N00236.000801
ALAMEDA POINT
SSIC NO. 5090.3

December 1990 86-018-1810

PHASE 2A ANALYTICAL RESULTS FOR SITE 19, YARD D-13 REMEDIAL INVESTIGATION/FEASIBILITY STUDY NAVAL AIR STATION ALAMEDA ALAMEDA, CALIFORNIA

VOLUME 1

ENCLOSURE 11

Prepared for: Western Division Naval Facilities Engineering Command
San Bruno, California

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CanonieEnvironmental

CH2M HILL Engineers Planners Economists Scientists

AMENDED REPORT

insert in lab data for Site 19

REPORT OF ANALYTICAL RESULTS

Date: 08/24/90

Client: CANONIE ENVIRONMENTAL
212 FRANK WEST CIRCLE, SUITE A
STOCKTON, CA 95206

Atten: MR. PHIL EDWARDS

Project Number: LRD28221.XY
NAS ALAMEDA -PH.2A
Laboratory Number: 27000
Date Received: 07/12/90

Sample Description: 15 12.5-13.0 BD13
Laboratory Sample Number: 27000027 Date Collected: 07/10/90 Matrix: SOIL

Analytical Parameter	Method	Det Limit	Result	Units	Ana Date
Silver	EPA200.7/SW6010	0.7	<0.7	mg/kg	07/19/90
Aluminum	EPA200.7/SW6010	1.9	9530	mg/kg	07/19/90
Arsenic	EPA200.7/SW6010	2.8	6.0	mg/kg	07/19/90
Barium	EPA200.7/SW6010	0.2	65.5	mg/kg	07/19/90
Beryllium	EPA200.7/SW6010	0.2	0.3	mg/kg	07/19/90
Calcium	EPA200.7/SW6010	12	2270	mg/kg	07/19/90
Cadmium	EPA200.7/SW6010	0.2	<0.2	mg/kg	07/19/90
Cyanide, Distilled	EPA335.2	0.58	0.68	mg/Kg	07/17/90
Cobalt	EPA200.7/SW6010	0.9	6.3	mg/kg	07/19/90
Chromium	EPA200.7/SW6010	0.7	38.8	mg/kg	07/19/90
Copper	EPA200.7/SW6010	0.7	33.2	mg/kg	07/19/90
Iron	EPA200.7/SW6010	4.6	13100	mg/kg	07/19/90
Potassium	EPA200.7/SW6010	81	1200	mg/kg	07/19/90
Magnesium	EPA200.7/SW6010	5.6	2920	mg/kg	07/19/90
Manganese	EPA200.7/SW6010	0.2	150	mg/kg	07/19/90
Molybdenum	EPA200.7/SW6010	1.2	<1.2	mg/kg	07/19/90
Sodium	EPA200.7/SW6010	12	1130	mg/kg	07/19/90
Nickel	EPA200.7/SW6010	1.4	44.5	mg/kg	07/19/90
Lead	EPA200.7/SW6010	5.8	<5.8	mg/kg	07/19/90
Antimony	EPA200.7/SW6010	2.3	<2.3	mg/kg	07/19/90
Selenium	EPA200.7/SW6010	4.9	<4.9	mg/kg	07/19/90
Titanium	EPA200.7/SW6010	0.2	505	mg/Kg	07/19/90
Thallium	EPA200.7/SW6010	3.0	<3.0	mg/kg	07/19/90
Vanadium	EPA200.7/SW6010	0.7	24.0	mg/kg	07/19/90
Zinc	EPA200.7/SW6010	0.7	39.6	mg/kg	07/19/90

corrected to dry wt - per Canonie letter 2-26-91

Results for non-aqueous matrices are based on dry sample weight unless noted otherwise.

Reviewed by: J. Hawley

INRPRPT(v910124)

000025

FB 2/1/91

CanonieEnvironmental

Canonie Environmental Services Corp.
1825 South Grant Street
Suite 260
San Mateo, California 94402

Phone: 415-573-8012
FAX: 415-573-5654

December 5, 1990

86-018-1810

Ms. Bella Dizon (Code 1813BD)
Western Division Naval Facilities
Engineering Command
PO Box 727
San Bruno, CA 94066-0727

Phase 2A Analytical Results for Site 19, Yard D-13
Remedial Investigation/Feasibility Study
Naval Air Station Alameda
Alameda, California

Dear Ms. Dizon:

This report presents the Phase 2A analytical results for Site 19, Yard D-13, that were obtained as part of the Remedial Investigation/Feasibility Study at Naval Air Station Alameda. Pertinent information provided with this report include a site plan showing the boring and well locations, summary tables of the analytical results, a table showing the comparison of action levels for various chemical groups, and certified analytical reports.

The summary tables (Tables 1A, 1B, and 2) are prepared as part of the Data Management Plan to provide an efficient method of screening large amounts of analytical data that highlight site-specific areas of potential concern. Chemical concentrations exceeding various established action levels are highlighted on these tables. Certified analytical reports provided in Appendix A include the raw laboratory data and detection limits for each chemical group analyzed.

If you have any questions regarding these results, please call me at (415) 573-8012.

Very truly yours,

Timothy G. Bodkin, R.G.
Senior Project Scientist

TGB/rr

Enclosures

cc: J. Babcock, Canonie Environmental Services Corp.
R. Duffield, Canonie Environmental Services Corp.

N00236.000801
ALAMEDA POINT
SSIC NO. 5090.3

REVISED
PHASE 1 AND 2A ANALYTICAL RESULTS FOR SITE 19, YARD D-13 REMEDIAL INVESTIGATION/FEASIBILITY STUDY

DATED 01 JUNE 1992

IS ENTERED IN THE DATABASE AND FILED AT ADMINISTRATIVE RECORD NO. **N00236.000836** AND **N00236.000837**

LIST OF TABLES

TABLE NUMBER	TITLE
1A	Summary Table of Analytical Results: Soil Site 19, Yard D-13
1B	Summary Table of Analytical Results: Soils Site 19, Yard D-13, Other Analytical Tests
2	Summary Table of Analytical Results: Water Site 19, Yard D-13
3	Comparison of Action Levels for Various Chemical Groups

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LIST OF APPENDICES

APPENDIX	TITLE
A	Certified Analytical Results

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 19, YARD D13
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

	Boring Number/Sample Depth (feet)							
Chemical Group/Analyte	MWD13-1 3.5 - 4.0	MWD13-1 8.5 - 9.0	MWD13-1 9.5 - 10.0	MWD13-1 12.5 - 13.0	MWD13-1 14.0 - 14.5	MWD13-2 1.5 - 2.0	MWD13-2 5.0 - 5.5	MWD13-2 8.5 - 9.0
Volatile Organics								
Acetone		22.		34.	37.		31.	16.
Ethyl Benzene								
Methylene Chloride	9.	15.	9.	9.	8.		11.	
Toluene	34.	17.	36.	30.	18.	1000.		37.
Xylene (total)								

Notes:

1. Analytical results are presented in micrograms/kilogram (ug/kg).

2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 19, YARD D13
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

	Boring Number/Sample Depth (feet)							
Chemical Group/Analyte	MWD13-2 13.0 - 13.5	MWD13-2 14.5 - 15.0	MWD13-3 3.5 - 4.0	MWD13-3 4.0 - 4.5	MWD13-3 11.5 - 12.0	MWD13-3 14.0 - 14.5	MWD13-4 4.0 - 4.5	MWD13-4 9.5 - 10.0
Volatile Organics								
Acetone				25.	67.			18.
Ethyl Benzene								
Methylene Chloride	10.	10.	11.	11.	14.	11.	14.	13.
Toluene	25.		54.	45.	16.		7.	46.
Xylene (total)								

Notes:

1. Analytical results are presented in micrograms/kilogram (ug/kg).

2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 19, YARD D13
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

	Boring Number/Sample Depth (feet)							
Chemical Group/Analyte	MWD13-4 10.0 - 10.5	MWD13-4 14.0 - 14.5	MWD13-4 15.0 - 15.5	BD13-5 2.0 - 2.5	BD13-5 5.0 - 5.5	BD13-5 9.5 - 10.0	BD13-5 11.0 - 11.5	BD13-5 14.0 - 14.5
Volatile Organics								
Acetone					17.			
Ethyl Benzene						8.		
Methylene Chloride	21.	17.	18.	16.	19.	20.	17.	14.
Toluene	16.	25.	52.	22.	74.	56.	11.	13.
Xylene (total)				21.		51.		

