Oakland City Center
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Woodward-Clyde Consultants

December 7, 1988

Project: 8810023A

Port of Oakland
Environmental Division
66 Jack London Square
Oakland, California 94604

Attention: Mr. William E. Vandenberg
Manager, Environmental Division

Subject: Seventh Street Dredge Processing Site

Gentlemen:

As part of our recent work for the Port of Oakland, we investigated the subsurface conditions existing at the proposed Seventh Street Dredge Processing site. Included in that investigation were the drilling and sampling at several test boring locations, installation of several groundwater monitoring wells, collection of several surface soil samples, laboratory testing of recovered subsurface samples and measurement of groundwater levels.

In the summer of 1988 you informed us that the site was being dropped from consideration and directed us to suspend our investigation and concentrate on the analysis of the available data on the turning basin sediments. We understand that the Seventh Street site is now being reconsidered as a potential processing site for dredged sediments.

Enclosed with this letter are draft copies of information which was developed during our investigation of the site, as well as draft sections of the site characterization report. Because of the suspension of work, the report was neither peer reviewed nor finalized.

The information presented herein is in draft form and has not been checked for correctness or completeness. We recommend that if the Port decides to pursue the use of this site, additional budget be authorized so that we can finalize this information into a formal report.

Please call the undersigned with any questions regarding the enclosed information.

Sincerely,

WOODWARD-CLYDE CONSULTANTS

Scott R. Huntsman, Ph.D., G.E.
Associate

SH/sp
8810023AL6/COT

Enclosures

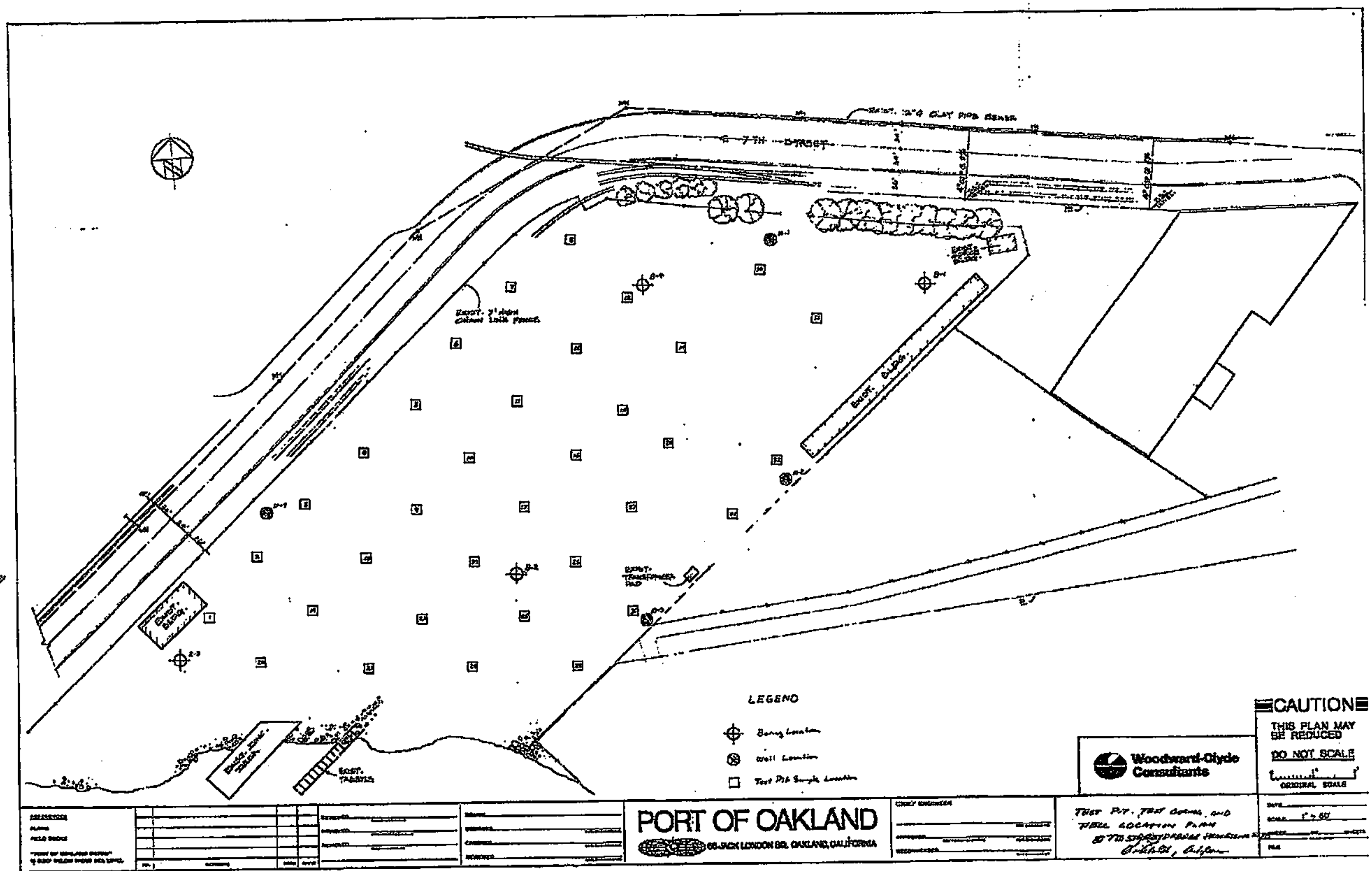
7TH STREET
LEGEND
Boring Location
Well Location
Test Pit Sample Location
Woodward-Clyde Consultants
CAUTION
THIS PLAN MAY BE REDUCED
DO NOT SCALE
ORIGINAL SCALE
PORT OF OAKLAND
66 JACK LONDON SQ. OAKLAND, CALIFORNIA
Test Pit, Test Boring and Well Location Plan
Oakland, Calif.
SCALE 1" = 60'

Table 1. Summary of Results
Purgeable Priority Pollutants (EPA Method 8240)

Compound	Depth Int. (ft. MLLW)	Concentration (ppb)					
		Priority Pollutants[a]	Compounds Detected	Quantity (ppb)	Non-Priority Pollutants	Compounds Detected	Quantity (ppb)
Sample Name							
B1-1-3		ND[b]					
B1-2-3		ND					
B2-1-3		ND					
B2-2-3		ND					
B3-1-3		ND					
B3-2-3		ND					
B4-1-3			Toluene	180			
B4-1-3		ND					
M1A-2-2		ND					
M1-1-2		ND					
M2-1-3		ND					
M2-2-3		ND					
M3-1-3			Toluene	190			
M3-2-3		ND					
M4-1-3		ND					
M4-2-3							
S19-1		ND			ND[c]		
S19-2		ND			ND		
S30-1		ND				Total Xylenes	360
S30-2		ND			ND		

[a] Detection Limits: 2-Chloroethylvinyl ether; Chloroform; Methylene chloride = 500 ppb
All others = 100 ppb

[b] ND = Not detected

[c] No additional peaks > 1 ppm were detected for identification by NBS spectral library

Table 2 Summary of Results
Purgeable Priority Pollutants (EPA Method 8270)

	Concentration (ppb)			
Composite Samples of	S8-1	S8-2	S17-1	S17-2
	S13-1	S13-2	S26-1	S26-2
	S14-1	S14-2	S25-1	S25-2
	S12-1	S12-2	S22-1	S22-2
	S7-1	S7-2	S23-1	S23-2
Depth Int. (ft. MLLW)				
Compound				
Base/Neutral Extractable Priority Pollutants[a][b]	ND	ND	ND	ND
Acid Extractable Priority Pollutant[a]	ND	ND	ND	ND

	Concentration (ppb)							
Samples Name	M1A-2-2	M1-1-2	M2-1-3	M2-2-3	M3-1-3	M3-2-3	M4-1-3	M4-2-3
Depth Int. (ft. MLLW)								
Compound								
Base/Neutral Extractable Priority Pollutants[c][b]	ND	ND	ND	ND	ND	ND	ND	ND
Acid Extractable Priority Pollutant[d]	ND	ND	ND	ND	ND	ND	ND	ND

a
Detection Limit: 2 ppm

b
ND = not detected.

c
Detection Limits: Sample M3-1-3: Detection limit = 400 ppb.
All other samples: Benzidine; 3,3-Dichlorobenzidine = 1000 ppb.
All others compounds = 200 ppb

d
Detection Limits: Sample M3-1-3: Detection limit = 400 ppb.
All other samples: 2,4-Dinitrophenol; 4-Nitrophenol = 1000 ppb
All others compounds = 200 ppb

Table 3 Summary of Results
Pesticides and PCB Compounds (EPA Method 8080)

	Concentration (ppb)							
Sample Name	M1A-2-2	M1-1-2	M2-1-3	M2-2-3	M3-1-3	M3-2-3	M4-1-3	M4-2-3
Depth Int. (ft. MLLW)								
Compound								
PCB isomers[a]	ND[b]	ND	ND	ND	ND	ND	ND	ND
Pesticides[c]	ND	ND	ND	ND	ND	ND	ND	ND

[a] Detection Limits: PCB -1016, -1221, -1232, -1242, -1248, -1254, -1260 = 10 ppb

[b] ND = not detected.

[c] Detection Limits: Heptachlor = 2 ppb
Aldrin; -BHC; Chlordane; 4,4' - DDE; Dieldrin; Endrin = 5 ppb
All others = 10 ppb

Table 4 Summary of Data
Total and Soluble Metals

Metal	MIA-2-2		M1-1-2		M2-2-3		M2-2-3		M2-1-3		M3-2-3		M4-1-3		M4-2-3		STLC	TTLC
	Soluble mg/l	Total mg/kg(a)	Soluble mg/l	Total mg/kg	Soluble mg/l	Total mg/kg	Soluble mg/l	Total mg/kg	Soluble mg/l	Total mg/kg	Soluble mg/l	Total mg/kg	Soluble mg/l	Total mg/kg	Soluble mg/l	Total mg/kg	Soluble mg/l	Total mg/kg
Antimony	-	<5	-	<5	-	<5	-	<5	-	<5	-	<5	-	<5	-	<5	15	500
Arsenic	0.11	10	0.041	18	-	3.4	-	2.8	0.05	13	-	4.6	-	1.9	-	2.3	5	500
Barium	-	25	-	11	-	42	-	8.2	-	42	-	37	-	15	-	19	100	10000
Beryllium	-	0.19	-	<0.1	-	<0.1	-	<0.1	-	0.23	-	0.2	-	<0.1	-	<0.1	0.75	75
Cadmium	<0.01	4.2	-	1.4	<0.01	1.7	<0.01	1.2	<0.01	3.6	<0.01	1.1	<0.01	1.3	-	0.88	1	100
Cr (IV)	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	-	<0.5	5	500
Cr (III)	-	21	-	20	-	27	-	16	-	23	-	11	-	16	-	11	560	2500
Cobalt	-	4.6	-	3.0	-	2.3	-	2.2	-	4.5	-	15	-	1.8	-	2.5	80	8000
Copper	-	15	-	13	-	17	-	6.3	-	18	-	8.2	-	15	-	4.4	25	2500
Lead	0.27	13	-	3.4	0.10	5.6	-	1.2	0.11	8.1	-	1.7	-	2.0	0.37	15	5	1000
Mercury	<0.001	0.28	-	0.05	-	0.02	-	0.03	-	0.09	-	0.04	-	0.05	-	0.04	0.2	20
Molybdenum	-	<5	-	<5	-	<5	-	<5	-	<5	-	<5	-	<5	-	<5	350	3500
Nickel	-	18	-	12	-	15	-	6.9	0.18	25	-	6.5	-	8.3	-	5.2	20	2000
Selenium	0.05	2.6	0.073	2.6	0.042	2.9	0.048	2.0	0.08	2.5	0.073	2.4	0.038	2.0	0.038	2.0	1	100
Silver	-	0.17	-	1.7	-	0.12	-	0.58	-	0.23	-	<0.1	-	0.13	-	0.23	5	500
Thallium	-	<5	-	<5	-	<5	-	<5	-	<5	-	<5	-	<5	-	<5	7	700
Vanadium	0.14	26	-	8.1	-	14	-	8.9	-	15	-	8.3	-	7.6	-	4.6	24	2400
Zinc	-	42	-	80	-	410	-	15	-	38	-	17	-	110	-	18	250	5000

a
mg/kg - wet weight

Table 5 Summary of Data
Petroleum Hydrocarbon and Oil and Grease

Sample Name	Depth Interval	a Pet H.C. Low to Medium B.P. ppm (wet wt)	b Pet H.C. Medium to High B.P. ppm (wet wt)	c Oil and Grease ppm (wet wt)
M1A-2-2		<1.0	<1.0	70
M1-1-2		<1.0	<1.0	<30
M2-1-3		<1.0	<1.0	<30
M2-2-3		<1.0	<1.0	<30
M3-1-3		<1.0	<1.0	60
M3-2-3		<1.0	<1.0	<30
M4-1-3		<1.0	<1.0	<30
M4-2-3		<1.0	<1.0	<30
B1-1-3			<1.0	120
B1-2-3			<1.0	<30
B2-1-3			<1.0	<30
B2-2-3			<1.0	<30
B3-1-3			<1.0	<30
B3-2-3			<1.0	<30
B4-1-3			<1.0	130
B4-2-3			<1.0	<30

a
Petroleum Hydrocarbon, Low to Medium Boiling Point
by EPA 5030/8015, using gasoline standard.

b
Petroleum Hydrocarbon, Medium to High Boiling Point
by EPA 3550/8015, using diesel standard.

c
EPA 3550 w/trichorotrifluoroethane and gravimetric determination

Table 6 Summary of Results
Total Metal Concentration in Shallow Soils

Sample Name	Depth Int. (ft. MLLW)	Total Metal Concentration: Arsenic mg/kg (wet wt.)	Chromium mg/kg (wet wt.)	Copper mg/kg (wet wt.)	Lead mg/kg (wet wt.)	Mercury mg/kg (wet wt.)	Zinc mg/kg (wet wt.)
B1-1-3		71	4.9	100	130	0.083	79
B1-2-3		12	24	28	7.2	0.25	54
B2-1-3		20	3.8	33	120	0.050	27
B2-2-3		5.7	7.1	6.7	1.9	0.042	13
B3-1-3		14	50	44	36	0.10	64
B3-2-3		13	17	4.5	46	0.061	14
B4-1-3		16	83	76	110	0.11	59
B4-2-3		6.4	23	19	4.3	0.054	29
S19-1		26	38	3.7	140	0.011	29
S18-2		17	36	1.4	8.8	0.006	2.4
S30-1		8.3	44	2.9	61	0.011	10
S30-2		23	41	2.5	23	0.003	2.9
S31-1		4	87	3	130	0.006	31
S31-2		17	31	1	29	0.002	6.4
Composite: S4-2, S9-2, S18-2, S2-2, S3-2		11	37	1.8	73	0.006	3.7
Composite: S4-2, S9-2, S18-2, S2-2, S3-2		33	37	11	160	0.019	34
Composite: S6-1, S11-1 S10-1, S5-1		23	30	61	88	0.011	20
Composite: S6-2, S11-2 S10-2, S5-2		13	35	3.9	87	0.012	42
Composite: S8-1, S13-1 S12-1, S7-1		22	30	12	120	0.017	27
Composite: S8-2, S13-2 S12-2, S7-2		15	29	5.7	49	0.015	13
Composite: S15-1, S28-1 S27-1, S16-1		33	32	14	58	0.015	36
Composite: S15-2, S28-2 S27-2, S16-2		17	22	3.5	140	0.011	20

Composite:	S17-1, S26-1, S25-1 S22-1, S23-1	59	27	4	120	0.021	52
Composite:	S17-2, S26-2, S25-2 S22-2, S23-2	8.3	26	1.8	76	0.007	5
Composite:	S21-2, S20-2, S1-2	15	36	1.3	71	<0.001	2.6
Composite:	S21-2, S20-2, S1-2	43	44	3.6	190	0.01	22
Composite:	S30-2, S29-2, S24-2	32	29	2.5	83	0.01	5.6
Composite:	S30-2, S29-2, S24-2	18	28	1.5	13	<0.001	5
Composite:	S34-1, S33-1	66	34	46	280	0.013	20
Composite:	S34-2, S33-2	17	21	2.4	27	<0.001	21

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Woodward-Clyde Consultants
500 12th St., Suite 100
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Attn: John McMillan, P.E.

Date Sampled: 04/22/88
Date Received: 04/25/88
Date Analyzed: 04/26/88
Date Reported: 05/02/88

Project: #880023A

Sample Number

8041774

Sample Description

Soil, B1-1-3

PRIORITY POLLUTANTS

PURGEABLES BY GC/MS
results in ppb

Benzene	< 100	1,2-Dichloropropane	< 100
Bromomethane	< 100	1,3-Dichloropropane	< 100
Bromodichloromethane	< 100	Ethylbenzene	< 100
Bromoform	< 100	Methylene chloride	< 500
Carbon tetrachloride	< 100	1,1,2,2-Tetrachloroethane	< 100
Chlorobenzene	< 100	Tetrachloroethene	< 100
Chloroethane	< 100	1,1,1-Trichloroethane	< 100
2-Chloroethylvinyl ether	< 500	1,1,2-Trichloroethane	< 100
Chloroform	< 500	Trichloroethene	< 100
Chloromethane	< 100	Toluene	360
Dibromochloromethane	< 100	Vinyl chloride	< 100
1,1-Dichloroethane	< 100		
1,2-Dichloroethane	< 100		
1,1-Dichloroethene	< 100		
trans-1,2-Dichloroethene	< 100		

Method of Analysis: EPA 8240

SEQUOIA ANALYTICAL LABORATORY

Scot Cocanour

Arthur G. Burton
Laboratory Director

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Attn: John McMillan, P.E.

