

## ALCO HAZMAT

94 APR -7 PH 1: 17

April 5, 1994

Mr. Scott Seery
Hazardous Materials Specialist
Alameda County Health Care Services Agency
UST Local Oversight Program
80 Swan Way, Room 200
Oakland, California 94621

Subject:

Underground Storage Tank Closure Report - DRAFT

Nike Military Site, 2892 Fairmont Drive, San Leandro, California

Versar Project No. 2241-008

Dear Mr. Seery:

Please find enclosed a copy of the Underground Storage Tank Closure Report for the Nike Military Site. If you have any questions or require additional information regarding this submittal, please call me at (916) 962-1612.

Sincerely,

John Russell Geologist

**Enclosures** 

SOIL BORING REPORT

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# UNDERGROUND STORAGE TANK CLOSURE REPORT FOR THE NIKE MILITARY SITE 2892 FAIRMONT DRIVE SAN LEANDRO, CALIFORNIA

Prepared for:

ALAMEDA COUNTY GENERAL SERVICES AGENCY 4400 MacArthur Boulevard Oakland, California

Prepared by:

VERSAR, INC. 1255 Harbor Bay Parkway, Suite 100 Alameda, California 94502

Versar Project Number 2241-008

April 6, 1994



#### **EXECUTIVE SUMMARY**

Versar, Inc. was retained by Alameda County to conduct a limited subsurface investigation at the site of a previously removed underground diesel fuel storage tank at the former Nike Military Site at 2892 Fairmont Drive in San Leandro, California. The investigation was developed to further characterize the lateral and vertical extent of petroleum hydrocarbon constituents in the subsurface surrounding the former location of an underground diesel storage tank recently removed from the site.

One soil boring (identified as B-1), located approximately 5 feet east of the former tank excavation limit, was drilled to a depth of 50 feet beneath the ground surface. Soil samples were collected at 5 foot intervals from the surface to the base of the boring. A total of ten soil samples collected from this boring were analyzed for total petroleum hydrocarbons as diesel, benzene, toluene, ethylbenzene, and total xylenes. None of the constituents analyzed for were detected above their method detection limits in the soil samples submitted for analyses.

Based on the data from this investigation, the potential for impact to site groundwater as a result of the release is considered low due to (1) the apparently limited extent of the petroleum hydrocarbons at the east end of the former tank location, (2) the silty clay soils

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encountered in the boring, which would inhibit further migration of the remaining petroleum hydrocarbons, and (3) the relatively deep depth to groundwater in the area (greater than 50 feet below the ground surface).

Approved for release:

Robert W. White

Program Manager

Technical Services Group

Michael P. Sellens, R.G. #47 Geosciences Program Markey

John S. Russell

Geologist

Geosciences Program



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## 1.0 INTRODUCTION

# 1.1 Purpose of the Report

Versar, Inc. (Versar) was retained by Alameda County (County) to conduct a limited subsurface investigation at the site of a previously removed underground diesel fuel storage tank at the former Nike Military Site (site) at 2892 Fairmont Drive in San Leandro, California (see Figure 1). This report has been prepared on behalf of the County to present the results of that subsurface investigation. The investigation was developed to further characterize the lateral and vertical extent of petroleum hydrocarbon constituents in the subsurface surrounding the former location of an underground storage tank recently removed from the site.

## 1.2 Site Description and Background

The subject site, which is a former military property, is located on Fairmont Drive in the City of San Leandro, California. The County is the current property owner. On October 27, 1993, Environmental Science & Engineering, Inc. removed a 6,000 gallon underground storage tank (UST) and associated piping from the property. The UST was formerly used to store diesel fuel for an on-site generator. Upon exposure of the UST it was discovered that the tank was strapped to a bathtub-shaped concrete footing located at the base of the excavation. The concrete footing was left in the open excavation following the tank removal. Laboratory analysis of soil samples collected from each end of the footing indicated that total petroleum hydrocarbons as diesel (TPH-D) were present in the soil at the eastern end of the UST excavation at a concentration of 3,300 milligrams per kilogram (mg/kg). Reportedly, no TPH-D was detected in the soil at the western end of the footing. In addition, laboratory analysis of one of the samples collected from the excavated soils stockpiled on the site indicated that TPH-D were present at a concentration of 140 mg/kg. These soils presently remain stockpiled on the site, pending the evaluation of disposal options.



