	4.32	4.42
6.68	7.53	5.70	7.83
26.5	27.0	24.0	25.5
36	22	32	26
NUMBER OF BLOWS			

This line is 1/8" thick.

PLASTICITY CHART



LIQUID LIMIT 25.9  
 PLASTIC LIMIT 15.0  
 PLASTICITY INDEX 10.9

WASH ANALYSIS (# 200 SIEVE)

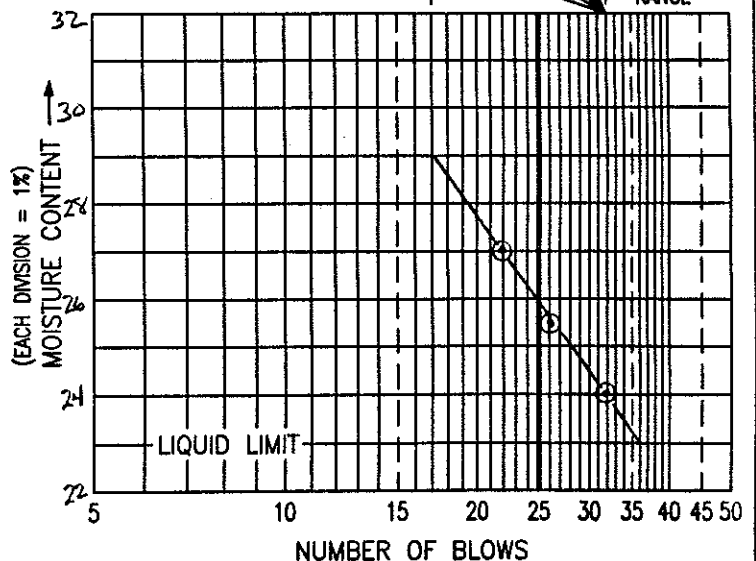
	BEFORE WASH	AFTER WASH
WT. OF DISH & OVEN - DRY SOIL		
WT. OF DISH NO. _____		
WT. OF OVEN - DRY SOIL		

% COARSE SOIL \_\_\_\_\_

SIEVE ANALYSIS

U.S. SIEVE NUMBER	CUMULATIVE WEIGHT RETAINED	CUMULATIVE % RETAINED	CUMULATIVE % PASSING
3"			
3/4"			
#4			
#10			
#40			
#200			
PAN		100	0

FLOW CURVE



\* USE APPROPRIATE SLOPE TO EXTRAPOLATE ONE-POINT LIQUID LIMIT TRIALS (BETWEEN 17 AND 32 BLOWS) TO THE 25-BLOW LINE.

DATE

CHECKED BY

TIME

LOCATION

COOPER TESTING LABS

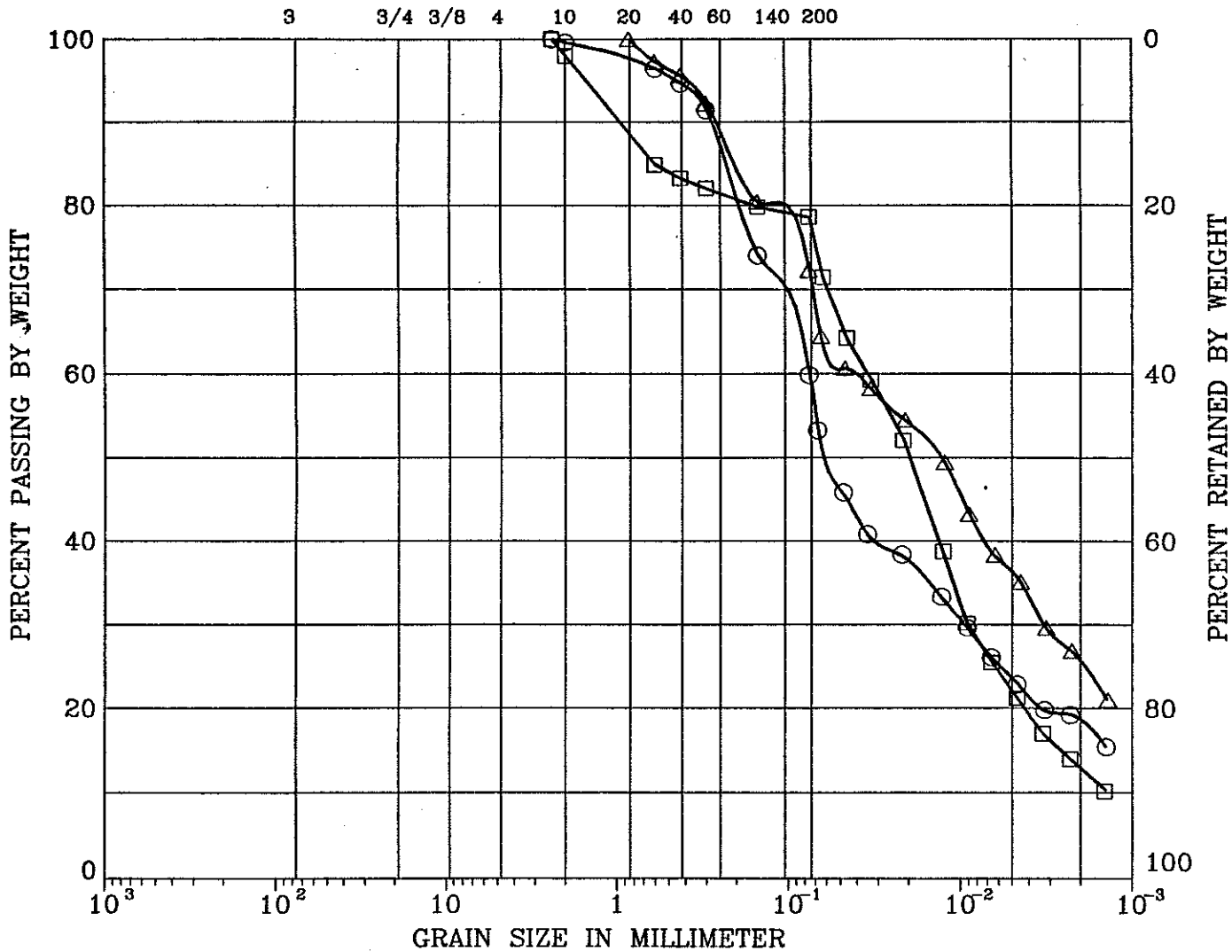
MOISTURE DENSITY - POROSITY DATA SHEET

Job # Client Project/Location Date	096-017 PRC Moffett 044-0236IRPSFN 2/22/94				
Boring #	GT2-1	GT5-2	GT9-2		
Depth (ft)	10-10.5	13-13.5	9-9.5		
Soil Type	brown sandy Clay	gray Silt w/ sand, mottled brown	gray Clay		
Specific Gravity	2.80 ASSUMED	2.80 ASSUMED	2.80 ASSUMED		
Volume Total cc	73.299	87.149	71.671		
Volume of Solids	49.069	49.068	43.077		
Volume of Voids	24.230	38.081	28.594		
Void Ratio	0.494	0.776	0.664		
Porosity %	33.1%	43.7%	39.9%		
Saturation %	98.7%	92.7%	97.9%		
Moisture %	17.4%	25.7%	23.2%		
Dry Density (pcf)	117.0	98.4	105.1		