Notes:

1. Analytical results are presented in micrograms/kilogram (ug/kg).

2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 19, YARD D13
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

	Boring Number/Sample Depth (feet)							
Chemical Group/Analyte	BD13-6 2.0 - 2.5	BD13-6 5.0 - 5.5	BD13-6 8.0 - 8.5	BD13-6 11.0 - 11.5	BD13-6 14.0 - 14.5	BD13-7 1.5 - 2.0	BD13-7 4.5 - 5.0	BD13-7 8.0 - 8.5
Volatile Organics								
Acetone			17.					20.
Ethyl Benzene					6.			
Methylene Chloride	28.	21.	28.	18.	34.	31.	32.	37.
Toluene	10.	100.	35.	27.	36.	58.	280.	10.
Xylene (total)				13.	45.			

Notes:

1. Analytical results are presented in micrograms/kilogram (ug/kg).

2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 19, YARD D13
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

	Boring Number/Sample Depth (feet)							
Chemical Group/Analyte	BD13-7 11.0 - 11.5	BD13-7 14.0 - 14.5	BD13-8 2.5 - 3.0	BD13-8 6.0 - 6.5	BD13-8 10.5 - 11.0	BD13-8 12.5 - 13.0	BD13-8 14.5 - 15.0	BD13-9 2.0 - 2.5
Volatile Organics								
Acetone			32.	59.	99.	27.		46.
Ethyl Benzene								
Methylene Chloride	34.	33.	9.	11.	13.	14.	9.	14.
Toluene	49.	17.	39.		22.	19.	28.	48.
Xylene (total)								

Notes:

1. Analytical results are presented in micrograms/kilogram (ug/kg).

2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 19, YARD D13
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

	Boring Number/Sample Depth (feet)							
Chemical Group/Analyte	BD13-9 5.0 - 5.5	BD13-9 8.5 - 9.0	BD13-9 11.5 - 12.0	BD13-9 14.0 - 14.5	BD13-10 2.0 - 2.5	BD13-10 4.5 - 5.0	BD13-10 7.5 - 8.0	BD13-10 10.5 - 11.0
Volatile Organics								
Acetone	55.	37.	60.	20.				
Ethyl Benzene								
Methylene Chloride	17.	18.	14.	15.	30.	19.	17.	17.
Toluene	20.	31.	21.		8.	24.	11.	46.
Xylene (total)								

Notes:

1. Analytical results are presented in micrograms/kilogram (ug/kg).

2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 19, YARD D13
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

	Boring Number/Sample Depth (feet)							
Chemical Group/Analyte	BD13-10 13.5 - 14.0	BD13-11 2.5 - 3.0	BD13-11 6.0 - 6.5	BD13-11 9.0 - 9.5	BD13-11 12.5 - 13.0	BD13-11 15.0 - 15.5	BD13-12 2.0 - 2.5	BD13-12 5.0 - 5.5
Volatile Organics								
Acetone		59.	19.	18.	39.			
Ethyl Benzene								
Methylene Chloride	21.	8.	13.	11.	13.	9.	8.	12.
Toluene	20.	8.	150.	55.	21.	14.	11.	76.
Xylene (total)								

Notes:

1. Analytical results are presented in micrograms/kilogram (ug/kg).

2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 19, YARD D13
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

	Boring Number/Sample Depth (feet)							
Chemical Group/Analyte	BD13-12 8.5 - 9.0	BD13-12 10.5 - 11.0	BD13-12 12.0 - 12.5	BD13-12 15.0 - 15.5	BD13-13 7.0 - 7.5	BD13-13 8.5 - 9.0	BD13-13 9.5 - 10.0	BD13-13 12.0 - 12.5
Volatile Organics								
Acetone	23.	12.			43.	31.	25.	13.
Ethyl Benzene								
Methylene Chloride	10.	10.	11.	12.	8.	10.	11.	12.
Toluene	29.	140.	41.	100.	11.	20.	10.	13.
Xylene (total)								

Notes:

1. Analytical results are presented in micrograms/kilogram (ug/kg).

2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 19, YARD D13
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

	Boring Number/Sample Depth (feet)							
Chemical Group/Analyte	BD13-13 15.0 - 15.5	BD13-14 3.5 - 4.0	BD13-14 9.5 - 10.0	BD13-14 13.5 - 14.0	BD13-14 14.5 - 15.0	BD13-14 15.5 - 16.0	BD13-15 4.0 - 4.5	BD13-15 10.5 - 11.0
Volatile Organics								
Acetone	49.		13.					14.
Ethyl Benzene								
Methylene Chloride	19.	9.	13.	12.	14.	11.	13.	14.
Toluene	21.	14.	100.	25.	28.	34.	160.	23.
Xylene (total)								

Notes:

1. Analytical results are presented in micrograms/kilogram (ug/kg).

2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 19, YARD D13
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

	Boring Number/Sample Depth (feet)							
Chemical Group/Analyte	BD13-15 11.5 - 12.0	BD13-15 13.0 - 13.5	BD13-15 14.5 - 15.0	BD13-16 3.0 - 3.5	BD13-16 6.0 - 6.5	BD13-16 9.0 - 9.5	BD13-16 12.0 - 12.5	BD13-16 14.0 - 14.5
Volatile Organics								
Acetone				33.	21.	49.	32.	30.
Ethyl Benzene								
Methylene Chloride	12.	14.	16.	13.	14.	24.	21.	13.
Toluene	24.	16.	22.			36.	8.	12.
Xylene (total)								

Notes:

1. Analytical results are presented in micrograms/kilogram (ug/kg).

2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 19, YARD D13
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

	Boring Number/Sample Depth (feet)							
Chemical Group/Analyte	MWD13-3 0.5 - 1.0	BD13-5 2.0 - 2.5	BD13-5 5.5 - 6.0	BD13-5 10.0 - 10.5	BD13-6 0.5 - 1.0	BD13-6 2.0 - 2.5	BD13-6 5.0 - 5.5	BD13-6 8.0 - 8.5
Semivolatile Organics								
Di-n-butylphthalate		1500.	430.	630.	3700.	570.	5200.	720.
Diethylphthalate	7700.							
Fluoranthene								
Pyrene								
Benzo(a)anthracene								
Chrysene								
Benzo(b)fluoranthene								
Benzo(k)fluoranthene								
Benzo(a)pyrene								
bis(2-ethylhexyl)phthalate								

Notes:

1. Analytical results are presented in micrograms/kilogram (ug/kg).

2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 19, YARD D13
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

	Boring Number/Sample Depth (feet)							
Chemical Group/Analyte	BD13-7 0.5 - 1.0	BD13-7 1.5 - 2.0	BD13-7 4.5 - 5.0	BD13-7 8.0 - 8.5	BD13-9 8.5 - 9.0	BD13-16 1.5 - 2.0	BD13-16 5.0 - 5.5	BD13-16 10.5 - 11.0
Semivolatile Organics								
Di-n-butylphthalate	1400.	7300.	450.	430.				
Diethylphthalate					8800.			
Fluoranthene					1000.			1000.
Pyrene					1700.			930.
Benzo(a)anthracene					580.			
Chrysene					700.			
Benzo(b)fluoranthene					920.			
Benzo(k)fluoranthene					880.			
Benzo(a)pyrene					650.			
bis(2-ethylhexyl)phthalate						2100.	830.	

