

**COMPREHENSIVE LONG-TERM ENVIRONMENTAL ACTION NAVY (CLEAN II)
Northern and Central California, Nevada, and Utah
Contract Number N62474-94-D-7609
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Prepared For

**DEPARTMENT OF THE NAVY
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Naval Facilities Engineering Command
San Bruno, California**

**DRAFT RESULTS OF SOIL REMOVAL AT
SITE 13, NAPALM TRENCH
INLAND AREA
WEAPONS SUPPORT FACILITY SEAL BEACH,
DETACHMENT CONCORD
CONCORD, CALIFORNIA**

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ABBREVIATIONS AND ACRONYMS

AG	Anderson Geotechnical Consultants
bgs	Below ground surface
B&C	Brown & Caldwell
BTEX	Benzene, toluene, ethylbenzene, and xylenes
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CLEAN	Comprehensive Long-Term Environmental Action - Navy
cm/sec	Centimeters per second
COC	Chemical of concern
CTO	Contract Task Order
E&E	Ecology and Environment
EFA West	Engineering Field Activity West
EOD	Explosive ordnance disposal
ft/ft	Foot per foot
GTI	Groundwater Technology, Inc.
IAS	Initial assessment study
JMM	James M. Montgomery
mg/kg	Milligrams per kilogram
MK	Mark
msl	Mean sea level
MW	Montgomery Watson
Navy	U.S. Department of the Navy
PAH	Polynuclear aromatic hydrocarbon
PID	Photoionization detector
ppm	Parts per million
PRC	PRC Environmental Management, Inc.
PRG	Preliminary remediation goal
RBSL	Risk-Based Screening Levels
RI	Remedial investigation
SI	Site investigation
SVOC	Semivolatile organic compound

ABBREVIATIONS AND ACRONYMS (Continued)

TCLP	Toxicity characteristic leaching procedure
TtEMI	Tetra Tech EM Inc.
TPH	Total petroleum hydrocarbons
TPH-d	Total petroleum hydrocarbons as diesel
TPH-mo	Total petroleum hydrocarbons as motor oil
UXO	Unexploded ordnance
VOC	Volatile organic compound
WPNSUPPFAC	Weapons Support Facility Seal Beach
yd ³	Cubic yards

1.0 PROJECT DESCRIPTION

Tetra Tech EM Inc. (TtEMI), received Contract Task Order (CTO) No. 035 from Naval Facilities Engineering Command, Engineering Field Activity West (EFA West). The task CTO was awarded to conduct removal actions under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) for Inland Area Site 13 Burn Area, Napalm Trench, at the Weapons Support Facility Seal Beach (WPNSUPPFAC), Detachment Concord, Concord, California. This CTO was awarded under the Comprehensive Long-Term Environmental Action Navy (CLEAN) Contract Number N62474-94-D-7609 (CLEAN II). The tasks include a preliminary investigation and preparation of an engineering evaluation/cost analysis and action memorandum under CERCLA for the napalm removal. However, it was determined by the U.S. Department of the Navy (Navy) that a CERCLA removal would be inappropriate because total petroleum hydrocarbon (TPH) related contamination is the only concern at the site. A technical directive was issued by the Navy to TtEMI to conduct the napalm removal outside the CERCLA process.

This document presents the results of the napalm removal from the trench at Site 13 and summarizes the results. This document consists of five sections, including this Section 1.0, the introduction to the report. Section 2.0 provides the site description and background information for Site 13. Section 3.0 describes the sampling and removal activities. Section 4.0 summarizes the results of the soil sampling. Section 5.0 presents the conclusions and recommendations for the napalm trench.

2.0 SITE 13 DESCRIPTION AND BACKGROUND

This section describes Site 13, also known as the Burn Area Site, the site description and past operations, previous investigations, and physical setting at Site 13. This section was taken from the remedial investigation (RI) report dated October 1997 (TtEMI/Montgomery Watson [MW] 1997).

2.1 SITE DESCRIPTION AND PAST OPERATIONS

Site 13 is located in the western portion of the Inland Area (see Figure 1) of WPNSUPPFAC Detachment Concord within the area bounded on the west by Wake Way, and on the southeast by Tarawa Way (see Figure 2). Portions of the approximately 1,100- by 1,400-foot area were used for the destruction of live ordnance. Most of the ordnance was reportedly destroyed by burning in large trenches and gullies. The initial assessment study (IAS) indicated that the trenches in which burning

activities were conducted were excavated specifically for that purpose (Ecology and Environment [E&E] 1983). Additionally, some burning occurred in gullies formed by natural erosion processes. A representative of the public works department at WPNSUPPFAC Detachment Concord indicated that some of the trenches were created to construct additional railcar revetments; however, this construction was canceled after initial excavation (Evans 1992).

Some of the ordnance reportedly burned at the site included flares, smoke chemicals, Thermite generators, small arms ammunition, powder, and loose material cleaned from ammunition ships (E&E 1983). Thousands of Mark (MK) 1 and MK 13 flares were reportedly burned or buried in the burn pit. The powder from 40,000 5-inch rockets and several thousand photoflash cartridges were reportedly burned. In 1947, a "large quantity of smoke chemicals" (reportedly sulfur trioxide and chlorosulfonic acid) were also reportedly disposed of at the site (E&E 1983). An estimated 500,000 pounds of explosives (both black and smokeless powder) were reportedly destroyed at this site from 1967 to 1969. Quantitative estimates for other time periods are not available. Additionally, the area was used briefly as a fire-fighting training area, where napalm and fuel oil were ignited and extinguished by firefighters (E&E 1983). Residual material from ordnance burning was reportedly removed and disposed of off site; however, some scattered surface ordnance debris is still evident. WPNSUPPFAC Concord explosive ordnance disposal (EOD) personnel also stated that target practice with 50-caliber machine guns had been conducted at the site in the recent past (Diehl 1992).

2.2 PREVIOUS INVESTIGATIONS AT SITE 13

Five investigations were performed since 1983 at Site 13. The first two investigations, the IAS and confirmation study, were conducted by the Navy. The third investigation was conducted by UNOCAL immediately southwest of Site 13. The last two investigations are the site investigation (SI) and the RI conducted by TtEMI (formerly PRC Environmental Management, Inc. [PRC]) and MW (formerly James M. Montgomery [JMM]).

The IAS, conducted by E&E in 1983, recommended further investigation of Site 13 because residue and by-products remaining in the area may constitute a threat to terrestrial ecosystems (E&E 1983).

In 1984, a confirmation study conducted by Anderson Geotechnical Consultants (AG) and Brown & Caldwell (B&C) consisted of a cursory sampling program of 25 soil samples, collected at a maximum depth of 18 inches (AG and B&C 1984).

Southeast of the site, a UNOCAL petroleum pipeline broke during the installation of a cathodic protection well, releasing an estimated two to three barrels of crude oil to the subsurface environment. As part of the UNOCAL investigation and subsequent cleanup, UNOCAL installed and sampled five shallow groundwater monitoring wells in the area immediately southwest of Site 13 (Groundwater Technology, Inc. [GTI] 1991).

In 1992, TtEMI and MW conducted a site investigation that included (1) a geophysical survey for near surface unexploded ordnance (UXO), (2) trenching and shallow soil sampling of 14 test pits, each 40 feet long by 2.5 feet deep, (3) drilling and soil sampling of 5 deep soil borings from 30 to 100 feet below ground surface (bgs), and (4) installing and sampling one groundwater well. Only one well was installed because of the unexpected confined hydrogeology of Site 13. Chemicals of concern (COC) included metals, petroleum-related hydrocarbons, explosive chemicals, and nitrate/nitrite (PRC and JMM 1992a, 1992b). The geophysical survey revealed the presence of ordnance-related fragments, often on the surfaces of the burned areas. Each of the 14 test pits was excavated, inspected, and sampled (PRC and MW 1993). No live ordnance was encountered in the pits. However, spent ordnance, ordnance-related fragments, slag, and unidentifiable metal debris were often found in the top 1-foot of soil.