Remarks

### UNIFIED SOIL CLASSIFICATION

<i>COBBLES</i>	<i>GRAVEL</i>		<i>SAND</i>			<i>SILT OR CLAY</i>
	COARSE	FINE	COARSE	MEDIUM	FINE	
U.S. SIEVE SIZE IN INCHES			U.S. STANDARD SIEVE No.			HYDROMETER



SYMBOL	BORING	DEPTH (ft)	LL (%)	PI (%)	DESCRIPTION
○	GT2-1	10-10.5	26	11	brown sandy Clay (CL)
□	GT5-2	13-13.5	36	10	gray Silt w/sand (ML)
△	GT9-2	9-9.5	34	17	gray sandy Clay (CL)

Remark :

Project No.096-017	PRC-Moffett 044-0236IRPSFN
Cooper Testing Labs Mountain View CA	GRAIN SIZE DISTRIBUTION      Figure No.

Cooper Testing Laboratories

Project No.096-017

PRC-Moffett 044-0236IRPSFN

Figure No.

BORING	DEPTH	% COBBLES	% GRAVEL	% SAND	% FINE	% SILT	% CLAY	Cu	Cc
GT2-1	10-10.5	0.00	0.00	40.11		36.44	23.45		
GT5-2	13-13.5	0.00	0.00	21.44		56.61	21.95		
GT9-2	9-9.5	0.00	0.00	27.84		36.08	36.08		

GT2-1  
10-10.5

GT5-2  
13-13.5

GT9-2  
9-9.5

Grain Size (mm)	% Finer	Grain Size (mm)	% Finer	Grain Size (mm)	% Finer	Grain Size (mm)	% Finer
0.0014	15.45	0.0014	10.28	0.0014	21.02		
0.0023	19.28	0.0023	14.03	0.0022	26.71		
0.0033	19.77	0.0033	16.94	0.0032	29.68		
0.0046	22.86	0.0046	21.17	0.0045	35.24		
0.0066	25.95	0.0066	25.40	0.0064	38.34		
0.0092	29.66	0.0092	30.24	0.0089	43.28		
0.0129	33.37	0.0127	38.71	0.0123	49.47		
0.0220	38.31	0.0212	52.02	0.0211	54.41		
0.0346	40.78	0.0328	59.27	0.0330	58.12		
0.0483	45.73	0.0456	64.11	0.0463	60.60		
0.0669	53.14	0.0631	71.37	0.0648	64.31		
0.0750	59.89	0.0750	78.56	0.0750	72.16		
0.1500	74.05	0.1500	79.78	0.1500	80.36		
0.3000	91.44	0.3000	81.97	0.3000	92.29		
0.4250	94.67	0.4250	83.18	0.4250	95.53		
0.6000	96.41	0.6000	84.88	0.6000	97.27		
2.0000	99.64	2.0000	98.01	0.8500	100.00		
2.3800	100.00	2.3800	100.00				

**APPENDIX F**  
**GROUNDWATER SAMPLE ANALYTICAL DATA**

TPH Extractable ANALYSIS

Form TPH -- EPA Specification OLM 01.1.1 (format A)

Project : MOFFETT  
 Lab : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 10:06:53

Concentrations in UG/L Matrix: WATER

Compound	HP43-1(10-12.5)		HP43-2(15-16)		HP43-3(11-12)		HP43-4(10-12.5)		HP5-1	
	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result
TPHD	120	52 U		51 U	51 U		51 U	51 U		52 U
KEROSENE	56 U	52 U		51 U	51 U		51 U	51 U		52 U
TPHMO	560 U	520 U		510 U	510 U		510 U	510 U		520 U
JPS	56 U	52 U		51 U	51 U		51 U	51 U		52 U
TPHOTH	56 U	43 J		51 U	51 U		51 U	51 U		52 U

Compound	HP5-10 (10-13)		HP5-11 (10-13)		HP5-12 (12-15)		HP5-13 (19.0-21.0)		HP5-14 (15-17)	
	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result
TPHD	52 U	52 U		50 U	50 U		54 U	54 U		50 U
KEROSENE	6200	890		50 U	50 U		54 U	50 U		50 U
TPHMO	520 U	520 U		500 U	500 U		540 U	500 U		500 U
JPS	52 U	52 U		50 U	50 U		54 U	50 U		50 U
TPHOTH	390	1000		160	160		78	78		50 U

Val - Validity Refer to data qualifier definitions.

Com - Comments

NA - Not Analyzed

Comments:

D - Laboratory Duplicate  
 EB - Equipment Blank  
 FB - Field Blank  
 TB - Trip Blank

MS - Matrix Spike  
 MSD - Matrix Spike Duplicate

TPH Extractable ANALYSIS

Form TPH -- EPA Specification OLM 01.1.1 (format A)

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 10:06:53

Concentrations in UG/L Matrix: WATER

Compound	HP5-15 (11-13)		HP5-16 (11.0-13.0)		HP5-17 (11.0-13.0)		HP5-18 (12.0-14.0)		HP5-19 (14-16)	
	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result
TPHD	52 U	51 U		52 U	52 U		52 U	52 U		50 U
KEROSENE	52 U	51 U		52 U	52 U		52 U	52 U		50 U
TPHMO	520 U	510 U		520 U	520 U		520 U	520 U		500 U
JP5	52 U	51 U		52 U	52 U		52 U	52 U		50 U
TPHOTHH	52 U	51 U		52 U	52 U		52 U	52 U		50 U

Compound	HP5-20 (14-16)		HP5-21 (7-9)		HP5-3(7.8)		HP5-4	
	Result	Val	Com	Result	Val	Com	Result	Val
TPHD	52 U	50 U		50 U	52 U		52 U	52 U
KEROSENE	52 U	50 U		50 U	52 U		52 U	52 U
TPHMO	520 U	500 U		500 U	520 U		520 U	520 U
JP5	52 U	50 U		50 U	52 U		52 U	52 U
TPHOTHH	52 U	50 U		50 U	10000		22 J	22 J

Val - Validity Refer to data qualifier definitions.