Notes:

1. Analytical results are presented in micrograms/kilogram (ug/kg).

2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 19, YARD D13
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

	Boring Number/Sample Depth (feet)							
Chemical Group/Analyte	MWD13-1 0.5 - 1.0	MWD13-1 7.0 - 7.5	MWD13-1 10.0 - 10.5	MWD13-1 13.0 - 13.5	MWD13-2 0.5 - 1.0	MWD13-2 2.0 - 2.5	MWD13-2 9.0 - 9.5	MWD13-2 13.5 - 14.0
Metals								
Aluminum	3890.0	5480.0	11700.0	13400.0	9940.0	9280.0	4720.0	7660.0
Arsenic	3.1	2.7	3.0	5.1	9.5		5.8	4.0
Barium	22.3	35.8	61.5	110.0	140.0	51.1	43.9	77.9
Beryllium	0.1	0.2	0.4	0.4	7.4			
Cadmium	0.3	0.3	0.5	0.4				
Calcium	6640.0	1460.0	1600.0	2870.0	7480.0	3810.0	7940.0	1780.0
Chromium	25.0	30.7	39.5	54.9	20.9	5.8	55.7	37.9
Cobalt	4.2	5.8	8.0	9.7	9.7	7.3	9.1	8.5
Copper	18.2	6.7	13.3	15.6	138.0	61.1	42.9	31.3
Iron	6430.0	7120.0	14700.0	18300.0	30500.0	28200.0	10940.0	13600.0
Lead					28.4	8.6	40.5	
Magnesium	2250.0	1590.0	3070.0	4960.0	4870.0		2700.0	3440.0
Manganese	92.4	148.0	154.0	268.0	830.0	897.0	322.0	272.0
Molybdenum					24.9	5.5	35.7	50.2
Nickel	23.8	18.3	42.2	66.9	1020.0	340.0	1010.0	860.0
Potassium	590.0	607.0	487.0	1110.0	359.0	258.0	700.0	710.0
Silver				0.3				
Sodium	239.0	228.0	728.0	678.0	399.0	571.0	386.0	304.0
Thallium	3.3							
Titanium	312.0	330.0	478.0	639.0				
Vanadium	15.0	21.6	28.7	33.8	41.5	29.6	26.1	22.8
Zinc	28.5	23.3	32.1	44.2	192.0	120.0	45.9	44.5

Notes:
1. Analytical results are presented in milligrams/kilogram (mg/kg).
2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 19, YARD D13
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

	Boring Number/Sample Depth (feet)							
Chemical Group/Analyte	MWD13-3 0.5 - 1.0	MWD13-3 5.0 - 5.5	MWD13-3 12.0 - 12.5	MWD13-3 14.5 - 15.0	MWD13-4 2.5 - 3.0	MWD13-4 4.5 - 5.0	MWD13-4 10.5 - 11.0	MWD13-4 14.5 - 15.0
Metals								
Aluminum	4580.0	3770.0	6540.0	1090.0	4520.0	9200.0	13700.0	10700.0
Arsenic		4.4	3.8	5.4				
Barium	23.5	20.1	73.9	73.5	36.0	27.0	93.0	75.0
Beryllium								
Cadmium								
Calcium	2860.0	2030.0	3980.0		2400.0	3700.0	31000.0	2500.0
Chromium	32.8	26.9	35.1	42.5	26.0	25.0	66.0	33.0
Cobalt	4.2	4.1	7.6	7.0			7.1	
Copper	5.9	14.4	42.8	60.1		19.0	25.0	9.8
Iron	7200.0	6700.0	13900.0	14000.0	7370.0	16900.0	17000.0	14300.0
Lead			18.5			15.0	8.0	
Magnesium	2070.0	1630.0	3610.0	3080.0	1900.0	3800.0	23000.0	3300.0
Manganese	89.6	123.0	195.0	226.0	83.0	200.0	330.0	220.0
Molybdenum	24.0	22.4	44.5	47.7	22.0	23.0	60.0	45.0
Nickel	600.0	487.0	1230.0	841.0	600.0	1200.0	1200.0	1200.0
Potassium	159.0	224.0	930.0	813.0				1000.0
Silver								
Sodium	480.0	269.0	230.0	447.0				
Thallium								
Titanium					440.0	490.0	569.0	500.0
Vanadium	18.7	14.5	24.4	26.5	19.0	30.0	28.0	27.0
Zinc	22.2	27.4	60.6	53.1	13.0	41.0	40.0	27.0

Notes:
1. Analytical results are presented in milligrams/kilogram (mg/kg).
2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 19, YARD D13
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

	Boring Number/Sample Depth (feet)							
Chemical Group/Analyte	BD13-5 0.5 - 1.0	BD13-5 2.5 - 3.0	BD13-5 5.5 - 6.0	BD13-5 10.0 - 10.5	BD13-6 0.5 - 1.0	BD13-6 2.5 - 3.0	BD13-6 5.5 - 6.0	BD13-6 8.5 - 9.0
Metals								
Aluminum	5170.0	5820.0	5580.0	15800.0	5160.0	6360.0	6600.0	14900.0
Arsenic								
Barium	33.0	22.0	33.0	94.0	29.0	32.0	37.0	90.0
Beryllium								
Cadmium								
Calcium	5200.0	2500.0	2700.0	2400.0	3100.0	2700.0	2700.0	2100.0
Chromium	29.0	35.0	38.0	50.0	30.0	29.0	37.0	45.0
Cobalt				7.8				9.8
Copper	8.0	11.0	6.2	14.0	8.3	11.0	6.3	13.0
Iron	7850.0	8640.0	8950.0	20500.0	7560.0	9040.0	9670.0	22400.0
Lead		6.6						
Magnesium	2300.0	2100.0	2300.0	4000.0	2000.0	2800.0	2500.0	3800.0
Manganese	98.0	96.0	99.0	220.0	100.0	96.0	110.0	290.0
Molybdenum								
Nickel	25.0	29.0	29.0	62.0	23.0	29.0	31.0	53.0
Potassium	720.0	630.0	670.0	1500.0	620.0	960.0	820.0	820.0
Silver								
Sodium				900.0				
Thallium								
Titanium	510.0	400.0	480.0	760.0	535.0	511.0	510.0	550.0
Vanadium	20.0	21.0	22.0	40.0	21.0	21.0	24.0	41.0
Zinc	18.0	21.0	21.0	35.0	17.0	21.0	27.0	31.0

Notes:
1. Analytical results are presented in milligrams/kilogram (mg/kg).
2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 19, YARD D13
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