2.3 PHYSICAL SETTING

The Burn Area covers an approximate 1,100- by 1,400-foot area situated on a southwest-facing slope in the western portion of WPNSUPPFAC Detachment Concord. The upper portions of the site are fairly steep with an approximate 15 percent grade. The steeper areas of the site are incised by natural gullies, revetments, and trenches that are wholly manmade or are modified gullies. These gullies may be up to 900 feet in length. The lower portions of the site have a gentle grade. At the western edge of the site is Wake Way.

Running parallel to Wake Way approximately 200 feet to the west is the Contra Costa Canal (see Figure 2). Surface water flowing from the site crosses Wake Way through culverts beneath the road

and pools behind the eastern levee of the canal. During the rainy season, pooled surface water may rise high enough to enter the canal through culverts. From this part of WPNSUPPFAC Detachment Concord, the Contra Costa Canal continues south toward the cities of Concord and Walnut Creek.

As shown on Figure 2, the topography of the northeast part of the site is somewhat steep, slopes to the west/southwest, and is incised by anthropogenic trenches and naturally occurring gullies. Structurally, the hills are formed by a gentle, west-northwest-trending anticline that mimics the trend of the Clayton Fault (occurring approximately 7,000 feet to the northwest) (Dibblee 1981). The topography flattens a few hundred feet west of Wake Way in the southwest part of the site, representing the present-day alluvial floodplain.

2.3.1 Geology

Geologic mapping by Dibblee (1980, 1981) shows the site to be underlain by older alluvium that is slightly deformed. The logs of soil borings and trench excavations from the RI, show that Site 13 is underlain by alluvium consisting of interbedded clay, silt, sand, and gravel. Cross sections show that the alluvium can be subdivided into two units beneath Site 13. Sediments above an elevation of 80 to 90 feet are composed primarily of clay and silt with discontinuous interbeds of sand and gravel. In contrast, alluvium below an elevation of 80 to 90 feet are composed primarily of sand and gravel. Both of these units are part of the local Quaternary young alluvium.

2.3.2 Hydrogeology

Hydrogeologic conditions beneath Site 13 were evaluated using information from soil borings and logs for wells installed in the northern portion of the site during the SI and RI, and from logs for wells installed in the southern part of the site for the UNOCAL pipelines investigation (GTI 1991).

The deep sand and gravel unit was observed in all of the deeper wells in the northern portion of Site 13, suggesting that it is laterally continuous beneath the site. Available boring logs show that the top of this unit declines in elevation toward the northwest. Depending on the surface elevation, groundwater was typically encountered at depths ranging from approximately 35 to 118 feet, and rose about 15 to 19 feet in completed monitoring wells, indicating that groundwater exists in the sand and gravel unit under confined conditions.

Wells BUA-11-MW and BUA-12-MW are clearly screened in the deep sand/gravel unit. Well BUA-10-MW is screened at a slightly higher elevation in an approximately 5-foot-thick sand bed at an elevation of about 80 feet mean sea level (msl). Groundwater was first encountered while drilling this well at a higher elevation than at nearby wells in the northern portion of the site. However, due to the similarity in static water conditions measured across the site, the shallower sand unit across which well BUA-10-MW is screened is likely in hydraulic connection with the deeper sand/gravel layer in which wells BUA-11-MW and BUA-12-MW are screened.

Vertical permeability of the water-bearing soils in the northern portion of the site was assessed in three wells using geotechnical samples collected during the RI. The vertical permeability calculated from the sample collected from well BUA-10-MW is $1.00\text{E-}07$ centimeters per second (cm/sec). Vertical permeabilities from samples collected from wells BUA-11-MW and BUA-12-MW were calculated to be $1.50\text{E-}01$ cm/sec and $1.00\text{E-}07$ cm/sec, respectively.

Groundwater elevations in the northern portion of the site ranged from approximately 100 to 103 feet msl. The groundwater flow is toward the west-southwest, with an average gradient of about 0.0022 foot per foot (ft/ft). Groundwater levels in this vicinity dropped between about 0.2 foot to 1.9 feet between the June and September 1995 gauging events.

Groundwater in the UNOCAL wells located in the southern part of Site 13 was first encountered in clayey soils at depths between 10 and 14 feet (GTI 1991), above the laterally extensive sand/gravel unit. Each of these wells is screened in portions of the shallower clayey soils, but each extends into deeper sand and gravel that may be hydraulically connected to the sand/gravel unit farther north. The report containing data on the installation of the UNOCAL wells (GTI 1991) does not indicate whether groundwater levels rose during or shortly after installation of these wells, so it is not clear if groundwater in the southern portion of Site 13 exists under confined or unconfined conditions.

In June 1995, water levels in the UNOCAL wells ranged between approximately 7 and 9 feet bgs, corresponding to elevations of 94 to 97 feet above msl. In September 1995, water levels ranged from about 10 to 13 feet bgs, corresponding to elevations of 91 to 94 feet above msl. The groundwater elevation in this vicinity dropped an average of 3.5 feet between the two gauging events, displaying the greatest seasonal fluctuation observed among the Inland Area sites monitored during RI activities. Groundwater flow direction as derived from groundwater elevation data obtained from the UNOCAL

wells in June and September 1995 show groundwater to be moving in a generally westerly direction with a gradient of 0.0096 ft/ft.

3.0 INVESTIGATION OF NAPALM TRENCH

The following section discusses the past and current investigations and removal of the napalm trench.

3.1 PREVIOUS SAMPLING OF NAPALM TRENCH

During the SI a 3- to 5-inch layer of a semisolid, dark honey-colored material was encountered during the trenching. The visible surface extent of the material was approximately 70 square feet. When fresh surfaces were disturbed, volatile chemicals (as detected by a photoionization detector [PID]) were released and produced a maximum PID reading of 135 parts per million (ppm). The Navy EOD personnel suggested that the material was remnant napalm thickener, based on its appearance and the presence of "flame bombs" fragments near the material (PRC/MW 1993).

A sample of the material and a soil sample from directly beneath the material were collected. Soil samples collected from the trench excavation phase of the investigation were analyzed for explosives, metals, and nitrate/nitrite. Soil samples from areas of possible napalm ignition were also analyzed for total petroleum hydrocarbons (TPH) and benzene, toluene, ethylbenzene, and xylenes (BTEX). TPH as diesel (TPH-d), xylene, and toluene were detected in these soil samples. TPH-d was detected at 139,000 mg/kg. The suspected napalm thickener was also analyzed by the toxicity characteristic leaching procedure (TCLP) method for volatile organic compounds (VOC) (Method 1311) to evaluate waste disposal options BTEX constituents were detected in the TCLP sample (see Table 1). The presence of these hydrocarbons indicates that the suspected napalm thickener is possibly residual napalm.

3.2 SAMPLING AND REMOVAL ACTIVITIES

Three sampling events took place in July 1997, October 1997, and February 1998. Soil samples were collected from a total of 13 soil locations (SB01 through SB13) in the napalm trench.