## 1.3 Geologic and Hydrogeologic Conditions

The subject site is located on the side of a low hill (Chabot 2) adjacent to Lake Chabot at an elevation of approximately 800 feet above mean sea level (USGS, 1959), in the foothills of the Northern California Coast Ranges. Locally, the surficial soils consist of the Los Osos series, silty clay loams formed in residuum from interbedded sedimentary rocks (Welch, 1980). Regionally, the subsurface geology consists of Late Quaternary soils comprising the uppermost deposits, underlain by laterally discontinuous, Cenozoic marine shelf and slope deposits, and terrestrial deposits that primarily consist of sandstone and shale/mudstone (Page, 1966). The Franciscan Complex, a chaotic melange of igneous, sedimentary, and metamorphic rocks, represents the regional bedrock.

The main regional aquifer is located at 50 to 1,000 feet below ground surface (bgs), with groundwater flowing to the west towards San Francisco Bay. No groundwater was encountered during the field activities completed for this UST removal.



## 2.0 FIELD INVESTIGATION

## 2.1 Proposed Scope of Work

Versar's scope of work for the proposed investigation was contained in a workplan submitted to the Alameda County Health Care Services Agency on December 20, 1993. The work outlined in the workplan consisted of removing the concrete footing from the excavation, backfilling the excavation, drilling soil borings, and collecting soil samples for chemical analysis. Specifically, the following fieldwork tasks were outlined in the workplan:

- In order to obtain soil samples from native soils beneath the excavation, the existing concrete footing was to have been broken apart using a hydraulic hammer attached to a backhoe tractor, with the broken pieces of concrete being stockpiled on-site. The excavation was then to have been temporarily backfilled with uncontaminated native surface soils in order to safely and adequately position the drill rig in the desired sampling locations. Compaction of the backfill material was to have been only conducted to the degree necessary to allow locating a drill rig over the excavation.
- Once the footing was removed and the excavation backfilled, soil borings were to be advanced through the backfilled excavation, as well as adjacent to the excavation, to collect soil samples from native soils surrounding the former UST location. Up to six soil borings were to be drilled to depths ranging from 35 to 50 feet below ground surface (bgs), using a truck-mounted drill rig equipped with hollow-stem augers. It was anticipated that three of the soil borings were to be located over or directly adjacent to the backfilled excavation. The remaining borings were to be located within 15 to 25 feet of the perimeter of the eastern and southern portions of the excavation. Final location and placement of the soil borings were to have been adjusted in the field based on the observed conditions encountered in the field.

Versar's workplan was subsequently modified to incorporate additional information requested by the Alameda County Health Care Services Agency in their letter dated February 1, 1994. These additions included the inclusion of field screening of the samples for the presence of contaminants, additional analyses of submitted samples for benzene, toluene, ethylbenzene, and xylenes (BTEX), and the provision that at least one of the borings be advanced to first encountered groundwater or 50 feet below grade, whichever is encountered first.



## 2.2 Deviations from Workplan

SEMCO Environmental Contractors & General Engineering (SEMCO) of San Mateo. California was contracted to remove the existing concrete footing in the excavation. After initial attempts at breaking the footing apart using the hydraulic hammer on the backhoe were unsuccessful, the backhoe was used to uncover one of the edges of the footing. Approximately 1-2 cubic yards of soil was excavated from the eastern edge of the footing. This soil had a hydrocarbon odor, and was stockpiled with the soil from the original excavation. Once this soil was removed from the excavation, no odors were noted in the last backhoe bucket of soil removed from the base of the eastern edge of the footing. After the edge of the footing was uncovered, it was discovered that the footing was thicker than anticipated. At the edges, the footing was approximately 48 inches thick, and in the center it was approximately 36 inches thick. After consulting with Mr. Scott Seery of the Alameda County Health Care Services Agency, it was decided by Mr. Peter Kinney of the Alameda County General Services Agency to leave the concrete footing in place. It was also decided, based on the footing remaining in place, to drill 3 boreholes around the excavation, to depths of 50 feet each. For safety reasons, the excavation was then backfilled with native soil from upslope of the excavation, but the backfill material was not compacted. The native soil used for the backfill material had been previously analyzed for TPH-D and BTEX to insure that contaminated soil was not used.

After the excavation was backfilled, one boring (B-1) was drilled immediately downslope of the excavation location, approximately 5 feet from the former limit of the excavation. After B-1 was drilled to a depth of 50 feet, the drilling rig had mechanical problems, and no further borings could be installed. Mr. Scott Seery of the Alameda County Health Care Services Agency was again consulted to see if the information from one boring would be sufficient for his needs. Mr. Seery indicated that, based on the outcome of the laboratory analysis of the collected samples, this information might be sufficient.