Com - Comments

NA - Not Analyzed

Comments:

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FB - Field Blank

TB - Trip Blank

MS - Matrix Spike

MSD - Matrix Spike Duplicate

TPH Extractable ANALYSIS

Form TPH -- EPA Specification OLM 01.1.1 (format A)

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 10:06:53

Concentrations in UG/L Matrix: WATER

Compound	PRC Sample ID EPA Sample # Date Received Date Extracted Date Analyzed	HP5-5(16.0-17.0) HP5-5(16-17) 01/26/94 01/27/94 01/29/94	HP5-6(14-15.5) HP56(14-155) 01/27/94 01/27/94 01/30/94	HP5-7 (12.0-14.0) HP5-7(12-14) 01/31/94 02/03/94 02/04/94	HP5-8 (12-14) HP5-8(12-14) 02/02/94 02/07/94 02/09/94	HP5-9 (20-22) HP5-9(20-22) 02/02/94 02/07/94 02/09/94	Result		Com	
							Val	Com	Val	Com
TPHD		56 U	52 U	54 U	52 U	51 U	51 U			
KEROSENE		56 U	52 U	54 U	52 U	51 U	51 U			
TPHMO		560 U	520 U	540 U	520 U	510 U	510 U			
JP5		56 U	52 U	54 U	52 U	51 U	51 U			
TPHOTH		45 J	52 U	54 U	52 U	51 U	51 U			

Compound	PRC Sample ID EPA Sample # Date Received Date Extracted Date Analyzed	HP5-99-1 HP5-99-1 01/27/94 01/27/94 01/30/94	HP63-1 HP63-1 01/27/94 01/27/94 01/30/94	HPT2-1 (10.0-12.0) HPT2-1(1012) 01/31/94 02/03/94 02/04/94	HPT2-2 (12.0-14.0) HPT2-2(1214) 02/01/94 02/02/94 02/04/94	W43-3 W43-3 02/09/94 02/14/94 02/17/94	Result		Com	
							Val	Com	Val	Com
TPHD		52 U	52 U	52 U	50 U	50 U	50 U			
KEROSENE		52 U	52 U	52 U	50 U	50 U	50 U			
TPHMO		520 U	520 U	520 U	840 X	500 U	500 U			
JP5		52 U	52 U	52 U	50 U	50 U	50 U			
TPHOTH		52 U	52 U	52 U	50 U	30 J	30 J			

Val - Validity Refer to data qualifier definitions.

Com - Comments

NA - Not Analyzed

Comments:

D - Laboratory Duplicate

EB - Equipment Blank

FB - Field Blank

TB - Trip Blank

MS - Matrix Spike

MSD - Matrix Spike Duplicate



TPH Extractable ANALYSIS

Form TPH -- EPA Specification OLM 01.1.1 (format A)

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 10:06:53

Concentrations in UG/L Matrix: WATER

Compound	W5-34		W5-35		Result	Com	Val	Result	Com	Val	Result	Com	
	PRC Sample ID	EPA Sample #	Date Received	Date Extracted									Date Analyzed
TPHD	W5-34	W5-34	02/09/94	02/14/94	02/17/94								
KEROSENE							50 U						
TPHMO							530						
JPS							500 U						
TPHOTHH							50 U						
							72 X						

Val - Validity Refer to data qualifier definitions.  
 Com - Comments  
 NA - Not Analyzed

Comments:  
 D - Laboratory Duplicate MS - Matrix Spike  
 EB - Equipment Blank MSD - Matrix Spike Duplicate  
 FB - Field Blank  
 TB - Trip Blank

TPH Purgeable GAS & BETX ANALYSIS

Form TPH -- EPA Specification OLM 01.1.1 (format A)

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 10:12:52

Concentrations in UG/L Matrix: WATER

Compound	HP43-1(10-12.5)		HP43-2(15-16)		HP43-3(11-12)		HP43-4(10-12.5)		HP5-18 (12.0-14.0)	
	Result	Val	Result	Val	Result	Val	Result	Val	Result	Val
BENZENE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
TOLUENE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
ETHYLBENZ	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
XYLENE	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
TPHG	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	100
TPHOTL										

Compound	HP5-19 (14-16)		HP53-1 (10.0-11.0)		HP53-2 (10.0-11.0)		HP63-1		HPT2-1 (10.0-12.0)	
	Result	Val	Result	Val	Result	Val	Result	Val	Result	Val
BENZENE	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
TOLUENE	0.5 U	0.5 U	0.5 U	0.5 U	0.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
ETHYLBENZ	0.5 U	0.5 U	0.5 U	0.5 U	1	0.5 U	0.5 U	0.5 U	0.9	0.5 U
XYLENE	50 U	50 U	50 U	50 U	1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
TPHG	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U	50 U
TPHOTL										

Val - Validity Refer to data qualifier definitions.

Com - Comments

NA - Not Analyzed

Comments:

D - Laboratory Duplicate

EB - Equipment Blank

FB - Field Blank

TB - Trip Blank

MS - Matrix Spike

MSD - Matrix Spike Duplicate

TPH Purgeable GAS & BETX ANALYSIS

Form TPH -- EPA Specification OLM 01.1.1 (format A)

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 10:12:52

Concentrations in UG/L Matrix: WATER

Compound	HPT2-2 (12.0-14.0)		W43-3		W43-3		W43-3		W43-3		W43-3	
	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
BENZENE	0.5 U			0.5 U			0.5 U					
TOLUENE	0.5 U			0.5 U			0.5 U					
ETHYLBENZ	0.5 U			0.5 U			0.5 U					
XYLENE	0.5 U			0.5 U			0.5 U					
TPHG	50 U			50 U			50 U					
TPHOTHL	50 U			50 U			50 U					

Val - Validity Refer to data qualifier definitions.