TABLE 1
DETECTED CONCENTRATIONS OF BTEX IN TCLP

Analyte	Results ($\mu\text{g/L}$)
Benzene	19,000
Toluene	510
Ethylbenzene	3,200
Xylene	3,900

Notes:

BTEX Benzene, toluene, ethylbenzene, and xylenes
 TCLP Toxicity characteristic leaching procedure
 $\mu\text{g/L}$ Micrograms per liter

During the first sampling event, which took place in July, a total of 12 soil samples were collected from seven soil locations (SB01 through SB07) for TPH and VOC analysis. The objective of the first sampling event was to determine the extent of soil contamination and the amount of soil that would be excavated. The second sampling event took place in October during the napalm trench excavation. The objective was to collect confirmation samples during the removal. Six soil samples were collected from six locations (SB08 through SB13) for TPH and VOC analysis. During the third sampling event on February 27, 1998, which was also intended for confirmation sampling, three soil samples were collected from locations SB02, SB04, and SB08 for semivolatile organic compound (SVOC) analysis. Figure 3 shows the boring locations in reference to the napalm trench.

Soil samples were collected during the first sampling event in July to determine the extent of soil removal that would be required for cleanup. These borings (SB01 through SB07) were located in areas where evidence of napalm was apparent on the ground surface. Soil samples were collected from the 0.5 to 1.25 feet bgs and 1.5 to 2.25 feet bgs intervals. The soil samples were analyzed for TPH-d, TPH as motor oil (TPH-mo), and BTEX.

Analytical results indicated that TPH-d, TPH-mo, and BTEX were present in soil mostly from the 0.5 to 1.25 feet bgs interval. Figure 4 shows the locations and analytical results for TPH-d, TPH-mo, and benzene. Of the soil samples collected from the 1.5 to 2.25 feet bgs interval, benzene was detected in only one sample, at SB02. None of the soil samples exceeded the Risk-Based Screening Levels

(RBSL) for BTEX compounds. Based on the July 1997 sampling event, the volume of soil to be removed was estimated to be approximately 10 cubic yards (yd³).

The excavation of the napalm trench was conducted in October 1997. A backhoe was used to remove soil and napalm from the trench. The backhoe removed the soil in 4- to 6-inch lifts from the bottom of the trench to locate areas where napalm was present. If napalm was found then the napalm was placed in 55-gallon drums and the surrounding soil was placed in a roll-off bin for disposal. If napalm was not detected and the organic analyzer did not detect the presence of organic compounds, the soil was moved to the side of the trench. This clean soil was later backfilled in the trench. Figure 3 shows the boundary of the trench excavation in reference to the sampling locations. Approximately 23 yd³ of material was disposed of off site, 3 yd³ of the material was napalm and 20 yd³ was soil. The majority of the napalm was found in the center and middle of the trench excavation.

After the soil and napalm were removed, six soil samples were collected from the bottom and sides of the excavation to determine if the removal of the affected soils was complete. These soil samples were also analyzed for TPH-d, TPH-mo, and BTEX. Only one soil sample, at SB08, had concentrations of benzene, TPH-d, and TPH-mo.

The three confirmation soil samples collected in February 1998 were collected from previous sampling locations where the highest concentrations of diesel and motor oil were detected. These samples were analyzed for SVOCs.

4.0 RESULTS OF SOIL SAMPLING

This section presents the results for organic constituents detected in the July 1997, October 1997, and February 1998 sampling events. Appendix A presents analytical results for the soil samples collected in the napalm trench. Table 2 shows the maximum concentrations detected in soil. No SVOCs or polynuclear aromatic hydrocarbons (PAH) were detected in any of the soil samples. Figure 4 shows the locations where benzene, diesel fuel, and motor oil were detected.

Benzene, Toluene, Ethylbenzene, and Xylenes: BTEX was detected in 10 of the 18 soil samples collected at the site. Benzene was detected in 3 of the soil samples ranging from 0.0006 to 0.03 milligrams per kilogram (mg/kg). Toluene was detected in 5 of the 18 soil samples ranging from

0.0007 to 0.01 mg/kg. Ethylbenzene was detected in three soil samples ranging from 0.0006 to 0.011 mg/kg. Xylene was detected in seven soil samples ranging from 0.001 to 0.14 mg/kg.

TPH as Diesel: TPH-d was detected in 6 of 18 soil samples collected at the site. The highest concentration of TPH-d was detected at SB04 (430 mg/kg) at 1.0 feet bgs. The other five samples contained less than 50 mg/kg of TPH-d.

TPH as Motor Oil: TPH-mo was detected in 8 of 18 soil samples collected from the site. Concentrations ranged from 39 to 1,100 mg/kg. The three highest concentrations were detected in the near surface samples (0.75 to 1.0 feet bgs) from locations SB05 (1,100 mg/kg), SB04 (1,000 mg/kg), and SB03 (450 mg/kg). Concentrations of TPH-mo in the remaining soil samples ranged from 39 to 80 mg/kg.

TABLE 2
MAXIMUM CONCENTRATIONS DETECTED IN SOIL

Analyte	Concentration (mg/kg)					
	July 1997		October 1997		February 1998	
	0.5 - 1.0 (feet bgs)	1.5 - 2.5 (feet bgs)	0.75 - 1.0 (feet bgs)	2.0 - 3.0 (feet bgs)	0.5 - 0.75 (feet bgs)	2.0 - 2.5 (feet bgs)
TPH-d	430	36	31	ND	---	---
TPH-mo	1,100	72	52	ND	---	---
Benzene	0.0006	0.03	0.012	ND	---	---
Toluene	ND	0.01	0.004	ND	---	---
Ethylbenzene	0.004	0.011	0.001	ND	---	---
Xylene	0.082	0.14	0.004	ND	---	---
SVOCs	---	---	---	---	ND	ND

Notes:

- bgs Below ground surface
- mg/kg Milligrams per kilogram
- ND Non detect
- SVOC Semivolatile organic compound
- TPH-d Total petroleum hydrocarbons as diesel
- TPH-mo Total petroleum hydrocarbons as motor oil
-
- Not analyzed

Summary Of Analytical Results

Analytical results from the sampling events show that low levels of BTEX and TPH are present in the surface soil at the site. Soil at a depth greater than 1-foot bgs generally does not appear to be impacted at the site.

The BTEX concentrations that were detected at the site are below the RBSL and EPA Region 9 preliminary remediation goals (PRG), which are presented in Table 3. The residential RBSL for benzene is 5.82 mg/kg and the residential PRG for benzene is 1.4 mg/kg. The highest detected concentration of benzene was 0.03 mg/kg. Also, no SVOCs and PAHs were found to be present at the site.

TABLE 3

RESIDENTIAL RBSL AND EPA REGION 9 RESIDENTIAL AND INDUSTRIAL PRGs

Analyte	Residential RBSL (mg/kg)	Residential PRG (mg/kg)	Industrial PRG (mg/kg)
Benzene	5.82	1.4	3.2
Toluene	13,300	1,900	2,800 ^a
Ethylbenzene	7,830	690 ^a	690 ^a
Xylene	145,000	990 ^a	990 ^a
Benzo(a)anthracene	NA	0.61	2.6
Benzo(b)fluoranthene	NA	0.61	2.6
Benzo(k)fluoranthene	NA	0.61 ^b	26
Benzo(a)pyrene	NA	0.061	0.26
Chrysene	NA	6.1	24 ^a
Dibenz(a,h)anthracene	NA	0.061	0.26
Indeno(1,2,3-cd)pyrene	NA	0.61	2.6
Naphthalene	NA	800 ^a	800 ^a

Notes:

EPA U.S. Environmental Protection Agency
 mg/kg Milligrams per kilogram
 NA None available
 RBSL Risk-Based Screening Levels

a Based on the soil saturation equation presented in EPA 1995.

b California-modified PRG (EPA 1995)