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## 2.3 Soil Sampling

Prior to beginning field work, a site-specific health and safety plan (HASP) was prepared in compliance with federal, California OSHA, and Alameda County Department of Environmental Health requirements. The HASP was developed for the specific conditions at the site to ensure safe work practices were followed by all personnel and to minimize the risk of exposure to potentially hazardous materials at the site. All field work was conducted in general accordance with applicable guidelines set forth in the Tri-Regional Board Staff Recommendations for the Preliminary Evaluation and Investigation of Underground Storage Tank Sites.

One soil boring (identified as B-1) was drilled to a depth of 50 feet bgs at the location shown on Figure 2. This soil boring was drilled approximately 5 feet from the former eastern limit of the excavation. Soil samples were collected at 5 foot intervals beginning at 5 feet bgs using a California-modified split-spoon sampler lined with brass sample tubes. Upon retrieval of the sampler at each sample depth, the lowest sample tube was removed from the split spoon sampler and covered with foil, capped, labeled for identification purposes, and placed in an insulated chest with ice pending shipment to a California-certified analytical laboratory for chemical analysis. The second sample tube collected at each sample depth was retained to screen for the presence of organic vapors using an organic vapor meter (OVM). Field monitoring was conducted by placing the soil sample in a resealable plastic bag which was left in direct sunlight for approximately 10 minutes. After this time the headspace above the sample in the plastic bag was measured with the OVM. Samples were also visually inspected for signs of discoloration or other staining that might indicate the presence of petroleum hydrocarbons. In order to minimize the chances for cross-contamination, all downhole sampling equipment was washed between each sampling event in a laboratorygrade detergent solution, followed by two tapwater rinses, and a final rinse with deionized water. In addition, the augers and associated drilling equipment were pre-washed with a high-pressure washer prior to beginning the drilling of the borehole.

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The soil boring was logged under the direction of a California-State registered geologist. Soils were classified by visual examination using the United Soil Classification System (USCS). A log of the boring was generated by the on-site geologist to record the types of soils observed and conditions encountered during drilling. The results of the field screening using the OVM were also recorded on the boring log. This boring log is included in Appendix A. Upon completion of the drilling and soil sampling, the soil boring was backfilled to surface grade with a cement-bentonite grout. All soil cuttings were stockpiled on plastic sheeting. Equipment rinsate water was also stored on-site in a labeled 55-gallon DOT-approved drums.

## 2.4 <u>Laboratory Analyses</u>

All ten of the soil samples collected from the soil boring during the field investigation were submitted for analysis to Superior Precision Analytical, Inc. Certification Number 1332, a State-certified analytical laboratory. The samples were transported to the laboratory by courier using chain-of-custody procedures. A signed chain-of-custody form accompanied the samples in the iced cooler.

In accordance with the request of Mr. Scott Seery of the Alameda County Health Care Services Agency, all ten samples submitted to the laboratory were analyzed for the following:

- TPH-D by EPA Method 8015; and
- · BTEX by EPA Method 8020.



## 3.0 DISCUSSION OF INVESTIGATION RESULTS

## 3.1 Field Observations

Hydrocarbon odors were noted in the soil that was initially excavated from the eastern end of the footing during the uncovering of the footing edge. After this soil was excavated and stockpiled, no hydrocarbon odors were noted in the last backhoe bucket of soil that was excavated from next to the footing. No staining was noted in the soil samples collected from B-1, although staining was noted in the initial cuttings from the borehole. Also, no hydrocarbon vapors were noted in the headspace readings collected from the B-1 soil samples. The soils beneath the site generally consisted of silty clays weathered from the underlying sedimentary bedrock. Less weathered bedrock was encountered at a depth of approximately 40 feet bgs. Groundwater was not encountered in boring B-1.

## 3.2 Laboratory Analytical Results

Table 1 presents a summary of the laboratory results of soil samples collected from boring B-1. The laboratory report and Versar's Chain-of-Custody Form are presented in Appendix B. TPH-D and BTEX were not detected above their respective method detection limits in any of the samples submitted for laboratory analysis.