Com - Comments

NA - Not Analyzed

Comments:

D - Laboratory Duplicate

EB - Equipment Blank

FB - Field Blank

TB - Trip Blank

MS - Matrix Spike

MSD - Matrix Spike Duplicate

TPH Purgeable GAS & BETX ANALYSIS

Form TPH -- EPA Specification OLM 01.1.1 (format A)

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 10:14:01

Concentrations in UG/L Matrix: WATER

Compound	TB-7		TB-7		TB-7		TB-7		TB-7		TB-7	
	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
BENZENE	0.5 U											
TOLUENE	0.5 U											
ETHYLBENZ	0.5 U											
XYLENE	0.5 U											
TPHG	50 U											
TPHOTHL	50 U											

Val - Validity Refer to data qualifier definitions.

Com - Comments

NA - Not Analyzed

Comments:

D - Laboratory Duplicate

EB - Equipment Blank

FB - Field Blank

TB - Trip Blank

MS - Matrix Spike

MSD - Matrix Spike Duplicate

VOLATILE ORGANIC ANALYSIS

Form 1A -- EPA Specification OLM 01.1.1 (format A)

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 09:46:44

Concentrations in UG/L Matrix: WATER

Compound	HP43-1(10-12.5)		HP43-2(15-16)		HP43-3(11-12)		HP43-4(10-12.5)		HP5-12 (14-15)	
	Result	Val	Result	Val	Result	Val	Result	Val	Result	Val
Chloromethane	5 U	5 U	5 U	5 U	5 U	5 U	2 U	2 U	2 U	2 U
Bromomethane	5 U	5 U	5 U	5 U	5 U	5 U	2 U	2 U	2 U	2 U
Vinyl Chloride	5 U	5 U	5 U	5 U	5 U	5 U	0.5 J	2 U	2 U	2 U
Chloroethane	5 U	5 U	5 U	5 U	5 U	5 U	2 U	2 U	2 U	2 U
Methylene Chloride	0.9 J	0.6 BJ	0.6 BJ	0.6 BJ	0.6 BJ	0.6 BJ	2 U	2 U	2 U	2 U
Acetone	4 BJ	5 B	5 B	5 B	5 U	5 U	2 B	2 U	2 U	2 U
Carbon Disulfide	5 U	5 U	5 U	5 U	5 U	5 U	2 U	2 U	2 U	2 U
1,1-Dichloroethene	1 J	1 J	1 J	1 J	1 J	1 J	0.5 J	2 U	2 U	2 U
1,1-Dichloroethane	3 J	2 J	2 J	2 J	1 J	1 J	1 J	2 U	2 U	2 U
1,2-Dichloroethene (total)	17	14	14	14	12	12	3	2 U	2 U	2 U
Chloroform	5 U	5 U	5 U	5 U	5 U	5 U	2 U	2 U	2 U	2 U
1,2-Dichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	2 U	2 U	2 U	2 U
2-Butanone	5 U	5 U	5 U	5 U	5 U	5 U	2 U	2 U	2 U	2 U
1,1,1-Trichloroethane	1 J	1 J	1 J	1 J	1 J	1 J	2 U	2 U	2 U	2 U
Carbon Tetrachloride	5 U	5 U	5 U	5 U	5 U	5 U	2 U	2 U	2 U	2 U
Bromodichloromethane	5 U	5 U	5 U	5 U	5 U	5 U	2 U	2 U	2 U	2 U
1,2-Dichloropropane	5 U	5 U	5 U	5 U	5 U	5 U	2 U	2 U	2 U	2 U
cis-1, 3-Dichloropropene	5 U	5 U	5 U	5 U	5 U	5 U	2 U	2 U	2 U	2 U
Trichloroethene	30	22	22	22	45	45	1 J	2 U	2 U	2 U
Dibromochloromethane	5 U	5 U	5 U	5 U	5 U	5 U	2 U	2 U	2 U	2 U
1,1,2-Trichloroethane	5 U	5 U	5 U	5 U	5 U	5 U	2 U	2 U	2 U	2 U
Benzene	5 U	5 U	5 U	5 U	5 U	5 U	0.3 J	2 U	2 U	2 U
trans-1, 3-Dichloropropene	5 U	5 U	5 U	5 U	5 U	5 U	2 U	2 U	2 U	2 U
Bromoform	5 U	5 U	5 U	5 U	5 U	5 U	2 U	2 U	2 U	2 U
4-Methyl-2-Pentanone	5 U	5 U	5 U	5 U	5 U	5 U	2 U	2 U	2 U	2 U
2-Hexanone	5 U	5 U	5 U	5 U	5 U	5 U	2 U	2 U	2 U	2 U
Tetrachloroethene	87	67	67	67	80	80	0.6 J	2 U	2 U	2 U
1,1,2,2-Tetrachloroethane	5 U	5 U	5 U	5 U	5 U	5 U	2 U	2 U	2 U	2 U
Toluene	5 U	5 U	5 U	5 U	5 U	5 U	0.4 J	2 U	2 U	2 U
Chlorobenzene	5 U	5 U	5 U	5 U	5 U	5 U	2 U	2 U	2 U	2 U
Ethylbenzene	5 U	5 U	5 U	5 U	5 U	5 U	2 U	2 U	2 U	2 U
Styrene	5 U	5 U	5 U	5 U	5 U	5 U	2 U	2 U	2 U	2 U
Xylene (total)	5 U	5 U	5 U	5 U	5 U	5 U	2 U	2 U	2 U	2 U

Val - Validity Refer to data qualifier definitions.  
 Com - Comments  
 NA - Not Analyzed  
 D - Laboratory Duplicate  
 EB - Equipment Blank  
 FB - Field Blank  
 TB - Trip Blank  
 MS - Matrix Spike  
 MSD - Matrix Spike Duplicate

VOLATILE ORGANIC ANALYSIS

Form 1A -- EPA Specification OLM 01.1.1 (format A)

