SCREENING SITE ASSESSMENT
INSTALLATION RESTORATION SITE 12
(POINT LOMA RUBBLE SITE)
NAVAL BASE PT. LOMA
SAN DIEGO, CALIFORNIA

Submitted to:
Southwest Division
Naval Facilities Engineering Command
1220 Pacific Highway
San Diego, CA 92132-5190

NAVFAC
Naval Facilities Engineering Command

Prepared by:
Navy Public Works Center San Diego

Date Prepared:
December 15, 2003

Approved by:

Rod Soule
Division Director

Prepared by:

John Patskan
Project Geologist
RG 5653

TABLE OF CONTENTS

1.0 INTRODUCTION 1
2.0 OBJECTIVE 2
3.0 BACKGROUND 2
3.1 Site Location And Setting 2
3.2 Investigation History 2
4.0 REVIEW OF HISTORICAL INFORMATION 3
4.1 Historical Documentation 3
4.2 Aerial Photograph Research 3
4.3 Previous Field Investigations 5
5.0 SOIL SAMPLING 6
5.1 Field Methods 6
5.2 Analytical Methods 7
5.3 IDW Management and Disposal 8
6.0 SOIL SAMPLING RESULTS 8
6.1 Site Observations 8
6.2 Laboratory Results 8
6.3 Data Evaluation and Usability 12
6.3.1 Data Validation Results 13
6.3.2 Data Usability 15
7.0 CONCLUSIONS 15
8.0 RECOMENDATIONS 16
9.0 REFERENCES 16

TABLES

TABLE 1 TPH Results
TABLE 2 VOC Results
TABLE 3 SVOC Results
TABLE 4 PAH Results
TABLE 5 PCB Results
TABLE 6 Metals Results

FIGURES

FIGURE 1 Site Location
FIGURE 2 Site Plan
FIGURE 3 1928 Aerial Photo
FIGURE 4 1953 Aerial Photo
FIGURE 5 1958 Aerial Photo
FIGURE 6 1960 Aerial Photo
FIGURE 7 1966 Aerial Photo

FIGURE 8 1969 Oblique Aerial Photo
FIGURE 9 1970 Aerial Photo
FIGURE 10 1982 Oblique Aerial Photo
FIGURE 11 1983 Aerial Photo
FIGURE 12 1989 Aerial Photo
FIGURE 13 2001 Aerial Photo
FIGURE 14 Site Photos - 2003
FIGURE 15 Site Photos - 2003
FIGURE 16 Site Photos - 2003
FIGURE 17 Boring Log B-1
FIGURE 18 Boring Log B-2
FIGURE 19 Boring Log B-3
FIGURE 20 Boring Log B-4
FIGURE 21 Boring Log B-5
FIGURE 22 Boring Log B-6

APPENDICES

APPENDIX A Zonge Geophysics Report *
APPENDIX B Chain of Custody Forms
APPENDIX C Laboratory Report **
APPENDIX D Data Validation Report

* Includes figures for Site 12 only
** Form I's only, complete reports in attached CD

SCREENING SITE ASSESSMENT INSTALLATION RESTORATION SITE 12 (POINT LOMA RUBBLE SITE) NAVAL BASE POINT LOMA SAN DIEGO CALIFORNIA

1.0 INTRODUCTION

This report describes the Screening Site Assessment performed for Installation Restoration (IR) Site 12 at the Naval Base Point Loma (NBPL) San Diego, California. The Navy Public Works Center San Diego (PWC) has prepared this report for the Naval Facilities Engineering Command Southwest Division (SWDIV).

Site 12 was identified as an area of potential hazardous waste disposal during an Initial Assessment Study performed by SCS Engineers of Long Beach, California for the Naval Energy and Environmental Support Activity in 1986 (NEESA, 1986). The NEESA (1986) report identified 16 other potential waste disposal sites at NBPL. Site 12 was grouped with eight other sites, categorized as the Rubble Sites. The Rubble Sites derived their name from the fact that most of the waste at these sites appeared to consist of broken pieces of concrete rubble, and other construction debris. No further action was recommended for the Rubble Sites since there was no evidence that hazardous chemicals were included in the waste at these sites. The California Department Toxic Substances Control (DTSC) has recommended that further work be completed at these sites. This Screening Site Assessment was performed to assess the likelihood of the presence of hazardous waste at the Site 12, and to determine what follow-up actions, if any, should be recommended for the site.

This Screening Site Assessment can be divided into two primary elements. One was a review of historical information pertinent to the disposal of debris at the site. Historical aerial photos and a previous geophysical investigation provided the best data for this phase of the investigation. The other element was using hand sampling equipment to collect soil samples at the site for chemical analysis. While in the field for the various investigation activities, geologists observed the composition and distribution of the debris exposed at the surface, assessed the relative heterogeneity of the fill, and identified areas that displayed a greater potential for contamination. These data provide a good assessment for the potential of hazardous waste to exist at the site.

The information collected during this investigation leads the Navy to conclude that a relatively small volume of waste was disposed at Site 12, and it exists in a shallow fill along the two flanks of the canyon. The fill appears to be relatively homogenous, and concentrations of chemicals detected in the soil samples indicate that site was used for the disposal of inert construction debris. Based on these data, the Navy recommends no further action for the site.

2.0 OBJECTIVE

The objective of this investigation was to screen the site for the potential presence of hazardous waste included in debris disposed of at the site.

3.0 BACKGROUND

3.1 Site Location And Setting

Site 12 is located on the western side of the Point Loma peninsula in the Space and Naval Warfare Systems Center (SPAWAR) portion of NBPL (Figure 1). It is in an area that is commonly referred to as the Seaside portion of the Base. The Site consists of an area of exposed rubble along two flanks of a canyon, and occupies approximately a half-acre. The canyon runs approximately east-west, and ends in a cliff that extends down to the Pacific Ocean. The land around the canyon is at an elevation of approximately 110 feet above mean sea level (msl), and the bottom of the canyon is at an elevation of approximately 90 feet above msl (Figure 2).

The land is currently undeveloped and covered with low brush. The eastern portion of the canyon bottom is covered with a concrete drainage channel, much of which is concealed by a dense growth of ice plant. Building 323 and an associated parking lot are located just north of the site. This building is a used as a radio research facility and is surrounded by a number of antennas. The land to the east and south of the Site is also undeveloped and part of land that has been included in the Point Loma Ecological Reserve. The west side of the Site is bounded by the cliff, which extends down to the Pacific Ocean.

The soils in the site vicinity have been mapped as upper Pleistocene Nestor Terrace Deposits (Kern, 1977). No direct measurements of groundwater at the site vicinity have been made, but given the proximity to the Pacific Ocean, and limited recharge, the water table is expected to be near sea level, approximately 90 feet below the bottom of the canyon.

3.2 Investigation History

SCS Engineers of Long Beach California conducted an Initial Assessment Study (IAS) of the Point Loma Naval Complex (currently referred to as Naval Base Point Loma) and Naval Hospital San Diego for NEESA (1986). The purpose of this study was to identify and assess sites posing a potential threat to human health or the environment due to contamination from past hazardous materials operations. Site 12 was identified as one of 16 potentially contaminated sites at NBPL. As result of the IAS, Site 12 was designated

as a site within the Navy's Installation Restoration program, and the subject of regulatory oversight from the California Department of Toxic Substances Control (DTSC).

The IAS refers to Site 12 as the NOSC Central Coast Rubble Disposal Area (NOSC is an abbreviation of Naval Ocean System Center, the former name of SPAWAR). NEESA (1986) concluded that this site was used for disposal of rubble, wood, metal, asphalt, and demolition debris from the early to late 1960's. They further concluded that there was no evidence to indicate that hazardous materials were ever disposed of at the site and did not recommend a confirmation study for the Site. The DTSC did not concur with this recommendation.

Prior to beginning this Screening Assessment Investigation, the Navy began to informally research information related to the Site, but no other investigations were conducted to assess the presence of hazardous waste at the Site.

4.0 REVIEW OF HISTORICAL INFORMATION

As part of this investigation PWC reviewed historical information related to the disposal of waste at the site. This included informal interviews with Navy personnel, historical documentation, and historical aerial photographs. No pertinent information was discovered through our informal interviews. A description of the review of historical documentation, a previously conducted geophysical investigation, and aerial photographs are detailed in the subsections below.

4.1 Historical Documentation

The following is a brief history of the Site as derived from the IAS (NEESA, 1986). The Site is within the boundaries of SPAWAR. Prior to its current designation as SSC this Navy Command has been know as other names including NOSC and the Navy Electronics Laboratory (NEL). The mission of the organization has always been to provide research and development of projects to support Naval activities.

There is no evidence that land occupied by the site had ever been developed. NEESA (1986) reports that site was used for rubble disposal from the early to late 1960's. There is no other information regarding disposal of materials at the site.

4.2 Aerial Photograph Research

Historical aerial photographs were located and reviewed to help document the disposal history at the site. The photos were obtained from the following sources:

- Internal Navy Aerial Photo Archives;

- San Diego County Department of Land Use Aerial Photo Archives;
- San Diego Historical Society;
- Fairchild Collection at Whittier College;
- United States Department of Agriculture (USDA);
- San Diego Association Of Governments (SANDAG).

Ten photos pertinent to the site were found. The following table summarizes these photos

Figure	**Source**	**Date**
Figure 3	SD County	1928
Figure 4	USDA	1953
Figure 5	Fairchild Collection	1958
Figure 6	Navy	1960
Figure 7	SD County	1966
Figure 8 (Oblique)	Navy	1969
Figure 9	Navy	1970
Figure 10 (Oblique)	Navy	1982
Figure 11	SD County	1983
Figure 12	SD County	1989
Figure 13	SANDAG	2001

The following is a review of the aerial imagery.

1928: Figure 3 shows the site in an undeveloped state. The canyon is close to its present size, and no debris is visible.

1953: Figure 4 shows the beginning of some development in the area. A road has been constructed at the location of the present day Woodward Road, and a small structure has been built near the present location of Building 323. The canyon is relatively unchanged from 1928, and no debris is visible.

1958: Figure 5 shows continued development. Building 323 has been constructed and the surrounding area graded. Again the canyon is relatively unchanged, and no debris is visible.

1960: Figure 6 shows continued development of the area. The installation of the large north-south sewer trunk line that leads to the Point Loma Sewage Treatment Plant is clearly evident. The eastern end of the canyon, outside of the debris disposal area, has been filled as part of the sewer line installation. No debris is visible in the canyon.

1966: Figure 7 shows the installation of the concrete drainage channel in the bottom of the canyon. Again no debris is visible. It appears likely that no debris is present below the drainage channel.

1969 (oblique): Only the south flank of the canyon is visible in Figure 8, however no debris is visible. The eastern portion of the concrete drainage channel is visible.

1970: Figure 9 shows little change and no debris in the canyon.

1982 (oblique): Figure 10 shows most of the canyon, with a portion of the northern flank partially obscured. The debris is clearly present in this photo. It appears to be similar to the present distribution of the debris, and at least for the southern flank, the debris represents a very thin layer lying on the native soils.

1983: Figure 11 is the first overhead aerial that shows the debris. This photo also shows that debris does not extend significantly in from the canyon walls of the previous photos, indicating only a small layer of fill was added to the site.

1989: Figure 12 shows some continued development in the area, but no change to the configuration of the debris.

2001: Figure 13 shows the site near its present state. There is no change in the configuration of the debris. The heavy growth of ice plant covering the concrete drainage channel is present in this photo.

This series of photos displays a concise history of rubble disposal at the site. The rubble was dumped some time between 1970 and 1982. The only areas, which received debris, are the two canyon flanks, with no significant amount of debris in the canyon bottom. The fill appears to be thin veneer, probably five feet or less in maximum depth. The current composition and distribution of the fill exposed at the surface is consistent with the historic photos.

4.3 Previous Field Investigations

In August of 2000, Zonge Engineering and Research Organization (Zonge) of Tucson Arizona, and PWC performed geophysical surveys at the site to help assess the nature and extent of buried debris at the site. The geophysical investigations consisted of Induced Polarization (IP) and DC Resistivity surveys. Details of the investigation are included in the report by Zonge (2001) (Appendix A).

The DC Resistivity portion of the survey measures how well the subsurface soils conduct electricity. There are two principle factors that would account for the changes in resistivitiy at the site, moisture and clay content (higher moisture content => lower resistivity; higher clay content => lower resistivity). IP measures the capacity of a soil to store electric charges. Most soils display very little IP effect. Common sources of IP anomalies are certain mineralized areas, normally associated with ore deposits, and clays. Zonge (1999) has also found that IP anomalies are associated with landfill materials.

For Site 12 one IP/Resistivity line was run roughly north-south, perpendicular to the axis of the canyon (Figure 2). The quality of the data for this line was only fair, due to poor coupling of the signal into the ground. Therefore the corresponding geo-electric models are somewhat inconclusive (Zonge, 2001). However they are consistent with features observed at the site. The resistivity model shows some shallow higher resistivity soils (Zonge, 2001), indicative of drier and/or sandier soils. A few very weak IP anomalies are present near the surface in the model (Appendix A). There is no change in the material properties that would indicate there are more deeply buried wastes that are of a different composition than those exposed at the surface. These models are consistent with a lack of areas of deeply buried waste, and the data provide a sound indication of the lack of strong IP sources at the site.

5.0 SOIL SAMPLING

5.1 Field Methods

On July 18, 2003, the Navy PWC collected seven soil samples from six locations at Site 12 (Figure 2). The objective of the sampling was to assess the potential presence of hazardous chemicals in soils associated with waste disposal at the site.

The soil sampling for Site 12 was performed in conjunction with sampling for other sites within the NBPL. Some information provided in the laboratory reports and QA/QC data may not be unique to the investigation of Site 12.

The sample locations were generally as described in the Workplan (PWC, 2002), modified through conversations onsite with DTSC, and observations made by PWC personnel on site. Five of the sample locations (B-1, B-2, B-4, B-5, and B-6) were selected to provide a good coverage across debris disposal areas exposed at the site. One additional sample location (B-3) was selected near a rusting metal container that was of a type to possibly store hazardous chemicals. A hand-auger was used at each location to collect the samples. As described in the workplan, one sample was collected near the ground surface, and the hand auguring was continued as deep as possible to second sample depth at each location. For all but one of the sample locations, only one sample was collected due to near surface refusal on construction debris. Figures 16 through 21 show Boring Logs B-1 through B-6. The seven soil samples are all from within the soils associated with waste disposal at the site. Based on our observations at the site, these sample locations provide a good cross-section of the fill, and include a specifically targeted area of potential hazardous waste disposal.

Soil samples were collected in accordance with the procedures described in the Workplan For Screening Soils for Hazardous Waste at Rubble Sites, Point Loma Naval Complex (PWC, 2002). The samples were collected using a hand sampler to drive a brass tube into the soil at the base of the hand-auger excavation. In most cases, due to the loose soils and the abundant pieces of concrete, sample recovery was very poor and an inadequate

volume of soil was obtained. When this occurred, additional soil from the hand-auger barrel was tightly packed into the tubes. The tubes were sealed, and En-Core samples obtained as described in the Workplan (PWC, 2002). All of the samples were collected in this manner.

After sample collection, the containers were labeled, prepared for shipment, placed in an insulated cooler with wet ice, and transported to the laboratory under standard chain-of-custody (COC) protocol. COC forms are provided in Appendix B. Sampling equipment was carefully cleaned with a solution of soap and water and rinsed with deionized water between samples to prevent the potential for cross contamination.

In addition to collecting the soil samples, two additional QC samples were collected. These were as follows: One water sample was collected by pouring deionized water over the decontaminated sample equipment to represent an equipment blank, and one water sample was collected by pouring deionized water directly into the appropriate sample containers to represent a field blank.

All of the samples were labeled using a nine-digit number as follows: The first three digits were "S12" to represent Site 12, and to distinguish these samples from those collected at other sites during this same investigation. The next six digits represent the project identification number. The last three digits are consecutive numbers. These numbers start at 032 and run to 038 for the soil samples collected at Site 12. The sample labels were cross referenced to boring locations and depths and recorded in a field notebook.

5.2 Analytical Methods

The analytical methods for this investigation were selected to include any potential contaminants that may be present in soils associated with waste disposal at the site. These were as noted in the workplan (PWC, 2002). All of the samples were analyzed for Total Petroleum Hydrocarbon gasoline range (TPH-g) by EPA Method 8015M, Total Petroleum Hydrocarbon diesel range (TPH-d) by EPA Method 8015M, Volatile Organic Compounds (VOCs) by EPA Method 8260B, Semi-Volatile Organic Compounds (SVOCs) by EPA Method 8270C, Poly Nuclear Aromatic Hydrocarbons (PAHs) by EPA Method 8310 and. Title 22 Metals by EPA Method 6010B/7471, cyanide by EPA Method 9012, and 1,4-dioxane by EPA Method 8015. All of the samples were delivered to Navy Public Works Center Environmental Laboratory at North Island. Samples were subsequently analyzed by Columbia Analytical Services Inc and Laucks Testing Laboratories. Laboratory data reports by Columbia Analytical Services Inc and Laucks Testing Laboratories are include in Appendix C.

All of the analytes in the PAH group are included in the SVOC group. The additional analysis was conducted because the detection limits of the SVOC method were above project screening levels for some compounds.

5.3 IDW Management and Disposal

A small volume of liquid waste was generated during equipment decontamination, which consisted of wash water solutions. This was transported to Naval Station's Bilge Oily Waste Treatment System (BOWTs) Facility in San Diego, California for treatment and/or disposal.

6.0 SOIL SAMPLING RESULTS

The following subsections present site observations related to the fill materials, the results of the analysis of soil samples collected by the Navy PWC, as well as an evaluation of the data quality.

6.1 Site Observations

During all visits to the site PWC personnel made observations as to the composition and distribution of the fill and waste disposed at the site. Based on these observations the debris is concentrated near the tops of the slopes on both sides of canyon with some sloughing down the canyon walls, and a minor amount of material at the bottom of the canyon. The flat areas at the top of the slopes have intermittent pieces of debris at the surface, but appear to be primarily composed of native soils. Small items of trash from a variety of sources can be found scattered at the surface along the flat areas around the top of the canyon, well beyond the site boundaries. The debris is predominantly composed of broken pieces of concrete. Most of the pieces are 1 to 2 feet long, with pieces up to 5 feet. The rest of the debris is comprised mainly of pieces of wood, asphalt, metal pipe, and other metal debris. There was a metal container noted, which appeared to of a type that could have potentially stored hazardous materials. Though there was no label or other evidence of what the former contents may have been. Boring location B-3 is near this container. Other than that there is no other indication of hazardous materials being disposed at the site. Figures 14 and 15 show site photos, which give examples of debris at the site and an overview of current site conditions. The site appears to have received construction debris that was dumped at the edge of slope, some of which slid down the canyon walls.

6.2 Laboratory Results

All of the samples were analyzed for, TPH-g, TPH-d, VOCs, SVOCs, PCBs, PAHs, and Title 22 Metals. Results for the soil samples are presented in Tables 1, 2, 3, 4, 5, and 6. Laboratory reports by Columbia Analytical Services Inc. and Laucks Testing Laboratories are included in Appendix C. All of the data were validated by Laboratory Data Consultants of Carlsbad, California; their summary reports are presented in Appendix D.

Total Petroleum Hydrocarbons

All seven soil samples collected from the Site were submitted for TPH-g and TPH-d analysis by EPA Method 8015M (Table 1). In addition to TPH-g and TPH-d the laboratory reported the heavy end petroleum hydrocarbons in the motor oil range as well. TPH-g was not detected in any of the samples. TPH motor oil range was detected in five of the six samples at concentrations ranging from 110 to 1400 mg/kg. There is no Project Screening Level for TPH-motor oil. TPH-d was detected in four of the six samples at concentrations ranging from 18 to 1200 mg/kg. These results were all below the project screening level of 100 mg/kg for TPH-d, except for the one, which was the concentration of 1,200 mg/kg detected in the sample from B-3 at a depth of 1 foot.

Asphalt fragments were noted in most of the soil samples (Boring Logs Figures 16 through 21). Motor range, and even the diesel range petroleum may be due to asphalt fragments in the samples. The one sample with the TPH-d concentration that exceeded the project screening level was from Boring B-3, which was located near the rusted can described earlier. Diesel or some other petroleum product may have been formerly stored in the container. As stated earlier, there is no current evidence of what may have been in the container prior to its disposal. There are no stained soils in or surrounding the container. However, the most important point regarding this investigation is that this can is not representative of the overall character of the waste disposed at the site, but rather a discrete occurrence, and not observed throughout the fill.

Volatile Organic Compounds

All seven soil samples collected from the Site were submitted for VOC analysis by EPA Method 8260B (Table 2). This analysis includes the following 62 compounds:

1,1,1,2-Tetrachlorethane	1,1,1-Trichlorethane	1,1,2,2-Tetrachloroethane
1,1,2-Trichloroethane	1,1-Dichloroethane	1,1-Dichloroethene
1,1-Dichloropropene	1,2,3-Trichlorobenzene	1,2,3-Trichloropropane
1,2,4-Trichlorobenzene	1,2,4-Trimethylbenzene	1,2-Dibromomethane
1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane
1,3,5-Trimethylbenzene	1,3-Dichlorobenzene	1,3-Dichloropropane
1,4-Dichlorobenzene	2,2-Dichloropropane	2-Butanone MEK
2-Chlorotoluene	2-Hexanone	4-Chlorotoluene
Acetone	Benzene	Bromobenzene
Bromochloromethane	Bromodichloromethane	Bromoform
Bromomethane	Carbon disulfide	Carbon tetrachloride
Chlorobenzene	Chloroethane	Chloroform
Chloromethane	cis-1,2-Dichloroethene	Dibromochloromethane
Dibromomethane	Dichlorodifluoromethane	Ethylbenzene
Hexachlorobutadiene	Isopropylbenzene	m,p-Xylene
Methyl isobutyl ketone	Methylene chloride	n-Butylbenzene
n-Propylbenzene	Naphthalene	o-Xylenes
p-Isopropyltoluene	Sec-Butylbenzene	Styrene
tert-Butylbenzene	Tetrachloroethene	Toluene
trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	Trichloroethene
Trichlorofluoromethane	Vinyl chloride.	

In addition to these compounds, tests were conducted for 1,4-dioxane by EPA Method 8015. These results are also included in Table 2.

Two of these compounds were detected in the samples, dichlorodifluoromethane in all six samples, and trichloroflouromethane in one sample. Both these compounds were detected at concentrations well below their project screening levels (Table 2).

Semi-Volatile Organic Compounds

All seven soil samples collected from the Site were submitted for SVOC analysis by EPA Method 8270C(Table X2). This analysis includes the following 68 compounds:

1,2,4-Trichlorobenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene
1,4-Dichlorobenzene	2,4,5-Trichlorophenol	2,4,6-Trichlorophenol
2,4-Dichlorophenol	2,4-Dimethylphenol	2,4-Dinitrophenol
2,4-Dinitrotoluene	2,6-Dinitrotoluene	2-Chloronaphthalene
2-Chlorophenol	2-Methylnaphthalene	2-2'oxybis(1-Chloropropane)
2-Nitroaniline	2-Nitrophenol	3,3'-Dichlorobenzidine
3-Nitroaniline	4,6-Dinitro-2-methylphenol	4-Bromophenyl-phenylether
4-Chloro-3-methylphenol	4-Chloroaniline	4-Chlorophenyl-phenyl ether
4-Methylphenol	4-Nitroaniline	4-Nitrophenol
Acenaphthene	Acenaphthylene	Aniline
Anthracene	Benzidine	Benzo(a)anthracene
Benzo(a)pyrene	Benzo(b)fluoranthene	Benzo(g,h,i)perylene
Benzo(k)fluoranthene	Benzoic Acid	Benzyl alcohol
bis(2-Chloroethoxy)methane	bis-(2-Chloroethyl)ether	bis(2-Ethylhexyl)phthalate
Butylbenzylphthalate	Carbazole	Chrysene
Di-n-butylphthalate	Di-n-octylphthalate	Dibenz(a,h)anthracene
Dibenzofuran	Diethylphthalate	Dimethylphthalate
Fluoranthene	Fluorene	Hexachlorobenzene
Hexachlorobutadiene	Hexachlorocyclopentadiene	Hexachloroethane
Indeno(1,2,3-cd)pyrene	Isophorone	N-Nitroso-di-n-propylamine
N-Nitrosodimethylamine	n-Nitrosodiphenylamine	Naphthalene
Nitrobenzene	Pentachlorophenol	Phenol
Pyrene	Pyridine	

SVOCs were detected in four of the six samples. Six compounds were detected, benzo(a)anthracene, benzo(a)pyrene, benzoic acid, chrysene, flouranthene, and pyrene. All of the detections were below project screening levels except for benzo(a)pyrene in the sample from Boring B-5 at a depth of 0.5 feet. In this sample the detection level was 88 ug/kg , which is slightly above the project screening level of 62 ug/kg. However, this result was given a J flag by the data validators, and this compound was also part of the PAH analysis by EPA method 8310. The result from the PAH analyses was 22 ug/kg, and this value was not flagged by the validators, and should be considered a more reliable value.

It should be noted once again that these compounds are heavy petroleum products and detected concentrations could result from asphalt fragments in the samples.

Poly Aromatic Hydrocarbons

All seven soil samples collected from the Site were submitted for PAH analysis by EPA Method (Table 3). This analysis includes the following 16 compounds:

Acenaphthene	Acenaphthylene	Anthracene
Benzo(a)anthracene	Benzo(b)fluoranthene	Benzo(k)fluoranthene
Benzo(g,h,i)perylene	Benzo(a)pyrene	Chrysene
Dibenzo(a,h)anthracene	Fluoranthene	Fluorene
Indeno(1,2,3-cd)pyrene	Naphthalene	Phenanthrene
Pyrene.		

PAHs were detected in four of the six samples. Twelve compounds were detected, anthracene, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, benzo(g,h,i)perylene, benzo(a)pyrene, chrysene, fluoranthene, indeno(1,2,3-cd)pyrene, phenanthrene, and pyrene. All of the dectecttion levels were below the project screening levels except for the results for benzo(a)pyrene from the sample collected from Boring B-1 at a depth of 0.5 feet. This result was 340 ug/kg compared to the project screening level of 62 ug/kg.

It should be noted once again that these compounds are heavy petroleum products and detected concentrations could result from asphalt fragments in the samples.

Poly Chlorinated Biphenyls Compounds

All seven soil samples collected from the Site were submitted for PCB analysis by EPA Method 8260B (Table 4). This analysis includes the following 7 compounds:

Aroclor-1016	Aroclor-1221	Aroclor-1232
Aroclor-1242	Aroclor-1248	Aroclor-1254
Aroclor-1260		

None of these compounds were detected in any of the samples collected at the site.

Title 22 Metals

All seven soil samples collected from the Site were submitted for Metals analysis by EPA Method 6010B/7000 (Table 5). This analysis includes the following 17 metals:

Antimony	Arsenic	Barium	Beryllium
Cadmium	Chromium	Cobalt	Copper
Lead	Mercury	Molybdenum	Nickel
Selenium	Silver	Thallium	Vanadium

Zinc.

Metals were detected in all of the samples collected at the site. Twelve metals were detected in the samples, arsenic, barium, beryllium, chromium, cobalt, copper, lead, molybdenum, selenium, nickel, vanadium, and zinc. All of the metals were below project screening level except arsenic. All six arsenic results were above the project screening levels, however arsenic is known to typically occur naturally at concentrations above the project screening level of 0.39 mg/kg. The levels of arsenic detected in the soil samples collected at Site 12 (1.4 to 5.9 mg/kg) are within the range that is expected for uncontaminated soils in the Point Loma area.

How do PSLs rel to values in dBCS curr under rev.

All the soil samples were also analyzed for cyanide by EPA method 9012. Cyanide was not detected in any of the six soil samples. The cyanide results are also included in Table 6.

6.3 Data Evaluation and Usability

This section presents the various elements associated with the assessment of the laboratory data generated in connection with soil data collected on July 18, 2003 at IR Site 12. The data were verified and validated to assure that they met the data quality objectives for the project and to assess data usability issues, if any that may prevent its inclusion in the decision-making process.

Data verification included proofreading and editing hard copy data reports to assure that data correctly represented the analytical measurement, identifying any nontechnical errors in the data package for correction (e.g., typographical errors), and verifying that the sample identifiers on laboratory reports (hard copy) matched those on the chain-of-custody record.

Subsequent to verification, the data were validated by an independent contractor (Laboratory Data Consultants Inc.). Validation was performed under the Naval Facilities Engineering Service Center (NFESC) Level III and IV guidelines. For IR Site 12, data validation was performed to Level III criteria on 90% of the data, and Level IV on 10% of the data. Both levels of validation include the review of laboratory quality control summaries (blank, calibrations, spike recoveries, duplicates, etc.). Level IV process incorporates a review of raw data including chromatograms and quantitation reports. This additional information is utilized in the Level IV data validation process for checking calculations of quantified analytical data.

Data that did not meet the applicable validation criteria were flagged with the following data qualifiers:

U – Indicates the compound or analyte was analyzed for but not detected at or above the associated detection limit.

J – The associated value is an estimated quantity.

UJ – Indicates the compound or analyte was analyzed for but was not detected. The associated detection limit is an estimated value.

R – The data are unusable.

6.3.1 Data Validation Results

Data validation reports were reviewed by the PWC Code 980 Quality Assurance Manager to determine the effect of assigned validation qualifiers to the project decisions. Adherence to field protocols was also reviewed for an overall assessment of data usability. The results of any significant findings through the independent data validation and internal data evaluation processes are summarized below. Data validation reports are presented in Appendix D.

Volatile Organic Compounds - VOCs (EPA 8260B)

Review of data validation results for VOC analyses shows that methylene chloride and acetone detected in some of the environmental samples are likely the result of laboratory contamination. Based on the data validation criteria, sample results greater than ten times (common laboratory contaminants) the associated blank concentration (i.e., laboratory blanks and/or field blanks) were qualified as non-detect 'U". More specifically, any concentration values reported below the reporting limit and meeting this criterion were raised to the reporting limit and qualified as non-detect 'U". Concentrations greater than the reporting limit and less than five times the associated blank concentration were qualified as non-detect 'U" at the reported value. Except for acetone, bromomethane, methylene chloride, naphthalene, 1,2,3-trichloropropane, naphthalene, and 1,2,2-trichlorobenzene, all target analytes were within the method and laboratory data quality criteria for VOCs. These analytes have been qualified in some samples as estimated "J" on the basis of continuing calibration parameters (i.e., % D and RRFs). The internal standard for one sample (S12-XDMWK8-038) was outside the validation criteria. According to method criteria, the sample was rerun with similar results except for the dichlorodifluoromethane concentration, which was higher on the original run (80 ug/Kg versus 30 ug/Kg). The higher concentration has been reported. Additionally, analytes associated with the internal standard have been qualified as estimated "J".

Semivolatile Organic Compounds - SVOCs (EPA 8270C)

Review of data validation results for SVOC analyses shows that phthalates detected in some of the environmental samples are likely the result of laboratory contamination. Based on the data validation criteria, sample results greater than ten times (common laboratory contaminant) the associated method blank concentration were qualified as non-detect 'U". More specifically, any concentration values reported below the reporting limit and meeting this criterion were raised to the reporting limit and qualified as non-detect 'U". Concentrations greater than the reporting limit and less than ten times

the associated blank concentration were qualified as non-detect 'U" at the reported value. The detection of these compounds in the field blank samples were also qualified as non detect 'U". Positive results for two samples (S12-XDMWK8-037 and S12-XDMWK8-038) were qualified as estimated "J" due to sample surrogates and/or internal standards being outside the data validation criteria. Some of the qualified values are also considered estimates because they are below the reporting limits. As a result of poor spike recovery for benzidine in the laboratory control sample (LCS), all sample results for this analyte have been qualified as estimated "J".

Polynuclear Aromatic Hydrocarbons - PAHs (EPA 8310)

Review of data validation results for PAH indicates that all quality control parameters were within the data validation criteria for samples collected from Site 12. With the exception of one sample (S12XDMWK8-032), all samples were reported undiluted. The detection of some PAHs above the linear calibration range resulted in the dilution of this sample. In order to provide the lowest RLs, the unaffected target analytes (either non-detect or low concentration within calibration range) were reported from the analysis of the undiluted aliquot.

Gasoline Range Organics (EPA 8015M)

Review of data validation results for gasoline range organics indicates that all quality control parameters were within the data validation criteria for samples collected from Site 12. All sample results are considered valid and useable without data qualification.

Diesel Range Organics (EPA 8015M)

With the exception of surrogate percent recoveries, all quality control parameters were within the data validation criteria. The oil-range surrogate spike recovery for one sample (S12-XDMWK8-034) was reported above the upper control limit. The oil-range concentration reported for this sample was qualified as estimated J and should be considered biased high. It should be noted that all sample concentrations reported for diesel and oil-range organics were flagged by the laboratory as having a chromatographic pattern partially similar to oil and not characteristic of diesel.

1,4-Dioxane (EPA 8015)

Review of data validation results for 1,4-dioxane indicates that all quality control parameters were within the data validation criteria for samples collected from Site 12. All sample results are considered valid and useable without data qualification.

Polychlorinated Biphenyls – PCBs (EPA Method 8082)

Review of data validation results associated with PCB analyses indicates that all quality control parameters were within the validation criteria. All sample results are considered valid and useable without data qualification.

Metals Analysis (EPA 6010/7471A)

Trace concentrations of some metals were detected in the laboratory method blanks. Based on data validation criteria and the evaluation of blank concentrations with respect to their associated environmental samples including field and equipment blanks, positive sample results with concentrations less than five times the associated blank concentration have been qualified as non-detect "U". Based on this evaluation, associated positive antimony and beryllium concentrations have been qualified as non-detect "U". No other metals were qualified on this basis. Antimony concentrations in all samples have been also qualified as estimated "J" due to low matrix spike percent recoveries. Other metals such as arsenic, molybdenum, selenium, and thallium have been qualified as estimated based on the lack of these analytes in the ICP interference check sample (ICASAB).

Cyanide (EPA 9012A)

Review of data validation results associated with cyanide analyses indicates that all quality control parameters were within the validation criteria. All sample results are considered valid and useable without data qualification

6.3.2 Data Usability

Based on data validation results, minor discrepancies were noted in laboratory QC samples. A through review of the data, however, indicate that these discrepancies do not adversely affect the quality, validity, usability, and overall data interpretation presented in this report. Therefore, the data presented herein is considered valid and usable as indicated by their specific qualifiers.

7.0 CONCLUSIONS

In areas of uncontrolled waste disposal there is always uncertainty about the types of substances that were disposed, and specifically whether or not hazardous waste was included with the landfill materials. The purpose of this investigation was to provide an assessment of the potential presence of hazardous chemicals in the waste and associated soils at Site 12. The volume, composition, and relative heterogeneity of the fill were assessed. This was supplemented by collecting samples representative of soils associated with the waste. Some relatively minor indications of hazardous chemicals were detected, however the overall character of the waste is of construction debris that is free of hazardous waste. The data support the initial assessment that the site was used for the disposal of non-hazardous construction debris.

Concur w/ sampling done but still rec. add clear @ dg end of Canyon

The character of the waste disposed at the site was evaluated through a review of previous investigations and historical aerial photos, a geophysical investigation, and site observations. These data indicate a thin layer of fill, which is more concentrated near the top, and extends along the north and south flanks of the canyon. The area of debris disposal is approximately a half-acre. Using an estimate of an average of two feet of fill,

the volume of waste would be 1,700 cubic yards. The fill was placed some time between 1970 and 1982, is relatively homogenous, and most appears to be from a single source. Pieces of broken concrete dominate the composition of the fill. The evidence is that the site was not used to dispose of hazardous materials.

Visual opinion or based on anal. data

The Navy collected soil samples representative of fill, and analyzed the samples for the presence of hazardous chemicals. Due to the large amount of debris present in the fill, we were unable to collect samples deeper than the upper one foot for most of the fill. However, based on our evaluation of the fill as relatively shallow and homogenous, these provide a good indicator of presence of chemicals at the site. Most compounds were not detected in any of the samples. Detection limits were all below the site screening levels (PWC, 2002), which are based on EPA Region IX Residential Preliminary Remediation Goals (PRGs). Metals were detected, but were below site screening levels except for arsenic. Based on our experience the concentrations of all of the metals, including arsenic, were in the range expected for uncontaminated soils in the Point Loma Area. The only other compounds detected above the project screening levels were TPH-d in one sample, and benzo(a)pyrene in two samples, with the level of detection in one sample suspect. These results may be due to asphalt incorporated into the soil. One of the samples was collected near a can that may have potentially contained chemicals, and is very untypical of the makeup of the fill. Given the relatively low concentrations and low number of compounds detected, these results further support the conclusion this area was filled with non-hazardous debris. The few chemicals detected were at concentrations that may be typically found in surface soils within any urban area. The soil sample results further corroborate the conclusion that hazardous waste was not included in the fill.

8.0 RECOMENDATIONS

Based on the results of this and previous investigations the Navy recommends no further action for Site 12. Debris remains present on the Site, but it does not appear to contain any significant amount of hazardous chemicals. Future circumstances may lead to the removal or disturbance of the debris. In such an event the Navy recognizes its responsibility to further evaluate the nature of the debris present at the site. However, continued administration of the site under the Installation Restoration program is not necessary for this to occur. The Navy is continually monitoring its bases and activities for potential environmental problems, which are reported and addressed as they are encountered. Therefore Site 12 should be removed from the IR program.

Do not concur. Rec. dg smplg; vertical prof of cuts gene below outlet, & a mem of one more IP a dg end.

9.0 REFERENCES

Kern, P. J., 1977, Origin and History of upper Pleistocene marine terraces, San Diego, California, Geological Society of America Bulletin, v. 88, pp 1553-1566, November.

NEESA, 1986, Initial Assessment Study of Point Loma Naval Complex and Naval Hospital, San Diego, California, May.

PWC, 2002, Workplan For Screening Soils For Hazardous Waste, At Rubble Sites Point Loma Naval Complex, September 24.

Zonge, 2001, IP/Resistivity Survey Point Loma, U. S. Naval Base San Diego, June20.