## 4.0 CONCLUSIONS AND RECOMMENDATIONS

Although concentrations of TPH-D were reported to be present in the soil sample from the eastern end of the tank collected during the tank removal, no petroleum hydrocarbons were detected in the soil samples collected from B-1, which was located approximately 5 feet topographically downgradient from the eastern edge of the former limit of the tank excavation. The absence of petroleum hydrocarbons in the samples from B-1, and the reported absence of petroleum hydrocarbons at the western end of the footing, suggests that the TPH-D in the detected in the soil during the tank removal activities were limited in extent. An additional 1 to 2 cubic yards of hydrocarbon impacted soil was further removed from the excavation and stockpiled during the additional minor soil excavation that was performed to uncover the eastern edge of the footing. Evidence from the soil borings suggests that the potential for impact to site groundwater as a result of the release can be considered low due to (1) the apparently limited initial extent of the petroleum hydrocarbons in the soil near the eastern edge of the footing, (2) the silty clay soils encountered in the shallow portion of the boring, which grade to more indurated and unweathered bedrock material in the deeper portions of the boring, which would have inhibited migration of the petroleum hydrocarbons initially detected in the soil; and (3) the relatively deep depth to groundwater in the area (greater than 50 feet below the ground surface). Based on this evidence, we recommend that the site be considered for case closure.



## 5.0 REFERENCES

- California Water Resources Control Board (1989). Leaking Underground Fuel Tank Field Manual: Guidelines for Site Assessment, Cleanup, and Underground Storage Tank Closure. State of California Leaking Underground Fuel Tank Task Force.
- California Regional Water Quality Control Boards (1990) Tri-Regional Board Staff
  Recommendations for Preliminary Evaluation and Investigation of Underground Tank
  Sites
- Page, B. M. (1966). "Geology of the Coast Ranges of California" in <u>Geology of Northern</u> <u>California: Bulletin 190.</u> California Division of Mines and Geology.
- U. S. Geological Survey (1959). Hayward Quadrangle, California, 7.5 minute series (topographic). U. S. Department of the Interior.
- Welch, L. E. (1980). Soil Survey of Alameda County, California, Western Part. U. S. Department of Agriculture Soil Conservation Service.