Date Sampled: 04/22/88
Date Received: 04/25/88
Date Analyzed: 04/26/88
Date Reported: 05/02/88

Project: #880023A

Sample Number
8041775

Sample Description
Soil, B1-2-3

PRIORITY POLLUTANTS

PURGEABLES BY GC/MS
results in ppb

Benzene	< 100	1,2-Dichloropropane	< 100
Bromomethane	< 100	1,3-Dichloropropane	< 100
Bromodichloromethane	< 100	Ethylbenzene	< 100
Bromoform	< 100	Methylene chloride	< 500
Carbon tetrachloride	< 100	1,1,2,2-Tetrachloroethane	< 100
Chlorobenzene	< 100	Tetrachloroethene	< 100
Chloroethane	< 100	1,1,1-Trichloroethane	< 100
2-Chloroethylvinyl ether	< 500	1,1,2-Trichloroethane	< 100
Chloroform	< 500	Trichloroethene	< 100
Chloromethane	< 100	Toluene	< 100
Dibromochloromethane	< 100	Vinyl chloride	< 100
1,1-Dichloroethane	< 100		
1,2-Dichloroethane	< 100		
1,1-Dichloroethene	< 100		
trans-1,2-Dichloroethene	< 100		

Method of Analysis: EPA 8240

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Date Sampled: 04/22/88
Date Received: 04/25/88
Date Analyzed: 04/26/88
Date Reported: 05/02/88

Project: #880023A

Sample Number	Sample Description
8041776	Soil, B2-1-3

PRIORITY POLLUTANTS

PURGEABLES BY GC/MS

results in ppb

Benzene	< 100	1,2-Dichloropropane	< 100
Bromomethane	< 100	1,3-Dichloropropane	< 100
Bromodichloromethane	< 100	Ethylbenzene	< 100
Bromoform	< 100	Methylene chloride	< 500
Carbon tetrachloride	< 100	1,1,2,2-Tetrachloroethane	< 100
Chlorobenzene	< 100	Tetrachloroethene	< 100
Chloroethane	< 100	1,1,1-Trichloroethane	< 100
2-Chloroethylvinyl ether	< 500	1,1,2-Trichloroethane	< 100
Chloroform	< 500	Trichloroethene	< 100
Chloromethane	< 100	Toluene	< 100
Dibromochloromethane	< 100	Vinyl chloride	< 100
1,1-Dichloroethane	< 100		
1,2-Dichloroethane	< 100		
1,1-Dichloroethene	< 100		
trans-1,2-Dichloroethene	< 100		

Method of Analysis: EPA 8240

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Date Sampled: 04/22/88
Date Received: 04/25/88
Date Analyzed: 04/26/88
Date Reported: 05/02/88

Project: #880023A

Sample Number

8041777

Sample Description

Soil, B2-2-3

PRIORITY POLLUTANTS

PURGEABLES BY GC/MS
results in ppb

Benzene	< 100	1,2-Dichloropropane	< 100
Bromomethane	< 100	1,3-Dichloropropane	< 100
Bromodichloromethane	< 100	Ethylbenzene	< 100
Bromoform	< 100	Methylene chloride	< 500
Carbon tetrachloride	< 100	1,1,2,2-Tetrachloroethane	< 100
Chlorobenzene	< 100	Tetrachloroethene	< 100
Chloroethane	< 100	1,1,1-Trichloroethane	< 100
2-Chloroethylvinyl ether	< 500	1,1,2-Trichloroethane	< 100
Chloroform	< 500	Trichloroethene	< 100
Chloromethane	< 100	Toluene	< 100
Dibromochloromethane	< 100	Vinyl chloride	< 100
1,1-Dichloroethane	< 100		
1,2-Dichloroethane	< 100		
1,1-Dichloroethene	< 100		
trans-1,2-Dichloroethene	< 100		

Method of Analysis: EPA 8240

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Date Sampled: 04/22/88
Date Received: 04/25/88
Date Analyzed: 04/26/88
Date Reported: 05/02/88

Project: #880023A

Sample Number

8041778

Sample Description

Soil, B3-1-3

PRIORITY POLLUTANTS

PURGEABLES BY GC/MS
results in ppb

Benzene	< 100	1,2-Dichloropropane	< 100
Bromomethane	< 100	1,3-Dichloropropane	< 100
Bromodichloromethane	< 100	Ethylbenzene	< 100
Bromoform	< 100	Methylene chloride	< 500
Carbon tetrachloride	< 100	1,1,2,2-Tetrachloroethane	< 100
Chlorobenzene	< 100	Tetrachloroethene	< 100
Chloroethane	< 100	1,1,1-Trichloroethane	< 100
2-Chloroethylvinyl ether	< 500	1,1,2-Trichloroethane	< 100
Chloroform	< 500	Trichloroethene	< 100
Chloromethane	< 100	Toluene	< 100
Dibromochloromethane	< 100	Vinyl chloride	< 100
1,1-Dichloroethane	< 100		
1,2-Dichloroethane	< 100		
1,1-Dichloroethene	< 100		
trans-1,2-Dichloroethene	< 100		

Method of Analysis: EPA 8240

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Date Sampled: 04/22/88
Date Received: 04/25/88
Date Analyzed: 04/26/88
Date Reported: 05/02/88

Project: #880023A

Sample Number	Sample Description
8041779	Soil, B3-2-3

PRIORITY POLLUTANTS

PURGEABLES BY GC/MS

results in ppb

Benzene	< 100	1,2-Dichloropropane	< 100
Bromomethane	< 100	1,3-Dichloropropane	< 100
Bromodichloromethane	< 100	Ethylbenzene	< 100
Bromoform	< 100	Methylene chloride	< 500
Carbon tetrachloride	< 100	1,1,2,2-Tetrachloroethane	< 100
Chlorobenzene	< 100	Tetrachloroethene	< 100
Chloroethane	< 100	1,1,1-Trichloroethane	< 100
2-Chloroethylvinyl ether	< 500	1,1,2-Trichloroethane	< 100
Chloroform	< 500	Trichloroethene	< 100
Chloromethane	< 100	Toluene	< 100
Dibromochloromethane	< 100	Vinyl chloride	< 100
1,1-Dichloroethane	< 100		
1,2-Dichloroethane	< 100		
1,1-Dichloroethene	< 100		
trans-1,2-Dichloroethene	< 100		

Method of Analysis: EPA 8240

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Date Sampled: 04/22/88
Date Received: 04/25/88
Date Analyzed: 04/27/88
Date Reported: 05/02/88

Project: #880023A

Sample Number

8041780

Sample Description

Soil, B4-1-3 ✓

PRIORITY POLLUTANTS

PURGEABLES BY GC/MS
results in ppb

Benzene	< 100	1,2-Dichloropropane	< 100
Bromomethane	< 100	1,3-Dichloropropane	< 100
Bromodichloromethane	< 100	Ethylbenzene	< 100
Bromoform	< 100	Methylene chloride	< 500
Carbon tetrachloride	< 100	1,1,2,2-Tetrachloroethane	< 100
Chlorobenzene	< 100	Tetrachloroethene	< 100
Chloroethane	< 100	1,1,1-Trichloroethane	< 100
2-Chloroethylvinyl ether	< 500	1,1,2-Trichloroethane	< 100
Chloroform	< 500	Trichloroethene	< 100
Chloromethane	< 100	Toluene	160
Dibromochloromethane	< 100	Vinyl chloride	< 100
1,1-Dichloroethane	< 100		
1,2-Dichloroethane	< 100		
1,1-Dichloroethene	< 100		
trans-1,2-Dichloroethene	< 100		

Method of Analysis: EPA 8240

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SEQUOIA Analytical Laboratory
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Redwood City, CA 94063 • (415) 364-9222

Woodward-Clyde Consultants
500 12th St., Suite 100
Oakland, CA 94607-4041
Attn: John McMillan, P.E.

Date Sampled: 04/22/88
Date Received: 04/25/88
Date Analyzed: 04/27/88
Date Reported: 05/02/88

Project: #880023A

Sample Number	Sample Description
8041781	Soil, B4-1-3 ✓

PRIORITY POLLUTANTS

PURGEABLES BY GC/MS
results in ppb

Benzene	< 100	1,2-Dichloropropane	< 100
Bromomethane	< 100	1,3-Dichloropropane	< 100
Bromodichloromethane	< 100	Ethylbenzene	< 100
Bromoform	< 100	Methylene chloride	< 500
Carbon tetrachloride	< 100	1,1,2,2-Tetrachloroethane	< 100
Chlorobenzene	< 100	Tetrachloroethene	< 100
Chloroethane	< 100	1,1,1-Trichloroethane	< 100
2-Chloroethylvinyl ether	< 500	1,1,2-Trichloroethane	< 100
Chloroform	< 500	Trichloroethene	< 100
Chloromethane	< 100	Toluene	< 100
Dibromochloromethane	< 100	Vinyl chloride	< 100
1,1-Dichloroethane	< 100		
1,2-Dichloroethane	< 100		
1,1-Dichloroethene	< 100		
trans-1,2-Dichloroethene	< 100		

Method of Analysis: EPA 8240

SEQUOIA ANALYTICAL LABORATORY

Scot Cocanour

Arthur G. Burton
Laboratory Director

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Attn: John McMillan, P.E.

Date Sampled: 04/21/88
Date Received: 04/25/88
Date Analyzed: 04/28/88
Date Reported: 05/02/88

Project: #880023A

Sample Number	Sample Description
8041782	Soil, M1A-2-2

PRIORITY POLLUTANTS

PURGEABLES BY GC/MS

results in ppb

Benzene	< 100	1,2-Dichloropropane	< 100
Bromomethane	< 100	1,3-Dichloropropane	< 100
Bromodichloromethane	< 100	Ethylbenzene	< 100
Bromoform	< 100	Methylene chloride	< 500
Carbon tetrachloride	< 100	1,1,2,2-Tetrachloroethane	< 100
Chlorobenzene	< 100	Tetrachloroethene	< 100
Chloroethane	< 100	1,1,1-Trichloroethane	< 100
2-Chloroethylvinyl ether	< 500	1,1,2-Trichloroethane	< 100
Chloroform	< 500	Trichloroethene	< 100
Chloromethane	< 100	Toluene	< 100
Dibromochloromethane	< 100	Vinyl chloride	< 100
1,1-Dichloroethane	< 100		
1,2-Dichloroethane	< 100		
1,1-Dichloroethene	< 100		
trans-1,2-Dichloroethene	< 100		

Method of Analysis: EPA 8240

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Date Sampled: 04/21/88
Date Received: 04/25/88
Date Analyzed: 04/28/88
Date Reported: 05/02/88

Project: #880023A

Sample Number

8041783

Sample Description

Soil, M1-1-2

PRIORITY POLLUTANTS

PURGEABLES BY GC/MS
results in ppb

Benzene	< 100	1,2-Dichloropropane	< 100
Bromomethane	< 100	1,3-Dichloropropane	< 100
Bromodichloromethane	< 100	Ethylbenzene	< 100
Bromoform	< 100	Methylene chloride	< 500
Carbon tetrachloride	< 100	1,1,2,2-Tetrachloroethane	< 100
Chlorobenzene	< 100	Tetrachloroethene	< 100
Chloroethane	< 100	1,1,1-Trichloroethane	< 100
2-Chloroethylvinyl ether	< 500	1,1,2-Trichloroethane	< 100
Chloroform	< 500	Trichloroethene	< 100
Chloromethane	< 100	Toluene	< 100
Dibromochloromethane	< 100	Vinyl chloride	< 100
1,1-Dichloroethane	< 100		
1,2-Dichloroethane	< 100		
1,1-Dichloroethene	< 100		
trans-1,2-Dichloroethene	< 100		

Method of Analysis: EPA 8240

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Date Sampled: 04/22/88
Date Received: 04/25/88
Date Analyzed: 04/28/88
Date Reported: 05/02/88

Project: #880023A

Sample Number

8041784

Sample Description

Soil, M2-1-3

PRIORITY POLLUTANTS

PURGEABLES BY GC/MS
results in ppb

Benzene	< 100	1,2-Dichloropropane	< 100
Bromomethane	< 100	1,3-Dichloropropane	< 100
Bromodichloromethane	< 100	Ethylbenzene	< 100
Bromoform	< 100	Methylene chloride	< 500
Carbon tetrachloride	< 100	1,1,2,2-Tetrachloroethane	< 100
Chlorobenzene	< 100	Tetrachloroethene	< 100
Chloroethane	< 100	1,1,1-Trichloroethane	< 100
2-Chloroethylvinyl ether	< 500	1,1,2-Trichloroethane	< 100
Chloroform	< 500	Trichloroethene	< 100
Chloromethane	< 100	Toluene	< 100
Dibromochloromethane	< 100	Vinyl chloride	< 100
1,1-Dichloroethane	< 100		
1,2-Dichloroethane	< 100		
1,1-Dichloroethene	< 100		
trans-1,2-Dichloroethene	< 100		

Method of Analysis: EPA 8240

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Date Sampled: 04/22/88
Date Received: 04/25/88
Date Analyzed: 04/28/88
Date Reported: 05/02/88

Project: #880023A

Sample Number: 8041785

Sample Description: Soil, M2-2-3

PRIORITY POLLUTANTS

PURGEABLES BY GC/MS
results in ppb

Benzene	< 100	1,2-Dichloropropane	< 100
Bromomethane	< 100	1,3-Dichloropropane	< 100
Bromodichloromethane	< 100	Ethylbenzene	< 100
Bromoform	< 100	Methylene chloride	< 500
Carbon tetrachloride	< 100	1,1,2,2-Tetrachloroethane	< 100
Chlorobenzene	< 100	Tetrachloroethene	< 100
Chloroethane	< 100	1,1,1-Trichloroethane	< 100
2-Chloroethylvinyl ether	< 500	1,1,2-Trichloroethane	< 100
Chloroform	< 500	Trichloroethene	< 100
Chloromethane	< 100	Toluene	< 100
Dibromochloromethane	< 100	Vinyl chloride	< 100
1,1-Dichloroethane	< 100		
1,2-Dichloroethane	< 100		
1,1-Dichloroethene	< 100		
trans-1,2-Dichloroethene	< 100		

Method of Analysis: EPA 8240

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Date Sampled: 04/22/88
Date Received: 04/25/88
Date Analyzed: 04/28/88
Date Reported: 05/02/88

Project: #880023A

Sample Number	Sample Description
8041786	Soil, M3-1-3

PRIORITY POLLUTANTS

PURGEABLES BY GC/MS

results in ppb

Benzene	< 100	1,2-Dichloropropane	< 100
Bromomethane	< 100	1,3-Dichloropropane	< 100
Bromodichloromethane	< 100	Ethylbenzene	< 100
Bromoform	< 100	Methylene chloride	< 500
Carbon tetrachloride	< 100	1,1,2,2-Tetrachloroethane	< 100
Chlorobenzene	< 100	Tetrachloroethene	< 100
Chloroethane	< 100	1,1,1-Trichloroethane	< 100
2-Chloroethylvinyl ether	< 500	1,1,2-Trichloroethane	< 100
Chloroform	< 500	Trichloroethene	< 100
Chloromethane	< 100	Toluene	190
Dibromochloromethane	< 100	Vinyl chloride	< 100
1,1-Dichloroethane	< 100		
1,2-Dichloroethane	< 100		
1,1-Dichloroethene	< 100		
trans-1,2-Dichloroethene	< 100		

Method of Analysis: EPA 8240

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Date Sampled: 04/22/88
Date Received: 04/25/88
Date Analyzed: 04/28/88
Date Reported: 05/02/88

Project: #880023A

Sample Number	Sample Description
8041787	Soil, M3-2-3 ✓

PRIORITY POLLUTANTS

PURGEABLES BY GC/MS

results in ppb

Benzene	< 100	1,2-Dichloropropane	< 100
Bromomethane	< 100	1,3-Dichloropropane	< 100
Bromodichloromethane	< 100	Ethylbenzene	< 100
Bromoform	< 100	Methylene chloride	< 500
Carbon tetrachloride	< 100	1,1,2,2-Tetrachloroethane	< 100
Chlorobenzene	< 100	Tetrachloroethene	< 100
Chloroethane	< 100	1,1,1-Trichloroethane	< 100
2-Chloroethylvinyl ether	< 500	1,1,2-Trichloroethane	< 100
Chloroform	< 500	Trichloroethene	< 100
Chloromethane	< 100	Toluene	< 100
Dibromochloromethane	< 100	Vinyl chloride	< 100
1,1-Dichloroethane	< 100		
1,2-Dichloroethane	< 100		
1,1-Dichloroethene	< 100		
trans-1,2-Dichloroethene	< 100		

Method of Analysis: EPA 8240

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Date Analyzed: 04/28/88
Date Reported: 05/02/88

Project: #880023A

Sample Number

8041788

Sample Description

Soil, M4-1-3

PRIORITY POLLUTANTS

PURGEABLES BY GC/MS
results in ppb

Benzene	< 100	1,2-Dichloropropane	< 100
Bromomethane	< 100	1,3-Dichloropropane	< 100
Bromodichloromethane	< 100	Ethylbenzene	< 100
Bromoform	< 100	Methylene chloride	< 500
Carbon tetrachloride	< 100	1,1,2,2-Tetrachloroethane	< 100
Chlorobenzene	< 100	Tetrachloroethene	< 100
Chloroethane	< 100	1,1,1-Trichloroethane	< 100
2-Chloroethylvinyl ether	< 500	1,1,2-Trichloroethane	< 100
Chloroform	< 500	Trichloroethene	< 100
Chloromethane	< 100	Toluene	< 100
Dibromochloromethane	< 100	Vinyl chloride	< 100
1,1-Dichloroethane	< 100		
1,2-Dichloroethane	< 100		
1,1-Dichloroethene	< 100		
trans-1,2-Dichloroethene	< 100		

Method of Analysis: EPA 8240

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Date Sampled: 04/22/88
Date Received: 04/25/88
Date Analyzed: 04/28/88
Date Reported: 05/02/88

Project: #880023A

Sample Number	Sample Description
8041789	Soil, M4-2-3

PRIORITY POLLUTANTS

PURGEABLES BY GC/MS
results in ppb

Benzene	< 100	1,2-Dichloropropane	< 100
Bromomethane	< 100	1,3-Dichloropropane	< 100
Bromodichloromethane	< 100	Ethylbenzene	< 100
Bromoform	< 100	Methylene chloride	< 500
Carbon tetrachloride	< 100	1,1,2,2-Tetrachloroethane	< 100
Chlorobenzene	< 100	Tetrachloroethene	< 100
Chloroethane	< 100	1,1,1-Trichloroethane	< 100
2-Chloroethylvinyl ether	< 500	1,1,2-Trichloroethane	< 100
Chloroform	< 500	Trichloroethene	< 100
Chloromethane	< 100	Toluene	1,000
Dibromochloromethane	< 100	Vinyl chloride	< 100
1,1-Dichloroethane	< 100		
1,2-Dichloroethane	< 100		
1,1-Dichloroethene	< 100		
trans-1,2-Dichloroethene	< 100		

Method of Analysis: EPA 8240

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Attn: John McMillan, P.E.

Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Analyzed: 05/02/88
Date Reported: 05/03/88

Project: #8810023A

Sample Number

8041918

Sample Description

Soil, S19-1

PRIORITY POLLUTANTS

PURGEABLES BY GC/MS
results in ppb

Benzene	< 100	1,2-Dichloropropane	< 100
Bromomethane	< 100	1,3-Dichloropropane	< 100
Bromodichloromethane	< 100	Ethylbenzene	< 100
Bromoform	< 100	Methylene chloride	< 500
Carbon tetrachloride	< 100	1,1,2,2-Tetrachloroethane	< 100
Chlorobenzene	< 100	Tetrachloroethene	< 100
Chloroethane	< 100	1,1,1-Trichloroethane	< 100
2-Chloroethylvinyl ether	< 500	1,1,2-Trichloroethane	< 100
Chloroform	< 500	Trichloroethene	< 100
Chloromethane	< 100	Toluene	< 100
Dibromochloromethane	< 100	Vinyl chloride	< 100
1,1-Dichloroethane	< 100		
1,2-Dichloroethane	< 100		
1,1-Dichloroethene	< 100		
trans-1,2-Dichloroethene	< 100		

Method of Analysis: EPA 8240

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Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Analyzed: 05/02/88
Date Reported: 05/03/88

Project: #8810023A

Sample Number	Sample Description
8041918	Soil, S19-1

- Open Scan -
NON-PRIORITY POLLUTANTS
PURGEABLES BY GC/MS
results in ppb

No additional peaks > 1 ppm were detected for identification by NBS spectral library.

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Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Analyzed: 05/02/88
Date Reported: 05/03/88

Project: #8810023A

Sample Number	Sample Description
8041929	Soil, S19-2

PRIORITY POLLUTANTS

PURGEABLES BY GC/MS
results in ppb

Benzene	< 100	1,2-Dichloropropane	< 100
Bromomethane	< 100	1,3-Dichloropropane	< 100
Bromodichloromethane	< 100	Ethylbenzene	< 100
Bromoform	< 100	Methylene chloride	< 500
Carbon tetrachloride	< 100	1,1,2,2-Tetrachloroethane	< 100
Chlorobenzene	< 100	Tetrachloroethene	< 100
Chloroethane	< 100	1,1,1-Trichloroethane	< 100
2-Chloroethylvinyl ether	< 500	1,1,2-Trichloroethane	< 100
Chloroform	< 500	Trichloroethene	< 100
Chloromethane	< 100	Toluene	< 100
Dibromochloromethane	< 100	Vinyl chloride	< 100
1,1-Dichloroethane	< 100		
1,2-Dichloroethane	< 100		
1,1-Dichloroethene	< 100		
trans-1,2-Dichloroethene	< 100		

Method of Analysis: EPA 8240

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Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Analyzed: 05/02/88
Date Reported: 05/03/88

Project: #8810023A

Sample Number	Sample Description
8041929	Soil, S19-2

- Open Scan -
NON-PRIORITY POLLUTANTS
PURGEABLES BY GC/MS
results in ppb

No additional peaks > 1 ppm were detected for identification by NBS spectral library.

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Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Analyzed: 05/02/88
Date Reported: 05/03/88

Project: #8810023A

Sample Number

8041916

Sample Description

Soil, S30-1

PRIORITY POLLUTANTS

PURGEABLES BY GC/MS
results in ppb

Benzene	< 100	1,2-Dichloropropane	< 100
Bromomethane	< 100	1,3-Dichloropropane	< 100
Bromodichloromethane	< 100	Ethylbenzene	< 100
Bromoform	< 100	Methylene chloride	< 500
Carbon tetrachloride	< 100	1,1,2,2-Tetrachloroethane	< 100
Chlorobenzene	< 100	Tetrachloroethene	< 100
Chloroethane	< 100	1,1,1-Trichloroethane	< 100
2-Chloroethylvinyl ether	< 500	1,1,2-Trichloroethane	< 100
Chloroform	< 500	Trichloroethene	< 100
Chloromethane	< 100	Toluene	< 100
Dibromochloromethane	< 100	Vinyl chloride	< 100
1,1-Dichloroethane	< 100		
1,2-Dichloroethane	< 100		
1,1-Dichloroethene	< 100		
trans-1,2-Dichloroethene	< 100		

Method of Analysis: EPA 8240

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Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Analyzed: 05/02/88
Date Reported: 05/03/88

Project: #8810023A

Sample Number	Sample Description
8041916	Soil, S30-1

- Open Scan -
NON-PRIORITY POLLUTANTS
PURGEABLES BY GC/MS
results in ppb

Total Xylenes	360

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Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Analyzed: 05/02/88
Date Reported: 05/03/88

Project: #8810023A

Sample Number

8041927

Sample Description

Soil, S30-2

PRIORITY POLLUTANTS

PURGEABLES BY GC/MS
results in ppb

Benzene	< 100	1,2-Dichloropropane	< 100
Bromomethane	< 100	1,3-Dichloropropane	< 100
Bromodichloromethane	< 100	Ethylbenzene	< 100
Bromoform	< 100	Methylene chloride	< 500
Carbon tetrachloride	< 100	1,1,2,2-Tetrachloroethane	< 100
Chlorobenzene	< 100	Tetrachloroethene	< 100
Chloroethane	< 100	1,1,1-Trichloroethane	< 100
2-Chloroethylvinyl ether	< 500	1,1,2-Trichloroethane	< 100
Chloroform	< 500	Trichloroethene	< 100
Chloromethane	< 100	Toluene	< 100
Dibromochloromethane	< 100	Vinyl chloride	< 100
1,1-Dichloroethane	< 100		
1,2-Dichloroethane	< 100		
1,1-Dichloroethene	< 100		
trans-1,2-Dichloroethene	< 100		

Method of Analysis: EPA 8240

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Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Analyzed: 05/02/88
Date Reported: 05/03/88

Project: #8810023A

Sample Number	Sample Description
8041927	Soil, S30-2

- Open Scan -
NON-PRIORITY POLLUTANTS
PURGEABLES BY GC/MS
results in ppb

No additional peaks > 1 ppm were detected for identification by NBS spectral library.

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

project N = N45°E

Port of Oakland - Seventh Str. Dredge Disposal

project E = S45°E

8800223A

sidewall samples from backhoe trench

SURFACE GRID

Sample Name	Date	Time	Location	Depth	Description
			rel. to S-4 (0,0 location)		
S2-1	4/25/88	1740	110N, 0E	6-12"	sand, layered
S2-2	"	1741	110N, 0E	18-24"	sand, some clay balls, shells
S3-1	"	1747	220N, 0E	6-12"	grav. sand, d. gray
S3-2	"	1749	220N, 0E	18-24"	silty sand w/ grav., some clay balls
S4-1	"	1756	330N, 0E	6-12"	grav. sand, some orange shells
S4-2	"	1800	"	18-24"	sand + silty sand
S5-1	"	1809	440N, 0E	6-12"	sandy gravel w/ silt, gray
S5-2	"	1808	"	18-24"	grav. sand w/ silt, gray
S6-1	"	1811	550N, 0E	6-12"	gravel w/ some sand, dark gray, goes to 22"
S6-2	"	1813	"	22-24"	sandy gravel w/ silt, dark gray
S7-1	"	1818	660N, 0E	6-12"	silty sand, d. gray, some gravel
S7-2	"	1822	"	18-24"	silty sand w/ gravel, gray + brown clayey sand @ 32"
S8-1	"	1826	770N, 0E (Woodward line)	6-12"	sandy gravel w/ silt, d. gray
S8-2	"	1830	"	18-24"	gravelly sand, some silt, d. gray
S9-1	4/26/88	1043	330N, 110E	6-12"	grav. sand w/ silt, gray + brown
S9-2	"	1046	"	18-24"	sandy gray, some dry soil
S10-1		1051	440N, 110E	6-12"	grav. sand, some silt
S10-2		1055	"	20-24"	sand w/ shells (no gravel 12-20")
S11-1		1056	550N, 110E	6-12"	grav. sand w/ silt, gray w/ some orange
S11-2		1058	"	18-24"	as above
S12-1		1101	660N, 110E	6-12	grav. sand w/ silt
S12-2		1104	"	18-24"	grav. sand w/ silt, gray, orange water @ 28"
S13-1		1109	770N, 110E	6-12"	sandy grav. gray
S13-2		1112	"	18-24"	grav. sand w/ silt
S14-1		1115	770N, 220E	6-12"	silty sand w/ gravel
S14-2		1117	"	18-24"	sand w/ some gravel
S15-1		1120	550N, 220E	6-12"	clayey sand w/ gravel, orange, d. olive (wet)
S15-2		1123	"	18-24"	silty sand w/ gravel, gray

880723A

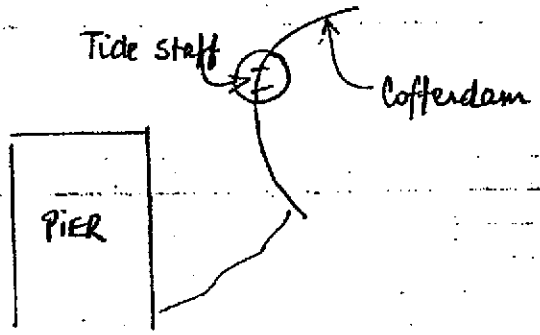
Sample Name	Date	Time	Location	Depth	Description
S16-1	4/26/88	1127	550N, 220E	6-12"	gray sand, gray + orange, layered
S16-2	"	1130	"	16-18"	gray sand w/silt, gray (3/4" gravel 18-24")
S17-1		1135	440N, 220E	6-12"	sandy gravel w/silt + some clay, orange
S17-2		1158	"	14-16"	gray sand w/silt, some shell "sand", 3/4" gravel 16-24"
S18-1		1302	220N, 110E	6-12	gray sand w/silt
S18-2		1304	"	18-24"	gray sand (86 in length)
S19-1		1314	110N, 110E	6-12	silty sand w/ gravel, [illegible]
S19-2		1316	"	18-24"	sand w/ shell frags, some clay balls
S-1-1		1320	0N, 0E	6-12	sand w/ shell frag, trace gravel
S1-2		1324	"	18-24	sand w/ shell frag.
S20-1		1337	0N, 110E	6-12	gray sand, silty, gray
S20-2		1339	"	18-24"	silty sand + clayey sand
S21-1		1350	110N, 220E	6-12	silty sand w/ shell frags, brown
S21-2		1354	"	18-24	gray sand, brown
S22-1		1400	220N, 220E	6-12"	gray sand w/ silt
S22-2		1402	"	18-24	silty clay and silty sand, brown + orange
S23-1		1413	330N, 220E	6-12	gray sand w/ silt, gray
S23-2		1415	"	18-24	gray sand w/ silt, orange + gray
S24-1		1421	220N, 330E	6-12	gray sand w/silt, some shells
S24-2		1423	"	18-24	silty sand w/ shells
S25-1		1432	330N, 330E	6-12	silty sand w/ gravel, gray
S25-2		1434	"	18-24	sand w/ some shells
S26-1		1436	440N, 330E	6-12	sand, trace shells
S26-1		1438	"	18-24	sand
S27-1		1441	550N, 330E	6-12	silty sand w/ gravel, trace clay, orange
S27-2		1443	"	18-24	sand (silty) w/ shells, gray + brown

88100R3A

Sample Name	Date	Time	Location	Depth	Description
S28-1	4/20/88	1454	660N, 320E	6-12	silty sand w/ gravel, gray + black
S28-2	"	1456	"	18-24"	silty sand w/ some shells
S29-1		1501	330N, 440E	6-12	silty sand w/ shell, gray
S29-2		1507	"	18-24"	silty sand, gray
S30-1		1513	440N, 440E	6-12"	silty sand (some) silty clay
S30-2		1515	"	18-24"	silty clay, some clay/sand
S31-1		1615	650N, 440E	6-12	gray, sand
S31-2		1617	"	18-24"	silty sand w/ shell frag. OVA = Bg
S32-1		1620	760N, 440E	6-12	silty sand, gray some gravel (sl. chromate)
S32-2		1622	"	18-24"	sand w/ shell frag.
S33-1		1626	935N, 330E	6-12	sandy gravel, brown + black
S33-2		1628	"	18-24"	sand, brown
S34-1		1634	935N, 220E	6-12"	sandy gravel, brown
S34-2		1637	"	18-24	gray, sand, some silt, brown
S35					all sandy gravel or gravel (bedrock) → NO SAMPLE
<-					

DATE	TIME	READING TIDE STAFF *
4/29/88	3:15 pm	1.75 ft

* TIDE STAFF LOCATED IN STEEL COFFERDAM

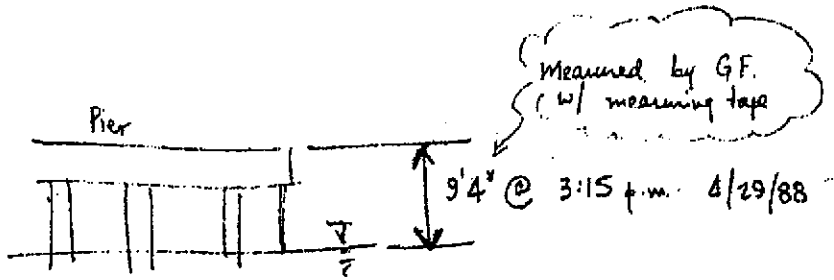


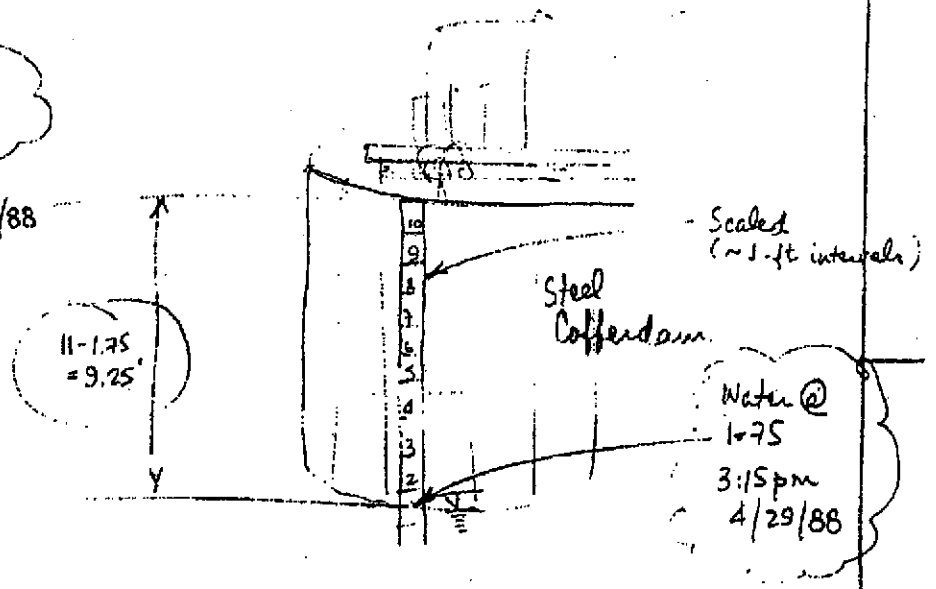
M1A	M2	M3	M4

DATE & TIME | D_1 | D_2

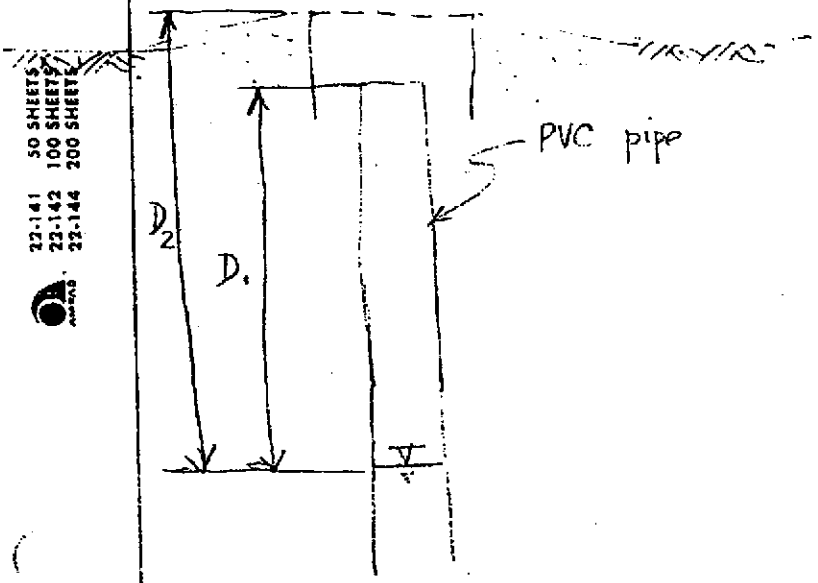
4/29/88 3:05 pm	8' 2"	8' 10"	4/29 3:00 pm	4' 6"	5' 0"	4/29/88 2:35 pm	4' 6"	5' 6"	4/29/88 2:50 p.m.	7' 4"	8' 0"

4'6" | 5'0"





Kim Lee — 799-0093



~~TIME~~ M1A M2 M3 M4

M1A M2 M3 M4

TIME			
2:35 4/29	4'6"	5'6"	

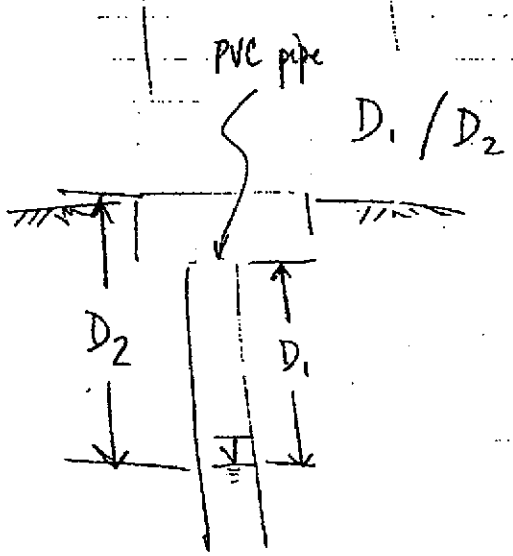
5/2/88

D_1 / D_2

PORT OF OAKLAND

Measured Water Depths in Wells M1A – M4

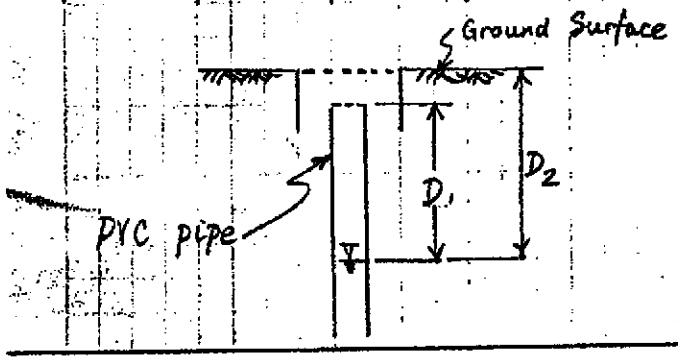
M 1A	M2	M3	M4	TIDE STAFF
8' 4" / 9' 0" @ 9:15 am	4' 7" / 5' 2" @ 9:20 a.m.	4' 8" / 5' 8" @ 9:25 a.m.	7' 5" / 8' 1" @ 9:30 a.m.	~ 0' 4" @ 9:35 a.m.
8' 3" / 8' 11" @ 11:05 am	4' 8" / 5' 2" @ 11:16 a.m.	4' 8" / 5' 8" @ 11:15 am	7' 5" / 8' 1" @ 11:20 a.m.	2" 10" @ 11:20
8' 4 / 9' 0" @ 12:10 pm	4' 8" / 5' 2" 12:15 pm	4' 8" / 5' 8" 12:20 pm	7' 5" / 8' 1" 12:25 pm	~ 3' 6" @ 12:25 p
8' 4" 9' 0" @ 2:05 pm	4' 8" / 5' 2" 2:10 pm	4' 8" / 5' 8" 2:15 pm	7' 5" / 8' 1" 2:20	~ 4' 4" @ 2:20 p
8' 4" / 9' 0" @ 4:00 pm	4' 7" / 5' 1" 4:05 pm	4' 6" / 5' 6" 4:10 pm	7' 5" / 8' 1" 4:15 pm	~ 3' 3" @ 4:15 pm



PORT OF OAKLAND

8810023A

M1			M2			M3			M4A		
DATE & TIME	D_1	D_2	DATE & TIME	D_1	D_2	DATE & TIME	D_1	D_2	DATE & TIME	D_1	D_2
4/29/88 3:05 p.m.	8' 2"	8' 10"	4/29 3:00 pm	4'6"	5'0"	4/29 2:35 p.m.	4'6"	5'6"	4/29 2:50 pm	7'4"	8'0"



WATER SAMPLE LOG

Sample Number: MW-1

Project No.: 88100234-0000 Date: 5-23-88 +24

Project Name: 7TH ST. DREDGE

Sample Location: MW-1 NEAR FUEL TANKS

Weather Conditions: CLEAR - BREEZY

Observations/Comments: after swabbing, well wouldn't recover, let sit overnight, returned 5/24 am

QUALITY ASSURANCE

Sampling method: BAILER - teflon

Method to measure water level: POWER SOUNDER - Solinst

Pump lines or bailer ropes were new or cleaned? CLEANED

Method of cleaning Bailer/Pump: ALCONOX - D.I. RINSE

pH Meter No: BECKMAN - 016411 Calibrated: 10.08 @ 18.3° 5-23

Specific Conductance Meter No: YSI-33-14809 Calibrated: 5-23

Comments: TD = 18.48' BTC

DUPLICATE VOA SAMPLE - "MW-5".

18.48 - 8.15 = 10.33 x 0.163 = 1.7 = 1 CV

5/24 8.15'

SAMPLING MEASUREMENTS

Water Level (below MP) at start: 8.14' End: 8.20'

Measuring Point (MP): TOP OF PVC

Time	Discharge (Gallons)	pH	Temp. (°C)	Specific Conductance (umhos/cm) Field	Specific Conductance @ 25°C	Color	Odor	Turbity
0915	0	7.66	17.5°	1190	0.8%	CLEAR-OPAQUE	NONE	>100
5/24 9:05	10	7.48	17.5	1100	0.9%	nearly clear	none	9.5 NTU
0930	20	7.33	19.0°	1490	1.0%	TAN	NONE	>100
0950	30	7.38	19.0	1400	0.9%	"	NONE	>100
10:42	45	7.34	20.5	1300	0.9%	light tan	none	>100
11:14	55	7.35	20	1200	0.9%	"	"	>100
11:37	80	7.33	20	1180	0.89%	light tan	none	>100
1240	110	7.36	20°	1200	0.9%	CLEAR	NONE	66 NTU

Total Discharge: 110 GALLONS Casing Volumes Removed: 64

Method of disposal of discharged water: to 55 gallon drums

Number and size of sample containers filled: 1 gallon plastic - general minerals, 1 plastic - metals, 2 VOAs 8240, 1 amber 8270, 1 amber 8080, 1 amber TPH by IR

Collected by: WETRENBERG / BENNY

Woodward-Clyde Consultants
One Walnut Creek Center, 100 Pringle Avenue
Walnut Creek, CA 94596 (415) 945-3000

WATER SAMPLE LOG	Sample Number MW-2

Project No. 8810023A-0000 Date: 5-23-88

Project Name: 7TH ST DREDGE

Sample Location: MW-2 CONTAINER STORAGE YARD

Weather Conditions: CLEAR - BREEZY

Observations/Comments:

QUALITY ASSURANCE

Sampling method: TEFLON BAILER

Method to measure water level: POWER SOUNDER

Pump lines or bailer ropes were new or cleaned? CLEANED

Method of cleaning Bailer/Pump: ALCONOX - D.I. RINSE

pH Meter No: BECKMAN - 016411 Calibrated 5-23

Specific Conductance Meter No: YSI-33 - 14809 Calibrated 5-23

Comments: TD = 24.56'

24.56 - 4.7 = 19.86 x .163 = 3.23

SAMPLING MEASUREMENTS

Water Level (below MP) at start: 4.70' End: 4.85'

Measuring Point (MP): TOP OF PVC

Time	Discharge (Gallons)	pH	Temp. (°C)	Specific Conductance (umhos/cm) Field	Specific Conductance [illegible]	Color	Odor	Turbity
14:26	0	7.04	22°	990	0.5%	nearly clear	NONE	(low)
1500	25	7.36	21.2°	1700	1.0%	CLEAR	NONE	>100
1530	40	7.36	22°	1910	1.2%	CLEAR OPAQUE	NONE	>100
1550	60	7.43	21°	2190	1.5%	LT GRAY	NONE	>100
1625	70	7.16	22°	1900	1.0%	CLEAR	NONE	12 NTU
1640	95	7.17	22°	1890	1.0%	CLEAR	NONE	15 NTU
after sampling		7.19	23	1150	1.0%	"	"	

Total Discharge: 110 Casing Volumes Removed 34

Method of disposal of discharged water: to 55-gallon drums

Number and size of sample containers filled: 2 VOAs - 8240 3-1 liter ambers TPH, 8270, 8080 1 gallon [illegible], 1 [illegible] for metals

Collected by:

Woodward-Clyde Consultants
One Walnut Creek Center, 100 Pringle Avenue
Walnut Creek, CA 94596 (415) 945-3000

WATER SAMPLE LOG

Sample Number MW-3

Project No.: _____ Date: 5/24/88

Project Name: 7TH ST. DREDGE

Sample Location: MW-3 SOUTH SIDE OF SITE NEAR NAVY SUPPLY/SALVAGE YARD

Weather Conditions: CLEAR - WINDY

Observations/Comments: _____

QUALITY ASSURANCE

Sampling method: TEFLON BAILER

Method to measure water level: POWER SOUNDER

Pump lines or bailer ropes were new or cleaned? CLEANED

Method of cleaning Bailer/Pump: ALCONOX - D.I. RINSE

pH Meter No: BECKMAN - 016911 Calibrated 5-24

Specific Conductance Meter No: YSI-33 - H809 Calibrated 5-24

Comments:

TD = 22.8 + 3.6 = 26.4 - 0.165 = 43 = ICW

SAMPLING MEASUREMENTS

Water Level (below MP) at start: 4.7' End: 4.83

Measuring Point (MP) TOP OF PVC.

Time	Discharge (Gallons)	pH	Temp. (°C)	Specific Conductance µmhos/cm Field	Specific Conductance µmhos/cm Lab	Color	Odor	Turbity
12:15	0	7.46	20	2550	1.6	brown	HYDRO	>100 HIGH - BLACK
13:15	30	7.98	20	3175	2.0	tan	NONE	7100 NTU
1415	55	7.60	19°	3100	2.0%	LT TAN	NONE	>100
14:33	85	7.53	18	3000	2.0	Light Brown	NONE	49 NTU
1445	125	7.49	19°	3150	2.0%	CLEAR	NONE	44 NTU
1455	145	7.46	19°	3150	2.0%	LT TAN	NONE	>100
1505	155	7.46	19°	3050	2.0%	LT TAN	NONE	>100
1540	220	7.50	18	3025	2.0%	CLEAR	NONE	27 NTU

Total Discharge: 220 Casing Volumes Removed 5.1

Method of disposal of discharged water: to 55 gallon drums

Number and size of sample containers filled: 2 VOAs - 8240, 3-1 liter amber TPH, 8270, 8080, 1 gallon plastic - metals, 1 plastic - metal

Collected by: WEHRENBERG/DENNY

Woodward-Clyde Consultants
One Walnut Creek Center, 100 Pringle Avenue
Walnut Creek, CA 94596 (415) 945-3000

WATER SAMPLE LOG

Sample Number: MW-4

Project No.: 8810023A-1000 Date: 5-23-88

Project Name: 7TH ST. DREDGE

Sample Location: MW-4 N.W. CORNER OF SITE

Weather Conditions: CLEAR - BREEZY

Observations/Comments:

QUALITY ASSURANCE

Sampling method: BAILER - Teflon

Method to measure water level: POWER SOUNDER - Solinst

Pump lines or bailer ropes were new or cleaned? CLEANED

Method of cleaning Bailer/Pump: ALCONOX - D.I. RINSE

pH Meter No: BECKMAN 016411 Calibrated: 5-23

Specific Conductance Meter No: YSI-33 - 14809 Calibrated: 5-23

Comments: TD = 23.3' BTC

23.3-7.34=15.96, [illegible] = [illegible] gallons = 1 cv (2.6)

SAMPLING MEASUREMENTS

Water Level (below MP) at start: 7.34' End: 7.44

Measuring Point (MP): TOP OF PVC

Time	Discharge (Gallons)	pH	Temp. (°C)	Specific Conductance umhos/cm Field	SAL	Color	Odor	Turbidity
1050	0	7.42	19.1°	780	0.4%	CLEAR OPAQUE	NONE	>100
1114	18	7.42	19.9°	910	0.5%	LT GRAY	NONE	>100
11:31	55	7.43	20°	925	0.5%	medium gray	none	>100 [illegible]
1141	75	7.43	20°	890	0.5%	LT GRAY	NONE	>100
1150	90	7.41	20°	820	0.5%	LT GRAY	NONE	>100
1215	130	7.34	20°	790	0.5%	CLEAR	NONE	18 NTU
1230	150	7.32	20°	700	0.5%	CLEAR	NONE	15 NTU
1255	165	7.31	20°	750	0.5%	CLEAR	NONE	10 NTU

Total Discharge: 165 gallons Casing Volumes Removed: 63.5

Method of disposal of discharged water: to 55-gal drums

Number and size of sample containers filled: 3-1 liter amber-TPH, 8270, 8080

1 Gallon plastic-minerals, 2 voas-8240, 1 plastic-metals

Collected by: HEARENBERG / DENNY

Woodward-Clyde Consultants
One Walnut Creek Center, 100 Pringle Avenue
Walnut Creek, CA 94596 (415) 945-3000

SEQUOIA Analytical Laboratory
2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Woodward-Clyde Consultants
500 12th St., Suite 100
Oakland, CA 94607-4041
Attn: John McMillan, P.E.

Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Extracted: 04/29/88
Date Reported: 05/03/88

Project: #8810023A

Sample Number

8041926

Sample Description

Soil Composite, S8-1, S13-1, S14-1, S12-1, S7-1

PRIORITY POLLUTANTS
BASE/NEUTRAL EXTRACT ORGANICS
results in ppb

Acenaphthene	< 2,000	Diethylphthalate	< 2,000
Acenaphthylene	< 2,000	Dimethylphthalate	< 2,000
Anthracene	< 2,000	Di-n-octylphthalate	< 2,000
Benzo (a) anthracene	< 2,000	Dibutylphthalate	< 2,000
Benzo (b) fluoranthene	< 2,000	Isophorone	< 2,000
Benzo (k) fluoranthene	< 2,000	Benzidine	< 2,000
Benzo (a) pyrene	< 2,000	2,4-Dinitrotoluene	< 2,000
Benzo (g,h,i) perylene	< 2,000	2,6-Dinitrotoluene	< 2,000
Chrysene	< 2,000	1,2-Diphenylhydrazine	< 2,000
Dibenzo (a,h) anthracene	< 2,000	Nitrobenzene	< 2,000
Fluoranthene	< 2,000	N-Nitrosodimethylamine	< 2,000
Fluorene	< 2,000	N-Nitrosodi-n-propylamine	< 2,000
Indeno (1,2,3-c,d) pyrene	< 2,000	N-Nitrosodiphenylamine	< 2,000
Naphthalene	< 2,000	2-Chloronaphthalene	< 2,000
Phenanthrene	< 2,000	1,3-Dichlorobenzene	< 2,000
Pyrene	< 2,000	1,4-Dichlorobenzene	< 2,000
Bis (2-chloroethyl) ether	< 2,000	1,2-Dichlorobenzene	< 2,000
Bis (2-chloroethoxy) methane	< 2,000	3,3-Dichlorobenzidine	< 2,000
Bis (2-ethylhexyl) phthalate	< 2,000	Hexachlorobenzene	< 2,000
Bis (2-chloroisopropyl) ether	< 2,000	Hexachlorobutadiene	< 2,000
4-Bromophenyl phenyl ether	< 2,000	Hexachloroethane	< 2,000
Butyl benzyl phthalate	< 2,000	Hexachlorocyclopentadiene	< 2,000
4-Chlorophenyl ether	< 2,000	1,2,4-Trichlorobenzene	< 2,000

Method of Analysis: EPA 8270

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

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Redwood City, CA 94063 • (415) 364-9222

Woodward-Clyde Consultants
500 12th St., Suite 100
Oakland, CA 94607-4041
Attn: John McMillan, P.E.

Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Extracted: 04/29/88
Date Reported: 05/03/88
Project: #8810023A

Sample Number	Sample Description
8041926	Soil Composite, S8-1, S13-1, S14-1, S12-1, S7-1

PRIORITY POLLUTANTS

ACID EXTRACT ORGANICS

results in ppb

4-Chloro-3-methylphenol	< 2,000
2-Chlorophenol	< 2,000
2,4-Dichlorophenol	< 2,000
2,4-Dimethylphenol	< 2,000
2,4-Dinitrophenol	< 2,000
2-Methyl-4,6-dinitrophenol	< 2,000
2-Nitrophenol	< 2,000
4-Nitrophenol	< 2,000
Pentachlorophenol	< 2,000
Phenol	< 2,000
2,4,6-Trichlorophenol	< 2,000

Method of Analysis: EPA 8270

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Attn: John McMillan, P.E.

Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Extracted: 04/29/88
Date Reported: 05/03/88

Project: #8810023A

Sample Number

8041937

Sample Description

Soil Composite, S8-2, S13-2, S14-2, S12-2, S7-2

PRIORITY POLLUTANTS
BASE/NEUTRAL EXTRACT ORGANICS
results in ppb

Acenaphthene	< 2,000	Diethylphthalate	< 2,000
Acenaphthylene	< 2,000	Dimethylphthalate	< 2,000
Anthracene	< 2,000	Di-n-octylphthalate	< 2,000
Benzo (a) anthracene	< 2,000	Dibutylphthalate	< 2,000
Benzo (b) fluoranthene	< 2,000	Isophorone	< 2,000
Benzo (k) fluoranthene	< 2,000	Benzidine	< 2,000
Benzo (a) pyrene	< 2,000	2,4-Dinitrotoluene	< 2,000
Benzo (g,h,i) perylene	< 2,000	2,6-Dinitrotoluene	< 2,000
Chrysene	< 2,000	1,2-Diphenylhydrazine	< 2,000
Dibenzo (a,h) anthracene	< 2,000	Nitrobenzene	< 2,000
Fluoranthene	< 2,000	N-Nitrosodimethylamine	< 2,000
Fluorene	< 2,000	N-Nitrosodi-n-propylamine	< 2,000
Indeno (1,2,3-c,d) pyrene	< 2,000	N-Nitrosodiphenylamine	< 2,000
Naphthalene	< 2,000	2-Chloronaphthalene	< 2,000
Phenanthrene	< 2,000	1,3-Dichlorobenzene	< 2,000
Pyrene	< 2,000	1,4-Dichlorobenzene	< 2,000
Bis (2-chloroethyl) ether	< 2,000	1,2-Dichlorobenzene	< 2,000
Bis (2-chloroethoxy) methane	< 2,000	3,3-Dichlorobenzidine	< 2,000
Bis (2-ethylhexyl) phthalate	< 2,000	Hexachlorobenzene	< 2,000
Bis (2-chloroisopropyl) ether	< 2,000	Hexachlorobutadiene	< 2,000
4-Bromophenyl phenyl ether	< 2,000	Hexachloroethane	< 2,000
Butyl benzyl phthalate	< 2,000	Hexachlorocyclopentadiene	< 2,000
4-Chlorophenyl ether	< 2,000	1,2,4-Trichlorobenzene	< 2,000

Method of Analysis: EPA 8270

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Date Extracted: 04/29/88
Date Reported: 05/03/88
Project: #8810023A

Sample Number	Sample Description
8041937	Soil Composite, S8-2, S13-2, S14-2, S12-2, S7-2

PRIORITY POLLUTANTS

ACID EXTRACT ORGANICS
results in ppb

4-Chloro-3-methylphenol	< 2,000
2-Chlorophenol	< 2,000
2,4-Dichlorophenol	< 2,000
2,4-Dimethylphenol	< 2,000
2,4-Dinitrophenol	< 2,000
2-Methyl-4,6-dinitrophenol	< 2,000
2-Nitrophenol	< 2,000
4-Nitrophenol	< 2,000
Pentachlorophenol	< 2,000
Phenol	< 2,000
2,4,6-Trichlorophenol	< 2,000

Method of Analysis: EPA 8270

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Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Extracted: 04/29/88
Date Reported: 05/03/88

Project: #8810023A

Sample Number

8041921

Sample Description

Soil Composite,
S17-1, S26-1, S25-1,
S22-1, S23-1

PRIORITY POLLUTANTS
BASE/NEUTRAL EXTRACT ORGANICS
results in ppb

Acenaphthene	< 2,000	Diethylphthalate	< 2,000
Acenaphthylene	< 2,000	Dimethylphthalate	< 2,000
Anthracene	< 2,000	Di-n-octylphthalate	< 2,000
Benzo (a) anthracene	< 2,000	Dibutylphthalate	< 2,000
Benzo (b) fluoranthene	< 2,000	Isophorone	< 2,000
Benzo (k) fluoranthene	< 2,000	Benzidine	< 2,000
Benzo (a) pyrene	< 2,000	2,4-Dinitrotoluene	< 2,000
Benzo (g,h,i) perylene	< 2,000	2,6-Dinitrotoluene	< 2,000
Chrysene	< 2,000	1,2-Diphenylhydrazine	< 2,000
Dibenzo (a,h) anthracene	< 2,000	Nitrobenzene	< 2,000
Fluoranthene	< 2,000	N-Nitrosodimethylamine	< 2,000
Fluorene	< 2,000	N-Nitrosodi-n-propylamine	< 2,000
Indeno (1,2,3-c,d) pyrene	< 2,000	N-Nitrosodiphenylamine	< 2,000
Naphthalene	< 2,000	2-Chloronaphthalene	< 2,000
Phenanthrene	< 2,000	1,3-Dichlorobenzene	< 2,000
Pyrene	< 2,000	1,4-Dichlorobenzene	< 2,000
Bis (2-chloroethyl) ether	< 2,000	1,2-Dichlorobenzene	< 2,000
Bis (2-chloroethoxy) methane	< 2,000	3,3-Dichlorobenzidine	< 2,000
Bis (2-ethylhexyl) phthalate	< 2,000	Hexachlorobenzene	< 2,000
Bis (2-chloroisopropyl) ether	< 2,000	Hexachlorobutadiene	< 2,000
4-Bromophenyl phenyl ether	< 2,000	Hexachloroethane	< 2,000
Butyl benzyl phthalate	< 2,000	Hexachlorocyclopentadiene	< 2,000
4-Chlorophenyl ether	< 2,000	1,2,4-Trichlorobenzene	< 2,000

Method of Analysis: EPA 8270

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Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Extracted: 04/29/88
Date Reported: 05/03/88
Project: #8810023A

Sample Number	Sample Description
8041921	Soil Composite, S17-1, S26-1, S25-1, S22-1, S23-1

PRIORITY POLLUTANTS

ACID EXTRACT ORGANICS
results in ppb

4-Chloro-3-methylphenol	< 2,000
2-Chlorophenol	< 2,000
2,4-Dichlorophenol	< 2,000
2,4-Dimethylphenol	< 2,000
2,4-Dinitrophenol	< 2,000
2-Methyl-4,6-dinitrophenol	< 2,000
2-Nitrophenol	< 2,000
4-Nitrophenol	< 2,000
Pentachlorophenol	< 2,000
Phenol	< 2,000
2,4,6-Trichlorophenol	< 2,000

Method of Analysis: EPA 8270

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Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Extracted: 04/29/88
Date Reported: 05/03/88

Project: #8810023A

Sample Number	Sample Description
8041932	Soil Composite, S17-2, S26-2, S25-2, S22-2, S23-2

PRIORITY POLLUTANTS
BASE/NEUTRAL EXTRACT ORGANICS
results in ppb

Acenaphthene	< 2,000	Diethylphthalate	< 2,000
Acenaphthylene	< 2,000	Dimethylphthalate	< 2,000
Anthracene	< 2,000	Di-n-octylphthalate	< 2,000
Benzo (a) anthracene	< 2,000	Dibutylphthalate	< 2,000
Benzo (b) fluoranthene	< 2,000	Isophorone	< 2,000
Benzo (k) fluoranthene	< 2,000	Benzidine	< 2,000
Benzo (a) pyrene	< 2,000	2,4-Dinitrotoluene	< 2,000
Benzo (g,h,i) perylene	< 2,000	2,6-Dinitrotoluene	< 2,000
Chrysene	< 2,000	1,2-Diphenylhydrazine	< 2,000
Dibenzo (a,h) anthracene	< 2,000	Nitrobenzene	< 2,000
Fluoranthene	< 2,000	N-Nitrosodimethylamine	< 2,000
Fluorene	< 2,000	N-Nitrosodi-n-propylamine	< 2,000
Indeno (1,2,3-c,d) pyrene	< 2,000	N-Nitrosodiphenylamine	< 2,000
Naphthalene	< 2,000	2-Chloronaphthalene	< 2,000
Phenanthrene	< 2,000	1,3-Dichlorobenzene	< 2,000
Pyrene	< 2,000	1,4-Dichlorobenzene	< 2,000
Bis (2-chloroethyl) ether	< 2,000	1,2-Dichlorobenzene	< 2,000
Bis (2-chloroethoxy) methane	< 2,000	3,3-Dichlorobenzidine	< 2,000
Bis (2-ethylhexyl) phthalate	< 2,000	Hexachlorobenzene	< 2,000
Bis (2-chloroisopropyl) ether	< 2,000	Hexachlorobutadiene	< 2,000
4-Bromophenyl phenyl ether	< 2,000	Hexachloroethane	< 2,000
Butyl benzyl phthalate	< 2,000	Hexachlorocyclopentadiene	< 2,000
4-Chlorophenyl ether	< 2,000	1,2,4-Trichlorobenzene	< 2,000

Method of Analysis: EPA 8270

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Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Extracted: 04/29/88
Date Reported: 05/03/88
Project: #8810023A

Sample Number	Sample Description
8041932	Soil Composite, S17-2, S26-2, S25-2, S22-2, S23-2

PRIORITY POLLUTANTS

ACID EXTRACT ORGANICS
results in ppb

4-Chloro-3-methylphenol	< 2,000
2-Chlorophenol	< 2,000
2,4-Dichlorophenol	< 2,000
2,4-Dimethylphenol	< 2,000
2,4-Dinitrophenol	< 2,000
2-Methyl-4,6-dinitrophenol	< 2,000
2-Nitrophenol	< 2,000
4-Nitrophenol	< 2,000
Pentachlorophenol	< 2,000
Phenol	< 2,000
2,4,6-Trichlorophenol	< 2,000

Method of Analysis: EPA 8270

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Date Sampled: 04/22/88
Date Received: 04/25/88
Date Extracted: 04/27/88
Date Reported: 05/02/88

Project: #880023A

Sample Number

8041~~762~~
1782

Sample Description

Soil, M1A-2-2

PRIORITY POLLUTANTS
BASE/NEUTRAL EXTRACT ORGANICS
results in ppb

Acenaphthene	< 200	Diethylphthalate	< 200
Acenaphthylene	< 200	Dimethylphthalate	< 200
Anthracene	< 200	Di-n-octylphthalate	< 200
Benzo (a) anthracene	< 200	Dibutylphthalate	< 200
Benzo (b) fluoranthene	< 200	Isophorone	< 200
Benzo (k) fluoranthene	< 200	Benzidine	<1,000
Benzo (a) pyrene	< 200	2,4-Dinitrotoluene	< 200
Benzo (g,h,i) perylene	< 200	2,6-Dinitrotoluene	< 200
Chrysene	< 200	1,2-Diphenylhydrazine	< 200
Dibenzo (a,h) anthracene	< 200	Nitrobenzene	< 200
Fluoranthene	< 200	N-Nitrosodimethylamine	< 200
Fluorene	< 200	N-Nitrosodi-n-propylamine	< 200
Indeno (1,2,3-c,d) pyrene	< 200	N-Nitrosodiphenylamine	< 200
Naphthalene	< 200	2-Chloronaphthalene	< 200
Phenanthrene	< 200	1,3-Dichlorobenzene	< 200
Pyrene	< 200	1,4-Dichlorobenzene	< 200
Bis (2-chloroethyl) ether	< 200	1,2-Dichlorobenzene	< 200
Bis (2-chloroethoxy) methane	< 200	3,3-Dichlorobenzidine	<1,000
Bis (2-ethylhexyl) phthalate	< 200	Hexachlorobenzene	< 200
Bis (2-chloroisopropyl) ether	< 200	Hexachlorobutadiene	< 200
4-Bromophenyl phenyl ether	< 200	Hexachloroethane	< 200
Butyl benzyl phthalate	< 200	Hexachlorocyclopentadiene	< 200
4-Chlorophenyl ether	< 200	1,2,4-Trichlorobenzene	< 200

Method of Analysis: EPA 8270

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Date Sampled: 04/22/88
Date Received: 04/25/88
Date Extracted: 04/27/88
Date Reported: 05/02/88

Project: #880023A

Sample Number	Sample Description
8041~~762~~ 1782	Soil, M1A-2-2

PRIORITY POLLUTANTS

ACID EXTRACT ORGANICS

results in ppb

4-Chloro-3-methylphenol	< 200
2-Chlorophenol	< 200
2,4-Dichlorophenol	< 200
2,4-Dimethylphenol	< 200
2,4-Dinitrophenol	< 1,000
2-Methyl-4,6-dinitrophenol	< 200
2-Nitrophenol	< 200
4-Nitrophenol	< 1,000
Pentachlorophenol	< 200
Phenol	< 200
2,4,6-Trichlorophenol	< 200

Method of Analysis: EPA 8270

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Date Sampled: 04/22/88
Date Received: 04/25/88
Date Extracted: 04/27/88
Date Reported: 05/02/88

Project: #880023A

Sample Number
8041783

Sample Description
Soil, M1-1-2

PRIORITY POLLUTANTS
BASE/NEUTRAL EXTRACT ORGANICS
results in ppb

Acenaphthene	< 200	Diethylphthalate	< 200
Acenaphthylene	< 200	Dimethylphthalate	< 200
Anthracene	< 200	Di-n-octylphthalate	< 200
Benzo (a) anthracene	< 200	Dibutylphthalate	< 200
Benzo (b) fluoranthene	< 200	Isophorone	< 200
Benzo (k) fluoranthene	< 200	Benzidine	<1,000
Benzo (a) pyrene	< 200	2,4-Dinitrotoluene	< 200
Benzo (g,h,i) perylene	< 200	2,6-Dinitrotoluene	< 200
Chrysene	< 200	1,2-Diphenylhydrazine	< 200
Dibenzo (a,h) anthracene	< 200	Nitrobenzene	< 200
Fluoranthene	< 200	N-Nitrosodimethylamine	< 200
Fluorene	< 200	N-Nitrosodi-n-propylamine	< 200
Indeno (1,2,3-c,d) pyrene	< 200	N-Nitrosodiphenylamine	< 200
Naphthalene	< 200	2-Chloronaphthalene	< 200
Phenanthrene	< 200	1,3-Dichlorobenzene	< 200
Pyrene	< 200	1,4-Dichlorobenzene	< 200
Bis (2-chloroethyl) ether	< 200	1,2-Dichlorobenzene	< 200
Bis (2-chloroethoxy) methane	< 200	3,3-Dichlorobenzidine	<1,000
Bis (2-ethylhexyl) phthalate	< 200	Hexachlorobenzene	< 200
Bis (2-chloroisopropyl) ether	< 200	Hexachlorobutadiene	< 200
4-Bromophenyl phenyl ether	< 200	Hexachloroethane	< 200
Butyl benzyl phthalate	< 200	Hexachlorocyclopentadiene	< 200
4-Chlorophenyl ether	< 200	1,2,4-Trichlorobenzene	< 200

Method of Analysis: EPA 8270

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Date Sampled: 04/22/88
Date Received: 04/25/88
Date Extracted: 04/27/88
Date Reported: 05/02/88

Project: #880023A

Sample Number	Sample Description
8041783	Soil, M1-1-2

PRIORITY POLLUTANTS

ACID EXTRACT ORGANICS
results in ppb

4-Chloro-3-methylphenol	< 200
2-Chlorophenol	< 200
2,4-Dichlorophenol	< 200
2,4-Dimethylphenol	< 200
2,4-Dinitrophenol	< 1,000
2-Methyl-4,6-dinitrophenol	< 200
2-Nitrophenol	< 200
4-Nitrophenol	< 1,000
Pentachlorophenol	< 200
Phenol	< 200
2,4,6-Trichlorophenol	< 200

Method of Analysis: EPA 8270

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Date Sampled: 04/22/88
Date Received: 04/25/88
Date Extracted: 04/27/88
Date Reported: 05/02/88

Project: #880023A

Sample Number

8041784

Sample Description

Soil, M2-1-3

PRIORITY POLLUTANTS
BASE/NEUTRAL EXTRACT ORGANICS
results in ppb

Acenaphthene	< 200	Diethylphthalate	< 200
Acenaphthylene	< 200	Dimethylphthalate	< 200
Anthracene	< 200	Di-n-octylphthalate	< 200
Benzo (a) anthracene	< 200	Dibutylphthalate	< 200
Benzo (b) fluoranthene	< 200	Isophorone	< 200
Benzo (k) fluoranthene	< 200	Benzidine	<1,000
Benzo (a) pyrene	< 200	2,4-Dinitrotoluene	< 200
Benzo (g,h,i) perylene	< 200	2,6-Dinitrotoluene	< 200
Chrysene	< 200	1,2-Diphenylhydrazine	< 200
Dibenzo (a,h) anthracene	< 200	Nitrobenzene	< 200
Fluoranthene	< 200	N-Nitrosodimethylamine	< 200
Fluorene	< 200	N-Nitrosodi-n-propylamine	< 200
Indeno (1,2,3-c,d) pyrene	< 200	N-Nitrosodiphenylamine	< 200
Naphthalene	< 200	2-Chloronaphthalene	< 200
Phenanthrene	< 200	1,3-Dichlorobenzene	< 200
Pyrene	< 200	1,4-Dichlorobenzene	< 200
Bis (2-chloroethyl) ether	< 200	1,2-Dichlorobenzene	< 200
Bis (2-chloroethoxy) methane	< 200	3,3-Dichlorobenzidine	<1,000
Bis (2-ethylhexyl) phthalate	< 200	Hexachlorobenzene	< 200
Bis (2-chloroisopropyl) ether	< 200	Hexachlorobutadiene	< 200
4-Bromophenyl phenyl ether	< 200	Hexachloroethane	< 200
Butyl benzyl phthalate	< 200	Hexachlorocyclopentadiene	< 200
4-Chlorophenyl ether	< 200	1,2,4-Trichlorobenzene	< 200

Method of Analysis: EPA 8270

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Date Sampled: 04/22/88
Date Received: 04/25/88
Date Extracted: 04/27/88
Date Reported: 05/02/88

Project: #880023A

Sample Number	Sample Description
8041784	Soil, M2-1-3

PRIORITY POLLUTANTS

ACID EXTRACT ORGANICS
results in ppb

4-Chloro-3-methylphenol	< 200
2-Chlorophenol	< 200
2,4-Dichlorophenol	< 200
2,4-Dimethylphenol	< 200
2,4-Dinitrophenol	< 1,000
2-Methyl-4,6-dinitrophenol	< 200
2-Nitrophenol	< 200
4-Nitrophenol	< 1,000
Pentachlorophenol	< 200
Phenol	< 200
2,4,6-Trichlorophenol	< 200

Method of Analysis: EPA 8270

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Date Sampled: 04/22/88
Date Received: 04/25/88
Date Extracted: 04/27/88
Date Reported: 05/02/88

Project: #880023A

Sample Number	Sample Description
8041785	Soil, M2-2-3

PRIORITY POLLUTANTS
BASE/NEUTRAL EXTRACT ORGANICS
results in ppb

Acenaphthene	< 200	Diethylphthalate	< 200
Acenaphthylene	< 200	Dimethylphthalate	< 200
Anthracene	< 200	Di-n-octylphthalate	< 200
Benzo (a) anthracene	< 200	Dibutylphthalate	< 200
Benzo (b) fluoranthene	< 200	Isophorone	< 200
Benzo (k) fluoranthene	< 200	Benzidine	<1,000
Benzo (a) pyrene	< 200	2,4-Dinitrotoluene	< 200
Benzo (g,h,i) perylene	< 200	2,6-Dinitrotoluene	< 200
Chrysene	< 200	1,2-Diphenylhydrazine	< 200
Dibenzo (a,h) anthracene	< 200	Nitrobenzene	< 200
Fluoranthene	< 200	N-Nitrosodimethylamine	< 200
Fluorene	< 200	N-Nitrosodi-n-propylamine	< 200
Indeno (1,2,3-c,d) pyrene	< 200	N-Nitrosodiphenylamine	< 200
Naphthalene	< 200	2-Chloronaphthalene	< 200
Phenanthrene	< 200	1,3-Dichlorobenzene	< 200
Pyrene	< 200	1,4-Dichlorobenzene	< 200
Bis (2-chloroethyl) ether	< 200	1,2-Dichlorobenzene	< 200
Bis (2-chloroethoxy) methane	< 200	3,3-Dichlorobenzidine	<1,000
Bis (2-ethylhexyl) phthalate	< 200	Hexachlorobenzene	< 200
Bis (2-chloroisopropyl) ether	< 200	Hexachlorobutadiene	< 200
4-Bromophenyl phenyl ether	< 200	Hexachloroethane	< 200
Butyl benzyl phthalate	< 200	Hexachlorocyclopentadiene	< 200
4-Chlorophenyl ether	< 200	1,2,4-Trichlorobenzene	< 200

Method of Analysis: EPA 8270

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Date Sampled: 04/22/88
Date Received: 04/25/88
Date Extracted: 04/27/88
Date Reported: 05/02/88

Project: #880023A

Sample Number	Sample Description
8041785	Soil, M2-2-3

PRIORITY POLLUTANTS

ACID EXTRACT ORGANICS

results in ppb

4-Chloro-3-methylphenol	< 200
2-Chlorophenol	< 200
2,4-Dichlorophenol	< 200
2,4-Dimethylphenol	< 200
2,4-Dinitrophenol	< 1,000
2-Methyl-4,6-dinitrophenol	< 200
2-Nitrophenol	< 200
4-Nitrophenol	< 1,000
Pentachlorophenol	< 200
Phenol	< 200
2,4,6-Trichlorophenol	< 200

Method of Analysis: EPA 8270

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Date Sampled: 04/22/88
Date Received: 04/25/88
Date Extracted: 04/27/88
Date Reported: 05/02/88

Project: #880023A

Sample Number	Sample Description
8041786	Soil, M3-1-3

PRIORITY POLLUTANTS
BASE/NEUTRAL EXTRACT ORGANICS
results in ppb

Acenaphthene	<	400	Diethylphthalate	<	400
Acenaphthylene	<	400	Dimethylphthalate	<	400
Anthracene	<	400	Di-n-octylphthalate	<	400
Benzo (a) anthracene	<	400	Dibutylphthalate	<	400
Benzo (b) fluoranthene	<	400	Isophorone	<	400
Benzo (k) fluoranthene	<	400	Benzidine	<	400
Benzo (a) pyrene	<	400	2,4-Dinitrotoluene	<	400
Benzo (g,h,i) perylene	<	400	2,6-Dinitrotoluene	<	400
Chrysene	<	400	1,2-Diphenylhydrazine	<	400
Dibenzo (a,h) anthracene	<	400	Nitrobenzene	<	400
Fluoranthene	<	400	N-Nitrosodimethylamine	<	400
Fluorene	<	400	N-Nitrosodi-n-propylamine	<	400
Indeno (1,2,3-c,d) pyrene	<	400	N-Nitrosodiphenylamine	<	400
Naphthalene	<	400	2-Chloronaphthalene	<	400
Phenanthrene	<	400	1,3-Dichlorobenzene	<	400
Pyrene	<	400	1,4-Dichlorobenzene	<	400
Bis (2-chloroethyl) ether	<	400	1,2-Dichlorobenzene	<	400
Bis (2-chloroethoxy) methane	<	400	3,3-Dichlorobenzidine	<	400
Bis (2-ethylhexyl) phthalate	<	400	Hexachlorobenzene	<	400
Bis (2-chloroisopropyl) ether	<	400	Hexachlorobutadiene	<	400
4-Bromophenyl phenyl ether	<	400	Hexachloroethane	<	400
Butyl benzyl phthalate	<	400	Hexachlorocyclopentadiene	<	400
4-Chlorophenyl ether	<	400	1,2,4-Trichlorobenzene	<	400

Method of Analysis: EPA 8270

SEQUOIA ANALYTICAL LABORATORY

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Laboratory Director

SEQUOIA Analytical Laboratory
2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Woodward-Clyde Consultants
500 12th St., Suite 100
Oakland, CA 94607-4041
Attn: John McMillan, P.E.