	Boring Number/Sample Depth (feet)							
Chemical Group/Analyte	BD13-6 9.5 - 10.0	BD13-7 0.5 - 1.0	BD13-7 2.0 - 2.5	BD13-7 5.0 - 5.5	BD13-7R 5.5 - 6.0	BD13-7 8.5 9.0	BD13-8 0.5 - 1.0	BD13-8 3.0 - 3.5
Metals								
Aluminum	19400.0	5450.0	10900.0	5740.0	7320.0	11500.0	4980.0	2840.0
Arsenic								
Barium	100.0	30.0	63.0	71.0	72.0	54.0	31.0	31.0
Beryllium								
Cadmium								
Calcium	2600.0	2300.0	4200.0	1600.0	2000.0	2100.0	2800.0	1400.0
Chromium	64.0	28.0	67.0	27.0	37.0	50.0	21.0	20.0
Cobalt	7.0		8.9			8.0		
Copper	16.0	9.0	110.0	9.5	8.0	9.0	120.0	18.0
Iron	22100.0	8000.0	32300.0	9180.0	9570.0	15100.0	8500.0	4670.0
Lead			13.0					
Magnesium	4100.0	2300.0	4000.0	1600.0	1800.0	3100.0	4100.0	1200.0
Manganese	230.0	95.0	200.0	150.0	180.0	200.0	140.0	110.0
Molybdenum							30.0	19.0
Nickel	58.0	26.0	64.0	20.0	22.0	41.0	620.0	
Potassium	1100.0	810.0	1400.0	810.0	830.0	930.0		
Silver								
Sodium	620.0					740.0		
Thallium								
Titanium	672.0	470.0	781.0	400.0	470.0	534.0	270.0	220.0
Vanadium	48.0	19.0	34.0	21.0	24.0	34.0	17.0	12.0
Zinc	32.0	21.0	61.0	18.0	18.0	24.0	71.0	23.0

Notes:
1. Analytical results are presented in milligrams/kilogram (mg/kg).
2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 19, YARD D13
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

	Boring Number/Sample Depth (feet)							
Chemical Group/Analyte	BD13-8R 3.5 - 4.0	BD13-8 11.0 - 11.5	BD13-8 13.0 - 13.5	BD13-9 0.5 - 1.0	BD13-9 3.5 - 4.0	BD13-9R 4.0 - 4.5	BD13-9 8.0 - 8.5	BD13-9 14.5 - 15.0
Metals								
Aluminum	4700.0	8440.0	12300.0	3540.0	3940.0	2750.0	2740.0	7230.0
Arsenic			14.0			2.9		
Barium	39.0	74.0	79.0	27.0	26.0	14.0	190.0	58.0
Beryllium								
Cadmium								
Calcium	2100.0	1200.0	2300.0	2100.0	1500.0	1870.0	99800.0	1900.0
Chromium	31.0	31.0	41.0	22.0	27.0	20.4	15.0	35.0
Cobalt		6.6	6.9			3.5		
Copper	13.0	11.0	11.0	10.0	13.0	21.0	32.0	9.6
Iron	7920.0	140.0	15300.0	6230.0	8150.0	4740.0	6150.0	12400.0
Lead	7.2		6.9		6.9		27.0	
Magnesium	1700.0	3200.0	3100.0	2000.0	2300.0	1440.0	4100.0	2900.0
Manganese	90.0	190.0	200.0	82.0	100.0	100.0	360.0	140.0
Molybdenum	25.0	48.0	49.0	23.0	29.0	18.4	9.9	39.0
Nickel		1100.0	1200.0	540.0	640.0	990.0		760.0
Potassium		1000.0	1000.0			306.0		
Silver								
Sodium						184.0		
Thallium								
Titanium	350.0	370.0	594.0	280.0	270.0		150.0	450.0
Vanadium	19.0	25.0	30.0	14.0	18.0	10.6	12.0	23.0
Zinc	22.0	27.0	28.0	17.0	21.0	26.8	46.0	26.0

Notes:
1. Analytical results are presented in milligrams/kilogram (mg/kg).
2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 19, YARD D13
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

	Boring Number/Sample Depth (feet)							
Chemical Group/Analyte	BD13-10 0.5 - 1.0	BD13-10 3.0 - 3.5	BD13-10 8.0 - 8.5	BD13-10 14.0 - 14.5	BD13-11 1.0 - 1.5	BD13-11 4.0 - 4.5	BD13-11 11.5 - 12.0	BD13-11 13.0 - 13.5
Metals								
Aluminum	3120.0	6720.0	19500.0	9680.0	4110.0	3350.0	9590.0	8570.0
Arsenic							6.0	4.2
Barium	25.0	570.0	77.0	60.0	18.2	15.3	83.3	72.8
Beryllium								
Cadmium								
Calcium	2000.0	84900.0	2500.0	2600.0	2390.0	1980.0	1970.0	2230.0
Chromium	24.0	18.0	57.0	43.0	28.2	27.6	42.8	41.1
Cobalt			11.0		3.8	3.4	6.6	6.2
Copper	12.0	30.0	45.0	12.0	43.1	16.3	24.6	36.4
Iron	5440.0	12600.0	21600.0	13900.0	6880.0	5790.0	14900.0	13400.0
Lead		44.0	10.0					
Magnesium	1800.0	13000.0	4100.0	3100.0	2290.0	1430.0	3410.0	3400.0
Manganese	72.0	564.0	300.0	160.0	88.8	161.0	171.0	170.0
Molybdenum								
Nickel	20.0	17.0	63.0	43.0	24.0	21.5	52.5	44.9
Potassium		1000.0	1600.0	830.0	630.0	360.0	930.0	850.0
Silver								
Sodium					239.0	228.0	1060.0	1020.0
Thallium								
Titanium	260.0	280.0	658.0	550.0	327.0	288.0	416.0	435.0
Vanadium	14.0	23.0	42.0	28.0	15.6	14.0	26.7	23.9
Zinc	17.0	35.0	45.0	26.0	35.7	23.7	39.3	43.1

Notes:
1. Analytical results are presented in milligrams/kilogram (mg/kg).
2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 19, YARD D13
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

	Boring Number/Sample Depth (feet)							
Chemical Group/Analyte	BD13-12 1.5 - 2.0	BD13-12 4.5 - 5.0	BD13-12 9.5 - 10.0	BD13-12 14.5 - 15.0	BD13-13 2.0 - 2.5	BD13-13 8.0 - 8.5	BD13-13 11.0 - 11.5	BD13-13 14.0 - 14.5
Metals								
Aluminum	4380.0	5730.0	14100.0	10300.0	6510.0	9530.0	8570.0	7920.0
Arsenic					8.8	4.0	3.2	4.5
Barium		31.0	90.0	82.0	305.0	64.4	65.1	74.9
Beryllium					0.4	0.4	0.3	0.3
Cadmium					0.8	0.3	0.3	0.4
Calcium	2900.0	1900.0	1800.0	1600.0	23700.0	2090.0	1860.0	2060.0
Chromium	23.0	30.0	52.0	35.0	25.2	49.3	34.7	38.6
Cobalt			6.3	6.3	6.1	6.8	6.0	7.2
Copper		6.9	10.0	11.0	61.0	17.9	9.9	13.1
Iron	7060.0	9340.0	19500.0	14600.0	14300.0	15500.0	12100.0	13100.0
Lead			8.8		303.0			
Magnesium	2100.0	2900.0	3500.0	3300.0	4420.0	2590.0	3120.0	3260.0
Manganese	85.0	97.0	160.0	180.0	269.0	148.0	150.0	196.0
Molybdenum								
Nickel	22.0	31.0	50.0	46.0	19.6	38.3	43.7	47.9
Potassium	680.0	1000.0	1500.0	1500.0	1070.0	992.0	760.0	914.0
Silver					0.4			
Sodium			1300.0	1200.0	725.0	683.0	495.0	594.0
Thallium								
Titanium	410.0	440.0	656.0	470.0	307.0	354.0	407.0	372.0
Vanadium	16.0	20.0	38.0	27.0	26.0	31.9	22.7	23.3
Zinc	14.0	21.0	28.0	27.0	292.0	33.8	32.3	33.4

