

ALAMEDA COUNTY
HEALTH CARE SERVICES

AGENCY

DAVID J. KEARS, Agency Director



RAFAT A. SHAHID, Assistant Agency Director

July 19, 1994

Mr. Don Anderson
Ballena Isle Marina
Ballena Bay Yacht Harbor
1150 Ballena Blvd.
Alameda, CA 94501

ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY
DEPARTMENT OF ENVIRONMENTAL HEALTH
1131 HARBOR BAY PARKWAY, 2ND FLOOR
ALAMEDA, CA 94502-6577

STID 3822

Re: Investigations at 1150 Ballena Blvd., Alameda, California

Dear Mr. Anderson,

This office has reviewed Clayton Environmental's Subsurface Investigation Report, dated June 24, 1994. The soil sample collected from the south side of the tank pit identified 2,100 parts per million (ppm) Total Oil & Grease and 460 ppm Total Petroleum Hydrocarbons as diesel (TPHd). The ground water sample collected from the temporary well, TW-1, identified 260 parts per billion (ppb) TPHd. Based on the levels of soil contamination remaining in place and the results of the ground water "grab" sample, this office is requiring that a permanent monitoring well be installed between the marina and the tank pit, and be monitored on a quarterly basis for a minimum of four quarters. If unacceptable levels of contaminants continue to be identified from the monitoring well, one of the following actions may be required:

- o An ecological risk assessment - to assess the potential threat of observed contaminant levels on aquatic life.
- o Remediate the remaining source of ground water contamination.

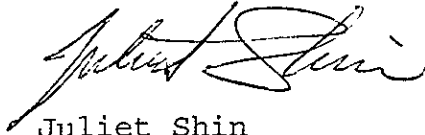
However, if contaminant concentrations attenuate to acceptable levels, the site may be considered for closure.

A work plan addressing the installation and sampling of a permanent monitoring well shall be submitted to this office within 60 days of the date of this letter. This is a formal request for a technical report, pursuant to Section 2722(c), Title 23 California Code of Regulations.

If you have any questions or comments, please contact me at (510) 337-2874 or (510) 337-2864. Please be aware that these phone numbers are temporary and will only be in operation for the next four to five weeks.

Mr. Don Anderson
RE: 1150 Ballena Blvd.
July 19, 1994
Page 2 of 2

Sincerely,

A handwritten signature in cursive script, appearing to read "Juliet Shin".

Juliet Shin
Hazardous Materials Specialist

cc: Dariush Dastmalchi
Clayton Environmental
P.O. Box 9019
Pleasanton, CA . 94566

Edgar Howell-File(JS)

July 19, 1994

Mr. Don Anderson
Ballena Isle Marina
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1150 Ballena Blvd.
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Mr. Don Anderson
RE: 1150 Ballena Blvd.
July 19, 1994
Page 2 of 2

Sincerely,

Juliet Shin
Hazardous Materials Specialist

cc: Dariush Dastmalchi
Clayton Environmental
P.O. Box 9019
Pleasanton, CA 94566

Edgar Howell-File(JS)

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

June 24, 1994

Ms. Juliet Shin
Hazardous Materials Specialist
ALAMEDA COUNTY HEALTH AGENCY
80 Swan Way, Room 200
Oakland, California 94621

Clayton Project No. 55434.00

Subject: Subsurface Investigation Report at Ballena Isle Marina located at 1150
Ballena Boulevard in Alameda, California

Dear Ms. Shin:

Clayton Environmental Consultants, Inc. on behalf of Ballena Isle Marina is pleased to present this subsurface investigation report at Ballena Isle Marina facility located at 1150 Ballena Boulevard in Alameda, California.

If you have any questions please contact me or Mr. John Vargas at (510) 426-2676.

Sincerely,



Dariush Dastmalchi
Geologist

DD/dd

cc: Mr. Don Anderson, Ballena Isle Marina

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

Subsurface Investigation Report
for
Ballena Isle Marina
1150 Ballena Boulevard
Alameda, California

Clayton Project No. 55434.00
June 24, 1994

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1.0 INTRODUCTION

Ballena Isle Marina retained Clayton Environmental Consultants, Inc. to implement a work plan for further soil and groundwater investigation at Ballena Isle Marina facility located at 1150 Ballena Boulevard in Alameda, California. The work plan was prepared by Clayton and submitted to Alameda County Health Care Services (ACHCS) in March 1994 for review and approval. Ms. Juliet Shin, Hazardous Materials Specialist with ACHCS approved the work plan in a letter dated March 17, 1994 (Appendix A).

The subject facility is located on an artificial island in a commercial area of the City of Alameda (Figure 1). The site is currently used as a yacht harbor by Ballena Isle Marina.

A waste oil underground storage tank (UST) was located under the sidewalk, approximately 30 feet from the San Francisco Bay shoreline. A site diagram showing the tank location is included as Figure 2.

2.0 BACKGROUND

In September 1991 a 250-gallon waste oil UST was removed from the subject facility by the owner of the site. The soil around the tank appeared to be impacted by hydrocarbons as a result of spillage from and overfilling of the tank. One soil sample was collected from the excavation pit and transported to Trace Analysis Laboratory (TAL). The soil sample was analyzed using the following methods:

- Department of Health Services (DHS) Method for total petroleum hydrocarbons as gasoline (TPH-G)
- DHS Method for total petroleum hydrocarbons as diesel (TPH-D).
- Environmental Protection Agency (EPA) Method 8020 for benzene, toluene, ethylbenzene and xylenes (BTEX)
- EPA Method 8010 for chlorinated hydrocarbons
- Standard Method (SM) 5520 for total oil and grease (TOG)
- EPA 7000 series Methods for cadmium, chromium, lead, nickel, and zinc

Analytical results of the soil sample collected from the excavation pit identified TPH-G, TPH-D and TOG above the analytical detection limits in the soil samples from the excavation pit. Analytical results for organic compounds are summarized in Table 1.

Table 1

**Analytical Results for the Soil Sample Collected by TAL in September 1991
All Concentrations in Milligrams per Kilogram (mg/kg)**

Sample	TPH-D	TPH-G	TOG	Toluene	Ethylbenzene	Xylenes
1	5,700	860	11,000	3.9	13	140

Chlorinated hydrocarbons and benzene were not detected in the soil sample. TAL analytical report is included in Appendix B.

Subsequently the excavation pit was over excavated to remove the contamination. According to the ENSR Consulting and engineering report dated May 21, 1992 two soil samples were collected from the over-excavated tank pit (see Appendix C). One sample was collected from the north wall (SW-1) of the pit and the other sample was collected from the bottom of the pit (PB-1). The soil samples were analyzed for the following:

- TPH-G using EPA Method 8015
- TPH-D using EPA Method 8015
- BTEX using EPA Method 8020
- Volatile organic compounds (VOC) using EPA Method 8240
- TOG using SM 5520
- cadmium, chromium, lead, nickel, and zinc

Analytical results of the soil samples collected by ENSR identified TPH-D and TOG in the soil samples from the excavation pit. Analytical results for organic compounds are summarized in Table 2.

Table 2

**Analytical Results for the Soil Samples Collected by ENSR in May 1992
All Concentrations in Milligrams per Kilogram (mg/kg)**

Sample	TPH-D	TPH-G	TOG	Benzene	Toluene	Ethylbenzene	Xylenes
SW-1	2,200	91	5,300	ND*	ND	ND	1.9
PB-1	1,800	79	4,200	ND*	1	0.84	9.2

* ND Not detected at or above the analytical detection limits

Further excavation of the contaminated soil was not possible because the excavation pit is bounded by a building foundation on the south and south west and utility vaults on the north.

In December 1992 Law/Crandall, Inc. drilled five soil borings and collected five soil samples (B-1 through B-5) from the surrounding area of the former waste oil UST. The soil samples were collected from approximately 10 feet below ground surface (bgs) and approximately 8 to 34 feet away from the excavation pit. In addition one grab water sample was collected from a boring located approximately 8 feet northwest of the pit.

The soil and grab water samples were analyzed for the following:

- TPH-G using EPA Method 8015
- TPH-D using EPA Method 8015
- BTEX using EPA Method 8020
- VOC using EPA Method 8240
- Semivolatile organic compound (SVOC) using EPA Method 8270
- Polychlorinated biphenyls (PCB) and pesticides using EPA Method 8080
- TOG using SM 5520
- Cadmium, chromium, lead, nickel, and zinc

TOG was detected in the soil samples ranging from 53 mg/kg in soil sample B-5 to 110 mg/kg in soil sample B-1. The grab water sample contained a toluene concentration of 0.3 micrograms per liter ($\mu\text{g/l}$). The other analytes in the soil and grab water samples were not detected at or above the analytical detection limits. The Law/Crandall report is included in Appendix D.

On October 2, 1993 Hydrocarbon Consultants collected a grab water sample from the excavation pit (OP1). The OP1 sample was analyzed for the following:

- TPH-G using EPA Method 8015
- TPH-D using EPA Method 8015
- BTEX using EPA Method 8020
- Semi volatile organic compound (SVOC) using EPA Method 8270
- PCB using EPA Method 8080
- TOG using SM 5520
- Cadmium, chromium, lead, nickel, and zinc

Analytical results for the sample OP1 are summarized in Table 3.

Table 3

**Analytical Results for the Grab Water Sample OP1 Collected by Hydrocarbon Consultants in September 1993
 All Concentrations in $\mu\text{g/l}$**

Sample	TPH-D	TPH-G	TOG	Toluene	Ethylbenzene
OP1	9100	580	43,000	3.9	19

SVOCs, PCBs, and metals were not detected at concentration at or above the analytical detection limit. A copy of the analytical Data summary by Hydrocarbon Consultants is included in Appendix E.

3.0 SCOPE OF WORK

The scope of work for this project was based on the work plan approved by ACHCS for additional investigative tasks for the Ballena Isle Marina site. To implement the work plan, Clayton performed the following tasks.

3.1 TASK 1: HEALTH AND SAFETY PLAN

A health and safety plan was prepared for the work outlined in the work plan in accordance with the requirements of Title 29 of the Code of Federal Regulations, Section 1910.120 (29 CFR 1910.120).

3.2 TASK 2: DRILLING AND WELL INSTALLATION PERMITS

Before commencing the field activities Clayton obtained the necessary permit for drilling activities from the Zone 7 Water Agency. A copy of the approved permit is included in Appendix F.

3.3 TASK 3: IDENTIFICATION OF UNDERGROUND UTILITY TRENCHES

Clayton contacted Underground Service Alert (USA) to identify the utilities in the vicinity of the soil boring location. The identified utilities near the drilling area were marked on the ground.

3.4 TASK 4: TEMPORARY WELL INSTALLATION AND SAMPLING

To define the extent of soil and possible groundwater contamination, one temporary well (TW-1) was installed near the former UST excavation pit. The well was placed in the estimated downgradient direction of the former tank location. This well was installed to determine the extent of potential groundwater contamination. The temporary well location is shown in Figure 2.

The borehole for the temporary well TW-1 was drilled using a limited access truck-mounted auger rig. The borehole was drilled to approximately 15 feet bgs. The lithologic boring log is included in Appendix G. The borehole was extended approximately 6 feet below the first encountered groundwater table. The borehole was converted into a temporary well using a 2 inch diameter schedule 40 polyvinyl chloride (PVC) casing.

7/18/94 According to Mr. Destro's the whole PVC was slotted or screened. - Juliet S

To collect a representative sample of the groundwater, water within the well casing was purged from the well by bailing approximately four well volumes (over 4 gallons). A groundwater sample was collected only after purging has been of sufficient duration for pH, temperature, and electrical conductivity to stabilize.

The groundwater sample was collected in such a manner so as to minimize the volatilization of a sample due to agitation and/or transfer from bailer to sample container.

Water sample (TW-1) was collected using clean disposable bailers. All equipment that contacts samples is thoroughly cleaned before arrival at the site. Water sample was

collected in clean laboratory-supplied containers, labeled, placed immediately into an ice chest pre-cooled to 4°C, and transported to the laboratory for analysis.

To document and trace samples from time of collection, a signed chain-of-custody record is filled out by the sampler and accompanies the samples through the laboratory analyses. The completed chain-of-custody is included with the analytical report from the laboratory.

After completion of groundwater sampling activities, the PVC casing was removed from the well. The borehole was then be plugged with grout.

Drilling and sampling activities were conducted under the supervision of a geologist registered in the State of California.

The soil cuttings and sampling spoils generated by the drilling process was placed into individually labeled, Department of Transportation (DOT)-approved 55-gallon drums and left onsite until proper disposal can be determined based on laboratory analysis.

3.5 TASK 5: SOIL SAMPLE COLLECTION

A soil sample (SS-1) was collected from the south wall of the excavation pit at approximately 8 feet bgs. The soil sample was collected from the excavation wall to determine the extent of contamination within the pit. Before collecting the soil sample, approximately 2-feet of soil was removed by a backhoe. The soil sample was then be collected using a 2.5-inch diameter barrel hand sampler.

The soil sample was collected in a precleaned brass tube for laboratory analysis. The brass tube was sealed with aluminum foil, plastic caps, and immediately placed in an iced cooler for transport to Clayton's State Certified laboratory. Legal chain-of-custody procedures were followed for handling of soil and water samples.

3.6 TASK 6: LABORATORY ANALYSIS

One soil sample and one water sample were collected and transported to the state-certified laboratory. The soil and groundwater samples were analyzed using the following methods:

- EPA Method 8015 for TPH-D
- EPA Method 8015 for TPH-G
- EPA Method 8020 for BTEX
- SM 5520 for TOG

In addition the groundwater sample was analyzed using EPA Method 160.1 for total dissolved solids (TDS). Clayton's analytical reports are included in Appendix H.

4.0 FINDINGS AND RECOMMENDATIONS

Based on the analytical results and our field investigation our findings follow:

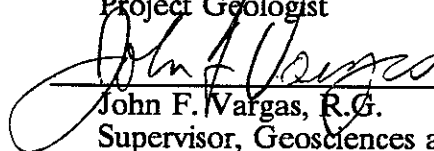
- TPH-D was detected in the soil sample at concentration of 460 milligrams per kilogram (mg/kg)
- TPH-D was detected in the groundwater sample at concentration of 260 micrograms per liter ($\mu\text{g/l}$)
- TPH-G was detected in the soil sample SS-1 at concentration of 0.3 mg/kg
- TOG was detected in the soil sample at concentration of 2,100 mg/kg.
- TPH-G and TOG were not detected in the groundwater sample
- BTEX was not detected in the soil or groundwater samples
- TDS was detected in the groundwater sample at concentration of 28,000 mg/l. According to the State of California Water Resources Control Board (CWRCB) Resolution No. 88-63 groundwater with TDS concentration greater than 3,000 mg/l may not be a potential source of municipal and domestic water supply. Therefore, groundwater beneath the site is not considered to be a suitable drinking water source.

This report prepared by:



Dariush Dastmalchi
Project Geologist

This report reviewed by:

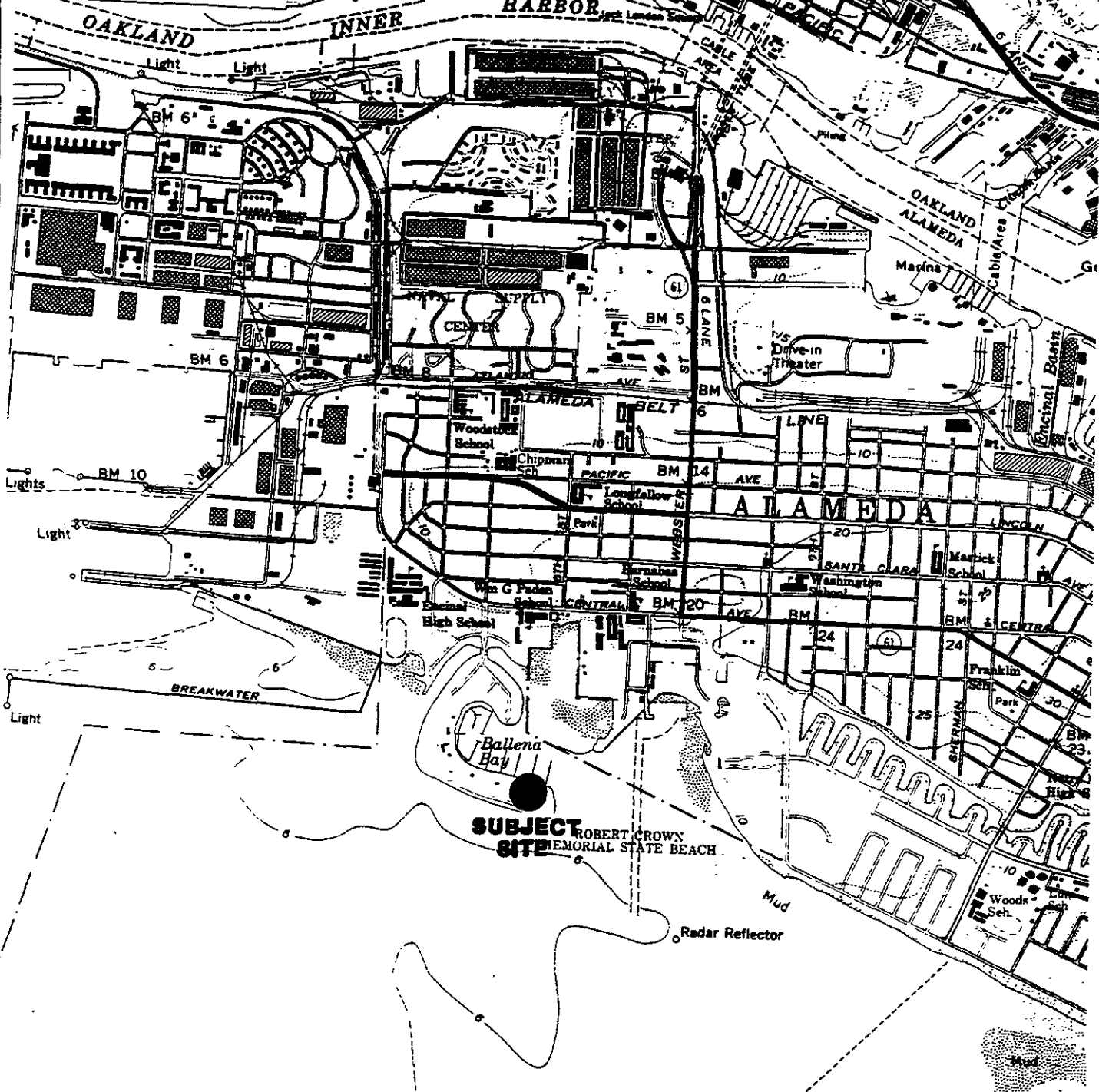


John F. Vargas, R.G.
Supervisor, Geosciences and Remediation
Western Operations

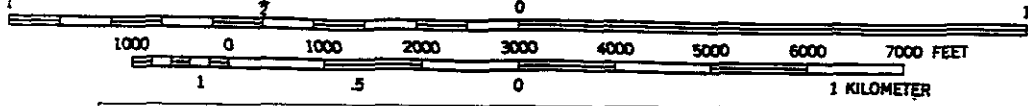
June 24, 1994

FIGURES

OAKLAND WEST QUADRANGLE
 CALIFORNIA
 7.5 MINUTE SERIES (TOPOGRAPHIC)



SCALE 1:24000

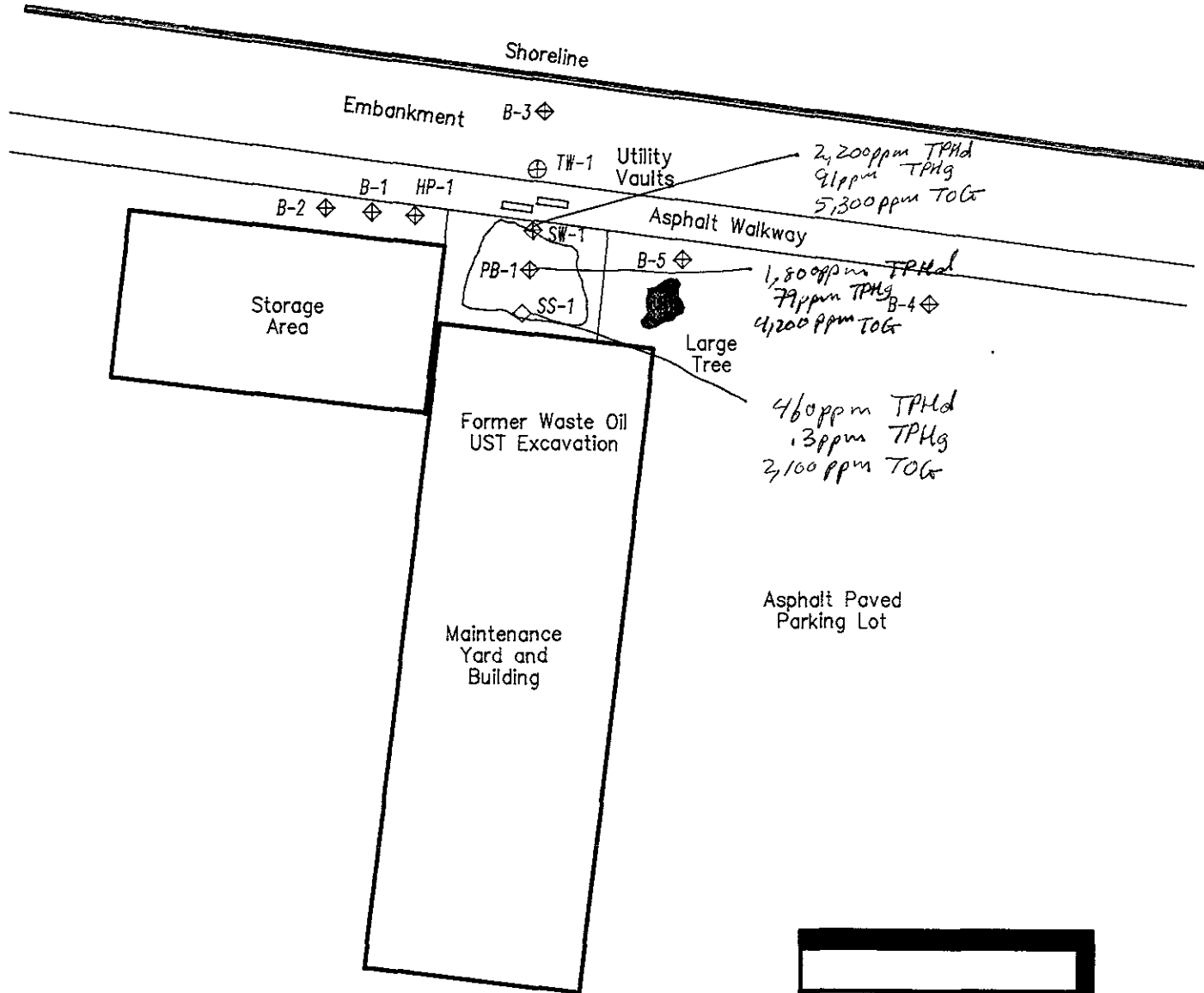


Site Location and topographic Map
 BALLENA ISLE MARINA
 1150 Ballena Boulevard
 Alameda, California

 Clayton Project No. 55434.00

Figure
 1
Clayton
 ENVIRONMENTAL
 CONSULTANTS
 55434-00-16

Marina (Docks)



0 20
 Approximate Scale in Feet

⊕	Groundwater Sample Collection Point
◇	Soil Sample Collection Point
⊕	Previous Sample Locations



Site Map
 BALLENA ISLE MARINA
 1150 Ballena Boulevard
 Alameda, California

Clayton Project No. 55434.00

Figure

2

Clayton
 ENVIRONMENTAL
 CONSULTANTS

55434-00-17

APPENDIX A

WORK PLAN APPROVAL LETTER

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY

DAVID J. KEARS, Agency Director



RAFAT A. SHAHID, ASST. AGENCY DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH
State Water Resources Control Board
Division of Clean Water Programs
UST Local Oversight Program
80 Swan Way, Rm 200
Oakland, CA 94621
(510) 271-4530

March 17, 1994

Mr. Don Anderson
Ballena Isle Marina
Ballena Bay Yacht Harbor
1150 Ballena Blvd.
Alameda, CA 94501

STID 3822

Re: Work plan for 1150 Ballena Blvd., Alameda, CA

Dear Mr. Anderson,

This office has reviewed Clayton Environmental's work plan, dated March 9, 1994, addressing investigations to fully characterize the remaining soil and ground water contamination at the site. This work plan is acceptable to this office with the following reminders:

- o More than six inches of soil needs to be removed from the south wall, over 2 feet if possible, before a soil sample is collected from the wall.
- o Field work shall be conducted within 45 days of the date of this letter. A report documenting the work shall be submitted to this office within 45 days after completing field activities.

The results of this investigation will determine whether the extent and severity of soil and ground water contamination has been fully characterized, and aid in determining the next required steps of investigations/remediation at the site.

If you have any questions or comments, please contact me at (510) 271-4530.

Sincerely,

A handwritten signature in cursive script, appearing to read 'Juliet Shin'.

Juliet Shin
Hazardous Materials Specialist

cc: Dariush Dastmalchi
Clayton Environmental
P.O. Box 9019
Pleasanton, CA 94566

Edgar Howell-File(JS)

APPENDIX B

TAL REPORT

Trace Analysis Laboratory, Inc.

3423 Investment Boulevard, #8 • Hayward, California 94545

Telephone (415) 783-6960

Facsimile (415) 783-1512



LOG NUMBER: 1353
 DATE SAMPLED: 09/27/91
 DATE RECEIVED: 09/27/91
 DATE EXTRACTED: 10/08/91
 DATE ANALYZED: 10/12/91 and 10/14/91
 DATE REPORTED: 10/17/91

CUSTOMER: Ballena Isle Marina
 REQUESTER: Jerry Green
 PROJECT: 1100 Ballena Boulevard, Alameda, CA

Sample Type: Soil

Method and Constituent:	Units	1		Composite 2 and 3		Method Blank	
		Concentration	Reporting Limit	Concentration	Reporting Limit	Concentration	Reporting Limit
DHS Method:							
Total Petroleum Hydrocarbons as Diesel	ug/kg	5,700,000	6,100	1,300,000	6,100	ND	1,000

QC Summary:

% Recovery: 94 and 98
 % RPD: 0.6 and 3.5

Concentrations reported as ND were not detected at or above the reporting limit.
 Samples 1 and Composite of 2 and 3 indicate compounds eluting later than diesel.



LOG NUMBER: 1353
 DATE SAMPLED: 09/27/91
 DATE RECEIVED: 09/27/91
 DATE EXTRACTED: 10/01/91
 DATE ANALYZED: 10/02/91 and 10/03/91
 DATE REPORTED: 10/17/91
 PAGE: Two

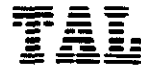
Sample Type: Soil

Method and Constituent:	Units	1		Composite 2 and 3		Method Blank	
		Concentration	Reporting Limit	Concentration	Reporting Limit	Concentration	Reporting Limit
DHS Method:							
Total Petroleum Hydrocarbons as Gasoline	ug/kg	860,000	2,400	7,400	500	ND	500
EPA Method 8020 for:							
Benzene	ug/kg	ND	180	ND	8.8	ND	5.0
Toluene	ug/kg	3,900	170	20	8.4	ND	5.0
Ethylbenzene	ug/kg	13,000	180	27	9.2	ND	5.0
Xylenes	ug/kg	140,000	440	140	22	ND	15

QC Summary:

% Recovery: 124 and 95
 % RPD: 17 and 23

Concentrations reported as ND were not detected at or above the reporting limit.



LOG NUMBER: 1353
DATE SAMPLED: 09/27/91
DATE RECEIVED: 09/27/91
DATE EXTRACTED: 10/01/91
DATE ANALYZED: 10/01/91
DATE REPORTED: 10/17/91
PAGE: Three

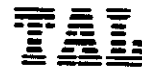
Sample Type: Soil

Method and Constituent:	Units	1		Composite 2 and 3		Method Blank	
		Concentration	Reporting Limit	Concentration	Reporting Limit	Concentration	Reporting Limit
Standard Method 5520F Hydrocarbons:							
Oil and Grease	ug/kg	11,000,000	50,000	4,800,000	50,000	ND	50,000

QC Summary:

% Recovery: 61
% RPD: 4.2

Concentrations reported as ND were not detected at or above the reporting limit.



LOG NUMBER: 1353
DATE SAMPLED: 09/27/91
DATE RECEIVED: 09/27/91
DATE EXTRACTED: 10/01/91
DATE ANALYZED: 10/05/91
DATE REPORTED: 10/17/91
PAGE: Four

Sample Type: Soil

<u>Method and Constituent</u>	<u>Units</u>	<u>1</u>		<u>Composite 2 and 3</u>		<u>Method Blank</u>	
		<u>Concen- tration</u>	<u>Reporting Limit</u>	<u>Concen- tration</u>	<u>Reporting Limit</u>	<u>Concen- tration</u>	<u>Reporting Limit</u>
EPA Method 8010:							
Benzyl Chloride	ug/kg	ND	6.8	ND	6.8	ND	6.8
Bis (2-Chloroethoxy) Methane	ug/kg	ND	6.8	ND	6.8	ND	6.8
Bis (2-Chloroisopropyl) Ether	ug/kg	ND	6.8	ND	6.8	ND	6.8
Bromobenzene	ug/kg	ND	6.8	ND	6.8	ND	6.8
Bromodichloromethane	ug/kg	ND	6.8	ND	6.8	ND	6.8
Bromoform	ug/kg	ND	6.8	ND	6.8	ND	6.8
Bromomethane	ug/kg	ND	6.8	ND	6.8	ND	6.8
Carbon Tetrachloride	ug/kg	ND	6.8	ND	6.8	ND	6.8
Chloroacetaldehyde	ug/kg	ND	6.8	ND	6.8	ND	6.8
Chloral	ug/kg	ND	6.8	ND	6.8	ND	6.8
Chlorobenzene	ug/kg	ND	6.8	ND	6.8	ND	6.8
Chloroethane	ug/kg	ND	6.8	ND	6.8	ND	6.8
Chloroform	ug/kg	ND	6.8	ND	6.8	ND	6.8
1-Chlorohexane	ug/kg	ND	6.8	ND	6.8	ND	6.8
2-Chloroethyl Vinyl Ether	ug/kg	ND	6.8	ND	6.8	ND	6.8

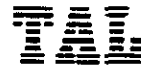
Concentrations reported as ND were not detected at or above the reporting limit.

LOG NUMBER: 1353
 DATE SAMPLED: 09/27/91
 DATE RECEIVED: 09/27/91
 DATE EXTRACTED: 10/01/91
 DATE ANALYZED: 10/05/91
 DATE REPORTED: 10/17/91
 PAGE: Five

Sample Type: Soil

Method and Constituent	Units	1		Composite 2 and 3		Method Blank	
		Concentration	Reporting Limit	Concentration	Reporting Limit	Concentration	Reporting Limit
EPA Method 8010 (Continued):							
Chloromethane	ug/kg	ND	6.8	ND	6.8	ND	6.8
Chloromethyl Methyl Ether	ug/kg	ND	6.8	ND	6.8	ND	6.8
Chlorotoluene	ug/kg	ND	6.8	ND	6.8	ND	6.8
Dibromochloromethane	ug/kg	ND	6.8	ND	6.8	ND	6.8
Dibromomethane	ug/kg	ND	6.8	ND	6.8	ND	6.8
1,2-Dichlorobenzene	ug/kg	ND	6.8	ND	6.8	ND	6.8
1,3-Dichlorobenzene	ug/kg	ND	6.8	ND	6.8	ND	6.8
1,4-Dichlorobenzene	ug/kg	ND	6.8	ND	6.8	ND	6.8
Dichlorodifluoromethane	ug/kg	ND	6.8	ND	6.8	ND	6.8
1,1-Dichloroethane	ug/kg	ND	6.8	ND	6.8	ND	6.8
1,2-Dichloroethane	ug/kg	ND	6.8	ND	6.8	ND	6.8
1,1-Dichloroethylene	ug/kg	ND	6.8	ND	6.8	ND	6.8
Trans-1,2-Dichloroethylene	ug/kg	ND	6.8	ND	6.8	ND	6.8
Dichloromethane	ug/kg	ND	9.9	ND	9.9	ND	9.9
1,2-Dichloropropane	ug/kg	ND	6.8	ND	6.8	ND	6.8
1,3-Dichloropropylene	ug/kg	ND	6.8	ND	6.8	ND	6.8
1,1,2,2-Tetrachloroethane	ug/kg	ND	6.8	ND	6.8	ND	6.8

Concentrations reported as ND were not detected at or above the reporting limit.



LOG NUMBER: 1353
DATE SAMPLED: 09/27/91
DATE RECEIVED: 09/27/91
DATE EXTRACTED: 10/08/91
DATE ANALYZED: 10/09/91 and 10/10/91
DATE REPORTED: 10/17/91
PAGE: Seven

Sample Type: Soil

<u>Method and Constituent:</u>	<u>Units</u>	<u>1</u>		<u>Composite 2 and 3</u>	
		<u>Concen- tration</u>	<u>Reporting Limit</u>	<u>Concen- tration</u>	<u>Reporting Limit</u>
EPA Method 7130: Cadmium	ug/kg	ND	210	ND	210
EPA Method 7190: Chromium	ug/kg	18,000	1,200	17,000	1,200
EPA Method 7420: Lead	ug/kg	55,000	2,500	51,000	2,500
EPA Method 7520: Nickel	ug/kg	14,000	2,500	14,000	2,500
EPA Method 7950: Zinc	ug/kg	23,000	1,200	42,000	1,200

Concentrations reported as ND were not detected at or above the reporting limit.



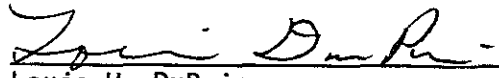
LOG NUMBER: 1353
 DATE SAMPLED: 09/27/91
 DATE RECEIVED: 09/27/91
 DATE EXTRACTED: 10/08/91
 DATE ANALYZED: 10/09/91 and 10/10/91
 DATE REPORTED: 10/17/91
 PAGE: Eight

Sample Type: Soil

Method and Constituent:	Units	Method Blank		QC Summary	
		Concen- tration	Reporting Limit	% Recovery	% RPD
EPA Method 7130: Cadmium	ug/kg	ND	210	91	*
EPA Method 7190: Chromium	ug/kg	ND	1,200	78	7.8
EPA Method 7420: Lead	ug/kg	ND	2,500	91	13
EPA Method 7520: Nickel	ug/kg	ND	2,500	90	0.0
EPA Method 7950: Zinc	ug/kg	ND	1,200	81	6.3

Concentrations reported as ND were not detected at or above the reporting limit.

* The RPD is not reportable since the sample prepared in duplicate was not detectable.


 Louis W. DuPuis
 Quality Assurance/Quality Control Manager

LOG NUMBER: 1353
 DATE SAMPLED: 09/27/91
 DATE RECEIVED: 09/27/91
 DATE EXTRACTED: 10/01/91
 DATE ANALYZED: 10/05/91
 DATE REPORTED: 10/17/91
 PAGE: Six

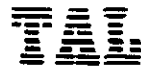
Sample Type: Soil

Method and Constituent	Units	1		Composite 2 and 3		Method Blank	
		Concen- tration	Reporting Limit	Concen- tration	Reporting Limit	Concen- tration	Reporting Limit
EPA Method 8010 (Continued):							
1,1,1,2-Tetrachloro- ethane	ug/kg	ND	6.8	ND	6.8	ND	6.8
Tetrachloroethylene	ug/kg	ND	6.8	ND	6.8	ND	6.8
1,1,1-Trichloroethane	ug/kg	ND	6.8	ND	6.8	ND	6.8
1,1,2-Trichloroethane	ug/kg	ND	6.8	ND	6.8	ND	6.8
Trichloroethylene	ug/kg	ND	6.8	ND	6.8	ND	6.8
Trichlorofluoro- methane	ug/kg	ND	6.8	ND	6.8	ND	6.8
Trichloropropane	ug/kg	ND	6.8	ND	6.8	ND	6.8
Vinyl Chloride	ug/kg	ND	6.8	ND	6.8	ND	6.8

QC Summary:

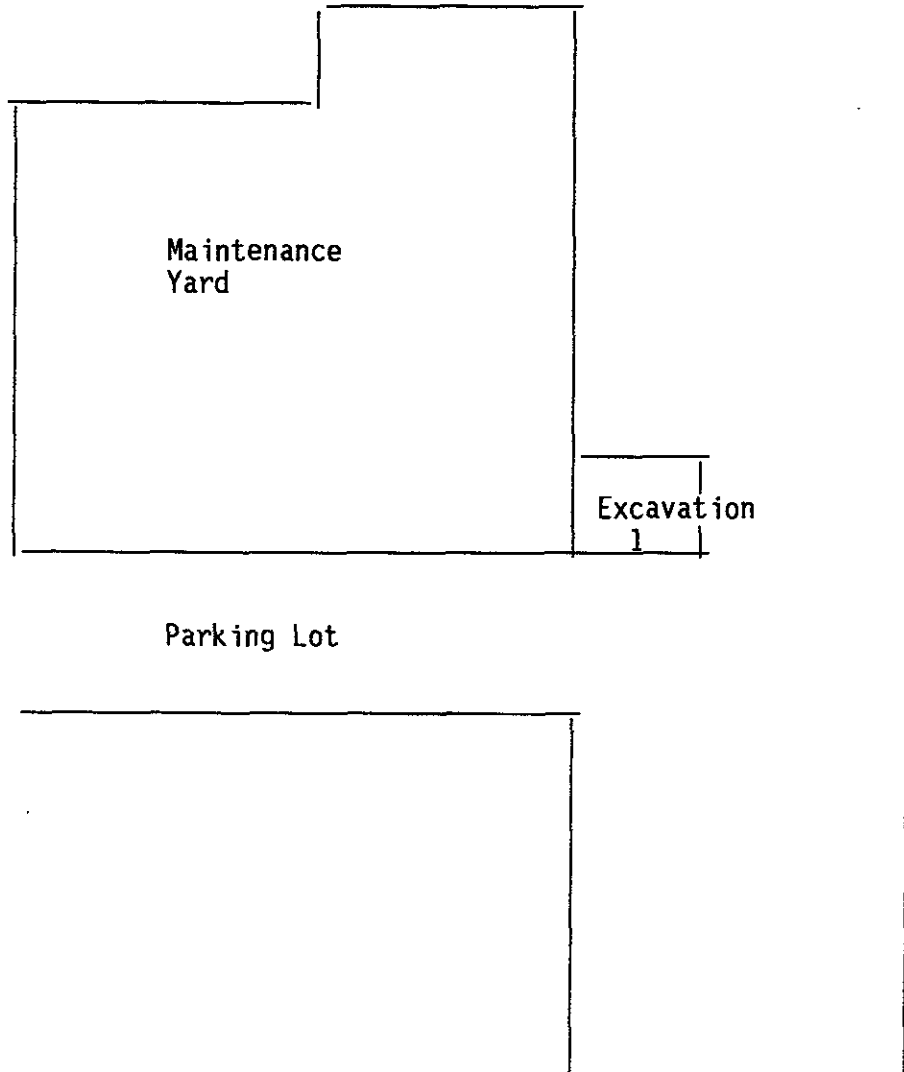
% Recovery: 110
 % RPD: 5.6

Concentrations reported as ND were not detected at or above the reporting limit.



Site: Ballena Isle Marina
Address: 1100 Ballena Boulevard
Alameda, CA 94501

North



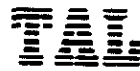
Requester: Jerry Green

Customer: Ballena Isle Marina

Address: 1150 Ballena Blvd., Ste. 111
Alameda, CA 94501

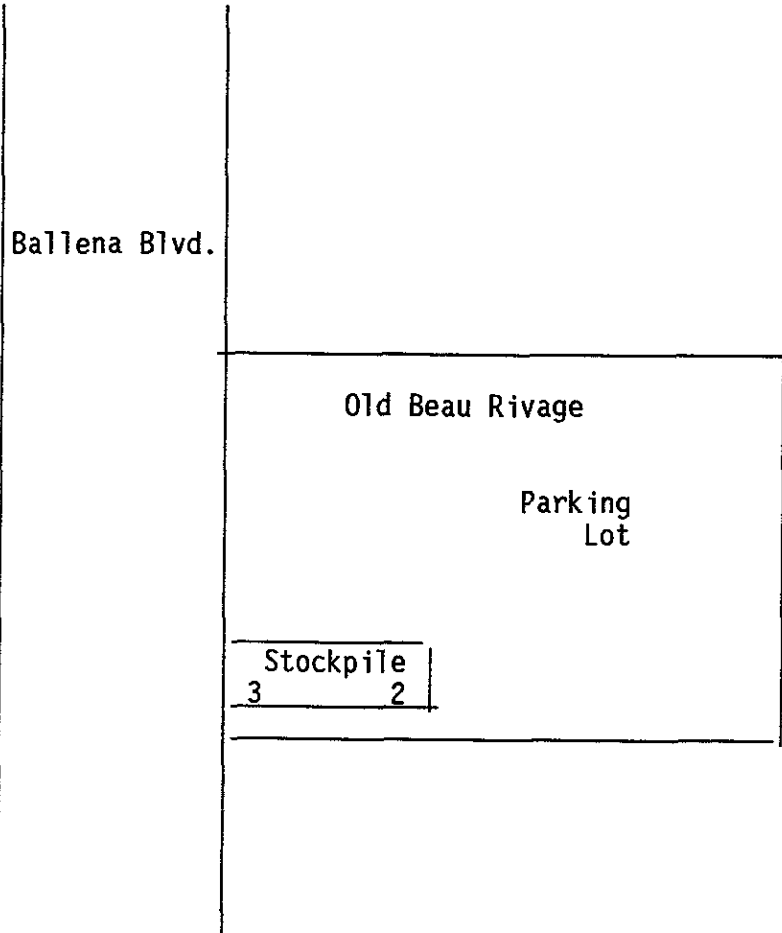
Date Sampled: 09/27/91

Log #: 1353



Site: Ballena Isle Marina
Address: 1100 Ballena Boulevard
Alameda, CA 94501

North



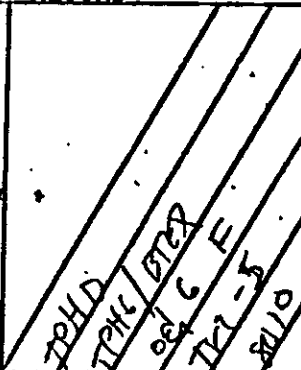

Requester: Jerry Green

Customer: Ballena Isle Marina

Address: 1150 Ballena Blvd., Ste. 111 Date Sampled: 09/27/91

Alameda, CA 94501 Log #: 1353

CHAIN OF CUSTODY RECORD

Proj. No.		Project Name 1100 Ballena Blvd Alameda, CA			No. of Con- tainers						1353
Samplers: (signature) John Kang TFL											
Sample ID	Date	Time	Site Location								
1	9/27/91	10:57	1100 Ballena Blvd	1-Lt.	X	X	X	X	X		
2	9/27/91	11:00	↓	↓ 2	X	X	X	X	X	(Comp)	
3	9/27/91	11:08	↓	↓							
Relinquished by: (signature)				Date/Time	Received by: (signature)				Date/Time		
Relinquished by: (signature)				Date/Time	Received by: (signature)				Date/Time		
Received for Laboratory by: (signature)								Date/Time			
REMARKS send copy of report to county ^{col, site} division Reg - TAY soil 1-lt ca on ice Field Sample : Y-6 82 											

APPENDIX C

ENSR REPORT



ENSR Consulting
and Engineering
1320 Harbor Bay Parkway
Alameda, CA 94501
(510) 865-1888
(510) 748-6799 FAX

May 21, 1992

Mr. Ravi Arulanantham
Alameda County Health Agency
Division of Environmental Health
80 Swan Way, Room 200
Oakland, California 94621

Subject: Soil excavation and sampling activities at the Ballena Isle Marina,
1150 Ballena Boulevard, Alameda, California.

Dear Mr. Arulanantham:

ENSR Consulting and Engineering collected soil samples during the excavation of contaminated soil from the former underground tank pit at the Ballena Isle Marina. As you will recall, a 250-gallon underground tank was excavated and removed from this site in 1991 by the owner. The tank was used to temporarily store waste oil from the engines of the boats that are docked at the marina. Soil around the tank was contaminated as a result of spillage from occasional overfilling.

Recent excavation of contaminated soil enlarged the pit, so that the pit currently measures 9.5 feet by 11.5 feet and is approximately 9 feet deep. During excavation of contaminated soil, soil staining appears to have extended beneath the maintenance building adjacent to the pit. The stained soil is at a depth of 5 feet. Further excavation of the stained soil was not possible without incurring possible damage to the foundation of the maintenance building. Groundwater was encountered at a depth of approximately 9.5 feet.

Two soil samples were collected from the pit. One soil sample (PB-1) was collected from the bottom of the pit (approximately 9 feet below grade), and the other soil sample (SW-1), was collected from the base of the sidewall on the north end of the pit. This soil sample was collected from a depth of 8.5 feet.

The soil samples were placed into laboratory-supplied glass jars using stainless steel hand trowels. The jars were placed on ice and transported to the laboratory under chain-of-custody protocol. The soil samples were analyzed by Curtis & Tompkins, Ltd., a California-State certified hazardous waste laboratory. Both soil samples were analyzed for the following:

TPH (gasoline)	EPA Method 8015
TPH (diesel)	EPA Method 8015
Total Oil & Grease	EPA Method SMWW 5520
Volatile Organic Compounds	EPA Method 8240
Metals:	
Cadmium	
Chromium	
Lead	
Nickel	
Zinc	

The excavated soil was stockpiled at the site by placing the soil on visquine sheeting which was then covered by visquine while awaiting the laboratory results.

The analytical results are summarized on Table 1. Oil & grease and diesel were detected at concentrations of 4,200 parts per million (ppm) and 1,800 ppm, respectively, in the sample from the bottom of the pit. Lower amounts of gasoline, xylene, toluene, and ethylbenzene were detected at 79 ppm, 9.2 ppm, 1 ppm, and 0.840 ppm, respectively. Low levels of chromium, nickel, zinc, and lead were detected in this soil sample.

In the soil sample from the base of the sidewall, oil & grease and diesel were detected at 3,500 ppm and 2,200 ppm, respectively. Lower levels of gasoline, and xylene were detected in this sample at 91 ppm, and 1.9 ppm, respectively.

Conclusions and Recommendations

Because contaminated soil remains in the ground, and because of the shallow depth of the groundwater at this location, it is likely that the groundwater has been impacted by the contaminants in the soil. However, it is ENSR's opinion that establishing a groundwater monitoring program involving the installation of one or more monitoring wells is not necessary at this site.

The Baliena Isle Marina is constructed on a narrow, man-made body of land which is bounded on three sides by seawater. The harbor is approximately 30 feet northeast of the contaminated area. San Francisco Bay is approximately 200 feet southwest of the contaminated area. Shallow groundwater in the marina area (including the contaminated area) is probably affected by saltwater intrusion and is therefore saltwater to brackish, at best. As a result, the groundwater has no beneficial uses. Any effects on aquatic wildlife resulting from contaminated groundwater entering San Francisco Bay waters would be negligible because: (1) the extent and scope of contamination is relatively small, and (2) the contaminated groundwater would be greatly diluted upon entering San Francisco Bay.



The close proximity of the contaminated area to San Francisco Bay and the harbor also means that groundwater flow is strongly influenced by the ebb and flow of the tides. Because the water level changes from high to low tide twice daily, groundwater flow direction in the vicinity of the contaminated area is likely to change over the course of a single day. For these reasons, ENSR believes that groundwater monitoring is not necessary.

Instead, it is our recommendation that the Ballena Isle Marina backfill the open pit with clean fill material, and that an impermeable cap in the form of concrete pavement be placed over the former pit and surrounding area. This barrier would prevent surface runoff and rainwater from infiltrating the soil, thereby preventing further mobilization of the contaminants downward into the water table.

We will call you within the week to seek your response to our recommendation. If you have any questions or comments, please give me a call at (510) 865-1888.

Sincerely,
ENSR Consulting and Engineering

Brian Ho
Project Geologist

Paul Hilbelink, C.E.G.
Manager, Geological Sciences

Attachments

cc Jerry Green, Ballena Isle Marina

TABLE 1**Summary of Analytical Results of
Soil Samples from Ballena Isle Marina**

Sample No.	Diesel	Gasoline	Xylene	Toluene	Benzene	Ethylbenzene	Oil & Grease
SW-1	2,200 ppm	91 ppm	1.9 ppm	ND	ND	ND	3,500 ppm
PB-1	1,800 ppm	79 ppm	9.2 ppm	1 ppm	ND	0.840 ppm	4,200 ppm

Metals					
Sample No.	Cadmium	Chromium	Lead	Nickel	Zinc
SW-1	0.41 ppm	16.2 ppm	13 ppm	13.3 ppm	13.7 ppm
PB-1	ND	15.8 ppm	4.5 ppm	14.0 ppm	13.7 ppm

ND = Not Detected at or above the limit of detection of 0.5 ppm.

Marina (docks)

Shoreline

Concrete Utility
Vaults

Embankment

Asphalt-Paved Walkway

Storage
Area

Open Pit
(Tank Excavation Pit)

Maintainance
Building

Asphalt-Paved
Parking Lot

BALLENA BOULEVARD

Shoreline

Embankment

SAN FRANCISCO BAY

Not to Scale



ENSR

SITE PLAN
BALLENA ISLE MARINA
1150 BALLENA BOULEVARD, ALAMEDA, CALIFORNIA

DRAWN BY: BRIAN HO

DATE: 2/19/82

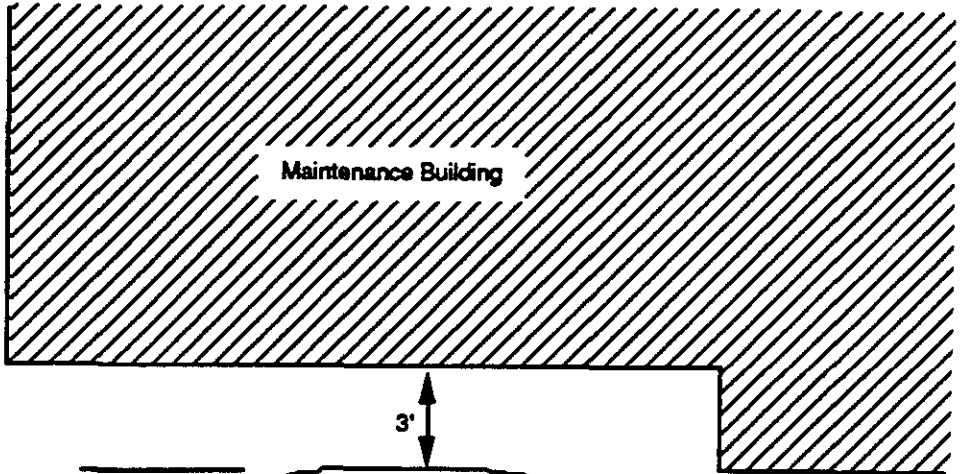
PROJECT NO.

CHK BY:

REVISED:

FIGURE NO.: 1

Parking Lot



Maintenance Building

3'

Open Pit

Sample PB-1
collected from
depth of 9 feet.

PB-1

Sample SW-1
collected from
depth of 8.5 feet.

11.5'

9.5'

SW-1



Utility Vaults

Asphalt Walkway



ENSR Consulting and Engineering

SOIL SAMPLE LOCATION MAP
BALLENA ISLE MARINA
1150 Ballena Boulevard, Alameda, California

DRAWN BY: Brian Ho	DATE: 5/7/92	PROJECT NO. 8700-114.000
CHK BY:	REVISED:	FIGURE NO.: 2

APPENDIX D

LAW/CRANDALL REPORT

LAW/CRANDALL, INC.

geotechnical, environmental & construction materials consultants

Report of PHASE II ENVIRONMENTAL ASSESSMENT

**Ballena Isle Marina
1150 Ballena Boulevard
Alameda, California
Control No. 1026
Great American Portfolio**

prepared for

***G.A.P. Portfolio Partners
c/o Colony Advisors, Inc.
1999 Avenue of the Stars, Suite 1200
Los Angeles, California 90067***

prepared by

**LAW/CRANDALL, INC.
Project No. 2123-20669-1**

December 29, 1992



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December 29, 1992

G.A.P. Portfolio Partners
c/o Colony Advisors, Inc.
1999 Avenue of the Stars, Suite 1200
Los Angeles, California 90067

Subject: **Report of Phase II Environmental Site Assessment**
Great American Portfolio
Control No. 1026
Oakland, California
Law/Crandall Project No. 2123-20669-1

Attention: Ms. Sandra Kossacoff

Law/Crandall, Inc. (LAW) is pleased to submit this report of our Phase II environmental site assessment for the subject property. The purpose of our services is described in our proposal and addendum dated October 5 and October 13, 1992 and in the scope of work contained in job order number 92-1026-3 under the Master Consulting Agreement between Colony Advisors, Inc. as agent to G.A.P. Portfolio Partners and Law Associates, Inc. (hereinafter "MCA").

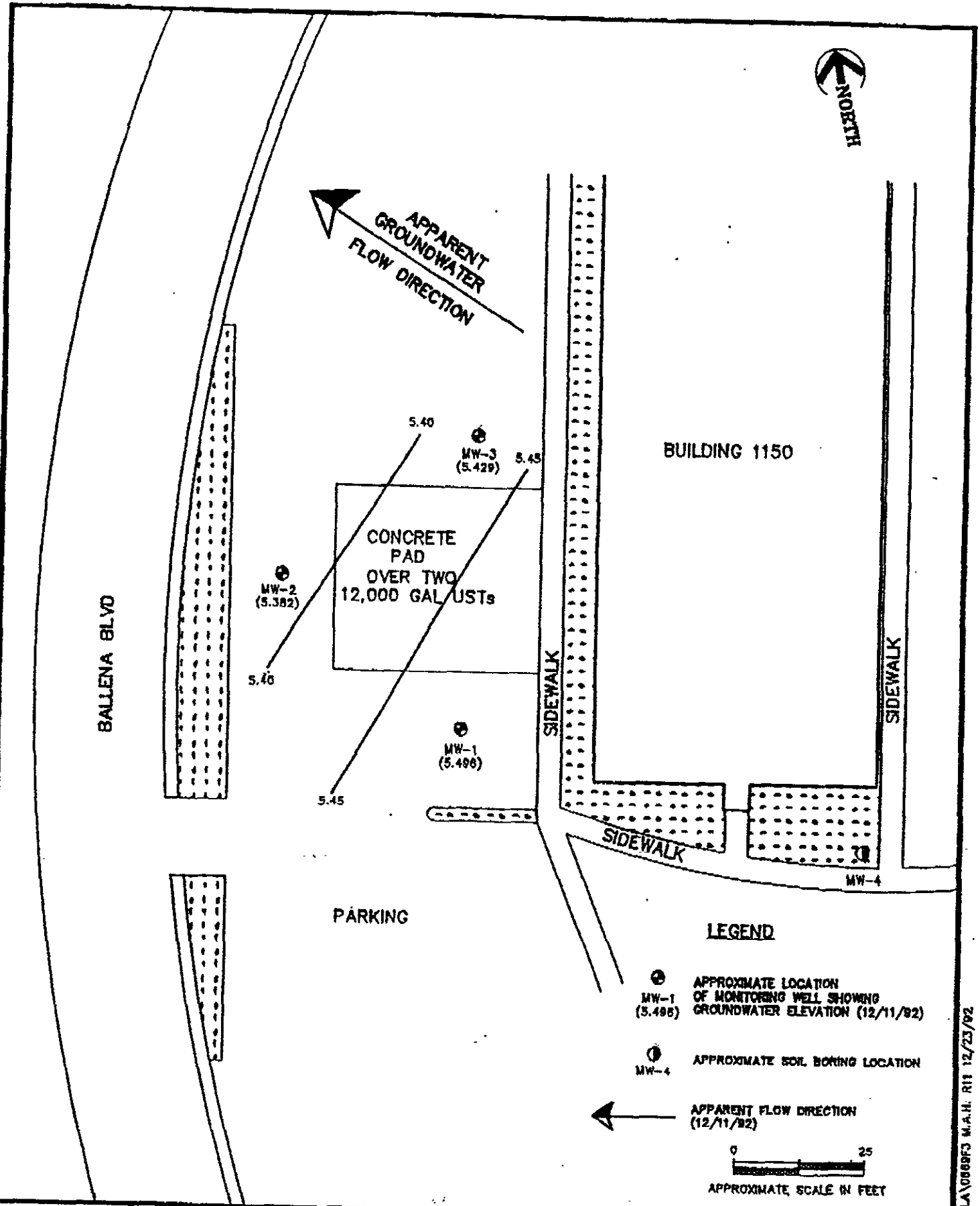
This report is intended for the use of G.A.P. Portfolio Partners, Inc. Our services have been performed under mutually agreed upon terms and conditions. If third parties wish to rely on this report, such reliance shall be governed by paragraphs 9.6 and 3.3 of the MCA. Any third party not specifically mentioned herein shall not distribute this report except at its own sole and exclusive risk and without liability to LAW.

We appreciate the opportunity to be of service to you. Please call us at (415) 499-1422 if you have any questions or if we may be of further service.

Sincerely,
Law/Crandall, Inc.

Susan Gahry, P.E.
Senior Chemical Engineer

Mark I. Miller, C.E.G. 1540
Principal



G.A.P. PORTFOLIO PARTNERS
 C/O COLONY ADVISORS, INC.
 LOS ANGELES, CALIFORNIA



LAW/CRANDALL, INC.

EXISTING UST AREA
 GE SITE # 1026
 BALLENA ISLE MARINA
 ALAMEDA, CALIFORNIA

\DWGCS\DECAPTEL\LA\0869F3 M.A.H. R11 12/23/92

1.0 INTRODUCTION

Colony Advisors, Inc. as agent to G.A.P. Portfolio Partners engaged Law/Crandall, Inc. (LAW) to perform a Phase II environmental site assessment for the Ballena Isle Marina in Alameda, California. This study was performed substantially as outlined in LAW's proposal and addendum dated October 5 and October 13, 1992, respectively.

The site occupies a 56-acre man-made peninsula and is located at 1150 Ballena Boulevard. The site is currently managed by Almar Limited (site operators). The site location is shown on Figure 1. The site contains 20 acres of water, a marina with 455 berths, several two-story office buildings, parking lots, and a restaurant. A fuel dock, hoist for pulling boats out of the water, service yard/maintenance shed, tennis court, and the concrete foundation for the former Beau Rivage Restaurant (destroyed by fire in 1990) are also located on the property. A site plan is included as Figure 2.

The Phase I Environmental Assessment Report was prepared by LAW on October 13, 1992. The report identified:

- The potential for soil/groundwater petroleum hydrocarbon contamination due to the current and former presence of underground storage tanks (USTs) at three separate locations on the property. These areas are identified as the existing USTs, former USTs, and waste oil UST.
- The potential for shallow soil contamination due to the presence of an abandoned above-ground diesel tank and the collection of waste oil in 55-gallon drums.
- The potential for contamination, particularly heavy metals, due to the deposition of dredging materials onto a portion of the site.

Additional background on specific areas of environmental concern follows.

Existing USTs

Two 12,000-gallon USTs are located in the parking lot immediately west of Building 1150. These double-walled USTs were installed in 1990 following the October 1989 earthquake to replace damaged USTs which had been installed in 1987. Unleaded gasoline and diesel fuel are stored in the USTs.

During the 1989 earthquake, the existing tanks were displaced upward and the piping connections at the tank were broken. On July 2, 1990, the two single-wall underground fuel tanks were removed from the site by Subsurface Consultants. The tanks did not appear to be damaged or deteriorated. The gasoline and diesel tank were located on the northern and southern side of the tank pit, respectively. Six soil samples were collected at a depth of 5

feet below ground surface from the walls of the tank pit during UST replacement activities. The samples were analyzed for total volatile hydrocarbons (TVH), benzene, toluene, ethylbenzene, and xylenes (BTEX), and total extractable hydrocarbons as diesel (TEH). The soil sample collected from the east side wall of the former diesel tank near the piping connection (approximately 6 feet west of the sidewalk) contained 130 milligrams per kilogram (mg/kg or parts per million) of TEH. Contaminants were not detected in the five other soil samples.

One groundwater sample was collected from the tank pit before the tank pit was purged; another groundwater sample was collected after approximately two weeks. The initial groundwater sample contained 24 milligrams per liter (mg/l) of TVH, 0.87 mg/l of benzene, 0.52 mg/l of toluene, 4.2 mg/l of xylenes, and 0.0007 mg/l of TEH. The later groundwater sample contained 0.0007 mg/l of toluene. The remaining contaminants were reported to have volatilized from the water.

On May 15, 1992, the Alameda County Health Care Services Agency (County) requested that a workplan be prepared for a groundwater investigation. The site operators have not responded to the County's request. Ms. Juliet Shin, the County's case worker, has not sent the owners another letter requesting action since she is aware of the current investigation by LAW.

Former USTs

Four 4,000-gallon USTs for leaded gasoline and diesel fuel were removed in 1984 to allow construction of Building 1150. These tanks were located between the Whale's Tail restaurant and Building 1150; they are reported to have extended to what is now the southeast corner of Building 1150. Soil and/or groundwater sampling was not conducted when these tanks were removed.

Former Waste Oil Tank

A 250-gallon waste oil UST, formerly located just north of the maintenance building, was removed in July 1991 by the site operators. The excavation associated with the removal of this UST has not been backfilled and excavated soils are stored on-site. The tank pit is covered with planks and enclosed by a wooden fence. The soil has been placed on and covered with plastic in the parking lot for the former Beau Rivage restaurant.

On September 27, 1991, one soil sample was collected from the tank pit excavation and two samples were collected from the stockpiled soil in the former Beau Rivage Restaurant parking lot by Trace Analysis Laboratory, Inc. The stockpile soil samples were composited into one sample at the laboratory. The stockpile and tank pit soil samples contained the following concentrations of contaminants, respectively: oil & grease (O&G) at 4,800 mg/kg and 11,000 mg/kg; total petroleum hydrocarbons as diesel (TPH/D) at 1,300 mg/kg and 5,700 mg/kg; total petroleum hydrocarbons as gasoline (TPH/G) at 860 mg/kg and 7.4

mg/kg; xylenes at 3.9 mg/kg and 0.14 mg/kg; toluene at 0.02 mg/kg and 3.9 mg/kg; ethylbenzene at 0.027 mg/kg and 13 mg/kg; chromium (Cr) at 17 mg/kg and 18 mg/kg; lead (Pb) at 51 mg/kg and 55 mg/kg; nickel (Ni) at 14 mg/kg and 14 mg/kg; and zinc (Zn) at 42 mg/kg and 23 mg/kg. The samples were not analyzed for semi-volatile organics or PCBs; volatile organic compounds (VOCs) other than BTEX were not detected.

According to ENSR Consulting and Engineering's May 21, 1992 report to the County, the tank pit was additionally excavated in May 1992 to dimensions of 9.5 feet by 11.5 feet with an approximate depth of 9 feet. During the additional excavation, soil staining appeared to extend beneath the maintenance building adjacent to the pit. The stained soil was noted at a depth of approximately 5 feet. Further excavation of the stained soil was reported to not be possible without incurring possible damage to the foundation of the maintenance building. Groundwater was encountered at a depth of 9.5 feet.

Two soil samples were collected from the tank pit following the additional excavation by ENSR Consulting and Engineering. The soil samples contained the following concentrations of contaminants: O & G from 3,500 to 4,200 mg/kg; TPH/D ranging from 1,800 to 2,200 mg/kg; TPH/G ranging from 79 to 91 mg/kg; xylenes ranging from 1.9 to 9.2 mg/kg; toluene at 1 mg/kg; ethylbenzene at 0.84 mg/kg; Cadmium at 0.41 mg/kg; Cr ranging from 15.8 to 16.2 mg/kg; Pb ranging from 4.5 to 13 mg/kg; Ni ranging from 13.3 to 14 mg/kg; and Zn at 13.7 mg/kg. The samples were not analyzed for semi-volatile organics or PCBs; VOCs (other than BTEX) were not detected.

On July 2, 1992, the County requested that the tank pit be excavated down to groundwater and that a groundwater grab sample be collected and analyzed for TPH/G, TPH/G, O&G, VOCs, and Cd, Cr, Pb, Ni, and Zn. Also, the County requested that further attempts should be made to investigate the extent of and remediate soil contamination at the site. A workplan to address the investigation and remediation of the soil contamination was requested within 45 days of the receipt of the County's letter. On August 10, 1992, Ballena Isle Marina requested a 45 day extension to obtain bids and authorization from their parent company, Almar.

Abandoned Above-ground Diesel Tank

An abandoned 250-gallon above-ground diesel tank is also located on the property. The spigot from the tank is located directly above what appears to be a screened sump.

Drummed Waste Oil Storage Area

Waste oil is currently collected in several 55-gallon drums, enclosed by wooden planks, located in a wooden shack near the former Beau Rivage restaurant. The drums are hauled off-site by Waste Oil Disposal approximately every 2 to 3 months. Oil stains and sorbant-type material were noted on the floor in the vicinity of these drums.

On-Site Disposal of Dredge Tailings

The area west of the parking lot at the tip of the peninsula is periodically dug out and used to contain dredging spoils. The marina was last dredged in 1987; the facility is currently in the process of obtaining another permit from the San Francisco Bay Conservation and Development Commission to allow the dredging to be conducted again.

2.0 PURPOSE, SCOPE AND REPORT FORMAT

2.1 Purpose

The purpose of the Phase II Environmental Site Assessment was to assess the potential degree and extent of subsurface contamination in the areas identified with environmental concerns during LAW's Phase I environmental assessment. Such services were performed pursuant to the generally accepted national standards of care, skill, diligence and professional competence applicable to LAW.

2.2 Scope of Work

The scope of services included the following:

- Installation of three monitoring wells in the vicinity of the existing gasoline/diesel USTs to assess 1) the potential for soil and groundwater contamination and 2) the groundwater gradient to evaluate the direction in which contamination would be expected to move.
- Installation of one monitoring well in the vicinity of the former gasoline/diesel USTs to assess the potential for soil and groundwater contamination.
- Installation of five soil borings in the vicinity of the former waste oil UST to assess the extent of contamination and the potential limits of excavation needed to remediate soils in the area.
- Collection of a grab groundwater sample from the former waste oil UST area with a Hydropunch™ sampling device to assess the degree to which groundwater has been impacted.
- Collection of shallow soil samples in the area of the abandoned aboveground diesel tank, dredging spoils, and waste oil collection area to assess the potential for soil contamination due to surface spills and/or use of inappropriate fill materials.

- Preparation of this report containing our findings and conclusions and an order of magnitude opinion of cost to remediate the site, if necessary.

Our scope of services did not include disposal of drums of soil and groundwater generated during drilling. A cost estimate for drum disposal will be submitted under separate cover; costs for drum disposal were included in our proposal as part of Phase III activities which were not authorized.

2.3 Report Format

Our report format has four major sections:

- Field Assessment Procedures
- Field Assessment Results
- Remedial and Regulatory Requirements
- Opinion of Remedial Costs

3.0 FIELD ASSESSMENT PROCEDURES

The field assessment commenced on December 1, 1992 and was completed on December 11, 1992.

3.1 Preparatory Activities

We prepared a site-specific Health and Safety Plan to address chemical contaminants potentially present at the site, as required by the Occupational Safety and Health Administration (29 CFR 1910.120). The Health and Safety Plan was used to acquaint LAW field personnel and our drilling subcontractor with chemical hazards potentially present at the site, and to insure that the proper safety equipment was available for use if potentially hazardous conditions were encountered.

We obtained monitoring well construction permit number 92611 from the Alameda County Flood Control and Water Conservation District (Water Resources Zone 7 Management) in Pleasanton, California on November 24, 1992. A copy of the well construction permit is included as Appendix A.

We notified Underground Service Alert, a public utility locating firm, on December 1, 1992. Under the direction of LAW, Cruz Brothers Subsurface Locators of Milpitas, California, screened proposed boring locations for subsurface obstructions on December 1, 1992.

3.2 Soil Boring and Monitoring Well Locations

898-1188 BARRY SCHALLA

LAW's drilling subcontractor, Great Sierra Exploration, Inc. of Novato, California, drilled a total of eight borings on the site under the supervision of Andrew Muha, a LAW field hydrogeologist, on December 4 and December 7, 1992. Three of the borings were converted to groundwater monitoring wells. Grab groundwater samples were collected from two of the borings, MW-4 and HP-1, using a hand auger and Hydropunch™, respectively. LAW also hand augered four other soil borings (SB-5, SB-6, SB-7, and SB-8). Boring and/or monitoring well locations are shown on Figure 2. The rationale for the locations and depth of borings are discussed below.

- Monitoring wells MW-1, MW-2, and MW-3 were installed in the vicinity of the existing USTs to a depth of 15 feet below ground surface. Well locations are also shown on Figure 3.
- Soil boring MW-4 was installed in the vicinity of the former USTs between the Whales Tail Restaurant and Building 1150; the location is shown on Figure 3. We had initially planned to install a monitoring well at this location. However, due to access restrictions and the presence of numerous underground utilities in the area, a drill rig could not be used. The boring was constructed using a hand auger to an approximate depth of 9 feet below ground surface. A clean, slotted PVC casing was placed into the boring and a bailer was lowered into the casing to collect a grab groundwater sample.
- Soil borings B-1, B-2, B-3, and B-4 were drilled near the former waste oil UST to depths of 15 feet below ground surface to assess the lateral extent of potential contamination. Boring B-1 was located approximately 8 feet west of the tank pit. Boring B-2 was located approximately 18 feet west of the tank pit. Boring B-3 was located approximately 12 feet north of the tank pit. Boring B-4 was located approximately 34 feet east of the tank pit (the presence of underground utilities prevented drilling at a location closer to the tank pit). Boring B-5 was located approximately 10 feet east of the tank pit; boring B-5 was hand augered to an approximate depth of 10 feet below ground surface. A large tree in the area prevented use of the drill rig. Boring locations are shown on Figure 4.

- HydropunchTM location HP-1 was located approximately 2 feet north of the former waste oil UST to a depth of 10 feet below ground surface (Figure 4).
- Soil boring SB-6 was hand augered near the abandoned above-ground diesel tank approximately 2 feet southwest of the sump to a depth of 5 feet below ground surface.
- Soil boring SB-7 was hand augered near the drums of waste oil. The boring was augered at an approximate 45 degree angle to a depth of approximately 4 feet below ground surface. The barrels were stored on a concrete pad; the concrete coring equipment available on the drill rig could not access the area. The angled boring was used to get beneath the drums from an area which was not paved.
- Soil boring SB-8 was hand augered in the dredged tailings disposal area to a depth of 5 feet below ground surface.

3.3 Soil Boring and Sampling Procedures

The borings constructed by Great Sierra Exploration were advanced using a truck-mounted drill rig equipped with 8-inch diameter hollow stem augers, with the exception of MW-4. Boring MW-4 and those borings installed by LAW were advanced by hand using a 3.5-inch diameter stainless steel auger.

Soil samples were collected with a California modified split-spoon sampler or equivalent. Samples were retained in six-inch-long brass tubes. One tube from each sampling interval was capped with teflon liners, plastic end caps, wrapped with duct tape, sealed in a plastic bag and placed on ice in a thermally insulated cooler pending selection of samples for laboratory analysis. The remaining sample tubes were used in the soil classification and laboratory screening processes. Selected samples were shipped to a state-certified analytical laboratory with chain-of-custody documentation.

Soils encountered in the borings were classified according to the Unified Soil Classification System. Soil samples were collected at 5-foot intervals and significant lithologic changes. We screened soil samples in the field with a Foxboro flame-ionization Organic Vapor Analyzer (OVA). One sample from each boring showing visible evidence of potential contamination and/or the highest readings on the OVA was to be selected for analysis. If soil samples in a particular boring did not exhibit visible evidence of contamination or elevated OVA readings above the soil/groundwater interface, the deepest soil sample encountered in the boring prior to the soil/groundwater interface was to be analyzed. Using

this protocol, the samples selected for analysis were the deepest soil sample encountered prior to the soil/groundwater interface.

Downhole drilling equipment was steam cleaned prior to use and between borings. Soil sampling and hand auger equipment was washed in an Alconox soap solution after each use. All drill cuttings and wash water were placed into D.O.T.-approved, watertight 55-gallon drums and stored on site pending the receipt of laboratory analyses.

3.4 Construction and Sampling of Monitoring Wells

Three of the soil borings were converted to monitoring wells. The wells were necessary to evaluate groundwater conditions in the vicinity of the existing USTs. The wells were located on the north, south, and west sides of the existing USTs. We anticipated that groundwater would occur approximately 10 feet below ground surface, its flow would be influenced by tidal actions, and the gradient would be relatively flat.

The monitoring wells were constructed with 2-inch diameter, Schedule 40 PVC screen and riser sections. Great Sierra Exploration installed a sandpack around the 10-foot slotted PVC casing interval and a bentonite seal above the sandpack. The wells were sealed to the ground surface with bentonite chips. Boring logs and monitoring well construction details are presented in Appendix B. The wells were finished at the surface with flush-mounted, traffic-rated protective vaults.

On December 8, 1992, we used a KVA submersible pump to develop the monitoring wells. The wells were developed until the clarity of the discharge water stabilized. Purging continued until the field-measured parameters of pH, temperature and electrical conductivity stabilized with less than a 10 percent variance. Approximately 45 to 50 gallons of water (at least four well casing volumes) were removed from each well during the development process. Following development, we collected one set of groundwater samples from each well with a new disposable bailer after the water level in each well had recovered to approximately 80 percent of its initial level. The groundwater samples were poured into laboratory-supplied glass bottles, placed on ice in a thermally insulated container, and delivered along with a chain-of-custody form to a state-certified laboratory for analysis.

The well development purge water was placed into D.O.T.-approved, watertight 55-gallon drums and stored on-site pending receipt of laboratory analytical results. The development and purge water was subsequently moved to another location at the site at the request of the marina operators.

On December 11, 1992, we measured the water levels in the wells to within 0.01 foot using a Solinst water level meter. We also surveyed the top-of-casing elevation of each well and

referenced the elevation to a temporary benchmark located at the southwest corner of the concrete pad which overlaid the USTs.

3.5 Analysis of Soil and Groundwater Samples

Soil and groundwater samples were delivered to Superior Precision Analytical, Inc. in San Francisco, California for chemical analysis on a 5-day turnaround basis. With the exception of the dredged soil disposal area, the selected laboratory analyses addressed requirements contained in the Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites, California Regional Water Quality Control Board, San Francisco Bay Region, dated August 10, 1990 (Regional Board Guidelines). Analyses for the dredged soil disposal area were based on typical non-volatile contaminants found in dredge tailings.

Soil and groundwater samples collected near the former and existing USTs (MW-1 through MW-4) were analyzed for TPH/G, TPH/D, BTEX, and Pb.

Soil samples collected from the five soil borings near the former waste oil UST (B-1 through B-5) and the one soil sample near the waste oil drum storage area (SB-7) were analyzed for TPH/G, TPH/D, BTEX, VOCs, O&G, semi-volatile organics, pesticides and PCBs, and soluble Cd, Cr, Pb, Zn, and Ni. The grab groundwater sample collected near the former waste oil UST was analyzed for the same constituents except the metals were analyzed for total rather than soluble constituents.

The soil sample from boring SB-6 (near the abandoned above-ground diesel tank sump) was analyzed for TPH/D and BTEX.

The soil sample from boring SB-8 (the dredged soil disposal area) was analyzed for semi-volatile organics, O&G, and seventeen metals.

4.0 FIELD ASSESSMENT RESULTS

4.1. Laboratory Analytical Results

Results of the laboratory analyses of soil samples for the waste oil and existing UST areas are summarized on Table 4.1 and 4.2; groundwater analytical results for the existing UST area are summarized on Table 4.3. The complete laboratory report and chain-of-custody documents are presented in Appendix C. Laboratory analytical results are presented below by location.

Existing USTs

The soil samples collected from the three monitoring wells (MW-1 through MW-3) at a depth of 10 feet did not contain concentrations of TPH/G, TPH/D, BTEX, or total lead in excess of laboratory detection limits. The groundwater sample from well MW-1 contained 0.5 micrograms per liter (ug/l or ppb) of toluene and 0.6 ug/l of xylenes. The groundwater sample from well MW-3 contained TPH/G, toluene, and xylenes at concentrations of 52 ug/l, 0.5 ug/l, and 0.6 ug/l, respectively. TPH/G, toluene, and xylenes were not detected in the groundwater sample from well MW-2. TPH/D, benzene, ethylbenzene, and soluble or total lead were not detected in any of the soil or groundwater samples.

Former USTs

TPH/G, BTEX, TPH/D, and soluble or total lead were not detected in the soil or grab groundwater samples (MW-4) collected near the location of the former USTs.

Former Waste Oil Tank

The five soil samples (B-1 through B-5) collected at locations ranging from 8 to 34 feet away from the perimeter of the former waste oil UST excavation at depths of 10 feet contained total O&G concentrations ranging from 53 mg/kg in B-5 to 110 mg/kg in B-1. TPH/G, BTEX, TPH/D, VOCs, semi-volatile organics, pesticides, PCBs, and soluble metals (Zn, Cd, Cr, Pb, and Ni), were not detected.

The grab groundwater sample, HP-1, contained toluene at a concentration of 0.3 ug/l. TPH/G, benzene, ethylbenzene, xylenes, TPH/D, O&G, VOCs, semi-volatile organics, pesticides, PCBs, and soluble metals (Zn, Cd, Cr, Pb, and Ni), were not detected.

Abandoned Above-ground Diesel Tank

The soil sample (SB-6) collected at a depth of 5 feet near the sump associated with the abandoned above-ground diesel tank did not contain concentrations of TPH/D or BTEX in excess of laboratory detection limits.

Drummed Waste Oil Storage Area

The soil sample (SB-7) collected beneath the drums of waste oil contained 83 mg/kg of O&G. TPH/G, BTEX, TPH/D, VOCs, semi-volatile organics, pesticides, PCBs and soluble metals (Zn, Cd, Cr, Pb, and Ni), were not detected.

Dredge Tailings Disposal Area

The soil sample (SB-8) collected at a depth of 5 feet in the dredge tailings disposal area contained 130 mg/kg of total oil and grease. Antimony, arsenic, barium, chromium, copper, lead, mercury, nickel, vanadium, and zinc were detected at concentrations ranging from 0.19 to 80 mg/kg. