N00236.000275
ALAMEDA POINT
SSIC NO. 5090.3

DECEMBER, 1988

AIR SAMPLING PLAN

REMEDIAL INVESTIGATION / FEASIBILITY STUDY
NAVAL AIR STATION ALAMEDA
ALAMEDA, CALIFORNIA

VOLUME 1B

DEPARTMENT OF THE NAVY
WESTERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
SAN BRUNO, CALIFORNIA 94066-0727

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AIR SAMPLING PLAN
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

NAVAL AIR STATION ALAMEDA
ALAMEDA, CALIFORNIA

CanonieEnvironmental

Canonie Environmental

Canonie Environmental Services Corp.
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86-018-01

December 16, 1988

Ms. Bella G. Dizon (Code 1147BD)
Department of the Navy
Western Division
Naval Facilities Engineering Command
P.O. Box 727
San Bruno, CA 94066-0727

Transmittal
Air Sampling Plan
Remedial Investigation/Feasibility Study
Naval Air Station Alameda
Alameda, California

Dear Ms. Dizon:

Enclosed are 20 copies of the final Air Sampling Plan for the Remedial Investigation/Feasibility Study at the Naval Air Station Alameda.

This report completes a portion of the work authorized under contract N62474-85-D-5620 Delivery Orders 001 and 002.

If you have any questions, please call us.

Respectfully submitted,

James W. Babcock, Ph.D.
Project Supervisor

Richard J. Greenwood, P.E.
Project Manager

JWB/RJG/ll

Enclosures

N00236.000275
ALAMEDA POINT
SSIC NO. 5090.3

FINAL AIR SAMPLING PLAN
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
(RI/FS)
VOLUME 1B OF 8

DATED 01 DECEMBER 1988

THIS RECORD CONTAINS MULTIPLE VOLUMES WHICH HAVE BEEN ENTERED SEPARATELY

VOLUME 1 OF 8 – FINAL SAMPLING PLAN, RI/FS DATED 2/1/90 IS ENTERED IN THE DATABASE AND FILED AT ADMINISTRATIVE RECORD NO. **N00236.000785**

VOLUME 1A OF 8 – FINAL SAMPLING PLAN, SOLID WASTE ASSESSMENT TEST PROPOSAL ADDENDUM, RI/FS DATED 2/1/89 IS ENTERED IN THE DATABASE AND FILED AT ADMINISTRATIVE RECORD NO. **N00236.000311**

VOLUME 1A OF 8 – FINAL SAMPLING PLAN, SOLID WASTE ASSESSMENT TEST PROPOSAL ADDENDUM, RI/FS DATED 12/1/89 IS ENTERED IN THE DATABASE AND FILED AT ADMINISTRATIVE RECORD NO. **N00236.000789**

VOLUME 1A OF 8 – FINAL SAMPLING PLAN, SOLID WASTE ASSESSMENT TEST PROPOSAL ADDENDUM, RI/FS DATED 2/1/90 IS ENTERED IN THE DATABASE AND FILED AT ADMINISTRATIVE RECORD NO. **N00236.000786**

VOLUME 2 OF 8 – FINAL HEALTH AND SAFETY PLAN, RI/FS DATED 12/1/88 IS ENTERED IN THE DATABASE AND FILED AT ADMINISTRATIVE RECORD NO. **N00236.000274**

VOLUME 2 OF 8 – REVISED FINAL HEALTH AND SAFETY PLAN, RI/FS DATED 5/1/89 IS ENTERED IN THE DATABASE AND FILED AT ADMINISTRATIVE RECORD NO. **N00236.000351**

VOLUME 2 OF 8 – REVISED FINAL HEALTH AND SAFETY PLAN, RI/FS DATED 11/1/89 IS ENTERED IN THE DATABASE AND FILED AT ADMINISTRATIVE RECORD NO. **N00236.000780**

VOLUME 3 OF 8 – FINAL QUALITY ASSURANCE PROJECT PLAN – QUALITY ASSURANCE / QUALITY CONTROL PLAN, RI/FS DATED 5/1/89 IS ENTERED IN THE DATABASE AND FILED AT ADMINISTRATIVE RECORD NO. **N00236.000341**

VOLUME 3 OF 8 – FINAL QUALITY ASSURANCE PROJECT PLAN – QUALITY ASSURANCE / QUALITY CONTROL PLAN, RI/FS DATED 1/1/90 IS ENTERED IN THE DATABASE AND FILED AT ADMINISTRATIVE RECORD NO. **N00236.000782**

VOLUME 4 OF 8 – COMMUNITY RELATIONS PLAN, RI/FS DATED 2/15/89 IS ENTERED IN THE DATABASE AND FILED AT ADMINISTRATIVE RECORD NO. **N00236.000301**

VOLUME 5 OF 8 – FINAL PROJECT MANAGEMENT PLAN/SCHEDULE, RI/FS DATED 2/1/89 IS ENTERED IN THE DATABASE AND FILED AT ADMINISTRATIVE RECORD NO. **N00236.000322**

VOLUME 6 OF 8 – DATA MANAGEMENT PLAN, RI/FS DATED 5/1/89 IS ENTERED IN THE DATABASE AND FILED AT ADMINISTRATIVE RECORD NO. **N00236.000361**

VOLUME 7 OF 8 – FINAL PRELIMINARY PUBLIC HEALTH AND ENVIRONMENTAL EVALUATION PLAN, RI/FS DATED 6/1/89 IS ENTERED IN THE DATABASE AND FILED AT ADMINISTRATIVE RECORD NO. **N00236.000371**

N00236.000275
ALAMEDA POINT
SSIC NO. 5090.3

VOLUME 8 OF 8 – FINAL FEASIBILITY STUDY PLAN, RI/FS DATED 1/1/90 IS ENTERED IN THE DATABASE AND FILED AT ADMINISTRATIVE RECORD NO. **N00236.000783**

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1.0 INTRODUCTION

The Work Plan for the Remedial Investigation/Feasibility Study (RI/FS) at Naval Air Station (NAS) Alameda consists of the following planning documents:

Volume 1	Sampling Plan
Volume 1A	Sampling Plan: Solid Waste Assessment Test (SWAT) Proposal Addendum
Volume 1B	Air Sampling Plan
Volume 2	Health and Safety Plan
Volume 3	Quality Assurance Project Plan (QAPP): Quality Assurance/Quality Control Plan (QA/QC)
Volume 4	Community Relations Plan
Volume 5	Project Management Plan/Schedule
Volume 6	Data Management Plan
Volume 7	Public Health and Environmental Evaluation Plan
Volume 8	Feasibility Study Plan

The Air Sampling Plan was prepared by Canonie Environmental Services Corp. (Canonie) on behalf of the Department of the Navy, Western Division, Naval Facilities Engineering Command for the United States (U.S.) Naval Air Station Alameda in Alameda, California (Figure 1-1).

This Air Sampling Plan is part of the Remedial Investigation/Feasibility Study Work Plan that has been written to satisfy the Remedial Investigation (RI) step Work Plan requirements. The RI Work Plan has been formulated to support the Feasibility Study (FS) process and has been scoped to provide targeted data at the level of detail required for the FS.

1.1 Site Description

The NAS Alameda is located in Alameda, California. The station occupies the western tip of the island of Alameda, along the eastern side of the San Francisco Bay. Most of the eastern half of the station is developed with office and industrial facilities. Runways and support facilities occupy the western part of the station.

The specific sites within the station which are included in the RI/FS are listed below.

- 1943-1956 Disposal Area;
- West Beach Landfill;
- Area 97;
- Building 360 (Plating, Engine Cleaning, Paint Stripping, and Paint Shops);
- Building 5 (Plating, Paint Stripping, Cleaning, and Paint Shops);
- Building 41 (Aircraft Intermediate Maintenance Department);
- Building 162, 459, and 547 (Service Stations);
- Building 114 (Pest Control Area and Separator Pit);
- Building 410;
- Building 400 and 530 (Missile Rework Operations);
- Building 14;
- Building 10 (Power Plant);

- Oil Refinery;
- Fire Training Area;
- Buildings 301 and 389 (Storage Area);
- Cans C-2 Area;
- Seaplane Lagoon;
- Station Sewer System (Not On-Site);
- Yard D-13 (Hazardous Waste Solvents);
- Estuary (Oakland Inner Harbor).

A map of the layout of the NAS Alameda which shows the specific sites of the RI/FS is included as Figure 1-2.

2.0 OBJECTIVES

The air monitoring to be conducted as part of the sampling plan for NAS Alameda will consist of monitoring to establish a background level for the most probable contaminants at various locations. The purpose of the monitoring is to collect ambient air samples which indicate environmental conditions which are impacted by the site areas of study. For an active operation it is often difficult to obtain data which is entirely the result of contamination and not affected by the ongoing operations and traffic in the area. This air monitoring plan has been developed to minimize the effect of those ongoing operations on the sample results.

3.0 BACKGROUND

The U.S. Navy started RI/FS studies of chemical concentrations in the soil and water at NAS Alameda under the Naval Assessment and Control of Installation Pollutants (NACIP) program. An Initial Assessment Study (IAS) was conducted by Ecology and Environment, Inc. (E&E, 1983). The next investigation was a Confirmation Study (CS) of the sites identified for further investigation in the IAS. Wahler (1985) conducted work on the CS.

Canonie Environmental Services Corp. (Canonie) was retained by the Navy in February 1988 to review the EPA and DHS comments concerning the IAS and CS reports, and develop a work plan to satisfy RI/FS guidance. Geographic, geologic, and hydrologic conditions are described in Volume 1, the Sampling Plan.

4.0 RATIONALE

The specific locations for the air monitoring stations will be selected during a site reconnaissance. It is anticipated that the landfills on the west side of the site and the oil refinery area with the CAN-2 area on the southeast side of the station will be provided with four sampling stations, essentially surrounding the perimeter of the areas. In addition, sampling stations will be established at other selected sites designated for investigation. Samples will be collected for a three day period at each station. The sampling and analytical methods are specific for the anticipated contamination type.

In selecting the sampling station sites, a variety of factors will be considered. Locations in or on buildings will be avoided. Sampling times will be chosen when there is the least possibility of interference from the ongoing operations and traffic flow. To the extent possible, the locations will not be situated downwind from known industrial emission sources.

Perimeter sampling stations around the 1943 - 1956 Disposal Area and the West Beach Landfill will be established with three monitors at each station. The sampling conducted will be for total dust levels with specific metals analysis, volatile organics, and semi-volatile organics.

Perimeter sampling stations around the Oil Refinery Area and the CAN-2 Area will be established with three monitors at each station. The sampling conducted will be for total dust levels with specific metals analysis, volatile organics, and semi-volatile organics.

A center placement sampling station will be established in the Fire Training Area with two monitors configured for total dust levels with specific metals analysis, volatile organics, and semi-volatile organics.

A center placement sampling station will be established in the the area of Buildings 301 and 389. Two monitors configured for total dust levels with specific metal analysis and polychlorinated biphenyl levels will be used.

In the Yard D-13 Area, a center place monitoring station will be established with two monitors. Sampling will be conducted for total dust levels and volatile organics.

In Area 97, a center placement monitoring station will be established to sample for volatile organics.

The sites used as service stations (Buildings 459, and 547) will be established with center placement monitoring stations to sample for benzene, toluene, and xylene.

The tank storage area of Building 10 will be monitored for volatile organics including benzene, toluene, and xylene.

Air station background monitoring including dust, metals, volatile organics, and semi-volatile organics will occur at two locations. The first location will be in the residential area in the northeast portion of NAS Alameda. An additional background location will be selected based on prevailing wind directions.

5.0 ANALYTICAL PROGRAM

5.1 Analytical Methods

The laboratory providing the analytical services for the air samples is Clayton Environmental Consultants, Inc.. The laboratory is accredited by the American Industrial Hygiene Association and is an EPA Contract Laboratory. The samples for volatile organics will be collected based on the guidance provided in EPA "Characterization of Hazardous Waste Sites - A Methods Manual," Vol. II, Method IV - 7, Sampling for Volatile Organics in Ambient Air Using Solid Sorbents. The analytical method for the Tenax media is gas chromatography/mass spectrometry. The analytical method corresponds to EPA Method TO1 from the "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air," April 1984. Detection limits for the common volatile organics ranges from 10 to 100 nanograms. Table 3.1 is a list of compounds successfully collected or amenable to collection by Tenax.

The samples for semi-volatile organics will be collected based on the guidance provided in EPA "Characterization of Hazardous Waste Sites - A Methods Manual" Vol. II, Method IV - 8, Collecting Semi-Volatile Compounds in Ambient Air Using Polyurethane Foam (Low Volume Samples). The analytical method for the PUF media is gas chromatography/mass spectrometry. The analytical method corresponds to EPA Method TO4 from the "Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air," April 1984. Detection limits for the common semi-volatile compounds ranges from 20 to 4000 nanograms. Table 3.2 is a list of chemicals successfully collected using polyurethane foam.

The samples for metals components will be collected based on the guidance provided in "NIOSH Manual of Analytical Methods," Third Edition, Method 7300, Elements. The analytical method for the metal is inductively coupled argon plasma. The analytical method corresponds to NIOSH Method 7300. Detection limits for the common metals range from 2 to 5 micrograms. Table 3.3 is a list of elements for which this method is approved.

The samples for total dust will be collected based on the guidance provided in "NIOSH Manual of Analytical Methods," Third Edition, Method 0500, Nuisance Dust, Total. The analytical method for the total dust is gravimetric. The analytical method corresponds to NIOSH Method 0500. Detection limits for this method is 100 micrograms.

5.2 Quality Assurance

For the initial monitoring, backup sections for Tenax and PUF media will not be used. In the event the analytical results indicate that significant levels are present and may have completely absorbed the media, re-sampling of those specific areas will be scheduled using a reduced flow and backup sections.

Additional samples will also be prepared for quality assurance/quality control. One field blank of each sampling media will be submitted to the laboratory with each lot of samples for each day of sampling. One field duplicate of each sampling media will be submitted for each day of sampling with each lot of samples.

All data for the sampling period will be noted in a field log book which is a permanent record of the activity.

Additional information on the procedures and programs used for quality assurance are available in the Quality Assurance Program Plan.

The laboratory providing the Analytical Services for the air samples is Clayton Environmental Consultants, Inc. The laboratory is accredited by The American Industrial Hygiene Association and is an EPA Contract Laboratory.

6.0 FIELD METHODS AND PROCEDURES

6.1 Primary Sampling Program

The sampling methods to be utilized during the air monitoring program are based on the EPA document entitled Characterization of Hazardous Waste Sites - A Methods Manual, Vol. II (EPA-600/4-84/075) and the National Institute for Occupational Safety and Health reference "NIOSH Manual of Analytical Methods", Third Edition.

Samples will be collected by pumping ambient air at a constant flow rate for a measured sampling period through a collection media. The samplers consist of a battery operated pump (such as a Gilian) and the appropriate collection media. The collection media which will be used during the air monitoring include pre-weighted mixed cellulose ester filters for total dust and metal analysis, Tenax absorbing media for volatile organics, polyurethane foam (PUF) plugs for semi-volatile organics. Tenax and PUF media will be used for the collection of the benzene, toluene, xylene, and PCB with specific analysis requested.

The sample duration will be chosen based on the ongoing activities at the site. It is anticipated that the most appropriate time of sampling will be during the night or weekend, when the station activities and traffic would be at a minimum. The minimum sample duration will be eight hours. The scheduling of the monitoring may vary. Sampling at several sites may be performed on the same days but monitoring of all the sites may not be conducted simultaneously due to the limited availability of sampling equipment. The sampling may or may not be conducted on consecutive days. Areas designated as having perimeter monitoring conducted will be conducted simultaneously within the area.

Prior to determining specific air sampling stations, meteorological data will be evaluated. The primary source of the meteorological data will be the near-by air fields. During the monitoring, meteorological conditions (wind speed, wind direction, temperature, and pressure) will be noted at

each station throughout the monitoring period with portable instrumentation.

The constant flow battery pumps will be fully charged at the beginning of each monitoring period. Each pump will be calibrated before and after the monitoring period using a volume displacement over time method. During the monitoring period the pump flow will be periodically checked using a rotometer to verify the flow.

At the end of the sampling period, the sample media will be sealed, labeled, and stored in a refrigeration unit as appropriate. Shipment to the analytical laboratory will include chain of custody.

6.2 Supplementary Sampling Methods

If in the judgment of the site Health and Safety Officer (HSO) the data generated by the primary sampling program are inadequate at any of the site location, the HSO may recommend additional sampling using alternative sampling media at those locations. The sampling media and methods will be selected to suit the specific requirements for additional information at each location.

The Bay Area Air Quality Management District (BAAQMD) recommends the use of Tedlar bags and/or passivated (Summa polished) stainless steel cannisters to achieve low detection limits on samples of air contaminated with highly volatile compounds (BAAQMD, 1988). Use of these media will be carefully considered at any of the site locations where additional testing is deemed appropriate by the HSO.

REFERENCES

REFERENCES

Bay Area Air Quality Management District, 1988, Letter from Scott Lutz to Bella Dizon, dated October 26.

Ecology and Environment, Inc., 1983, Initial Assessment Study of Naval Air Station, Alameda, report prepared for Naval Energy and Environmental Support Activity, Port Heuneme, CA, April.

ERM-West, 1987, "Tank Testing Study, Alameda Naval Air Station, Alameda, California," final report prepared for Naval Facilities Engineering Command. San Bruno, CA, August.

National Institute of Occupational Safety and Health, "NIOSH Manual of Analytical Methods," Third Edition.

U.S. Environmental Protection Agency, 1984, "Compendium of Methods for Determination of Toxic Organic Compounds in Ambient Air," April.

Wahler Associates, 1985, "Verification Step Confirmation Study, Naval Air Station, Alameda," draft report for Western Division, Naval Facilities Engineering Command, Contract N62474-83-C-3075, May.

Wahler Associates, 1986, "Confirmation Study (Characterization Step), Work Plan for Naval Air Station, Alameda, California," draft report prepared for Naval Facilities Engineering Command, San Bruno, CA, February.

TABLES

TABLE 3.1

COMPOUNDS SUCCESSFULLY COLLECTED OR AMENABLE TO COLLECTION BY TENAX/CHROMOSORB

2-Chloropropane
1,1-Dichloroethene
Bromoethane
1-Chloropropane
Bromochloromethane
Chloroform (Trichloromethane)
Tetrahydrofuran
1,2-Dichloroethane (Ethylene Dichloride)
1,1,1-Trichloroethane (Methyl Chloroform)
Benzene
Carbon tetrachloride (Tetrochloromethane)
Dibromethane
1,2-Dichloropropane
Trichloroethene
1,1,2-Trichloroethane
2,3 Dichlorobutane
Bromotrichloromethane
Toluene
1,3-Dichloropropane
Tetrachloroethene (Perchloroethylene)
Chlorobenzene
1,2-Dibromopropane
Nitrobenzene
Aetophenone
Benzonitrite
Iso-propylbenzene
p-Isopropyl toluene
1-Bromo-3-chloropropane
Pentachloroethane
4-Chlorostyrene
3-Chloro-1-propene
1,4-Dichlorobutane
1,2,3 Trichloropropane
1,1-Dichloroethane
2-Chlorobutane
2-Chloroethyl vinyl ether
1,1,1,2 Tetrachloroethane
p-Dioxzane
Epichlorohydrin
1,3-Dichlorobutane
p-Dichlorobenzene
cis-1,4,Dichloro-2 butene
n-Butyl benzene
3,4-Dichloro-1-butene
1,3,5-Trimethyl benzene
n-Nitroso dimethylamine
beta-Propiolactone
Ethyl methansulfanate
Nitromethane
Glycidaldehyde
Butadiene diepoxide
Styrene Epoxide
Aniline
Bis (chloromethyl) ether
Bis (2-chloromethyl) ether
Diethyl Sulfate

TABLE 3.1

COMPOUNDS SUCCESSFULLY COLLECTED OR AMENABLE TO COLLECTION BY TENAX/CHROMOSORB
(Continued)

Ethylbenzene
Bromoform
Ethenylbenzene
O-Xylene
1,1,2,2-Tetrachloroethane
Bromobenzene
Benzaldehyde
Ethyl acetate
Acetone
1,2,4-Trichlorobenzene
1,2,3,5-Tetrachlorobenzene
Hexachlorobenzene
p-Chlorophenol
2,4,6-Trichlorophenol
Diphenyl oxide
o-Phenyl phenol
Pentachlorophenol
n-Pentane
2-Methyl pentane
3-Methyl pentane
n-Hexane
Heptane
n-Octane
n-Nonane
Propylbenzene
o-Ethyl toluene

Acrolein
Propylene Oxide
Cyclohexene Oxide
Styrene Oxide
Methanol
Ethanol
Proponol
Methyl bromide
Vinyl chloride
Methylene chloride
Trichloroethene
1-Chloro-2-methylropene
3-Chloro-2-methylpropene
3-Chloro-1-butane
Allyl chloride
4-Chloro-1-butene
1-Chloro-2-butene
o-Dichlorobenzene
m-Dichlorobenzene
Benzyl chloride
2-chloroethyl ethyl ether
n-Nitrosodiethylamine
Phenol
Ethyl methane sulfate

TABLE 3.1

COMPOUNDS SUCCESSFULLY COLLECTED OR AMENABLE TO COLLECTION BY TENAX/CHROMOSORB (Continued)

Dimethylamine
Isobutylamine
t-Butylamine
Di-(n-butyl)amine
Pyridine
Diethyl ether
Methyl acrylate
Methyl methacylate
Methyl ethyl ketone
Methyl vinyl ketone
Acetaldehyde
allyl alcohol
Cumene
2,2-Dimethylbutane
2,4-Dimethylbutane
4-Methyl-1-pentane
Cyclohexane
Methyl chloride

TABLE 3.2

ORGANIC COMPOUNDS SUCCESSFULLY COLLECTED
USING POLYURETHANE FOAM

Polychlorinated Biphenyls

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

Chlorinated Pesticides

alpha Chlordane
gamma Chlordane
Chlordane
alpha Benzene hexachloride
beta Benzene hexachloride
gamma Benzene hexachloride
delta Benzene hexachloride
p,p'-DDD
p,p'-DDE
p,p'-DDT
Endosulfan
Heptachlor
Aldrin

Chlorinated Phenols

2,4,5-Trichlorophenol
Pentachlorphenol

Herbicide Esters

2,4-D Esters, isopropyl
2,4-D Esters, butyl
2,4-D Esters, isobutyl
2,4-D Esters, isoethyl

Organophosphorus Pesticides

Mevinphos
Dichlorvas
Ronnel
Chlorpyripos
Diazinon
Methyl Parthion
Ethyl Parathion
Parathion
Malathion

TABLE 3.2

ORGANIC COMPOUNDS SUCCESSFULLY COLLECTED
USING POLYURETHANE FOAM
(Continued)

Polychlorinated Naphthalenes

Halowax 1001
Halowax 1013

Chlorinated Benzenes

1,2,3-Trichlorobenzene
1,2,3,4-Tetrachlorobenzene
Pentachlorobenzene
Hexachlorobenzene
Pentachloronitrobenzene

Triazine Pesticides

Simazine
Atrazine
Propazine

Carbonate Pesticides

Propoxur
Catbofuran
Bendiocarb
Mexacarbate
Carbaryl

Urea Pesticides

Monuron
Diuron
Linuron
Terbuthiuron
Fluometuron
Chlorotoluron

Pyrethrin Pesticides

Pyrethrin I
Pyrethrin II
Allethrin
d-Trans-allethrin
Dicrotophos
Resmethrin
Fenvalerate

TABLE 3.2

ORGANIC COMPOUNDS SUCCESSFULLY COLLECTED
USING POLYURETHANE FOAM
(Continued)

Polynuclear Aromatic Hydrocarbons

Naphthalene
Biphenyl
Fluorene
Dibenzothiophene
Phenanthrene
Anthracene
Carbazole
2-Methyl anthracene
1-Methyl phenanthrene
Fluoranthene
Pyrene
Benzo(a)flourene
Benzo(b)fluorene
Benzo(a)anthracene
Chrysene/triphenylene
Benzo(b)fluoranthene
Benzo(e)pyrene
Benzo(a)pyrene
Perylene
o-Phenylene pyrene
Dibenzo(ac/ah)anthracene
Benzo(g,h,i)perylene
Coronene