Zonge, 1999, Down in the dumps: landfill characterization with an extremely fast IP method: workshop notes from the Symposium on the Application of Geophysics to Engineering and Environmental Problems, March 15, 1999, Oakland, California. [

Table 1 TPH Results (mg/kg)

ANALYTE	Project Screening Levels	S12XDMWK8-032[a] B-1[b] 0.5[c]	S12XDMWK8-033[a] B-2[b] 0.5[c]	S12XDMWK8-034[a] B-3[b] 1.0[c]	S12XDMWK8-035[a] B-4[b] 0.5[c]	S12XDMWK8-036[a] B-4[b] 3.0[c]	S12XDMWK8-037[a] B-5[b] 0.5[c]	S12XDMWK8-038[a] B-6[b] 0.5[c]
Diesel Range Organics	100	**18**	**20**	**1200**	11U	10U	**20**	**47**
Gasoline Range Organics	10	5.2U	5U	5.1U	5.6U	5.7U	5.3U	5.8U
Motor Oil Range	--	**110**	**120**	**190J**	**140**	41U	**730**	**1400**

Notes:

a - Sample ID

b - Boring Location

c - Sample Depth (feet)

Results in bold exceed the reporting limits

Results with highlighted cells exceed the project-specific threshold level

Acronyms/Abbreviations:

All results reported in mg/kg - milligrams per kilogram

U - not detected at or above stated reporting limit

J - estimated value

UJ - not detected at or above estimated reporting limit

NA - Not Analyzed

"--" - No Project Screening Level established

Table 2 VOC Results (ug/kg)

ANALYTE	Project Screening Levels	S12XDMWK8-032[a] B-1[b] 0.5[c]	S12XDMWK8-033[a] B-2[b] 0.5[c]	S12XDMWK8-034[a] B-3[b] 1.0[c]	S12XDMWK8-035[a] B-4[b] 0.5[c]	S12XDMWK8-036[a] B-4[b] 3.0[c]	S12XDMWK8-037[a] B-5[b] 0.5[c]	S12XDMWK8-038[a] B-6[b] 0.5[c]
1,1,1,2-TETRACHLOROETHANE	3000	3U	3U	3U	3U	3U	3U	4U
1,1,1-TRICHLOROETHANE	630000	3U	3U	3U	3U	3U	3U	4U
1,1,2,2-TETRACHLOROETHANE	380	3U	3U	3U	3U	3U	3U	4UJ
1,1,2-TRICHLOROETHANE	840	3U	3U	3U	3U	3U	3U	4U
1,1-DICHLOROETHANE	3300	3U	3U	3U	3U	3U	3U	4U
1,1-DICHLOROETHENE	54	3U	3U	3U	3U	3U	3U	4U
1,1-DICHLOROPROPENE	--	3U	3U	3U	3U	3U	3U	4U
1,2,3-TRICHLOROBENZENE	--	3U	3U	3U	3U	3U	3U	4U
1,2,3-TRICHLOROPROPANE	1.4	3U	3U	3U	3U	3U	3U	4UJ
1,2,4-TRICHLOROBENZENE	650000	3U	3U	3U	3U	3U	3U	4UJ
1,2,4-TRIMETHYLBENZENE	52000	3U	3U	3U	3U	3U	3U	4UJ
1,2-DIBROMOETHANE	7	3U	3U	3U	3U	3U	3U	4U
1,2-DICHLOROBENZENE	900000	3U	3U	3U	3U	3U	3U	4UJ
1,2-DICHLOROETHANE	350	3U	3U	3U	3U	3U	3U	4U
1,2-DICHLOROPROPANE	350	3U	3U	3U	3U	3U	3U	4U
1,3,5-TRIMETHYLBENZENE	21000	3U	3U	3U	3U	3U	3U	4UJ
1,3-DICHLOROBENZENE	13000	3U	3U	3U	3U	3U	3U	4UJ
1,3-DICHLOROPROPANE	--	3U	3U	3U	3U	3U	3U	4U
1,4 DIOXANE	--	9900U	9800U	10000U	12000U	11000U	10000U	14000U
1,4-DICHLOROBENZENE	34000	3U	3U	3U	3U	3U	3U	4UJ
2,2-DICHLOROPROPANE	100	3U	3U	3U	3U	3U	3U	4U
2-BUTANONE	7300000	11U	10U	11U	11U	11U	10U	12U
2-CHLOROTOLUENE	--	3U	3U	3U	3U	3U	3U	4UJ
2-HEXANONE	--	11U	10U	11U	11U	11U	10U	12U
4 METHYL-2-PENTANONE	790000	11U	10U	11U	11U	11U	10U	12U
4-CHLOROTOLUENE	--	3U	3U	3U	3U	3U	3U	4UJ
4-ISOPROPYLTOLUENE	--	3U	3U	3U	3U	3U	3U	4U
ACETONE	1600000	11UJ	10UJ	11UJ	11UJ	11UJ	10UJ	12UJ
BENZENE	650	3U	3U	3U	3U	3U	3U	4U

Table 2 VOC Results (ug/kg)

ANALYTE	Project Screening Levels	S12XDMWK8-032[a] B-1[b] 0.5[c]	S12XDMWK8-033[a] B-2[b] 0.5[c]	S12XDMWK8-034[a] B-3[b] 1.0[c]	S12XDMWK8-035[a] B-4[b] 0.5[c]	S12XDMWK8-036[a] B-4[b] 3.0[c]	S12XDMWK8-037[a] B-5[b] 0.5[c]	S12XDMWK8-038[a] B-6[b] 0.5[c]
BROMOBENZENE	28000	3U	3U	3U	3U	3U	3U	4UJ
BROMOCHLOROMETHANE	--	3U	3U	3U	3U	3U	3U	4U
BROMODICHLOROMETHANE	1000	3U	3U	3U	3U	3U	3U	4U
BROMOFORM	62000	3U	3U	3U	3U	3U	3U	4U
BROMOMETHANE	39000	3U	3U	3U	3U	3U	3U	4UJ
CARBON DISULFIDE	360000	3U	3U	3U	3U	3U	3U	4U
CARBON TETRACHLORIDE	240	3U	3U	3U	3U	3U	3U	4U
CHLOROBENZENE	150000	3U	3U	3U	3U	3U	3U	4U
CHLOROETHANE	3000	3U	3U	3U	3U	3U	3U	4U
CHLOROFORM	240	3U	3U	3U	3U	3U	3U	4U
CHLOROMETHANE	1200	3U	3U	3U	3U	3U	3U	4U
CIS-1,3-DICHLOROPROPENE	43000	3U	3U	3U	3U	3U	3U	4U
DIBROMOCHLOROMETHANE	1100	3U	3U	3U	3U	3U	3U	4U
DIBROMOMETHANE	--	3U	3U	3U	3U	3U	3U	4U
DICHLORODIFLUOROMETHANE	94000	**14**	**18**	**2J**	**8**	**4**	**13**	**80**
ETHYLBENZENE	1500000	3U	3U	3U	3U	3U	3U	4U
HEXACHLOROBUTADIENE	6200	3U	3U	3U	3U	3U	3U	4U
ISOPROPYLBENZENE	160000	3U	3U	3U	3U	3U	3U	4U
M,P-XYLENE	--	3U	3U	3U	3U	3U	3U	4U
METHYLENE CHLORIDE	8900	3UJ	3UJ	3UJ	3UJ	3UJ	3UJ	11UJ
NAPHTHALENE	56000	3U	3U	3U	3U	3U	3U	4UJ
N-BUTYLBENZENE	140000	3U	3U	3U	3U	3U	3U	4U
N-PROPYLBENZENE	140000	3U	3U	3U	3U	3U	3U	4UJ
O-XYLENE	--	3U	3U	3U	3U	3U	3U	4U
SEC-BUTYLBENZENE	110000	3U	3U	3U	3U	3U	3U	4U
STYRENE	1700000	3U	3U	3U	3U	3U	3U	4U
TERT-BUTYLBENZENE	130000	3U	3U	3U	3U	3U	3U	4U
TETRACHLOROETHENE	19000	3U	3U	3U	3U	3U	3U	4U
TOLUENE	590000	3U	3U	3U	3U	3U	3U	4U

Table 2 VOC Results (ug/kg)

ANALYTE	Project Screening Levels	S12XDMWK8-032[a] B-1[b] 0.5[c]	S12XDMWK8-033[a] B-2[b] 0.5[c]	S12XDMWK8-034[a] B-3[b] 1.0[c]	S12XDMWK8-035[a] B-4[b] 0.5[c]	S12XDMWK8-036[a] B-4[b] 3.0[c]	S12XDMWK8-037[a] B-5[b] 0.5[c]	S12XDMWK8-038[a] B-6[b] 0.5[c]
TRANS-1,2-DICHLOROETHENE	63000	3U	3U	3U	3U	3U	3U	4U
TRANS-1,3-DICHLOROPROPENE	700	3U	3U	3U	3U	3U	3U	4U
TRICHLOROETHENE	2800	3U	3U	3U	3U	3U	3U	4U
TRICHLOROFLUOROMETHANE	390000	3U	3U	3U	3U	3U	3U	**2J**
VINYL CHLORIDE	150	3U	3U	3U	3U	3U	3U	4U

Notes:

a - Sample ID

b - Boring Location

c - Sample Depth (feet)

Results in bold exceed the reporting limits

Results with highlighted cells exceed the project-specific threshold level

Acronyms/Abbreviations:

All results reported in ug/kg - micrograms per kilogram

U - not detected at or above stated reporting limit

J - estimated value

UJ - not detected at or above estimated reporting limit

NA - Not Analyzed

"--" - No Project Screening Level established

Table 3 SVOC Results (ug/kg)

ANALYTE	Project Screening Levels	S12XDMWK8-032[a] B-1[b] 0.5[c]	S12XDMWK8-033[a] B-2[b] 0.5[c]	S12XDMWK8-034[a] B-3[b] 1.0[c]	S12XDMWK8-035[a] B-4[b] 0.5[c]	S12XDMWK8-036[a] B-4[b] 3.0[c]	S12XDMWK8-037[a] B-5[b] 0.5[c]	S12XDMWK8-038[a] B-6[b] 0.5[c]
1,2,4-TRICHLOROBENZENE	650000	340U	340U	350U	350U	340U	350U	710U
1,2-DICHLOROBENZENE	900000	340U	340U	350U	350U	340U	350U	710U
1,3-DICHLOROBENZENE	13000	340U	340U	350U	350U	340U	350U	710U
1,4-DICHLOROBENZENE	3400	340U	340U	350U	350U	340U	350U	710U
2,4,5-TRICHLOROPHENOL	6100000	340U	340U	350U	350U	340U	350U	710U
2,4,6-TRICHLOROPHENOL	44000	340U	340U	350U	350U	340U	350U	710U
2,4-DICHLOROPHENOL	180000	340U	340U	350U	350U	340U	350U	710U
2,4-DIMETHYLPHENOL	1200000	340U	340U	350U	350U	340U	350U	710U
2,4-DINITROPHENOL	120000	340U	340U	350U	350U	340U	350U	710U
2,4-DINITROTOLUENE	120000	340U	340U	350U	350U	340U	350U	710U
2,6-DINITROTOLUENE	61000	340U	340U	350U	350U	340U	350U	710U
2-CHLORONAPHTHALENE	3900000	340U	340U	350U	350U	340U	350U	710U
2-CHLOROPHENOL	63000	340U	340U	350U	350U	340U	350U	710U
2-METHYLNAPHTHALENE	--	340U	340U	350U	350U	340U	350U	710U
2-NITROANILINE	3500	340U	340U	350U	350U	340U	350U	710U
2-NITROPHENOL	--	340U	340U	350U	350U	340U	350U	710U
3,3'-DICHLOROBENZIDINE	1100	340U	340U	350U	350U	340U	350UJ	710UJ
3-NITROANILINE	--	340U	340U	350U	350U	340U	350U	710U
4,6-DINITRO-2-METHYLPHENOL	--	340U	340U	350U	350U	340U	350U	710U
4-BROMOPHENYL PHENYL ETHER	--	340U	340U	350U	350U	340U	350U	710U
4-CHLORO-3-METHYLPHENOL	--	340U	340U	350U	350U	340U	350U	710U
4-CHLOROANILINE	240000	340U	340U	350U	350U	340U	350U	710U
4-CHLOROPHENYL-PHENYLETHER	--	340U	340U	350U	350U	340U	350U	710U
4-METHYLPHENOL	--	340U	340U	350U	350U	340U	350U	710U
4-NITROANILINE	--	340U	340U	350U	350U	340U	350U	710U
4-NITROPHENOL	490000	340U	340U	350U	350U	340U	350U	710U
ACENAPHTHENE	3700000	340U	340U	350U	350U	340U	350U	710U
ACENAPHTHYLENE	--	340U	340U	350U	350U	340U	350U	710U
ANILINE	--	340U	340U	350U	350U	340U	350U	710U

Table 3 SVOC Results (ug/kg)

ANALYTE	Project Screening Levels	S12XDMWK8-032[a] B-1[b] 0.5[c]	S12XDMWK8-033[a] B-2[b] 0.5[c]	S12XDMWK8-034[a] B-3[b] 1.0[c]	S12XDMWK8-035[a] B-4[b] 0.5[c]	S12XDMWK8-036[a] B-4[b] 3.0[c]	S12XDMWK8-037[a] B-5[b] 0.5[c]	S12XDMWK8-038[a] B-6[b] 0.5[c]
ANTHRACENE	21900000	340U	340U	350U	350U	340U	350U	710U
BENZ(A)ANTHRACENE	620	340U	340U	350U	350U	340U	**93J**	710UJ
BENZIDINE	--	340UJ	340UJ	350UJ	350UJ	340UJ	350UJ	710UJ
BENZO(A)PYRENE	62	340U	340U	350U	350U	340U	**88J**	710UJ
BENZO(B)FLUORANTHENE	620	340U	340U	350U	350U	340U	190J	710UJ
BENZO(G,H,I)PERYLENE	--	340U	340U	350U	350U	340U	350U	710U
BENZO(K)FLUORANTHENE	6200	340U	340U	350U	350U	340U	350UJ	710UJ
BENZOIC ACID	--	**49J**	**43J**	350UJ	**74J**	340UJ	**50J**	110J
BENZYL ALCOHOL	--	340U	340U	350U	350U	340U	350U	710U
BIS(2-CHLOISOPOPYL) ETHER	--	340U	340U	350U	350U	340U	350U	710U
BIS(2-CHLOROETHOXY)METHANE	--	340U	340U	350U	350U	340U	350U	710U
BIS(2-CHLOROETHYL)ETHER	620	340U	340U	350U	350U	340U	350U	710U
BIS(2-ETHYLHEXYL)PHTHALATE	35000	340U	340U	350U	350U	340U	350UJ	710UJ
BUTYLBENZYLPHTHALATE	12200000	340U	340U	350U	350U	340U	350UJ	710UJ
CARBOZOLE	--	340U	340U	350U	350U	340U	350UJ	710UJ
CHRYSENE	62000	340U	340U	350U	350U	340U	**110J**	**54J**
DIBENZ(A,H)ANTHRACENE	62	340U	340U	350U	350U	340U	350UJ	710UJ
DIBENZOFURAN	290000	340U	340U	350U	350U	340U	350U	710U
DIETHYLPHTHALATE	48900000	340U	340U	350U	350U	340U	350UJ	710UJ
DIMETHYLPHTHALATE	611000000	340U	340U	350U	350U	340U	350U	710U
DI-N-BUTYL PHTHALATE	--	340U	340U	350U	350U	340U	350U	710U
DI-N-OCTYL PHTHALATE	1200000	340U	340U	350U	350U	340U	350UJ	710UJ
FLUORANTHENE	2300000	340U	340U	350U	350U	340U	**140J**	710U
FLUORENE	2600000	340U	340U	350U	350U	340U	350U	710U
HEXACHLOROBENZENE	300	340U	340U	350U	350U	340U	350U	710U
HEXACHLOROBUTADIENE	6200	340U	340U	350U	350U	340U	350U	710U
HEXACHLOROCYCLOPENTADIENE	420000	340U	340U	350U	350U	340U	350U	710U
HEXACHLOROETHANE	35000	340U	340U	350U	350U	340U	350U	710U
INDENO(1,2,3-CD)PYRENE	620	340U	340U	350U	350U	340U	350UJ	710UJ

Table 3 SVOC Results (ug/kg)

ANALYTE	Project Screening Levels	S12XDMWK8-032[a] B-1[b] 0.5[c]	S12XDMWK8-033[a] B-2[b] 0.5[c]	S12XDMWK8-034[a] B-3[b] 1.0[c]	S12XDMWK8-035[a] B-4[b] 0.5[c]	S12XDMWK8-036[a] B-4[b] 3.0[c]	S12XDMWK8-037[a] B-5[b] 0.5[c]	S12XDMWK8-038[a] B-6[b] 0.5[c]
ISOPHORONE	510000	340U	340U	350U	350U	340U	350U	710U
NAPHTHALENE	56000	340U	340U	350U	350U	340U	350U	710U
NITROBENZENE	20000	340U	340U	350U	350U	340U	350U	710U
N-NITROSODIMETHYLAMINE	--	340U	340U	350U	350U	340U	350U	710U
N-NITROSO-DI-N-PROPYLAMINE	69	340U	340U	350U	350U	340U	350U	710U
N-NITROSODIPHENYLAMINE	99000	340U	340U	350U	350U	340U	350U	710U
PENTACHLOROPHENOL	3000	340U	340U	350U	350U	340U	350U	710U
PHENOL	39700000	340U	340U	350U	350U	340U	350U	710U
PYRENE	2300000	340U	340U	350U	350U	340U	240J	**48J**
PYRIDINE	--	2100U	2000U	2100U	2100U	2000U	2100U	4300U

Notes:

a - Sample ID

b - Boring Location

c - Sample Depth (feet)

Results in bold exceed the reporting limits

Results with highlighted cells exceed the project-specific threshold level

Acronyms/Abbreviations:

All results reported in ug/kg - micrograms per kilogram

U - not detected at or above stated reporting limit

J - estimated value

UJ - not detected at or above estimated reporting limit

NA - Not Analyzed

"--" - No Project Screening Level established

Table 4 PAH Results (ug/kg)

ANALYTE	Project Screening Levels	S12XDMWK8-032[a] B-1[b] 0.5[c]	S12XDMWK8-033[a] B-2[b] 0.5[c]	S12XDMWK8-034[a] B-3[b] 1.0[c]	S12XDMWK8-035[a] B-4[b] 0.5[c]	S12XDMWK8-036[a] B-4[b] 3.0[c]	S12XDMWK8-037[a] B-5[b] 0.5[c]	S12XDMWK8-038[a] B-6[b] 0.5[c]
Acenaphthene	3700000	110U	110U	110U	210U	140U	110U	210U
Acenaphthylene	--	110U	110U	110U	210U	140U	110U	210U
Anthracene	21900000	**94**	11U	11U	21U	140U	**1.3J**	21U
Benz(a)antracene	620	**450**	11U	11U	21U	14U	**11**	21U
Benzo(a)pyrene	62	**340**	**7.7J**	11U	21U	14U	**22**	29U
Benzo(b)fluoranthene	620	**280J**	**5.4J**	21U	42U	**2.5J**	**17J**	42U
Benzo(g,h,i)perylene	--	**170J**	21U	21U	42U	28U	**53**	42U
Benzo(k)fluoranthene	620	**190J**	11U	11U	21U	14U	**15**	28U
Chrysene	62000	**490**	11U	11U	21U	14U	**20**	21U
Dibenz(a,h)anthracene	62	27U	21U	21U	42U	28U	21U	42U
Fluoranthene	2300000	**1400**	**19J**	21U	42U	28U	**32**	**24**
Fluorene	2600000	16J	21U	21U	42U	28U	21U	42U
Indeno(1,2,3-cd)pyrene	620	**110**	11U	11U	21U	14U	11U	21U
Naphthalene	56000	110U	110U	110U	210U	140U	110U	210U
Phenanthrene	--	430U	**7J**	11U	21U	14U	**9.3J**	**69**
Pyrene	2300000	**1200**	**16J**	21U	42U	28U	**27**	**66**

Notes:

a - Sample ID

b - Boring Location

c - Sample Depth (feet)

Results in bold exceed the reporting limits

Results with highlighted cells exceed the project-specific threshold level

Acronyms/Abbreviations:

All results reported in ug/kg - micrograms per kilogram

U - not detected at or above stated reporting limit

J - estimated value

UJ - not detected at or above estimated reporting limit

NA - Not Analyzed

"--" - No Project Screening Level established

Table 5 PCB Results (mg/kg)

ANALYTE	Project Screening Levels	S12XDMWK8-032[a] B-1[b] 0.5[c]	S12XDMWK8-033[a] B-2[b] 0.5[c]	S12XDMWK8-034[a] B-3[b] 1.0[c]	S12XDMWK8-035[a] B-4[b] 0.5[c]	S12XDMWK8-036[a] B-4[b] 3.0[c]	S12XDMWK8-037[a] B-5[b] 0.5[c]	S12XDMWK8-038[a] B-6[b] 0.5[c]
AROCLOR-1016	39000	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U
AROCLOR-1221	220	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U
AROCLOR-1232	220	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U
AROCLOR-1242	220	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U
AROCLOR-1248	220	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U
AROCLOR-1254	220	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U
AROCLOR-1260	220	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U

Notes:

a - Sample ID

b - Boring Location

c - Sample Depth (feet)

Results in bold exceed the reporting limits

Results with highlighted cells exceed the project-specific threshold level

Acronyms/Abbreviations:

All results reported in mg/kg - milligrams per kilogram

U - not detected at or above stated reporting limit

J - estimated value

UJ - not detected at or above estimated reporting limit

NA - Not Analyzed

"--" - No Project Screening Level established

Table 6 Metals Results (mg/kg)

ANALYTE	Project Screening Levels	S12XDMWK8-032[a] B-1[b] 0.5[c]	S12XDMWK8-033[a] B-2[b] 0.5[c]	S12XDMWK8-034[a] B-3[b] 1.0[c]	S12XDMWK8-035[a] B-4[b] 0.5[c]	S12XDMWK8-036[a] B-4[b] 3.0[c]	S12XDMWK8-037[a] B-5[b] 0.5[c]	S12XDMWK8-038[a] B-6[b] 0.5[c]
Antimony	31	0.4UJ	0.3UJ	0.2UJ	0.4UJ	0.4UJ	0.4UJ	0.4UJ
Arsenic	0.39	3.3J	2.7J	1.6J	1.5J	1.4J	7J	5.9J
Barium	5400	**45.2**	**44.8**	**30.1**	**23.7**	**31**	**87.6**	**93.5**
Beryllium	150	0.01UJ	0.5U	0.5U	0.5U	0.5U	**0.14J**	**0.09J**
Cadmium	9	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U
Chromium	64	**12.6**	**9.2**	**5.9**	**6.2**	**9.2**	**10.5**	**13**
Cobalt	4700	**5.2**	**3.9**	**2.5**	**3.4**	**3.8**	**4.5**	**5.8**
Copper	2900	**6**	**5**	**3**	**3**	**4**	**8**	**9**
Cyanide	11	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U
Lead	130	**6.1**	**10.9**	**3.8**	**3.5**	**10.7**	**17.1**	**17.9**
Mercury	23	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.03J
Molybdenum	390	**0.23J**	**0.23J**	**0.16J**	**0.12J**	**0.19J**	**0.22J**	**0.2J**
Nickel	1600	**5.8**	**3.6**	**2.2**	**2.4**	**3.1**	**5**	**5.7**
Selenium	390	0.5UJ	0.5UJ	0.5UJ	0.5UJ	0.5UJ	**0.2J**	0.5UJ
Silver	390	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U	0.5U
Thallium	5.2	1UJ	1UJ	1UJ	1UJ	1UJ	1UJ	1UJ
Vanadium	550	**35.5**	**28.3**	**20**	**18.8**	**22.2**	**23.8**	**33.9**
Zinc	23000	**29**	**27**	**13**	**28**	**31**	**33**	**39**

Notes:

a - Sample ID

b - Boring Location

c - Sample Depth (feet)

Results in bold exceed the reporting limits

Results with highlighted cells exceed the project-specific threshold level

Acronyms/Abbreviations:

All results reported in mg/kg - milligrams per kilogram

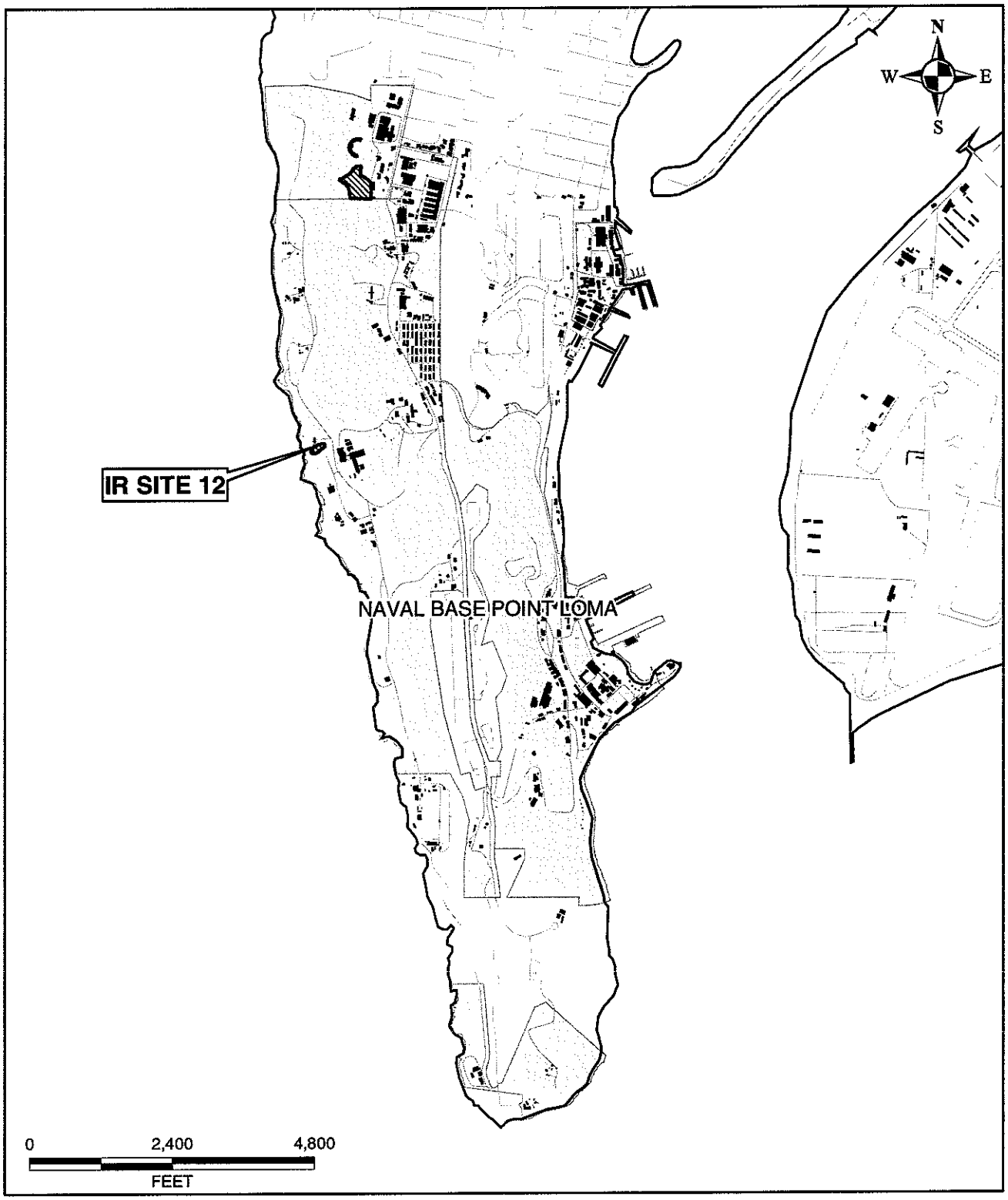
U - not detected at or above stated reporting limit

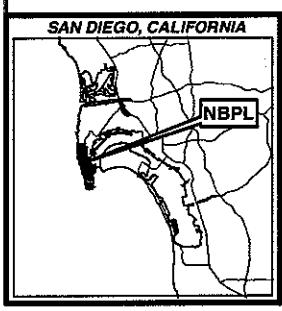
J - estimated value

UJ - not detected at or above estimated reporting limit

NA - Not Analyzed

"--" - No Project Screening Level established





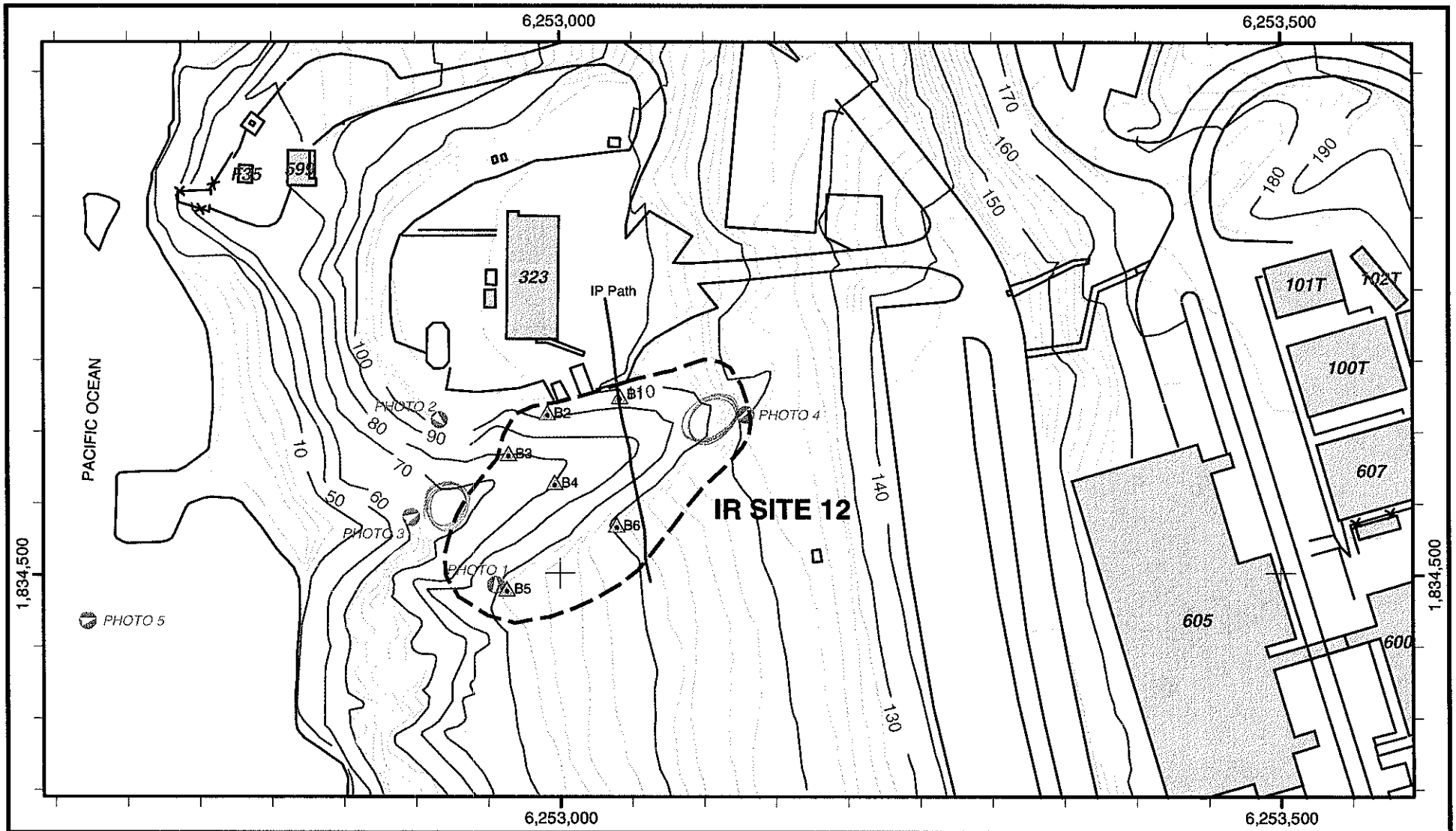
SITE LOCATION MAP

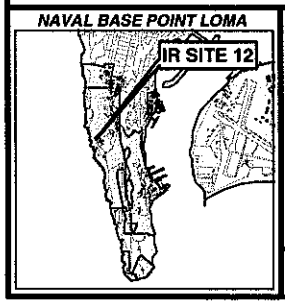
IR SITE 12
NAVAL BASE POINT LOMA
SAN DIEGO, CA

NAVY PUBLIC WORKS CENTER
ENVIRONMENTAL DEPARTMENT
2730 MCKEAN STREET
SAN DIEGO, CALIFORNIA 92136

DATE: Dec 4, 2003
FILE:PLIR12GenLocMap

FIGURE: 1





N

0 100 200

FEET

MAP PROJECTION: NAD 83 CALIFORNIA STATE PLANE 6, SURVEY FEET

LEGEND

- Site Area
- Borings
- Induced Polarization Path
- 2003 Photo Locations
- Topo 10' Interval
- Topo 2' Interval
- Buildings

SITE PLAN

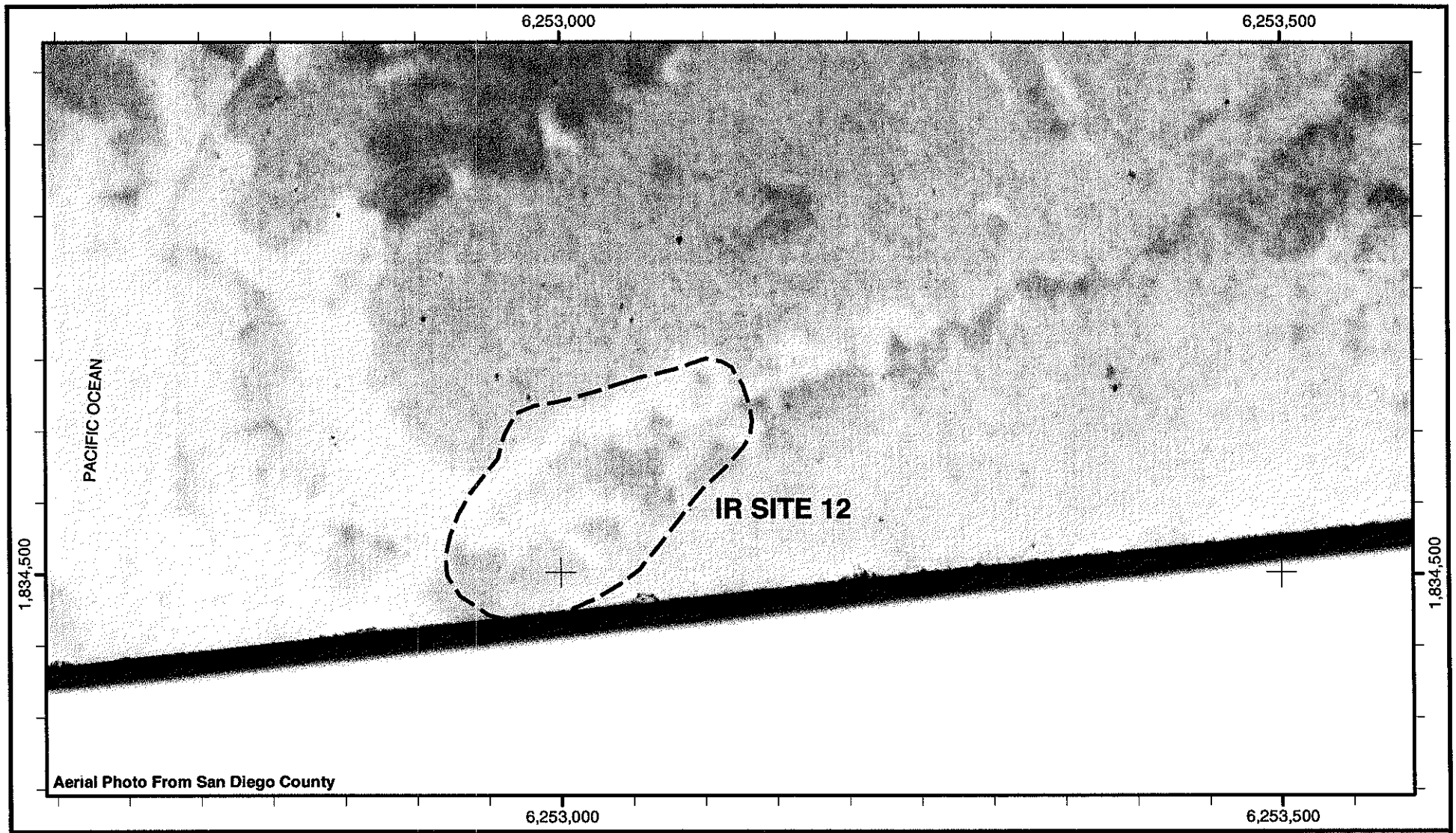
IR SITE 12
NAVAL BASE POINT LOMA
SAN DIEGO, CA

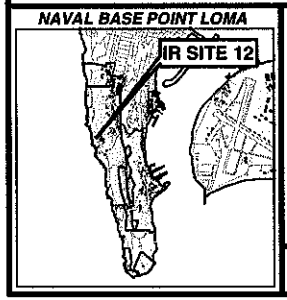
NAVFAC

NAVY PUBLIC WORKS CENTER
ENVIRONMENTAL DEPARTMENT
2730 MCKEAN STREET
SAN DIEGO, CALIFORNIA 92136

DATE: Dec 10, 2003
FILE: PtLomIR12

FIGURE: 2





N

0 100 200

FEET

MAP PROJECTION: NAD 83 CALIFORNIA
STATE PLANE 6, SURVEY FEET

LEGEND

Site Area

1928 AERIAL PHOTO

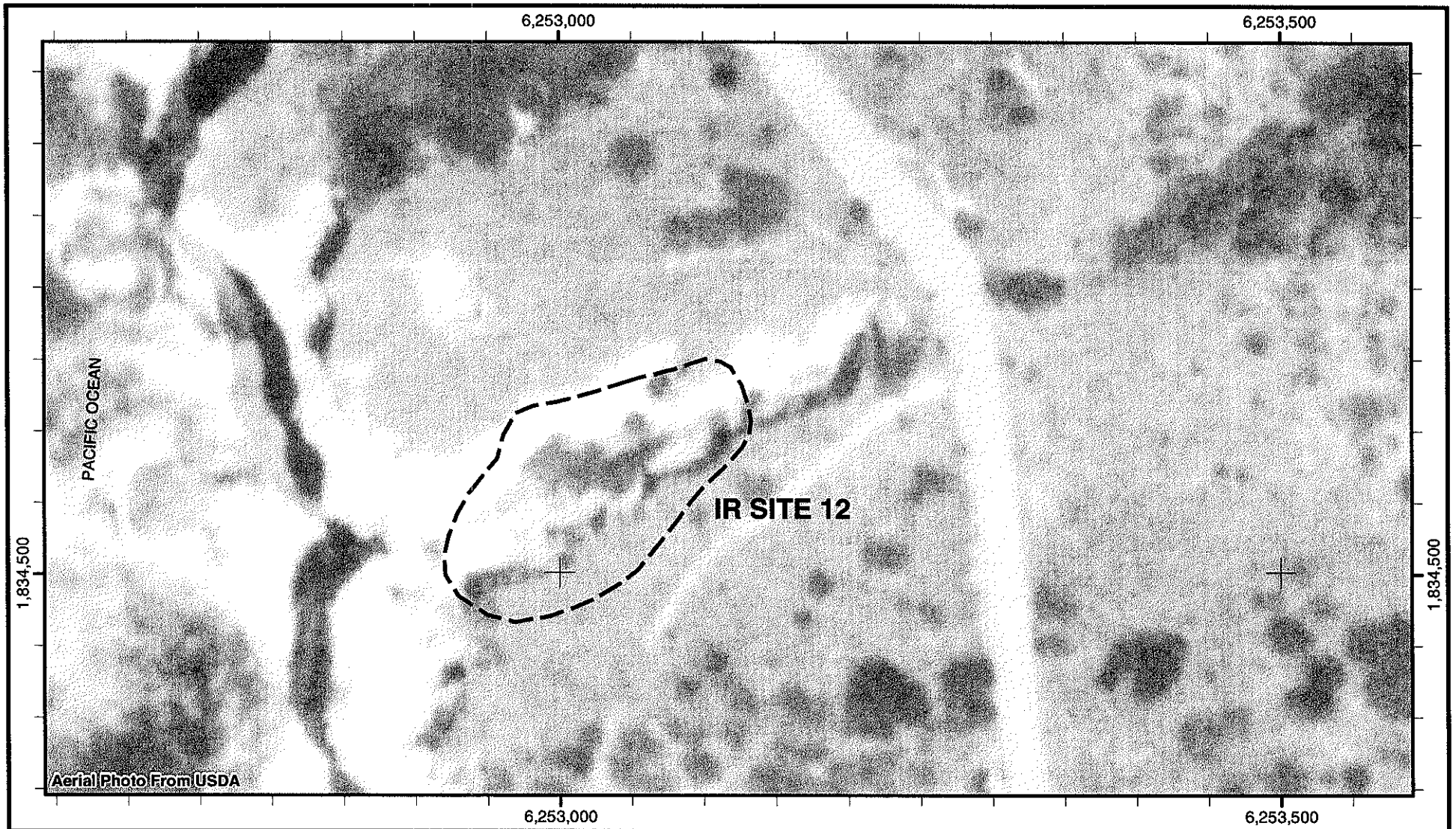
IR SITE 12
NAVAL BASE POINT LOMA
SAN DIEGO, CA

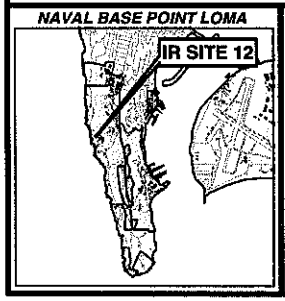
NAVFAC

NAVY PUBLIC WORKS CENTER
ENVIRONMENTAL DEPARTMENT
2730 MCKEAN STREET
SAN DIEGO, CALIFORNIA 92136

DATE: Dec 10, 2003
FILE: PtLomIR12

FIGURE: 3





N

0 100 200

FEET

MAP PROJECTION: NAD 83 CALIFORNIA
STATE PLANE 6, SURVEY FEET

LEGEND

Site Area

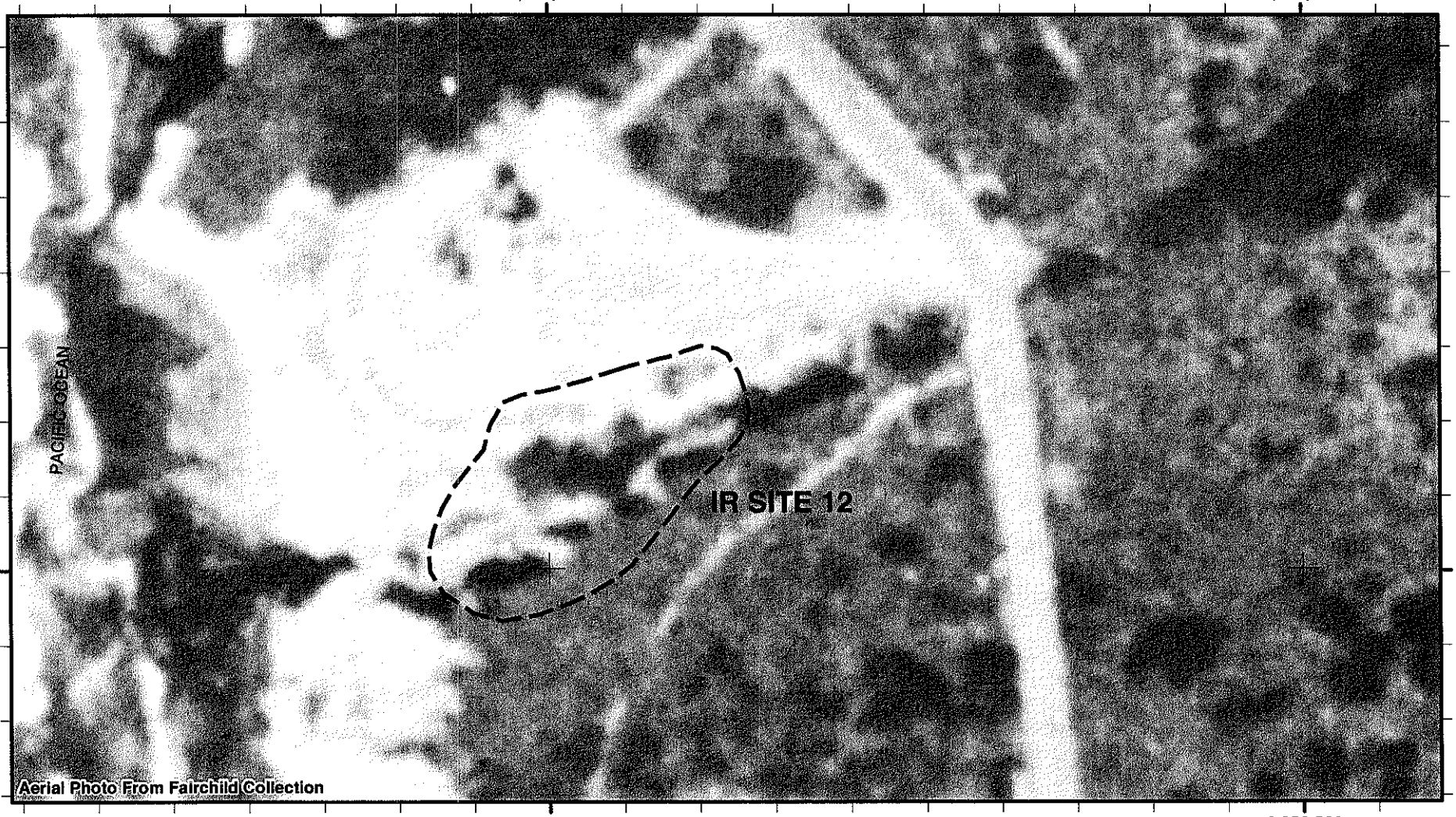
1953 AERIAL PHOTO

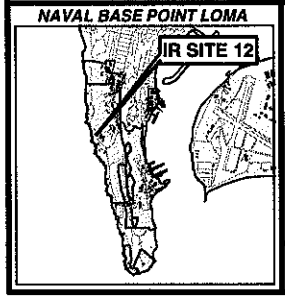
IR SITE 12
NAVAL BASE POINT LOMA
SAN DIEGO, CA

NAVFAC
NAVY PUBLIC WORKS CENTER
ENVIRONMENTAL DEPARTMENT
2730 MCKEAN STREET
SAN DIEGO, CALIFORNIA 92136

DATE: Dec 10, 2003
FILE: PtLomIR12

FIGURE: 4





N

0 100 200

FEET

MAP PROJECTION: NAD 83 CALIFORNIA
STATE PLANE 6, SURVEY FEET

LEGEND

Site Area

1958 AERIAL PHOTO

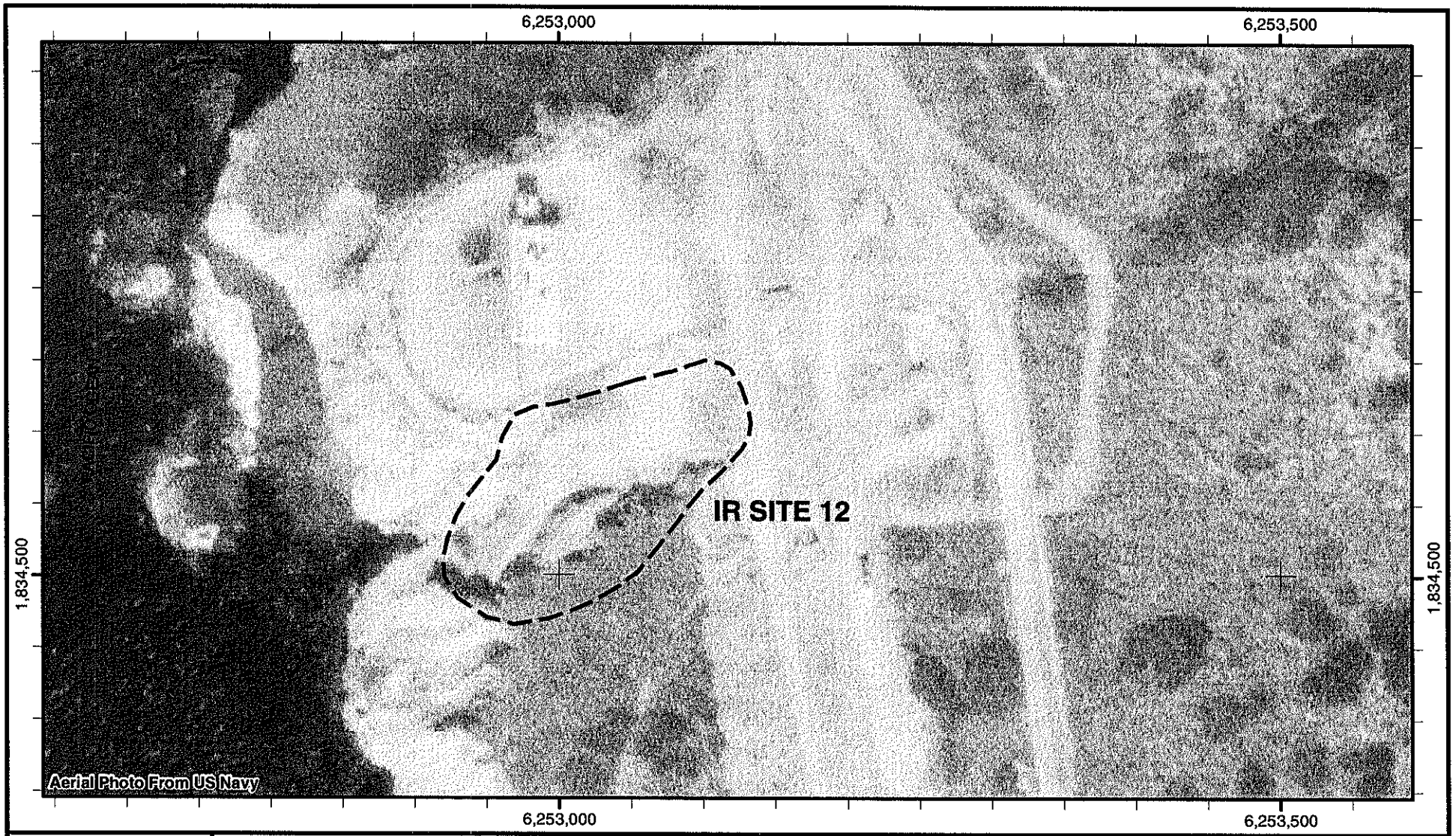
IR SITE 12
NAVAL BASE POINT LOMA
SAN DIEGO, CA

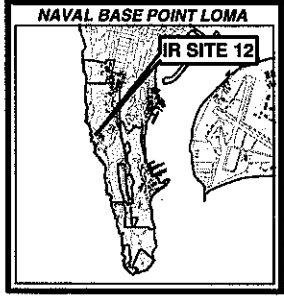
NAVFAC

NAVY PUBLIC WORKS CENTER
ENVIRONMENTAL DEPARTMENT
2730 MCKEAN STREET
SAN DIEGO, CALIFORNIA 92136

DATE: Dec 10, 2003
FILE: PtLomIR12

FIGURE: 5





N

0 100 200

FEET

MAP PROJECTION: NAD 83 CALIFORNIA
STATE PLANE 6, SURVEY FEET

LEGEND

Site Area

1960 AERIAL PHOTO

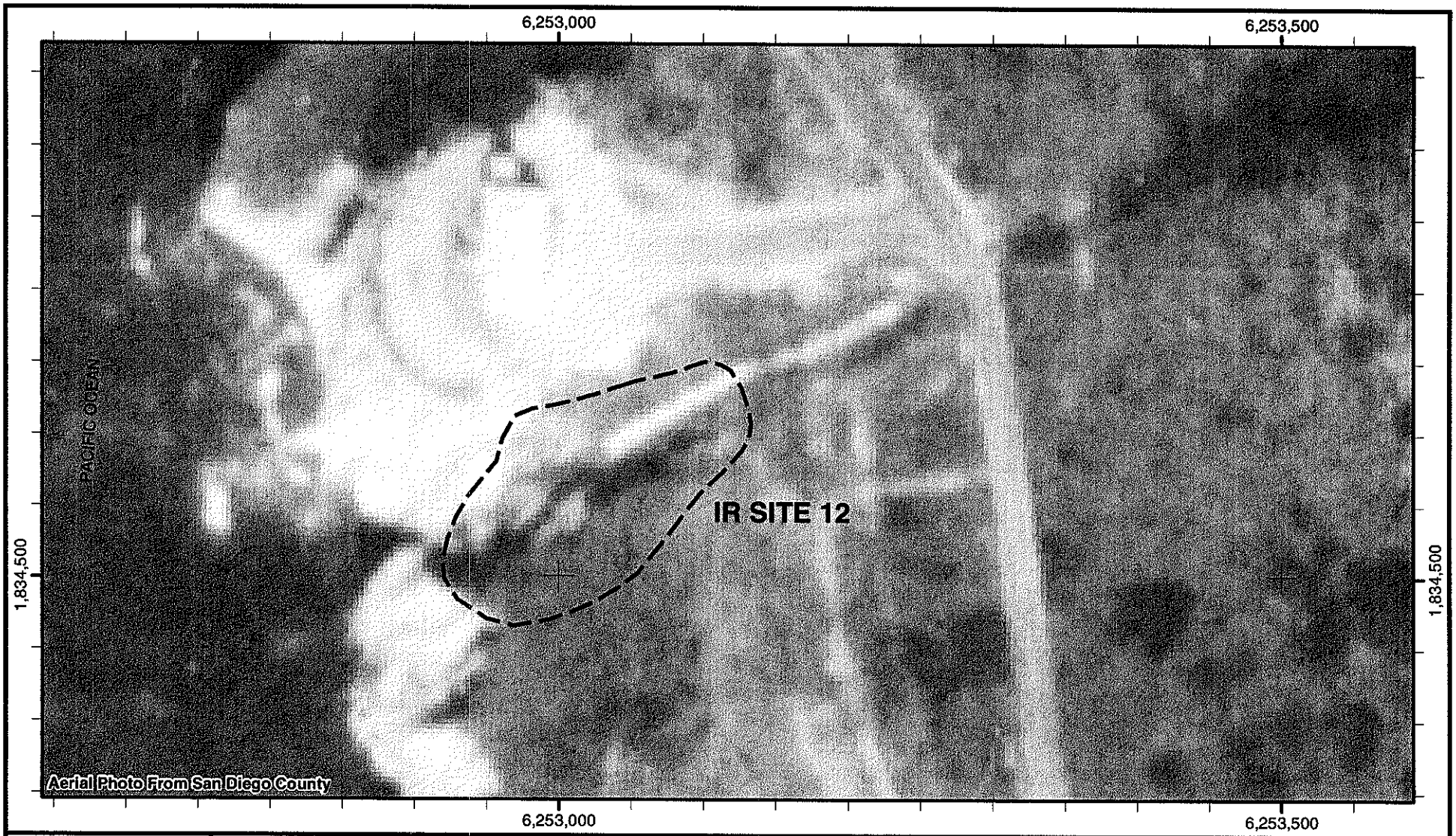
IR SITE 12
NAVAL BASE POINT LOMA
SAN DIEGO, CA

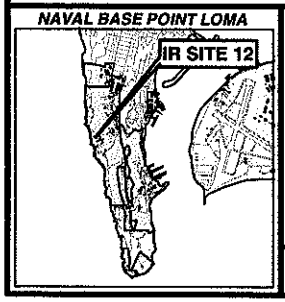
NAVFAC

NAVY PUBLIC WORKS CENTER
ENVIRONMENTAL DEPARTMENT
2730 MCKEAN STREET
SAN DIEGO, CALIFORNIA 92136

DATE: Dec 10, 2003
FILE: PtLomIR12

FIGURE: 6





N

0 100 200

FEET

MAP PROJECTION: NAD 83 CALIFORNIA
STATE PLANE 6, SURVEY FEET

LEGEND

Site Area

1966 AERIAL PHOTO

IR SITE 12
NAVAL BASE POINT LOMA
SAN DIEGO, CA

NAVFAC

NAVY PUBLIC WORKS CENTER
ENVIRONMENTAL DEPARTMENT
2730 MCKEAN STREET
SAN DIEGO, CALIFORNIA 92136

DATE: Dec 10, 2003
FILE: PtLomIR12

FIGURE: 7

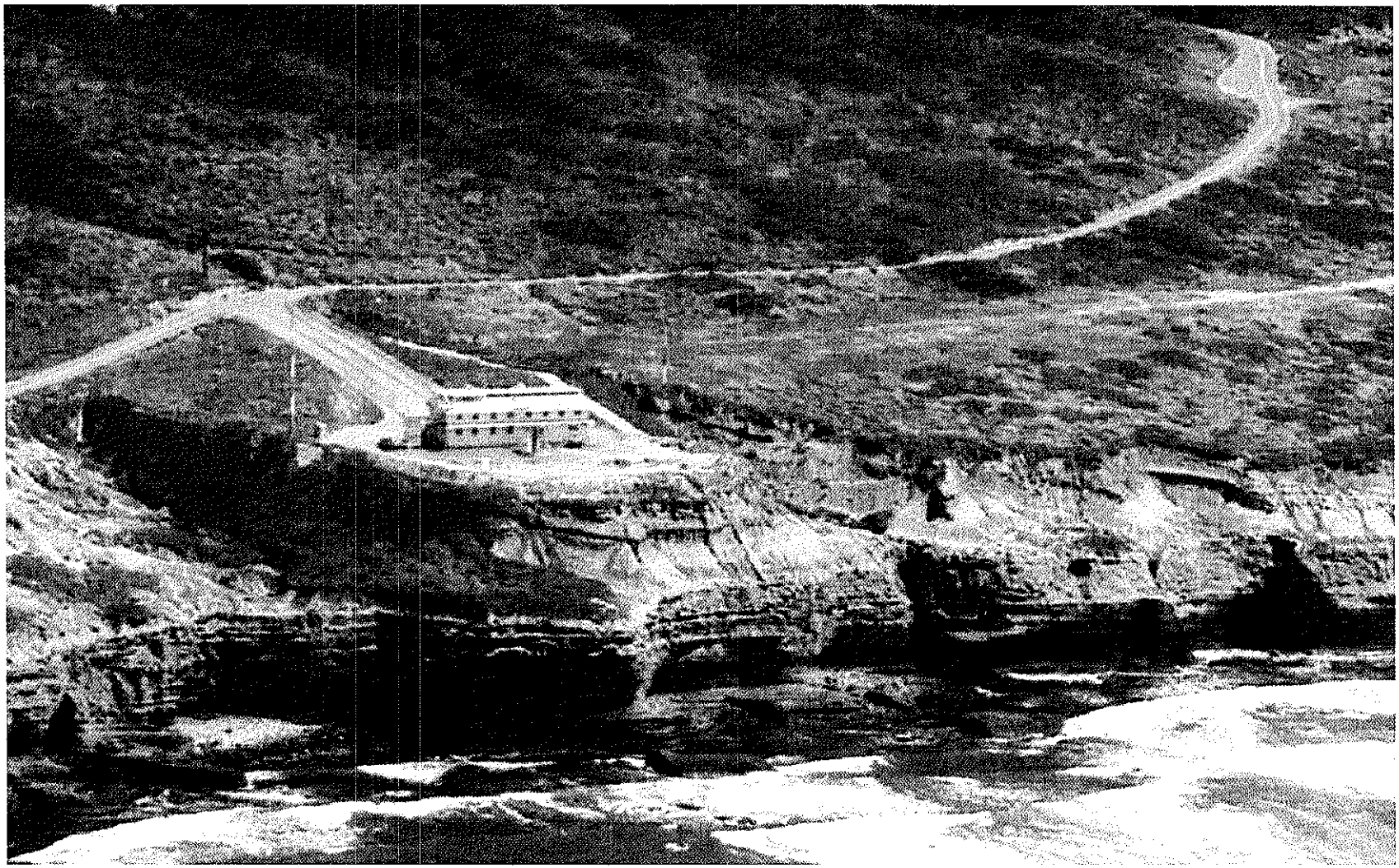
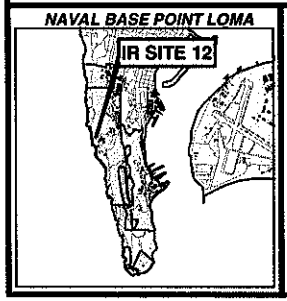


PHOTO: VIEW LOOKING SOUTHEAST



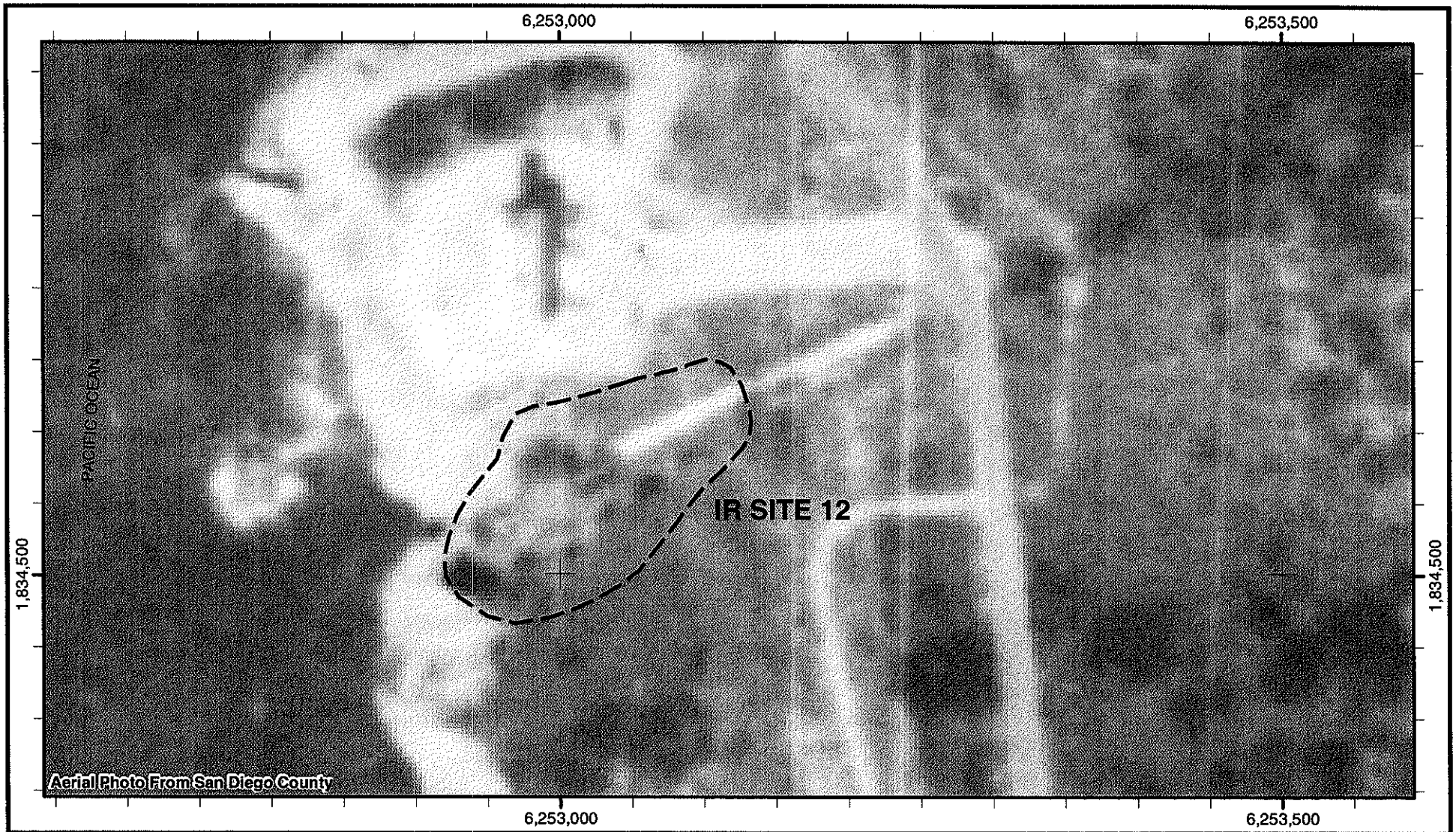
1969 OBLIQUE AERIAL PHOTO

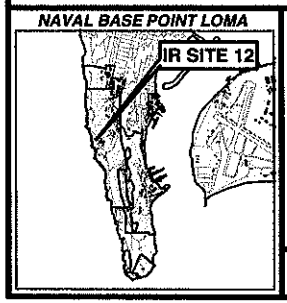
IR SITE 12
NAVAL BASE POINT LOMA
SAN DIEGO, CA

NAVFAC
NAVY PUBLIC WORKS CENTER
ENVIRONMENTAL DEPARTMENT
2730 MCKEAN STREET
SAN DIEGO, CALIFORNIA 92136

DATE: Dec 5, 2003
FILE:PtLomRubSltPhoto3

FIGURE: 8





N

0 100 200

FEET

MAP PROJECTION: NAD 83 CALIFORNIA
STATE PLANE 6, SURVEY FEET

LEGEND

Site Area

1970 AERIAL PHOTO

IR SITE 12
NAVAL BASE POINT LOMA
SAN DIEGO, CA

NAVY PUBLIC WORKS CENTER
ENVIRONMENTAL DEPARTMENT
2730 MCKEAN STREET
SAN DIEGO, CALIFORNIA 92136

DATE: Dec 10, 2003
FILE: PtLomIR12

FIGURE: 9

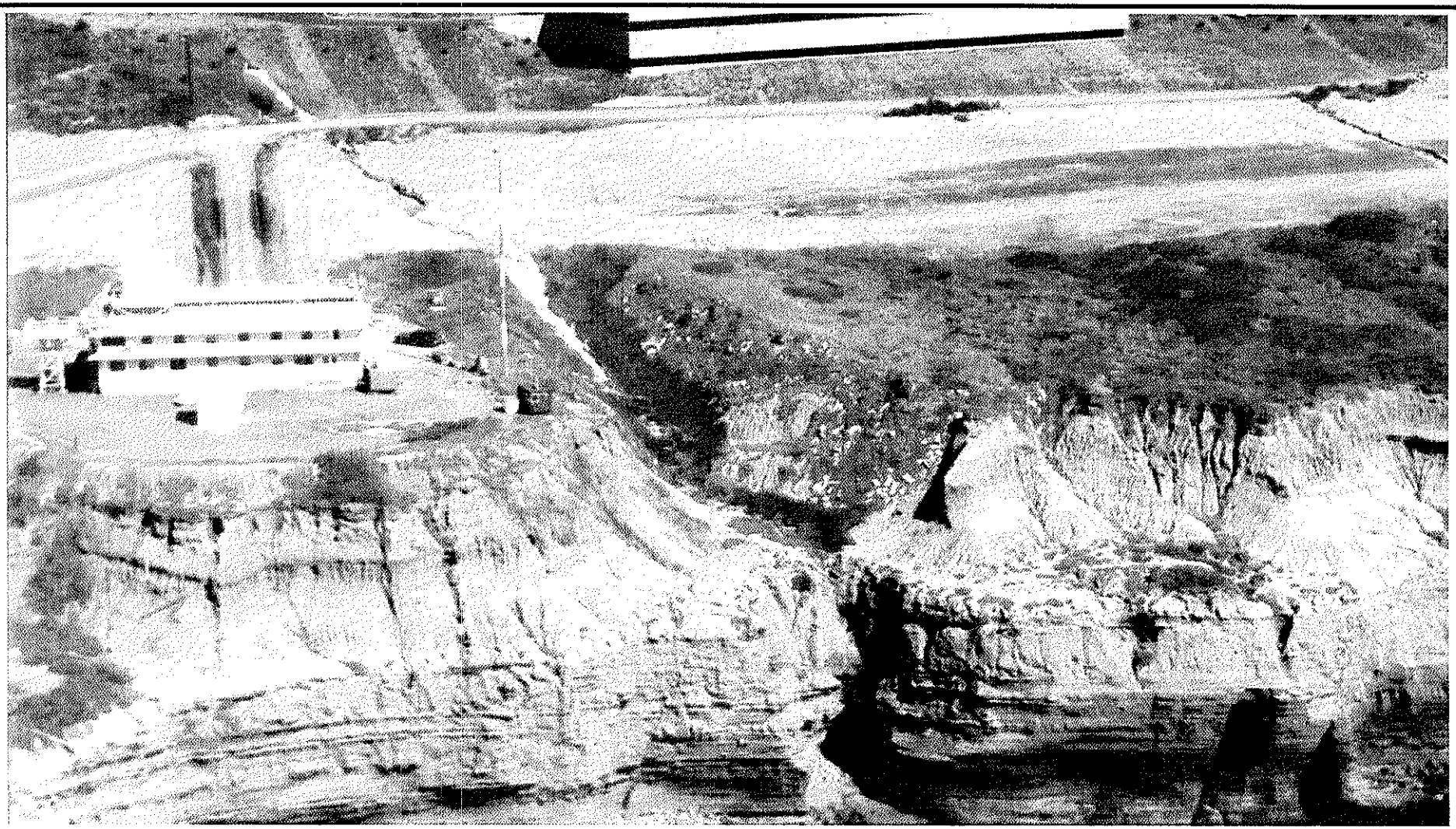
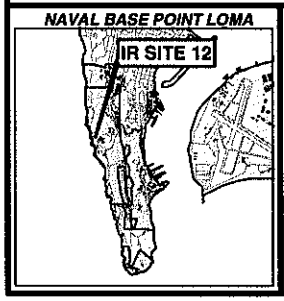


PHOTO: VIEW LOOKING EAST



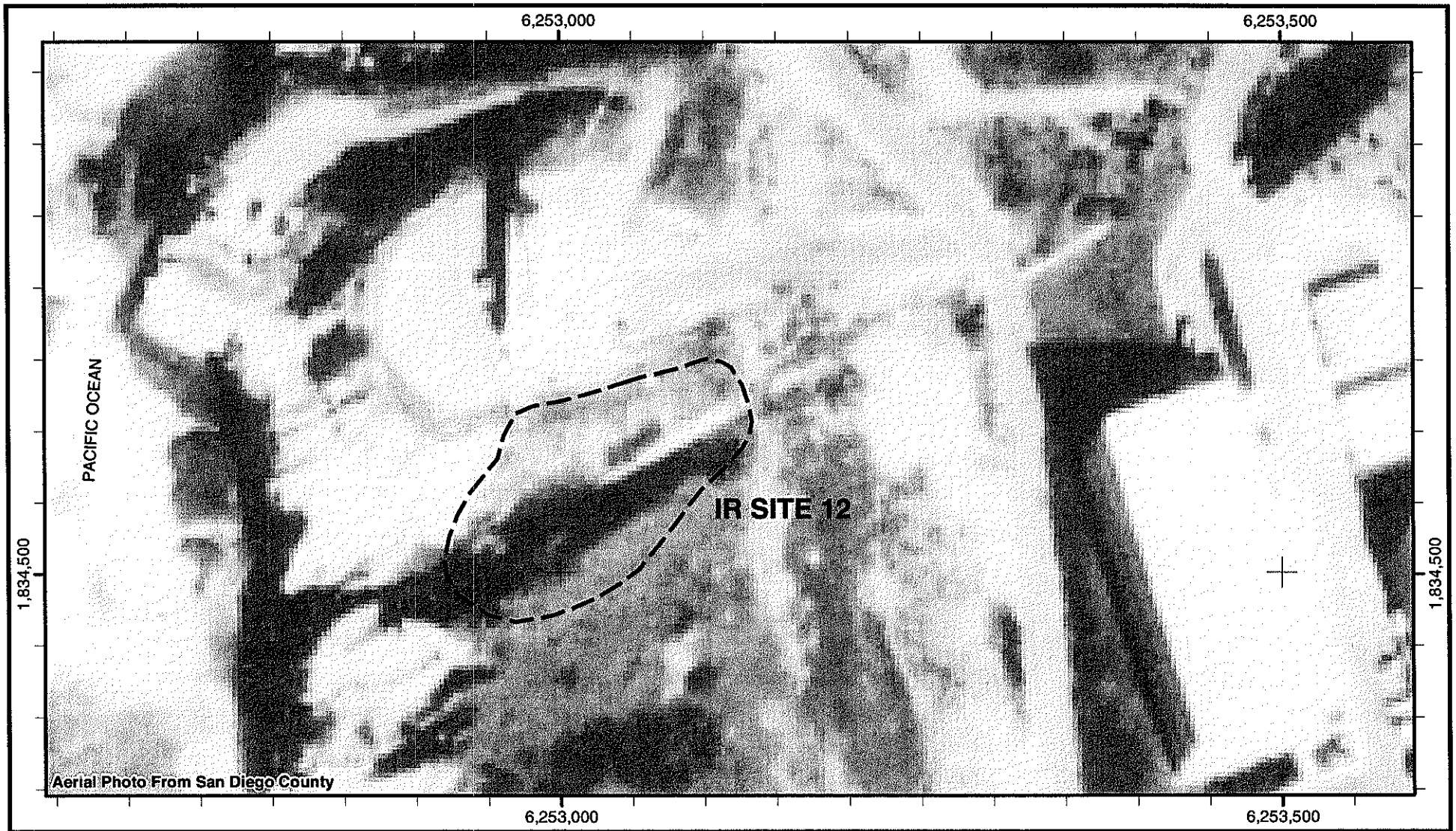
1982 OBLIQUE AERIAL PHOTO

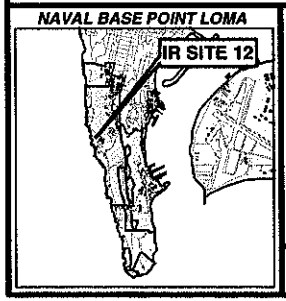
IR SITE 12
NAVAL BASE POINT LOMA
SAN DIEGO, CA

NAVFAC
NAVY PUBLIC WORKS CENTER
ENVIRONMENTAL DEPARTMENT
2730 MCKEAN STREET
SAN DIEGO, CALIFORNIA 92136

DATE: Dec 5, 2003
FILE:PtLomRubSitPhoto4

FIGURE: 10





N

0 100 200

FEET

MAP PROJECTION: NAD 83 CALIFORNIA
STATE PLANE 6, SURVEY FEET

LEGEND

Site Area

1983 AERIAL PHOTO

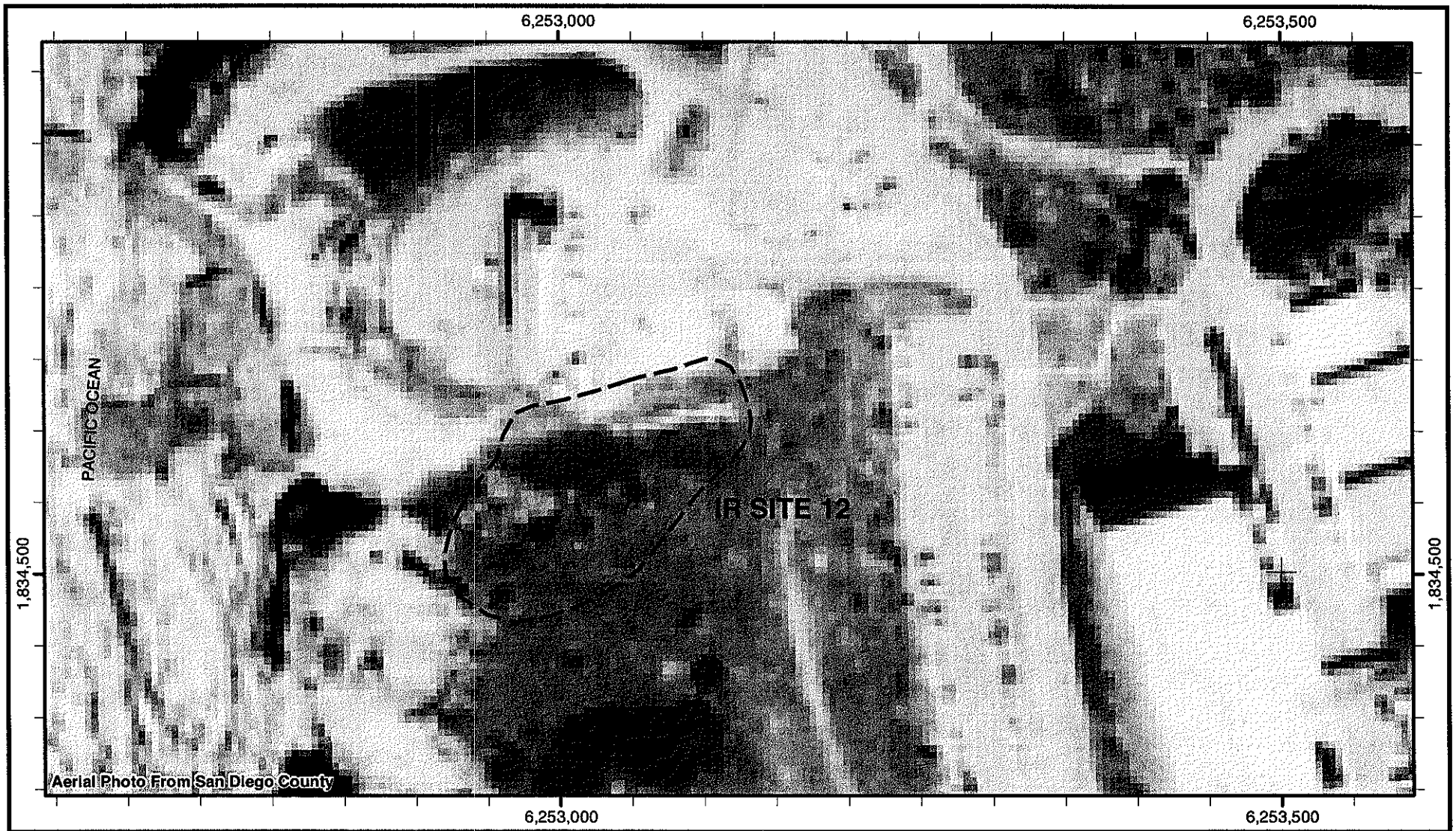
IR SITE 12
NAVAL BASE POINT LOMA
SAN DIEGO, CA

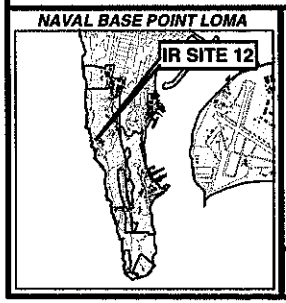
NAVFAC

NAVY PUBLIC WORKS CENTER
ENVIRONMENTAL DEPARTMENT
2730 MCKEAN STREET
SAN DIEGO, CALIFORNIA 92136

DATE: Dec 10, 2003
FILE: PtLomIR12

FIGURE: 11





N

0 100 200

FEET

MAP PROJECTION: NAD 83 CALIFORNIA
STATE PLANE 6, SURVEY FEET

LEGEND

Site Area

1989 AERIAL PHOTO

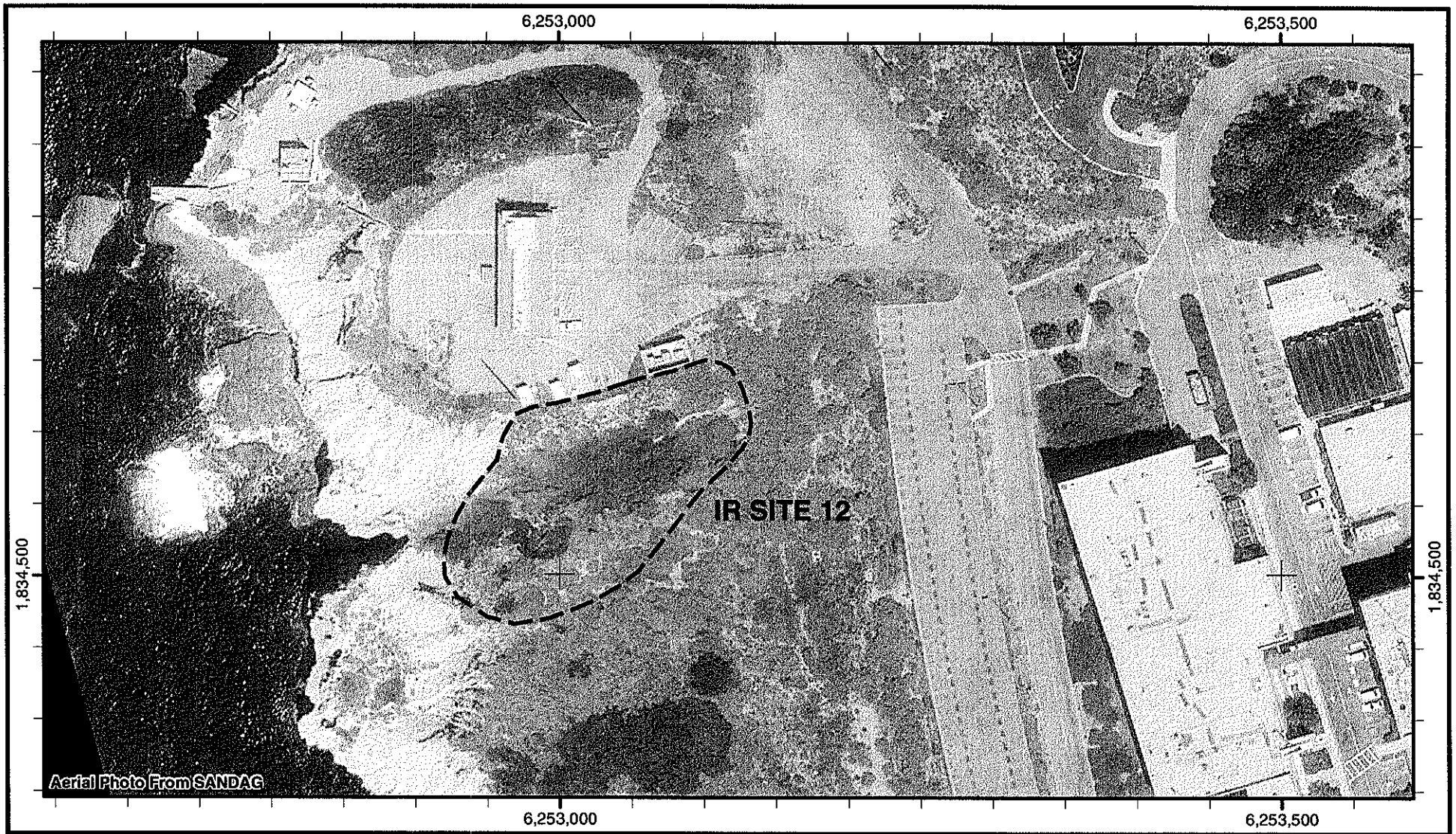
IR SITE 12
NAVAL BASE POINT LOMA
SAN DIEGO, CA

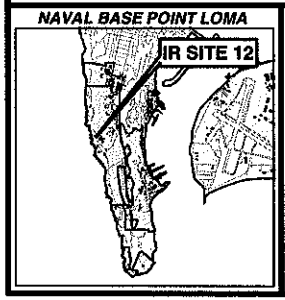
NAVFAC

NAVY PUBLIC WORKS CENTER
ENVIRONMENTAL DEPARTMENT
2730 MCKEAN STREET
SAN DIEGO, CALIFORNIA 92136

DATE: Dec 10, 2003
FILE: PtLomIR12

FIGURE: 12





N

0 100 200

FEET

MAP PROJECTION: NAD 83 CALIFORNIA
STATE PLANE 6, SURVEY FEET

LEGEND

Site Area

2001 AERIAL PHOTO

IR SITE 12
NAVAL BASE POINT LOMA
SAN DIEGO, CA

NAVFAC

NAVY PUBLIC WORKS CENTER
ENVIRONMENTAL DEPARTMENT
2730 MCKEAN STREET
SAN DIEGO, CALIFORNIA 92136

DATE: Dec 10, 2003
FILE: PtLomIR12

FIGURE: 13

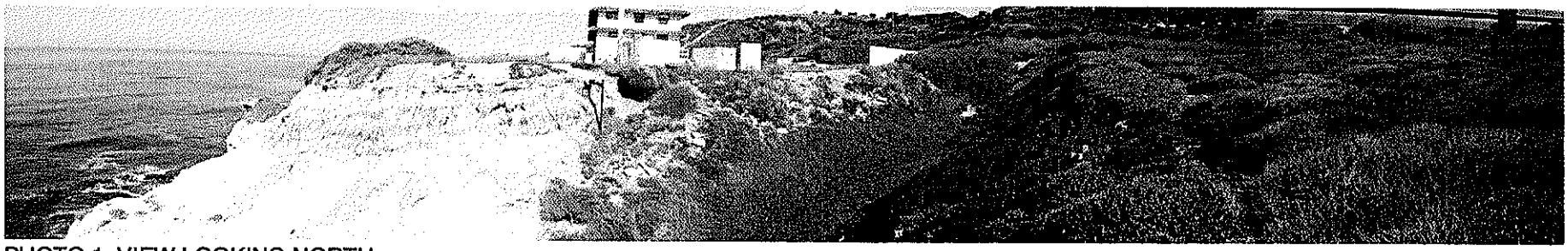
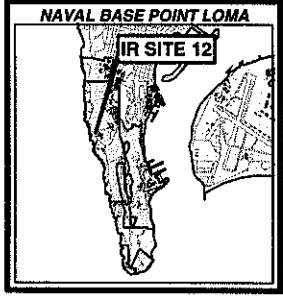


PHOTO 1: VIEW LOOKING NORTH

PHOTO 2: VIEW LOOKING SOUTH



SITE PHOTOS - 2003

IR SITE 12
NAVAL BASE POINT LOMA
SAN DIEGO, CA

NAVY PUBLIC WORKS CENTER
ENVIRONMENTAL DEPARTMENT
2730 MCKEAN STREET
SAN DIEGO, CALIFORNIA 92136

DATE: Dec 5, 2003
FILE: PtLomRubSitPhoto1

FIGURE: 14

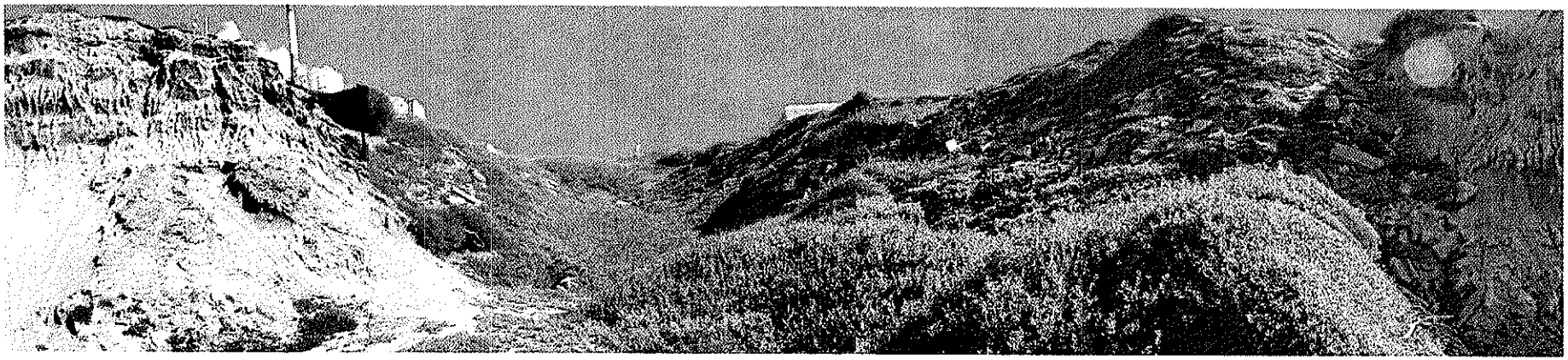
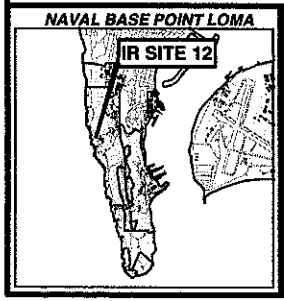


PHOTO 3: VIEW LOOKING EAST

PHOTO 4: VIEW LOOKING WEST



SITE PHOTOS - 2003

IR SITE 12
NAVAL BASE POINT LOMA
SAN DIEGO, CA

NAVFAC

NAVY PUBLIC WORKS CENTER
ENVIRONMENTAL DEPARTMENT
2730 MCKEAN STREET
SAN DIEGO, CALIFORNIA 92136

DATE: Dec 5, 2003
FILE:PtLomRubSitPhoto2

FIGURE:
15

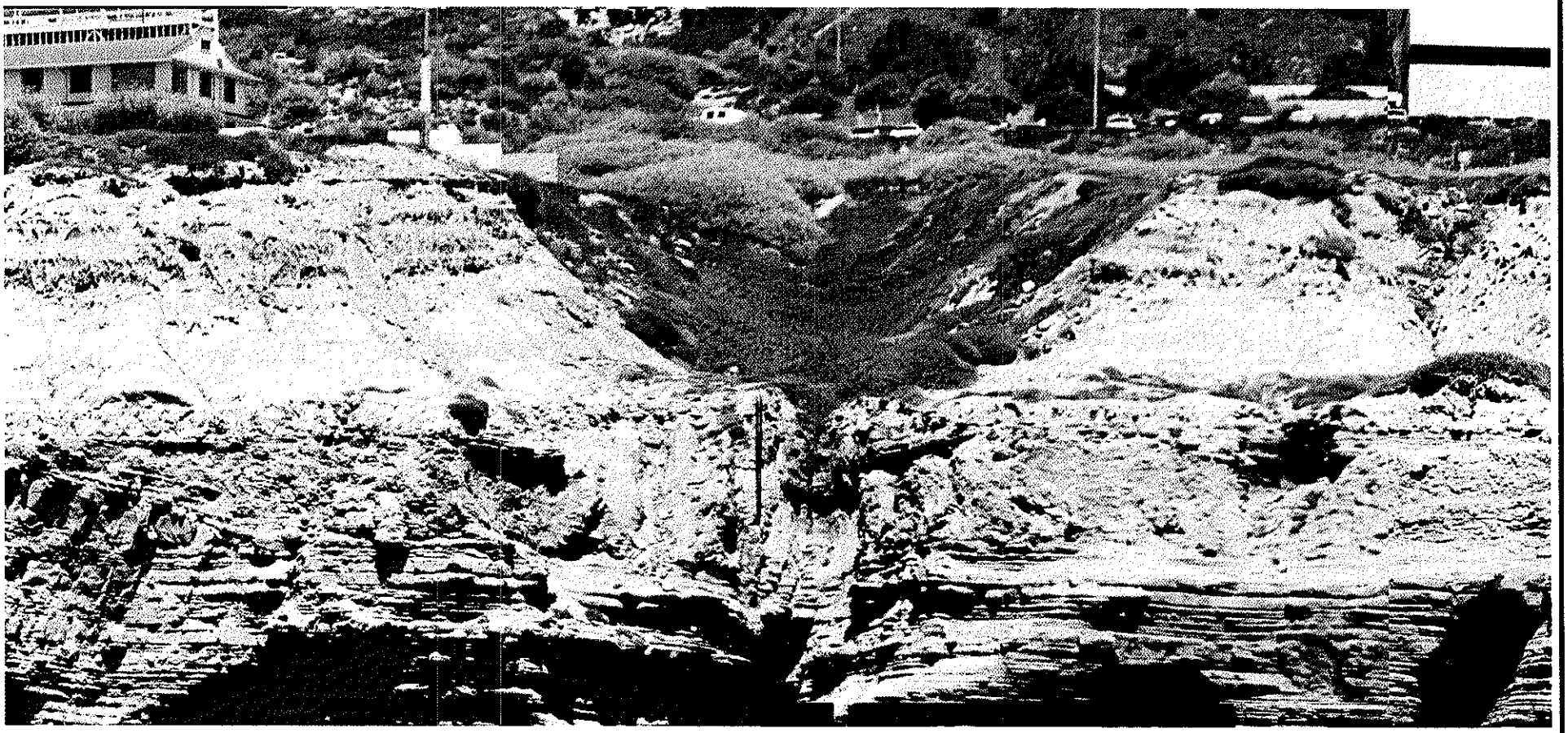
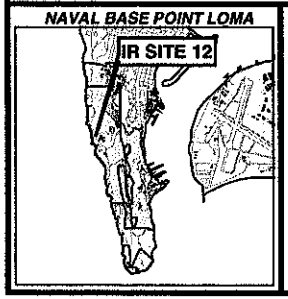


PHOTO 5: VIEW LOOKING EAST



SITE PHOTOS - 2003

IR SITE 12
NAVAL BASE POINT LOMA
SAN DIEGO, CA

NAVFAC

NAVY PUBLIC WORKS CENTER
ENVIRONMENTAL DEPARTMENT
2730 MCKEAN STREET
SAN DIEGO, CALIFORNIA 92136

DATE: Dec 10, 2003
FILE:PtLomRubSitPhoto5

FIGURE:
16

PROJECT NAME: NBPL IR SITE 12	NAVY PUBLIC WORKS CENTER CODE 980 SAN DIEGO, CALIFORNIA	LOGGED BY: Eric Drummond	B1
WORK REQUEST NUMBER: XDMWK8		REVIEWED BY: John Patskan	

DRILLING COMPANY: NA	OPERATOR: NA	BORING TYPE: Hand Auger	BORING DEPTH (ft): 1
DRILLING EQUIPMENT: Hand Auger	BORING ANGLE (deg): 0	START DATE: 7-18-03	COMPLETION DATE: 7-18-03
GROUND SURFACE ELEVATION DATUM (ft-msl):	BOREHOLE DIAMETER (in): 4	WATER DEPTH (ft) INITIAL:	FINAL:
WELL CASING ELEVATION (ft mllw):	SURVEYED BY: DGPS	COORDINATES (ft): N 1,834,624.8 E 6,253,040.9	

DEPTH (feet)	Tests	Samples	Graphic Log	USCS		DEPTH
	ID= S12XDMWK8-032				Fill (top of rubble slope) Yellowish brown, [10YR 5/4], **SILTY SAND**, loose, dry, fine, occasional1/2 in. crushed rock, asphalt and concrete clasts, broken concrete pieces up to 5 ft. long exposed in slope face.	1.0
1					Hand Auger completed at 1.0 on 7-18-03 Refusal on debris at 1 ft, no caving, no groundwater, backfilled with cuttings on 7-18-03	
2						
3						
4						
5						
6						
7						
8						
9						

TEST LEGEND

ID = Sample Name

SAMPLE LEGEND:
Auger Cuttings

BORING / WELL NUMBER B1	BORING LOG	SHEET 1 of 1	FIGURE NO.: 17

PROJECT NAME: NBPL IR SITE 12	NAVY PUBLIC WORKS CENTER CODE 980 SAN DIEGO, CALIFORNIA	LOGGED BY: Eric Drummond	B2
WORK REQUEST NUMBER: XDMWK8		REVIEWED BY: John Patskan	

DRILLING COMPANY: NA	OPERATOR: NA	BORING TYPE: Hand Auger	BORING DEPTH (ft): 1.5
DRILLING EQUIPMENT: Hand Auger	BORING ANGLE (deg): 0	START DATE: 7-18-03	COMPLETION DATE: 7-18-03
GROUND SURFACE ELEVATION DATUM (ft-msl):	BOREHOLE DIAMETER (in): 4	WATER DEPTH (ft) INITIAL:	FINAL:
WELL CASING ELEVATION (ft mllw):	SURVEYED BY: DGPS	COORDINATES (ft): N 1,834,613.3 E 6,252,990.5	

DEPTH (feet)	Tests	Samples	Graphic Log	USCS	DEPTH
	ID= S12XDMWK8-033				Fill (top of rubble slope) Yellowish brown, [10YR 5/4], **SILTY SAND**, loose, dry, fine, occasional gravel, rootlets, asphalt, concrete clasts, broken concrete pieces up to 5 ft. exposed in slope face 1.5
					Hand Auger completed at 1.5 on 7-18-03 Refusal on debris at 1.5 ft, no caving, no groundwater, backfilled with cuttings on 7-18-03
1					
2					
3					
4					
5					
6					
7					
8					
9					

TEST LEGEND

ID = Sample Name

SAMPLE LEGEND:
Auger Cuttings

BORING / WELL NUMBER B2	BORING LOG	SHEET 1 of 1	FIGURE NO.: 18

PROJECT NAME: NBPL IR SITE 12	NAVY PUBLIC WORKS CENTER CODE 980 SAN DIEGO, CALIFORNIA	LOGGED BY: Eric Drummond	B3
WORK REQUEST NUMBER: XDMWK8		REVIEWED BY: John Patskan	

DRILLING COMPANY: NA	OPERATOR: NA	BORING TYPE: Hand Auger	BORING DEPTH (ft): 1.5
DRILLING EQUIPMENT: Hand Auger	BORING ANGLE (deg): 0	START DATE: 7-18-03	COMPLETION DATE: 7-18-03
GROUND SURFACE ELEVATION DATUM (ft-msl):	BOREHOLE DIAMETER (in): 4	WATER DEPTH (ft) INITIAL:	FINAL:
WELL CASING ELEVATION (ft mllw):	SURVEYED BY: DGPS	COORDINATES (ft): N 1,834,584.8 E 6,252,963.3	

DEPTH (feet)	Tests	Samples	Graphic Log	USCS	DEPTH
					Fill (rubble-midslope).
1	ID= S12XDMWK8-034				Brown, [7.5YR 4/4], **SILTY SAND**, loose, fine, slightly moist, occasional gravel, sample adjacent to 12" x 14" rusted iron can exposed in southside of hill slope approximately 5 gallons
					1.5
					Hand Auger completed at 1.5 on 7-18-03
					No caving, no groundwater, backfilled with cuttings on 7/18/2003
2					
3					
4					
5					
6					
7					
8					
9					

TEST LEGEND

ID = Sample Name

SAMPLE LEGEND:
Auger Cuttings

BORING / WELL NUMBER B3	BORING LOG	SHEET 1 of 1	FIGURE NO : 19

BORING LOG IR_SITE12.GPJ NPWC_SD.GDT 12/16/03

PROJECT NAME: NBPL IR SITE 12	NAVY PUBLIC WORKS CENTER CODE 980 SAN DIEGO, CALIFORNIA	LOGGED BY: Eric Drummond	B4
WORK REQUEST NUMBER: XDMWK8		REVIEWED BY: John Patskan	
DRILLING COMPANY: NA	OPERATOR: NA	BORING TYPE: Hand Auger	BORING DEPTH (ft): 3.5
DRILLING EQUIPMENT: Hand Auger	BORING ANGLE (deg): 0	START DATE: 7-18-03	COMPLETION DATE: 7-18-03
GROUND SURFACE ELEVATION DATUM (ft-msl):	BOREHOLE DIAMETER (in): 4	WATER DEPTH (ft) INITIAL:	FINAL:
WELL CASING ELEVATION (ft mllw):	SURVEYED BY: DGPS	COORDINATES (ft): N 1,834,564.7 E 6,252,995.4	

DEPTH (feet)	Tests	Samples	Graphic Log	USCS		DEPTH
					Slopewash (base of slope in drainage)	
1	ID= S12XDMWK8-035			SM	[7.5YR 4/4], **SILTY SAND**, loose, dry, fine to medium grained, abundant roots, becomes slightly moist at 1 5 ft	
2						
3	ID= S12XDMWK8-036					3.5
					Hand Auger completed at 3 5 on 7-18-03 No caving, no groundwater, backfilled with cuttings on 7-18-03	
4						
5						
6						
7						
8						
9						

TEST LEGEND

ID = Sample Name

SAMPLE LEGEND:
Auger Cuttings

BORING / WELL NUMBER B4	BORING LOG	SHEET 1 of 1	FIGURE NO.: 20

PROJECT NAME: NBPL IR SITE 12	NAVY PUBLIC WORKS CENTER CODE 980 SAN DIEGO, CALIFORNIA	LOGGED BY: Eric Drummond	B5
WORK REQUEST NUMBER: XDMWK8		REVIEWED BY: John Patskan	

DRILLING COMPANY: NA	OPERATOR: NA	BORING TYPE: Hand Auger	BORING DEPTH (ft): 1
DRILLING EQUIPMENT: Hand Auger	BORING ANGLE (deg): 0	START DATE: 7-18-03	COMPLETION DATE: 7-18-03
GROUND SURFACE ELEVATION DATUM (ft-msl):	BOREHOLE DIAMETER (in): 4	WATER DEPTH (ft) INITIAL:	FINAL:
WELL CASING ELEVATION (ft mllw):	SURVEYED BY: DGPS	COORDINATES (ft): N 1,834,490.4 E 6,252,962.2	

DEPTH (feet)	Tests	Samples	Graphic Log	USCS		DEPTH
	ID= S12XDMWK8-037				Fill (rubble at slope top). Yellowish brown, [10YR 5/4], **SILTY SAND**, loose, dry, fine, abundant crushed rock (1 in. diameter), asphalt and concrete clasts, gravel to 5 ft. long pieces exposed in hill slope.	1.0
1					Hand Auger completed at 1.0 on 7-18-03 Refusal on concrete at 1 ft, no caving, no groundwater, backfilled with cuttings on 7-18-03	
2						
3						
4						
5						
6						
7						
8						
9						

TEST LEGEND

ID = Sample Name

SAMPLE LEGEND:
Auger Cuttings

BORING / WELL NUMBER B5	BORING LOG	SHEET 1 of 1	FIGURE NO.: 21

PROJECT NAME: NBPL IR SITE 12	NAVY PUBLIC WORKS CENTER CODE 980 SAN DIEGO, CALIFORNIA	LOGGED BY: Eric Drummond	B6
WORK REQUEST NUMBER: XDMWK8		REVIEWED BY: John Patskan	

DRILLING COMPANY: NA	OPERATOR: NA	BORING TYPE: Hand Auger	BORING DEPTH (ft): 1
DRILLING EQUIPMENT: Hand Auger	BORING ANGLE (deg): 0	START DATE: 7-18-03	COMPLETION DATE: 7-18-03
GROUND SURFACE ELEVATION DATUM (ft-msl):	BOREHOLE DIAMETER (in): 4	WATER DEPTH (ft) INITIAL:	FINAL:
WELL CASING ELEVATION (ft mllw):	SURVEYED BY: DGPS	COORDINATES (ft): N 1,834,534.8 E 6,253,038.5	

DEPTH (feet)	Tests	Samples	Graphic Log	USCS		DEPTH
	ID= S12XDMWK8-038				Fill (rubble at slope top) Yellowish brown, [10YR 5/4], **SILTY SAND**, loose, dry, fine, abundant crushed rock (1 in diameter), asphalt and concrete clasts, gravel to 5 ft. long pieces exposed in slope.	1.0
1					Hand Auger completed at 1.0 on 7-18-03 Refusal on debris at 1 ft, no caving, no groundwater, backfilled with cuttings on 7-18-03	
2						
3						
4						
5						
6						
7						
8						
9						

TEST LEGEND

ID = Sample Name

SAMPLE LEGEND:
Auger Cuttings

BORING / WELL NUMBER B6	BORING LOG	SHEET 1 of 1	FIGURE NO.: 22

IP/Resistivity Survey
Point Loma, U. S. Naval Base, San Diego
for
U. S. Naval Public Works Center

by
Zonge Engineering & Research Organization
Zonge Job #0051
Issue Date: June 20, 2001

Zonge Engineering & Research Organization, Inc.
3322 East Fort Lowell Road, Tucson, AZ 85716 USA
Tel (520)327-5501 Fax (520)325-1588 Email zonge@zonge com

Table of Contents

Executive Summary	3
List of Figures	5
Survey Methodology	7
Survey Parameters	7
Field Instrumentation	8
Smooth-Model Inversion	8
Data and Interpretation	9
Signature Page	13

Final Report

IP/Resistivity Survey

Point Loma, U. S. Naval Base, San Diego

for

U. S. Navy

Issue Date: June 20, 2001

By Zonge Engineering & Research

Executive Summary

From August 9, 2000 through August 12, 2000, a one-person field crew from Zonge Engineering & Research Organization, Inc. and Naval personnel acquired induced polarization (IP) and resistivity geophysical data at six different sites near Point Loma on the U. S. Naval Base in San Diego, California. The survey was conducted at the request of John Patskan, U. S. Naval Public Works Center. A total of 12 lines of data were acquired using a station spacing of 7.5 feet and a dipole size of 15 feet. Several of the lines were also acquired in the deep sounding mode with a dipole size of 22.5 feet. The primary goal of the survey was to determine the presence of buried military refuse, possibly dating from the World War II era. Analysis of the IP and resistivity data was conducted to delineate the location, lateral and vertical extent, and determine the possible composition of the various subsurface anomalies.

There are different methods for interpreting the thickness of the buried material from the IP data, such as using a fixed IP value versus using a fixed gradient value in the change in IP with depth, rather than an absolute value. The interpretations of top and basal depth to anomalous materials are probably accurate in a relative sense, and can be refined as soon as trenching or other control data can verify absolute depth levels at each site.

Site 1 probably contains the most significant amount of anomalous material, as indicated by the size and amplitude of geophysical model features. Sites 6, 8, and 14 all have moderate amounts of buried material present, as indicated by localized IP anomalies. The anomalies at sites 6, 8, and 14 have signature IP amplitudes in the moderate range (4 to 10 msec). Site 11 is a good indicator of regional background, as it shows clearly no anomalies. Data from Site 12 are inconclusive due to contamination by cultural noise in the very near vicinity of the line.

List of Figures

Site 1.

Line 1: Inversion Model IP Chargeability

Line 1: Interpreted IP Anomaly (heavy line) and Model Resistivity (color fill)

Line 2: Inversion Model IP Chargeability

Line 2: Interpreted IP Anomaly (heavy line) and Model Resistivity (color fill)

Line 3: Inversion Model IP Chargeability

Line 3: Interpreted IP Anomaly (heavy line) and Model Resistivity (color fill)

Line 3 Deep Sounding: Inversion Model IP Chargeability

Line 3 Deep Sounding: Interpreted IP Anomaly (heavy line) and Model Resisitivity (color fill)

Line 4: Inversion Model IP Chargeability

Line 4: Inversion Model Resistivity

Plan View: Total Field Magnetics

Plan View: IP at 2 ft Depth and Total Field Magnetics

Plan View: Resistivity at 2 ft Depth and Total Field Magnetics

Plan View: IP at 20 ft Depth and Total Field Magnetics

Plan View: Resistivity at 20 ft Depth and Total Field Magnetics

Site 6.

Line 1: Inversion Model IP Chargeability

Line 1: IP Anomaly (heavy line) and Model Resistivity (color fill)

Line 2: Inversion Model IP Chargeability

Line 2: IP Anomaly (heavy line) and Model Resistivity (color fill)

Line 2 Deep Sounding: Inversion Model IP Chargeability

Line 2 Deep Sounding: IP Anomaly (heavy line) and Model Resistivity (color fill)

Plan View: IP Chargeability at 22 ft Depth

Plan View: Resistivity at 22 ft Depth

Site 8.

Line 1: Inversion Model IP Chargeability

Line 1: IP Anomalies (heavy line) and Model Resistivity (color fill)

Site 11.

Line 1: Inversion Model IP Chargeability

Line 1: Inversion Model Resistivity

Line 2: Inversion Model IP Chargeability

Line 2: Inversion Model Resistivity

Site 12.

Line 1 Reverse: Inversion Model IP Chargeability

Line 1 Reverse: Inversion Model Resistivity

Site 14.

Line 1: Inversion Model IP Chargeability

Line 1: IP Anomalies (heavy line) and Model Resistivity (color fill)

Line 2: Inversion Model IP Chargeability

Line 2: Inversion Model Resistivity

Plan View: Total Field Magnetics and IP > 3.5 msec at 2 ft Depth

Plan View: Total Field Magnetics and IP > 3.5 msec at 20 ft Depth

Survey Methodology

In the dipole-dipole configuration, a controlled electrical signal is transmitted into the ground via a grounded dipole (two stakes in the ground, connected to the transmitter with insulated wire). At varying distances from this dipole, the transmitted signal is received on different grounded dipoles and recorded digitally by the microprocessor controlled receiver electronics. One electrical property of the ground that can be measured in this manner is called resistivity; a change in ground resistivity (the ability of the ground to conduct electrical current) affects the strength of the received signal. A different electrical property is called chargeability, or induced polarization (IP); a change in IP (the ability of material in the ground to polarize at interfaces) affects the shape or timing of the received waveform.

Variations in subsurface moisture content, porosity, permeability, and soil or rock type can all affect resistivity measurements. Cultural features (man-made objects such as fences, power lines, pipelines, etc.) can also affect ground resistivity measurements.

Compared to changes in resistivity, there are relatively few subsurface conditions that create an IP response. Metallic mineralization, particularly disseminated sulphides, cause increased IP values. Certain dissolved solids in groundwater have been shown to increase IP response, and in some environments, some types of clay can also increase IP response if the abundance of the clay is within specific ranges (dependent on the type of clay). Extensive work over landfills has shown increased IP values, but the exact geochemical cause (or causes) of the effects have not been resolved. Like resistivity data, IP data can also be influenced by cultural features.

Survey Parameters

Stations were located and marked on the ground using compass and chain, and later occupied with GPS provided by the Navy for topographic and position control. The distance between stations along each line was 7.5 feet, using a dipole size of 15 feet in order to attain a depth of investigation of 30 to 40 feet. In the deep sounding mode (dipole size of 22.5 feet) the depth of

investigation increases to about 50 to 70 feet, with some loss of lateral resolution however. All data were acquired in the dipole-dipole configuration, using separations from 0.5n to 6.0n in 0.5n increments (i.e., data were acquired at 0.5n, 1.0n, 1.5n, 2.0n, etc.). The survey was performed in the time domain in order to minimize wire-to-wire coupling. A 0.5 Hz signal was used, stacking and averaging eight cycles to minimize random noise. All data points were measured at least twice to establish repeatability of the data.

Field Instrumentation

The receiver used for this survey was a Zonge GDP-32 multi-purpose receiver. This receiver is a backpack-portable, 16-bit, microprocessor-controlled receiver capable of gathering data on as many as 16 channels simultaneously. This receiver is manufactured and sold worldwide by Zonge Engineering. The electric-field signal was sensed at the receiver site using tin-coated copper braid electrodes, connected to the mutiplexer unit with 22 gauge insulated cadmium-bronze wire. The multiplexer unit, which allows computer-controlled switching of up to 30 transmitter and receiver locations, was an MX-30 Multiplexer, also manufactured by Zonge Engineering.

The signal source for the survey was a Zonge ZT-30 transmitter, which is battery-powered and commonly used for transient electromagnetic surveys. The transmitter was controlled directly by the receiver, eliminating the need for clock synchronization. One channel of the receiver was used to monitor and record the transmitter output.

Smooth-Model Inversion

The preliminary data provided are the smooth-model inversion results of the dipole-dipole data. Since the dipole-dipole array is not a vertical sounding method, a buried IP responder can affect measurements that are not directly over the responder, making the interpretation of location, size, and depth very difficult. Briefly, smooth-model inversion mathematically "back-calculates" (or "inverts") from the measured data to determine a likely location, size and depth of the source or

sources of IP and resistivity changes. The results of the smooth-model inversion are intentionally gradational, rather than showing abrupt, "blocky" changes in the subsurface.

The inversion results should not be considered a unique solution, and some ambiguity remains in any mathematical representation of the data. The likelihood that the interpretation is correct increases with corroborating information, of course, and correlation with background information from the U. S. Navy will be included in the final report. The smooth-model inversion program is called "TS2DIP", written by Scott MacInnes, and discussed in more detail in his paper "Two-dimensional Inversion of Resistivity and IP Data with Topography", presented in the Geophysics Session, Northwest Mining Association Convention, December, 1996.

Data and Interpretation

Site 1:

The Site 1 survey area spans part of a recreational ball field in the east, and an adjacent steep topographic slope down to the west. Three north-south lines and one east-west line were acquired consisting of one or two spreads each. Background IP values are in the 1 to 2 msec range, and background resistivities are quite low, slightly increasing to the south and west. A 10 to 20 ft thick, shallow, low resistivity zone can be observed on Lines 1, 4, and 3, with a slight apparent dip to the northwest. This is interpreted to be a shallow, wet zone, possibly due to extensive watering of the recreation field shown on the plan view maps. No correlative IP effect is observed for the zone which indicates it is probably a lithologically clean, wet zone.

A significant, 20 to 30 ft thick, IP anomaly is present at Site 1, trending northwest across the survey area. It is present on all lines except Line 4, the easternmost line. The top of the anomaly is 15 to 20 ft deep east of station 180 on Line 3, and at or near the surface along the slope west of station 140. Anomalous material is interpreted to be present where IP values exceed about 7 msec. This value was chosen because it is roughly twice the apparent background IP level, and

is the modeled surface IP level indicated at the base of the slope on Line 3, where Automobile Shredder Residue (ASR) is seen on the ground

The resistivity picture is much more complex for the anomaly at Site 1. Moderately high IP levels (7 to 15 msec) near the surface are generally correlated with high resistivity values. Very high IP values (> 15 msec) corellate well with low resistivity values on Line 2, and moderately well with low resistivity levels on Line 3. The interpretation here is that the refuse, possibly ASR, is quite variable in metallic content, hence the variability in the resistivity anomalies. The most metallic composition refuse in this survey area is indicated in the vicinity of the Line 2 / Line 3 intersection.

At Site 1, a fault is *possibly* indicated on Line 3 near the intersection with Line 2 which complicates interpretation of the resistivity data. This fault, shown on the Line 3 profiles, is indicated by several observations: a very steep (near vertical), horizontal gradient in the resistivity; extremely low, near vertical resistivity anomaly just east of the gradient; an apparent offset and change in dip of the IP anomaly on Line 3; and lastly, an inflection, or change in slope, of the topography.

As seen on the 20 ft depth plan view IP map of Site 1, a magnetic high is correlated with the IP anomaly. The peak magnetic trend, when extrapolated, is in line with very high IP values seen at the Line 2 / Line 3 intersection. Further east on Line 3 and on Line 1, the trend of moderately high IP values is correlated with the steep, northward gradient of the magnetic anomaly.

Site 6:

The survey at Site 6 consists of two parallel lines trending northwest. Note that Line 2 at Site 6 had the wires reversed in the field; therefore the electrode/station labeling increases north to south rather than south to north per standard convention. The topography at Site 6 is relatively flat. In general, background resistivity at the site is low, less than about 50 ohm-m; however, a shallow, higher resistivity zone can be seen over most of Line 1 which is not seen on Line 2.

The presence of buried conductive and polarizable material is indicated by data from both Lines 1 and 2. An IP and resistivity anomaly can be seen between stations 110 and 210 on Line 1, and between stations 140 and 15 on Line 2 (see Plan View IP at 20 ft Depth map and model cross-section lines). Moderate amplitude IP values (peak about 7 msec) are correlated with a very strong conductor near station 30 on Line 2 between 330 ft and 345 ft elevation. There is also a separate anomalous zone at or near the surface between stations 20 and 40 on Line 2. The IP data at this site indicates a continuous zone of buried polarizable material at depth; however, the resistivity shows that the zone may consist of two separate source regions.

Note that while the 15 ft dipole IP data appears uncorrelated with the resistivity in the deeper part of the section, the Line 2 deep sounding (22.5 ft dipole data) shows a good correlation between the IP and resistivity models. Both models show similar anomalous data distribution, and both reach basal background levels at about 290 ft elevation (70 ft depth).

Site 8:

One line of data was acquired at Site 8. The far south end of the line required some editing between stations 30 and 45, where contact resistance may have been a problem. The raw data from the remainder of the line is of extremely good quality. Background resistivity along the line is moderately high, in the 100 to 500 ohm-m range. The topography shows about 30 ft of relief, primarily consisting of a steep slope near the south end of the line.

Line 1 shows a large, moderate strength, deep IP anomaly (10-15 ft depth) between stns 140-150 It corresponds to a slight, relative low resistivity, indicating that the source material is probably not highly metallic in content. Very near the surface, there is a possibly metallic body near station 135. Resistivity is fairly low here and a moderate IP value is indicated; however, IP is elevated at only one station, indicating that the source is probably very small and localized.

About halfway down the slope on Line 1, there is a moderate strength anomaly near the surface between stations 60 and 75 which corresponds to minor, relative, high resistivity values. The

source material here is possibly ASR, as this is the same type of geophysical signature seen by outcropping ASR at Site 1.

A very low resistivity anomaly is seen at the base of the slope in the 10 to 20 ft depth range, which is covered by a shallow zone of high resistivity. No corresponding IP anomaly is seen on the models; however, very noisy IP data in this region had to be edited out. Corroborating evidence is probably necessary to determine if this anomaly is real.

Site 11:

The survey at Site 11 consists of two lines of data. The raw data from Line 1 is noisy on the southern end, and Line 2 is noisy on both ends. A fair amount of data editing was performed on both these lines. There are no observed IP anomalies on either line at Site 11. Background IP levels are extremely consistent over the area, in the 1 to 2 msec range. Observed resistivity values are extremely low for both lines, generally less than 10 ohm-m, except near the surface on Line 2 where a thin layer of higher resistivity is observed.

Site 12:

Only one spread of data was aquired at Site 12 over a large ditch approximately 50 ft wide by 20 ft deep. Zonge field crews note that there was a large power station 20 ft offset from the line, as well as a large radio communications building nearby. The line was run in forward and reverse in order to help with data clean-up. Editing seriously decimated this data set, and the inversion models should be taken at a glance only. About the only consistent anomalies generated by analagous data points from the forward and reverse runs are the zone of near-surface high resistivity in the ditch and up the northern slope bank. The model IP section should be considered inconclusive where marginal anomalies appear; however, scattered, consistent, raw IP data values from both runs indicate generally low IP values. It is probably safe to say that there are no really large, high-amplitude IP anomalies at this site. Moderate amplitude anomalies cannot be ruled out, however, based on these data.

Site 14:

The Site 14 survey two intersecting lines over a topographically flat area. Raw data quality here is good, although some data editing was necessary due to high contact resistance at some of the electrodes. In general, resistivity values are very low, less than about 30 ohm-m, except for a thin, 5 to 10 ft thick surface zone of higher resistivity.

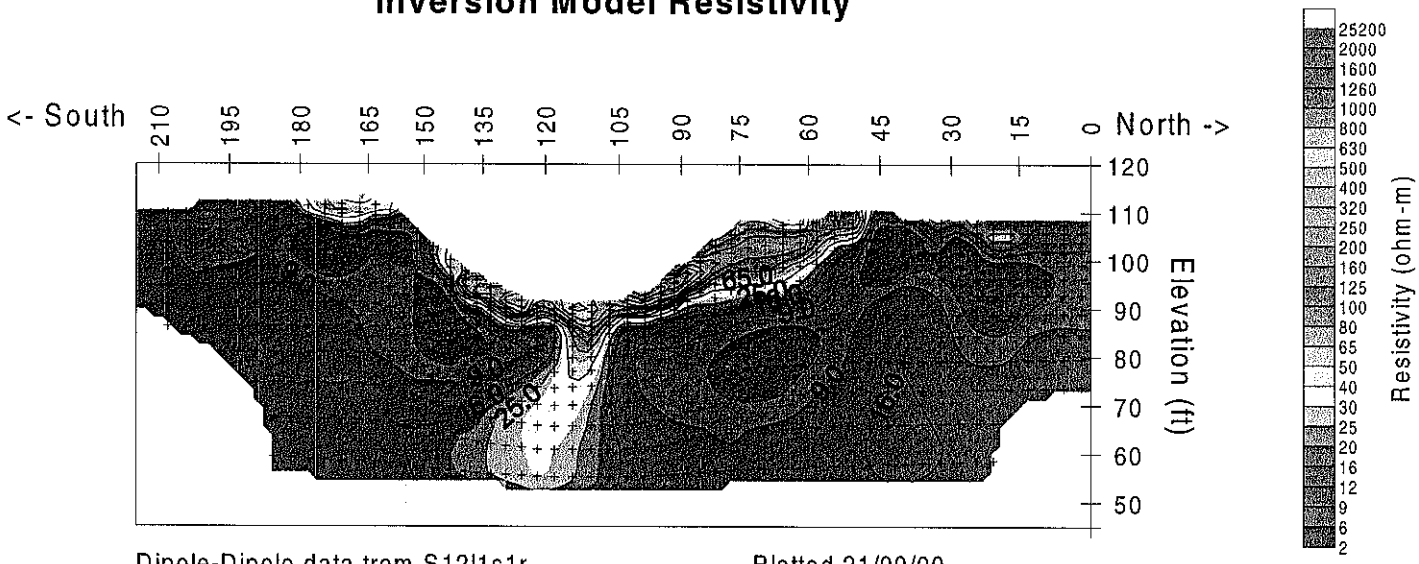
The Line 1 resistivity and IP model sections show a significant anomaly near station 60. Here, a strongly conductive body (< 10 ohm-m) with a moderate IP effect (~ 7 to 8 msec) is indicated at about 10 to 15 ft depth, and perhaps 10 to 20 ft thick. The anomaly is correlated with a moderate amplitude magnetic anomaly as seen on the 20 foot plan view map. The strongest magnetic anomalies, however, appear better correlated with IP values which are only barely elevated above background level (3.5 – 4.0 msec range). There is also a moderate amplitude, high resistivity anomaly near the surface between stations 80 and 100 on Line 1.

The northern half of Line 1, and much of Line 2 shows a broad, diffuse zone of low resistivity and corresponding very slightly elevated IP effect (3 to 4 msec range). The Line 1 / Line 2 tie here is very good. Line 2 shows the same broad, diffuse, undulating zone of low resistivity and minor IP effect. Given the higher resistivity above on both lines, the top of this zone could be a water table / wet zone boundary which has minor amounts of contaminant of some sort, or perhaps clay-rich zone.

Jennifer L. Hare
Geophysicist

Kenneth L. Zonge
President

Site 12- Line 1(r): Point Loma- US Naval Base, San Diego
Inversion Model Resistivity

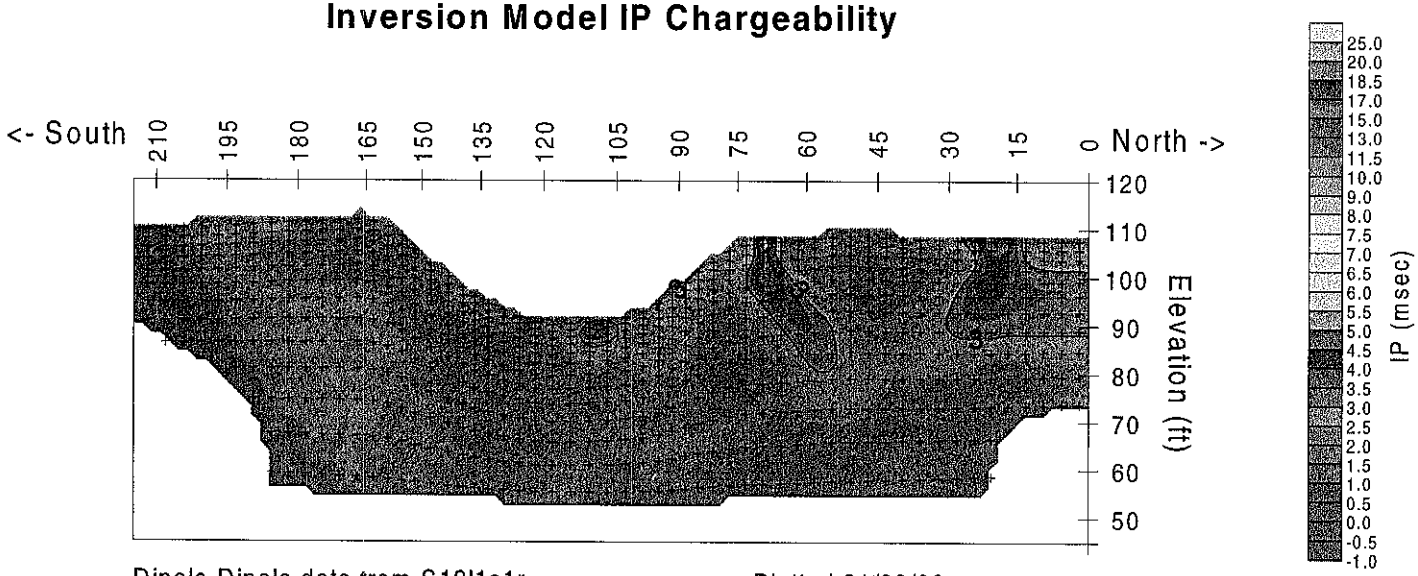


Dipole-Dipole data from S12l1s1r
0.125 hertz, 15 ft dipole data.
ResSmth=1 dpW=0.5 dxW=0.71 dzW=1

Plotted 21/09/00
for U.S.Navy
Job 2000 051 by Zonge Engineering

0ft 20ft 40ft 60ft
Scale 1 : 480

Site 12- Line 1(r): Point Loma- US Naval Base, San Diego
Inversion Model IP Chargeability



Dipole-Dipole data from S12l1s1r
0.125 hertz, 15 ft dipole data.
IPSmth=0.5 dpW=0.5 dxW=0.71 dzW=1

Plotted 21/09/00
for U.S.Navy
Job 2000 051 by Zonge Engineering

0ft 20ft 40ft 60ft

Scale 1 : 480

LABORATORY CHAIN-OF-CU[illegible]DY

CDC #006

31701 COC- 1 of 2

Navy Regional Environmental Laboratory
Public Works Center Code 910
Naval Air Station North Island, BLDG-M9
San Diego, CA 92136
Phone: (619)545-8431 Fax: (619)545-0793

RESULTS DELIVERY:
- [x] FAXED
- [ ] PICKED UP
- [x] GUARD MAIL
- [ ] Other

CUSTOMER DUE DATE: 8-29-03
PROJECT NAME: Site 7 Point Loma Rubble
JOB ORDER #: 113613502008
SAMPLED BY (PRINT): S. Ausler / A. Frias

CHECK REGULATORY PROGRAM
- [x] HAZWASTE/GROUNDWATER/LUFT(RCRA)
- [ ] DRINKING WATER (SDWA)
- [ ] DISCHARGE (NPDES/CWA)
- [ ] ABATEMENT (HUD)
- [ ] OTHER

(LAB USE ONLY)
- [x] RUSH SURCHARGE
- PROJ # 98-2
- [x] NAVY IR
- [ ] OTHER

CONTACT: John PATSKAN PHONE: 46941
ALT. CONTACT: SHELLI AUSLER PHONE: 46950
ACTIVITY: PWC CODE 980 FAX: 46000
ADDRESS: 2730 MCKEAN ST STE 1
S.D. CA 92136
E-MAIL:

PRESERVATION CODE/BOTTLE CODE

ANALYSIS REQUESTED

LAB LOG NUMBER	SAMPLE IDENTIFICATION*	DATE COLLECTED	TIME COLLECTED	SAMPLE MATRIX	VOC'S 8260B	SVOC'S 8270C	PAH'S SIMS 8310	TPH-D 8015M	TPH-G 8015M	TITLE 22 METALS	PCB'S 8082	TOTAL CYANIDE							Number of Containers/Sample
31701-01	S7XDMWK8-027	7/18/03	0700	GROUND WATER	X				X										6
-02	S7XDMWK8-028		0835	SLEEVES ENCORES	X	X	X	X	X	X	X	X							8
-03	S7XDMWK8-029		0900	SLEEVES ENCORES	X	X	X	X	X	X	X	X							8
-04	S7XDMWK8-030		0900	GROUND WATER	X	X	X	X	X	X	X	X							16
-05	S7XDMWK8-031		0930	SLEEVES ENCORES	X	X	X	X	X	X	X	X		(MS/MSD)					21

Shelli Ausler

RELINQUISHED BY: SHELLI AUSLER / Shelli Ausler (PRINT & SIGN) RECEIVED BY: Virgil Allison (PRINT & SIGN) DATE: 7-18-03 TIME: 1525
RELINQUISHED BY: (PRINT & SIGN) RECEIVED BY: (PRINT & SIGN) DATE: TIME:
RELINQUISHED BY: (PRINT & SIGN) RECEIVED BY: (PRINT & SIGN) DATE: TIME:

COMMENTS: * = Location of where the samples(s) were collected.

(Rev 06/11/03)

COOLER TEMP: 3.0 degrees C
RECEIVED ON ICE: Y [x] N [ ]
CORRECT CONTAINER: Y [x] N [ ]
PRESERVED: Y [x] N [ ]
SEAL INTACT: Y [ ] N [ ] N/A [x]
FED EX. TRACKING #: NA

(LAB USE ONLY)
- [ ] BAC-T Form
- [ ] Field notes
- [x] Sour Form
- [x] SIF
- [ ] Others

1 = Nitric Acid(HNO3) 2 = Hydrochloric Acid(HCl) 3 = Sulfuric Acid(H2SO4) 4 = Sodium Hydroxide(NaOH) 5 = Zinc Acetate(ZnC2H3O2)
6 = Sodium Thiosulfate(Na2S2O3) 7 = Ascorbic Acid(C6H8O6) 8 = Sodium Bisulfate(NaHSO4) 9 = Monochloroacetic acid(C2H3O2Cl) NA = Not applicable 10 = Other

LABORATORY CHAIN-OF-CUS Y COC #007 31701 COC-1 2

Navy Regional Environmental Laboratory
Public Works Center Code 910
Naval Air Station North Island, BLDG-M9
San Diego, CA 92135
Phone: (619)545-8431 Fax: (619)545-0793

RESULTS DELIVERY:
- [x] FAXED
- [ ] PICKED UP
- [x] GUARD MAIL
- [ ] Other

CUSTOMER DUE DATE: 8-29-03
PROJECT NAME: Site 12 Point Loma Rubble
JOB ORDER #: 113613502008
SAMPLED BY (PRINT): S. AUSIER / A. FRIAS

CHECK REGULATORY PROGRAM
- [x] HAZWASTE/GROUNDWATER/LUFT(RCRA)
- [ ] DRINKING WATER (SDWA)
- [ ] DISCHARGE (NPDES/CWA)
- [ ] ABATEMENT (HUD)
- [ ] OTHER

(LAB USE ONLY)
- [ ] RUSH SURCHARGE
- PROJ # 98-002
- [x] NAVY IR
- [ ] OTHER

CONTACT: John PATSKAN PHONE: 46941
ALT. CONTACT: SHELLI AUSIER PHONE: 46950
ACTIVITY: PWC C980 FAX: 46000
ADDRESS: 2730 McKEAN St STE 1
S.D. CA 92136
E-MAIL:

PRESERVATION CODE/BOTTLE CODE

ANALYSIS REQUESTED

LAB LOG NUMBER	SAMPLE IDENTIFICATION*	DATE COLLECTED	TIME COLLECTED	SAMPLE MATRIX	VOC'S 8260B	SVOC'S 8270C	PAH'S SIMS 8310	TPH-D 8015M	TPH-G 8015M	TITLE 22 METALS	PCB'S 8082	TOTAL CYANIDE 9010 8080	7/18/03							Number of Containers/Sample
31701-06	S12 XDMWK8-032	7/18/03	1120	SLEEVES ENCORES	X	X	X	X	X	X	X	X								8
-07	S12 XDMWK8-033		1135		X	X	X	X	X	X	X	X								8
-08	S12 XDMWK8-034		1200		X	X	X	X	X	X	X	X								8
-09	S12 XDMWK8-035		1215		X	X	X	X	X	X	X	X								8
-10	S12 XDMWK8-036		1230		X	X	X	X	X	X	X	X								8
-11	S12 XDMWK8-037		1250		X	X	X	X	X	X	X	X								8
-12	S12 XDMWK8-038		1305		X	X	X	X	X	X	X	X								8

per S. Ausier 9/2/03

RELINQUISHED BY: Shelli Ausier / SHELLI AUSIER (PRINT & SIGN) RECEIVED BY: Virgie Allison [signature] (PRINT & SIGN) DATE: 7-18-03 TIME: 1525
RELINQUISHED BY: (PRINT & SIGN) RECEIVED BY: (PRINT & SIGN) DATE: TIME:
RELINQUISHED BY: (PRINT & SIGN) RECEIVED BY: (PRINT & SIGN) DATE: TIME:

COMMENTS: * = Location of where the samples(s) were collected. (Rev 06/11/03)
GA/QC ON SITE 7 COC # 006

COOLER TEMP: 3.0 degrees C
RECEIVED ON ICE: Y [x] N [ ]
CORRECT CONTAINER: Y [x] N [ ]
PRESERVED: Y [ ] N [x]
SEAL INTACT: Y [ ] N [ ] N/A [x]
FED EX. TRACKING #: NA

(LAB USE ONLY)
- [ ] BAC-T Form
- [ ] Field notes
- [x] Scur Form
- [x] SIF
- [ ] Others

1 = Nitric Acid(HNO3) 2 = Hydrochloric Acid(HCl) 3 = Sulfuric Acid(H2SO4) 4 = Sodium Hydroxide(NaOH) 5 = Zinc Acetate(ZnC2H3O2)
6 = Sodium Thiosulfate(Na2S2O3) 7 = Ascorbic Acid(C6H8O6) 8 = Sodium Bisulfate(NaHSO4) 9 = Monochloroacetic acid(C2H3O2Cl) NA = Not applicable 10 = Other

SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

12 ANH 9/2/03
S7XDMWK8032

Lab Name: Laucks Testing Labs

SDG No.: 98N06

Matrix: (soil/water) SOIL

Lab Sample ID: 0307268-12

Sample wt/vol: 4.8 (g/ml) G

Lab File ID: F0724013.D

Level: (low/med) LOW

Date Received: 07/22/03

% Moisture: not dec. 3

Date Analyzed: 07/24/03

GC Column: DB-624 ID: 0.45 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q	
75-71-8	Dichlorodifluoromethane	14		
74-87-3	Chloromethane	3	U	U
75-01-4	Vinyl chloride	3	U	
74-83-9	Bromomethane	3	U	
75-00-3	Chloroethane	3	U	
75-69-4	Trichlorofluoromethane	3	U	
75-35-4	1,1-Dichloroethene	3	U	
67-67-1	Acetone	~~8~~	J	11 J
75-15-0	Carbon disulfide	3	U	U
75-09-2	Methylene chloride	~~2~~	JB	3 J
156-60-5	trans-1,2-Dichloroethene	3	U	U
75-34-3	1,1-Dichloroethane	3	U	
78-93-3	2-Butanone	11	U	
67-66-3	Chloroform	3	U	
71-55-6	1,1,1-Trichloroethane	3	U	
56-23-5	Carbon tetrachloride	3	U	
71-43-2	Benzene	3	U	
107-06-2	1,2-Dichloroethane	3	U	
79-01-6	Trichloroethene	3	U	
78-87-5	1,2-Dichloropropane	3	U	
74-95-3	Dibromomethane	3	U	
75-27-4	Bromodichloromethane	3	U	
10061-01-5	cis-1,3-Dichloropropene	3	U	
108-10-1	4-Methyl-2-pentanone	11	U	
108-88-3	Toluene	3	U	
10061-02-6	trans-1,3-Dichloropropene	3	U	
79-00-5	1,1,2-Trichloroethane	3	U	
127-18-4	Tetrachloroethene	3	U	
591-78-6	2-Hexanone	11	U	
124-48-1	Dibromochloromethane	3	U	
106-93-4	1,2-Dibromoethane	3	U	
108-90-7	Chlorobenzene	3	U	
630-20-6	1,1,1,2-Tetrachloroethane	3	U	
100-41-4	Ethylbenzene	3	U	
108-38-3	m,p-Xylene	3	U	
95-47-6	o-Xylene	3	U	
100-42-5	Styrene	3	U	
75-25-2	Bromoform	3	U	
79-34-5	1,1,2,2-Tetrachloroethane	3	U	

A 11/2/03

743

FORM I VOA

SAMPLE NO

VOLATILE ORGANICS ANALYSIS DATA SHEET

12 ANH 9/2/03
SXDMWK8033

Lab Name: Laucks Testing Labs

SDG No.: 98N06

Matrix: (soil/water) SOIL

Lab Sample ID: 0307268-13

Sample wt/vol: 5.3 (g/ml) G

Lab File ID: F0724014.D

Level: (low/med) LOW

Date Received: 07/22/03

% Moisture: not dec 2

Date Analyzed: 07/24/03

GC Column: DB-624 ID: 0.45 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO	COMPOUND	(ug/L or ug/Kg) UG/KG	Q

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

12 ANH 9/2/03
S/XDMWK8033

Lab Name: Laucks Testing Labs

SDG No.: 98N06

Matrix: (soil/water) SOIL

Lab Sample ID: 0307268-13

Sample wt/vol: 5.3 (g/ml) G

Lab File ID: F0724014.D

Level: (low/med) LOW

Date Received: 07/22/03

% Moisture: not dec 2

Date Analyzed: 07/24/03

GC Column: DB-624 ID: 0.45 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
96-18-4	1,2,3-Trichloropropane	3	U
74-97-5	Bromochloromethane	3	U
87-61-6	1,2,3-Trichlorobenzene	3	U
594-20-7	2,2-Dichloropropane	3	U
103-65-1	n-Propylbenzene	3	U
563-58-6	1,1-Dichloropropene	3	U
108-86-1	Bromobenzene	3	U
95-49-8	2-Chlorotoluene	3	U
142-28-9	1,3-Dichloropropane	3	U
108-67-8	1,3,5-Trimethylbenzene	3	U
98-82-8	Isopropylbenzene	3	U
106-43-4	4-Chlorotoluene	3	U
98-06-6	tert-Butylbenzene	3	U
95-63-6	1,2,4-Trimethylbenzene	3	U
135-98-8	sec-Butylbenzene	3	U
99-87-6	4-Isopropyltoluene	3	U
541-73-1	1,3-Dichlorobenzene	3	U
106-46-7	1,4-Dichlorobenzene	3	U
104-51-8	n-Butylbenzene	3	U
95-50-1	1,2-Dichlorobenzene	3	U
120-82-1	1,2,4-Trichlorobenzene	3	U
87-68-3	Hexachlorobutadiene	3	U
91-20-3	Naphthalene	3	U

U

752

SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

12 AJH 9/2/03
S7XDMWK8034

Lab Name: Laucks Testing Labs

SDG No.: 98N06

Matrix: (soil/water) SOIL

Lab Sample ID: 0307268-14

Sample wt/vol: 5.0 (g/ml) G

Lab File ID: F0724015.D

Level: (low/med) LOW

Date Received: 07/22/03

% Moisture: not dec 5

Date Analyzed: 07/24/03

GC Column: DB-624 ID: 0.45 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO	COMPOUND	(ug/L or ug/Kg) UG/KG	Q	
75-71-8	Dichlorodifluoromethane	2	J	J
74-87-3	Chloromethane	3	U	U
75-01-4	Vinyl chloride	3	U	
74-83-9	Bromomethane	3	U	
75-00-3	Chloroethane	3	U	
75-69-4	Trichlorofluoromethane	3	U	
75-35-4	1,1-Dichloroethene	3	U	
67-67-1	Acetone	~~6~~	J	11 UJ
75-15-0	Carbon disulfide	3	U	U
75-09-2	Methylene chloride	~~2~~	JB	3 UJ
156-60-5	trans-1,2-Dichloroethene	3	U	U
75-34-3	1,1-Dichloroethane	3	U	
78-93-3	2-Butanone	11	U	
67-66-3	Chloroform	3	U	
71-55-6	1,1,1-Trichloroethane	3	U	
56-23-5	Carbon tetrachloride	3	U	
71-43-2	Benzene	3	U	
107-06-2	1,2-Dichloroethane	3	U	
79-01-6	Trichloroethene	3	U	
78-87-5	1,2-Dichloropropane	3	U	
74-95-3	Dibromomethane	3	U	
75-27-4	Bromodichloromethane	3	U	
10061-01-5	cis-1,3-Dichloropropene	3	U	
108-10-1	4-Methyl-2-pentanone	11	U	
108-88-3	Toluene	3	U	
10061-02-6	trans-1,3-Dichloropropene	3	U	
79-00-5	1,1,2-Trichloroethane	3	U	
127-18-4	Tetrachloroethene	3	U	
591-78-6	2-Hexanone	11	U	
124-48-1	Dibromochloromethane	3	U	
106-93-4	1,2-Dibromoethane	3	U	
108-90-7	Chlorobenzene	3	U	
630-20-6	1,1,1,2-Tetrachloroethane	3	U	
100-41-4	Ethylbenzene	3	U	
108-38-3	m,p-Xylene	3	U	
95-47-6	o-Xylene	3	U	
100-42-5	Styrene	3	U	
75-25-2	Bromoform	3	U	
79-34-5	1,1,2,2-Tetrachloroethane	3	U	

A 1/12/03

759

FORM I VOA

SAMPLE NO.

12 ANH 9/2/03
S7XDMWK8034

VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: Laucks Testing Labs

SDG No.: 98N06

Matrix: (soil/water) SOIL

Lab Sample ID: 0307268-14

Sample wt/vol: 5.0 (g/ml) G

Lab File ID: F0724015.D

Level: (low/med) LOW

Date Received: 07/22/03

% Moisture: not dec. 5

Date Analyzed: 07/24/03

GC Column: DB-624 ID: 0.45 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
96-18-4	1,2,3-Trichloropropane	3	U
74-97-5	Bromochloromethane	3	U
87-61-6	1,2,3-Trichlorobenzene	3	U
594-20-7	2,2-Dichloropropane	3	U
103-65-1	n-Propylbenzene	3	U
563-58-6	1,1-Dichloropropene	3	U
108-86-1	Bromobenzene	3	U
95-49-8	2-Chlorotoluene	3	U
142-28-9	1,3-Dichloropropane	3	U
108-67-8	1,3,5-Trimethylbenzene	3	U
98-82-8	Isopropylbenzene	3	U
106-43-4	4-Chlorotoluene	3	U
98-06-6	tert-Butylbenzene	3	U
95-63-6	1,2,4-Trimethylbenzene	3	U
135-98-8	sec-Butylbenzene	3	U
99-87-6	4-Isopropyltoluene	3	U
541-73-1	1,3-Dichlorobenzene	3	U
106-46-7	1,4-Dichlorobenzene	3	U
104-51-8	n-Butylbenzene	3	U
95-50-1	1,2-Dichlorobenzene	3	U
120-82-1	1,2,4-Trichlorobenzene	3	U
87-68-3	Hexachlorobutadiene	3	U
91-20-3	Naphthalene	3	U

A
(1700)

760

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12 ANH 9/2/03
S7XDMWK8035

Lab Name: Laucks Testing Labs

SDG No.: 98N06

Matrix: (soil/water) SOIL

Lab Sample ID: 0307268-15

Sample wt/vol: 4.8 (g/ml) G

Lab File ID: F0724016.D

Level: (low/med) LOW

Date Received: 07/22/03

% Moisture: not dec. 5

Date Analyzed: 07/24/03

GC Column: DB-624 ID: 0.45 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:
(ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND		Q	
75-71-8	Dichlorodifluoromethane	8		
74-87-3	Chloromethane	3	U	U
75-01-4	Vinyl chloride	3	U	
74-83-9	Bromomethane	3	U	
75-00-3	Chloroethane	3	U	
75-69-4	Trichlorofluoromethane	3	U	
75-35-4	1,1-Dichloroethene	3	U	
67-67-1	Acetone	11	U	UJ
75-15-0	Carbon disulfide	3	U	U
75-09-2	Methylene chloride	2	JB	3UJ
156-60-5	trans-1,2-Dichloroethene	3	U	U
75-34-3	1,1-Dichloroethane	3	U	
78-93-3	2-Butanone	11	U	
67-66-3	Chloroform	3	U	
71-55-6	1,1,1-Trichloroethane	3	U	
56-23-5	Carbon tetrachloride	3	U	
71-43-2	Benzene	3	U	
107-06-2	1,2-Dichloroethane	3	U	
79-01-6	Trichloroethene	3	U	
78-87-5	1,2-Dichloropropane	3	U	
74-95-3	Dibromomethane	3	U	
75-27-4	Bromodichloromethane	3	U	
10061-01-5	cis-1,3-Dichloropropene	3	U	
108-10-1	4-Methyl-2-pentanone	11	U	
108-88-3	Toluene	3	U	
10061-02-6	trans-1,3-Dichloropropene	3	U	
79-00-5	1,1,2-Trichloroethane	3	U	
127-18-4	Tetrachloroethene	3	U	
591-78-6	2-Hexanone	11	U	
124-48-1	Dibromochloromethane	3	U	
106-93-4	1,2-Dibromoethane	3	U	
108-90-7	Chlorobenzene	3	U	
630-20-6	1,1,1,2-Tetrachloroethane	3	U	
100-41-4	Ethylbenzene	3	U	
108-38-3	m,p-Xylene	3	U	
95-47-6	o-Xylene	3	U	
100-42-5	Styrene	3	U	
75-25-2	Bromoform	3	U	
79-34-5	1,1,2,2-Tetrachloroethane	3	U	

A
11/20/03
768

FORM I VOA

SAMPLE NO

VOLATILE ORGANICS ANALYSIS DATA SHEET

12 ANH 9/2/03
S7XDMWK8035

Lab Name: Laucks Testing Labs

SDG No.: 98N06

Matrix: (soil/water) SOIL

Lab Sample ID: 0307268-15

Sample wt/vol: 4.8 (g/ml) G

Lab File ID: F0724016.D

Level: (low/med) LOW

Date Received: 07/22/03

% Moisture: not dec 5

Date Analyzed: 07/24/03

GC Column: DB-624 ID: 0.45 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND		Q
96-18-4	1,2,3-Trichloropropane	3	U
74-97-5	Bromochloromethane	3	U
87-61-6	1,2,3-Trichlorobenzene	3	U
594-20-7	2,2-Dichloropropane	3	U
103-65-1	n-Propylbenzene	3	U
563-58-6	1,1-Dichloropropene	3	U
108-86-1	Bromobenzene	3	U
95-49-8	2-Chlorotoluene	3	U
142-28-9	1,3-Dichloropropane	3	U
108-67-8	1,3,5-Trimethylbenzene	3	U
98-82-8	Isopropylbenzene	3	U
106-43-4	4-Chlorotoluene	3	U
98-06-6	tert-Butylbenzene	3	U
95-63-6	1,2,4-Trimethylbenzene	3	U
135-98-8	sec-Butylbenzene	3	U
99-87-6	4-Isopropyltoluene	3	U
541-73-1	1,3-Dichlorobenzene	3	U
106-46-7	1,4-Dichlorobenzene	3	U
104-51-8	n-Butylbenzene	3	U
95-50-1	1,2-Dichlorobenzene	3	U
120-82-1	1,2,4-Trichlorobenzene	3	U
87-68-3	Hexachlorobutadiene	3	U
91-20-3	Naphthalene	3	U

U

A
IMD
769

SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

12 AWH 9/2/03
S7XDMWK8036

Lab Name: Laucks Testing Labs

SDG No.: 98N06

Matrix: (soil/water) SOIL

Lab Sample ID: 0307268-16

Sample wt/vol: 4.8 (g/ml) G

Lab File ID: F0724017.D

Level: (low/med) LOW

Date Received: 07/22/03

% Moisture: not dec 2

Date Analyzed: 07/24/03

GC Column: DB-624 ID: 0.45 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND		Q	
75-71-8	Dichlorodifluoromethane	4		
74-87-3	Chloromethane	3	U	U
75-01-4	Vinyl chloride	3	U	
74-83-9	Bromomethane	3	U	
75-00-3	Chloroethane	3	U	
75-69-4	Trichlorofluoromethane	3	U	
75-35-4	1,1-Dichloroethene	3	U	
67-67-1	Acetone	~~3~~	J	11 UJ
75-15-0	Carbon disulfide	3	U	U
75-09-2	Methylene chloride	~~2~~	JB	3 U J
156-60-5	trans-1,2-Dichloroethene	3	U	U
75-34-3	1,1-Dichloroethane	3	U	
78-93-3	2-Butanone	11	U	
67-66-3	Chloroform	3	U	
71-55-6	1,1,1-Trichloroethane	3	U	
56-23-5	Carbon tetrachloride	3	U	
71-43-2	Benzene	3	U	
107-06-2	1,2-Dichloroethane	3	U	
79-01-6	Trichloroethene	3	U	
78-87-5	1,2-Dichloropropane	3	U	
74-95-3	Dibromomethane	3	U	
75-27-4	Bromodichloromethane	3	U	
10061-01-5	cis-1,3-Dichloropropene	3	U	
108-10-1	4-Methyl-2-pentanone	11	U	
108-88-3	Toluene	3	U	
10061-02-6	trans-1,3-Dichloropropene	3	U	
79-00-5	1,1,2-Trichloroethane	3	U	
127-18-4	Tetrachloroethene	3	U	
591-78-6	2-Hexanone	11	U	
124-48-1	Dibromochloromethane	3	U	
106-93-4	1,2-Dibromoethane	3	U	
108-90-7	Chlorobenzene	3	U	
630-20-6	1,1,1,2-Tetrachloroethane	3	U	
100-41-4	Ethylbenzene	3	U	
108-38-3	m,p-Xylene	3	U	
95-47-6	o-Xylene	3	U	
100-42-5	Styrene	3	U	
75-25-2	Bromoform	3	U	
79-34-5	1,1,2,2-Tetrachloroethane	3	U	

A 1/2003
776

FORM I VOA

SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

12, AWH 9/2/03
S7XDMWK8036

Lab Name: Laucks Testing Labs

SDG No.: 98N06

Matrix: (soil/water) SOIL

Lab Sample ID: 0307268-16

Sample wt/vol: 4.8 (g/ml) G

Lab File ID: F0724017.D

Level: (low/med) LOW

Date Received: 07/22/03

% Moisture: not dec. 2

Date Analyzed: 07/24/03

GC Column: DB-624 ID: 0.45 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
96-18-4	1,2,3-Trichloropropane	3	U
74-97-5	Bromochloromethane	3	U
87-61-6	1,2,3-Trichlorobenzene	3	U
594-20-7	2,2-Dichloropropane	3	U
103-65-1	n-Propylbenzene	3	U
563-58-6	1,1-Dichloropropene	3	U
108-86-1	Bromobenzene	3	U
95-49-8	2-Chlorotoluene	3	U
142-28-9	1,3-Dichloropropane	3	U
108-67-8	1,3,5-Trimethylbenzene	3	U
98-82-8	Isopropylbenzene	3	U
106-43-4	4-Chlorotoluene	3	U
98-06-6	tert-Butylbenzene	3	U
95-63-6	1,2,4-Trimethylbenzene	3	U
135-98-8	sec-Butylbenzene	3	U
99-87-6	4-Isopropyltoluene	3	U
541-73-1	1,3-Dichlorobenzene	3	U
106-46-7	1,4-Dichlorobenzene	3	U
104-51-8	n-Butylbenzene	3	U
95-50-1	1,2-Dichlorobenzene	3	U
120-82-1	1,2,4-Trichlorobenzene	3	U
87-68-3	Hexachlorobutadiene	3	U
91-20-3	Naphthalene	3	U

U

A
11/25/03

777

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12 KWH 9/2/03
S7XDMWK8037

Lab Name: Laucks Testing Labs

SDG No.: 98N06

Matrix: (soil/water) SOIL

Lab Sample ID: 0307268-17

Sample wt/vol: 5.2 (g/ml) G

Lab File ID: F0724018.D

Level: (low/med) LOW

Date Received: 07/22/03

% Moisture: not dec 4

Date Analyzed: 07/24/03

GC Column: DB-624 ID: 0.45 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND		Q	
75-71-8	Dichlorodifluoromethane	13		
74-87-3	Chloromethane	3	U	U
75-01-4	Vinyl chloride	3	U	
74-83-9	Bromomethane	3	U	
75-00-3	Chloroethane	3	U	
75-69-4	Trichlorofluoromethane	3	U	
75-35-4	1,1-Dichloroethene	3	U	
67-67-1	Acetone	~~8~~	J	10UJ
75-15-0	Carbon disulfide	3	U	U
75-09-2	Methylene chloride	~~2~~	JB	3UJ
156-60-5	trans-1,2-Dichloroethene	3	U	U
75-34-3	1,1-Dichloroethane	3	U	
78-93-3	2-Butanone	10	U	
67-66-3	Chloroform	3	U	
71-55-6	1,1,1-Trichloroethane	3	U	
56-23-5	Carbon tetrachloride	3	U	
71-43-2	Benzene	3	U	
107-06-2	1,2-Dichloroethane	3	U	
79-01-6	Trichloroethene	3	U	
78-87-5	1,2-Dichloropropane	3	U	
74-95-3	Dibromomethane	3	U	
75-27-4	Bromodichloromethane	3	U	
10061-01-5	cis-1,3-Dichloropropene	3	U	
108-10-1	4-Methyl-2-pentanone	10	U	
108-88-3	Toluene	3	U	
10061-02-6	trans-1,3-Dichloropropene	3	U	
79-00-5	1,1,2-Trichloroethane	3	U	
127-18-4	Tetrachloroethene	3	U	
591-78-6	2-Hexanone	10	U	
124-48-1	Dibromochloromethane	3	U	
106-93-4	1,2-Dibromoethane	3	U	
108-90-7	Chlorobenzene	3	U	
630-20-6	1,1,1,2-Tetrachloroethane	3	U	
100-41-4	Ethylbenzene	3	U	
108-38-3	m,p-Xylene	3	U	
95-47-6	o-Xylene	3	U	
100-42-5	Styrene	3	U	
75-25-2	Bromoform	3	U	
79-34-5	1,1,2,2-Tetrachloroethane	3	U	

A 11/03

785

FORM I VOA

SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

12 ANH 9/2/03
S7XDMWK8037

Lab Name: Laucks Testing Labs

SDG No : 98N06

Matrix: (soil/water) SOIL

Lab Sample ID: 0307268-17

Sample wt/vol: 5.2 (g/ml) G

Lab File ID: F0724018.D

Level: (low/med) LOW

Date Received: 07/22/03

% Moisture: not dec. 4

Date Analyzed: 07/24/03

GC Column: DB-624 ID: 0.45 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND		Q
96-18-4	1,2,3-Trichloropropane	3	U
74-97-5	Bromochloromethane	3	U
87-61-6	1,2,3-Trichlorobenzene	3	U
594-20-7	2,2-Dichloropropane	3	U
103-65-1	n-Propylbenzene	3	U
563-58-6	1,1-Dichloropropene	3	U
108-86-1	Bromobenzene	3	U
95-49-8	2-Chlorotoluene	3	U
142-28-9	1,3-Dichloropropane	3	U
108-67-8	1,3,5-Trimethylbenzene	3	U
98-82-8	Isopropylbenzene	3	U
106-43-4	4-Chlorotoluene	3	U
98-06-6	tert-Butylbenzene	3	U
95-63-6	1,2,4-Trimethylbenzene	3	U
135-98-8	sec-Butylbenzene	3	U
99-87-6	4-Isopropyltoluene	3	U
541-73-1	1,3-Dichlorobenzene	3	U
106-46-7	1,4-Dichlorobenzene	3	U
104-51-8	n-Butylbenzene	3	U
95-50-1	1,2-Dichlorobenzene	3	U
120-82-1	1,2,4-Trichlorobenzene	3	U
87-68-3	Hexachlorobutadiene	3	U
91-20-3	Naphthalene	3	U

U

A
11/20/03
786

SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

12 ANH 9/2/03
SXDMWK8038

Lab Name: Laucks Testing Labs

SDG No.: 98N06

Matrix: (soil/water) SOIL

Lab Sample ID: 0307268-18

Sample wt/vol: 4.6 (g/ml) G

Lab File ID: F0730010.D

Level: (low/med) LOW

Date Received: 07/22/03

% Moisture: not dec. 6

Date Analyzed: 07/30/03

GC Column: DB-624 ID: 0.45 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q	
75-71-8	Dichlorodifluoromethane	80		
74-87-3	Chloromethane	4	U	U
75-01-4	Vinyl chloride	4	U	U
74-83-9	Bromomethane	4	U	UJ
75-00-3	Chloroethane	4	U	U
75-69-4	Trichlorofluoromethane	2	J	J
75-35-4	1,1-Dichloroethene	4	U	U
67-67-1	Acetone	~~11~~	J	12UJ
75-15-0	Carbon disulfide	4	U	U
75-09-2	Methylene chloride	11		UJ
156-60-5	trans-1,2-Dichloroethene	4	U	U
75-34-3	1,1-Dichloroethane	4	U	
78-93-3	2-Butanone	12	U	
67-66-3	Chloroform	4	U	
71-55-6	1,1,1-Trichloroethane	4	U	
56-23-5	Carbon tetrachloride	4	U	
71-43-2	Benzene	4	U	
107-06-2	1,2-Dichloroethane	4	U	
79-01-6	Trichloroethene	4	U	
78-87-5	1,2-Dichloropropane	4	U	
74-95-3	Dibromomethane	4	U	
75-27-4	Bromodichloromethane	4	U	
10061-01-5	cis-1,3-Dichloropropene	4	U	
108-10-1	4-Methyl-2-pentanone	12	U	
108-88-3	Toluene	4	U	
10061-02-6	trans-1,3-Dichloropropene	4	U	
79-00-5	1,1,2-Trichloroethane	4	U	
127-18-4	Tetrachloroethene	4	U	
591-78-6	2-Hexanone	12	U	
124-48-1	Dibromochloromethane	4	U	
106-93-4	1,2-Dibromoethane	4	U	
108-90-7	Chlorobenzene	4	U	
630-20-6	1,1,1,2-Tetrachloroethane	4	U	
100-41-4	Ethylbenzene	4	U	
108-38-3	m,p-Xylene	4	U	
95-47-6	o-Xylene	4	U	
100-42-5	Styrene	4	U	
75-25-2	Bromoform	4	U	
79-34-5	1,1,2,2-Tetrachloroethane	4	U	UJ

A 7/31/2003

FORM I VOA

VOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

12 MH 9/2/03
SYXDMWK8038

Lab Name: Laucks Testing Labs

SDG No.: 98N06

Matrix: (soil/water) SOIL

Lab Sample ID: 0307268-18

Sample wt/vol: 4.6 (g/ml) G

Lab File ID: F0730010.D

Level: (low/med) LOW

Date Received: 07/22/03

% Moisture: not dec. 6

Date Analyzed: 07/30/03

GC Column: DB-624 ID: 0.45 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q	
96-18-4	1,2,3-Trichloropropane	4	U	UJ
74-97-5	Bromochloromethane	4	U	U
87-61-6	1,2,3-Trichlorobenzene	4	U	UJ
594-20-7	2,2-Dichloropropane	4	U	U
103-65-1	n-Propylbenzene	4	U	UJ
563-58-6	1,1-Dichloropropene	4	U	U
108-86-1	Bromobenzene	4	U	UJ
95-49-8	2-Chlorotoluene	4	U	UJ
142-28-9	1,3-Dichloropropane	4	U	U
108-67-8	1,3,5-Trimethylbenzene	4	U	UJ
98-82-8	Isopropylbenzene	4	U	U
106-43-4	4-Chlorotoluene	4	U	UJ
98-06-6	tert-Butylbenzene	4	U	
95-63-6	1,2,4-Trimethylbenzene	4	U	
135-98-8	sec-Butylbenzene	4	U	
99-87-6	4-Isopropyltoluene	4	U	
541-73-1	1,3-Dichlorobenzene	4	U	
106-46-7	1,4-Dichlorobenzene	4	U	
104-51-8	n-Butylbenzene	4	U	
95-50-1	1,2-Dichlorobenzene	4	U	
120-82-1	1,2,4-Trichlorobenzene	4	U	
87-68-3	Hexachlorobutadiene	4	U	
91-20-3	Naphthalene	4	U	UJ

1/205
795

SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

12 ADH 9/2/03
SXDMWK8038RE

Lab Name: Laucks Testing Labs

SDG No.: 98N06

Matrix: (soil/water) SOIL

Lab Sample ID: 0307268-18RE

Sample wt/vol: 4.6 (g/ml) G

Lab File ID: F0730013.D

Level: (low/med) LOW

Date Received: 07/22/03

% Moisture: not dec. 6

Date Analyzed: 07/30/03

GC Column: DB-624 ID: 0.45 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q	
75-71-8	Dichlorodifluoromethane	30		
74-87-3	Chloromethane	4	U	U
75-01-4	Vinyl chloride	4	U	U
74-83-9	Bromomethane	4	U	UJ
75-00-3	Chloroethane	4	U	U
75-69-4	Trichlorofluoromethane	4	U	
75-35-4	1,1-Dichloroethene	4	U	
67-67-1	Acetone	~~10~~	J	12 UJ
75-15-0	Carbon disulfide	4	U	U
75-09-2	Methylene chloride	16	B	UJ
156-60-5	trans-1,2-Dichloroethene	4	U	U
75-34-3	1,1-Dichloroethane	4	U	
78-93-3	2-Butanone	12	U	
67-66-3	Chloroform	4	U	
71-55-6	1,1,1-Trichloroethane	4	U	
56-23-5	Carbon tetrachloride	4	U	
71-43-2	Benzene	4	U	
107-06-2	1,2-Dichloroethane	4	U	
79-01-6	Trichloroethene	4	U	
78-87-5	1,2-Dichloropropane	4	U	
74-95-3	Dibromomethane	4	U	
75-27-4	Bromodichloromethane	4	U	
10061-01-5	cis-1,3-Dichloropropene	4	U	
108-10-1	4-Methyl-2-pentanone	12	U	
108-88-3	Toluene	4	U	
10061-02-6	trans-1,3-Dichloropropene	4	U	
79-00-5	1,1,2-Trichloroethane	4	U	
127-18-4	Tetrachloroethene	4	U	
591-78-6	2-Hexanone	12	U	
124-48-1	Dibromochloromethane	4	U	
106-93-4	1,2-Dibromoethane	4	U	
108-90-7	Chlorobenzene	4	U	
630-20-6	1,1,1,2-Tetrachloroethane	4	U	
100-41-4	Ethylbenzene	4	U	
108-38-3	m,p-Xylene	4	U	
95-47-6	o-Xylene	4	U	
100-42-5	Styrene	4	U	
75-25-2	Bromoform	4	U	
79-34-5	1,1,2,2-Tetrachloroethane	4	U	UJ

A 11/2003
802

FORM I VOA

SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET

12 ANH 9/2/03
S7XDMWK8038RE

Lab Name: Laucks Testing Labs

SDG No.: 98N06

Matrix: (soil/water) SOIL

Lab Sample ID: 0307268-18RE

Sample wt/vol: 4.6 (g/ml) G

Lab File ID: F0730013.D

Level: (low/med) LOW

Date Received: 07/22/03

% Moisture: not dec. 6

Date Analyzed: 07/30/03

GC Column: DB-624 ID: 0.45 (mm)

Dilution Factor: 1.0

Soil Extract Volume: _____ (uL)

Soil Aliquot Volume: _____ (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q	
96-18-4	1,2,3-Trichloropropane	4	U	UJ
74-97-5	Bromochloromethane	4	U	U
87-61-6	1,2,3-Trichlorobenzene	4	U	UJ
594-20-7	2,2-Dichloropropane	4	U	U
103-65-1	n-Propylbenzene	4	U	UJ
563-58-6	1,1-Dichloropropene	4	U	U
108-86-1	Bromobenzene	4	U	UJ
95-49-8	2-Chlorotoluene	4	U	UJ
142-28-9	1,3-Dichloropropane	4	U	U
108-67-8	1,3,5-Trimethylbenzene	4	U	UJ
98-82-8	Isopropylbenzene	4	U	U
106-43-4	4-Chlorotoluene	4	U	UJ
98-06-6	tert-Butylbenzene	4	U	
95-63-6	1,2,4-Trimethylbenzene	4	U	
135-98-8	sec-Butylbenzene	4	U	
99-87-6	4-Isopropyltoluene	4	U	
541-73-1	1,3-Dichlorobenzene	4	U	
106-46-7	1,4-Dichlorobenzene	4	U	
104-51-8	n-Butylbenzene	4	U	
95-50-1	1,2-Dichlorobenzene	4	U	
120-82-1	1,2,4-Trichlorobenzene	4	U	
87-68-3	Hexachlorobutadiene	4	U	
91-20-3	Naphthalene	4	U	UJ

A 1(2003)
803

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

12 ANH 9/2/03
SXDMWK8-032

Lab Name: Laucks Testing Labs Contract:

Lab Code: Case No.: SAS No.: SDG No.: 98N06

Matrix: (soil/water) SOIL Lab Sample ID: 0307268-12

Sample wt/vol: 15 (g/ml) G Lab File ID: Z0725009.D

Level: (low/med) LOW Date Received: 07/22/03

% Moisture: 3 decanted:(Y/N) N Date Extracted: 07/22/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 07/25/03

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH:

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
62-75-9	n-Nitrosodimethylamine	340	U
110-86-1	Pyridine	2100	U
108-95-2	Phenol	340	U
62-53-3	Aniline	340	U
111-44-4	Bis(2-Chloroethyl)ether	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
100-51-6	Benzyl alcohol	340	U
95-50-1	1,2-Dichlorobenzene	340	U
108-60-1	Bis(2-chloroisopropyl)ether	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	n-Nitroso-di-n-propylamine	340	U
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
65-85-0	Benzoic acid	49	J
111-91-1	bis(2-Chloroethoxy)methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-methylphenol	340	U
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	340	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	340	U
131-11-3	Dimethylphthalate	340	U
606-20-2	2,6-Dinitrotoluene	340	U
208-96-8	Acenaphthylene	340	U
99-09-2	3-Nitroaniline	340	U
83-32-9	Acenaphthene	340	U

FORM I SV-1

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12 ANH 9/2/03
S7XDMWK8-032

Lab Name: Laucks Testing Labs Contract:

Lab Code: Case No.: SAS No.: SDG No.: 98N06

Matrix: (soil/water) SOIL Lab Sample ID: 0307268-12

Sample wt/vol: 15 (g/ml) G Lab File ID: Z0725009.D

Level: (low/med) LOW Date Received: 07/22/03

% Moisture: 3 decanted:(Y/N) N Date Extracted: 07/22/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 07/25/03

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH:

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q	
51-28-5	2,4-Dinitrophenol	340	U	U
100-02-7	4-Nitrophenol	340	U	
132-64-9	Dibenzofuran	340	U	
121-14-2	2,4-Dinitrotoluene	340	U	
84-66-2	Diethylphthalate	340	U	
86-73-7	Fluorene	340	U	
7005-72-3	4-Chlorophenyl-phenylether	340	U	
100-01-6	4-Nitroaniline	340	U	
534-52-1	4,6-Dinitro-2-methylphenol	340	U	
86-30-6	n-Nitrosodiphenylamine	340	U	
101-55-3	4-Bromophenyl-phenylether	340	U	
118-74-1	Hexachlorobenzene	340	U	
87-86-5	Pentachlorophenol	340	U	
85-01-8	Phenanthrene	340	U	
120-12-7	Anthracene	340	U	
86-74-8	Carbazole	340	U	
84-74-2	Di-n-butylphthalate	~~97~~	JB	340 U
206-44-0	Fluoranthene	340	U	U
92-87-5	Benzidine	340	U	UJ
129-00-0	Pyrene	340	U	U
85-68-7	Butylbenzylphthalate	340	U	
91-94-1	3,3'-Dichlorobenzidine	340	U	
56-55-3	Benzo[a]anthracene	340	U	
117-81-7	bis(2-Ethylhexyl)phthalate	~~330~~	JB	340 U
218-01-9	Chrysene	340	U	U
117-84-0	Di-n-octylphthalate	340	U	
205-99-2	Benzo[b]fluoranthene	340	U	
50-32-8	Benzo[a]pyrene	340	U	
207-08-9	Benzo[k]fluoranthene	340	U	
193-39-5	Indeno[1,2,3-cd]pyrene	340	U	
53-70-3	Dibenz[a,h]anthracene	340	U	
191-24-2	Benzo[g,h,i]perylene	340	U	

FORM I SV-2

A 1/2003

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12 AOH 9/2/03
SYXDMWK8-033

Lab Name: Laucks Testing Labs Contract:

Lab Code: Case No.: SAS No.: SDG No.: 98N06

Matrix: (soil/water) SOIL Lab Sample ID: 0307268-13

Sample wt/vol: 15 (g/ml) G Lab File ID: Z0725010.D

Level: (low/med) LOW Date Received: 07/22/03

% Moisture: 2 decanted:(Y/N) N Date Extracted: 07/22/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 07/25/03

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH:

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
62-75-9	n-Nitrosodimethylamine	340	U
110-86-1	Pyridine	2000	U
108-95-2	Phenol	340	U
62-53-3	Aniline	340	U
111-44-4	Bis(2-Chloroethyl)ether	340	U
95-57-8	2-Chlorophenol	340	U
541-73-1	1,3-Dichlorobenzene	340	U
106-46-7	1,4-Dichlorobenzene	340	U
100-51-6	Benzyl alcohol	340	U
95-50-1	1,2-Dichlorobenzene	340	U
108-60-1	Bis(2-chloroisopropyl)ether	340	U
106-44-5	4-Methylphenol	340	U
621-64-7	n-Nitroso-di-n-propylamine	340	U
67-72-1	Hexachloroethane	340	U
98-95-3	Nitrobenzene	340	U
78-59-1	Isophorone	340	U
88-75-5	2-Nitrophenol	340	U
105-67-9	2,4-Dimethylphenol	340	U
65-85-0	Benzoic acid	43	J
111-91-1	bis(2-Chloroethoxy)methane	340	U
120-83-2	2,4-Dichlorophenol	340	U
120-82-1	1,2,4-Trichlorobenzene	340	U
91-20-3	Naphthalene	340	U
106-47-8	4-Chloroaniline	340	U
87-68-3	Hexachlorobutadiene	340	U
59-50-7	4-Chloro-3-methylphenol	340	U
91-57-6	2-Methylnaphthalene	340	U
77-47-4	Hexachlorocyclopentadiene	340	U
88-06-2	2,4,6-Trichlorophenol	340	U
95-95-4	2,4,5-Trichlorophenol	340	U
91-58-7	2-Chloronaphthalene	340	U
88-74-4	2-Nitroaniline	340	U
131-11-3	Dimethylphthalate	340	U
606-20-2	2,6-Dinitrotoluene	340	U
208-96-8	Acenaphthylene	340	U
99-09-2	3-Nitroaniline	340	U
83-32-9	Acenaphthene	340	U

U

J

U

A-394
11/20/03

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12 ANH 9/2/03
S7XDMWK8-033

Lab Name: Laucks Testing Labs Contract: _____

Lab Code: _____ Case No.: _____ SAS No.: _____ SDG No.: 98N06

Matrix: (soil/water) SOIL Lab Sample ID: 0307268-13

Sample wt/vol: 15 (g/ml) G Lab File ID: Z0725010.D

Level: (low/med) LOW Date Received: 07/22/03

% Moisture: 2 decanted:(Y/N) N Date Extracted: 07/22/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 07/25/03

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: _____

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	UG/KG	Q	
51-28-5	2,4-Dinitrophenol	340	U	U
100-02-7	4-Nitrophenol	340	U	
132-64-9	Dibenzofuran	340	U	
121-14-2	2,4-Dinitrotoluene	340	U	
84-66-2	Diethylphthalate	340	U	
86-73-7	Fluorene	340	U	
7005-72-3	4-Chlorophenyl-phenylether	340	U	
100-01-6	4-Nitroaniline	340	U	
534-52-1	4,6-Dinitro-2-methylphenol	340	U	
86-30-6	n-Nitrosodiphenylamine	340	U	
101-55-3	4-Bromophenyl-phenylether	340	U	
118-74-1	Hexachlorobenzene	340	U	
87-86-5	Pentachlorophenol	340	U	
85-01-8	Phenanthrene	340	U	
120-12-7	Anthracene	340	U	
86-74-8	Carbazole	340	U	
84-74-2	Di-n-butylphthalate	~~96~~	JB	340 U
206-44-0	Fluoranthene	340	U	U
92-87-5	Benzidine	340	U	U J
129-00-0	Pyrene	340	U	U
85-68-7	Butylbenzylphthalate	340	U	
91-94-1	3,3'-Dichlorobenzidine	340	U	
56-55-3	Benzo[a]anthracene	340	U	
117-81-7	bis(2-Ethylhexyl)phthalate	~~85~~	JB	340 U
218-01-9	Chrysene	340	U	U
117-84-0	Di-n-octylphthalate	340	U	
205-99-2	Benzo[b]fluoranthene	340	U	
50-32-8	Benzo[a]pyrene	340	U	
207-08-9	Benzo[k]fluoranthene	340	U	
193-39-5	Indeno[1,2,3-cd]pyrene	340	U	
53-70-3	Dibenz[a,h]anthracene	340	U	
191-24-2	Benzo[g,h,i]perylene	340	U	

395

A 11/07

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12 ANH 9/2/03
S7XDMWK8-034

Lab Name: Laucks Testing Labs Contract:

Lab Code: Case No.: SAS No.: SDG No.: 98N06

Matrix: (soil/water) SOIL Lab Sample ID: 0307268-14

Sample wt/vol: 15 (g/ml) G Lab File ID: Z0725011.D

Level: (low/med) LOW Date Received: 07/22/03

% Moisture: 5 decanted:(Y/N) N Date Extracted: 07/22/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 07/25/03

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH:

CONCENTRATION UNITS:

CAS NO	COMPOUND	(ug/L or ug/Kg) UG/KG	Q
62-75-9	n-Nitrosodimethylamine	350	U
110-86-1	Pyridine	2100	U
108-95-2	Phenol	350	U
62-53-3	Aniline	350	U
111-44-4	Bis(2-Chloroethyl)ether	350	U
95-57-8	2-Chlorophenol	350	U
541-73-1	1,3-Dichlorobenzene	350	U
106-46-7	1,4-Dichlorobenzene	350	U
100-51-6	Benzyl alcohol	350	U
95-50-1	1,2-Dichlorobenzene	350	U
108-60-1	Bis(2-chloroisopropyl)ether	350	U
106-44-5	4-Methylphenol	350	U
621-64-7	n-Nitroso-di-n-propylamine	350	U
67-72-1	Hexachloroethane	350	U
98-95-3	Nitrobenzene	350	U
78-59-1	Isophorone	350	U
88-75-5	2-Nitrophenol	350	U
105-67-9	2,4-Dimethylphenol	350	U
65-85-0	Benzoic acid	350	U
111-91-1	bis(2-Chloroethoxy)methane	350	U
120-83-2	2,4-Dichlorophenol	350	U
120-82-1	1,2,4-Trichlorobenzene	350	U
91-20-3	Naphthalene	350	U
106-47-8	4-Chloroaniline	350	U
87-68-3	Hexachlorobutadiene	350	U
59-50-7	4-Chloro-3-methylphenol	350	U
91-57-6	2-Methylnaphthalene	350	U
77-47-4	Hexachlorocyclopentadiene	350	U
88-06-2	2,4,6-Trichlorophenol	350	U
95-95-4	2,4,5-Trichlorophenol	350	U
91-58-7	2-Chloronaphthalene	350	U
88-74-4	2-Nitroaniline	350	U
131-11-3	Dimethylphthalate	350	U
606-20-2	2,6-Dinitrotoluene	350	U
208-96-8	Acenaphthylene	350	U
99-09-2	3-Nitroaniline	350	U
83-32-9	Acenaphthene	350	U

U

UJ

U

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12 AJH 9/2/03
S7XDMWK8-034

Lab Name: Laucks Testing Labs Contract:

Lab Code: Case No.: SAS No.: SDG No.: 98N06

Matrix: (soil/water) SOIL Lab Sample ID: 0307268-14

Sample wt/vol: 15 (g/ml) G Lab File ID: Z0725011.D

Level: (low/med) LOW Date Received: 07/22/03

% Moisture: 5 decanted:(Y/N) N Date Extracted: 07/22/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 07/25/03

Injection Volume: 2.0 (uL.) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH:

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q	
51-28-5	2,4-Dinitrophenol	350	U	U
100-02-7	4-Nitrophenol	350	U	
132-64-9	Dibenzofuran	350	U	
121-14-2	2,4-Dinitrotoluene	350	U	
84-66-2	Diethylphthalate	350	U	
86-73-7	Fluorene	350	U	
7005-72-3	4-Chlorophenyl-phenylether	350	U	
100-01-6	4-Nitroaniline	350	U	
534-52-1	4,6-Dinitro-2-methylphenol	350	U	
86-30-6	n-Nitrosodiphenylamine	350	U	
101-55-3	4-Bromophenyl-phenylether	350	U	
118-74-1	Hexachlorobenzene	350	U	
87-86-5	Pentachlorophenol	350	U	
85-01-8	Phenanthrene	350	U	
120-12-7	Anthracene	350	U	
86-74-8	Carbazole	350	U	
84-74-2	Di-n-butylphthalate	~~490~~	JB	350U
206-44-0	Fluoranthene	350	U	U
92-87-5	Benzidine	350	U	UJ
129-00-0	Pyrene	350	U	U
85-68-7	Butylbenzylphthalate	350	U	
91-94-1	3,3'-Dichlorobenzidine	350	U	
56-55-3	Benzo[a]anthracene	350	U	
117-81-7	bis(2-Ethylhexyl)phthalate	~~91~~	JB	350U
218-01-9	Chrysene	350	U	U
117-84-0	Di-n-octylphthalate	350	U	
205-99-2	Benzo[b]fluoranthene	350	U	
50-32-8	Benzo[a]pyrene	350	U	
207-08-9	Benzo[k]fluoranthene	350	U	
193-39-5	Indeno[1,2,3-cd]pyrene	350	U	
53-70-3	Dibenz[a,h]anthracene	350	U	
191-24-2	Benzo[g,h,i]perylene	350	U	

A 403
11/2007

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12 ANH 9/2/03
S7XDMWK8-034DL

Lab Name: Laucks Testing Labs Contract:

Lab Code: Case No : SAS No : SDG No.: 98N06

Matrix: (soil/water) SOIL Lab Sample ID: 0307268-14DL

Sample wt/vol: 15 (g/ml) G Lab File ID: Z0728019.D

Level: (low/med) LOW Date Received: 07/22/03

% Moisture: 5 decanted:(Y/N) N Date Extracted: 07/22/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 07/28/03

Injection Volume: 2.0 (uL) Dilution Factor: 4.0

GPC Cleanup: (Y/N) Y pH:

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q	
62-75-9	n-Nitrosodimethylamine	1400	U	U
110-86-1	Pyridine	8400	U	
108-95-2	Phenol	1400	U	
62-53-3	Aniline	1400	U	
111-44-4	Bis(2-Chloroethyl)ether	1400	U	
95-57-8	2-Chlorophenol	1400	U	
541-73-1	1,3-Dichlorobenzene	1400	U	
106-46-7	1,4-Dichlorobenzene	1400	U	
100-51-6	Benzyl alcohol	1400	U	
95-50-1	1,2-Dichlorobenzene	1400	U	
108-60-1	Bis(2-chloroisopropyl)ether	1400	U	
106-44-5	4-Methylphenol	1400	U	
621-64-7	n-Nitroso-di-n-propylamine	1400	U	
67-72-1	Hexachloroethane	1400	U	
98-95-3	Nitrobenzene	1400	U	
78-59-1	Isophorone	1400	U	
88-75-5	2-Nitrophenol	1400	U	
105-67-9	2,4-Dimethylphenol	1400	U	
65-85-0	Benzoic acid	1400	U	UJ
111-91-1	bis(2-Chloroethoxy)methane	1400	U	U
120-83-2	2,4-Dichlorophenol	1400	U	
120-82-1	1,2,4-Trichlorobenzene	1400	U	
91-20-3	Naphthalene	1400	U	
106-47-8	4-Chloroaniline	1400	U	
87-68-3	Hexachlorobutadiene	1400	U	
59-50-7	4-Chloro-3-methylphenol	1400	U	
91-57-6	2-Methylnaphthalene	1400	U	
77-47-4	Hexachlorocyclopentadiene	1400	U	
88-06-2	2,4,6-Trichlorophenol	1400	U	
95-95-4	2,4,5-Trichlorophenol	1400	U	
91-58-7	2-Chloronaphthalene	1400	U	
88-74-4	2-Nitroaniline	1400	U	
131-11-3	Dimethylphthalate	1400	U	
606-20-2	2,6-Dinitrotoluene	1400	U	
208-96-8	Acenaphthylene	1400	U	
99-09-2	3-Nitroaniline	1400	U	
83-32-9	Acenaphthene	1400	U	

A 409 ~~400~~ 400
1/2/03

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO

12 9/2/03 AM

SVXDMWK8-034DL

Lab Name: Laucks Testing Labs Contract:

Lab Code: Case No.: SAS No.: SDG No.: 98N06

Matrix: (soil/water) SOIL Lab Sample ID: 0307268-14DL

Sample wt/vol: 15 (g/ml) G Lab File ID: Z0728019.D

Level: (low/med) LOW Date Received: 07/22/03

% Moisture: 5 decanted:(Y/N) N Date Extracted: 07/22/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 07/28/03

Injection Volume: 2.0 (uL) Dilution Factor: 4.0

GPC Cleanup: (Y/N) Y pH:

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q	
51-28-5	2,4-Dinitrophenol	1400	U	U
100-02-7	4-Nitrophenol	1400	U	
132-64-9	Dibenzofuran	1400	U	
121-14-2	2,4-Dinitrotoluene	1400	U	
84-66-2	Diethylphthalate	~~230~~	JBD	1400 U J
86-73-7	Fluorene	1400	U	U
7005-72-3	4-Chlorophenyl-phenylether	1400	U	
100-01-6	4-Nitroaniline	1400	U	
534-52-1	4,6-Dinitro-2-methylphenol	1400	U	
86-30-6	n-Nitrosodiphenylamine	1400	U	
101-55-3	4-Bromophenyl-phenylether	1400	U	
118-74-1	Hexachlorobenzene	1400	U	
87-86-5	Pentachlorophenol	1400	U	
85-01-8	Phenanthrene	1400	U	
120-12-7	Anthracene	1400	U	
86-74-8	Carbazole	1400	U	
84-74-2	Di-n-butylphthalate	~~240~~	JBD	1400 U
206-44-0	Fluoranthene	1400	U	U
92-87-5	Benzidine	1400	U	UJ
129-00-0	Pyrene	1400	U	U
85-68-7	Butylbenzylphthalate	1400	U	
91-94-1	3,3'-Dichlorobenzidine	1400	U	
56-55-3	Benzo[a]anthracene	1400	U	
117-81-7	bis(2-Ethylhexyl)phthalate	~~95~~	JBD	1400 U
218-01-9	Chrysene	1400	U	U
117-84-0	Di-n-octylphthalate	1400	U	U J
205-99-2	Benzo[b]fluoranthene	1400	U	
50-32-8	Benzo[a]pyrene	1400	U	
207-08-9	Benzo[k]fluoranthene	1400	U	
193-39-5	Indeno[1,2,3-cd]pyrene	1400	U	
53-70-3	Dibenz[a,h]anthracene	1400	U	
191-24-2	Benzo[g,h,i]perylene	1400	U	U

A-- 410

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12 ANH 9/2/03
~~S~~XDMWK8-035

Lab Name: Laucks Testing Labs Contract: _____

Lab Code: _____ Case No : _____ SAS No : _____ SDG No.: 98N06

Matrix: (soil/water) SOIL Lab Sample ID: 0307268-15

Sample wt/vol: 15 (g/ml) G Lab File ID: Z0725012.D

Level: (low/med) LOW Date Received: 07/22/03

% Moisture: 5 decanted:(Y/N) N Date Extracted: 07/22/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 07/25/03

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: _____

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	UG/KG	Q	
62-75-9	n-Nitrosodimethylamine	350	U	U
110-86-1	Pyridine	2100	U	
108-95-2	Phenol	350	U	
62-53-3	Aniline	350	U	
111-44-4	Bis(2-Chloroethyl)ether	350	U	
95-57-8	2-Chlorophenol	350	U	
541-73-1	1,3-Dichlorobenzene	350	U	
106-46-7	1,4-Dichlorobenzene	350	U	
100-51-6	Benzyl alcohol	350	U	
95-50-1	1,2-Dichlorobenzene	350	U	
108-60-1	Bis(2-chloroisopropyl)ether	350	U	
106-44-5	4-Methylphenol	350	U	
621-64-7	n-Nitroso-di-n-propylamine	350	U	
67-72-1	Hexachloroethane	350	U	
98-95-3	Nitrobenzene	350	U	
78-59-1	Isophorone	350	U	
88-75-5	2-Nitrophenol	350	U	
105-67-9	2,4-Dimethylphenol	350	U	
65-85-0	Benzoic acid	74	J	J
111-91-1	bis(2-Chloroethoxy)methane	350	U	U
120-83-2	2,4-Dichlorophenol	350	U	
120-82-1	1,2,4-Trichlorobenzene	350	U	
91-20-3	Naphthalene	350	U	
106-47-8	4-Chloroaniline	350	U	
87-68-3	Hexachlorobutadiene	350	U	
59-50-7	4-Chloro-3-methylphenol	350	U	
91-57-6	2-Methylnaphthalene	350	U	
77-47-4	Hexachlorocyclopentadiene	350	U	
88-06-2	2,4,6-Trichlorophenol	350	U	
95-95-4	2,4,5-Trichlorophenol	350	U	
91-58-7	2-Chloronaphthalene	350	U	
88-74-4	2-Nitroaniline	350	U	
131-11-3	Dimethylphthalate	350	U	
606-20-2	2,6-Dinitrotoluene	350	U	
208-96-8	Acenaphthylene	350	U	
99-09-2	3-Nitroaniline	350	U	
83-32-9	Acenaphthene	350	U	

417

A 11/2003

FORM I SV-1

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12 AWH 9/2/03
SWXDMWK8-035

Lab Name: Laucks Testing Labs Contract:

Lab Code: Case No.: SAS No.: SDG No.: 98N06

Matrix: (soil/water) SOIL Lab Sample ID: 0307268-15

Sample wt/vol: 15 (g/ml) G Lab File ID: Z0725012.D

Level: (low/med) LOW Date Received: 07/22/03

% Moisture: 5 decanted:(Y/N) N Date Extracted: 07/22/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 07/25/03

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH:

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q	
51-28-5	2,4-Dinitrophenol	350	U	U
100-02-7	4-Nitrophenol	350	U	
132-64-9	Dibenzofuran	350	U	
121-14-2	2,4-Dinitrotoluene	350	U	
84-66-2	Diethylphthalate	350	U	
86-73-7	Fluorene	350	U	
7005-72-3	4-Chlorophenyl-phenylether	350	U	
100-01-6	4-Nitroaniline	350	U	
534-52-1	4,6-Dinitro-2-methylphenol	350	U	
86-30-6	n-Nitrosodiphenylamine	350	U	
101-55-3	4-Bromophenyl-phenylether	350	U	
118-74-1	Hexachlorobenzene	350	U	
87-86-5	Pentachlorophenol	350	U	
85-01-8	Phenanthrene	350	U	
120-12-7	Anthracene	350	U	
86-74-8	Carbazole	350	U	
84-74-2	Di-n-butylphthalate	350	U	
206-44-0	Fluoranthene	350	U	
92-87-5	Benzidine	350	U	UJ
129-00-0	Pyrene	350	U	U
85-68-7	Butylbenzylphthalate	350	U	
91-94-1	3,3'-Dichlorobenzidine	350	U	
56-55-3	Benzo[a]anthracene	350	U	
117-81-7	bis(2-Ethylhexyl)phthalate	~~85~~	JB	350 U
218-01-9	Chrysene	350	U	U
117-84-0	Di-n-octylphthalate	350	U	
205-99-2	Benzo[b]fluoranthene	350	U	
50-32-8	Benzo[a]pyrene	350	U	
207-08-9	Benzo[k]fluoranthene	350	U	
193-39-5	Indeno[1,2,3-cd]pyrene	350	U	
53-70-3	Dibenz[a,h]anthracene	350	U	
191-24-2	Benzo[g,h,i]perylene	350	U	

A 418
(1 of 7)

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12 ANH 9/2/03
SJXDMWK8-036

Lab Name: Laucks Testing Labs Contract:

Lab Code: Case No.: SAS No.: SDG No.: 98N06

Matrix: (soil/water) SOIL Lab Sample ID: 0307268-16

Sample wt/vol: 15 (g/ml) G Lab File ID: Z0725013.D

Level: (low/med) LOW Date Received: 07/22/03

% Moisture: 2 decanted:(Y/N) N Date Extracted: 07/22/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 07/25/03

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH:

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q	
62-75-9	n-Nitrosodimethylamine	340	U	U
110-86-1	Pyridine	2000	U	
108-95-2	Phenol	340	U	
62-53-3	Aniline	340	U	
111-44-4	Bis(2-Chloroethyl)ether	340	U	
95-57-8	2-Chlorophenol	340	U	
541-73-1	1,3-Dichlorobenzene	340	U	
106-46-7	1,4-Dichlorobenzene	340	U	
100-51-6	Benzyl alcohol	340	U	
95-50-1	1,2-Dichlorobenzene	340	U	
108-60-1	Bis(2-chloroisopropyl)ether	340	U	
106-44-5	4-Methylphenol	340	U	
621-64-7	n-Nitroso-di-n-propylamine	340	U	
67-72-1	Hexachloroethane	340	U	
98-95-3	Nitrobenzene	340	U	
78-59-1	Isophorone	340	U	
88-75-5	2-Nitrophenol	340	U	
105-67-9	2,4-Dimethylphenol	340	U	
65-85-0	Benzoic acid	340	U	UJ
111-91-1	bis(2-Chloroethoxy)methane	340	U	U
120-83-2	2,4-Dichlorophenol	340	U	
120-82-1	1,2,4-Trichlorobenzene	340	U	
91-20-3	Naphthalene	340	U	
106-47-8	4-Chloroaniline	340	U	
87-68-3	Hexachlorobutadiene	340	U	
59-50-7	4-Chloro-3-methylphenol	340	U	
91-57-6	2-Methylnaphthalene	340	U	
77-47-4	Hexachlorocyclopentadiene	340	U	
88-06-2	2,4,6-Trichlorophenol	340	U	
95-95-4	2,4,5-Trichlorophenol	340	U	
91-58-7	2-Chloronaphthalene	340	U	
88-74-4	2-Nitroaniline	340	U	
131-11-3	Dimethylphthalate	340	U	
606-20-2	2,6-Dinitrotoluene	340	U	
208-96-8	Acenaphthylene	340	U	
99-09-2	3-Nitroaniline	340	U	
83-32-9	Acenaphthene	340	U	

FORM I SV-1

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12 ANH 9/2/03
S7XDMWK8-036

Lab Name: Laucks Testing Labs Contract:

Lab Code: Case No.: SAS No.: SDG No.: 98N06

Matrix: (soil/water) SOIL Lab Sample ID: 0307268-16

Sample wt/vol: 15 (g/ml) G Lab File ID: Z0725013.D

Level: (low/med) LOW Date Received: 07/22/03

% Moisture: 2 decanted:(Y/N) N Date Extracted: 07/22/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 07/25/03

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH:

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q	
51-28-5	2,4-Dinitrophenol	340	U	U
100-02-7	4-Nitrophenol	340	U	
132-64-9	Dibenzofuran	340	U	
121-14-2	2,4-Dinitrotoluene	340	U	
84-66-2	Diethylphthalate	~~27~~	JB	340 U
86-73-7	Fluorene	340	U	U
7005-72-3	4-Chlorophenyl-phenylether	340	U	
100-01-6	4-Nitroaniline	340	U	
534-52-1	4,6-Dinitro-2-methylphenol	340	U	
86-30-6	n-Nitrosodiphenylamine	340	U	
101-55-3	4-Bromophenyl-phenylether	340	U	
118-74-1	Hexachlorobenzene	340	U	
87-86-5	Pentachlorophenol	340	U	
85-01-8	Phenanthrene	340	U	
120-12-7	Anthracene	340	U	
86-74-8	Carbazole	340	U	
84-74-2	Di-n-butylphthalate	~~83~~	JB	340 U
206-44-0	Fluoranthene	340	U	U
92-87-5	Benzidine	340	U	UJ
129-00-0	Pyrene	340	U	U
85-68-7	Butylbenzylphthalate	340	U	
91-94-1	3,3'-Dichlorobenzidine	340	U	
56-55-3	Benzo[a]anthracene	340	U	
117-81-7	bis(2-Ethylhexyl)phthalate	~~70~~	JB	340 U
218-01-9	Chrysene	340	U	U
117-84-0	Di-n-octylphthalate	340	U	
205-99-2	Benzo[b]fluoranthene	340	U	
50-32-8	Benzo[a]pyrene	340	U	
207-08-9	Benzo[k]fluoranthene	340	U	
193-39-5	Indeno[1,2,3-cd]pyrene	340	U	
53-70-3	Dibenz[a,h]anthracene	340	U	
191-24-2	Benzo[g,h,i]perylene	340	U	

A 425
1/23/03

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12 ANH 9/2/03
S7XDMWK8-037

Lab Name: Laucks Testing Labs Contract:

Lab Code: Case No.: SAS No.: SDG No.: 98N06

Matrix: (soil/water) SOIL Lab Sample ID: 0307268-17

Sample wt/vol: 15 (g/ml) G Lab File ID: Z0725015.D

Level: (low/med) LOW Date Received: 07/22/03

% Moisture: 4 decanted:(Y/N) N Date Extracted: 07/22/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 07/25/03

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH:

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q	
62-75-9	n-Nitrosodimethylamine	350	U	U
110-86-1	Pyridine	2100	U	
108-95-2	Phenol	350	U	
62-53-3	Aniline	350	U	
111-44-4	Bis(2-Chloroethyl)ether	350	U	
95-57-8	2-Chlorophenol	350	U	
541-73-1	1,3-Dichlorobenzene	350	U	
106-46-7	1,4-Dichlorobenzene	350	U	
100-51-6	Benzyl alcohol	350	U	
95-50-1	1,2-Dichlorobenzene	350	U	
108-60-1	Bis(2-chloroisopropyl)ether	350	U	
106-44-5	4-Methylphenol	350	U	
621-64-7	n-Nitroso-di-n-propylamine	350	U	
67-72-1	Hexachloroethane	350	U	
98-95-3	Nitrobenzene	350	U	
78-59-1	Isophorone	350	U	
88-75-5	2-Nitrophenol	350	U	
105-67-9	2,4-Dimethylphenol	350	U	
65-85-0	Benzoic acid	50	J	J
111-91-1	bis(2-Chloroethoxy)methane	350	U	U
120-83-2	2,4-Dichlorophenol	350	U	
120-82-1	1,2,4-Trichlorobenzene	350	U	
91-20-3	Naphthalene	350	U	
106-47-8	4-Chloroaniline	350	U	
87-68-3	Hexachlorobutadiene	350	U	
59-50-7	4-Chloro-3-methylphenol	350	U	
91-57-6	2-Methylnaphthalene	350	U	
77-47-4	Hexachlorocyclopentadiene	350	U	
88-06-2	2,4,6-Trichlorophenol	350	U	
95-95-4	2,4,5-Trichlorophenol	350	U	
91-58-7	2-Chloronaphthalene	350	U	
88-74-4	2-Nitroaniline	350	U	
131-11-3	Dimethylphthalate	350	U	
606-20-2	2,6-Dinitrotoluene	350	U	
208-96-8	Acenaphthylene	350	U	
99-09-2	3-Nitroaniline	350	U	
83-32-9	Acenaphthene	350	U	

A
LIWD

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12 ANH 9/2/03
S/XDMWK8-037

Lab Name: Laucks Testing Labs Contract:

Lab Code: Case No.: SAS No.: SDG No.: 98N06

Matrix: (soil/water) SOIL Lab Sample ID: 0307268-17

Sample wt/vol: 15 (g/ml) G Lab File ID: Z0725015.D

Level: (low/med) LOW Date Received: 07/22/03

% Moisture: 4 decanted:(Y/N) N Date Extracted: 07/22/03

Concentrated Extract Volume: 500 (uL.) Date Analyzed: 07/25/03

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH:

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q	
51-28-5	2,4-Dinitrophenol	350	U	U
100-02-7	4-Nitrophenol	350	U	
132-64-9	Dibenzofuran	350	U	
121-14-2	2,4-Dinitrotoluene	350	U	
84-66-2	Diethylphthalate	~~26~~	JB	350UJ
86-73-7	Fluorene	350	U	U
7005-72-3	4-Chlorophenyl-phenylether	350	U	
100-01-6	4-Nitroaniline	350	U	
534-52-1	4,6-Dinitro-2-methylphenol	350	U	
86-30-6	n-Nitrosodiphenylamine	350	U	
101-55-3	4-Bromophenyl-phenylether	350	U	
118-74-1	Hexachlorobenzene	350	U	
87-86-5	Pentachlorophenol	350	U	
85-01-8	Phenanthrene	83	J	J
120-12-7	Anthracene	350	U	U
86-74-8	Carbazole	350	U	U
84-74-2	Di-n-butylphthalate	~~84~~	JB	350U ~~J~~ UJ
206-44-0	Fluoranthene	140	J	J
92-87-5	Benzidine	350	U	UJ
129-00-0	Pyrene	240	J	J
85-68-7	Butylbenzylphthalate	350	U	UJ
91-94-1	3,3'-Dichlorobenzidine	350	U	UJ
56-55-3	Benzo[a]anthracene	93	J	J
117-81-7	bis(2-Ethylhexyl)phthalate	~~97~~	JB	350U J
218-01-9	Chrysene	110	J	J
117-84-0	Di-n-octylphthalate	350	U	UJ
205-99-2	Benzo[b]fluoranthene	190	J	J
50-32-8	Benzo[a]pyrene	88	J	J
207-08-9	Benzo[k]fluoranthene	350	U	UJ
193-39-5	Indeno[1,2,3-cd]pyrene	350	U	
53-70-3	Dibenz[a,h]anthracene	350	U	
191-24-2	Benzo[g,h,i]perylene	350	U	U

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12 ANH 9/2/03
S7XDMWK8-037RE

Lab Name: Laucks Testing Labs Contract:

Lab Code: Case No.: SAS No.: SDG No.: 98N06

Matrix: (soil/water) SOIL Lab Sample ID: 0307268-17RE

Sample wt/vol: 15 (g/ml) G Lab File ID: Z0728021.D

Level: (low/med) LOW Date Received: 07/22/03

% Moisture: 4 decanted:(Y/N) N Date Extracted: 07/22/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 07/28/03

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH:

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO	COMPOUND	UG/KG	Q
62-75-9	n-Nitrosodimethylamine	350	U
110-86-1	Pyridine	2100	U
108-95-2	Phenol	350	U
62-53-3	Aniline	350	U
111-44-4	Bis(2-Chloroethyl)ether	350	U
95-57-8	2-Chlorophenol	350	U
541-73-1	1,3-Dichlorobenzene	350	U
106-46-7	1,4-Dichlorobenzene	350	U
100-51-6	Benzyl alcohol	350	U
95-50-1	1,2-Dichlorobenzene	350	U
108-60-1	Bis(2-chloroisopropyl)ether	350	U
106-44-5	4-Methylphenol	350	U
621-64-7	n-Nitroso-di-n-propylamine	350	U
67-72-1	Hexachloroethane	350	U
98-95-3	Nitrobenzene	350	U
78-59-1	Isophorone	350	U
88-75-5	2-Nitrophenol	350	U
105-67-9	2,4-Dimethylphenol	350	U
65-85-0	Benzoic acid	72	J
111-91-1	bis(2-Chloroethoxy)methane	350	U
120-83-2	2,4-Dichlorophenol	350	U
120-82-1	1,2,4-Trichlorobenzene	350	U
91-20-3	Naphthalene	350	U
106-47-8	4-Chloroaniline	350	U
87-68-3	Hexachlorobutadiene	350	U
59-50-7	4-Chloro-3-methylphenol	350	U
91-57-6	2-Methylnaphthalene	350	U
77-47-4	Hexachlorocyclopentadiene	350	U
88-06-2	2,4,6-Trichlorophenol	350	U
95-95-4	2,4,5-Trichlorophenol	350	U
91-58-7	2-Chloronaphthalene	350	U
88-74-4	2-Nitroaniline	350	U
131-11-3	Dimethylphthalate	350	U
606-20-2	2,6-Dinitrotoluene	350	U
208-96-8	Acenaphthylene	350	U
99-09-2	3-Nitroaniline	350	U
83-32-9	Acenaphthene	350	U

U

J

U

445

A-
11/2/03

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12 ANH 9/2/03
S7XDMWK8-037RE

Lab Name: Laucks Testing Labs Contract:

Lab Code: Case No.: SAS No.: SDG No.: 98N06

Matrix: (soil/water) SOIL Lab Sample ID: 0307268-17RE

Sample wt/vol: 15 (g/ml) G Lab File ID: Z0728021.D

Level: (low/med) LOW Date Received: 07/22/03

% Moisture: 4 decanted:(Y/N) N Date Extracted: 07/22/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 07/28/03

Injection Volume: 2.0 (uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH:

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND		Q	
51-28-5	2,4-Dinitrophenol	350	U	U
100-02-7	4-Nitrophenol	350	U	
132-64-9	Dibenzofuran	350	U	
121-14-2	2,4-Dinitrotoluene	350	U	
84-66-2	Diethylphthalate	~~70~~	JB	350UJ
86-73-7	Fluorene	350	U	U
7005-72-3	4-Chlorophenyl-phenylether	350	U	
100-01-6	4-Nitroaniline	350	U	
534-52-1	4,6-Dinitro-2-methylphenol	350	U	
86-30-6	n-Nitrosodiphenylamine	350	U	
101-55-3	4-Bromophenyl-phenylether	350	U	
118-74-1	Hexachlorobenzene	350	U	
87-86-5	Pentachlorophenol	350	U	
85-01-8	Phenanthrene	72	J	J
120-12-7	Anthracene	350	U	U
86-74-8	Carbazole	350	U	U
84-74-2	Di-n-butylphthalate	~~81~~	JB	350U
206-44-0	Fluoranthene	120	J	J
92-87-5	Benzidine	350	U	UJ
129-00-0	Pyrene	240	J	J
85-68-7	Butylbenzylphthalate	350	U	UJ
91-94-1	3,3'-Dichlorobenzidine	350	U	UJ
56-55-3	Benzo[a]anthracene	83	J	J
117-81-7	bis(2-Ethylhexyl)phthalate	~~98~~	JB	350UJ
218-01-9	Chrysene	96	J	J
117-84-0	Di-n-octylphthalate	350	U	UJ
205-99-2	Benzo[b]fluoranthene	170	J	J
50-32-8	Benzo[a]pyrene	83	J	J
207-08-9	Benzo[k]fluoranthene	350	U	UJ
193-39-5	Indeno[1,2,3-cd]pyrene	350	U	
53-70-3	Dibenz[a,h]anthracene	350	U	
191-24-2	Benzo[g,h,i]perylene	350	U	U

A 446
(1 2007)

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12 ANH 9/2/03
SXDMWK8-038

Lab Name: Laucks Testing Labs Contract:

Lab Code: Case No.: SAS No.: SDG No.: 98N06

Matrix: (soil/water) SOIL Lab Sample ID: 0307268-18

Sample wt/vol: 15 (g/ml) G Lab File ID: Z0725016.D

Level: (low/med) LOW Date Received: 07/22/03

% Moisture: 6 decanted:(Y/N) N Date Extracted: 07/22/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 07/25/03

Injection Volume: 2.0 (uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH:

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	UG/KG	Q	
62-75-9	n-Nitrosodimethylamine	710	U	U
110-86-1	Pyridine	4300	U	
108-95-2	Phenol	710	U	
62-53-3	Aniline	710	U	
111-44-4	Bis(2-Chloroethyl)ether	710	U	
95-57-8	2-Chlorophenol	710	U	
541-73-1	1,3-Dichlorobenzene	710	U	
106-46-7	1,4-Dichlorobenzene	710	U	
100-51-6	Benzyl alcohol	710	U	
95-50-1	1,2-Dichlorobenzene	710	U	
108-60-1	Bis(2-chloroisopropyl)ether	710	U	
106-44-5	4-Methylphenol	710	U	
621-64-7	n-Nitroso-di-n-propylamine	710	U	
67-72-1	Hexachloroethane	710	U	
98-95-3	Nitrobenzene	710	U	
78-59-1	Isophorone	710	U	
88-75-5	2-Nitrophenol	710	U	
105-67-9	2,4-Dimethylphenol	710	U	
65-85-0	Benzoic acid	110	J	J
111-91-1	bis(2-Chloroethoxy)methane	710	U	U
120-83-2	2,4-Dichlorophenol	710	U	
120-82-1	1,2,4-Trichlorobenzene	710	U	
91-20-3	Naphthalene	710	U	
106-47-8	4-Chloroaniline	710	U	
87-68-3	Hexachlorobutadiene	710	U	
59-50-7	4-Chloro-3-methylphenol	710	U	
91-57-6	2-Methylnaphthalene	710	U	
77-47-4	Hexachlorocyclopentadiene	710	U	
88-06-2	2,4,6-Trichlorophenol	710	U	
95-95-4	2,4,5-Trichlorophenol	710	U	
91-58-7	2-Chloronaphthalene	710	U	
88-74-4	2-Nitroaniline	710	U	
131-11-3	Dimethylphthalate	710	U	
606-20-2	2,6-Dinitrotoluene	710	U	
208-96-8	Acenaphthylene	710	U	
99-09-2	3-Nitroaniline	710	U	
83-32-9	Acenaphthene	710	U	

FORM I SV-1

A 460
11/30/03

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12 ANH 9/2/03
SFXDMWK8-038

Lab Name: Laucks Testing Labs Contract:

Lab Code: Case No.: SAS No.: SDG No.: 98N06

Matrix: (soil/water) SOIL Lab Sample ID: 0307268-18

Sample wt/vol: 15 (g/ml) G Lab File ID: Z0725016.D

Level: (low/med) LOW Date Received: 07/22/03

% Moisture: 6 decanted:(Y/N) N Date Extracted: 07/22/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 07/25/03

Injection Volume: 2.0 (uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH:

CONCENTRATION UNITS: (ug/L or ug/Kg) UG/KG

CAS NO.	COMPOUND	UG/KG	Q	
51-28-5	2,4-Dinitrophenol	710	U	U
100-02-7	4-Nitrophenol	710	U	
132-64-9	Dibenzofuran	710	U	
121-14-2	2,4-Dinitrotoluene	710	U	
84-66-2	Diethylphthalate	710	U	UJ
86-73-7	Fluorene	710	U	U
7005-72-3	4-Chlorophenyl-phenylether	710	U	
100-01-6	4-Nitroaniline	710	U	
534-52-1	4,6-Dinitro-2-methylphenol	710	U	
86-30-6	n-Nitrosodiphenylamine	710	U	
101-55-3	4-Bromophenyl-phenylether	710	U	
118-74-1	Hexachlorobenzene	710	U	
87-86-5	Pentachlorophenol	710	U	
85-01-8	Phenanthrene	710	U	
120-12-7	Anthracene	710	U	
86-74-8	Carbazole	710	U	
84-74-2	Di-n-butylphthalate	~~240~~	JB	710UJ
206-44-0	Fluoranthene	710	U	U
92-87-5	Benzidine	710	U	UJ
129-00-0	Pyrene	48	J	J
85-68-7	Butylbenzylphthalate	710	U	UJ
91-94-1	3,3'-Dichlorobenzidine	710	U	
56-55-3	Benzo[a]anthracene	710	U	
117-81-7	bis(2-Ethylhexyl)phthalate	~~430~~	JB	710UJ
218-01-9	Chrysene	54	J	J
117-84-0	Di-n-octylphthalate	710	U	UJ
205-99-2	Benzo[b]fluoranthene	710	U	
50-32-8	Benzo[a]pyrene	710	U	
207-08-9	Benzo[k]fluoranthene	710	U	
193-39-5	Indeno[1,2,3-cd]pyrene	710	U	
53-70-3	Dibenz[a,h]anthracene	710	U	
191-24-2	Benzo[g,h,i]perylene	710	U	U

A 461

FORM I SV-2

1B

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12 AMH 9/2/03
S/XDMWK8-038RE

Lab Name: Laucks Testing Labs Contract:

Lab Code: Case No.: SAS No.: SDG No.: 98N06

Matrix: (soil/water) SOIL Lab Sample ID: 0307268-18RE

Sample wt/vol: 15 (g/ml) G Lab File ID: Z0728022.D

Level: (low/med) LOW Date Received: 07/22/03

% Moisture: 6 decanted:(Y/N) N Date Extracted: 07/22/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 07/28/03

Injection Volume: 2.0 (uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH:

CONCENTRATION UNITS:

CAS NO	COMPOUND	(ug/L or ug/Kg) UG/KG	Q	
62-75-9	n-Nitrosodimethylamine	710	U	U
110-86-1	Pyridine	4300	U	
108-95-2	Phenol	710	U	
62-53-3	Aniline	710	U	
111-44-4	Bis(2-Chloroethyl)ether	710	U	
95-57-8	2-Chlorophenol	710	U	
541-73-1	1,3-Dichlorobenzene	710	U	
106-46-7	1,4-Dichlorobenzene	710	U	
100-51-6	Benzyl alcohol	710	U	
95-50-1	1,2-Dichlorobenzene	710	U	
108-60-1	Bis(2-chloroisopropyl)ether	710	U	
106-44-5	4-Methylphenol	710	U	
621-64-7	n-Nitroso-di-n-propylamine	710	U	
67-72-1	Hexachloroethane	710	U	
98-95-3	Nitrobenzene	710	U	
78-59-1	Isophorone	710	U	
88-75-5	2-Nitrophenol	710	U	
105-67-9	2,4-Dimethylphenol	710	U	
65-85-0	Benzoic acid	710	U	UJ
111-91-1	bis(2-Chloroethoxy)methane	710	U	U
120-83-2	2,4-Dichlorophenol	710	U	
120-82-1	1,2,4-Trichlorobenzene	710	U	
91-20-3	Naphthalene	710	U	
106-47-8	4-Chloroaniline	710	U	
87-68-3	Hexachlorobutadiene	710	U	
59-50-7	4-Chloro-3-methylphenol	710	U	
91-57-6	2-Methylnaphthalene	710	U	
77-47-4	Hexachlorocyclopentadiene	710	U	
88-06-2	2,4,6-Trichlorophenol	710	U	
95-95-4	2,4,5-Trichlorophenol	710	U	
91-58-7	2-Chloronaphthalene	710	U	
88-74-4	2-Nitroaniline	710	U	
131-11-3	Dimethylphthalate	710	U	
606-20-2	2,6-Dinitrotoluene	710	U	
208-96-8	Acenaphthylene	710	U	
99-09-2	3-Nitroaniline	710	U	
83-32-9	Acenaphthene	710	U	

1C

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

SAMPLE NO.

12 9/2/03 AJH
S7XDMWK8-038RE

Lab Name: Laucks Testing Labs Contract:

Lab Code: Case No.: SAS No.: SDG No.: 98N06

Matrix: (soil/water) SOIL Lab Sample ID: 0307268-18RE

Sample wt/vol: 15 (g/ml) G Lab File ID: Z0728022.D

Level: (low/med) LOW Date Received: 07/22/03

% Moisture: 6 decanted:(Y/N) N Date Extracted: 07/22/03

Concentrated Extract Volume: 500 (uL) Date Analyzed: 07/28/03

Injection Volume: 2.0 (uL) Dilution Factor: 2.0

GPC Cleanup: (Y/N) Y pH:

CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) UG/KG	Q	
51-28-5	2,4-Dinitrophenol	710	U	U
100-02-7	4-Nitrophenol	710	U	
132-64-9	Dibenzofuran	710	U	
121-14-2	2,4-Dinitrotoluene	710	U	
84-66-2	Diethylphthalate	~~250~~	JB	710UJ
86-73-7	Fluorene	710	U	U
7005-72-3	4-Chlorophenyl-phenylether	710	U	
100-01-6	4-Nitroaniline	710	U	
534-52-1	4,6-Dinitro-2-methylphenol	710	U	
86-30-6	n-Nitrosodiphenylamine	710	U	
101-55-3	4-Bromophenyl-phenylether	710	U	
118-74-1	Hexachlorobenzene	710	U	
87-86-5	Pentachlorophenol	710	U	
85-01-8	Phenanthrene	710	U	
120-12-7	Anthracene	710	U	
86-74-8	Carbazole	710	U	
84-74-2	Di-n-butylphthalate	~~240~~	JB	710UJ
206-44-0	Fluoranthene	710	U	U
92-87-5	Benzidine	710	U	UJ
129-00-0	Pyrene	51	J	J
85-68-7	Butylbenzylphthalate	710	U	UJ
91-94-1	3,3'-Dichlorobenzidine	710	U	
56-55-3	Benzo[a]anthracene	710	U	
117-81-7	bis(2-Ethylhexyl)phthalate	~~410~~	JB	710UJ
218-01-9	Chrysene	710	U	UJ
117-84-0	Di-n-octylphthalate	710	U	UJ
205-99-2	Benzo[b]fluoranthene	710	U	
50-32-8	Benzo[a]pyrene	710	U	
207-08-9	Benzo[k]fluoranthene	710	U	
193-39-5	Indeno[1,2,3-cd]pyrene	710	U	
53-70-3	Dibenz[a,h]anthracene	710	U	
191-24-2	Benzo[g,h,i]perylene	710	U	U

FORM I SV-2

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Navy Public Works Center	**Service Request:**	K2305403
Project:	Rubble Sites Point Loma/98-02	**Date Collected:**	07/18/2003
Sample Matrix:	Soil	**Date Received:**	07/23/2003
		Date Extracted:	07/29/2003
		Date Analyzed:	08/02/2003

Polychlorinated Biphenyls (PCBs)

Sample Name:	S12XDMWK8-032	**Units:**	mg/Kg
Lab Code:	K2305403-025	**Basis:**	Dry
File ID:	J:\GC09\DATA\080103.B\0801F052.D	**Level:**	Low
Instrument ID:	GC09.i		
Extraction Method:	EPA 3540C	**Extraction Lot:**	KWG0311477
Analysis Method:	8082	**Calibration ID:**	CAL2785
		Column1:	DB-35MS
Sample Amount:	10.21 g	**Column2:**	DB-XLB
% Solids:	98.1		
Dilution Factor:	1		

CAS No.	Analyte Name	Result	Q	MRL	MDL	Note
12674-11-2	Aroclor 1016	0.10	U	0.10	0.041	U
11104-28-2	Aroclor 1221	0.20	U	0.20	0.0072	
11141-16-5	Aroclor 1232	0.10	U	0.10	0.017	
53469-21-9	Aroclor 1242	0.10	U	0.10	0.0063	
12672-29-6	Aroclor 1248	0.10	U	0.10	0.0043	
11097-69-1	Aroclor 1254	0.10	U	0.10	0.0084	
11096-82-5	Aroclor 1260	0.10	U	0.10	0.0047	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	109	57-149	08/02/03	Acceptable

A 11/2003

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Navy Public Works Center	**Service Request:**	K2305403
Project:	Rubble Sites Point Loma/98-02	**Date Collected:**	07/18/2003
Sample Matrix:	Soil	**Date Received:**	07/23/2003
		Date Extracted:	07/29/2003
		Date Analyzed:	08/04/2003

Polychlorinated Biphenyls (PCBs)

Sample Name:	S12XDMWK8-033	**Units:**	mg/Kg
Lab Code:	K2305403-026	**Basis:**	Dry
File ID:	J:\GC09\DATA\080403.B\0801F056.D	**Level:**	Low
Instrument ID:	GC09.i		
Extraction Method:	EPA 3540C	**Extraction Lot:**	KWG0311477
Analysis Method:	8082	**Calibration ID:**	CAL2785
		Column1:	DB-35MS
Sample Amount:	10.17 g	**Column2:**	DB-XLB
% Solids:	98.6		
Dilution Factor:	1		

CAS No.	Analyte Name	Result	Q	MRL	MDL	Note
12674-11-2	Aroclor 1016	0.10	U	0.10	0.041	
11104-28-2	Aroclor 1221	0.20	U	0.20	0.0071	
11141-16-5	Aroclor 1232	0.10	U	0.10	0.017	
53469-21-9	Aroclor 1242	0.10	U	0.10	0.0062	
12672-29-6	Aroclor 1248	0.10	U	0.10	0.0043	
11097-69-1	Aroclor 1254	0.10	U	0.10	0.0084	
11096-82-5	Aroclor 1260	0.10	U	0.10	0.0047	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	109	57-149	08/04/03	Acceptable

Comments:

A 11/2003

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Navy Public Works Center	**Service Request:**	K2305403
Project:	Rubble Sites Point Loma/98-02	**Date Collected:**	07/18/2003
Sample Matrix:	Soil	**Date Received:**	07/23/2003
		Date Extracted:	07/29/2003
		Date Analyzed:	08/04/2003

Polychlorinated Biphenyls (PCBs)

Sample Name:	S12XDMWK8-034	**Units:**	mg/Kg
Lab Code:	K2305403-027	**Basis:**	Dry
File ID:	J:\GC09\DATA\080403 B\0801F057 D	**Level:**	Low
Instrument ID:	GC09 i		
Extraction Method:	EPA 3540C	**Extraction Lot:**	KWG0311477
Analysis Method:	8082	**Calibration ID:**	CAL2785
		Column1:	DB-35MS
Sample Amount:	10 35 g	**Column2:**	DB-XLB
% Solids:	96 9		
Dilution Factor:	1		

CAS No.	Analyte Name	Result	Q	MRL	MDL	Note
12674-11-2	Aroclor 1016	0 10	U	0.10	0.042	U
11104-28-2	Aroclor 1221	0 20	U	0 20	0.0073	
11141-16-5	Aroclor 1232	0.10	U	0.10	0.017	
53469-21-9	Aroclor 1242	0.10	U	0.10	0.0063	
12672-29-6	Aroclor 1248	0 10	U	0.10	0.0044	
11097-69-1	Aroclor 1254	0.10	U	0.10	0.0085	
11096-82-5	Aroclor 1260	0.10	U	0.10	0.0048	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	100	57-149	08/04/03	Acceptable

Comments: 1/12003

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Navy Public Works Center	**Service Request:**	K2305403
Project:	Rubble Sites Point Loma/98-02	**Date Collected:**	07/18/2003
Sample Matrix:	Soil	**Date Received:**	07/23/2003
		Date Extracted:	07/29/2003
		Date Analyzed:	08/04/2003

Polychlorinated Biphenyls (PCBs)

Sample Name:	S12XDMWK8-035	**Units:**	mg/Kg
Lab Code:	K2305403-028	**Basis:**	Dry
File ID:	J:\GC09\DATA\080403.B\0801F058.D	**Level:**	Low
Instrument ID:	GC09 i		
Extraction Method:	EPA 3540C	**Extraction Lot:**	KWG0311477
Analysis Method:	8082	**Calibration ID:**	CAL2785
		Column1:	DB-35MS
Sample Amount:	10.60 g	**Column2:**	DB-XLB
% Solids:	94.5		
Dilution Factor:	1		

CAS No.	Analyte Name	Result	Q	MRL	MDL	Note
12674-11-2	Aroclor 1016	0.10	U	0.10	0.043	U
11104-28-2	Aroclor 1221	0.20	U	0.20	0.0075	
11141-16-5	Aroclor 1232	0.10	U	0.10	0.017	
53469-21-9	Aroclor 1242	0.10	U	0.10	0.0065	
12672-29-6	Aroclor 1248	0.10	U	0.10	0.0045	
11097-69-1	Aroclor 1254	0.10	U	0.10	0.0087	
11096-82-5	Aroclor 1260	0.10	U	0.10	0.0049	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	104	57-149	08/04/03	Acceptable

Comments: 8/12/03

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Navy Public Works Center	**Service Request:**	K2305403
Project:	Rubble Sites Point Loma/98-02	**Date Collected:**	07/18/2003
Sample Matrix:	Soil	**Date Received:**	07/23/2003
		Date Extracted:	07/29/2003
		Date Analyzed:	08/04/2003

Polychlorinated Biphenyls (PCBs)

Sample Name:	S12XDMWK8-036	**Units:**	mg/Kg
Lab Code:	K2305403-029	**Basis:**	Dry
File ID:	J:\GC09\DATA\080403.B\0801F059.D	**Level:**	Low
Instrument ID:	GC09 i		
Extraction Method:	EPA 3540C	**Extraction Lot:**	KWG0311477
Analysis Method:	8082	**Calibration ID:**	CAL2785
		Column1:	DB-35MS
Sample Amount:	10.17 g	**Column2:**	DB-XLB
% Solids:	98.9		
Dilution Factor:	1		

CAS No.	Analyte Name	Result	Q	MRL	MDL	Note
12674-11-2	Aroclor 1016	0.10	U	0.10	0.041	u
11104-28-2	Aroclor 1221	0.20	U	0.20	0.0071	
11141-16-5	Aroclor 1232	0.10	U	0.10	0.017	
53469-21-9	Aroclor 1242	0.10	U	0.10	0.0062	
12672-29-6	Aroclor 1248	0.10	U	0.10	0.0043	
11097-69-1	Aroclor 1254	0.10	U	0.10	0.0083	
11096-82-5	Aroclor 1260	0.10	U	0.10	0.0047	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	108	57-149	08/04/03	Acceptable

Comments: A 11/2003

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Navy Public Works Center	**Service Request:**	K2305403
Project:	Rubble Sites Point Loma/98-02	**Date Collected:**	07/18/2003
Sample Matrix:	Soil	**Date Received:**	07/23/2003
		Date Extracted:	07/29/2003
		Date Analyzed:	08/04/2003

Polychlorinated Biphenyls (PCBs)

Sample Name:	S12XDMWK8-037	**Units:**	mg/Kg
Lab Code:	K2305403-030	**Basis:**	Dry
File ID:	J:\GC09\DATA\080403 B\0801F060 D	**Level:**	Low
Instrument ID:	GC09 i		
Extraction Method:	EPA 3540C	**Extraction Lot:**	KWG0311477
Analysis Method:	8082	**Calibration ID:**	CAL2785
		Column1:	DB-35MS
Sample Amount:	10.36 g	**Column2:**	DB-XLB
% Solids:	97.4		
Dilution Factor:	1		

CAS No.	Analyte Name	Result	Q	MRL	MDL	Note
12674-11-2	Aroclor 1016	0.10	U	0.10	0.042	4
11104-28-2	Aroclor 1221	0.20	U	0.20	0.0072	
11141-16-5	Aroclor 1232	0.10	U	0.10	0.017	
53469-21-9	Aroclor 1242	0.10	U	0.10	0.0063	
12672-29-6	Aroclor 1248	0.10	U	0.10	0.0044	
11097-69-1	Aroclor 1254	0.10	U	0.10	0.0085	
11096-82-5	Aroclor 1260	0.10	U	0.10	0.0048	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	112	57-149	08/04/03	Acceptable

Comments: A 11/20/03

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Navy Public Works Center	**Service Request:**	K2305403
Project:	Rubble Sites Point Loma/98-02	**Date Collected:**	07/18/2003
Sample Matrix:	Soil	**Date Received:**	07/23/2003
		Date Extracted:	07/29/2003
		Date Analyzed:	08/04/2003

Polychlorinated Biphenyls (PCBs)

Sample Name:	S12XDMWK8-038	**Units:**	mg/Kg
Lab Code:	K2305403-031	**Basis:**	Dry
File ID:	J:\GC09\DATA\080403 B\0801F061 D	**Level:**	Low
Instrument ID:	GC09 i		
Extraction Method:	EPA 3540C	**Extraction Lot:**	KWG0311477
Analysis Method:	8082	**Calibration ID:**	CAL2785
		Column1:	DB-35MS
Sample Amount:	10 39 g	**Column2:**	DB-XLB
% Solids:	97.1		
Dilution Factor:	1		

CAS No.	Analyte Name	Result	Q	MRL	MDL	Note
12674-11-2	Aroclor 1016	0 10	U	0.10	0.042	U
11104-28-2	Aroclor 1221	0.20	U	0.20	0.0073	
11141-16-5	Aroclor 1232	0.10	U	0.10	0.017	
53469-21-9	Aroclor 1242	0 10	U	0.10	0.0063	
12672-29-6	Aroclor 1248	0 10	U	0.10	0.0044	
11097-69-1	Aroclor 1254	0.10	U	0.10	0.0085	
11096-82-5	Aroclor 1260	0 10	U	0.10	0 0048	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
Decachlorobiphenyl	97	57-149	08/04/03	Acceptable

Comments: A 11/2003

Navy Public Works Center San Diego
Environmental Chemistry Laboratory

Activity:	PWC Code 980	**Lab Log Number:**	31701-06
Date Sample Received:	07/18/03	**Sample ID:**	S12XDMWK8-032
SDG:	98-02	**Sample Type:**	Soil
ercent Solids	97.1	**Units:**	mg/Kg (ppm)

Metals Report

Parameter	CAS No.	Result	Flag	
Antimony	7440-36-0	0.4	B	U J
Arsenic	7440-38-2	3.3		J
Barium	7440-39-3	45.2		
Beryllium	7440-41-7	0.01	B	U J
Cadmium	7440-43-9	0.5	U	U
Chromium	7440-47-3	12.6		
Cobalt	7440-48-4	5.2		
Copper	7440-50-8	6		
Lead	7439-921-1	6.1		
Mercury	7439-97-6	0.1	U	U
Molybdenum	7439-98-7	0.23	B	J
Nickel	7440-02-0	5.8		
Selenium	7782-49-2	0.5	U	U J
Silver	7440-22-4	0.5	U	U
Thallium	7440-28-0	1	U	U J
Vanadium	7440-62-2	35.5		
Zinc	7440-66-6	29		

11/2003

5027

Form I

Navy Public Works Center San Diego
Environmental Chemistry Laboratory

Activity:	PWC Code 980	**Lab Log Number:**	31701-07
Date Sample Received:	07/18/03	**Sample ID:**	S12XDMWK8-033
SDG:	98-02	**Sample Type:**	Soil
Percent Solids	97 8	**Units:**	mg/Kg (ppm)

Metals Report

Parameter	CAS No.	Result	Flag	
Antimony	7440-36-0	0.3	B	U J
Arsenic	7440-38-2	2.7		J
Barium	7440-39-3	44.8		
Beryllium	7440-41-7	0.5	U	U
Cadmium	7440-43-9	0.5	U	U
Chromium	7440-47-3	9.2		
Cobalt	7440-48-4	3 9		
Copper	7440-50-8	5		
Lead	7439-921-1	10 9		
Mercury	7439-97-6	0.1	U	U
Molybdenum	7439-98-7	0.23	B	J
Nickel	7440-02-0	3.6		
Selenium	7782-49-2	0 5	U	U J
Silver	7440-22-4	0.5	U	U
Thallium	7440-28-0	1	U	U J
Vanadium	7440-62-2	28 3		
Zinc	7440-66-6	27		

A
11/25/05
5028

Form I

Navy Public Works Center San Diego
Environmental Chemistry Laboratory

Activity:	PWC Code 980	**Lab Log Number:**	31701-08
Date Sample Received:	07/18/03	**Sample ID:**	S12XDMWK8-034
SDG:	98-02	**Sample Type:**	Soil
Percent Solids	95.2	**Units:**	mg/Kg (ppm)

Metals Report

Parameter	CAS No.	Result	Flag	
Antimony	7440-36-0	0.2	B	U J
Arsenic	7440-38-2	1.6		J
Barium	7440-39-3	30.1		
Beryllium	7440-41-7	0.5	U	U
Cadmium	7440-43-9	0.5	U	U
Chromium	7440-47-3	5.9		
Cobalt	7440-48-4	2.5		
Copper	7440-50-8	3		
Lead	7439-921-1	3.8		
Mercury	7439-97-6	0.1	U	U
Molybdenum	7439-98-7	0.16	B	J
Nickel	7440-02-0	2.2		
Selenium	7782-49-2	0.5	U	U J
Silver	7440-22-4	0.5	U	U
Thallium	7440-28-0	1	U	UJ
Vanadium	7440-62-2	20.0		
Zinc	7440-66-6	13		

A
11/2003
5029

Form I

Navy Public Works Center San Diego
Environmental Chemistry Laboratory

Activity:	PWC Code 980	**Lab Log Number:**	31701-09
Date Sample Received:	07/18/03	**Sample ID:**	S12XDMWK8-035
SDG:	98-02	**Sample Type:**	Soil
Percent Solids	96.3	**Units:**	mg/Kg (ppm)

Metals Report

Parameter	CAS No.	Result	Flag	
Antimony	7440-36-0	0.4	B	U J
Arsenic	7440-38-2	1.5		J
Barium	7440-39-3	23.7		
Beryllium	7440-41-7	0.5	U	U
Cadmium	7440-43-9	0.5	U	U
Chromium	7440-47-3	6.2		
Cobalt	7440-48-4	3.4		
Copper	7440-50-8	3		
Lead	7439-921-1	3.5		
Mercury	7439-97-6	0.1	U	U
Molybdenum	7439-98-7	0.12	B	J
Nickel	7440-02-0	2.4		
Selenium	7782-49-2	0.5	U	U J
Silver	7440-22-4	0.5	U	U
Thallium	7440-28-0	1	U	U J
Vanadium	7440-62-2	18.8		
Zinc	7440-66-6	28		

A
11/20/03
5030

Form I

Navy Public Works Center San Diego
Environmental Chemistry Laboratory

Activity:	PWC Code 980	**Lab Log Number:**	31701-10
Date Sample Received:	07/18/03	**Sample ID:**	S12XDMWK8-036
SDG:	98-02	**Sample Type:**	Soil
Percent Solids	96.1	**Units:**	mg/Kg (ppm)

Metals Report

Parameter	CAS No.	Result	Flag	
Antimony	7440-36-0	0.4	B	U J
Arsenic	7440-38-2	1.4		J
Barium	7440-39-3	31.0		
Beryllium	7440-41-7	0.5	U	U
Cadmium	7440-43-9	0.5	U	U
Chromium	7440-47-3	9.2		
Cobalt	7440-48-4	3.8		
Copper	7440-50-8	4		
Lead	7439-921-1	10.7		
Mercury	7439-97-6	0.1	U	U
Molybdenum	7439-98-7	0.19	B	J
Nickel	7440-02-0	3.1		
Selenium	7782-49-2	0.5	U	U J
Silver	7440-22-4	0.5	U	U
Thallium	7440-28-0	1	U	U J
Vanadium	7440-62-2	22.2		
Zinc	7440-66-6	31		

A
1/20/03
5031
Form I

Navy Public Works Center San Diego
Environmental Chemistry Laboratory

Activity:	PWC Code 980	**Lab Log Number:**	31701-11
Date Sample Received:	07/18/03	**Sample ID:**	S12XDMWK8-037
SDG:	98-02	**Sample Type:**	Soil
Percent Solids	96 3	**Units:**	mg/Kg (ppm)

Metals Report

Parameter	CAS No.	Result	Flag	
Antimony	7440-36-0	0.4	B	U J
Arsenic	7440-38-2	7.0		J
Barium	7440-39-3	87.6		
Beryllium	7440-41-7	0 14	B	J
Cadmium	7440-43-9	0.5	U	U
Chromium	7440-47-3	10.5		
Cobalt	7440-48-4	4.5		
Copper	7440-50-8	8		
Lead	7439-921-1	17.1		
Mercury	7439-97-6	0.1	U	U
Molybdenum	7439-98-7	0.22	B	J
Nickel	7440-02-0	5.0		
Selenium	7782-49-2	0.2	B	J
Silver	7440-22-4	0.5	U	U
Thallium	7440-28-0	1	U	U J
Vanadium	7440-62-2	23.8		
Zinc	7440-66-6	33		

A
1/2003
5032
Form I

Navy Public Works Center San Diego
Environmental Chemistry Laboratory

Activity:	PWC Code 980	**Lab Log Number:**	31701-12
Date Sample Received:	07/18/03	**Sample ID:**	S12XDMWK8-038
SDG:	98-02	**Sample Type:**	Soil
Percent Solids	94.7	**Units:**	mg/Kg (ppm)

Metals Report

Parameter	CAS No.	Result	Flag	
Antimony	7440-36-0	0.4	B	U J
Arsenic	7440-38-2	5.9		J
Barium	7440-39-3	93.5		
Beryllium	7440-41-7	0.09	B	J
Cadmium	7440-43-9	0.5	U	U
Chromium	7440-47-3	13.0		
Cobalt	7440-48-4	5.8		
Copper	7440-50-8	9		
Lead	7439-921-1	17.9		
Mercury	7439-97-6	0.03	B	J
Molybdenum	7439-98-7	0.20	B	J
Nickel	7440-02-0	5.7		
Selenium	7782-49-2	0.5	U	U J
Silver	7440-22-4	0.5	U	U
Thallium	7440-28-0	1	U	UJ
Vanadium	7440-62-2	33.9		
Zinc	7440-66-6	39		

A
1/12/03
5033
Form I

1

INORGANICS ANALYSIS DATA SHEET

Lab Name: Laucks Testing Labs
SDG No : 98N06
Matrix : SOIL

Sample ID : S/XDMWK8-032 12 AW 9/2/03
Lab Sample ID: 0307268-12
Date Received: 07/22/03

Analyte	Result	Units	Prepped	Analyzed	Limit	Method
Cyanide (Method 9012)	0.5 U U	mg/kg	07/30/03	07/31/03	0.5	SW 9012

A
1/2003
39

1

INORGANICS ANALYSIS DATA SHEET

Lab Name: Laucks Testing Labs
SDG No : 98N06
Matrix : SOIL

Sample ID : 12 ANH 9/2/03 S7XDMWK8-033
Lab Sample ID: 0307268-13
Date Received: 07/22/03

Analyte	Result	Units	Prepped	Analyzed	Limit	Method
Cyanide (Method 9012)	0.5 U U	mg/kg	07/30/03	07/31/03	0.5	SW 9012

A
inorn
40

INORGANICS ANALYSIS DATA SHEET

Lab Name: Laucks Testing Labs Sample ID : ~~S~~ 10 XDMWKB-034 ANH 9/2/03

SDG No. : 98N06 Lab Sample ID: 0307268-14

Matrix : SOIL Date Received: 07/22/03

Analyte	Result	Units	Prepped	Analyzed	Limit	Method
Cyanide (Method 9012)	0.5 U U	mg/kg	07/30/03	07/31/03	0.5	SW 9012

A 11/2003

1

INORGANICS ANALYSIS DATA SHEET

Lab Name: Laucks Testing Labs
SDG No : 98N06
Matrix : SOIL

Sample ID : SWXDMWX8-035 12 ANH 9/2/03
Lab Sample ID: 0307268-15
Date Received: 07/22/03

Analyte	Result	Units	Prepped	Analyzed	Limit	Method
Cyanide (Method 9012)	0.5 U UA	mg/kg	07/30/03	07/31/03	0.5	SW 9012

FORM I - INO

9/94

9/2/2003

INORGANICS ANALYSIS DATA SHEET

Lab Name: Laucks Testing Labs
SDG No : 98N06
Matrix : SOIL

Sample ID : 12 ANH 9/2/03 SWXDMWK8-036
Lab Sample ID: 0307268-16
Date Received: 07/22/03

Analyte	Result	Units	Prepped	Analyzed	Limit	Method
Cyanide (Method 9012)	0.5 U U	mg/kg	07/30/03	07/31/03	0.5	SW 9012

A 1/12/03

1

INORGANICS ANALYSIS DATA SHEET

Lab Name: Laucks Testing Labs
SDG No. : 98N06
Matrix : SOIL

Sample ID : S7XDMWK8-037 (12) ANH 9/2/03
Lab Sample ID: 0307268-17
Date Received: 07/22/03

Analyte	Result	Units	Prepped	Analyzed	Limit	Method
Cyanide (Method 9012)	0.5 U U	mg/kg	07/30/03	07/31/03	0.5	SW 9012

FORM I INO

9/94

A
1/12/03
44

INORGANICS ANALYSIS DATA SHEET

Lab Name: Laucks Testing Labs
SDG No : 98N06
Matrix : SOIL

Sample ID : S7XDMWK8-038 12U ANH 9/2/03
Lab Sample ID: 03D7268-18
Date Received: 07/22/03

Analyte	Result	Units	Prepped	Analyzed	limit	Method
Cyanide (Method 9012)	0.5 U U	mg/kg	07/30/03	07/31/03	0.5	SW 9012

A
112553
45

Fuel Hydrocarbons Data Sheet

Lab Name : Laucks Testing Labs, Inc
Lab Sample ID : 0307268-12
Client Sample ID : SYXDMWK8-032 ANH 9/2/03
Matrix : SOIL
Reporting Units : mg/Kg
Total Purge Volume(ml) : 10

Date Collected : 7/18/03
Date Received : 7/22/03

Date Extracted : 7/24/03

Date Analyzed : 7/25/03
Time Analyzed : 10:09

Sample Extracted(gm) : 5.0
Extract Volume(ml) : 10
Percent Moisture : 3

Aliquot Volume (ul) : 100
Dilution Factor : 1

Compound	Result	RL
Gasoline Range Organics (C5 - C12)	5.2 U	5.2
Surrogate(s)	**% Rec**	**Limits**
Trifluorotoluene	104	50 - 150
Bromofluorobenzene	109	50 - 150

U

RL = Reporting limit

Comment:

A 112003

Fuel Hydrocarbons Data Sheet

Lab Name : Laucks Testing Labs, Inc.
Lab Sample ID : 0307268-13
Client Sample ID : S7XDMWK8-033 ANH 9/2/03
Matrix : SOIL
Reporting Units : mg/Kg
Total Purge Volume(ml) : 10

Sample Extracted(gm) : 5.1
Extract Volume(ml) : 10
Percent Moisture : 2

Date Collected : 7/18/03
Date Received : 7/22/03

Date Extracted : 7/24/03

Date Analyzed : 7/25/03
Time Analyzed : 10:47

Aliquot Volume (ul) : 100
Dilution Factor : 1

Compound	Result	RL
Gasoline Range Organics (C5 - C12)	5.0 U	5.0
Surrogate(s)	**% Rec**	**Limits**
Trifluorotoluene	103	50 - 150
Bromofluorobenzene	108	50 - 150

U

RL = Reporting limit

Comment:

A
11/20/03

Fuel Hydrocarbons Data Sheet

Lab Name : Laucks Testing Labs, Inc.
Lab Sample ID : 0307268-14
Client Sample ID : S7XDMWK8-034 9/2/03
Matrix : SOIL
Reporting Units : mg/Kg
Total Purge Volume(ml) : 10

Sample Extracted(gm) : 5.2
Extract Volume(ml) : 10
Percent Moisture : 5

Date Collected : 7/18/03
Date Received : 7/22/03

Date Extracted : 7/24/03

Date Analyzed : 7/25/03
Time Analyzed : 14:40

Aliquot Volume (ul) : 100
Dilution Factor : 1

Compound	Result	RL
Gasoline Range Organics (C5 - C12)	5.1 U	5.1
Surrogate(s)	**% Rec**	**Limits**
Trifluorotoluene	105	50 - 150
Bromofluorobenzene	114	50 - 150

U

RL = Reporting limit

Comment:

A
11203

Fuel Hydrocarbons Data Sheet

Lab Name : Laucks Testing Labs, Inc.
Lab Sample ID : 0307268-15
Client Sample ID : S7XDMWK8-035
Matrix : SOIL
Reporting Units : mg/Kg
Total Purge Volume(ml) : 10

Sample Extracted(gm) : 4.7
Extract Volume(ml) : 10
Percent Moisture : 5

Date Collected : 7/18/03
Date Received : 7/22/03

Date Extracted : 7/24/03

Date Analyzed : 7/25/03
Time Analyzed : 15:18

Aliquot Volume (ul) : 100
Dilution Factor : 1

Compound	Result	RL
Gasoline Range Organics (C5 - C12)	5.6 U	5.6
Surrogate(s)	**% Rec**	**Limits**
Trifluorotoluene	102	50 - 150
Bromofluorobenzene	112	50 - 150

U

RL = Reporting limit

Comment :

A
1/2003

Fuel Hydrocarbons Data Sheet

Lab Name : Laucks Testing Labs, Inc.
Lab Sample ID : 0307268-16
Client Sample ID : S7XDMWK8-036
Matrix : SOIL
Reporting Units : mg/Kg
Total Purge Volume(ml) : 10

Sample Extracted(gm) : 4.5
Extract Volume(ml) : 10
Percent Moisture : 2

Date Collected : 7/18/03
Date Received : 7/22/03

Date Extracted : 7/24/03

Date Analyzed : 7/25/03
Time Analyzed : 15:57

Aliquot Volume (ul) : 100
Dilution Factor : 1

Compound	Result	RL
Gasoline Range Organics (C5 - C12)	5.7 U	5.7
Surrogate(s)	**% Rec**	**Limits**
Trifluorotoluene	100	50 - 150
Bromofluorobenzene	108	50 - 150

RL = Reporting limit.

Comment :

Fuel Hydrocarbons Data Sheet

Lab Name : Laucks Testing Labs, Inc.
Lab Sample ID : 0307268-17
Client Sample ID : S7XDMWK8-037
Matrix : SOIL
Reporting Units : mg/Kg
Total Purge Volume(ml) : 10

Sample Extracted(gm) : 4.9
Extract Volume(ml) : 10
Percent Moisture : 4

Date Collected : 7/18/03
Date Received : 7/22/03

Date Extracted : 7/24/03

Date Analyzed : 7/25/03
Time Analyzed : 16:36

Aliquot Volume (ul) : 100
Dilution Factor : 1

Compound	Result	RL
Gasoline Range Organics (C5 - C12)	5.3 U	5.3
Surrogate(s)	**% Rec**	**Limits**
Trifluorotoluene	97	50 - 150
Bromofluorobenzene	106	50 - 150

U

RL = Reporting limit.

Comment:

A 11/2003

Fuel Hydrocarbons Data Sheet

Lab Name : Laucks Testing Labs, Inc.
Lab Sample ID : 0307268-18
Client Sample ID : S7XDMWK8-038
Matrix : SOIL
Reporting Units : mg/Kg
Total Purge Volume(ml) : 10

Sample Extracted(gm) : 4.6
Extract Volume(ml) : 10
Percent Moisture : 6

Date Collected : 7/18/03
Date Received : 7/22/03

Date Extracted : 7/24/03

Date Analyzed : 7/25/03
Time Analyzed : 17:14

Aliquot Volume (ul) : 100
Dilution Factor : 1

Compound	Result	RL
Gasoline Range Organics (C5 - C12)	5.8 U	5.8
Surrogate(s)	**% Rec**	**Limits**
Trifluorotoluene	99	50 - 150
Bromofluorobenzene	104	50 - 150

U

RL = Reporting limit.

Comment :

A
1/12/03

Fuel Hydrocarbons Data Sheet

Lab Name : Laucks Testing Labs, Inc.
Lab Sample ID : 0307268-12
Client Sample ID : S7XDMWK8-032 AH 9/2/03
Matrix : SOIL
Reporting Units : mg/Kg

Date Collected : 7/18/03
Date Received : 7/22/03

Date Extracted : 7/22/03

Date Analyzed : 7/29/03
Time Analyzed : 8:35

Sample Extracted(gm) : 10
Total Extract Volume(ml) : 2
Percent Moisture : 3

Injection Volume (ul) : 1
Dilution Factor : 1

Compound	Result	RL
Diesel Range Organics (C10-C24)	18	10
Oil Range Organics (C24-C40)	110	41

Surrogate(s)	% Rec	Limits
2-Fluorobiphenyl	91	50 - 150
o-Terphenyl	144	50 - 150

RL = Reporting limit.

Comment: The hydrocarbon pattern does not resemble diesel and partially resembles oil.

A
11/2003

Fuel Hydrocarbons Data Sheet

Lab Name : Laucks Testing Labs, Inc.
Lab Sample ID : 0307268-13
Client Sample ID : S7XDMWK8-033 AMH 9/2/03
Matrix : SOIL
Reporting Units : mg/Kg

Date Collected : 7/18/03
Date Received : 7/22/03

Date Extracted : 7/22/03

Date Analyzed : 7/29/03
Time Analyzed : 9:13

Sample Extracted(gm) : 10
Total Extract Volume(ml) : 2
Percent Moisture : 2

Injection Volume (ul) : 1
Dilution Factor : 1

Compound	Result	RL
Diesel Range Organics (C10-C24)	20	10
Oil Range Organics (C24-C40)	120	41
Surrogate(s)	**% Rec**	**Limits**
2-Fluorobiphenyl	85	50 - 150
o-Terphenyl	139	50 - 150

RL = Reporting limit

Comment: The hydrocarbon pattern does not resemble diesel and partially resembles oil.

A
11/2003
227

Fuel Hydrocarbons Data Sheet

Lab Name : Laucks Testing Labs, Inc.
Lab Sample ID : 0307268-14DL
Client Sample ID : S~~7~~12XDMWK8-034DL ANH 9/2/03
Matrix : SOIL
Reporting Units : mg/Kg

Date Collected : 7/18/03
Date Received : 7/22/03

Date Extracted : 7/22/03

Date Analyzed : 7/29/03
Time Analyzed : 4:11

Sample Extracted(gm) : 10
Total Extract Volume(ml) : 2
Percent Moisture : 5

Injection Volume (ul) : 1
Dilution Factor : 5

Compound	Result	RL
Diesel Range Organics (C10-C24)	1200 D	53

HO X

RL = Reporting limit. D - Dilution

Comment: The hydrocarbon pattern does not resemble diesel.

A
11/2003

Fuel Hydrocarbons Data Sheet

Lab Name : Laucks Testing Labs, Inc.
Lab Sample ID : 0307268-14
Client Sample ID : S7XDMWK8-034
Matrix : SOIL
Reporting Units : mg/Kg

Date Collected : 7/18/03
Date Received : 7/22/03

Date Extracted : 7/22/03

Date Analyzed : 7/29/03
Time Analyzed : 4:49

Sample Extracted(gm) : 10
Total Extract Volume(ml) : 2
Percent Moisture : 5

Injection Volume (ul) : 1
Dilution Factor : 1

Compound	Result	RL
Oil Range Organics (C24-C40)	190	42
Surrogate(s)	**% Rec**	**Limits**
2-Fluorobiphenyl	90	50 - 150
o-Terphenyl	501 *	50 - 150

RL = Reporting limit.

Comment: The hydrocarbon pattern does not resemble oil.
The o-terphenyl recovery is out of limits due to the high level of hydrocarbons in the sample.

A 11/2003

Fuel Hydrocarbons Data Sheet

Lab Name : Laucks Testing Labs, Inc.
Lab Sample ID : 0307268-15
Client Sample ID : S7XDMWK8-035 AWH 9/2/03
Matrix : SOIL
Reporting Units : mg/Kg

Date Collected : 7/18/03
Date Received : 7/22/03

Date Extracted : 7/22/03

Date Analyzed : 7/29/03
Time Analyzed : 10:28

Sample Extracted(gm) : 10
Total Extract Volume(ml) : 2
Percent Moisture : 5

Injection Volume (ul) : 1
Dilution Factor : 1

Compound	Result	RL
Diesel Range Organics (C10-C24)	11 U	11
Oil Range Organics (C24-C40)	140	42

Surrogate(s)	% Rec	Limits
2-Fluorobiphenyl	85	50 - 150
o-Terphenyl	124	50 - 150

U

RL = Reporting limit.

Comment: The hydrocarbon pattern partially resembles oil

A
11/2003

233

Fuel Hydrocarbons Data Sheet

Lab Name : Laucks Testing Labs, Inc.
Lab Sample ID : 0307268-16
Client Sample ID : S7XDMWK8-036
Matrix : SOIL
Reporting Units : mg/Kg

Date Collected : 7/18/03
Date Received : 7/22/03

Date Extracted : 7/22/03

Date Analyzed : 7/29/03
Time Analyzed : 7:58

Sample Extracted(gm) : 10
Total Extract Volume(ml) : 2
Percent Moisture : 2

Injection Volume (ul) : 1
Dilution Factor : 1

Compound	Result	RL	
Diesel Range Organics (C10-C24)	10 U	10	U
Oil Range Organics (C24-C40)	41 U	41	U

Surrogate(s)	% Rec	Limits
2-Fluorobiphenyl	83	50 - 150
o-Terphenyl	125	50 - 150

RL = Reporting limit.

Comment:

A
11/2003

Fuel Hydrocarbons Data Sheet

Lab Name : Laucks Testing Labs, Inc.
Lab Sample ID : 0307268-17
Client Sample ID : S7XDMWK8-037
Matrix : SOIL
Reporting Units : mg/Kg

Date Collected : 7/18/03
Date Received : 7/22/03

Date Extracted : 7/22/03

Date Analyzed : 7/29/03
Time Analyzed : 11:06

Sample Extracted(gm) : 10
Total Extract Volume(ml) : 2
Percent Moisture : 4

Injection Volume (ul) : 1
Dilution Factor : 1

Compound	Result	RL
Diesel Range Organics (C10-C24)	20	10
Oil Range Organics (C24-C40)	730	42

Surrogate(s)	% Rec	Limits
2-Fluorobiphenyl	101	50 - 150
o-Terphenyl	127	50 - 150

RL = Reporting limit

Comment: The hydrocarbon pattern does not resemble diesel and partially resembles oil

A
11/2003

Fuel Hydrocarbons Data Sheet

Lab Name : Laucks Testing Labs, Inc.
Lab Sample ID : 0307268-18 [2] AUG 9/2/03
Client Sample ID : S7XDMWK8-038
Matrix : SOIL
Reporting Units : mg/Kg

Date Collected : 7/18/03
Date Received : 7/22/03

Date Extracted : 7/22/03

Date Analyzed : 7/29/03
Time Analyzed : 12:21

Sample Extracted(gm) : 10
Total Extract Volume(ml) : 2
Percent Moisture : 6

Injection Volume (ul) : 1
Dilution Factor : 2

Compound	Result	RL
Diesel Range Organics (C10-C24)	47 D	21
Oil Range Organics (C24-C40)	1400 D	85

Surrogate(s)	% Rec	Limits
2-Fluorobiphenyl	60	50 - 150
o-Terphenyl	79	50 - 150

RL = Reporting limit D - Dilution

Comment: The hydrocarbon pattern does not resemble diesel and partially resembles oil

A
11/2/03

ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE ID

12 MH 9/2/03
S7XDMWK8-032

Lab Name: LAUCKS TESTING LABS

SDG No.: 98N06

Matrix: (soil/water) SOIL

Lab Sample ID: 0307268-12

Sample wt/vol: 5.2 g

Lab File ID: I725321 D

% Moisture: 3

Date Collected: 07/18/03

Extraction: PURGE&TRAP

Date Received: 07/22/03

Concentrated Extract Volume: 5000 (uL)

Date Prepared: 07/24/03

Dilution Factor: 1.0

Date Analyzed: 07/25/03

Aliquot Volume 100.0 (uL)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	ug/kg	Q	RL
123-91-1	1,4-Dioxane	9900	U	9900

U

RL = Reporting Limit

A
11/2003

RESULT FORM

FormVer 1 0 11/23/96

1092

ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE ID

12 ANH 9/2/03
S7XDMWK8-033

Lab Name: LAUCKS TESTING LABS

SDG No.: 98N06

Matrix: (soil/water) SOIL

Lab Sample ID: 0307268-13

Sample wt/vol: 5.2 g

Lab File ID: I725326.D

% Moisture: 2

Date Collected: 07/18/03

Extraction: PURGE&TRAP

Date Received: 07/22/03

Concentrated Extract Volume: 5000 (uL)

Date Prepared: 07/24/03

Dilution Factor: 1.0

Date Analyzed: 07/25/03

Aliquot Volume 100 0 (uL.)

CONCENTRATION UNITS:

CAS NO.	COMPOUND	ug/kg	Q	RL	
123-91-1	1,4-Dioxane	9800	U	9800	U

RL = Reporting Limit

A 11/20/03

RESULT FORM

FormVer 1.0 11/23/96

ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE ID

12 1NH 9/2/03
S7XDMWK8-034

Lab Name: LAUCKS TESTING LABS

Matrix: (soil/water) SOIL

Sample wt/vol: 5.2 9

% Moisture: 5

Extraction: PURGE&TRAP

Concentrated Extract Volume: 5000 (uL)

Dilution Factor: 1.0

Aliquot Volume 100.0 (uL)

SDG No.: 98N06

Lab Sample ID: 0307268-14

Lab File ID: I725327.D

Date Collected: 07/18/03

Date Received: 07/22/03

Date Prepared: 07/24/03

Date Analyzed: 07/25/03

CONCENTRATION UNITS:

CAS NO.	COMPOUND	ug/kg	Q	RL
123-91-1	1,4-Dioxane	10000	U	10000

RL = Reporting Limit

1098

RESULT FORM

FormVer 1.0 11/23/96

ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE ID

12 ANH 9/2/03
S/XDMWK8-035

Lab Name: LAUCKS TESTING LABS

Matrix: (soil/water) SOIL

Sample wt/vol: 4 4 g

% Moisture: 5

Extraction: PURGE&TRAP

Concentrated Extract Volume: 5000 (uL)

Dilution Factor: 1.0

Aliquot Volume 100.0 (uL)

SDG No : 98N06

Lab Sample ID: 0307268-15

Lab File ID: I725328.D

Date Collected: 07/18/03

Date Received: 07/22/03

Date Prepared: 07/24/03

Date Analyzed: 07/25/03

CONCENTRATION UNITS:

CAS NO.	COMPOUND	ug/kg	Q	RL
123-91-1	1,4-Dioxane	12000	U	12000

U

RL = Reporting Limit

A
11/3/03

RESULT FORM

FormVer 1.0 11/23/96

1101

ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE ID

12 ANH 9/2/03
S7XDMWK8-036

Lab Name: LAUCKS TESTING LABS

Matrix: (soil/water) SOIL

Sample wt/vol: 4.6 g

% Moisture: 2

Extraction: PURGE&TRAP

Concentrated Extract Volume: 5000 (uL)

Dilution Factor: 1 0

Aliquot Volume 100.0 (uL)

SDG No.: 98N06

Lab Sample ID: 0307268-16

Lab File ID: I725329.D

Date Collected: 07/18/03

Date Received: 07/22/03

Date Prepared: 07/24/03

Date Analyzed: 07/25/03

CONCENTRATION UNITS:

CAS NO.	COMPOUND	ug/kg	Q	RL
123-91-1	1,4-Dioxane	11000	U	11000

U

A 11/2007

RL = Reporting Limit

RESULT FORM

FormVer 1.0 11/23/96

1104

ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE ID

12 ANH 9/2/03
S/XDMWK8-038

Lab Name: LAUCKS TESTING LABS

SDG No.: 98N06

Matrix: (soil/water) SOIL

Lab Sample ID: 0307268-18

Sample wt/vol: 3 7 g

Lab File ID: I725331 D

% Moisture: 6

Date Collected: 07/18/03

Extraction: PURGE&TRAP

Date Received: 07/22/03

Concentrated Extract Volume: 5000 (uL)

Date Prepared: 07/24/03

Dilution Factor: 1.0

Date Analyzed: 07/26/03

Aliquot Volume 100 0 (uL)

CONCENTRATION UNITS:

CAS NO	COMPOUND	ug/kg	Q	RL	
123-91-1	1,4-Dioxane	14000	U	14000	U

RL = Reporting Limit

A 11/2/03

RESULT FORM

FormVer 1.0 11/23/96

1110

ORGANICS ANALYSIS DATA SHEET

CLIENT SAMPLE ID

12 ANH 9/2/03
S7XDMWK8-037

Lab Name: LAUCKS TESTING LABS

Matrix: (soil/water) SOIL

Sample wt/vol: 5 g

% Moisture: 4

Extraction: PURGE&TRAP

Concentrated Extract Volume: 5000 (uL)

Dilution Factor: 1.0

Aliquot Volume 100.0 (uL)

SDG No.: 98N06

Lab Sample ID: 0307268-17

Lab File ID: I725330.D

Date Collected: 07/18/03

Date Received: 07/22/03

Date Prepared: 07/24/03

Date Analyzed: 07/25/03

CONCENTRATION UNITS:

CAS NO.	COMPOUND	ug/kg	Q	RL
123-91-1	1,4-Dioxane	10000	U	10000

U

A
11 2003

RL = Reporting Limit

RESULT FORM

FormVer 1.0 11/23/96

1107

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Navy Public Works Center	**Service Request:**	K2305403
Project:	Rubble Sites Point Loma/98-02	**Date Collected:**	07/18/2003
Sample Matrix:	Soil	**Date Received:**	07/23/2003
		Date Extracted:	07/31/2003
		Date Analyzed:	08/11/2003

Polynuclear Aromatic Hydrocarbons

Sample Name:	S12XDMWK8-032	**Bottle ID:**	6	**Units:**	mg/Kg
Lab Code:	K2305403-025			**Basis:**	Dry
File ID:	J:\LC04\DATA\081103\08110013 D			**Level:**	Low
Instrument ID:	LC04				
Extraction Method:	EPA 3550B			**Extraction Lot:**	KWG0311614
Analysis Method:	8310			**Calibration ID:**	CAL2819
				Column1:	Vydac C-18 F
Sample Amount:	30 01 g			**Column2:**	Vydac C-18 D
% Solids:	98 1				
Dilution Factor:	1				

CAS No.	Analyte Name	Result	Q	MRL	MDL	Note
91-20-3	Naphthalene	0 11	U	0.11	0 021	U
208-96-8	Acenaphthylene	0 11	U	0 11	0 027	
83-32-9	Acenaphthene	0.11	U	0.11	0.014	
86-73-7	Fluorene	0.016	JP	0.021	0.0015	J
85-01-8	Phenanthrene	0.46	E	0.011	0.00085	J
120-12-7	Anthracene	0.094		0.011	0.00070	
206-44-0	Fluoranthene	1.8	E	0.021	0.00082	J
129-00-0	Pyrene	1.3	UiE	1.3	1.3	U
56-55-3	Benz(a)anthracene	0.46	E	0.011	0.0015	J
218-01-9	Chrysene	0.50	E	0.011	0.0011	
205-99-2	Benzo(b)fluoranthene	0.23	E	0.021	0.00076	
207-08-9	Benzo(k)fluoranthene	0.19		0.011	0.00078	
50-32-8	Benzo(a)pyrene	0.36	E	0 011	0.00076	J
53-70-3	Dibenz(a,h)anthracene	0.027	Ui	0 027	0.027	U
191-24-2	Benzo(g,h,i)perylene	0.17		0.021	0.0027	
193-39-5	Indeno(1,2,3-cd)pyrene	0.11		0 011	0 0020	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
p-Terphenyl	127	35-161	08/11/03	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Navy Public Works Center	**Service Request:**	K2305403
Project:	Rubble Sites Point Loma/98-02	**Date Collected:**	07/18/2003
Sample Matrix:	Soil	**Date Received:**	07/23/2003
		Date Extracted:	07/31/2003
		Date Analyzed:	08/12/2003

Polynuclear Aromatic Hydrocarbons

Sample Name:	S12XDMWK8-032DL	**Bottle ID:**	6	**Units:**	mg/Kg
Lab Code:	K2305403-025			**Basis:**	Dry
File ID:	J:\LC04\DATA\081203\08120001.D			**Level:**	Low
Instrument ID:	LC04				
Extraction Method:	EPA 3550B			**Extraction Lot:**	KWG0311614
Analysis Method:	8310			**Calibration ID:**	CAL2819
				Column1:	Vydac C-18 F
Sample Amount:	30.01 g			**Column2:**	Vydac C-18 D
% Solids:	98.1				
Dilution Factor:	20				

CAS No.	Analyte Name	Result	Q	MRL	MDL	Note
91-20-3	Naphthalene	2.1	U	2.1	0.41	U
208-96-8	Acenaphthylene	2.1	U	2.1	0.54	
83-32-9	Acenaphthene	2.1	U	2.1	0.27	
86-73-7	Fluorene	0.41	U	0.41	0.029	
85-01-8	Phenanthrene	0.43	D	0.21	0.017	
120-12-7	Anthracene	0.075	JD	0.21	0.014	J
206-44-0	Fluoranthene	1.4	D	0.41	0.017	
129-00-0	Pyrene	1.2	D	0.41	0.025	
56-55-3	Benz(a)anthracene	0.45	D	0.21	0.029	
218-01-9	Chrysene	0.49	D	0.21	0.021	
205-99-2	Benzo(b)fluoranthene	0.28	JD	0.41	0.016	J
207-08-9	Benzo(k)fluoranthene	0.17	JD	0.21	0.016	J
50-32-8	Benzo(a)pyrene	0.34	D	0.21	0.016	
53-70-3	Dibenz(a,h)anthracene	0.41	U	0.41	0.072	
191-24-2	Benzo(g,h,i)perylene	0.17	JD	0.41	0.054	J
193-39-5	Indeno(1,2,3-cd)pyrene	0.12	JD	0.21	0.039	J

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
p-Terphenyl	128	35-161	08/12/03	Acceptable

Comments: A 11/03

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Navy Public Works Center	**Service Request:**	K2305403
Project:	Rubble Sites Point Loma/98-02	**Date Collected:**	07/18/2003
Sample Matrix:	Soil	**Date Received:**	07/23/2003
		Date Extracted:	07/31/2003
		Date Analyzed:	08/11/2003

Polynuclear Aromatic Hydrocarbons

Sample Name:	S12XDMWK8-033	**Bottle ID:** 7		**Units:**	mg/Kg
Lab Code:	K2305403-026			**Basis:**	Dry
File ID:	J:\LC04\DATA\081103\08110014.D			**Level:**	Low
Instrument ID:	LC04				
Extraction Method:	EPA 3550B			**Extraction Lot:**	KWG0311614
Analysis Method:	8310			**Calibration ID:**	CAL2819
				Column1:	Vydac C-18 F
Sample Amount:	30.31 g			**Column2:**	Vydac C-18 D
% Solids:	98.6				
Dilution Factor:	1				

CAS No.	Analyte Name	Result	Q	MRL	MDL	Note
91-20-3	Naphthalene	0.11	U	0.11	0.021	U
208-96-8	Acenaphthylene	0.11	U	0.11	0.027	
83-32-9	Acenaphthene	0.11	U	0.11	0.014	
86-73-7	Fluorene	0.021	U	0.021	0.0015	
85-01-8	**Phenanthrene**	**0.0070**	J	0.011	0.00085	J
120-12-7	Anthracene	0.011	U	0.011	0.00069	U
206-44-0	**Fluoranthene**	**0.019**	J	0.021	0.00082	J
129-00-0	**Pyrene**	**0.016**	JP	0.021	0.0013	J
56-55-3	Benz(a)anthracene	0.011	U	0.011	0.0015	U
218-01-9	Chrysene	0.011	U	0.011	0.0011	U
205-99-2	**Benzo(b)fluoranthene**	**0.0054**	JP	0.021	0.00076	J
207-08-9	Benzo(k)fluoranthene	0.011	Ui	0.011	0.0087	U
50-32-8	**Benzo(a)pyrene**	**0.0077**	JP	0.011	0.00076	J
53-70-3	Dibenz(a,h)anthracene	0.021	U	0.021	0.0036	U
191-24-2	Benzo(g,h,i)perylene	0.021	U	0.021	0.0027	
193-39-5	Indeno(1,2,3-cd)pyrene	0.011	U	0.011	0.0020	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
p-Terphenyl	81	35-161	08/11/03	Acceptable

Comments: A 11/03

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Navy Public Works Center	**Service Request:**	K2305403
Project:	Rubble Sites Point Loma/98-02	**Date Collected:**	07/18/2003
Sample Matrix:	Soil	**Date Received:**	07/23/2003
		Date Extracted:	07/31/2003
		Date Analyzed:	08/11/2003

Polynuclear Aromatic Hydrocarbons

Sample Name:	S12XDMWK8-034	**Bottle ID:**	8	**Units:**	mg/Kg
Lab Code:	K2305403-027			**Basis:**	Dry
File ID:	J:\LC04\DATA\081103\08110017.D			**Level:**	Low
Instrument ID:	LC04				
Extraction Method:	EPA 3550B			**Extraction Lot:**	KWG0311614
Analysis Method:	8310			**Calibration ID:**	CAL2819
				Column1:	Vydac C-18 F
Sample Amount:	30.02 g			**Column2:**	Vydac C-18 D
% Solids:	96.9				
Dilution Factor:	1				

CAS No.	Analyte Name	Result	Q	MRL	MDL	Note
91-20-3	Naphthalene	0.11	U	0.11	0.021	U
208-96-8	Acenaphthylene	0.11	U	0.11	0.027	
83-32-9	Acenaphthene	0.11	U	0.11	0.014	
86-73-7	Fluorene	0.021	U	0.021	0.0015	
85-01-8	Phenanthrene	0.011	U	0.011	0.00086	
120-12-7	Anthracene	0.011	U	0.011	0.00071	
206-44-0	Fluoranthene	0.021	U	0.021	0.00083	
129-00-0	Pyrene	0.021	U	0.021	0.0013	
56-55-3	Benz(a)anthracene	0.011	U	0.011	0.0015	
218-01-9	Chrysene	0.011	U	0.011	0.0011	
205-99-2	Benzo(b)fluoranthene	0.021	U	0.021	0.00077	
207-08-9	Benzo(k)fluoranthene	0.011	U	0.011	0.00079	
50-32-8	Benzo(a)pyrene	0.011	U	0.011	0.00077	
53-70-3	Dibenz(a,h)anthracene	0.021	U	0.021	0.0037	
191-24-2	Benzo(g,h,i)perylene	0.021	U	0.021	0.0027	
193-39-5	Indeno(1,2,3-cd)pyrene	0.011	U	0.011	0.0020	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
p-Terphenyl	90	35-161	08/11/03	Acceptable

Comments: A 1/2003

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Navy Public Works Center	**Service Request:**	K2305403
Project:	Rubble Sites Point Loma/98-02	**Date Collected:**	07/18/2003
Sample Matrix:	Soil	**Date Received:**	07/23/2003
		Date Extracted:	07/31/2003
		Date Analyzed:	08/11/2003

Polynuclear Aromatic Hydrocarbons

Sample Name:	S12XDMWK8-035	**Bottle ID:**	9	**Units:**	mg/Kg
Lab Code:	K2305403-028			**Basis:**	Dry
File ID:	J:\LC04\DATA\081103\08110018.D			**Level:**	Low
Instrument ID:	LC04				
Extraction Method:	EPA 3550B			**Extraction Lot:**	KWG0311614
Analysis Method:	8310			**Calibration ID:**	CAL2819
				Column1:	Vydac C-18 F
Sample Amount:	15.16 g			**Column2:**	Vydac C-18 D
% Solids:	94.5				
Dilution Factor:	1				

CAS No.	Analyte Name	Result	Q	MRL	MDL	Note
91-20-3	Naphthalene	0.21	U	0.21	0.042	U
208-96-8	Acenaphthylene	0.21	U	0.21	0.055	
83-32-9	Acenaphthene	0.21	U	0.21	0.028	
86-73-7	Fluorene	0.042	U	0.042	0.0030	
85-01-8	Phenanthrene	0.021	U	0.021	0.0018	
120-12-7	Anthracene	0.021	U	0.021	0.0015	
206-44-0	Fluoranthene	0.042	U	0.042	0.0017	
129-00-0	Pyrene	0.042	U	0.042	0.0026	
56-55-3	Benz(a)anthracene	0.021	U	0.021	0.0030	
218-01-9	Chrysene	0.021	U	0.021	0.0021	
205-99-2	Benzo(b)fluoranthene	0.042	U	0.042	0.0016	
207-08-9	Benzo(k)fluoranthene	0.021	U	0.021	0.0016	
50-32-8	Benzo(a)pyrene	0.021	U	0.021	0.0016	
53-70-3	Dibenz(a,h)anthracene	0.042	U	0.042	0.0074	
191-24-2	Benzo(g,h,i)perylene	0.042	U	0.042	0.0055	
193-39-5	Indeno(1,2,3-cd)pyrene	0.021	U	0.021	0.0040	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
p-Terphenyl	82	35-161	08/11/03	Acceptable

Comments: 9/2003

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Navy Public Works Center	**Service Request:**	K2305403
Project:	Rubble Sites Point Loma/98-02	**Date Collected:**	07/18/2003
Sample Matrix:	Soil	**Date Received:**	07/23/2003
		Date Extracted:	07/31/2003
		Date Analyzed:	08/11/2003

Polynuclear Aromatic Hydrocarbons

Sample Name:	S12XDMWK8-036	**Bottle ID:**	10	**Units:**	mg/Kg
Lab Code:	K2305403-029			**Basis:**	Dry
File ID:	J:\LC04\DATA\081103\08110019 D			**Level:**	Low
Instrument ID:	LC04				
Extraction Method:	EPA 3550B			**Extraction Lot:**	KWG0311614
Analysis Method:	8310			**Calibration ID:**	CAL2819
				Column1:	Vydac C-18 F
Sample Amount:	22.18 g			**Column2:**	Vydac C-18 D
% Solids:	98 9				
Dilution Factor:	1				

CAS No.	Analyte Name	Result	Q	MRL	MDL	Note
91-20-3	Naphthalene	0 14	U	0.14	0.028	U
208-96-8	Acenaphthylene	0.14	U	0 14	0.036	
83-32-9	Acenaphthene	0.14	U	0.14	0.018	
86-73-7	Fluorene	0 028	U	0 028	0 0020	
85-01-8	Phenanthrene	0.014	U	0.014	0.0012	
120-12-7	Anthracene	0.014	U	0.014	0.00093	
206-44-0	Fluoranthene	0.028	U	0.028	0 0011	
129-00-0	Pyrene	0.028	U	0.028	0 0017	
56-55-3	Benz(a)anthracene	0.014	U	0.014	0.0020	
218-01-9	Chrysene	0.014	U	0.014	0 0014	
205-99-2	**Benzo(b)fluoranthene**	0.0025	J	0.028	0 0011	J
207-08-9	Benzo(k)fluoranthene	0.014	U	0.014	0.0011	U
50-32-8	Benzo(a)pyrene	0 014	U	0.014	0 0011	
53-70-3	Dibenz(a,h)anthracene	0.028	U	0.028	0.0048	
191-24-2	Benzo(g,h,i)perylene	0.028	U	0.028	0.0036	
193-39-5	Indeno(1,2,3-cd)pyrene	0.014	U	0 014	0.0026	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
p-Terphenyl	85	35-161	08/11/03	Acceptable

Comments:

A 11-2003

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Navy Public Works Center	**Service Request:**	K2305403
Project:	Rubble Sites Point Loma/98-02	**Date Collected:**	07/18/2003
Sample Matrix:	Soil	**Date Received:**	07/23/2003
		Date Extracted:	07/31/2003
		Date Analyzed:	08/11/2003

Polynuclear Aromatic Hydrocarbons

Sample Name:	S12XDMWK8-037	**Bottle ID:**	11	**Units:**	mg/Kg
Lab Code:	K2305403-030			**Basis:**	Dry
File ID:	J:\LC04\DATA\081103\08110020 D			**Level:**	Low
Instrument ID:	LC04				
Extraction Method:	EPA 3550B			**Extraction Lot:**	KWG0311614
Analysis Method:	8310			**Calibration ID:**	CAL2819
				Column1:	Vydac C-18 F
Sample Amount:	30 12 g			**Column2:**	Vydac C-18 D
% Solids:	97 4				
Dilution Factor:	1				

CAS No.	Analyte Name	Result	Q	MRL	MDL	Note
91-20-3	Naphthalene	0.11	U	0.11	0.021	U
208-96-8	Acenaphthylene	0.11	U	0.11	0.027	
83-32-9	Acenaphthene	0.11	U	0.11	0.014	
86-73-7	Fluorene	0.021	U	0 021	0.0015	
85-01-8	Phenanthrene	0.0093	J	0 011	0 00086	J
120-12-7	Anthracene	0.0013	J	0.011	0.00070	J
206-44-0	Fluoranthene	0.032		0 021	0.00083	
129-00-0	Pyrene	0.027		0 021	0.0013	
56-55-3	Benz(a)anthracene	0.011		0.011	0.0015	
218-01-9	Chrysene	0.020		0.011	0.0011	
205-99-2	Benzo(b)fluoranthene	0.017	JP	0.021	0 00076	J
207-08-9	Benzo(k)fluoranthene	0.015	P	0.011	0.00079	
50-32-8	Benzo(a)pyrene	0.022		0.011	0.00076	
53-70-3	Dibenz(a,h)anthracene	0 021	U	0.021	0.0036	U
191-24-2	Benzo(g,h,i)perylene	0.053	P	0.021	0.0027	
193-39-5	Indeno(1,2,3-cd)pyrene	0 011	U	0 011	0.0020	U

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
p-Terphenyl	92	35-161	08/11/03	Acceptable

Comments:

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Results

Client:	Navy Public Works Center	**Service Request:**	K2305403
Project:	Rubble Sites Point Loma/98-02	**Date Collected:**	07/18/2003
Sample Matrix:	Soil	**Date Received:**	07/23/2003
		Date Extracted:	07/31/2003
		Date Analyzed:	08/11/2003

Polynuclear Aromatic Hydrocarbons

Sample Name:	S12XDMWK8-038	**Bottle ID:**	12	**Units:**	mg/Kg
Lab Code:	K2305403-031			**Basis:**	Dry
File ID:	J:\LC04\DATA\081103\08110021 D			**Level:**	Low
Instrument ID:	LC04				
Extraction Method:	EPA 3550B			**Extraction Lot:**	KWG0311614
Analysis Method:	8310			**Calibration ID:**	CAL2819
				Column1:	Vydac C-18 F
Sample Amount:	15 01 g			**Column2:**	Vydac C-18 D
% Solids:	97.1				
Dilution Factor:	1				

CAS No.	Analyte Name	Result	Q	MRL	MDL	Note
91-20-3	Naphthalene	0 21	U	0 21	0.042	U
208-96-8	Acenaphthylene	0 21	U	0 21	0.054	
83-32-9	Acenaphthene	0.21	U	0.21	0.027	
86-73-7	Fluorene	0.042	U	0.042	0.0029	
85-01-8	**Phenanthrene**	**0.069**		0 021	0 0018	
120-12-7	Anthracene	0.021	U	0.021	0.0014	U
206-44-0	**Fluoranthene**	**0.24**	P	0 042	0.0017	
129-00-0	**Pyrene**	**0.066**		0.042	0 0025	
56-55-3	Benz(a)anthracene	0.021	U	0.021	0.0029	U
218-01-9	Chrysene	0.021	U	0.021	0.0021	
205-99-2	Benzo(b)fluoranthene	0 042	Ui	0 042	0.042	
207-08-9	Benzo(k)fluoranthene	0.028	Ui	0.028	0.028	
50-32-8	Benzo(a)pyrene	0.029	Ui	0.029	0.029	
53-70-3	Dibenz(a,h)anthracene	0 042	U	0 042	0 0073	
191-24-2	Benzo(g,h,i)perylene	0.042	U	0.042	0.0054	
193-39-5	Indeno(1,2,3-cd)pyrene	0 021	U	0 021	0 0040	

Surrogate Name	%Rec	Control Limits	Date Analyzed	Note
p-Terphenyl	109	35-161	08/11/03	Acceptable

Comments: A 11/20/03

LABORATORY DATA CONSULTANTS, INC.
7750 El Camino Real, Suite 2L Carlsbad, CA 92009 Phone: 760/634-0437 Fax: 760/634-0439

Navy Public Works Center
Fleet ASW Training Center
Attn: Ms. Adrianne Saboya
33000 Nixie Way, BLDG 50, Suite 341
San Diego, CA 92147

November 21, 2003

SUBJECT: Point Loma Rubble Sites, Data Validation

Dear Ms. Saboya,

Enclosed are the final validation reports for the fractions listed below. These SDGs were received on October 30, 2003. Attachment 1 is a summary of the samples that were reviewed for each analysis.