Notes:
1. Analytical results are presented in milligrams/kilogram (mg/kg).
2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 19, YARD D13
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

		Boring Number/Sample Depth (feet)							
Chemical Group/Analyte		BD13-14 2.0 - 2.5	BD13-14 4.0 - 4.5	BD13-14 14.0 - 14.5	BD13-14 15.0 - 15.5	BD13-15 2.0 - 2.5	BD13-15 8.5 - 9.0	BD13-15 12.5 - 13.0	BD13-15 13.5 - 14.0
Metals									
Aluminum	19500	4910.0	4590.0	11600.0	12000.0	5500.0	16400.0	9530.0	8670.0
Arsenic	14						7.1	6.0	4.7
Barium	570	25.0		81.0	85.0	37.4	103.0	65.5	60.7
Beryllium	2760								
Cadmium	1								
Calcium	99800	3600.0	2000.0	2100.0	2400.0	3310.0	42300.0	2270.0	1950.0
Chromium	67	27.0	26.0	38.0	42.0	33.4	43.6	38.8	38.0
Cobalt	11			6.7	6.7	4.5	8.9	6.3	6.1
Copper	256			9.2	11.0	12.1	256.0	33.2	25.3
Iron	32300	7910.0	7370.0	15100.0	16800.0	8440.0	21700.0	13100.0	12500.0
Lead	385					13.7			
Magnesium	23000	2300.0	2100.0	3200.0	3500.0	2990.0	10800.0	2920.0	2700.0
Manganese	897	88.0	84.0	170.0	170.0	128.0	516.0	150.0	128.0
Molybden	60					1.6	1.4		
Nickel	1230	24.0	23.0	46.0	51.0	29.8	41.4	44.5	41.4
Potassium	1600	780.0	700.0	1400.0	1400.0	760.0	1400.0	1200.0	1000.0
Silver	0								
Sodium	1430			980.0	1000.0	362.0	780.0	1130.0	1070.0
Thallium	3								
Titanium	846	420.0	430.0	548.0	520.0	819.0	846.0	505.0	410.0
Vanadium	48	19.0	18.0	27.0	30.0	20.7	31.8	24.0	22.5
Zinc	292	16.0	16.0	27.0	30.0	37.5	199.0	39.6	41.1

Notes:
1. Analytical results are presented in milligrams/kilogram (mg/kg).
2. Blank spaces indicate that the analyte was not detected.

TABLE 1A

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 19, YARD D13
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

	Boring Number/Sample Depth (feet)			
Chemical Group/Analyte	BD13-16 1.5 - 2.0	BD13-16 5.0 - 5.5	BD13-16 10.5 - 11.0	BD13-16 13.5 - 14.0
Metals				
Aluminum	3980.0	5020.0	8470.0	11600.0
Arsenic		3.2	7.4	3.7
Barium	25.8	32.5	65.6	112.0
Beryllium				
Cadmium				
Calcium	2370.0	1920.0	13200.0	1890.0
Chromium	30.1	31.1	33.0	51.8
Cobalt	3.5	5.4	6.1	7.9
Copper	21.6	106.0	69.8	19.5
Iron	6680.0	9020.0	19500.0	16900.0
Lead			385.0	6.2
Magnesium	2100.0	2850.0	3560.0	4240.0
Manganese	85.3	106.0	217.0	172.0
Molybdenum				
Nickel	23.6	28.5	39.5	57.4
Potassium	540.0	880.0	1200.0	1600.0
Silver				
Sodium	153.0	727.0	1130.0	1430.0
Thallium				
Titanium	328.0	313.0	372.0	540.0
Vanadium	15.6	18.0	27.1	30.3
Zinc	33.4	71.2	126.0	47.1

Notes:
1. Analytical results are presented in milligrams/kilogram (mg/kg).
2. Blank spaces indicate that the analyte was not detected.

TABLE 1B

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 19, YARD D-13
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
OTHER ANALYSES

Boring Location/Depth	pH	Ash (%)	CEC (meq/HG)	TOC (mg/kg)	Total Phosphorus (mg/kg)
MWD13-1 0.5'-1.0'					
MWD13-1 1.0'-1.5'		99.2	3.28	364	
MWD13-1 7.0'-7.5'	9.4				
MWD13-2 1.5'-2.0'	8.6				
MWD13-2 3.5'-4.0'		99.1	3.2		
MWD13-2 5.5'-6.0'					
MWD13-2 9.0'-9.5'					
MWD13-3 2.0'-2.5'	8.7	99.3	3.28		
MWD13-3 5.0'-5.5'					
MWD13-3 12.0'-12.5'					
MWD13-4 3.0'-3.5'		99.2	3.36	572	
MWD13-4 4.5'-5.0'	9.3				
MWD13-4 9.5'-10.0'					
MWD13-4 10.0'-10.5'					
BD13-5 1.0'-1.5'		99.2	2.56		238
BD13-5 2.5'-3.0'	8.9				
BD13-5 5.5'-6.0'					
BD13-6 1.0'-1.5'		99.3	2.96		
BD13-6 2.5'-3.0'	8.4				
BD13-6 5.5'-6.0'					
BD13-7 1.0'-1.5'		99.2	2.88		
BD13-7 2.0'-2.5'	7.4				
BD13-8 0.5'-1.0'					
BD13-8 1.0'-1.5'		99.2	3.68	416	
BD13-8 3.0'-3.5'	9.0				
BD13-8 3.5'-4.0'	8.6				
BD13-8 8.0'-8.5'					
BD13-8 11.0'-11.5'					
BD13-8 13.0'-13.5'					
BD13-9 0.5'-1.0'					
BD13-9 1.0'-1.5'		99.2	3.52	416	
BD13-9 3.5'-4.0'	8.7				
BD13-9 4.0'-4.5'					
BD13-9 8.0'-8.5'					
BD13-10 0.5'-1.0'	8.5				
BD13-10 1.5'-2.0'		98.7	3.76	572	
BD13-10 3.0'-3.5'					
BD13-11 1.0'-1.5'					

TABLE 1B

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 19, YARD D-13
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
OTHER ANALYSES

Boring Location/Depth	pH	Ash (%)	CEC (meq/HC)	TOC (mg/kg)	Total Phosphorus (mg/kg)
BD13-11 1.5'-2.0'		98.7	9.44	519	
BD13-11 4.0'-4.5'	9.44				
BD13-11 6.0'-6.5'					
BD13-11 9.0'-9.5'					
BD13-12 3.0'-3.5'		99.0	3.36	519	
BD13-12 3.5'-4.0'					
BD13-12 4.5'-5.0'	8.6				
BD13-12 8.5'-9.0'					
BD13-12 10.5'-11.0'					
BD13-12 12.0'-12.5'					
BD13-13 2.0'-2.5'					
BD13-13 2.5'-3.0'		99.0		572	
BD13-13 8.0'-8.5'	9.1				
BD13-14 2.5'-3.0'		99.2		364	
BD13-14 4.0'-4.5'	8.7				
BD13-14 9.5'-10.0'					
BD13-15 2.0'-2.5'					
BD13-15 2.5'-3.0'		99.2		519	
BD13-15 8.5'-9.0'	11.9				
BD13-15 10.5'-11.0'					
BD13-15 12.5'-13.0'					
BD13-15 13.5'-14.0'					
BD13-16 1.5'-2.0'					
BD13-16 2.0'-2.5'		99.3		572	
BD13-16 5.0'-5.5'	9.9				
BD13-16 6.0'-6.5'					
BD13-16 9.0'-9.5'					
BD13-16 12.0'-12.5'					
BD13-16 14.0'-14.5'					

Notes:

1. Analytical results are presented in units as shown.
2. Sample depths are presented in feet.

TABLE 1B

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 19, YARD D-13
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
OTHER ANALYSES

Boring Location/Depth	Chloride (mg/kg)	Total Kjeldahl Nitrogen (mg/kg)	Sulfate (mg/kg)	Total Petroleum Hydrocarbons (mg/kg)	Cyanide (mg/kg)
MWD13-1 0.5'-1.0'				2.9	0.59
MWD13-1 1.0'-1.5'	6.2				
MWD13-1 7.0'-7.5'					0.64
MWD13-2 1.5'-2.0'					
MWD13-2 3.5'-4.0'					
MWD13-2 5.5'-6.0'				29.3	
MWD13-2 9.0'-9.5'				12800	1.6
MWD13-3 2.0'-2.5'					
MWD13-3 5.0'-5.5'				18.7	
MWD13-3 12.0'-12.5'				8.4	
MWD13-4 3.0'-3.5'	7.1				
MWD13-4 4.5'-5.0'					
MWD13-4 9.5'-10.0'				8.8	
MWD13-4 10.0'-10.5'				12.2	
BD13-5 1.0'-1.5'	18.6	95.2	13.9		
BD13-5 2.5'-3.0'				102	
BD13-5 5.5'-6.0'				8.9	
BD13-6 1.0'-1.5'	7.1				
BD13-6 2.5'-3.0'					
BD13-6 5.5'-6.0'				23.9	
BD13-7 1.0'-1.5'	8.5				
BD13-7 2.0'-2.5'				309	
BD13-8 0.5'-1.0'				2280	
BD13-8 1.0'-1.5'	10.0				
BD13-8 3.0'-3.5'				72	
BD13-8 3.5'-4.0'					
BD13-8 8.0'-8.5'				75.2	
BD13-8 11.0'-11.5'				14.6	
BD13-8 13.0'-13.5'				3.4	
BD13-9 0.5'-1.0'	16.0			5310	
BD13-9 1.0'-1.5'					
BD13-9 3.5'-4.0'				15.4	
BD13-9 4.0'-4.5'				13.4	
BD13-9 8.0'-8.5'				8.6	
BD13-10 0.5'-1.0'					
BD13-10 1.5'-2.0'					
BD13-10 3.0'-3.5'				19.5	
BD13-11 1.0'-1.5'				2.3	

TABLE 1B

SUMMARY TABLE OF ANALYTICAL RESULTS: SOIL
SITE 19, YARD D-13
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY
OTHER ANALYSES

Boring Location/Depth	Chloride (mg/kg)	Total Kjeldahl Nitrogen (mg/kg)	Sulfate (mg/kg)	Total Petroleum Hydrocarbons (mg/kg)	Cyanide (mg/kg)
BD13-11 1.5'-2.0'					
BD13-11 4.0'-4.5'					
BD13-11 6.0'-6.5'				1570	
BD13-11 9.0'-9.5'				102	
BD13-12 3.0'-3.5'	13.0				
BD13-12 3.5'-4.0'					
BD13-12 4.5'-5.0'					
BD13-12 8.5'-9.0'				94.6	
BD13-12 10.5'-11.0'				4.7	
BD13-12 12.0'-12.5'				4.7	
BD13-13 2.0'-2.5'				9.7	
BD13-13 2.5'-3.0'	8.5				
BD13-13 8.0'-8.5'					
BD13-14 2.5'-3.0'	11.8				
BD13-14 4.0'-4.5'					
BD13-14 9.5'-10.0'				9.6	
BD13-15 2.0'-2.5'				14500	
BD13-15 2.5'-3.0'					
BD13-15 8.5'-9.0'					
BD13-15 10.5'-11.0'				73.4	
BD13-15 12.5'-13.0'					0.68
BD13-15 13.5'-14.0'					0.79
BD13-16 1.5'-2.0'				3070	
BD13-16 2.0'-2.5'					
BD13-16 5.0'-5.5'					
BD13-16 6.0'-6.5'				206	
BD13-16 9.0'-9.5'				586	
BD13-16 12.0'-12.5'				71.6	
BD13-16 14.0'-14.5'				11.6	

Notes:

1. Analytical results are presented in units as shown.
2. Sample depths are presented in feet.

TABLE 2

SUMMARY TABLE OF ANALYTICAL RESULTS: WATER
SITE 19, YARD D-13
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

Chemical Group/Analyte	Units	Well Number MWD13-1	MWD13-2	MWD13-3	MWD13-4
Volatile Organics					
1,1-Dichloroethane	ug/l	12.		6.	10.
1,2-Dichloroethene (total)	ug/l	7.			
Methylene Chloride	ug/l	9.	11.	12.	12.
Pesticides					
4,4'-DDT	ug/l	0.044			
Total Petroleum Hydrocarbons	mg/l		0.38		2.6
Metals					
Aluminum	mg/l	187	15	144	378
Arsenic	mg/l	0.059			
Barium	mg/l	1.3		0.83	2.9
Beryllium	mg/l				0.009
Cadmium	mg/l				0.0063
Calcium	mg/l	58	55	95	645
Chromium	mg/l	0.52	0.047	0.42	1
Cobalt	mg/l	0.1		0.084	0.22
Copper	mg/l	0.16		0.2	0.55
Iron	mg/l	219	21	189	494
Lead	mg/l	0.058		0.21	0.56
Magnesium	mg/l	92	23	70	274
Manganese	mg/l	5.6	0.55	2.8	9.4
Nickel	mg/l	0.6	0.19	0.51	1.2
Potassium	mg/l	34	22	28	53
Selenium	mg/l	0.1		0.098	0.15
Sodium	mg/l	325	51	108	200
Titanium	mg/l	5.3	0.51	4	9.1
Vanadium	mg/l	0.46		0.34	0.93
Zinc	mg/l	0.41	0.097	0.51	1.7
Total Organic Carbon	mg/l	27	7.1	22	19

TABLE 2

SUMMARY TABLE OF ANALYTICAL RESULTS: WATER
SITE 19, YARD D-13
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

Chemical Group/Analyte	Units	Well Number MWD13-1	MWD13-2	MWD13-3	MWD13-4
General Minerals					
Alkalinity, bicarb (as CaCO3)	mg/l	870.	280.	140.	
Alkalinity, carb (as CaCO3)	mg/l			80.	360.
Alkalinity, hydrox (as CaCO3)	mg/l				98.
Alkalinity, total (as CaCO3)	mg/l	870.	280.	220.	450.
Total Hardness	mg/l	524.	232.	526.	2740.
Chloride	mg/l	52.	33.	68.	129.
Sulfate	mg/l	113.	14.	129.	101.
Oil & Grease	mg/l		5.		
Total Dissolved Solids	mg/l	1360.	440.	480.	770.
Specific Conductance	umhos/c	1590	570	620	1410
pH	-	7.3	7.7	9.7	12
Calcium	mg/l	58.	55.	95.	645.
Copper	mg/l	0.16		0.20	0.55
Iron	mg/l	219.	21.	187.	494.
Magnesium	mg/l	92.	23.	70.	274.
Manganese	mg/l	5.6	0.55	2.8	9.4
Sodium	mg/l	325.	51.	108.	200.
Zinc	mg/l	0.41	0.097	0.51	1.7