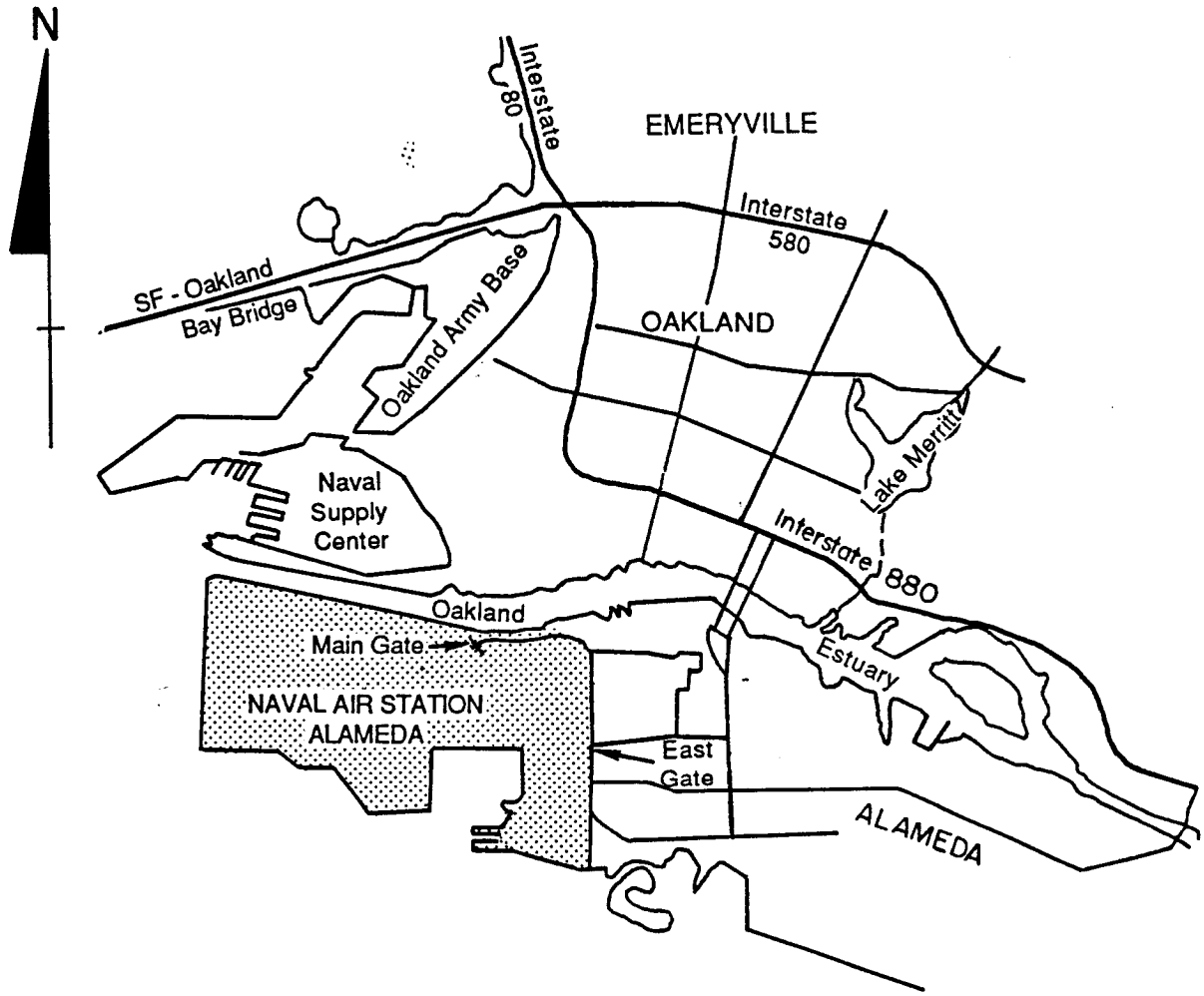
TABLE 3.3

ELEMENTS APPROPRIATE FOR NIOSH METHOD 7300

Aluminum	Phosphorus
Arsenic	Platinum
Beryllium	Selenium
Cadmium	Silver
Calcium	Sodium
Chromium	Tellurium
Cobalt	Thallium
Copper	Tin
Iron	Titanium
Lead	Tunysten
Lithium	Vanadium
Magnesium	Yttrium
Manganese	Zinc
Molybdenum	Zirconium
Nickel	