5.0 CONCLUSIONS AND RECOMMENDATIONS

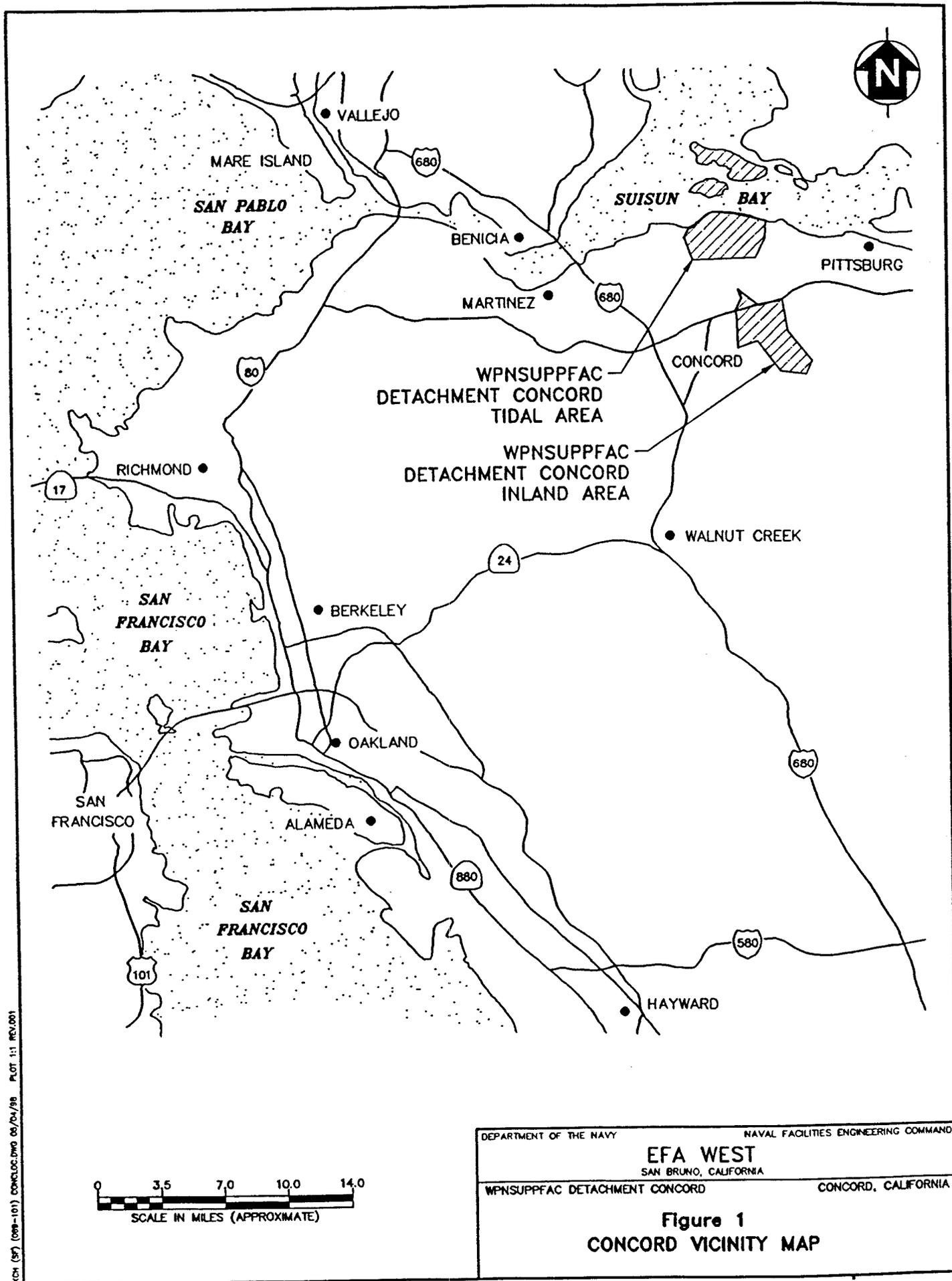
Past recommendations for Site 13 napalm trench indicated that a removal was necessary to eliminate potential exposure to the environment. Based on the removal of the napalm thickener, sampling results indicate that any source of contamination that which might pose a risk to the environment has been eliminated.

No chemical concentrations were detected above the RBSL screening criteria and residential PRGs. The removal of the soil from the trench has reduced the levels of TPH to less than 100 mg/kg. The remaining levels of TPH that are present do not represent a risk to human health or the environment.

Removal of the residual napalm and soil with the highest concentrations of chemical contamination have eliminated any possible future impact to this area. Additional soil sampling or removal of material from the napalm trench is not recommended.

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KCH (SF) (089-101) CONCORD.DWG 06/04/88 PLOT 1:1 REV.001