LDC Project # 11057:

SDG #	Fraction
98-03, 98-02	Volatiles, Semivolatiles, Chlorinated Pesticides, Polychlorinated Biphenyls, Metals, Herbicides, Cyanide, Gasoline Range Organics, Diesel Range Organics & Motor Oil Range Organics, 1,4-Dioxane, Polynuclear Aromatic Hydrocarbons

The data validation was performed under NFESC Level III and IV guidelines. The analyses were validated using the following documents, as applicable to each method:

- NFESC Special Publication SP-2056-ENV, Navy Installation Restoration Chemical Data Quality Manual, Naval Facilities Engineering Command, September 1999
- USEPA, Contract Laboratory Program National Functional Guidelines for Organic Data Review, October 1999
- USEPA, Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, February 1994
- EPA SW 846, Third Edition, Test Methods for Evaluating Solid Waste, update 1, July 1992; update IIA, August 1993; update II, September 1994; update IIB, January 1995; update III, December 1996

Please feel free to contact us if you have any questions.

Sincerely,

Steven A. Ziliak
Senior Chemist

V:\LOGIN\Navy\PointLoma\11057COV.wpd

Attachment 1

LDC #11057 (Navy Public Works-San Diego / Point Loma Rubble Sites)

LDC	SDG#	DATE REC'D	DATE DUE	VOA (8260B)		SVOA (8270C)		Pest. (8081A)		PCBs (8082)		Metals (SW846)		GRO (8015)		DRO/ MRO (8015)		1,4-Dioxane (8015)		PAH (8310)		Herb. (8151A)		CN (9012)													
Matrix:	Water/Soil			W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S	W	S
A	98-03	10-30-03	11-20-03	6	17	4	17	2	3	4	16	10	17	6	17	8	17	10	17	6	8	4	8	8	16												
A	98-03	10-30-03	11-20-03	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
B	98-02	10-30-03	11-20-03	10	35	4	47	4	11	6	35	6	35	9	37	6	38	9	35	6	37	4	12	6	39												
B	98-02	10-30-03	11-20-03	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0												
Total	TH			16	62	8	71	6	16	10	58	16	58	15	60	14	61	19	58	12	51	8	23	14	62	0	0	0	0	0	0	0	0	0	0	0	0

Shaded cells indicate Level IV validation (all other cells are Level III validation).

11057ST.wpd

Point Loma Rubble Sites
Volatiles - Data Qualification Summary - SDG 98-02

SDG	Sample	Compound	Flag	A or P	Reason
98-02	S2-XDMWK8-009 S2-XDMWK8-010 S2-XDMWK8-018 S2-XDMWK8-019 S2-XDMWK8-020 S2-XDMWK8-021 S2-XDMWK8-022 S2-XDMWK8-023 S2-XDMWK8-024 S7XDMWK8-025 S7XDMWK8-026 S7XDMWK8-029 S7XDMWK8-031	Bromomethane Acetone *Methylene chloride* 1 2 3-Trichloropropane	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)
98-02	S7XDMWK8-028 S12XDMWK8-032 S12XDMWK8-033 S12XDMWK8-034 S12XDMWK8-035 S12XDMWK8-036 S12XDMWK8-037	Acetone Methylene chloride	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)
98-02	S2-XDMWK8-001DL S2-XDMWK8-004DL S2-XDMWK8-008DL S2-XDMWK8-013 S2-XDMWK8-016 S7XDMWK8-027 S7XDMWK8-030	Dichlorodifluoromethane	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)
98-02	S2-XDMWK8-005RE** S2-XDMWK8-014RE S12XDMWK8-038 S12XDMWK8-038RE	*Bromomethane* Acetone Methylene chloride 1,2,3-Trichloropropane Naphthalene 1,2,3-Trichlorobenzene	*J (all detects)* UJ (all non-detects)	A	*Continuing* calibration (%D)
98-02	S2-XDMWK8-002 S2-XDMWK8-003 S2-XDMWK8-005** S2-XDMWK8-006 S2-XDMWK8-007 S2-XDMWK8-011** S2-XDMWK8-012 S2-XDMWK8-014 S2-XDMWK8-015 S2-XDMWK8-017	Methylene chloride Naphthalene	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)
98-02	S2-XDMWK8-001 S2-XDMWK8-004 S2-XDMWK8-008	Dichlorodifluoromethane Acetone 2-Butanone 2-Hexanone	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)

SDG	Sample	Compound	Flag	A or P	Reason
98-02	S2-XDMWK8-002 S2-XDMWK8-003 S2-XDMWK8-005** S2-XDMWK8-006 S2-XDMWK8-007 S2-XDMWK8-009 S2-XDMWK8-010 S2-XDMWK8-011** S2-XDMWK8-012 S2-XDMWK8-014 S2-XDMWK8-015 S2-XDMWK8-017 S2-XDMWK8-018 S2-XDMWK8-019 S2-XDMWK8-020 S2-XDMWK8-021 S2-XDMWK8-022 S2-XDMWK8-023 S2-XDMWK8-024 S7XDMWK8-025 S7XDMWK8-026 S7XDMWK8-029 S7XDMWK8-031	All TCL compounds	None	P	Matrix spike/Matrix spike duplicates
98-02	S12XDMWK8-038 S12XDMWK8-038RE S2-XDMWK8-005** S2-XDMWK8-014 S2-XDMWK8-005RE** S2-XDMWK8-014RE	1,1,2,2-Tetrachloroethane Bromobenzene 1,2,3-Trichloropropane n-Propylbenzene 2-Chlorotoluene 1 3,5-Trimethylbenzene 4-Chlorotoluene tert-Butylbenzene 1 2 4-Trimethylbenzene sec-Butylbenzene 1,3-Dichlorobenzene 1 4-Dichlorobenzene n-Butylbenzene 1,2-Dichlorobenzene 1,2,4-Trichlorobenzene Hexachlorobutadiene Naphthalene 4-Isopropyltoluene	J (all detects) UJ (all non-detects)	A	Internal standards (area)
98-02	S2-XDMWK8-001 S2-XDMWK8-004 S2-XDMWK8-008	Acetone	J (all detects)	A	Compound quantitation and CRQLs

Point Loma Rubble Sites
Volatiles - Laboratory Blank Data Qualification Summary - SDG 98-02

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P
98-02	S2-XDMWK8-021	Methylene chloride	4U ug/Kg	A
98-02	S2-XDMWK8-022	Methylene chloride	3U ug/Kg	A

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P
98-02	S2-XDMWK8-023	Methylene chloride	4U ug/Kg	A
98-02	S7XDMWK8-026	Methylene chloride	3U ug/Kg	A
98-02	S2-XDMWK8-009	Methylene chloride	3U ug/Kg	A
98-02	S2-XDMWK8-010	Methylene chloride	3U ug/Kg	A
98-02	S2-XDMWK8-020	Methylene chloride	3U ug/Kg	A
98-02	S12XDMWK8-032	Methylene chloride	3U ug/Kg	A
98-02	S12XDMWK8-033	Methylene chloride	3U ug/Kg	A
98-02	S12XDMWK8-034	Methylene chloride	3U ug/Kg	A
98-02	S12XDMWK8-035	Methylene chloride	3U ug/Kg	A
98-02	S12XDMWK8-036	Methylene chloride	3U ug/Kg	A
98-02	S12XDMWK8-037	Methylene chloride	3U ug/Kg	A
98-02	S12XDMWK8-038	Methylene chloride	11U ug/Kg	A
98-02	S12XDMWK8-038RE	Methylene chloride	16U ug/Kg	A
98-02	S2-XDMWK8-005RE**	Methylene chloride	8U ug/Kg	A
98-02	S2-XDMWK8-014RE	Methylene chloride	14U ug/Kg	A

Point Loma Rubble Sites
Volatiles - Field Blank Data Qualification Summary - SDG 98-02

SDG	Sample	Compound	Modified Final Concentration	A or P
98-02	S2-XDMWK8-002	Acetone	10U ug/Kg	A
98-02	S2-XDMWK8-004	Acetone 2-Butanone	280U ug/L 5U ug/L	A

SDG	Sample	Compound	Modified Final Concentration	A or P
98-02	S2-XDMWK8-004DL	Acetone Methylene chloride	300U ug/L 3.5U ug/L	A
98-02	S2-XDMWK8-005RE**	Acetone Methylene chloride	11U ug/Kg 8U ug/Kg	A
98-02	S2-XDMWK8-008	Acetone 2-Butanone	290U ug/L 2.1U ug/L	A
98-02	S2-XDMWK8-008DL	Acetone Methylene chloride	300U ug/L 3.2U ug/L	A
98-02	S2-XDMWK8-009	Acetone Methylene chloride	10U ug/Kg 3U ug/Kg	A
98-02	S2-XDMWK8-010	Acetone Methylene chloride	11U ug/Kg 3U ug/Kg	A
98-02	S2-XDMWK8-012	Acetone	11U ug/Kg	A
98-02	S2-XDMWK8-014RE	Acetone	11U ug/Kg	A
98-02	S2-XDMWK8-015	Acetone	11U ug/Kg	A
98-02	S2-XDMWK8-016	Acetone	5U ug/L	A
98-02	S2-XDMWK8-018	Acetone	10U ug/Kg	A
98-02	S2-XDMWK8-019	Acetone	11U ug/Kg	A
98-02	S2-XDMWK8-020	Acetone	10U ug/Kg	A
98-02	S7XDMWK8-030	Acetone	7U ug/Kg	A
98-02	S7XDMWK8-029	Acetone	48U ug/Kg	A
98-02	S12XDMWK8-032	Acetone	11U ug/Kg	A
98-02	S12XDMWK8-034	Acetone	11U ug/Kg	A
98-02	S12XDMWK8-036	Acetone	11U ug/Kg	A
98-02	S12XDMWK8-037	Acetone	10U ug/Kg	A

SDG	Sample	Compound	Modified Final Concentration	A or P
98-02	S12XDMWK8-038	Acetone	12U ug/Kg	A
98-02	S12XDMWK8-038RE	Acetone	12U ug/Kg	A

Point Loma Rubble Sites
Semivolatiles - Data Qualification Summary - SDG 98-02

SDG	Sample	Compound	Flag	A or P	Reason
98-02	S2-XDMWK8-005RE S2-XDMWK8-006RE S2-XDMWK8-011RE S2-XDMWK8-012RE S7XDMWK8-028 S7XDMWK8-029 S7XDMWK8-031 S12XDMWK8-032 S12XDMWK8-033 S12XDMWK8-034 S12XDMWK8-035 S12XDMWK8-036 S12XDMWK8-037 S12XDMWK8-038 S2-XDMWK8-004 S2-XDMWK8-006 S2-XDMWK8-016 S2-XDMWK8-017 S2-XDMWK8-018 S2-XDMWK8-019 S2-XDMWK8-020 S7XDMWK8-026RE S7XDMWK8-030 S12XDMWK8-034DL S12XDMWK8-037RE S12XDMWK8-038RE	Benzoic acid	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)
98-02	S2-XDMWK8-021 S2-XDMWK8-022 S2-XDMWK8-014RE	Hexachlorocyclopentadiene	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)

SDG	Sample	Compound	Flag	A or P	Reason
98-02	S2-XDMWK8-005 S2-XDMWK8-009 S2-XDMWK8-011 S2-XDMWK8-005RE S2-XDMWK8-011RE S12XDMWK8-037 S12XDMWK8-038 S12XDMWK8-038RE	*Bis(2-chloroethyl) ether* 1,3-Dichlorobenzene 1,4-Dichlorobenzene 1,2-Dichlorobenzene N-Nitroso-di-n-propylamine Hexachloroethane Nitrobenzene Isophorone Bis(2-chloroethoxy)methane 1,2,4-Trichlorobenzene Naphthalene 4-Chloroaniline Hexachlorobutadiene 2-Methylnaphthalene Hexachlorocyclopentadiene 2-Chloronaphthalene 2-Nitroaniline Dimethylphthalate Acenaphthylene 2,6-Dinitrotoluene 3-Nitroaniline Acenaphthene Dibenzofuran 2,4-Dinitrotoluene Diethylphthalate *4-Chlorophenylphenyl ether* Fluorene 4-Nitroaniline N-Nitrosodiphenylamine 4-Bromophenylphenyl ether Hexachlorobenzene Phenanthrene Anthracene 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 Benzyl alcohol Bis(2-chloroisopropyl)ether Aniline N-Nitrosodimethylamine Pyridine Benzidine	J (all detects) J (all detects)	A	*Surrogate recovery (%R)*
98-02	S2-XDMWK8-022	2,4-Dinitrotoluene 1,4-Dichlorobenzene 1,2,4-Trichlorobenzene	J (all detects) J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicates (%R)
98-02	S2-XDMWK8-022	Pentachlorophenol	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicates (RPD)

SDG	Sample	Compound	Flag	A or P	Reason
98-02	S2-XDMWK8-022 S2-XDMWK8-019 S7XDMWK8-031 S2-XDMWK8-009	Benzidine	J (all detects) R (all non-detects)	A	Matrix spike/Matrix spike duplicates (%R)
98-02	S2-XDMWK8-019	Hexachlorocyclopentadiene Benzoic acid Phenol 2-Chlorophenol Acenaphthene 2,4-Dinitrotoluene Di-n-octylphthalate 1,4-Dichlorobenzene 1,2,4-Trichlorobenzene	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicates (%R)(RPD)

SDG	Sample	Compound	Flag	A or P	Reason
98-02	S7XDMWK8-031	Phenol 2-Chlorophenol Acenaphthene 2,4-Dinitrotoluene Pyrene 1,4-Dichlorobenzene Benzoic acid 1,2,4-Trichlorobenzene Bis(2-chloroethyl)ether Hexachloroethane N-Nitroso-di-n-propylamine 4-Methylphenol Nitrobenzene Isophorone 2-Nitrophenol 2,4-Dimethylphenol Bis(2-chloroethoxy)methane 2,4-Dichlorophenol Naphthalene 4-Chloroaniline Hexachlorobutadiene 4-Chloro-3-methylphenol 2-Methylnaphthalene Hexachlorocyclopentadiene 2,4,6-Trichlorophenol 2,4,5-Trichlorophenol 2-Chloronaphthalene 2-Nitroaniline Acenaphthylene 2,4-Dinitrophenol Dimethylphthalate 2,6-Dinitrotoluene 3-Nitroaniline Dibenzofuran 4-Nitrophenol Fluorene 4-Chlorophenyl-phenyl ether Diethylphthalate 4-Nitroaniline 4,6-Dinitro-2-methylphenol 4-Bromophenyl-phenylether Hexachlorobenzene Pentachlorophenol Phenanthrene Anthracene Di-n-butylphthalate Fluoranthene Butylbenzylphthalate Benzo(a)anthracene Chrysene Bis(2-ethylhexyl)phthalate Benzo(b)fluoranthene Benzo(a)pyrene N-Nitrosodimethylamine 1,3-Dichlorobenzene Benzyl alcohol 1,2-Dichlorobenzene Bis(2-chloroisopropyl)ether	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicates (%R)(RPD)

SDG	Sample	Compound	Flag	A or P	Reason
98-02	S2-XDMWK8-009	4-Chloroaniline Hexachlorocyclopentadiene 2,4-Dinitrophenol 3,3'-Dichlorobenzidine	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicates (%R)
98-02	S2-XDMWK8-009	2,4-Dinitrotoluene Pyrene Di-n-octylphthalate 1,4-Dichlorobenzene 1,2,4-Trichlorobenzene 4-Nitrophenol	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicates (%R)
98-02	S7XDMWK8-028 S7XDMWK8-028RE S7XDMWK8-029 S7XDMWK8-031 S12XDMWK8-032 S12XDMWK8-033 S12XDMWK8-034 S12XDMWK8-034DL S12XDMWK8-035 S12XDMWK8-036 S12XDMWK8-037 S12XDMWK8-037RE S12XDMWK8-038 S12XDMWK8-038RE S2-XDMWK8-002 S2-XDMWK8-003 S2-XDMWK8-005 S2-XDMWK8-005RE S2-XDMWK8-006 S2-XDMWK8-006RE S2-XDMWK8-007 S2-XDMWK8-009 S2-XDMWK8-010 S2-XDMWK8-011 S2-XDMWK8-011RE S2-XDMWK8-012 S2-XDMWK8-014 S2-XDMWK8-014RE S2-XDMWK8-015** S2-XDMWK8-017 S2-XDMWK8-018 S2-XDMWK8-019 S2-XDMWK8-020 S2-XDMWK8-021 S2-XDMWK8-023 S2-XDMWK8-024 ~~S7XDMWK8-025~~ S7XDMWK8-026 S2-XDMWK8-012RE	Benzidine	J (all detects) UJ (all non-detects)	P	Laboratory control samples (%R)
98-02	S2-XDMWK8-004 S2-XDMWK8-008 S2-XDMWK8-016 S7XDMWK8-030 S2-XDMWK8-012RE	Hexachlorocyclopentadiene	J (all detects) UJ (all non-detects)	P	Laboratory control samples (%R)

SDG	Sample	Compound	Flag	A or P	Reason
98-02	S2-XDMWK8-002 S2-XDMWK8-003 S2-XDMWK8-005 S2-XDMWK8-005RE S2-XDMWK8-006 S2-XDMWK8-006RE S2-XDMWK8-007 S2-XDMWK8-009 S2-XDMWK8-010 S2-XDMWK8-011 S2-XDMWK8-011RE S2-XDMWK8-012	Benzoic acid	J (all detects) R (all non-detects)	P	Laboratory control samples (%R)
98-02	S2-XDMWK8-022	Benzidine	J (all detects) R (all non-detects)	P	Laboratory control samples (%R)
98-02	S7XDMWK8-028 S12XDMWK8-034DL S7XDMWK8-028RE S2-XDMWK8-014RE S2-XDMWK8-006 S2-XDMWK8-012 S2-XDMWK8-005 S2-XDMWK8-011	Di-n-octylphthalate Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Dibenz(a,h)anthracene Diethylphthalate	J (all detects) UJ (all non-detects)	A	Internal standards (area)
98-02	S12XDMWK8-037 S12XDMWK8-038 S12XDMWK8-037RE S12XDMWK8-038RE S2-XDMWK8-014 S2-XDMWK8-009 S2-XDMWK8-006RE S2-XDMWK8-012RE S2-XDMWK8-005RE S2-XDMWK8-011RE	Di-n-octylphthalate Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1 2,3-cd)pyrene Dibenz(a,h)anthracene Diethylphthalate Butylbenzylphthalate 3,3'-Dichlorobenzidine Benzo(a)anthracene Chrysene Bis(2-ethylhexyl)phthalate Benzidine Pyrene	J (all detects) UJ (all non-detects)	A	Internal standards (area)

Point Loma Rubble Sites
Semivolatiles - Laboratory Blank Data Qualification Summary - SDG 98-02

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P
98-02	S2-XDMWK8-002	Diethylphthalate Di-n-butylphthalate Bis(2-ethylhexyl)phthalate	350U ug/Kg 350U ug/Kg 350U ug/Kg	A
98-02	S2-XDMWK8-003	Diethylphthalate Di-n-butylphthalate Bis(2-ethylhexyl)phthalate	370U ug/Kg 370U ug/Kg 370U ug/Kg	A

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P
98-02	S2-XDMWK8-005	Di-n-butylphthalate Bis(2-ethylhexyl)phthalate	680U ug/Kg 680U ug/Kg	A
98-02	S2-XDMWK8-005RE	Di-n-butylphthalate Bis(2-ethylhexyl)phthalate	680U ug/Kg 680U ug/Kg	A
98-02	S2-XDMWK8-006	Diethylphthalate Di-n-butylphthalate Bis(2-ethylhexyl)phthalate	350U ug/Kg 350U ug/Kg 350U ug/Kg	A
98-02	S2-XDMWK8-006RE	Diethylphthalate Di-n-butylphthalate Bis(2-ethylhexyl)phthalate	350U ug/Kg 350U ug/Kg 350U ug/Kg	A
98-02	S2-XDMWK8-007	Diethylphthalate Di-n-butylphthalate Bis(2-ethylhexyl)phthalate	350U ug/Kg 350U ug/Kg 350U ug/Kg	A
98-02	S2-XDMWK8-009	Diethylphthalate Di-n-butylphthalate Bis(2-ethylhexyl)phthalate	690U ug/Kg 690U ug/Kg 690U ug/Kg	A
98-02	S2-XDMWK8-010	Diethylphthalate Di-n-butylphthalate Bis(2-ethylhexyl)phthalate	360U ug/Kg 360U ug/Kg 360U ug/Kg	A
98-02	S2-XDMWK8-011	Diethylphthalate Di-n-butylphthalate	680U ug/Kg 680U ug/Kg	A
98-02	S2-XDMWK8-011RE	Diethylphthalate Di-n-butylphthalate	680U ug/Kg 680U ug/Kg	A
98-02	S2-XDMWK8-012	Diethylphthalate Di-n-butylphthalate Bis(2-ethylhexyl)phthalate	340U ug/Kg 340U ug/Kg 340U ug/Kg	A
98-02	S2-XDMWK8-012RE	Diethylphthalate Di-n-butylphthalate Bis(2-ethylhexyl)phthalate	340U ug/Kg 340U ug/Kg 340U ug/Kg	A
98-02	S2-XDMWK8-014	Diethylphthalate Di-n-butylphthalate Bis(2-ethylhexyl)phthalate	340U ug/Kg 340U ug/Kg 340U ug/Kg	A
98-02	S2-XDMWK8-014RE	Diethylphthalate Di-n-butylphthalate Bis(2-ethylhexyl)phthalate	340U ug/Kg 340U ug/Kg 340U ug/Kg	A

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P
98-02	S2-XDMWK8-015**	Diethylphthalate Di-n-butylphthalate Bis(2-ethylhexyl)phthalate	350U ug/Kg 350U ug/Kg 350U ug/Kg	A
98-02	S2-XDMWK8-017	Diethylphthalate Di-n-butylphthalate Bis(2-ethylhexyl)phthalate	340U ug/Kg 340U ug/Kg 340U ug/Kg	A
98-02	S2-XDMWK8-018	Diethylphthalate Di-n-butylphthalate Bis(2-ethylhexyl)phthalate	350U ug/Kg 350U ug/Kg 350U ug/Kg	A
98-02	S2-XDMWK8-019	Diethylphthalate Bis(2-ethylhexyl)phthalate	340U ug/Kg 350U ug/Kg	A
98-02	S2-XDMWK8-020	Diethylphthalate Di-n-butylphthalate	340U ug/Kg 340U ug/Kg	A
98-02	S2-XDMWK8-021	Diethylphthalate Di-n-butylphthalate	340U ug/Kg 340U ug/Kg	A
98-02	S2-XDMWK8-023	Diethylphthalate Di-n-butylphthalate Bis(2-ethylhexyl)phthalate	340U ug/Kg 340U ug/Kg 340U ug/Kg	A
98-02	S2-XDMWK8-024	Diethylphthalate Di-n-butylphthalate Bis(2-ethylhexyl)phthalate	340U ug/Kg 340U ug/Kg 340U ug/Kg	A
98-02	S7XDMWK8-025	Diethylphthalate Bis(2-ethylhexyl)phthalate	340U ug/Kg 340U ug/Kg	A
98-02	S7XDMWK8-026	Di-n-butylphthalate Bis(2-ethylhexyl)phthalate	340U ug/Kg 340U ug/Kg	A
98-02	S7XDMWK8-028	Diethylphthalate Di-n-butylphthalate Bis(2-ethylhexyl)phthalate	350U ug/Kg 350U ug/Kg 350U ug/Kg	A
98-02	S7XDMWK8-028RE	Diethylphthalate Di-n-butylphthalate Bis(2-ethylhexyl)phthalate	350U ug/Kg 350U ug/Kg 350U ug/Kg	A
98-02	S7XDMWK8-029	Diethylphthalate Di-n-butylphthalate Bis(2-ethylhexyl)phthalate	350U ug/Kg 350U ug/Kg 350U ug/Kg	A

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P
98-02	S7XDMWK8-031	Diethylphthalate Di-n-butylphthalate Bis(2-ethylhexyl)phthalate	340U ug/Kg 340U ug/Kg 340U ug/Kg	A
98-02	S12XDMWK8-032	Di-n-butylphthalate Bis(2-ethylhexyl)phthalate	340U ug/Kg 340U ug/Kg	A
98-02	S12XDMWK8-033	Di-n-butylphthalate Bis(2-ethylhexyl)phthalate	340U ug/Kg 340U ug/Kg	A
98-02	S12XDMWK8-034	Di-n-butylphthalate Bis(2-ethylhexyl)phthalate	350U ug/Kg 350U ug/Kg	A
98-02	S12XDMWK8-034DL	Diethylphthalate Di-n-butylphthalate Bis(2-ethylhexyl)phthalate	1400U ug/Kg 1400U ug/Kg 1400U ug/Kg	A
98-02	S12XDMWK8-035	Bis(2-ethylhexyl)phthalate	350U ug/Kg	A
98-02	S12XDMWK8-036	Diethylphthalate Di-n-butylphthalate Bis(2-ethylhexyl)phthalate	340U ug/Kg 340U ug/Kg 340U ug/Kg	A
98-02	S12XDMWK8-037	Diethylphthalate Di-n-butylphthalate Bis(2-ethylhexyl)phthalate	350U ug/Kg 350U ug/Kg 350U ug/Kg	A
98-02	S12XDMWK8-037RE	Diethylphthalate Di-n-butylphthalate Bis(2-ethylhexyl)phthalate	350U ug/Kg 350U ug/Kg 350U ug/Kg	A
98-02	S12XDMWK8-038	Di-n-butylphthalate Bis(2-ethylhexyl)phthalate	710U ug/Kg 710U ug/Kg	A
98-02	S12XDMWK8-038RE	Diethylphthalate Di-n-butylphthalate Bis(2-ethylhexyl)phthalate	710U ug/Kg 710U ug/Kg 710U ug/Kg	A
98-02	S2-XDMWK8-030	Bis(2-ethylhexyl)phthalate	5U ug/L	A
98-02	S2-XDMWK8-004	Diethylphthalate Bis(2-ethylhexyl)phthalate	5U ug/L 5U ug/L	A
98-02	S2-XDMWK8-008	Bis(2-ethylhexyl)phthalate	5U ug/L	A
98-02	S2-XDMWK8-016	Bis(2-ethylhexyl)phthalate	5U ug/L	A

SDG	Sample	Compound TIC (RT in minutes)	Modified Final Concentration	A or P
98-02	S2-XDMWK8-022	Diethylphthalate Di-n-butylphthalate Bis(2-ethylhexyl)phthalate	350U ug/Kg 350U ug/Kg 350U ug/Kg	A

Point Loma Rubble Sites
Semivolatiles - Field Blank Data Qualification Summary - SDG 98-02

No Sample Data Qualified in this SDG

Point Loma Rubble Sites
Polychlorinated Biphenyls - Data Qualification Summary - SDG 98-02

No Sample Data Qualified in this SDG

Point Loma Rubble Sites
Polychlorinated Biphenyls - Laboratory Blank Data Qualification Summary - SDG 98-02

No Sample Data Qualified in this SDG

Point Loma Rubble Sites
Polychlorinated Biphenyls - Field Blank Data Qualification Summary - SDG 98-02

No Sample Data Qualified in this SDG

Point Loma Rubble Sites
Metals - Data Qualification Summary - SDG 98-02

SDG	Sample	Analyte	Flag	A or P	Reason
98-02	S2-XDMWK8-002 S2-XDMWK8-003 S2-XDMWK8-005 S2-XDMWK8-006 S2-XDMWK8-007 S2-XDMWK8-009 S2-XDMWK8-010 S2-XDMWK8-011 S2-XDMWK8-012 S2-XDMWK8-014 S2-XDMWK8-015 S2-XDMWK8-017 S2-XDMWK8-018 S2-XDMWK8-019 S2-XDMWK8-020 S2-XDMWK8-021 S2-XDMWK8-022 S2-XDMWK8-023 S2-XDMWK8-024 S7XDMWK8-025 S7XDMWK8-026 S7XDMWK8-028 S7XDMWK8-029 S7XDMWK8-031 S12XDMWK8-032 S12XDMWK8-033 S12XDMWK8-034 S12XDMWK8-035 S12XDMWK8-036 S12XDMWK8-037 S12XDMWK8-038	Antimony Arsenic Molybdenum Selenium Thallium	J (all detects) UJ (all non-detects)	P	ICP interference check
98-02	S2-XDMWK8-002 S2-XDMWK8-003 S2-XDMWK8-005 S2-XDMWK8-006 S2-XDMWK8-007 S2-XDMWK8-009 S2-XDMWK8-010 S2-XDMWK8-011 S2-XDMWK8-012 S2-XDMWK8-014 S2-XDMWK8-015 S2-XDMWK8-017 S2-XDMWK8-018 S2-XDMWK8-019 S2-XDMWK8-020 S2-XDMWK8-021 S2-XDMWK8-022 S2-XDMWK8-023 S2-XDMWK8-024	Antimony	J (all detects) R (all non-detects)	A	Matrix spike/Matrix spike duplicates (%R)

SDG	Sample	Analyte	Flag	A or P	Reason
98-02	S2-XDMWK8-002 S2-XDMWK8-003 S2-XDMWK8-005 S2-XDMWK8-006 S2-XDMWK8-007 S2-XDMWK8-009 S2-XDMWK8-010 S2-XDMWK8-011 S2-XDMWK8-012 S2-XDMWK8-014 S2-XDMWK8-015 S2-XDMWK8-017 S2-XDMWK8-018 S2-XDMWK8-019 S2-XDMWK8-020 S2-XDMWK8-021 S2-XDMWK8-022 S2-XDMWK8-023 S2-XDMWK8-024	*Barium* Molybdenum Thallium	*J (all detects)* UJ (all non-detects)	A	*Matrix spike/Matrix spike* duplicates (%R)
98-02	S7XDMWK8-025 S7XDMWK8-026 S7XDMWK8-028 S7XDMWK8-029 S7XDMWK8-031 S12XDMWK8-032 S12XDMWK8-033 S12XDMWK8-034 S12XDMWK8-035 S12XDMWK8-036 S12XDMWK8-037 S12XDMWK8-038	Antimony	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicates (%R)

SDG	Sample	Analyte	Flag	A or P	Reason
98-02	S2-XDMWK8-002 S2-XDMWK8-003 S2-XDMWK8-004 S2-XDMWK8-005 S2-XDMWK8-006 S2-XDMWK8-007 S2-XDMWK8-008 S2-XDMWK8-009 S2-XDMWK8-010 S2-XDMWK8-011 S2-XDMWK8-012 S2-XDMWK8-014 S2-XDMWK8-015 S2-XDMWK8-016 S2-XDMWK8-017 S2-XDMWK8-018 S2-XDMWK8-019 S2-XDMWK8-020 S2-XDMWK8-021 S2-XDMWK8-022 S2-XDMWK8-023 S2-XDMWK8-024 S7XDMWK8-025 S7XDMWK8-026 S7XDMWK8-028 S7XDMWK8-029 S7XDMWK8-030 S7XDMWK8-031 S12XDMWK8-032 S12XDMWK8-033 S12XDMWK8-034 S12XDMWK8-035 S12XDMWK8-036 S12XDMWK8-037 S12XDMWK8-038	*Analytes reported above the* MDL and below the RL	*J (all detects)*	*A*	*Sample result verification*

Point Loma Rubble Sites
Metals - Laboratory Blank Data Qualification Summary - SDG 98-02

SDG	Sample	Analyte	Modified Final Concentration	A or P
98-02	S2-XDMWK8-008	Cobalt	0.0009U mg/L	A
98-02	S2-XDMWK8-016	Cobalt *Silver*	0.0007U mg/L *0.0004U mg/L*	A
98-02	S7XDMWK8-030	Silver	0.0006U mg/L	A

Point Loma Rubble Sites
Metals - Field Blank Data Qualification Summary - SDG 98-02

SDG	Sample	Analyte	Modified Final Concentration	A or P
98-02	S2-XDMWK8-002	Antimony	0.6U mg/Kg	A
98-02	S2-XDMWK8-003	Antimony	0.6U mg/Kg	A
98-02	S2-XDMWK8-005	Antimony	0.5U mg/Kg	A
98-02	S2-XDMWK8-006	Antimony	0.7U mg/Kg	A
98-02	S2-XDMWK8-007	Antimony	0.5U mg/Kg	A
98-02	S2-XDMWK8-009	Antimony	0.3U mg/Kg	A
98-02	S2-XDMWK8-010	Antimony	0.5U mg/Kg	A
98-02	S2-XDMWK8-011	Antimony	0.5U mg/Kg	A
98-02	S2-XDMWK8-012	Antimony	0.9U mg/Kg	A
98-02	S2-XDMWK8-014	Antimony	0.5U mg/Kg	A
98-02	S2-XDMWK8-015	Antimony	0.4U mg/Kg	A
98-02	S2-XDMWK8-017	Antimony	0.4U mg/Kg	A
98-02	S2-XDMWK8-018	Antimony	0.6U mg/Kg	A
98-02	S2-XDMWK8-019	Antimony	0.3U mg/Kg	A
98-02	S2-XDMWK8-020	Antimony	0.4U mg/Kg	A
98-02	S2-XDMWK8-021	Antimony	0.5U mg/Kg	A
98-02	S2-XDMWK8-022	Antimony	0.2U mg/Kg	A
98-02	S2-XDMWK8-023	Antimony	0.2U mg/Kg	A
98-02	S2-XDMWK8-024	Antimony	0.2U mg/Kg	A

SDG	Sample	Analyte	Modified Final Concentration	A or P
98-02	S7XDMWK8-025	Antimony	0.3U mg/Kg	A
98-02	S7XDMWK8-026	Antimony	0.6U mg/Kg	A
98-02	S7XDMWK8-028	Antimony	0.4U mg/Kg	A
98-02	S7XDMWK8-029	Antimony	0.5U mg/Kg	A
98-02	S7XDMWK8-031	Antimony	0.4U mg/Kg	A
98-02	S12XDMWK8-032	Antimony Beryllium	0.4U mg/Kg 0.01U mg/Kg	A
98-02	S12XDMWK8-033	Antimony	0.3U mg/Kg	A
98-02	S12XDMWK8-034	Antimony	0.2U mg/Kg	A
98-02	S12XDMWK8-035	Antimony	0.4U mg/Kg	A
98-02	S12XDMWK8-036	Antimony	0.4U mg/Kg	A
98-02	S12XDMWK8-037	Antimony	0.4U mg/Kg	A
98-02	S12XDMWK8-038	Antimony	0.4U mg/Kg	A

Point Loma Rubble Sites
Cyanide - Data Qualification Summary - SDG 98-02

SDG	Sample	Analyte	Flag	A or P	Reason
98-02	S2-XDMWK8-014 S2-XDMWK8-015 S2-XDMWK8-017 S2-XDMWK8-018 S2-XDMWK8-019 S2-XDMWK8-020 S2-XDMWK8-021 S2-XDMWK8-022 S2-XDMWK8-023 S2-XDMWK8-024 S7XDMWK8-025 S7XDMWK8-026	Cyanide	J (all detects) UJ (all non-detects)	P	Laboratory control samples (%R)

Point Loma Rubble Sites
Cyanide - Laboratory Blank Data Qualification Summary - SDG 98-02

No Sample Data Qualified in this SDG

Point Loma Rubble Sites
Cyanide - Field Blank Data Qualification Summary - SDG 98-02

No Sample Data Qualified in this SDG

Point Loma Rubble Sites
Gasoline Range Organics - Data Qualification Summary - SDG 98-02

No Sample Data Qualified in this SDG

Point Loma Rubble Sites
Gasoline Range Organics - Laboratory Blank Data Qualification Summary - SDG 98-02

No Sample Data Qualified in this SDG

Point Loma Rubble Sites
Gasoline Range Organics - Field Blank Data Qualification Summary - SDG 98-02

No Sample Data Qualified in this SDG

Point Loma Rubble Sites
Diesel Range Organics & Residual Range Organics - Data Qualification Summary - SDG 98-02

SDG	Sample	Compound	Flag	A or P	Reason
98-02	S2-XDMWK8-002 S2-XDMWK8-006 S2-XDMWK8-014	Diesel range organics Residual range organics	J (all detects) J (all detects)	P	Surrogate recovery (%R)
98-02	S12XDMWK8-034	Oil range organics	J (all detects)	P	Surrogate recovery (%R)
98-02	S2-XDMWK8-009	Diesel range organics	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicates (RPD)

Point Loma Rubble Sites
Diesel Range Organics & Residual Range Organics - Laboratory Blank Data Qualification Summary - SDG 98-02

No Sample Data Qualified in this SDG

Point Loma Rubble Sites
Diesel Range Organics & Residual Range Organics - Field Blank Data Qualification Summary - SDG 98-02

No Sample Data Qualified in this SDG

Point Loma Rubble Sites
1,4-Dioxane - Data Qualification Summary - SDG 98-02

SDG	Sample	Compound	Flag	A or P	Reason
98-02	S7XDMWK8-031	1 4-Dioxane	J (all detects)	A	Matrix spike/Matrix spike duplicates (%R)

Point Loma Rubble Sites
1,4-Dioxane - Laboratory Blank Data Qualification Summary - SDG 98-02

No Sample Data Qualified in this SDG

Point Loma Rubble Sites
1,4-Dioxane - Field Blank Data Qualification Summary - SDG 98-02

No Sample Data Qualified in this SDG

Point Loma Rubble Sites
Polynuclear Aromatic Hydrocarbons - Data Qualification Summary - SDG 98-02

SDG	Sample	Compound	Flag	A or P	Reason
98-02	S2-XDMWK8-004 S2-XDMWK8-008 S2-XDMWK8-016	Fluoranthene	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)
98-02	S7XDMWK8-030 S2-XDMWK8-002 S2-XDMWK8-003 S2-XDMWK8-005 S2-XDMWK8-006 S2-XDMWK8-007 S2-XDMWK8-009 S2-XDMWK8-010 S2-XDMWK8-011 S2-XDMWK8-017 S2-XDMWK8-018 S2-XDMWK8-019 S2-XDMWK8-020 S2-XDMWK8-021 S2-XDMWK8-022 S2-XDMWK8-023 S2-XDMWK8-024 S7XDMWK8-025	Benzo(a)pyrene	J (all detects) UJ (all non-detects)	A	Continuing calibration (%D)
98-02	S2-XDMWK8-002 S2-XDMWK8-003 S2-XDMWK8-011	All TCL compounds	J (all detects)	P	Surrogate recovery (%R)
98-02	S2-XDMWK8-009	Naphthalene Acenaphthylene Indeno(1,2,3-cd)pyrene	J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicates (%R)(RPD)
98-02	S7XDMWK8-031	Naphthalene Acenaphthylene	J (all detects) UJ (all non-detects) J (all detects) UJ (all non-detects)	A	Matrix spike/Matrix spike duplicates (%R)(RPD)
98-02	S2-XDMWK8-009	Acenaphthene	J (all detects) R (all non-detects)	A	Matrix spike/Matrix spike duplicates (%R)(RPD)
98-02	S2-XDMWK8-009	Fluoranthene Pyrene Benzo(b)fluoranthene Benzo(k)fluoranthene Benzo(a)pyrene Dibenz(a,h)anthracene	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A	Matrix spike/Matrix spike duplicates (%R)
98-02	S7XDMWK8-030	Benzo(a)pyrene	J (all detects) UJ (all non-detects)	P	Laboratory control samples (%R)

SDG	Sample	Compound	Flag	A or P	Reason
98-02	S2-XDMWK8-021	Fluoranthene Pyrene Chrysene Benzo(b)fluoranthene	J (all detects) J (all detects) J (all detects) J (all detects)	A	Compound quantitation and CRQLs
98-02	S12XDMWK8-032	Phenanthrene Fluoranthene Benzo(a)anthracene Chrysene Benzo(b)fluoranthene Benzo(a)pyrene	J (all detects) J (all detects) J (all detects) J (all detects) J (all detects) J (all detects)	A	Compound quantitation and CRQLs
98-02	S2-XDMWK8-002 S2-XDMWK8-003 S2-XDMWK8-005 S2-XDMWK8-006 S2-XDMWK8-007 S2-XDMWK8-009 S2-XDMWK8-010 S2-XDMWK8-011 S2-XDMWK8-012 S2-XDMWK8-014 S2-XDMWK8-015 S2-XDMWK8-017 S2-XDMWK8-018 S2-XDMWK8-019 S2-XDMWK8-020 S2-XDMWK8-021 S2-XDMWK8-021DL S2-XDMWK8-022 S2-XDMWK8-023 S2-XDMWK8-024 S7XDMWK8-025 S7XDMWK8-026 S7XDMWK8-028 S7XDMWK8-029 S7XDMWK8-031 S12XDMWK8-032 S12XDMWK8-032DL S12XDMWK8-033 S12XDMWK8-034 S12XDMWK8-035 S12XDMWK8-036 S12XDMWK8-037 S12XDMWK8-038	Naphthalene Acenaphthylene Acenaphthene Phenanthrene Anthracene Benzo(a)anthracene Chrysene Benzo(k)fluoranthene Benzo(a)pyrene Indeno(1,2,3-cd)pyrene Fluorene Fluoranthene Pyrene Benzo(b)fluoranthene Dibenz(a,h)anthracene Benzo(g h,i)perylene	None None None None None None None None None None None None None None None None	P	Compound quantitation and CRQLs

Point Loma Rubble Sites
Polynuclear Aromatic Hydrocarbons - Laboratory Blank Data Qualification Summary - SDG 98-02

No Sample Data Qualified in this SDG

Point Loma Rubble Sites
Polynuclear Aromatic Hydrocarbons - Field Blank Data Qualification Summary - SDG 98-02

No Sample Data Qualified in this SDG