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 09:46:44

Concentrations in US/L Matrix: WATER

Compound	HP63-1 HP63-1 01/27/94 01/29/94		HP65-1 HP65-1 01/27/94 01/29/94		HPT2-1 (10.0-12.0) HPT2-1 01/31/94 02/02/94		HPT2-2 (12.0-14.0) HPT2-2 02/01/94 02/03/94		W43-3 W43-3 02/09/94 02/15/94			
	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Chloromethane	2 U	2 U		2 U	2 U		2 U	2 U		2 U	2 U	
Bromomethane	2 U	2 U		2 U	2 U		2 U	2 U		2 U	2 U	
Vinyl Chloride	2 U	2 U		2 U	2 U		2 U	2 U		2 U	2 U	
Chloroethane	2 U	2 U		2 U	2 U		2 U	2 U		2 U	2 U	
Methylene Chloride	0.3 BJ	0.4 BJ		0.4 BJ	0.4 BJ		0.2 J	0.2 J		0.2 BJ	0.2 BJ	
Acetone	1 BJ	1 BJ		1 BJ	1 BJ		4 B	4 B		2 B	2 B	
Carbon Disulfide	2 U	2 U		2 U	2 U		2 U	2 U		2 U	2 U	
1,1-Dichloroethene	0.1 J	0.2 J		0.2 J	0.2 J		0.2 J	0.2 J		0.5 J	0.5 J	
1,1-Dichloroethane	2 U	2 U		2 U	2 U		2 U	2 U		2 U	2 U	
1,2-Dichloroethene (total)	2 U	2 U		2 U	2 U		2 U	2 U		2 U	2 U	
1,2-Dichloroethane	2 U	2 U		2 U	2 U		2 U	2 U		2 U	2 U	
2-Butanone	2 U	2 U		2 U	2 U		2 U	2 U		2 U	2 U	
1,1,1-Trichloroethane	2 U	2 U		2 U	2 U		2 U	2 U		0.3 J	0.3 J	
Carbon Tetrachloride	2 U	2 U		2 U	2 U		2 U	2 U		2 U	2 U	
Bromodichloromethane	2 U	2 U		2 U	2 U		2 U	2 U		2 U	2 U	
1,2-Dichloropropane	2 U	2 U		2 U	2 U		2 U	2 U		2 U	2 U	
cis-1, 3-Dichloropropene	2 U	2 U		2 U	2 U		2 U	2 U		2 U	2 U	
Trichloroethene	0.9 J	0.9 J		0.9 J	0.9 J		3	3		1 J	1 J	
Dibromochloromethane	2 U	2 U		2 U	2 U		2 U	2 U		2 U	2 U	
1,1,2-Trichloroethane	2 U	2 U		2 U	2 U		2 U	2 U		2 U	2 U	
Benzene	2 U	2 U		2 U	2 U		2 U	2 U		2 U	2 U	
trans-1, 3-Dichloropropene	2 U	2 U		2 U	2 U		2 U	2 U		2 U	2 U	
Bromoform	2 U	2 U		2 U	2 U		0.1 J	0.1 J		2 U	2 U	
4-Methyl-2-Pentanone	2 U	2 U		2 U	2 U		2 U	2 U		2 U	2 U	
2-Hexanone	2 U	2 U		2 U	2 U		2 U	2 U		2 U	2 U	
Tetrachloroethene	2 U	2 U		2 U	2 U		2 U	2 U		2 U	2 U	
1,1,2,2-Tetrachloroethane	2 U	2 U		2 U	2 U		4	4		0.9 J	0.9 J	
Toluene	2 U	2 U		2 U	2 U		2 U	2 U		2 U	2 U	
Chlorobenzene	2 U	2 U		2 U	2 U		2 U	2 U		2 U	2 U	
Ethylbenzene	2 U	2 U		2 U	2 U		1 J	1 J		2 U	2 U	
Styrene	2 U	2 U		2 U	2 U		2 U	2 U		2 U	2 U	
Xylene (total)	2 U	0.6 J		2 U	0.6 J		2 U	0.6 J		2 U	0.6 J	

Val - Validity Refer to data qualifier definitions.  
 Com - Comments  
 NA - Not Analyzed  
 Comments:  
 D - Laboratory Duplicate  
 EB - Equipment Blank  
 FB - Field Blank  
 TB - Trip Blank  
 MS - Matrix Spike  
 MSD - Matrix Spike Duplicate

VOLATILE ORGANIC ANALYSIS

Form 1A -- EPA Specification OLM 01.1.1 (format A)

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 09:48:30

Concentrations in UG/L Matrix: WATER

Compound	TB-1 TB-1 01/26/94 01/28/94		TB-2 TB-2 01/27/94 01/28/94		TB-3 TB-3 01/27/94 01/28/94		TB-4 TB-4 01/31/94 02/02/94		TB-5 TB-5 02/01/94 02/02/94	
	Result	Com	Result	Com	Result	Com	Result	Com	Result	Com
Chloromethane	2 U		2 U		2 U		2 U		2 U	
Bromomethane	2 U		2 U		2 U		2 U		2 U	
Vinyl Chloride	2 U		2 U		2 U		2 U		2 U	
Chloroethane	2 U		2 U		2 U		2 U		2 U	
Methylene Chloride	0.3 J		0.4 J		0.4 J		0.7 BJ		0.4 BJ	
Acetone	3 B		4 B		3 B		2 B		3 B	
Carbon Disulfide	2 U		2 U		2 U		2 U		2 U	
1,1-Dichloroethene	2 U		2 U		2 U		2 U		2 U	
1,1-Dichloroethane	2 U		2 U		2 U		2 U		2 U	
1,2-Dichloroethene (total)	2 U		2 U		2 U		2 U		2 U	
Chloroform	2 U		2 U		2 U		2 U		2 U	
1,2-Dichloroethane	2 U		2 U		2 U		2 U		2 U	
2-Butanone	2 U		2 U		2 U		2 U		2 U	
1,1,1-Trichloroethane	2 U		2 U		2 U		2 U		2 U	
Carbon Tetrachloride	2 U		2 U		2 U		2 U		2 U	
Bromodichloromethane	2 U		2 U		2 U		2 U		2 U	
1,2-Dichloropropane	2 U		2 U		2 U		2 U		2 U	
cis-1, 3-Dichloropropene	2 U		2 U		2 U		2 U		2 U	
Trichloroethene	2 U		2 U		2 U		2 U		2 U	
Dibromochloromethane	2 U		2 U		2 U		2 U		2 U	
1,1,2-Trichloroethane	2 U		2 U		2 U		2 U		2 U	
Benzene	2 U		2 U		2 U		2 U		2 U	
trans-1, 3-Dichloropropene	2 U		2 U		2 U		2 U		2 U	
Bromoform	2 U		2 U		2 U		2 U		2 U	
4-Methyl-2-Pentanone	2 U		2 U		2 U		2 U		2 U	
2-Hexanone	2 U		2 U		2 U		2 U		2 U	
Tetrachloroethene	2 U		2 U		2 U		2 U		2 U	
1,1,2,2-Tetrachloroethane	2 U		2 U		2 U		2 U		2 U	
Toluene	2 U		2 U		2 U		2 U		2 U	
Chlorobenzene	2 U		2 U		2 U		2 U		2 U	
Ethylbenzene	2 U		2 U		2 U		2 U		2 U	
Styrene	2 U		2 U		2 U		2 U		2 U	
Xylene (total)	2 U		2 U		2 U		2 U		2 U	

Val - Validity Refer to data qualifier definitions.