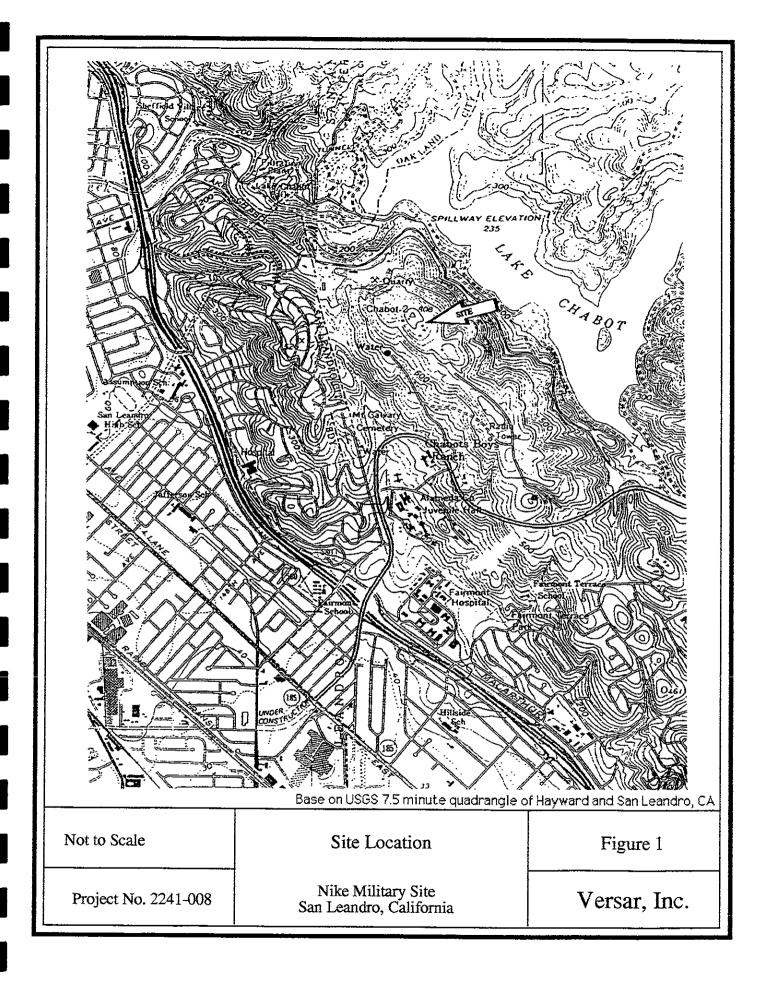
## 6.0 STATEMENT OF LIMITATIONS

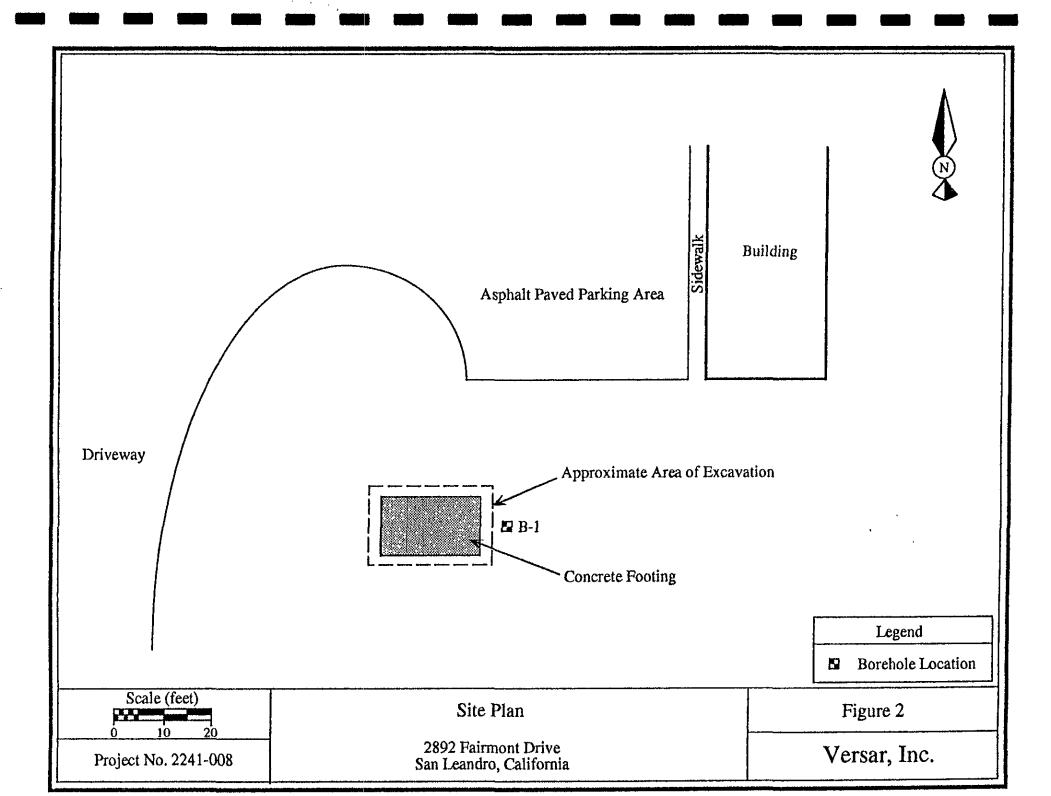
The data presented and the opinions expressed in this report are qualified as follows:

- The sole purpose of the investigation and of this report is to assess the physical characteristics of the Site with respect to the presence or absence of oil or hazardous materials and substances in the environment as defined in the applicable state and federal environmental laws and regulations and to gather information regarding current and past environmental conditions at the Site.
- Versar derived the data in this report primarily from visual inspections, examination of records in the public domain, interviews with individuals with information about the Site, and a limited number of environmental samples, as indicated by the Scope of Services for the Site. The passage of time, manifestation of latent conditions, or occurrence of future events may require further exploration at the Site, analysis of the data, and reevaluation of the findings, observations, conclusions, and recommendations expressed in the report.
- In preparing this report, Versar has relied upon and presumed accurate certain information (or the absence thereof) about the Site and adjacent properties provided by governmental officials and agencies, the Client, and others identified herein. Except as otherwise stated in the report, Versar has not attempted to verify the accuracy or completeness of such information.
- The data reported and the findings, observations, conclusions, and recommendations expressed in the report are limited by the Scope of Services, including the extent of environmental sampling and other tests. The Scope of Services was defined by the requests of the Client, the time and budgetary constraints imposed by the Client, and the availability of access to the Site.
- Because of the limitations stated above, the findings, observations, conclusions and recommendations expressed by Versar in this report are limited to the information obtained and the surface and subsurface investigation undertaken and should not be considered an opinion concerning the compliance of any past or current owner or operator of the Site with any federal, state, or local law or regulation. No warranty or guarantee, whether express or implied, is made with respect to the data reported or findings, observations, conclusions, and recommendations expressed in this report. Further, such data, findings, observations, conclusions, and recommendations are based solely upon Site conditions in existence at the time of investigation.
- This report has been prepared on behalf of and for the exclusive use of the Client, and is subject to and issued in connection with the Agreement and the provisions thereof.