DEPARTMENT OF THE NAVY NAVAL FACILITIES ENGINEERING COMMAND

EFA WEST
SAN BRUNO, CALIFORNIA

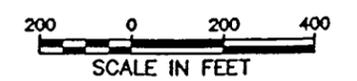
WPNSUPPFAC DETACHMENT CONCORD

CONCORD, CALIFORNIA

Figure 1
CONCORD VICINITY MAP



- LEGEND:**
- x — FENCE
 - PIEZOMETER LOCATION (50-110 FT BGS, INSTALLATION DATA UNKNOWN)
 - ⊙ MONITORING WELL LOCATION

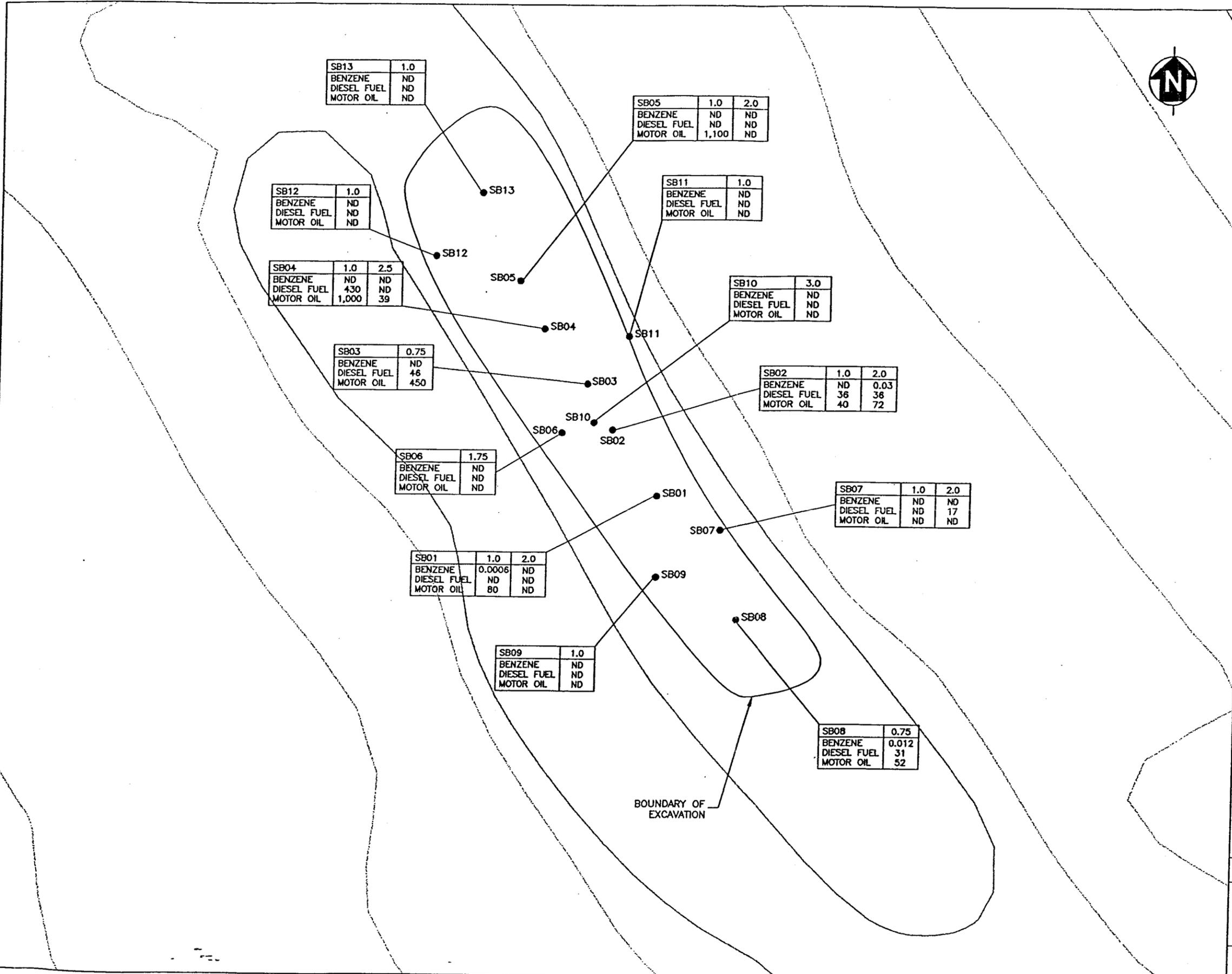


WPNSUPPFAC DETACHMENT CONCORD

Figure 2
SITE 13-NAPALM TRENCH LOCATION
EFA WEST
SAN BRUNO, CALIFORNIA

KCH (SFL 008-035) NAPALM13.DWG 05/12/88 REV.001

KCH (SF) (069-035) TRNCHSAMPL.DWG 05/12/98 REV.001



LEGEND:

- SB11 SOIL BORING
- ND NON DETECT

BORING ID

SB03	0.75
BENZENE	ND
DIESEL FUEL	46
MOTOR OIL	450

SAMPLE DEPTH IN FEET BELOW GROUND SURFACE

ANALYTES

ANALYTICAL RESULTS IN MILLIGRAMS PER KILOGRAM



WPNSUPPAC DETACHMENT CONCORD

Figure 4
ANALYTICAL RESULTS

EFA WEST
SAN BRUNO, CALIFORNIA

Appendix A

Napalm Removal

Analytical Results for Soil

Point ID	NPMSB001			NPMSB001			NPMSB002			NPMSB002			NPMSB002			NPMSB003			NPMSB004			NPMSB004			
Matrix	SOIL																								
Sample Date	07/02/97			07/02/97			07/02/97			07/02/97			02/27/98			07/02/97			07/02/97			07/02/97			
Sample Depth (in feet)	0.50 - 1.00			1.50 - 2.00			0.75 - 1.00			1.75 - 2.00			2.00 - 2.50			0.50 - 0.75			0.75 - 1.00			2.00 - 2.50			
	Result	Det. Lim.	Qual.																						
Aromatic Volatiles (in µg/Kg)																									
BENZENE	0.6	0.6	J	ND	0.6	UJ	ND	3	U	30	3	U	NA			ND	0.6	U	ND	3	U	ND	0.5	U	
ETHYLBENZENE	0.6	0.6	J	ND	0.6	UJ	11	3	U	ND	3	U	NA			ND	0.6	U	4	3	U	ND	0.5	U	
O-XYLENE	8	0.6	J	ND	0.6	UJ	140	3	U	13	3	U	NA			1	0.6	U	82	3	U	ND	0.5	U	
P/M-XYLENE	3	1	J	ND	1	UJ	52	6	U	11	6	U	NA			ND	1	U	33	6	U	ND	1	U	
TOLUENE	ND	0.6	UJ	ND	0.6	UJ	ND	3	U	10	3	U	NA			ND	0.6	U	ND	3	U	ND	0.5	U	
Semivolatiles (in µg/Kg)																									
1,2,4-TRICHLOROBENZENE	NA			NA			NA			NA			ND	400	U	NA			NA			NA			
1,2-DICHLOROBENZENE	NA			NA			NA			NA			ND	200	U	NA			NA			NA			
1,3-DICHLOROBENZENE	NA			NA			NA			NA			ND	200	U	NA			NA			NA			
1,4-DICHLOROBENZENE	NA			NA			NA			NA			ND	200	U	NA			NA			NA			
2,2'-OXYBIS(1-CHLOROPROPANE)	NA			NA			NA			NA			ND	400	U	NA			NA			NA			
2,4,5-TRICHLOROPHENOL	NA			NA			NA			NA			ND	1,000	U	NA			NA			NA			
2,4,6-TRICHLOROPHENOL	NA			NA			NA			NA			ND	400	U	NA			NA			NA			
2,4-DICHLOROPHENOL	NA			NA			NA			NA			ND	400	U	NA			NA			NA			
2,4-DIMETHYLPHENOL	NA			NA			NA			NA			ND	400	U	NA			NA			NA			
2,4-DINITROPHENOL	NA			NA			NA			NA			ND	1,000	U	NA			NA			NA			
2,4-DINITROTOLUENE	NA			NA			NA			NA			ND	400	U	NA			NA			NA			
2,6-DINITROTOLUENE	NA			NA			NA			NA			ND	400	U	NA			NA			NA			
2-CHLORONAPHTHALENE	NA			NA			NA			NA			ND	400	U	NA			NA			NA			
2-CHLOROPHENOL	NA			NA			NA			NA			ND	400	U	NA			NA			NA			
2-METHYLNAPHTHALENE	NA			NA			NA			NA			ND	400	U	NA			NA			NA			
2-METHYLPHENOL	NA			NA			NA			NA			ND	400	U	NA			NA			NA			
2-NITROANILINE	NA			NA			NA			NA			ND	1,000	U	NA			NA			NA			
2-NITROPHENOL	NA			NA			NA			NA			ND	400	U	NA			NA			NA			
3,3'-DICHLOROBENZIDINE	NA			NA			NA			NA			ND	400	U	NA			NA			NA			
3-NITROANILINE	NA			NA			NA			NA			ND	1,000	U	NA			NA			NA			
4,6-DINITRO-2-METHYLPHENOL	NA			NA			NA			NA			ND	1,000	U	NA			NA			NA			
4-BROMOPHENYL-PHENYLETHER	NA			NA			NA			NA			ND	400	U	NA			NA			NA			
4-CHLORO-3-METHYLPHENOL	NA			NA			NA			NA			ND	400	U	NA			NA			NA			
4-CHLOROANILINE	NA			NA			NA			NA			ND	400	U	NA			NA			NA			
4-CHLOROPHENYL-PHENYLETHER	NA			NA			NA			NA			ND	400	U	NA			NA			NA			
4-METHYLPHENOL	NA			NA			NA			NA			ND	400	U	NA			NA			NA			
4-NITROANILINE	NA			NA			NA			NA			ND	1,000	U	NA			NA			NA			
4-NITROPHENOL	NA			NA			NA			NA			ND	1,000	UJ	NA			NA			NA			

Notes: Detected concentrations are shaded.

µg/kg = Micrograms per kilogram, mg/kg = Milligrams per kilogram

ND; U = Not detected, J = Estimated value, NA = Not analyzed, Det. Lim. = Detection Limit, Qual. = Validation Qualifier

Inorganic results less than 10 are reported to two significant figures and results greater than 10 are reported to three significant figures.

Organic results less than 10 are reported to one significant figure and results greater than 10 are reported to two significant figures.