Com - Comments

NA - Not Analyzed

Comments:

D - Laboratory Duplicate

EB - Equipment Blank

FB - Field Blank

TB - Trip Blank

MS - Matrix Spike

MSD - Matrix Spike Duplicate

VOLATILE ORGANIC ANALYSIS

Form 1A -- EPA Specification OLM 01.1.1.1 (format A)

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 09:48:30

Concentrations in UG/L Matrix: WATER

Compound	TB-6 TB-6 02/03/94 02/09/94		TB-6 TB-6 02/09/94 02/16/94		TB-6 TB-6 02/09/94 02/16/94		TB-6 TB-6 02/09/94 02/16/94		TB-6 TB-6 02/09/94 02/16/94	
	Result	Com	Result	Com	Result	Com	Result	Com	Result	Com
Chloromethane	2 U		2 U		2 U		2 U		2 U	
Bromomethane	2 U		2 U		2 U		2 U		2 U	
Vinyl Chloride	2 U		2 U		2 U		2 U		2 U	
Chloroethane	2 U		2 U		2 U		2 U		2 U	
Methylene Chloride	0.3 BJ		0.3 BJ		0.3 BJ		0.3 BJ		0.3 BJ	
Acetone	12 B		12 B		12 B		12 B		12 B	
Carbon Disulfide	2 U		2 U		2 U		2 U		2 U	
1,1-Dichloroethene	2 U		2 U		2 U		2 U		2 U	
1,1-Dichloroethane	2 U		2 U		2 U		2 U		2 U	
1,2-Dichloroethene (total)	2 U		2 U		2 U		2 U		2 U	
Chloroform	2 U		2 U		2 U		2 U		2 U	
1,2-Dichloroethane	2 U		2 U		2 U		2 U		2 U	
2-Butanone	2 U		2 U		2 U		2 U		2 U	
1,1,1-Trichloroethane	2 U		2 U		2 U		2 U		2 U	
Carbon Tetrachloride	2 U		2 U		2 U		2 U		2 U	
Bromodichloromethane	2 U		2 U		2 U		2 U		2 U	
1,2-Dichloropropane	2 U		2 U		2 U		2 U		2 U	
cis-1, 3-Dichloropropene	2 U		2 U		2 U		2 U		2 U	
Trichloroethene	2 U		2 U		2 U		2 U		2 U	
Dibromochloromethane	2 U		2 U		2 U		2 U		2 U	
1,1,2-Trichloroethane	2 U		2 U		2 U		2 U		2 U	
Benzene	2 U		2 U		2 U		2 U		2 U	
trans-1, 3-Dichloropropene	2 U		2 U		2 U		2 U		2 U	
Bromoform	2 U		2 U		2 U		2 U		2 U	
4-Methyl-2-Pentanone	2 U		2 U		2 U		2 U		2 U	
2-Hexanone	2 U		2 U		2 U		2 U		2 U	
Tetrachloroethene	2 U		2 U		2 U		2 U		2 U	
1,1,2,2-Tetrachloroethane	2 U		2 U		2 U		2 U		2 U	
Toluene	2 U		2 U		2 U		2 U		2 U	
Chlorobenzene	2 U		2 U		2 U		2 U		2 U	
Ethylbenzene	2 U		2 U		2 U		2 U		2 U	
Styrene	2 U		2 U		2 U		2 U		2 U	
Xylene (total)	2 U		2 U		2 U		2 U		2 U	

Val - Validity Refer to data qualifier definitions.

Com - Comments

NA - Not Analyzed

Comments:

D - Laboratory Duplicate

EB - Equipment Blank

FB - Field Blank

TB - Trip Blank

MS - Matrix Spike

MSD - Matrix Spike Duplicate



SEMIVOLATILE ORGANIC ANALYSIS

Form 1BC -- EPA Specification OLM 01.1.1 (format A)

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 09:57:37

Concentrations in UG/L Matrix: WATER

Compound	HP43-3(11-12) HP433(11-12) 01/27/94 01/27/94 02/11/94		HPT2-1 (10.0-12.0) HPT2-1(1012) 01/31/94 02/03/94 02/14/94		HP43-3(11-12) HP433(11-12) 01/27/94 01/27/94 02/11/94		HPT2-1 (10.0-12.0) HPT2-1(1012) 01/31/94 02/03/94 02/14/94	
	Result	Com	Result	Com	Result	Com	Result	Com
Phenol	10 U		10 U		26 U		26 U	
Bis(2-Chloroethyl) ether	10 U		10 U		26 U		26 U	
2-Chlorophenol	10 U		10 U		10 U		10 U	
1,3-Dichlorobenzene	10 U		10 U		10 U		10 U	
1,4-Dichlorobenzene	10 U		10 U		10 U		10 U	
2-Methylphenol	10 U		10 U		10 U		10 U	
2,2'-oxybis(1-Chloropropane)	10 U		10 U		26 U		26 U	
4-Methylphenol	10 U		10 U		26 U		26 U	
N-Nitroso-di-n-propylamine	10 U		10 U		10 U		10 U	
Hexachloroethane	10 U		10 U		10 U		10 U	
Nitrobenzene	10 U		10 U		10 U		10 U	
Isophorone	10 U		10 U		26 U		26 U	
2-Nitrophenol	10 U		10 U		10 U		10 U	
2,4-Dimethylphenol	10 U		10 U		10 U		10 U	
Bis(2-Chloroethoxy)methane	10 U		10 U		10 U		10 U	
2,4-Dichlorophenol	10 U		10 U		10 U		10 U	
1,2,4-Trichlorobenzene	10 U		10 U		10 U		10 U	
Naphthalene	10 U		10 U		10 U		10 U	
4-Chloroaniline	10 U		10 U		10 U		10 U	
Hexachlorobutadiene	10 U		10 U		0.2 J		10 U	
4-Chloro-3-methylphenol	10 U		10 U		10 U		10 U	
2-Methylnaphthalene	10 U		10 U		10 U		10 U	
Hexachlorocyclopentadiene	10 U		10 U		1 J		10 U	
2,4,6-Trichlorophenol	26 U		26 U		10 U		10 U	
2,4,5-Trichlorophenol	10 U		10 U		10 U		10 U	
2-Chloronaphthalene	26 U		26 U		10 U		10 U	
2-Nitroaniline	10 U		10 U		10 U		10 U	
Dimethylphthalate	10 U		10 U		10 U		10 U	
Acenaphthylene	10 U		10 U		10 U		10 U	
2,6-Dinitrotoluene	10 U		10 U		10 U		10 U	
3-Nitroaniline	26 U		26 U		10 U		10 U	
Acenaphthene	10 U		10 U		10 U		10 U	
2,4-Dinitrophenol								
4-Nitrophenol								
Dibenzofuran								
2,4-Dinitrotoluene								
Diethylphthalate								
4-Chlorophenyl-phenylether								
Fluorene								
4-Nitroaniline								
4,6-Dinitro-2-methylphenol								
N-Nitrosodiphenylamine (1)								
4-Bromophenyl-phenylether								
Hexachlorobenzene								
Pentachlorophenol								
Phenanthrene								
Anthracene								
Carbazole								
Di-n-butylphthalate								
Fluoranthene								
Pyrene								
Butylbenzylphthalate								
3,3'-Dichlorobenzidine								
Benzo(a)anthracene								
Chrysene								
bis(2-Ethylhexyl)phthalate								
Di-n-octylphthalate								
Benzo(b)fluoranthene								
Benzo(k)fluoranthene								
Benzo(a)pyrene								
Indeno(1,2,3-cd)pyrene								
Dibenz(a,h)anthracene								
Benzo(g,h,i)perylene								