**FIGURES** 







TABLE

TABLE 1

LABORATORY ANALYTICAL RESULTS FOR BORING B-1

# Nike Military Site San Leandro, California

Sample ID	Sample Date	Sample Depth (feet)	TPH-D¹ (mg/kg)²	Benzene <sup>3</sup> (mg/kg)	Toluene <sup>3</sup> (mg/kg)	Ethylbenzene <sup>3</sup> (mg/kg)	Total Xylenes³ (mg/kg)	
B-1-1	2/25/94	5	<104	<0.05	<0.05	<0.05	<0.05	
B-1-2	2/25/94	10	<10	< 0.05	< 0.05	< 0.05	< 0.05	
B-1-3	2/25/94	15	<10	< 0.05	< 0.05	< 0.05	< 0.05	
B-1-4	2/25/94	20	<10	< 0.05	< 0.05	< 0.05	< 0.05	
B-1-5	2/25/94	25	<10	< 0.05	< 0.05	< 0.05	< 0.05	
B-1-6	2/25/94	30	<10	< 0.05	< 0.05	< 0.05	< 0.05	
B-1-7	2/25/94	35	<10	< 0.05	< 0.05	< 0.05	< 0.05	
B-1-8	2/25/94	40	<10	< 0.05	< 0.05	< 0.05	< 0.05	
B-1-9	2/25/94	45	<10	< 0.05	< 0.05	< 0.05	< 0.05	
B-1-10	2/25/94	50	<10	< 0.05	< 0.05	< 0.05	< 0.05	

<sup>&</sup>lt;sup>1</sup> Total Petroleum Hydrocarbons as Diesel; EPA Method 8015

<sup>&</sup>lt;sup>2</sup> Milligrams per kilogram

<sup>&</sup>lt;sup>3</sup> EPA Method 8020

<sup>&</sup>lt;sup>4</sup> Not detected at or above the relative method's reporting unit

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APPENDIX A

BORING LOG

Versar Inc.	DRILLING LOG	PROJECT NO. 2241-008								
Supervising Geologist: Michael	Sellens Site Name: Nike									
Log By: Mike Kitko	Boring No: B-1	Boring No: B-1								
Date: February 25, 1994		Boring Diameter: 8 inch								
Drilling Contractor: Turner Ex										
Contractor Lic. No. C57-6027	20 Boring Location: E	ast of excavation								
Rig Type: B-53										
Driller: Larry Dibble	LICCO COLL DESCRIP	MON								
<b>∇V</b> 5	USCS SOIL DESCRIP SOIL CONDITION AND GEOLOGIC									
Depth (ft) Advanced/ Recovered Blow Counts First Water/ 4  Water Table 4  Well Construction USCS Group Lithology	SOIL TYPE, ROUNDING, SORTING, PERCENT: COLOR, MOISTURE, DENSITY, SECONDARY F GEOLOGY: FILL, ALLUVIUM, BEDROCK									
	0.0' - 4.0' Sand: well rounded, well sorted, n moderated yellowish brown, dry, v hydrocarbon odor.									
4 8 9 8 8 8	1.0' - 9.0' Silty clay: weathered rock, non-pl yellowish color, no visible oil stain									
8 10 25 17 25	9.0' - 14.0' Same as above, no visible oil sta	ining, no hydrocarbon odor.								
12 14 ××50/5*	14.0' - 19.0' Same as above, extremely wea	thoroid no visible sil								
16	staining, no hydocarbon odor,	sample collected. 0								
18 20 × 18 × 16	19.0' - 25.0' Same as above, highly weather fracture, stiff, damp, no hydrod no visible oil staining.									