Date Sampled: 04/22/88
Date Received: 04/25/88
Date Extracted: 04/27/88
Date Reported: 05/02/88

Project: #880023A

Sample Number
8041786

Sample Description
Soil, M3-1-3

PRIORITY POLLUTANTS

ACID EXTRACT ORGANICS
results in ppb

4-Chloro-3-methylphenol	<	400
2-Chlorophenol	<	400
2,4-Dichlorophenol	<	400
2,4-Dimethylphenol	<	400
2,4-Dinitrophenol	<	400
2-Methyl-4,6-dinitrophenol	<	400
2-Nitrophenol	<	400
4-Nitrophenol	<	400
Pentachlorophenol	<	400
Phenol	<	400
2,4,6-Trichlorophenol	<	400

Method of Analysis: EPA 8270

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Project: #880023A

Sample Number	Sample Description
8041787	Soil, M3-2-3

PRIORITY POLLUTANTS
BASE/NEUTRAL EXTRACT ORGANICS
results in ppb

Acenaphthene	< 200	Diethylphthalate	< 200
Acenaphthylene	< 200	Dimethylphthalate	< 200
Anthracene	< 200	Di-n-octylphthalate	< 200
Benzo (a) anthracene	< 200	Dibutylphthalate	< 200
Benzo (b) fluoranthene	< 200	Isophorone	< 200
Benzo (k) fluoranthene	< 200	Benzidine	<1,000
Benzo (a) pyrene	< 200	2,4-Dinitrotoluene	< 200
Benzo (g,h,i) perylene	< 200	2,6-Dinitrotoluene	< 200
Chrysene	< 200	1,2-Diphenylhydrazine	< 200
Dibenzo (a,h) anthracene	< 200	Nitrobenzene	< 200
Fluoranthene	< 200	N-Nitrosodimethylamine	< 200
Fluorene	< 200	N-Nitrosodi-n-propylamine	< 200
Indeno (1,2,3-c,d) pyrene	< 200	N-Nitrosodiphenylamine	< 200
Naphthalene	< 200	2-Chloronaphthalene	< 200
Phenanthrene	< 200	1,3-Dichlorobenzene	< 200
Pyrene	< 200	1,4-Dichlorobenzene	< 200
Bis (2-chloroethyl) ether	< 200	1,2-Dichlorobenzene	< 200
Bis (2-chloroethoxy) methane	< 200	3,3-Dichlorobenzidine	<1,000
Bis (2-ethylhexyl) phthalate	< 200	Hexachlorobenzene	< 200
Bis (2-chloroisopropyl) ether	< 200	Hexachlorobutadiene	< 200
4-Bromophenyl phenyl ether	< 200	Hexachloroethane	< 200
Butyl benzyl phthalate	< 200	Hexachlorocyclopentadiene	< 200
4-Chlorophenyl ether	< 200	1,2,4-Trichlorobenzene	< 200

Method of Analysis: EPA 8270

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Project: #880023A

Sample Number	Sample Description
8041787	Soil, M3-2-3

PRIORITY POLLUTANTS

ACID EXTRACT ORGANICS

results in ppb

4-Chloro-3-methylphenol	< 200
2-Chlorophenol	< 200
2,4-Dichlorophenol	< 200
2,4-Dimethylphenol	< 200
2,4-Dinitrophenol	< 1,000
2-Methyl-4,6-dinitrophenol	< 200
2-Nitrophenol	< 200
4-Nitrophenol	< 1,000
Pentachlorophenol	< 200
Phenol	< 200
2,4,6-Trichlorophenol	< 200

Method of Analysis: EPA 8270

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Project: #880023A

Sample Number

8041788

Sample Description

Soil, M4-1-3

PRIORITY POLLUTANTS
BASE/NEUTRAL EXTRACT ORGANICS
results in ppb

Acenaphthene	< 200	Diethylphthalate	< 200
Acenaphthylene	< 200	Dimethylphthalate	< 200
Anthracene	< 200	Di-n-octylphthalate	< 200
Benzo (a) anthracene	< 200	Dibutylphthalate	< 200
Benzo (b) fluoranthene	< 200	Isophorone	< 200
Benzo (k) fluoranthene	< 200	Benzidine	<1,000
Benzo (a) pyrene	< 200	2,4-Dinitrotoluene	< 200
Benzo (g,h,i) perylene	< 200	2,6-Dinitrotoluene	< 200
Chrysene	< 200	1,2-Diphenylhydrazine	< 200
Dibenzo (a,h) anthracene	< 200	Nitrobenzene	< 200
Fluoranthene	< 200	N-Nitrosodimethylamine	< 200
Fluorene	< 200	N-Nitrosodi-n-propylamine	< 200
Indeno (1,2,3-c,d) pyrene	< 200	N-Nitrosodiphenylamine	< 200
Naphthalene	< 200	2-Chloronaphthalene	< 200
Phenanthrene	< 200	1,3-Dichlorobenzene	< 200
Pyrene	< 200	1,4-Dichlorobenzene	< 200
Bis (2-chloroethyl) ether	< 200	1,2-Dichlorobenzene	< 200
Bis (2-chloroethoxy) methane	< 200	3,3-Dichlorobenzidine	<1,000
Bis (2-ethylhexyl) phthalate	< 200	Hexachlorobenzene	< 200
Bis (2-chloroisopropyl) ether	< 200	Hexachlorobutadiene	< 200
4-Bromophenyl phenyl ether	< 200	Hexachloroethane	< 200
Butyl benzyl phthalate	< 200	Hexachlorocyclopentadiene	< 200
4-Chlorophenyl ether	< 200	1,2,4-Trichlorobenzene	< 200

Method of Analysis: EPA 8270

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Project: #880023A

Sample Number	Sample Description
8041788	Soil, M4-1-3

PRIORITY POLLUTANTS

ACID EXTRACT ORGANICS
results in ppb

4-Chloro-3-methylphenol	< 200
2-Chlorophenol	< 200
2,4-Dichlorophenol	< 200
2,4-Dimethylphenol	< 200
2,4-Dinitrophenol	< 1,000
2-Methyl-4,6-dinitrophenol	< 200
2-Nitrophenol	< 200
4-Nitrophenol	< 1,000
Pentachlorophenol	< 200
Phenol	< 200
2,4,6-Trichlorophenol	< 200

Method of Analysis: EPA 8270

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Project: #880023A

Sample Number

8041789

Sample Description

Soil, M4-2-3

PRIORITY POLLUTANTS
BASE/NEUTRAL EXTRACT ORGANICS
results in ppb

Acenaphthene	< 200	Diethylphthalate	< 200
Acenaphthylene	< 200	Dimethylphthalate	< 200
Anthracene	< 200	Di-n-octylphthalate	< 200
Benzo (a) anthracene	< 200	Dibutylphthalate	< 200
Benzo (b) fluoranthene	< 200	Isophorone	< 200
Benzo (k) fluoranthene	< 200	Benzidine	<1,000
Benzo (a) pyrene	< 200	2,4-Dinitrotoluene	< 200
Benzo (g,h,i) perylene	< 200	2,6-Dinitrotoluene	< 200
Chrysene	< 200	1,2-Diphenylhydrazine	< 200
Dibenzo (a,h) anthracene	< 200	Nitrobenzene	< 200
Fluoranthene	< 200	N-Nitrosodimethylamine	< 200
Fluorene	< 200	N-Nitrosodi-n-propylamine	< 200
Indeno (1,2,3-c,d) pyrene	< 200	N-Nitrosodiphenylamine	< 200
Naphthalene	< 200	2-Chloronaphthalene	< 200
Phenanthrene	< 200	1,3-Dichlorobenzene	< 200
Pyrene	< 200	1,4-Dichlorobenzene	< 200
Bis (2-chloroethyl) ether	< 200	1,2-Dichlorobenzene	< 200
Bis (2-chloroethoxy) methane	< 200	3,3-Dichlorobenzidine	<1,000
Bis (2-ethylhexyl) phthalate	< 200	Hexachlorobenzene	< 200
Bis (2-chloroisopropyl) ether	< 200	Hexachlorobutadiene	< 200
4-Bromophenyl phenyl ether	< 200	Hexachloroethane	< 200
Butyl benzyl phthalate	< 200	Hexachlorocyclopentadiene	< 200
4-Chlorophenyl ether	< 200	1,2,4-Trichlorobenzene	< 200

Method of Analysis: EPA 8270

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Project: #880023A

Sample Number	Sample Description
8041789	Soil, M4-2-3

PRIORITY POLLUTANTS

ACID EXTRACT ORGANICS

results in ppb

4-Chloro-3-methylphenol	< 200
2-Chlorophenol	< 200
2,4-Dichlorophenol	< 200
2,4-Dimethylphenol	< 200
2,4-Dinitrophenol	< 1,000
2-Methyl-4,6-dinitrophenol	< 200
2-Nitrophenol	< 200
4-Nitrophenol	< 1,000
Pentachlorophenol	< 200
Phenol	< 200
2,4,6-Trichlorophenol	< 200

Method of Analysis: EPA 8270

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Project: #880023A

Sample Number	Sample Description
8041782	Soil, M1A-2-2

PRIORITY POLLUTANTS

PESTICIDE AND PCB COMPOUNDS

results in ppb

Aldrin	< 5	Endrin	< 5
α-BHC	< 10	Endrin Aldehyde	< 10
β-BHC	< 10	Heptachlor	< 2
δ-BHC	< 10	Heptachlor Epoxide	< 10
γ-BHC	< 5	Toxaphene	< 10
Chlordane	< 5	PCB-1016	< 10
4,4'-DDD	< 10	PCB-1221	< 10
4,4'-DDE	< 5	PCB-1232	< 10
4,4'-DDT	< 10	PCB-1242	< 10
Dieldrin	< 5	PCB-1248	< 10
Endosulfan I	< 10	PCB-1254	< 10
Endosulfan II	< 10	PCB-1260	< 10
Endosulfan Sulfate	< 10		

Method of Analysis: EPA 8080

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Project: #880023A

Sample Number	Sample Description
8041783	Soil, M1-1-2

PRIORITY POLLUTANTS

PESTICIDE AND PCB COMPOUNDS
results in ppb

Aldrin	< 5	Endrin	< 5
α-BHC	< 10	Endrin Aldehyde	< 10
β-BHC	< 10	Heptachlor	< 2
δ-BHC	< 10	Heptachlor Epoxide	< 10
γ-BHC	< 5	Toxaphene	< 10
Chlordane	< 5	PCB-1016	< 10
4,4'-DDD	< 10	PCB-1221	< 10
4,4'-DDE	< 5	PCB-1232	< 10
4,4'-DDT	< 10	PCB-1242	< 10
Dieldrin	< 5	PCB-1248	< 10
Endosulfan I	< 10	PCB-1254	< 10
Endosulfan II	< 10	PCB-1260	< 10
Endosulfan Sulfate	< 10		

Method of Analysis: EPA 8080

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Date Sampled: 04/22/88
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Date Reported: 05/02/88

Project: #880023A

Sample Number	Sample Description
8041784	Soil, M2-1-3

PRIORITY POLLUTANTS

PESTICIDE AND PCB COMPOUNDS

results in ppb

Aldrin	< 5	Endrin	< 5
α-BHC	< 10	Endrin Aldehyde	< 10
β-BHC	< 10	Heptachlor	< 2
δ-BHC	< 10	Heptachlor Epoxide	< 10
Y-BHC	< 5	Toxaphene	< 10
Chlordane	< 5	PCB-1016	< 10
4,4'-DDD	< 10	PCB-1221	< 10
4,4'-DDE	< 5	PCB-1232	< 10
4,4'-DDT	< 10	PCB-1242	< 10
Dieldrin	< 5	PCB-1248	< 10
Endosulfan I	< 10	PCB-1254	< 10
Endosulfan II	< 10	PCB-1260	< 10
Endosulfan Sulfate	< 10		

Method of Analysis: EPA 8080

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Project: #880023A

Sample Number

8041785

Sample Description

Soil, MW-2-3

PRIORITY POLLUTANTS

PESTICIDE AND PCB COMPOUNDS
results in ppb

Aldrin	< 5	Endrin	< 5
α-BHC	< 10	Endrin Aldehyde	< 10
β-BHC	< 10	Heptachlor	< 2
δ-BHC	< 10	Heptachlor Epoxide	< 10
γ-BHC	< 5	Toxaphene	< 10
Chlordane	< 5	PCB-1016	< 10
4,4'-DDD	< 10	PCB-1221	< 10
4,4'-DDE	< 5	PCB-1232	< 10
4,4'-DDT	< 10	PCB-1242	< 10
Dieldrin	< 5	PCB-1248	< 10
Endosulfan I	< 10	PCB-1254	< 10
Endosulfan II	< 10	PCB-1260	< 10
Endosulfan Sulfate	< 10		

Method of Analysis: EPA 8080

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Project: #880023A

Sample Number
8041786

Sample Description
Soil, M3-1-3

PRIORITY POLLUTANTS

PESTICIDE AND PCB COMPOUNDS
results in ppb

Aldrin	< 5	Endrin	< 5
α-BHC	< 10	Endrin Aldehyde	< 10
β-BHC	< 10	Heptachlor	< 2
δ-BHC	< 10	Heptachlor Epoxide	< 10
γ-BHC	< 5	Toxaphene	< 10
Chlordane	< 5	PCB-1016	< 10
4,4'-DDD	< 10	PCB-1221	< 10
4,4'-DDE	< 5	PCB-1232	< 10
4,4'-DDT	< 10	PCB-1242	< 10
Dieldrin	< 5	PCB-1248	< 10
Endosulfan I	< 10	PCB-1254	< 10
Endosulfan II	< 10	PCB-1260	< 10
Endosulfan Sulfate	< 10		

Method of Analysis: EPA 8080

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Project: #880023A

Sample Number
8041787

Sample Description
Soil, M3-2-3

PRIORITY POLLUTANTS

PESTICIDE AND PCB COMPOUNDS
results in ppb

Aldrin	< 5	Endrin	< 5
α-BHC	< 10	Endrin Aldehyde	< 10
β-BHC	< 10	Heptachlor	< 2
δ-BHC	< 10	Heptachlor Epoxide	< 10
γ-BHC	< 5	Toxaphene	< 10
Chlordane	< 5	PCB-1016	< 10
4,4'-DDD	< 10	PCB-1221	< 10
4,4'-DDE	< 5	PCB-1232	< 10
4,4'-DDT	< 10	PCB-1242	< 10
Dieldrin	< 5	PCB-1248	< 10
Endosulfan I	< 10	PCB-1254	< 10
Endosulfan II	< 10	PCB-1260	< 10
Endosulfan Sulfate	< 10		

Method of Analysis: EPA 8080

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Date Reported: 05/02/88

Project: #880023A

Sample Number	Sample Description
8041788	Soil, M4-1-3

PRIORITY POLLUTANTS

PESTICIDE AND PCB COMPOUNDS

results in ppb

Aldrin	< 5	Endrin	< 5
α-BHC	< 10	Endrin Aldehyde	< 10
β-BHC	< 10	Heptachlor	< 2
δ-BHC	< 10	Heptachlor Epoxide	< 10
γ-BHC	< 5	Toxaphene	< 10
Chlordane	< 5	PCB-1016	< 10
4,4'-DDD	< 10	PCB-1221	< 10
4,4'-DDE	< 5	PCB-1232	< 10
4,4'-DDT	< 10	PCB-1242	< 10
Dieldrin	< 5	PCB-1248	< 10
Endosulfan I	< 10	PCB-1254	< 10
Endosulfan II	< 10	PCB-1260	< 10
Endosulfan Sulfate	< 10		

Method of Analysis: EPA 8080

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Project: #880023A

Sample Number

8041789

Sample Description

Soil, M4-2-3

PRIORITY POLLUTANTS

PESTICIDE AND PCB COMPOUNDS
results in ppb

Aldrin	< 5	Endrin	< 5
α-BHC	< 10	Endrin Aldehyde	< 10
β-BHC	< 10	Heptachlor	< 2
δ-BHC	< 10	Heptachlor Epoxide	< 10
γ-BHC	< 5	Toxaphene	< 10
Chlordane	< 5	PCB-1016	< 10
4,4'-DDD	< 10	PCB-1221	< 10
4,4'-DDE	< 5	PCB-1232	< 10
4,4'-DDT	< 10	PCB-1242	< 10
Dieldrin	< 5	PCB-1248	< 10
Endosulfan I	< 10	PCB-1254	< 10
Endosulfan II	< 10	PCB-1260	< 10
Endosulfan Sulfate	< 10		

Method of Analysis: EPA 8080

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Date Sampled: 04/21/88
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Date Reported: 05/02/88
Project: #880023A

Sample Number: 8041782
Sample Description: Soil, M1A-2-2

WASTE EXTRACTION TEST
INORGANIC SUBSTANCES

Analysis	STLC, mg/L		TTLC, mg/kg-wet wt.	
	Limit	Result	Limit	Result
Antimony	15	-	500	< 5
Arsenic	5	0.11	500	10
Asbestos	-	-	10,000	-
Barium	100	-	10,000	25
Beryllium	0.75	-	75	0.19
Cadmium	1	< 0.01	100	4.2
Chromium (VI)	5	-	500	< 0.5
Chromium (III)	560	-	2,500	21
Cobalt	80	-	8,000	4.6
Copper	25	-	2,500	15
Fluoride	180	-	18,000	-
Lead	5	0.27	1,000	13
Mercury	0.2	< 0.001	20	0.28
Molybdenum	350	-	3,500	< 5
Nickel	20	-	2,000	18
Selenium	1	0.060	100	2.6
Silver	5	-	500	0.17
Thallium	7	-	700	< 5
Vanadium	24	0.14	2,400	24
Zinc	250	-	5,000	42

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Date Reported: 05/02/88
Project: #880023A

Sample Number: 8041783
Sample Description: Soil, M1-1-2

WASTE EXTRACTION TEST
INORGANIC SUBSTANCES

Analysis	STLC, mg/L		TTLC, mg/kg-wet wt.	
	Limit	Result	Limit	Result
Antimony	15	-	500	< 5
Arsenic	5	0.041	500	18
Asbestos	-	-	10,000	-
Barium	100	-	10,000	11
Beryllium	0.75	-	75	< 0.1
Cadmium	1		100	1.4
Chromium (VI)	5	-	500	< 0.5
Chromium (III)	560	-	2,500	20
Cobalt	80	-	8,000	3.8
Copper	25	-	2,500	13
Fluoride	180	-	18,000	-
Lead	5	-	1,000	3.4
Mercury	0.2	-	20	0.05
Molybdenum	350	-	3,500	< 5
Nickel	20	-	2,000	12
Selenium	1	0.073	100	2.6
Silver	5	-	500	1.7
Thallium	7	-	700	< 5
Vanadium	24	-	2,400	8.1
Zinc	250	-	5,000	80

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Date Reported: 05/02/88
Project: #880023A

Sample Number: 8041784
Sample Description: Soil, M2-1-3

WASTE EXTRACTION TEST
INORGANIC SUBSTANCES

Analysis	STLC, mg/L		TTLC, mg/kg-wet wt.	
	Limit	Result	Limit	Result
Antimony	15	-	500	< 5
Arsenic	5	-	500	3.4
Asbestos	/	-	10,000	-
Barium	100	-	10,000	42
Beryllium	0.75	-	75	< 0.1
Cadmium	1	< 0.01	100	1.7
Chromium (VI)	5	-	500	< 0.5
Chromium (III)	560	-	2,500	27
Cobalt	80	-	8,000	2.3
Copper	25	-	2,500	17
Fluoride	180	-	18,000	-
Lead	5	0.10	1,000	5.6
Mercury	0.2	-	20	0.02
Molybdenum	350	-	3,500	< 5
Nickel	20	-	2,000	15
Selenium	1	0.042	100	2.7
Silver	5	-	500	0.12
Thallium	7	-	700	< 5
Vanadium	24	-	2,400	14
Zinc	250	-	5,000	410

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Project: #880023A

Sample Number: 8041785
Sample Description: Soil, M2-2-3

WASTE EXTRACTION TEST
INORGANIC SUBSTANCES

Analysis	STLC, mg/L		TTLC, mg/kg-wet wt.	
	Limit	Result	Limit	Result
Antimony	15	-	500	< 5
Arsenic	5	-	500	2.6
Asbestos	-	-	10,000	-
Barium	100	-	10,000	6.2
Beryllium	0.75	-	75	< 0.1
Cadmium	1	< 0.01	100	1.2
Chromium (VI)	5	-	500	< 0.5
Chromium (III)	560	-	2,500	14
Cobalt	80	-	8,000	2.2
Copper	25	-	2,500	6.3
Fluoride	180	-	18,000	-
Lead	5	-	1,000	1.2
Mercury	0.2	-	20	0.03
Molybdenum	350	-	3,500	< 5
Nickel	20	-	2,000	6.3
Selenium	1	0.046	100	2.0
Silver	5	-	500	0.59
Thallium	7	-	700	< 5
Vanadium	24	-	2,400	6.1
Zinc	250	-	5,000	15

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Sample Number: 8041786
Sample Description: Soil, M3-1-3

WASTE EXTRACTION TEST
INORGANIC SUBSTANCES

Analysis	STLC, mg/L		TTLC, mg/kg-wet wt.	
	Limit	Result	Limit	Result
Antimony	15	-	500	< 5
Arsenic	5	0.05	500	13
Asbestos	-	-	10,000	-
Barium	100	-	10,000	42
Beryllium	0.75	-	75	0.23
Cadmium	1	< 0.01	100	3.6
Chromium (VI)	5	-	500	< 0.5
Chromium (III)	560	-	2,500	23
Cobalt	80	-	8,000	4.5
Copper	25	-	2,500	18
Fluoride	180	-	18,000	-
Lead	5	0.11	1,000	6.1
Mercury	0.2	-	20	0.09
Molybdenum	350	-	3,500	< 5
Nickel	20	0.16	2,000	24
Selenium	1	0.060	100	2.6
Silver	5	-	500	0.23
Thallium	7	-	700	< 5
Vanadium	24	-	2,400	15
Zinc	250	-	5,000	38

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Date Sampled: 04/21/88
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Date Extracted: 04/26/88
Date Reported: 05/02/88
Project: #880023A

Sample Number: 8041787
Sample Description: Soil, M3-2-3

WASTE EXTRACTION TEST
INORGANIC SUBSTANCES

Analysis	STLC, mg/L Limit	STLC, mg/L Result	TTLC, mg/kg-wet wt. Limit	TTLC, mg/kg-wet wt. Result
Antimony	15	-	500	< 5
Arsenic	5	-	500	4.4
Asbestos	-	-	10,000	-
Barium	100	-	10,000	37
Beryllium	0.75	-	75	0.20
Cadmium	1	< 0.01	100	1.1
Chromium (VI)	5	-	500	< 0.5
Chromium (III)	560	-	2,500	11
Cobalt	80	-	8,000	15
Copper	25	-	2,500	8.2
Fluoride	180	-	18,000	-
Lead	5	-	1,000	1.7
Mercury	0.2	-	20	0.04
Molybdenum	350	-	3,500	< 5
Nickel	20	-	2,000	4.5
Selenium	1	0.073	100	2.4
Silver	5	-	500	< 0.1
Thallium	7	-	700	< 5
Vanadium	24	-	2,400	8.3
Zinc	250	-	5,000	17

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Date Sampled: 04/21/88
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Date Extracted: 04/26/88
Date Reported: 05/02/88
Project: #880023A

Sample Number: 8041788
Sample Description: Soil, M4-1-3

WASTE EXTRACTION TEST
INORGANIC SUBSTANCES

Analysis	STLC, mg/L		TTLC, mg/kg-wet wt.	
	Limit	Result	Limit	Result
Antimony	15	-	500	< 5
Arsenic	5	-	500	1.9
Asbestos	-	-	10,000	-
Barium	100	-	10,000	15
Beryllium	0.75	-	75	< 0.1
Cadmium	1	< 0.01	100	1.3
Chromium (VI)	5	-	500	< 0.5
Chromium (III)	560	-	2,500	16
Cobalt	80	-	8,000	1.8
Copper	25	-	2,500	15
Fluoride	180	-	18,000	-
Lead	5	-	1,000	2.0
Mercury	0.2	-	20	0.05
Molybdenum	350	-	3,500	< 5
Nickel	20	-	2,000	6.3
Selenium	1	0.056	100	2.0
Silver	5	-	500	0.13
Thallium	7	-	700	< 5
Vanadium	24	-	2,400	7.6
Zinc	250	-	5,000	110

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Date Sampled: 04/21/88
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Date Extracted: 04/26/88
Date Reported: 05/02/88
Project: #880023A

Sample Number: 8041789
Sample Description: Soil, M4-2-3

WASTE EXTRACTION TEST
INORGANIC SUBSTANCES

	STLC, mg/L		TTLC, mg/kg-wet wt.	
Analysis	Limit	Result	Limit	Result
Antimony	15	-	500	< 5
Arsenic	5	-	500	2.3
Asbestos	-	-	10,000	-
Barium	100	-	10,000	19
Beryllium	0.75	-	75	< 0.1
Cadmium	1	-	100	0.89
Chromium (VI)	5	-	500	< 0.5
Chromium (III)	560	-	2,500	11
Cobalt	80	-	8,000	2.5
Copper	25	-	2,500	4.4
Fluoride	180	-	18,000	-
Lead	5	0.37	1,000	15
Mercury	0.2	-	20	0.04
Molybdenum	350	-	3,500	< 5
Nickel	20	-	2,000	5.2
Selenium	1	0.038	100	2.0
Silver	5	-	500	0.33
Thallium	7	-	700	< 5
Vanadium	24	-	2,400	4.6
Zinc	250	-	5,000	19

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Project: #880023A

TOTAL OIL AND GREASE

Sample Number	Sample Description Soil,	Detection Limit ppm	Gravimetric Petroleum Oil ppm
8041782	M1A-2-2	30	70
8041783	M1-1-2	30	< 30
8041784	M2-1-3	30	< 30
8041785	M2-2-3	30	< 30
8041786	M3-1-3	30	60
8041787	M3-2-3	30	< 30
8041788	M4-1-3	30	< 30
8041789	M4-2-3	30	< 30

Method of Analysis: EPA 3550 with trichlorotrifluoroethane and gravimetric determination.

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TOTAL PETROLEUM HYDROCARBONS

Sample Number	Sample Description Soil,	Detection Limit ppm	High Boiling Point Hydrocarbons ppm
8041782	M1A-2-2	1	< 1.0
8041783	M1-1-2	1	< 1.0
8041784	M2-1-3	1	< 1.0
8041785	M2-2-3	1	< 1.0
8041786	M3-1-3	1	< 1.0
8041787	M3-2-3	1	< 1.0
8041788	M4-1-3	1	< 1.0
8041789	M4-2-3	1	< 1.0

Method of Analysis: EPA 3550/8015

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TOTAL PETROLEUM FUEL HYDROCARBONS

Sample Number	Sample Description Soil,	Detection Limit ppm	Low to Medium Boiling Point Hydrocarbons ppm
8041782	M1A-2-2	1	< 1.0
8041783	M1-1-2	1	< 1.0
8041784	M2-1-3	1	< 1.0
8041785	M2-2-3	1	< 1.0
8041786	M3-1-3	1	< 1.0
8041787	M3-2-3	1	< 1.0
8041788	M4-1-3	1	< 1.0
8041789	M4-2-3	1	< 1.0

Method of Analysis: EPA 5020/8015

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Project: #880023A

TOTAL OIL AND GREASE

Sample Number	Sample Description Soil,	Detection Limit ppm	Gravimetric Petroleum Oil ppm
8041774	B1-1-3	30	120
8041775	B1-2-3	30	< 30
8041776	B2-1-3	30	< 30
8041777	B2-2-3	30	< 30
8041778	B3-1-3	30	< 30
8041779	B3-2-3	30	< 30
8041780	B4-1-3	30	130
8041781	B4-2-3	30	< 30

Method of Analysis: EPA 3550 with trichlorotrifluoroethane and gravimetric determination.

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TOTAL PETROLEUM HYDROCARBONS

Sample Number	Sample Description Soil,	Detection Limit ppm	High Boiling Point Hydrocarbons ppm
8041774	B1-1-3	1	< 1.0
8041775	B1-2-3	1	< 1.0
8041776	B2-1-3	1	< 1.0
8041777	B2-2-3	1	< 1.0
8041778	B3-1-3	1	< 1.0
8041779	B3-2-3	1	< 1.0
8041780	B4-1-3	1	< 1.0
8041781	B4-2-3	1	< 1.0

Method of Analysis: EPA 3550/8015

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Sample Number	Sample Description
8041774	Soil, B1-1-3

ANALYSIS

results in mg/kg

Arsenic	71
Chromium	4.9
Copper	100
Lead	130
Mercury	0.083
Zinc	79

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Project: #880023A

Sample Number	Sample Description
8041775	Soil, B1-2-3

ANALYSIS

results in mg/kg

Arsenic	12
Chromium	24
Copper	28
Lead	7.2
Mercury	0.25
Zinc	54

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Date Reported: 05/02/88
Project: #880023A

Sample Number	Sample Description
8041776	Soil, B2-1-3

ANALYSIS

results in mg/kg

Arsenic	20
Chromium	3.8
Copper	33
Lead	120
Mercury	0.050
Zinc	27

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Date Reported: 05/02/88
Project: #880023A

Sample Number	Sample Description
8041777	Soil, B2-2-3

ANALYSIS

results in mg/kg

Arsenic	5.7
Chromium	7.1
Copper	6.7
Lead	1.9
Mercury	0.042
Zinc	13

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Project: #880023A

Sample Number	Sample Description
8041778	Soil, B3-1-3

ANALYSIS

results in mg/kg

Arsenic	14
Chromium	50
Copper	44
Lead	36
Mercury	0.10
Zinc	64

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Project: #880023A

Sample Number	Sample Description
8041779	Soil, B3-2-3

ANALYSIS

results in mg/kg

Arsenic	13
Chromium	17
Copper	4.5
Lead	46
Mercury	0.061
Zinc	14

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Date Sampled: 04/22/88
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Date Reported: 05/02/88
Project: #880023A

Sample Number	Sample Description
8041780	Soil, B4-1-3

ANALYSIS

results in mg/kg

Arsenic	16
Chromium	83
Copper	76
Lead	110
Mercury	0.11
Zinc	59

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Date Sampled: 04/22/88
Date Received: 04/25/88
Date Reported: 05/02/88
Project: #880023A

Sample Number	Sample Description
8041781	Soil, B4-2-3

ANALYSIS
results in mg/kg

Arsenic	6.4
Chromium	23
Copper	19
Lead	4.3
Mercury	0.054
Zinc	29

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Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Reported: 05/02/88
Project: #8810023A

Sample Number	Sample Description
8041918	Soil, S19-1

ANALYSIS
results in mg/kg

Arsenic	26
Chromium	38
Copper	3.7
Lead	140
Mercury	0.011
Zinc	29

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Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Reported: 05/02/88
Project: #8810023A

Sample Number	Sample Description
8041929	Soil, S19-2

ANALYSIS
results in mg/kg

Arsenic	17
Chromium	36
Copper	1.4
Lead	8.8
Mercury	0.0061
Zinc	2.4

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Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Reported: 05/02/88
Project: #8810023A

Sample Number	Sample Description
8041916	Soil, S30-1

ANALYSIS
results in mg/kg

Arsenic	8.3
Chromium	44
Copper	2.9
Lead	61
Mercury	0.011
Zinc	10

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Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Reported: 05/02/88
Project: #8810023A

Sample Number	Sample Description
8041927	Soil, S30-2

ANALYSIS
results in mg/kg

Arsenic	23
Chromium	41
Copper	2.5
Lead	23
Mercury	0.003
Zinc	2.9

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Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Reported: 05/02/88
Project: #8810023A

Sample Number	Sample Description
8041917	Soil, S31-1

ANALYSIS
results in mg/kg

Arsenic	4.0
Chromium	67
Copper	3.0
Lead	130
Mercury	0.0056
Zinc	31

SEQUOIA ANALYTICAL LABORATORY

Scott Coleman

Arthur G. Burton
Laboratory Director

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2549 Middlefield Road
Redwood City, CA 94063 • (415) 364-9222

Woodward-Clyde Consultants
500 12th St., Suite 100
Oakland, CA 94607-4041
Attn: John McMillan, P.E.

Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Reported: 05/02/88
Project: #8810023A

Sample Number	Sample Description
8041928	Soil, S31-2

ANALYSIS
results in mg/kg

Arsenic	17
Chromium	31
Copper	1.0
Lead	29
Mercury	0.0022
Zinc	6.4

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Attn: John McMillan, P.E.

Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Reported: 05/02/88
Project: #8810023A

Sample Number	Sample Description
8041935	Soil Composite, S4-2, S9-2, S18-2, S2-2 S3-2

ANALYSIS
results in mg/kg

Arsenic	11
Chromium	37
Copper	1.8
Lead	73
Mercury	0.0056
Zinc	3.7

SEQUOIA ANALYTICAL LABORATORY

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Oakland, CA 94607-4041
Attn: John McMillan, P.E.

Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Reported: 05/02/88
Project: #8810023A

Sample Number	Sample Description
8041924	Soil Composite, S4-2, S9-2, S18-2, S2-2, S3-2

ANALYSIS
results in mg/kg

Arsenic	33
Chromium	37
Copper	11
Lead	160
Mercury	0.019
Zinc	34

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Attn: John McMillan, P.E.

Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Reported: 05/02/88
Project: #8810023A

Sample Number	Sample Description
8041925	Soil Composite, S6-1, S11-1, S10-1, S5-1

ANALYSIS
results in mg/kg

Arsenic	23
Chromium	30
Copper	61
Lead	88
Mercury	0.011
Zinc	20

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Oakland, CA 94607-4041
Attn: John McMillan, P.E.

Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Reported: 05/02/88
Project: #8810023A

Sample Number	Sample Description
8041936	Soil Composite, S6-2, S11-2, S10-2, S5-2

ANALYSIS
results in mg/kg

Arsenic	13
Chromium	35
Copper	3.9
Lead	87
Mercury	0.012
Zinc	42

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Oakland, CA 94607-4041
Attn: John McMillan, P.E.

Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Reported: 05/02/88
Project: #8810023A

Sample Number	Sample Description
8041926	Soil Composite, S8-1, S13-1, S14-1, S12-1, S7-1

ANALYSIS
results in mg/kg

Arsenic	22
Chromium	30
Copper	12
Lead	120
Mercury	0.017
Zinc	27

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Oakland, CA 94607-4041
Attn: John McMillan, P.E.

Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Reported: 05/02/88
Project: #8810023A

Sample Number	Sample Description
8041937	Soil Composite, S8-2, S13-2, S12-2, S7-2

ANALYSIS
results in mg/kg

Arsenic	15
Chromium	29
Copper	5.7
Lead	49
Mercury	0.015
Zinc	13.

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Oakland, CA 94607-4041
Attn: John McMillan, P.E.

Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Reported: 05/02/88
Project: #8810023A

Sample Number	Sample Description
8041920	Soil Composite, S15-1, S28-1, S27-1, S16-1

ANALYSIS
results in mg/kg

Arsenic	33
Chromium	32
Copper	14
Lead	58
Mercury	0.015
Zinc	36

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Oakland, CA 94607-4041
Attn: John McMillan, P.E.

Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Reported: 05/02/88
Project: #8810023A

Sample Number	Sample Description
8041931	Soil Composite, S15-2, S28-2, S27-2, S16-2

ANALYSIS
results in mg/kg

Arsenic	17
Chromium	22
Copper	3.5
Lead	140
Mercury	0.011
Zinc	20

SEQUOIA ANALYTICAL LABORATORY

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Oakland, CA 94607-4041
Attn: John McMillan, P.E.

Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Reported: 05/02/88
Project: #8810023A

Sample Number	Sample Description
8041921	Soil Composite, S17-1, S26-1, S25-1, S22-1, S23-1

ANALYSIS
results in mg/kg

Arsenic	59
Chromium	27
Copper	4.0
Lead	120
Mercury	0.021
Zinc	52

SEQUOIA ANALYTICAL LABORATORY

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Oakland, CA 94607-4041
Attn: John McMillan, P.E.

Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Reported: 05/02/88
Project: #8810023A

Sample Number	Sample Description
8041932	Soil Composite, S17-2, S26-2, S25-2, S22-2, S23-2

ANALYSIS
results in mg/kg

Arsenic	8.3
Chromium	26
Copper	1.8
Lead	76
Mercury	0.0070
Zinc	5.0

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Attn: John McMillan, P.E.

Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Reported: 05/02/88
Project: #8810023A

Sample Number	Sample Description
8041934	Soil Composite, S21-2, S20-2, S1-2

ANALYSIS
results in mg/kg

Arsenic	15
Chromium	36
Copper	1.3
Lead	71
Mercury	< 0.001
Zinc	2.6

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Attn: John McMillan, P.E.

Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Reported: 05/02/88
Project: #8810023A

Sample Number	Sample Description
8041923	Soil Composite, S21-2, S20-2, S1-2

ANALYSIS
results in mg/kg

Arsenic	43
Chromium	44
Copper	3.6
Lead	190
Mercury	0.010
Zinc	22

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Oakland, CA 94607-4041
Attn: John McMillan, P.E.

Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Reported: 05/02/88
Project: #8810023A

Sample Number	Sample Description
8041922	Soil Composite, S30-2, S29-2, S24-2

ANALYSIS
results in mg/kg

Arsenic	32
Chromium	29
Copper	2.5
Lead	83
Mercury	0.010
Zinc	5.6

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Oakland, CA 94607-4041
Attn: John McMillan, P.E.

Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Reported: 05/02/88
Project: #8810023A

Sample Number	Sample Description
8041933	Soil Composite, S30-2, S29-2, S24-2

ANALYSIS
results in mg/kg

Arsenic	18
Chromium	28
Copper	1.5
Lead	13
Mercury	< 0.001
Zinc	5.0

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Oakland, CA 94607-4041
Attn: John McMillan, P.E.

Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Reported: 05/02/88
Project: #8810023A

Sample Number	Sample Description
8041919	Soil Composite, S34-1, S33-1

ANALYSIS
results in mg/kg

Arsenic	66
Chromium	34
Copper	46
Lead	200
Mercury	0.013
Zinc	20

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Oakland, CA 94607-4041
Attn: John McMillan, P.E.