Notes:

1. Shaded concentrations denote concentrations in excess of the Maximum Contaminant Level or the Applied Action Level.

TABLE 3

COMPARISON OF ACTION LEVELS FOR VARIOUS CHEMICAL GROUPS
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

Chemical Group/Analyte	MCL (mg/l)	STLC (mg/l)	TTLC (mg/kg)	AAL Biological Receptor	AAL Water (ug/L)	AAL Air (ug/m3)	AAL Soil (mg/kg)
Volatile Organics							
1,1,1-Trichloroethane	0.2			Human	300	300	
1,1,2,2-Tetrachloroethane	0.001						
1,1,2-Trichloroethane	0.032						
1,1-Dichloroethylene	0.006						
1,2-Dichloroethane	0.0005						
1,3-Dichloropropene	0.0005						
1,4-Dichlorobenzene	0.005						
2-Butanone				Human	2,000	300	
Benzene	0.001			Human	0.2	0.07	
Benzene				Freshwater	1		
Benzene				Saltwater	1		
Carbon Tetrachloride	0.0005						
Chloroform				Human	6	0.6	
Dibromochloropropane	0.0002						
Ethylbenzene	0.68			Human	2,000	100	
Ethylene Dibromide	0.00002						
Monochlorobenzene	0.03						
n-Hexane				Human	100	200	
Tetrachloroethylene	0.005						
Toluene				Human	2,000	200	
Toluene				Freshwater	90		
Toluene				Saltwater	20		
Trichloroethylene	0.005	204.	2,040	Human	7	7	
Vinyl Chloride	0.0005			Human	0.5	0.1	
Xylene				Freshwater	40		

TABLE 3

COMPARISON OF ACTION LEVELS FOR VARIOUS CHEMICAL GROUPS
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

Chemical Group/Analyte	MCL (mg/l)	STLC (mg/l)	TTLC (mg/kg)	AAL Biological Receptor	AAL Water (ug/l)	AAL Air (ug/m3)	AAL Soil (mg/kg)
Volatile Organics							
Xylene				Saltwater	70		
Xylene (all isomers)	1.75			Human	2,000	400	30,000
Semivolatile Organics							
Acenaphthene				Human	20	2	
Acenaphthylene				Human	20	2	
Anthracene				Human	20	2	100
Atrazine	0.003						
Bentazon	0.018						
Benzo(a)pyrene				Human	0.09	0.009	
Fluoranthene				Human	20	2	
Fluorene				Human	20	2	
Naphthalene				Human	20	2	
Naphthalene				Freshwater	600		
Naphthalene				Saltwater	700		
Pentachlorophenol		1.7	17	Human	2	0.2	
Pentachlorophenol				Freshwater	5		
Pentachlorophenol				Saltwater	10		
Phenanthrene				Human	20	2	100
Pyrene				Human	20	2	
Pesticides/PCBs							
2,4,5-TP Silvex	0.01	1.	10				
2,4-D	0.1	10.	100	Human	40	4	
Aldicarb				Human	20	2	

TABLE 3

COMPARISON OF ACTION LEVELS FOR VARIOUS CHEMICAL GROUPS
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

Chemical Group/Analyte	MCL (mg/l)	STLC (mg/l)	TTLC (mg/kg)	AAL Biological Receptor	AAL Water (ug/L)	AAL Air (ug/m3)	AAL Soil (mg/kg)
Pesticides/PCBs							
Aldrin		0.14	1.4				
Chlordan		0.25	2.5				
DDD,DDE,DDT		0.1	1.0				
Diazinon				Human	30	3	
Dicofol				Human	1	0.1	
Dieldrin		0.8	8				
Dioxin (2,3,7,8-TCCD)		0.001	0.01				
Endrin	0.0002	0.02	0.2				
Heptachlor		0.47	4.7	Human	0.1	0.01	
Heptachlor Epoxide				Human	0.02	0.002	
Kepone		2.1	21				
Lead Compounds, Organic			13				
Lindane	0.004	0.4	4	Human	0.2	0.02	
Malathion				Human	800	80	
Methoxychlor	0.1	10.	100				
Mirex		2.1	21				
Molinate	0.02						
Paraquat				Human	200	4	
Parathion, Ethyl				Human	40	0.2	
Polychlorinated Biphenyls (PCBs)		5.	50				
Simazine	0.01						
Thiobencarb	0.07						
Toxaphene	0.005	0.5	5				

TABLE 3

COMPARISON OF ACTION LEVELS FOR VARIOUS CHEMICAL GROUPS
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

Chemical Group/Analyte	MCL (mg/l)	STLC (mg/l)	TTLC (mg/kg)	AAL Biological Receptor	AAL Water (ug/l)	AAL Air (ug/m3)	AAL Soil (mg/kg)
Inorganics							
Aluminum	1.0						
Antimony		15.	500				
Arsenic	0.05	5.0	500	Freshwater	70		
Arsenic				Saltwater	20		
Asbestos			1.0				
Barium	1.0	100.	10,000	Human	350	5	
Beryllium		0.75	75				
Cadmium	0.01	1.0	100	Freshwater	0.2		
Cadmium				Saltwater	5		
Chromium	0.05			Freshwater	50		
Chromium				Saltwater	2		
Chromium III		560.	2,500	Human	50,000	50	
Chromium VI		5.	500				
Cobalt		80.	8,000				
Copper		25.	2,500	Human	4,000	200	
Copper				Freshwater	4		
Copper				Saltwater	6		
Cyanide				Human	1,000	50	
Fluoride (temperature dependent)	1.4 to 2.4						
Fluoride Salts		180.	18,000				
Lead	0.05	5.0	1,000	Freshwater	10		
Lead				Saltwater	4		
Mercury (inorganic)	0.002	0.2	20	Human	70	0.07	
Molybdenum		350.	3,500				
Nickel		20.	2,000	Human	400	0.1	

TABLE 3

COMPARISON OF ACTION LEVELS FOR VARIOUS CHEMICAL GROUPS
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

Chemical Group/Analyte	MCL (mg/l)	STLC (mg/l)	TTLC (mg/kg)	AAI Biological Receptor	AAI Water (ug/L)	AAI Air (ug/m3)	AAI Soil (mg/kg)
Inorganics							
Nickel				Freshwater	1		
Nickel				Saltwater	8		
Nitrate	45.0			Saltwater	10		
Selenium	0.01	1.0	100				
Silver	0.05	5.	500	Human	200	2	
Silver				Freshwater	1		
Silver				Saltwater	6		
Thallium		7.0	700				
Vanadium		24.	2,400				
Zinc		250.	5,000	Human	8,000	800	
Zinc				Freshwater	30		
Zinc				Saltwater	10		
Consumer Acceptance Limits							
Color	15 units						
Copper	1.0						
Corrosivity	Relatively Low						
Odor - Threshold	3 units						
Foaming Agents (MBAs)	0.5						
Iron	0.3						
Manganese	0.05						
Thiobencarb	0.001						
Turbidity	5 units						
Zinc	5.0						