Appendix A

Napalm Removal

Analytical Results for Soil

Point ID	NPMSB001			NPMSB001			NPMSB002			NPMSB002			NPMSB002			NPMSB003			NPMSB004			NPMSB004		
Matrix	SOIL																							
Sample Date	07/02/97			07/02/97			07/02/97			07/02/97			02/27/98			07/02/97			07/02/97			07/02/97		
Sample Depth (in feet)	0.50 - 1.00			1.50 - 2.00			0.75 - 1.00			1.75 - 2.00			2.00 - 2.50			0.50 - 0.75			0.75 - 1.00			2.00 - 2.50		
	Result	Det. Lim.	Qual.																					
Semivolatiles (in µg/Kg)																								
ACENAPHTHENE	NA			NA			NA			NA			ND	400	U	NA			NA			NA		
ACENAPHTHYLENE	NA			NA			NA			NA			ND	400	U	NA			NA			NA		
ANTHRACENE	NA			NA			NA			NA			ND	400	U	NA			NA			NA		
BENZO (A) ANTHRACENE	NA			NA			NA			NA			ND	400	U	NA			NA			NA		
BENZO (A) PYRENE	NA			NA			NA			NA			ND	400	U	NA			NA			NA		
BENZO (B) FLUORANTHENE	NA			NA			NA			NA			ND	400	U	NA			NA			NA		
BENZO (G, H, I) PERYLENE	NA			NA			NA			NA			ND	400	UJ	NA			NA			NA		
BENZO (K) FLUORANTHENE	NA			NA			NA			NA			ND	400	UJ	NA			NA			NA		
BIS (2-CHLOROETHOXY) METHANE	NA			NA			NA			NA			ND	400	U	NA			NA			NA		
BIS (2-CHLOROETHYL) ETHER	NA			NA			NA			NA			ND	400	U	NA			NA			NA		
BIS (2-ETHYLHEXYL) PHTHALATE	NA			NA			NA			NA			ND	160	U	NA			NA			NA		
BUTYLBENZYLPHthalATE	NA			NA			NA			NA			ND	400	U	NA			NA			NA		
CARBAZOLE	NA			NA			NA			NA			ND	400	U	NA			NA			NA		
CHRYSENE	NA			NA			NA			NA			ND	400	U	NA			NA			NA		
DI-N-BUTYLPHthalATE	NA			NA			NA			NA			ND	400	U	NA			NA			NA		
DI-N-OCTYLPHthalATE	NA			NA			NA			NA			ND	400	U	NA			NA			NA		
DIBENZ (A, H) ANTHRACENE	NA			NA			NA			NA			ND	400	U	NA			NA			NA		
DIBENZOFURAN	NA			NA			NA			NA			ND	400	U	NA			NA			NA		
DIETHYLPHthalATE	NA			NA			NA			NA			ND	400	UJ	NA			NA			NA		
DIMETHYLPHthalATE	NA			NA			NA			NA			ND	400	U	NA			NA			NA		
FLUORANTHENE	NA			NA			NA			NA			ND	400	U	NA			NA			NA		
FLUORENE	NA			NA			NA			NA			ND	400	U	NA			NA			NA		
HEXACHLORO BENZENE	NA			NA			NA			NA			ND	400	U	NA			NA			NA		
HEXACHLORO BUTADIENE	NA			NA			NA			NA			ND	400	U	NA			NA			NA		
HEXACHLORO CYCLOPENTADIENE	NA			NA			NA			NA			ND	400	UJ	NA			NA			NA		
HEXACHLOROETHANE	NA			NA			NA			NA			ND	400	U	NA			NA			NA		
INDENO (1, 2, 3-CD) PYRENE	NA			NA			NA			NA			ND	400	U	NA			NA			NA		
ISOPHORONE	NA			NA			NA			NA			ND	400	U	NA			NA			NA		
N-NITROSO-DI-N-PROPYLAMINE	NA			NA			NA			NA			ND	400	U	NA			NA			NA		
N-NITROSODIPHENYLAMINE (1)	NA			NA			NA			NA			ND	400	U	NA			NA			NA		
NAPHTHALENE	NA			NA			NA			NA			ND	400	U	NA			NA			NA		
NITROBENZENE	NA			NA			NA			NA			ND	400	U	NA			NA			NA		
PENTACHLOROPHENOL	NA			NA			NA			NA			ND	1,000	U	NA			NA			NA		
PHENANTHRENE	NA			NA			NA			NA			ND	400	U	NA			NA			NA		
PHENOL	NA			NA			NA			NA			ND	400	U	NA			NA			NA		

Notes: Detected concentrations are shaded.

µg/kg = Micrograms per kilogram, mg/kg = Milligrams per kilogram

ND; U = Not detected, J = Estimated value, NA = Not analyzed, Det. Lim. = Detection Limit, Qual. = Validation Qualifier

Inorganic results less than 10 are reported to two significant figures and results greater than 10 are reported to three significant figures.

Organic results less than 10 are reported to one significant figure and results greater than 10 are reported to two significant figures.

Appendix A
Napalm Removal
Analytical Results for Soil

Point ID	NPMSB001			NPMSB001			NPMSB002			NPMSB002			NPMSB002			NPMSB003			NPMSB004			NPMSB004		
Matrix	SOIL																							
Sample Date	07/02/97			07/02/97			07/02/97			07/02/97			02/27/98			07/02/97			07/02/97			07/02/97		
Sample Depth (in feet)	0.50 - 1.00			1.50 - 2.00			0.75 - 1.00			1.75 - 2.00			2.00 - 2.50			0.50 - 0.75			0.75 - 1.00			2.00 - 2.50		
	Result	Det. Lim.	Qual.																					
Semivolatiles (in µg/Kg)																								
PYRENE	NA			NA			NA			NA			ND	400	UJ	NA			NA			NA		
TOTAL PAHS	NA			NA			NA			NA			ND		U	NA			NA			NA		
Petroleum Indicators (in mg/Kg)																								
DIESEL FUEL	ND	12	U	ND	12	U	36	12		36	12		NA			46	33		430	110		ND	11	U
MOTOR OIL	80	39		ND	39	U	40	39		72	40		NA			450	110		1,000	360		39	36	

Notes: Detected concentrations are shaded.

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ND; U = Not detected, J = Estimated value, NA = Not analyzed, Det. Lim. = Detection Limit, Qual. = Validation Qualifier

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Organic results less than 10 are reported to one significant figure and results greater than 10 are reported to two significant figures.