Date Sampled: 04/25-26/88
Date Received: 04/27/88
Date Reported: 05/02/88
Project: #8810023A

Sample Number	Sample Description
8041930	Soil Composite, S34-2, S33-2

ANALYSIS
results in mg/kg

Arsenic	17
Chromium	21
Copper	2.4
Lead	27
Mercury	< 0.001
Zinc	21

SEQUOIA ANALYTICAL LABORATORY

Arthur G. Burton
Laboratory Director

Woodward-Clyde Consultants

500 12th Street, Suite 100, Oakland, CA 94607-4041
(415) 893-3600

Chain of Custody Record

PROJECT NO. 880023A

SAMPLERS: (Signature) Chris Jeremy

DATE	TIME	SAMPLE NUMBER	General Mineral / Selected* / Energy Pollutant Metals	EPA Method 624	EPA Method 625	EPA Method 609	8240	8270	8080	Fuel hydrocarbons 8015 by	TPH by IR	Title 22 metals	Number of Containers	REMARKS (Sample preservation, handling procedures, etc.)
4/22/88		B1-1-3	X				X				X		1	Note: Please take sample from center of brass tubes
"		B1-2-3	X				X				X		1	
"		B2-1-3	X				X				X		1	
"		B2-2-3	X				X				X		1	
"		B3-1-3	X				X				X		1	
"		B3-2-3	X				X				X		1	
"		B4-1-3	X				X				X		1	Per special instructions from John McMillan (expedite)
"		B4-2-3	X				X				X		1	
4/21		M1A-2-2					X	X	X	X	X	X	1	
4/21		M1-1-2					X	X	X	X	X	X	1	
4/22		M2-1-3					X	X	X	X	X	X	1	
"		M2-2-3					X	X	X	X	X	X	1	Samples collected 4/21 and 4/22/88 and delivered by hand to lab
"		M3-1-3					X	X	X	X	X	X	1	
"		M3-2-3					X	X	X	X	X	X	1	
"		M4-1-3					X	X	X	X	X	X	1	
"		M4-2-3					X	X	X	X	X	X	1	* Selected metals: As, Cr, Zn, Cu, Pb, Hg

TOTAL NUMBER OF CONTAINERS: 16

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
Chris Jeremy	4/22/88 2145				

METHOD OF SHIPMENT:	SHIPPED BY: (Signature)	COURIER: (Signature)	RECEIVED FOR LAB BY: (Signature)	DATE/TIME
			Gayle Anderson	4/22/88 9:45 AM

Woodward-Clyde Consultants

500 12th Street, Suite 100, Oakland, CA 94607-4041
(415) 893-3600

Chain of Custody Record

PROJECT NO. 8810023A

SAMPLERS: (Signature) Chris J Sweeney

DATE	TIME	SAMPLE NUMBER	General Mineral	Priority Pollutant Metals	EPA Method 624	EPA Method 625	EPA Method 608	Composite	Selected metals*	8240 (open scan)	8270			Number of Containers	REMARKS (Sample preservation, handling procedures, etc.)
4/25/88		S-30-1							X	X				1	*Selected metals: As, Cr, Zn, Cu, Pb, Hg
"		S 31-1							X					1	
"		S 19-1							X	X				1	
"		S34-1						X	X					1	Notes:
"		S33-1												1	
															1. Test composites unless single sample specified
"		S15-1												1	
"		S28-1						X	X					1	
"		S27-1												1	
"		S16-1												1	2. Leave part of sample in jar for possible future individual tests
"		S17-1												1	
"		S26-1												1	
"		S25-1						X	X		X			1	3. Coordinate testing w/ John McMillan (expedite)
"		S22-1												1	
"		S23-1												1	
"		S30-1												1	
"		S29-1						X	X					1	
"		S24-1												1	
"		S21-1												1	
"		S20-1						X	X					1	
"		S1-1												1	
															Samples collected 4/25-26/88; taken by courier service from WCC office to Sequoia Labs
												TOTAL NUMBER OF CONTAINERS		20	

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
	/			/	

METHOD OF SHIPMENT:	SHIPPED BY: (Signature)	COURIER: (Signature)	RECEIVED FOR LAB BY: (Signature)	DATE/TIME
			See page 4	/

1 OF 4

Woodward-Clyde Consultants

500 12th Street, Suite 100, Oakland, CA 94607-4041
(415) 893-3600

Chain of Custody Record

PROJECT NO. 8810023A

SAMPLERS: (Signature) [signature]

DATE	TIME	SAMPLE NUMBER	General Mineral	Priority Pollutant Metals	EPA Method 624	EPA Method 625	EPA Method 601	Composite	Selected metals*	624 (comp. scan)	8270			Number of Containers	REMARKS (Sample preservation, handling procedures, etc.)
4/25/88		S4-1												1	
4/26		S9-1												1	
4/26		S18-1						X	X					1	
4/25		S2-1												1	
4/25		S3-1												1	
4/25		S6-1												1	
4/26		S11-1						X	X					1	
"		S10-1												1	
4/25		S5-1												1	
4/25		S8-1												1	
4/26		S13-1												1	
"		S14-1						X	X		X			1	
"		S12-1												1	
4/25		S7-1												1	

TOTAL NUMBER OF CONTAINERS: 14

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
METHOD OF SHIPMENT:		SHIPPED BY: (Signature)	COURIER: (Signature)	RECEIVED FOR LAB BY: (Signature) See page 4	DATE/TIME

2 OF 4

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(415) 893-3600

Chain of Custody Record

PROJECT NO. 8810023A

SAMPLERS: (Signature) Chris J Jeremy

DATE	TIME	SAMPLE NUMBER	General Mineral	Priority Pollutant Metals	EPA Method 624	EPA Method 625	EPA Method 608	Composite	Selected metals*	8240 (GC/MS)	8270			Number of Containers	REMARKS (Sample preservation, handling procedures, etc.)
4/20/88		S30-2							X	X				1	
"		S31-2							X					1	
"		S19-2							X	X				1	
"		S34-2					X	X						1	
"		S33-2												1	
"		S15-2												1	
"		S28-2					X	X						1	
"		S27-2												1	
"		S16-2												1	
"		S17-2												1	
"		S26-2												1	
"		S25-2					X	X		X				1	
"		S22-2												1	
"		S23-2												1	
"		S30-2												1	
"		S29-2					X	X						1	
"		S24-2												1	
"		S21-2												1	
"		S20-2					X	X						1	
"		S1-2												1	

TOTAL NUMBER OF CONTAINERS: 20

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)

METHOD OF SHIPMENT:	SHIPPED BY: (Signature)	COURIER (Signature)	RECEIVED FOR LAB BY: (Signature)	DATE/TIME
			See page 4	

3054

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Chain of Custody Record

PROJECT NO. 8810023A

SAMPLERS: (Signature)

DATE	TIME	SAMPLE NUMBER	ANALYSES: General Mineral	Priority Pollutant Metals	EPA Method 624	EPA Method 625	EPA Method 608	Composite	Selected Metals*	8240 (open scan)	8270			Number of Containers	REMARKS (Sample preservation, handling procedures, etc.)
4/25		SA-2												1	
4/26		S9-2												1	
"		S18-2						X	X					1	
4/25		S2-2												1	
"		S3-2												1	
4/25		S6-2												1	
4/26		S11-2						X	X					1	
"		S10-2												1	
4/25		S5-2												1	
4/25		S8-2												1	
4/26		S13-2												1	
"		S14-2						X	X		X			1	
"		S12-2												1	
4/25		S7-2												1	

4 OF 4

TOTAL NUMBER OF CONTAINERS: 14 (68 TOTAL)

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)	RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)

METHOD OF SHIPMENT:	SHIPPED BY: (Signature)	COURIER: (Signature)	RECEIVED FOR LAB BY: (Signature)	DATE/TIME

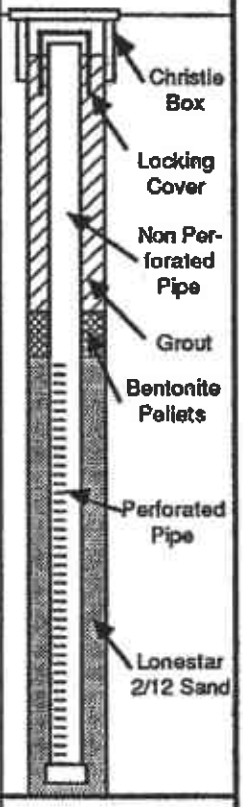
Project:	7 TH STREET DREDGE PROCESSING SITE Oakland, California	Log of Boring No. M-1A

Date Drilled: April 21, 1988
Type of Boring: 8-inch-diameter hollow stem auger
Hammer: 140-pound falling 30 inches
Remarks: See Figure A-1 for Sampler Legend

Surface Elevation: Approx. feet

Depth Ft	Samples	Blows/Ft	MATERIAL DESCRIPTION	OVA Reading (ppm)
			GRAVELLY-SANDY CLAY (CL) FILL Moist, black, with cobbles and wood chip	
			SANDY CLAY (CL) FILL Stiff, moist, orange-brown mottled black, with gravel up to 3 inches	BG
			Becomes less gravelly	
5	1	12	With fine- to coarse-grained sand and fine gravels	BG
			GRAVELLY CLAY to CLAYEY GRAVEL (CL-GC) FILL Brown, with angular gravels up to 2 inches	
	2	8		BG
10			▽ 4/22/88	
			▽ ATD	
			CLAYEY GRAVEL to CLAYEY SAND (GC-SC) FILL Brown with angular gravels up to 1 inch	
	3	11		BG
15	4	13		BG
	5	50/3-1/2"	CLAYEY SAND (SC-CL) FILL Dense, brown, fine- to coarse-grained, with some gravel	BG
			Bottom of boring at 18-1/2 feet. Refusal. Installed Piezometer.	
20				
25				
30				

WELL CONSTRUCTION DETAIL



Project: 8810023A	Woodward-Clyde Consultants	Figure A-

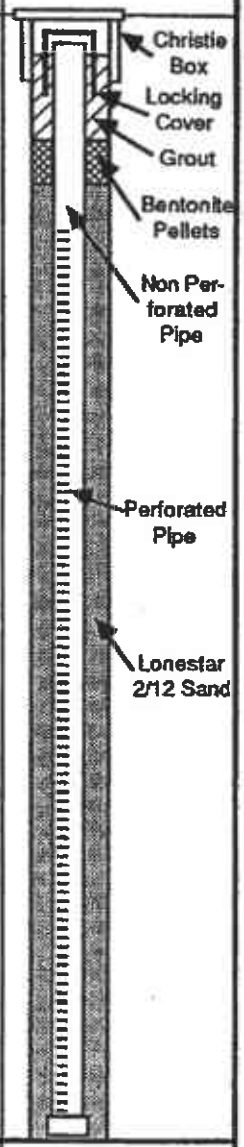
Project:	7 TH STREET DREDGE PROCESSING SITE Oakland, California	Log of Boring No. M-2

Date Drilled: April 22, 1988
Type of Boring: 8-inch-diameter hollow stem auger
Hammer: 140-pound falling 30 inches
Remarks: See Figure A-1 for Sampler Legend

Surface Elevation: Approx. feet

Depth Ft.	Samples	Blows/Ft.	MATERIAL DESCRIPTION	OVA Reading (ppm)
	1	33	GRAVELLY SAND (SW) FILL Dense, moist, dark brown	
			SILTY SAND (SM) FILL Dense, moist, light brown mottled black, with silty zones	
			Becomes loose, with shell fragments	
5	2	4	Becomes wet, fine-grained, silty	
			▽ 6 hrs.	
	3	3		
10	4	7	SANDY SILT to SILTY SAND (ML-SM) Loose, gray, with fine-grained sand and shell fragments	
			SILTY CLAY (CL-CH) Soft, gray, with 2-inch-thick lenses of fine-grained sand and shell fragments	
15				
20	5	1		
25	6	5	Becomes plastic (CH) with zones of organic clay (OH)	
			Bottom of boring at 26-1/2 feet. Dry at time of drilling. Installed Piezometer.	
30				

WELL CONSTRUCTION DETAIL



Project: 8810023A	Woodward-Clyde Consultants	Figure A-

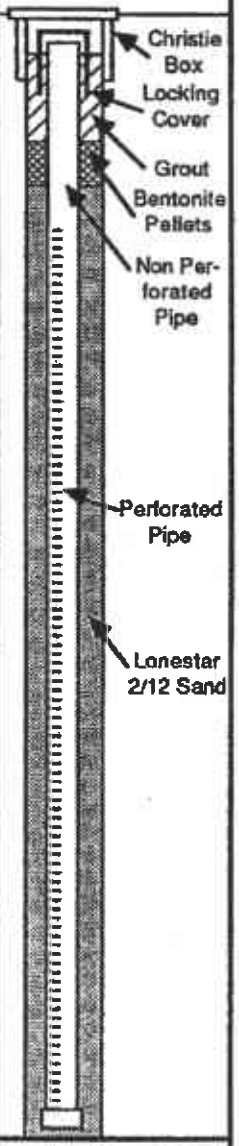
Project:	7 TH STREET DREDGE PROCESSING SITE Oakland, California	Log of Boring No. M-3

Date Drilled: April 22, 1988
Type of Boring: 8-inch-diameter hollow stem auger
Hammer: 140-pound falling 30 inches
Remarks: See Figure A-1 for Sampler Legend

Surface Elevation: Approx. feet

Depth Ft.	Samples	Blows/Ft	MATERIAL DESCRIPTION	OVA Reading (ppm)
	1	26	GRAVELLY SAND (SW) FILL Dense, moist, orange-brown mottled black, with gravels up to 1 inch and clayey zones	BG
			With black mottling	
5	2	7		BG
			CLAYEY SAND (SC) Loose, tan, medium- to fine-grained, silty 5 hrs.	
	3	6		NR
10	4	5	Becomes light gray	
15	5	22	SILTY SAND (SM) Medium dense, gray, fine-grained, with angular gravels up to 2 inches and clay.	
			Gravelly With abundant shells	
20	6	10	Becomes loose to medium dense	
			SILTY CLAY (CH) Medium stiff, dark to light gray, with rotting odor	
25	7	6		
			Bottom of boring at 26-1/2 feet. Installed Piezometer.	
30				

WELL CONSTRUCTION DETAIL



Project: 8810023A	Woodward-Clyde Consultants	Figure A-

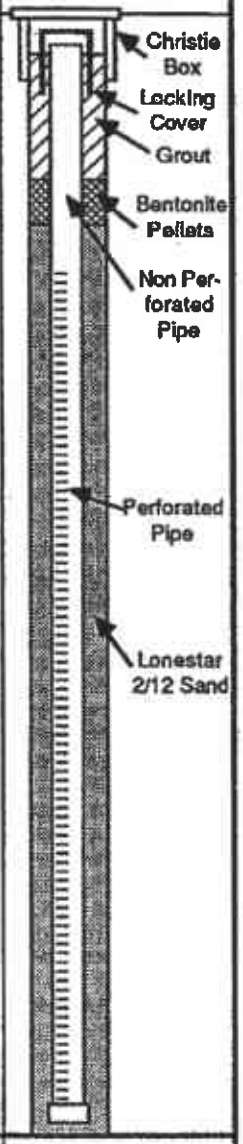
Project:	7 TH STREET DREDGE PROCESSING SITE Oakland, California	Log of Boring No. M-4

Date Drilled: April 22, 1988
Type of Boring: 8-inch-diameter hollow stem auger
Hammer: 140-pound falling 30 inches
Remarks: See Figure A-1 for Sampler Legend

Surface Elevation: Approx. feet

Depth Ft.	Samples	Blows/Ft	MATERIAL DESCRIPTION	OVA Reading (ppm)
	1	14	GRAVELLY SAND (SW) FILL - Loose, moist, brown	BG
			SHELLS and SAND FILL Medium dense, moist, gray-brown	
5	2	9	SILTY SAND (SM) Medium dens, moist, fine-grained, with abundant shells, with some roots and clayey zones	BG
	3	5	2 hrs. Becomes loose, with more shell fragments	BG
10	4	4	Becomes dark gray	
			SILTY CLAY (CH) Soft, dark gray, with some shell fragments and rotting odor	
15	5	2		
20	6	3		100
			SILTY SAND (SM) Dense, gray, fine-grained, with trace of clay	
25	7	39	Becomes mottled brown and gray	
			Bottom of boring at 26-1/2 feet. Installed Piezometer	
30				

WELL CONSTRUCTION DETAIL



Project: 8810023A	Woodward-Clyde Consultants	Figure A-

Project:	7 TH STREET DREDGE PROCESSING SITE Oakland, California	Log of Boring No. B-1

Date Drilled: April 22, 1988
Type of Boring: 7-inch-diameter hollow stem auger
Hammer: 140-pound falling 30 inches
Remarks: See Figure A-1 for Sampler Legend

Depth Ft	Samples	Blows/Ft	MATERIAL DESCRIPTION	OVA Reading (ppm)	WELL CONSTRUCTION DETAIL
			Surface Elevation: Approx. feet		
			ASPHALT PAVEMENT		
	1	65	SILTY SAND (SM) FILL Very dense, damp, brown-gray, fine-grained, with angular gravels up to 1/2 inch	BG	
			Becomes more gravelly		
			SILTY CLAY (CL) Stiff, moist, light brown		
	2	21	SANDY CLAY (CL) Very stiff, moist, gray-green mottled brown, coarse-grained	BG	
5			SANDY SILT (ML) Very stiff, moist, brown to gray, medium- to fine-grained, with some gravel Becomes more gravelly		
			Lense of fine-grained, ta, silty sand, medium-dense Becomes gray-green with strong gasoline odor		
	3	26		90	
			Bottom of boring at 7-1/2 feet.		
10					
15					

Project: 8810023A	Woodward-Clyde Consultants	Figure A-

Project:	7 TH STREET DREDGE PROCESSING SITE Oakland, California	Log of Boring No. B-2

Date Drilled: April 22, 1988
Type of Boring: 7-inch-diameter hollow stem auger
Hammer: 140-pound falling 30 inches
Remarks: See Figure A-1 for Sampler Legend

Depth Ft.	Samples	Blows/Ft	MATERIAL DESCRIPTION	OVA Reading (ppm)	WELL CONSTRUCTION DETAIL
			Surface Elevation: Approx. feet		
			SILTY SAND (SM) Loose, damp, brown, fine-grained, with some gravel and wood chips		
	1	45	SAND (SP) Dense, damp, light brown, fine-grained	BG	
			Becomes medium dense and medium-grained, with some shell fragments		
	2	22		BG	
5			SILTY SAND (SM) Medium dense, wet, gray, fine-grained, with abundance shell fragements		
	3	11		BG	
			Bottom of boring at 7-1/2 feet.		
10					
15					

Project: 8810023A	Woodward-Clyde Consultants	Figure A-

Project:	7 TH STREET DREDGE PROCESSING SITE Oakland, California	Log of Boring No. B-3

Date Drilled: April 22, 1988
Type of Boring: 7-inch-diameter hollow stem auger
Hammer: 140-pound falling 30 inches
Remarks: See Figure A-1 for Sampler Legend

Surface Elevation: Approx. feet

Depth Ft.	Samples	Blows/Ft	MATERIAL DESCRIPTION	OVA Reading (ppm)	WELL CONSTRUCTION DETAIL
			SANDY SILT (ML) FILL Medium dense, damp, dark brown to black, fine-grained, with fine gravels		
	1	34	SILTY SAND (SM) Dense, damp, gray-brown, fine-grained, with abundant shell fragments	BG	
			SAND (SP) Medium dense to dense, damp, light brown, fine-grained, with shell fragments		
	2	14		BG	
5			Becomes loose, moist, and medium-grained		
	3	10		BG	
			Bottom of boring at 7-1/2 feet.		
10					
15					

Project: 8810023A	Woodward-Clyde Consultants	Figure A-

Project:	7 TH STREET DREDGE PROCESSING SITE Oakland, California	Log of Boring No. B-4

Date Drilled: April 22, 1988
Type of Boring: 7-inch-diameter hollow stem auger
Hammer: 140-pound falling 30 inches
Remarks: See Figure A-1 for Sampler Legend

Surface Elevation: Approx. feet

Depth Ft	Samples	Blows/Ft	MATERIAL DESCRIPTION	OVA Reading (ppm)	WELL CONSTRUCTION DETAIL
	1	76	SILT (ML) FILL Dense, damp, brown, with wood chips SANDY GRAVEL (GP) FILL Very dense, damp, brown to gray, angular	BG	
	2	16	SANDY SILT (ML) Medium dense, moist, brown, fine-grained, with some fine to medium gravel	BG	
5			Becomes more gravelly		
	3	9	SANDY CLAY (CH) Stiff, wet, brown to gray, with fine-grained sand and gravel	BG	
			Bottom of boring at 7-1/2 feet.		
10					
15					

Project: 8810023A	Woodward-Clyde Consultants	Figure A-

Project:	7 TH STREET DREDGE PROCESSING SITE Oakland, California	Log of Boring No. M-1

Date Drilled: April 21, 1988
Type of Boring: 8-inch-diameter hollow stem auger
Hammer: 140-pound falling 30 inches

Remarks: See Figure A-1 for Sampler Legend
Drilling refusal at 7-1/2 feet, moved 10 feet northwest to redrill.

Depth Ft.	Samples	Blows/Ft	MATERIAL DESCRIPTION	OVA Reading (ppm)	WELL CONSTRUCTION DETAIL
			Surface Elevation: Approx. feet		
			GRAVELLY SAND-GRAVEL (SP-GP) FILL Green-gray, with angular gravel up to 3 inches		
	1	28	SAND (SP) FILL? Medium dense, slightly moist, green-gray, fine-grained, with shell fragments		
5			Becomes silty, with some roots		
			Becomes light brown		
			Cobble		
			SILTY SAND (SM) Dense, moist, dark gray, fine-grained, with some shell fragments		
10			GRAVEL (GP)		
			Bottom of boring at 10-1/4 feet. Refusal. See Boring Log of M-1A.		
15					
20					
25					
30					

Project: 8810023A	Woodward-Clyde Consultants	Figure A-