FIGURES

113525



SITE LOCATION

SCALE

6000 0 6000 FEET

SITE LOCATION PLAN
NAVAL AIR STATION
ALAMEDA, CALIFORNIA

PREPARED FOR

WESTERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND

Canonie Environmental

DATE: 5-4-88 SCALE: AS SHOWN	FIGURE I-I	DRAWING NUMBER 86-018-A1

DRAWING NUMBER	86-018-A1
	10-25-88
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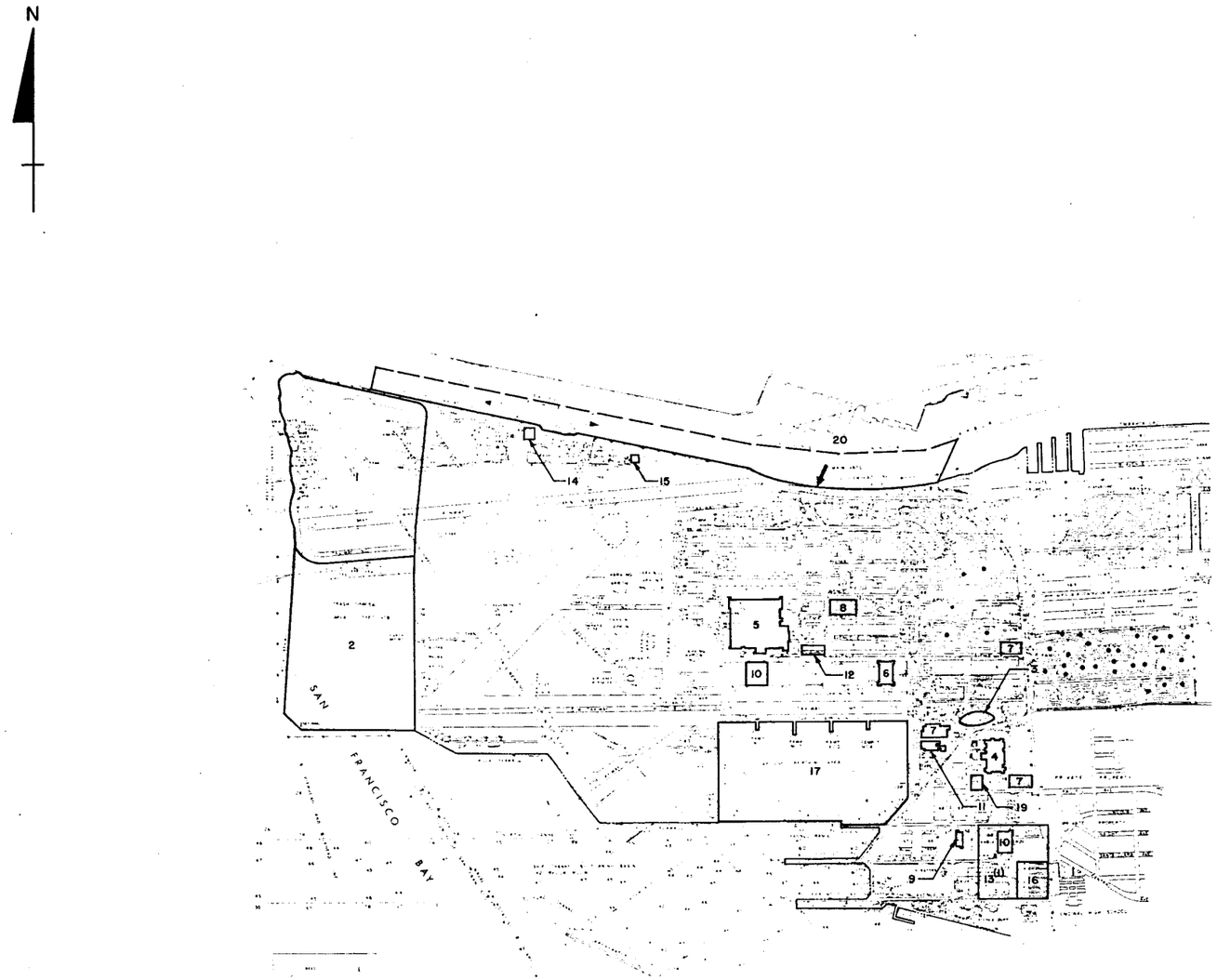
CHECKED BY	
APPROVED BY	
LEH	
5-4-88	
DR BY	
NO.	
DATE	
REVISION	

DRAWN BY	CHECKED BY	DRAWING NUMBER
LEA 7-22-88	LEA 7-27-88	86-018-E3
E2	APPROVED BY	

NO.	DATE	REVISIONS



REFERENCE:
U.S. NAVY MAP

NOTES:

1. THE AREA OF SITE 13 INCLUDES THE AREAS OF SITES 10 AND 16.

LEGEND:

Site No.	Site Description
1	1943-1956 Disposal Site
2	West Beach Landfill
3	Area 97 (Aviation Gasoline Tanks)
4	Building 360 (Plating Shop, Engine Cleaning Shop, Paint Shop, and Paint Stripping Shop)
5	Building 5 (Plating Shop, Paint Stripping Shop, Cleaning Shop, and Paint Shop)
6	Building 41 (Aircraft Intermediate Maintenance Dept.)
7	Buildings 162, 459, and 547 (Service Stations)
8	Building 114 (Pest Control Area and Separator Pit)
9	Building 410 (Paint Stripping)
10	Buildings 400 and 530 (Missile Rework Operations)
11	Building 14 (Engine Test Cell)
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13	Oil Refinery
14	Fire Training Area
15	Buildings 301 and 389 (Storage Area)
16	Cans C-2 Area
17	Seaplane Lagoon
18	Station Sewer System (Not on Site)
19	Yard D-13 (Hazardous Waste Solvents)
20	Estuary (Oakland Inner Harbor)

SCALE
1000 0 1000 2000 FEET

REMEDIAL INVESTIGATION/FEASIBILITY
STUDY SITES
NAVAL AIR STATION
ALAMEDA, CALIFORNIA

PREPARED FOR

WESTERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
SAN BRUNO, CALIFORNIA

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DATE: 7-27-88	FIGURE 1-2	DRAWING NUMBER
SCALE:		86-018-E3

86-018-E2