		Ver	sar In	с.			DRILLI	NG LOG	PROJECT N	10. <u>2</u>	241-008	_ ]			
Su	pervis	ing Geol	ogist: Ì	viicha	el Sellens	3		Site Name: Nike Military Site							
1		Mike						Boring No: B-1							
Da	Date: February 25, 1994							Boring Diameter: 8 inch							
Drilling Contractor: Turner Explorations Boring Depth: 50 feet															
Co	ntract	or Lic. N	o. C5	7-602	2720			Boring Location	: East of excav	ation	_				
Ris	д Тур	e: B-5	3												
Dri	iller:	Larry	Dibble	;											
		Āā	ction					ISCS SOIL DESC ON AND GEOLO	RIPTION GIC INTERPRET	ATION		m)			
Depth (ft)	Advanced/ Recovered	Blow Counts First Water/ Water Table	Well Construction	USCS Group Lithology	COLOR	, MO	ISTURE, DENS		NT: GRAVEL, SA RY POROSITY, O			Headspace (ppm)			
24		-													
26		15 18 10			25.0' - 29	9.0'	Same as abov	/e.			<del></del>	0			
28						·		, , <del>, , , , , , , , , , , , , , , , , </del>							
<u>30</u>	<b>X</b>	14 12 14			29.0' - 3:	5.0'	Same as above indurated, me	ve, slightly wea oist, no hydroca	thered rock, mo arbon odor, no v	deratel	y staining.				
<u>32</u>							ATTION AND A SECOND			· · · · · · · · · · · · · · · · · · ·		0			
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38	- Victoria							<del></del>							
<u>40</u>	XX	12 27 50/6"			39.0' - 4	4.5'		ndurated, moist	thered rock, fra , no hydrocarbo			0			
42						<u></u>	, marie smill					- U			
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Su	per	visi	ng	Geol	ogist:	M	icha	el Sellens	-				Site Name: Nike Military Site												
_		_			Kitk								Boring No: B-1												
Da								Boring Diameter: 8 inch																	
Dr	Drilling Contractor: Turner Explorations Boring Depth: 50 feet																								
Contractor Lic. No. C57-602720 Boring Location: East of excavation																									
Rig Type: B-53																									
Driller: Larry Dibble																									
USCS SOIL DESCRIPTION SOIL CONDITION AND GEOLOGIC INTERPRETATION												Œ													
SOIL CONDITION AND GEOLOGIC INTERPRETATION  SOIL TYPE, ROUNDING, SORTING, PERCENT: GRAVEL, SANDS, FINES COLOR, MOISTURE, DENSITY, SECONDARY POROSITY, ODORS, STAINING GEOLOGY: FILL, ALLUVIUM, BEDROCK											Headspace (ppm)														
31 50/3" 44.5' - 49.0' Same as above.											0														
48	48																								
50	X	×	50	/6"		49.0' - 50.0' Same as above.									0										
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# APPENDIX B

LABORATORY ANALYTICAL RESULTS AND CHAIN-OF-CUSTODY



# Superior Precision Analytical, Inc.



825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

VERSAR

Attn: MIKE KITKO

Project 2241-010 Reported 03/07/94

#### TOTAL PETROLEUM HYDROCARBONS

Lab #	Sample Identification	Sampled	Analyzed Matrix
91202-1	B-1, SAMPLE 1.5'	02/25/94	03/04/94 Soil
91202 - 2 - "	B-1, SAMPLE 2 10	02/25/94	03/04/94 Soil
	B-1, SAMPLE 3 15'	02/25/94	03/04/94 Soil
912024	B-1, SAMPLE 4 20'	02/25/94	03/04/94 Soil
91202- 5	B-1, SAMPLE 5 25'	02/25/94	03/04/94 Soil
91202- 6	B-1, SAMPLE 6 30'	02/25/94	03/04/94 Soil
91202- 7	B-1, SAMPLE 7 35'	02/25/94	03/04/94 Soil
91202- 8	B-1, SAMPLE 8 40'	02/25/94	03/05/94 Soil
91202- 9	B-1, SAMPLE 9 45'	02/25/94	03/05/94 Soil
91202-10	B-1, SAMPLE 10 50'	02/25/94	03/05/94 Soil

#### RESULTS OF ANALYSIS

Laboratory Number: 91202-1 91202-2 91202-3 91202-4 91202-5

Benzene: Toluene: Ethyl Benzene: Total Xylenes: Diesel Range: Concentration:	ND<.005 ND<.005 ND<.005 ND<.005 ND<10 mg/Kg	ND<.005 ND<.005 ND<.005 ND<.005 ND<10	ND<.005 ND<.005 ND<.005 ND<.005 ND<10 mg/Kg	ND<.005 ND<.005 ND<.005 ND<.005 ND<10	ND<.005 ND<.005 ND<.005 ND<.005 ND<10
Laboratory Number:	91202- 6	91202- 7	91202- 8	91202- 9	91202-10
Benzene: Toluene: Ethyl Benzene: Total Xylenes: Diesel Range:	ND<.005 ND<.005 ND<.005 ND<.005 ND<10	ND<.005 ND<.005 ND<.005 ND<.005 ND<10	ND<.005 ND<.005 ND<.005 ND<.005 ND<10	ND<.005 ND<.005 ND<.005 ND<.005 ND<10	ND<.005 ND<.005 ND<.005 ND<.005 ND<10
Concentration:	mg/Kg	mg/Kg	mg/Kg	mg/Kg	mg/Kg

Page 1 of 2



# Superior Precision Analytical, Inc.

825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

#### CERTIFICATE OF ANALYSIS

# ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS

Page 2 of 2 QA/QC INFORMATION SET: 91202

NA = ANALYSIS NOT REQUESTED

ND = ANALYSIS NOT DETECTED ABOVE QUANTITATION LIMIT

mg/kg = parts per million (ppm)

Modified EPA SW-846 Method 8015 for Extractable Hydrocarbons: Minimum Quantitation Limit for Diesel in Soil: 10mg/kg

EPA SW-846 Method 8020/BTXE
Minimum Quantitation Limit in Soil: 0.005mg/kg

ANALYTE	MS/MSD RECOVERY	RPD	CONTROL LIMIT
Benzene: Toluene: Ethyl Benzene: Total Xylenes: Diesel Range:	116/110 96/105 91/101 105/108 83/82	5% 9% 10% 3%	75-125 75-125 75-125 75-125 53-135

Senior Chemiat



## **CHAIN OF CUSTODY RECORD**

PROJECT NO.	PROJE	CT NAN	1E		<u> </u>	··		7	75	4		ARAI	METE	RS		INDUSTRIAL HYGIENE SAMPLE
2241-010	Nike	-m1/1	tar	151	He_		,	/\$			73		,	, ,	<del>, ,  </del>	HYGIENE SAMPLE
SAMPLERS: [Signatu	ire!	<del></del>		/	(Printed)		7,								//	
Michael A	toko				Michael KHKO	/	S. S	A# 5		/ ,	/ ,	/ ,	/ ,	/ /	/ /	REMARKS
FIELD SAMPLE NUMBER	DATE	TIME	COMP.	GRAB	STATION LOCATION	/3	in the second		*/							
B-1, Sample 1 5 fet	2/25/44		PI	·*************************************	We want to the water water		X	X						1 1	•	brass liner
8-1, Sample 1 5-f.f 8-1, Sample 2 10-ft. 8-1, Sample 3	2/25/94		\$ <sub>1</sub>	1/2/	milali Discontinico.	1	X	X							٠.	brass liner
B-1, sample 3	2/15/94	:	S. 7.	Region			X	X							,	bress liner
B-1, Esuple 4 B-1, Esuple 4 B-1, Sample 5	2/25/94	,	; ;,	3 14.	amars (	1	X	X								bross liner
B-1, sample 5	2/25/94	;			space /	I	X	Χ						1 1		rass lines
BI, Sample 6 30 fort	425/04			-		1	X	X								
30 fast 3-1, surple 7 35 feat B-1, sample 8	2/25/74			,		41/	X	X								bras lines
B-1, Sample 8	2/25/94	· · · · · · · · · · · · · · · · · · ·			The state of the s		X	X								voss lines
B-1, Souple 9	2/25/2					-1	X	X						B		rass linen
8-1,5 ample 10 50-ft:	2/25/94					11	Χ	X					•		Soil	brass line
)							-						_			
Relinquished by: (Sign	nagure)	2/2		/ Tin	Received by: (Signature)			hed by		nature	;	2/2	Dat 784	e / Ti	me R	eceived by: (Signature)
(Printed) Michael Kitko	·		, · i1		(Printed) R CHEFF	(Print	_ `	HE	FF			_		/		rinted
Relinquished by: (Sign			Date	/ Tim	(Signature)	1	>	/ Tim			ks -><	51	and	and	Vers	r Tornamuel 17110,
(Printed)			_		(Printed)	2.0	5.9	451	45)	İ						

Distribution: Original Plus One Accompanies Shipment (white and yellow); Copy to Coordinator Field Files (pink).