Val - Validity Refer to data qualifier definitions.

Com - Comments

NA - Not Analyzed

Comments:

D - Laboratory Duplicate

EB - Equipment Blank

FB - Field Blank

TB - Trip Blank

MS - Matrix Spike

MSD - Matrix Spike Duplicate

SEMIVOLATILE ORGANIC ANALYSIS

Form 18C -- EPA Specification OLM 01.1.1 (format A)

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 09:57:37

Concentrations in UG/L Matrix: WATER

Compound	W43-3		W43-3		W43-3		W43-3		W43-3		W43-3	
	Result	Com	Result	Com	Result	Com	Result	Com	Result	Com	Result	Com
Phenol	10 U		10 U		10 U		25 U		25 U		25 U	
bis(2-Chloroethyl)ether	10 U		10 U		10 U		10 U		10 U		10 U	
2-Chlorophenol	10 U		10 U		10 U		10 U		10 U		10 U	
1,3-Dichlorobenzene	10 U		10 U		10 U		10 U		10 U		10 U	
1,4-Dichlorobenzene	10 U		10 U		10 U		10 U		10 U		10 U	
1,2-Dichlorobenzene	10 U		10 U		10 U		10 U		10 U		10 U	
2-Methylphenol	10 U		10 U		10 U		10 U		10 U		10 U	
2,2'-oxybis(1-Chloropropane)	10 U		10 U		10 U		25 U		25 U		25 U	
4-Methylphenol	10 U		10 U		10 U		10 U		10 U		10 U	
N-Nitroso-di-n-propylamine	10 U		10 U		10 U		10 U		10 U		10 U	
Hexachloroethane	10 U		10 U		10 U		10 U		10 U		10 U	
Nitrobenzene	10 U		10 U		10 U		10 U		10 U		10 U	
Isophorone	10 U		10 U		10 U		10 U		10 U		10 U	
2-Nitrophenol	10 U		10 U		10 U		10 U		10 U		10 U	
2,4-Dimethylphenol	10 U		10 U		10 U		10 U		10 U		10 U	
bis(2-Chloroethoxy)methane	10 U		10 U		10 U		10 U		10 U		10 U	
2,4-Dichlorophenol	10 U		10 U		10 U		10 U		10 U		10 U	
1,2,4-Trichlorobenzene	10 U		10 U		10 U		10 U		10 U		10 U	
Naphthalene	10 U		10 U		10 U		10 U		10 U		10 U	
4-Chloroaniline	10 U		10 U		10 U		10 U		10 U		10 U	
Hexachlorobutadiene	10 U		10 U		10 U		10 U		10 U		10 U	
4-Chloro-3-methylphenol	10 U		10 U		10 U		10 U		10 U		10 U	
2-Methylnaphthalene	10 U		10 U		10 U		10 U		10 U		10 U	
Hexachlorocyclopentadiene	10 U		10 U		10 U		10 U		10 U		10 U	
2,4,6-Trichlorophenol	25 U		25 U		25 U		25 U		25 U		25 U	
2,4,5-Trichlorophenol	10 U		10 U		10 U		10 U		10 U		10 U	
2-Chloronaphthalene	10 U		10 U		10 U		10 U		10 U		10 U	
2-Nitroaniline	25 U		25 U		25 U		25 U		25 U		25 U	
Dimethylphthalate	10 U		10 U		10 U		10 U		10 U		10 U	
Acenaphthylene	10 U		10 U		10 U		10 U		10 U		10 U	
2,6-Dinitrotoluene	10 U		10 U		10 U		10 U		10 U		10 U	
3-Nitroaniline	25 U		25 U		25 U		25 U		25 U		25 U	
Acenaphthene	10 U		10 U		10 U		10 U		10 U		10 U	

Val - Validity Refer to data qualifier definitions.  
 Com - Comments  
 NA - Not Analyzed  
 D - Laboratory Duplicate  
 EB - Equipment Blank  
 FB - Field Blank  
 TB - Trip Blank  
 MS - Matrix Spike  
 MSD - Matrix Spike Duplicate

SEMI-VOLATILE ORGANIC ANALYSIS

Form 18C -- EPA Specification OLM 01.1.1 (format A)

Project : MOFFETT  
 Lab. : MIDPAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 09:57:37