TABLE 3

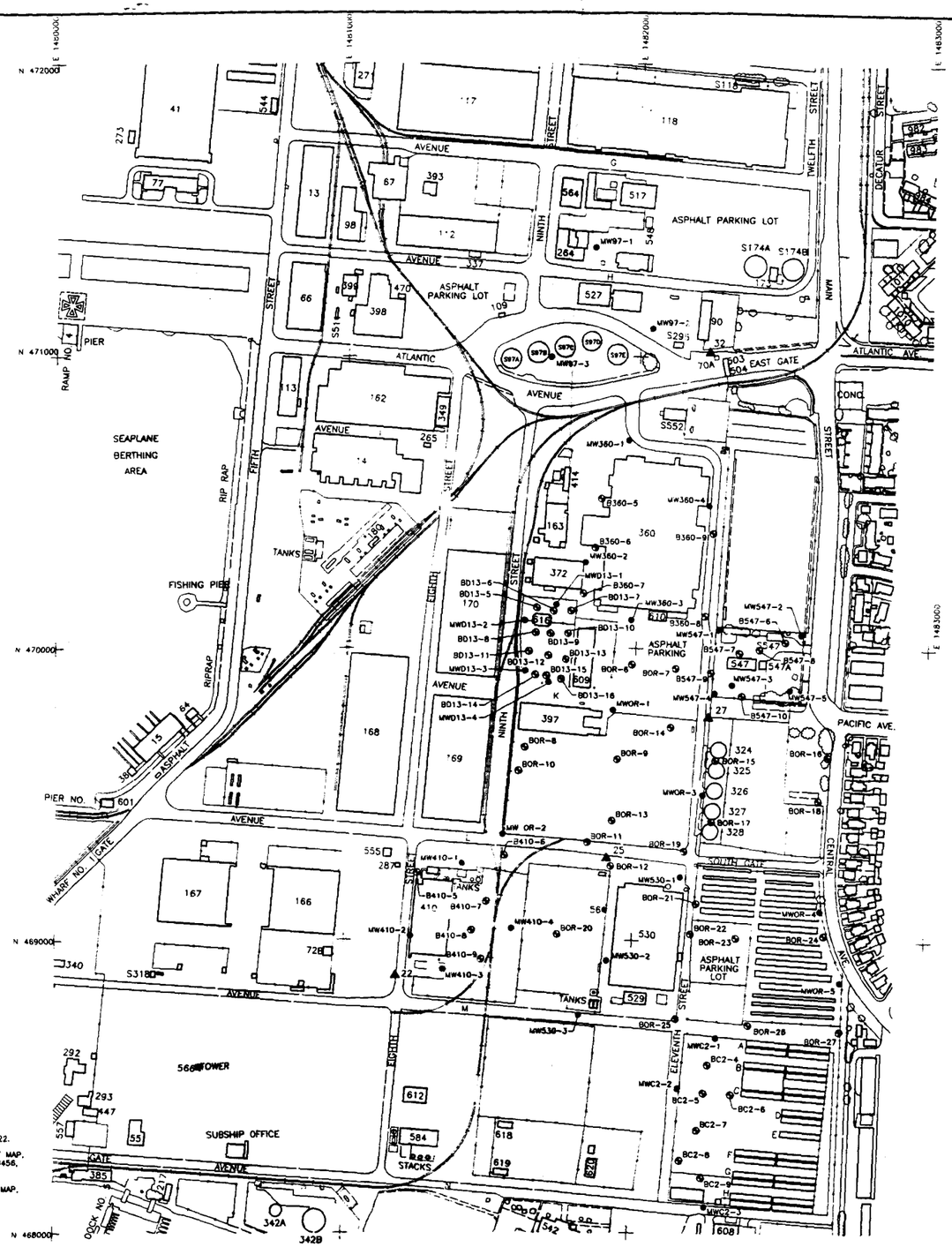
COMPARISON OF ACTION LEVELS FOR VARIOUS CHEMICAL GROUPS
NAS ALAMEDA
REMEDIAL INVESTIGATION/FEASIBILITY STUDY

Chemical Group/Analyte	MCL (mg/l)	STLC (mg/l)	TTLC (mg/kg)	AAL Biological Receptor	AAL Water (ug/L)	AAL Air (ug/m3)	AAL Soil (mg/kg)
Mineralization							
Total Dissolved Solids	500						
or							
Specific Conductance	900 umhos						
Chloride	250						
Sulfate	250						

Notes:

1. MCLs are Maximum Contaminant Levels.
2. AALs are Applied Action Levels.
3. STLCs are Soluble Threshold Limit Concentrations.
4. TTLCs are Total Threshold Limit Concentrations.
5. MCLs, STLCs, and TTLCs were referenced in Barclay's California Code of Regulations, Title 22, Social Security, Division 4, Environmental Health, updated June 22, 1990.
6. AALs were referenced from the California Department of Health Services AAL List 90-1, dated June 29, 1990, which supersedes all previous AAL lists.
7. MCLs for the constituents listed under Consumer Acceptance Limits and Mineralization apply to Secondary Drinking Water Standards.
8. State of California recommended MCLs are listed for Mineralization under the Secondary Drinking Water Standards.
9. Freshwater and saltwater biological receptors for the listed AALs apply to aquatic life.

DRAWING NUMBER 86-018-E87



LEGEND:

- B360-5 SOIL BORING LOCATION
- MW97-2 MONITORING WELL LOCATION
- ▲22 SURVEY MONUMENT

REFERENCES:

1. NAVAL AIR STATION ALAMEDA GENERAL DEVELOPMENT MAP, SHEETS 18 & 22.
2. NAVAL AIR STATION ALAMEDA, ALAMEDA, CALIFORNIA GENERAL DEVELOPMENT MAP, STATION MAP WITH SURVEY MONUMENTS ADDED, NAVFAC DRAWING NO. 838456, REVISION B, DATED SEPTEMBER 15, 1986.
3. NAVAL AIR STATION, ALAMEDA, CALIFORNIA, STATION BENCHMARK LOCATION MAP, PWC DRAWING NO. 25144, DATED JANUARY 1985

SCALE

200 0 200 400 FEET

PHASE 2A
MONITORING WELL AND
SOIL BORING LOCATIONS
NAVAL AIR STATION
ALAMEDA, CALIFORNIA

PREPARED FOR

WESTERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
SAN BRUNO, CALIFORNIA

No.	DATE	ISSUE / REVISION	DWN. BY	CK'D BY	AP'D BY
2	11-9-90	ISSUED FOR PHASE 2A SURVEY DATA REPORT	VZC	TGB	RJG
1	10-17-90	ISSUED FOR ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT PERMIT NO. 90385	VZC	TGB	RJG

CanonieEnvironmental

DATE: 10-9-90	FIGURE 1	DRAWING NUMBER 86-018-E87	2
SCALE: AS SHOWN			

APPENDIX A

CERTIFIED ANALYTICAL RESULTS

N00236.000801
ALAMEDA POINT
SSIC NO. 5090.3

PHASE 2A ANALYTICAL RESULTS FOR SITE 19, YARD D-13 REMEDIAL INVESTIGATION/FEASIBILITY STUDY

DATED 01 DECEMBER 1990

THIS RECORD CONTAINS MULTIPLE VOLUMES WHICH HAVE BEEN ENTERED SEPARATELY

VOLUME II OF II IS ENTERED IN THE DATABASE AND FILED AT ADMINISTRATIVE RECORD NO. **N00236.000802**

N00236.000801
ALAMEDA POINT
SSIC NO. 5090.3

APPENDIX A – CERTIFIED ANALYTICAL RESULTS

THIS RECORD CONTAINS ANALYTICAL DATA AND IS NOT REQUIRED TO BE PHYSICALLY LOCATED WITH THE ADMINISTRATIVE RECORD DOCUMENT.

THIS DATA WILL NOT BE IMAGED.

TO VIEW THE DATA, CONTACT:

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