06/02/98

Appendix A
Napalm Removal
Analytical Results for Soil

Point ID	NPMSB004			NPMSB005			NPMSB005			NPMSB006			NPMSB007			NPMSB007			NPMSB008			NPMSB008		
Matrix	SOIL																							
Sample Date	02/27/98			07/02/97			07/02/97			07/02/97			07/02/97			07/02/97			10/15/97			02/27/98		
Sample Depth (in feet)	2.00 - 2.50			0.75 - 1.00			1.75 - 2.00			1.00 - 1.25			0.75 - 1.00			1.75 - 2.00			0.75 - 1.00			0.50 - 0.75		
	Result	Det. Lim.	Qual.																					
Aromatic Volatiles (in µg/Kg)																								
BENZENE	NA			ND	0.5	UJ	ND	0.6	U	12	0.5	J	NA											
ETHYLBENZENE	NA			ND	0.5	UJ	ND	0.6	U	1	0.5	J	NA											
O-XYLENE	NA			ND	0.5	UJ	ND	0.6	U	ND	0.6	U	2	0.6	U	ND	0.6	U	4	0.5	J	NA		
P/M-XYLENE	NA			ND	1	UJ	ND	1	U	5	1	J	NA											
TOLUENE	NA			ND	0.5	UJ	ND	0.6	U	4	0.5	J	NA											
Semivolatiles (in µg/Kg)																								
1,2,4-TRICHLOROBENZENE	ND	390	U	NA			ND	400	U															
1,2-DICHLOROBENZENE	ND	190	U	NA			ND	190	U															
1,3-DICHLOROBENZENE	ND	190	U	NA			ND	190	U															
1,4-DICHLOROBENZENE	ND	190	U	NA			ND	190	U															
2,2'-OXYBIS(1-CHLOROPROPANE)	ND	390	U	NA			ND	400	U															
2,4,5-TRICHLOROPHENOL	ND	980	U	NA			ND	1,000	U															
2,4,6-TRICHLOROPHENOL	ND	390	U	NA			ND	400	U															
2,4-DICHLOROPHENOL	ND	390	U	NA			ND	400	U															
2,4-DIMETHYLPHENOL	ND	390	U	NA			ND	400	U															
2,4-DINITROPHENOL	ND	980	U	NA			ND	1,000	U															
2,4-DINITROTOLUENE	ND	390	U	NA			ND	400	U															
2,6-DINITROTOLUENE	ND	390	U	NA			ND	400	U															
2-CHLORONAPHTHALENE	ND	390	U	NA			ND	400	U															
2-CHLOROPHENOL	ND	390	U	NA			ND	400	U															
2-METHYLNAPHTHALENE	ND	390	U	NA			ND	400	U															
2-METHYLPHENOL	ND	390	U	NA			ND	400	U															
2-NITROANILINE	ND	980	U	NA			ND	1,000	U															
2-NITROPHENOL	ND	390	U	NA			ND	400	U															
3,3'-DICHLOROBENZIDINE	ND	390	U	NA			ND	400	U															
3-NITROANILINE	ND	980	U	NA			ND	1,000	U															
4,6-DINITRO-2-METHYLPHENOL	ND	980	U	NA			ND	1,000	U															
4-BROMOPHENYL-PHENYLETHER	ND	390	U	NA			ND	400	U															
4-CHLORO-3-METHYLPHENOL	ND	390	U	NA			ND	400	U															
4-CHLOROANILINE	ND	390	U	NA			ND	400	U															
4-CHLOROPHENYL-PHENYLETHER	ND	390	U	NA			ND	400	U															
4-METHYLPHENOL	ND	390	U	NA			ND	400	U															
4-NITROANILINE	ND	980	U	NA			ND	1,000	U															
4-NITROPHENOL	ND	980	UJ	NA			ND	1,000	UJ															

Notes: Detected concentrations are shaded.

µg/kg = Micrograms per kilogram, mg/kg = Milligrams per kilogram

ND; U = Not detected, J = Estimated value, NA = Not analyzed, Det. Lim. = Detection Limit, Qual. = Validation Qualifier

Inorganic results less than 10 are reported to two significant figures and results greater than 10 are reported to three significant figures.

Organic results less than 10 are reported to one significant figure and results greater than 10 are reported to two significant figures.

Appendix A

Napalm Removal

Analytical Results for Soil

Point ID	NPMSB004			NPMSB005			NPMSB005			NPMSB006			NPMSB007			NPMSB007			NPMSB008			NPMSB008		
Matrix	SOIL																							
Sample Date	02/27/98			07/02/97			07/02/97			07/02/97			07/02/97			07/02/97			10/15/97			02/27/98		
Sample Depth (in feet)	2.00 - 2.50			0.75 - 1.00			1.75 - 2.00			1.00 - 1.25			0.75 - 1.00			1.75 - 2.00			0.75 - 1.00			0.50 - 0.75		
	Result	Det. Lim.	Qual.																					
Semivolatiles (in µg/kg)																								
ACENAPHTHENE	ND	390	U	NA			ND	400	U															
ACENAPHTHYLENE	ND	390	U	NA			ND	400	U															
ANTHRACENE	ND	390	U	NA			ND	400	U															
BENZO (A) ANTHRACENE	ND	390	U	NA			ND	400	U															
BENZO (A) PYRENE	ND	390	U	NA			ND	400	U															
BENZO (B) FLUORANTHENE	ND	390	U	NA			ND	400	U															
BENZO (G, H, I) PERYLENE	ND	390	UJ	NA			ND	400	UJ															
BENZO (K) FLUORANTHENE	ND	390	UJ	NA			ND	400	UJ															
BIS (2-CHLOROETHOXY) METHANE	ND	390	U	NA			ND	400	U															
BIS (2-CHLOROETHYL) ETHER	ND	390	U	NA			ND	400	U															
BIS (2-ETHYLHEXYL) PHTHALATE	ND	150	U	NA			ND	160	U															
BUTYLBENZYL PHTHALATE	ND	390	U	NA			ND	400	U															
CARBAZOLE	ND	390	U	NA			ND	400	U															
CHRYSENE	ND	390	U	NA			ND	400	U															
DI-N-BUTYL PHTHALATE	ND	390	U	NA			ND	400	U															
DI-N-OCTYL PHTHALATE	ND	390	U	NA			ND	400	U															
DIBENZ (A, H) ANTHRACENE	ND	390	U	NA			ND	400	U															
DIBENZOFURAN	ND	390	U	NA			ND	400	U															
DIETHYL PHTHALATE	ND	390	UJ	NA			ND	400	UJ															
DIMETHYL PHTHALATE	ND	390	U	NA			ND	400	U															
FLUORANTHENE	ND	390	U	NA			ND	400	U															
FLUORENE	ND	390	U	NA			ND	400	U															
HEXACHLORO BENZENE	ND	390	U	NA			ND	400	U															
HEXACHLORO BUTADIENE	ND	390	U	NA			ND	400	U															
HEXACHLOROCYCLOPENTADIENE	ND	390	UJ	NA			ND	400	UJ															
HEXACHLOROETHANE	ND	390	U	NA			ND	400	U															
INDENO (1, 2, 3-CD) PYRENE	ND	390	U	NA			ND	400	U															
ISOPHORONE	ND	390	U	NA			ND	400	U															
N-NITROSO-DI-N-PROPYLAMINE	ND	390	U	NA			ND	400	U															
N-NITROSODIPHENYLAMINE (1)	ND	390	U	NA			ND	400	U															
NAPHTHALENE	ND	390	U	NA			ND	400	U															
NITROBENZENE	ND	390	U	NA			ND	400	U															
PENTACHLOROPHENOL	ND	980	U	NA			ND	1,000	U															
PHENANTHRENE	ND	390	U	NA			ND	400	U															
PHENOL	ND	390	U	NA			ND	400	U															

Notes: Detected concentrations are shaded.

µg/kg = Micrograms per kilogram, mg/kg = Milligrams per kilogram

ND; U = Not detected, J = Estimated value, NA = Not analyzed, Det. Lim. = Detection Limit, Qual. = Validation Qualifier

Inorganic results less than 10 are reported to two significant figures and results greater than 10 are reported to three significant figures.

Organic results less than 10 are reported to one significant figure and results greater than 10 are reported to two significant figures.

Appendix A
Napalm Removal
Analytical Results for Soil

Point ID	NPMSB004			NPMSB005			NPMSB005			NPMSB006			NPMSB007			NPMSB007			NPMSB008			NPMSB008		
Matrix	SOIL																							
Sample Date	02/27/98			07/02/97			07/02/97			07/02/97			07/02/97			07/02/97			10/15/97			02/27/98		
Sample Depth (in feet)	2.00 - 2.50			0.75 - 1.00			1.75 - 2.00			1.00 - 1.25			0.75 - 1.00			1.75 - 2.00			0.75 - 1.00			0.50 - 0.75		
	Result	Det. Lim.	Qual.																					
Semivolatiles (in µg/Kg)																								
PYRENE	ND	390	UJ	NA			ND	400	UJ															
TOTAL PAHS	ND		U	NA			ND		U															
Petroleum Indicators (in mg/Kg)																								
DIESEL FUEL	NA			ND	54	U	ND	11	U	ND	11	U	ND	11	U	17	11		31	10		NA		
MOTOR OIL	NA			1,100	180		ND	37	U	ND	37	U	ND	38	U	ND	38	U	52	34		NA		

Notes: Detected concentrations are shaded.

µg/kg = Micrograms per kilogram, mg/kg = Milligrams per kilogram

ND; U = Not detected, J = Estimated value, NA = Not analyzed, Det. Lim. = Detection Limit, Qual. = Validation Qualifier

Inorganic results less than 10 are reported to two significant figures and results greater than 10 are reported to three significant figures.

Organic results less than 10 are reported to one significant figure and results greater than 10 are reported to two significant figures.

Appendix A

Napalm Removal

Analytical Results for Soil

Point ID	NPMSB009			NPMSB010			NPMSB011			NPMSB012			NPMSB013		
Matrix	SOIL														
Sample Date	10/15/97			10/15/97			10/15/97			10/15/97			10/15/97		
Sample Depth (in feet)	0.75 - 1.00			2.75 - 3.00			0.75 - 1.00			0.75 - 1.00			0.75 - 1.00		
	Result	Det. Lim.	Qual.												
Aromatic Volatiles (in µg/Kg)															
BENZENE	ND	0.5	U	ND	0.5	UJ									
ETHYLBENZENE	ND	0.5	U	ND	0.5	UJ									
O-XYLENE	ND	0.5	U	ND	0.5	UJ									
P/M-XYLENE	2	1		ND	1	UJ	2	1	J	ND	1	UJ	ND	1	UJ
TOLUENE	0.8	0.5		ND	0.5	UJ	0.7	0.5	J	ND	0.5	UJ	0.8	0.5	J
Semivolatiles (in µg/Kg)															
1,2,4-TRICHLOROBENZENE	NA														
1,2-DICHLOROBENZENE	NA														
1,3-DICHLOROBENZENE	NA														
1,4-DICHLOROBENZENE	NA														
2,2'-OXYBIS(1-CHLOROPROPANE)	NA														
2,4,5-TRICHLOROPHENOL	NA														
2,4,6-TRICHLOROPHENOL	NA														
2,4-DICHLOROPHENOL	NA														
2,4-DIMETHYLPHENOL	NA														
2,4-DINITROPHENOL	NA														
2,4-DINITROTOLUENE	NA														
2,6-DINITROTOLUENE	NA														
2-CHLORONAPHTHALENE	NA														
2-CHLOROPHENOL	NA														
2-METHYLNAPHTHALENE	NA														
2-METHYLPHENOL	NA														
2-NITROANILINE	NA														
2-NITROPHENOL	NA														
3,3'-DICHLOROBENZIDINE	NA														
3-NITROANILINE	NA														
4,6-DINITRO-2-METHYLPHENOL	NA														
4-BROMOPHENYL-PHENYLETHER	NA														
4-CHLORO-3-METHYLPHENOL	NA														
4-CHLOROANILINE	NA														
4-CHLOROPHENYL-PHENYLETHER	NA														
4-METHYLPHENOL	NA														
4-NITROANILINE	NA														
4-NITROPHENOL	NA														

Notes: Detected concentrations are shaded.

µg/kg = Micrograms per kilogram, mg/kg = Milligrams per kilogram

ND; U = Not detected, J = Estimated value, NA = Not analyzed, Det. Lim. = Detection Limit, Qual. = Validation Qualifier

Inorganic results less than 10 are reported to two significant figures and results greater than 10 are reported to three significant figures.

Organic results less than 10 are reported to one significant figure and results greater than 10 are reported to two significant figures.

Appendix A
Napalm Removal
Analytical Results for Soil

Point ID	NPMSB009			NPMSB010			NPMSB011			NPMSB012			NPMSB013		
Matrix	SOIL														
Sample Date	10/15/97			10/15/97			10/15/97			10/15/97			10/15/97		
Sample Depth (in feet)	0.75 - 1.00			2.75 - 3.00			0.75 - 1.00			0.75 - 1.00			0.75 - 1.00		
	Result	Det. Lim.	Qual.												
Semivolatiles (in µg/Kg)															
ACENAPHTHENE	NA														
ACENAPHTHYLENE	NA														
ANTHRACENE	NA														
BENZO (A) ANTHRACENE	NA														
BENZO (A) PYRENE	NA														
BENZO (B) FLUORANTHENE	NA														
BENZO (G, H, I) PERYLENE	NA														
BENZO (K) FLUORANTHENE	NA														
BIS (2-CHLOROETHOXY) METHANE	NA														
BIS (2-CHLOROETHYL) ETHER	NA														
BIS (2-ETHYLHEXYL) PHTHALATE	NA														
BUTYLBENZYL PHTHALATE	NA														
CARBAZOLE	NA														
CHRYSENE	NA														
DI-N-BUTYL PHTHALATE	NA														
DI-N-OCTYL PHTHALATE	NA														
DIBENZ (A, H) ANTHRACENE	NA														
DIBENZOFURAN	NA														
DIETHYL PHTHALATE	NA														
DIMETHYL PHTHALATE	NA														
FLUORANTHENE	NA														
FLUORENE	NA														
HEXACHLOROBENZENE	NA														
HEXACHLOROBUTADIENE	NA														
HEXACHLOROCYCLOPENTADIENE	NA														
HEXACHLOROETHANE	NA														
INDENO (1, 2, 3-CD) PYRENE	NA														
ISOPHORONE	NA														
N-NITROSO-DI-N-PROPYLAMINE	NA														
N-NITROSODIPHENYLAMINE (1)	NA														
NAPHTHALENE	NA														
NITROBENZENE	NA														
PENTACHLOROPHENOL	NA														
PHENANTHRENE	NA														
PHENOL	NA														

Notes: Detected concentrations are shaded.

µg/kg = Micrograms per kilogram, mg/kg = Milligrams per kilogram

ND; U = Not detected, J = Estimated value, NA = Not analyzed, Det. Lim. = Detection Limit, Qual. = Validation Qualifier

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Appendix A
Napalm Removal
Analytical Results for Soil

Point ID	NPMSB009			NPMSB010			NPMSB011			NPMSB012			NPMSB013		
Matrix	SOIL														
Sample Date	10/15/97			10/15/97			10/15/97			10/15/97			10/15/97		
Sample Depth (in feet)	0.75 - 1.00			2.75 - 3.00			0.75 - 1.00			0.75 - 1.00			0.75 - 1.00		
	Result	Det. Lim.	Qual.												
Semivolatiles (in µg/Kg)															
PYRENE	NA														
TOTAL PAHS	NA														
Petroleum Indicators(in mg/Kg)															
DIESEL FUEL	ND	10	U												
MOTOR OIL	ND	34	U	ND	35	U	ND	34	U	ND	34	U	ND	34	U

Notes: Detected concentrations are shaded.

µg/kg = Micrograms per kilogram, mg/kg = Milligrams per kilogram

ND; U = Not detected, J = Estimated value, NA = Not analyzed, Det. Lim. = Detection Limit, Qual. = Validation Qualifier

Inorganic results less than 10 are reported to two significant figures and results greater than 10 are reported to three significant figures.

Organic results less than 10 are reported to one significant figure and results greater than 10 are reported to two significant figures.

06/02/98