Concentrations in UG/L Matrix: WATER

Compound	W5-34 W5-34RE 02/09/94 02/14/94 02/18/94		W5-34 W5-34RE 02/09/94 02/14/94 02/18/94		W5-34 W5-34RE 02/09/94 02/14/94 02/18/94		Compound	W5-34 W5-34RE 02/09/94 02/14/94 02/18/94		W5-34 W5-34RE 02/09/94 02/14/94 02/18/94	
	Result	Com	Result	Com	Result	Com		Result	Com	Result	Com
Phenol	10 U		10 U		10 U		2,4-Dinitrophenol	25 U		25 U	
bis(2-Chloroethyl)ether	10 U		10 U		10 U		4-Nitrophenol	25 U		25 U	
2-Chlorophenol	10 U		10 U		10 U		Dibenzofuran	10 U		10 U	
1,3-Dichlorobenzene	10 U		10 U		10 U		2,4-Dinitrotoluene	10 U		10 U	
1,4-Dichlorobenzene	10 U		10 U		10 U		Diethylphthalate	10 U		10 U	
1,2-Dichlorobenzene	10 U		10 U		10 U		4-Chlorophenyl-phenylether	10 U		10 U	
2-Methylphenol	10 U		10 U		10 U		Fluorene	10 U		10 U	
2,2'-oxybis(1-Chloropropane)	10 U		10 U		10 U		4-Nitroaniline	25 U		25 U	
4-Methylphenol	10 U		10 U		10 U		4,6-Dinitro-2-methylphenol	25 U		25 U	
N-Nitroso-di-n-propylamine	10 U		10 U		10 U		N-Nitrosodiphenylamine (1)	10 U		10 U	
Hexachloroethane	10 U		10 U		10 U		4-Bromophenyl-phenylether	10 U		10 U	
Nitrobenzene	10 U		10 U		10 U		Hexachlorobenzene	10 U		10 U	
Isophorone	10 U		10 U		10 U		Pentachlorophenol	25 U		25 U	
2-Nitrophenol	10 U		10 U		10 U		Phenanthrene	10 U		10 U	
2,4-Dimethylphenol	10 U		10 U		10 U		Anthracene	10 U		10 U	
bis(2-Chloroethoxy)methane	10 U		10 U		10 U		Carbazole	10 U		10 U	
2,4-Dichlorophenol	10 U		10 U		10 U		D1-n-butylphthalate	10 U		10 U	
1,2,4-Trichlorobenzene	10 U		10 U		10 U		Fluoranthene	10 U		10 U	
Naphthalene	10 U		10 U		10 U		Pyrene	10 U		10 U	
4-Chloroaniline	10 U		10 U		10 U		Butylbenzylphthalate	10 U		10 U	
Hexachlorobutadiene	10 U		10 U		10 U		3,3'-Dichlorobenzidine	10 U		10 U	
4-Chloro-3-methylphenol	10 U		10 U		10 U		Benzo(a)anthracene	10 U		10 U	
2-Methylnaphthalene	10 U		10 U		10 U		Chrysene	10 U		10 U	
Hexachlorocyclopentadiene	10 U		10 U		10 U		bis(2-Ethylhexyl)phthalate	10 U		10 U	
2,4,6-Trichlorophenol	25 U		25 U		25 U		D1-n-octylphthalate	10 U		10 U	
2,4,5-Trichlorophenol	10 U		10 U		10 U		Benzo(b)fluoranthene	10 U		10 U	
2-Chloronaphthalene	10 U		10 U		10 U		Benzo(k)fluoranthene	10 U		10 U	
2-Nitroaniline	25 U		25 U		25 U		Benzo(a)pyrene	10 U		10 U	
Dimethylphthalate	10 U		10 U		10 U		Indeno(1,2,3-cd)pyrene	10 U		10 U	
Acenaphthylene	10 U		10 U		10 U		Dibenzo(a,h)anthracene	10 U		10 U	
2,6-Dinitrotoluene	10 U		10 U		10 U		Benzo(g,h,i)perylene	10 U		10 U	
3-Nitroaniline	25 U		25 U		25 U						
Acenaphthene	10 U		10 U		10 U						

Val - Validity Refer to data qualifier definitions.  
 Com - Comments  
 NA - Not Analyzed  
 Comments:  
 D - Laboratory Duplicate MS - Matrix Spike  
 EB - Equipment Blank MSD - Matrix Spike Duplicate  
 FB - Field Blank  
 TB - Trip Blank



INORGANIC ANALYSIS

Form I -- EPA Specification ILM 01.0 (format A)

Project : MOFFETT  
 Lab. : ETC/MID PAC ENV LAB  
 Reviewer : ADD. PETRO. SITES  
 Date : 04/19/94 10:31:51

Concentrations in UG/L Matrix: WATER

PRC Sample ID EPA Sample # Date Received	HP63-1 HP63-1 01/27/94			HP65-1 HP65-1 01/27/94			W43-3 TW43-3 02/09/94			W43-3 DW43-3 02/09/94		
	Result	Val	Com	Result	Val	Com	Result	Val	Com	Result	Val	Com
Aluminum	57100.00			282000.00	84400.00		84400.00			74.30 B		
Antimony	31.00 UN			31.00 UN	31.00 U		31.00 U			31.00 U		
Arsenic	10.60 N			21.50 N	26.00 N		26.00 N			2.00 UN		
Barium	463.00			3160.00	625.00		625.00			45.60 B		
Beryllium	1.50 B			9.50	2.50 B		2.50 B			1.00 U		
Cadmium	4.00 U			11.90	8.10		8.10			4.00 B		
Calcium	183000.00			421000.00	232000.00		232000.00			103000.00		
Chromium	180.00			818.00	256.00		256.00			3.00 U		
Cobalt	21.20 B			271.00	54.60		54.60			2.00 U		
Copper	77.50			676.00	135.00		135.00			2.00 U		
Iron	82900.00			522000.00	123000.00		123000.00			22.50 B		
Lead	7.30 NH			83.10 N	50.30		50.30			1.00 UN		
Magnesium	112000.00			259000.00	131000.00		131000.00			67200.00		
Manganese	900.00			17800.00	2190.00		2190.00			64.40		
Mercury	0.30			3.10	0.68		0.68			0.20 U		
Nickel	254.00			1340.00	314.00		314.00			7.00 U		
Potassium	7620.00			15600.00	9590.00		9590.00			2650.00 B		
Selenium	4.50 U+			30.00 UN	30.00 UN		30.00 UN			3.00 UN		
Silver	2.00 U			2.00 U	2.00 U		2.00 U			2.00 U		
Sodium	64300.00			93000.00	66700.00		66700.00			60300.00		
Thallium	3.00 UNW			3.00 UNW	3.00 UNW		3.00 UNW			3.00 UN		
Vanadium	168.00			849.00	253.00		253.00			2.00 U		
Zinc	217.00			1360.00	296.00		296.00			2.70 B		
Cyanide												

Val - Validity Refer to data qualifier definitions.

Com - Comments

NA - Not Analyzed

Comments:

D - Laboratory Duplicate

EB - Equipment Blank

FB - Field Blank

TB - Trip Blank

MS - Matrix Spike

MSD - Matrix Spike Duplicate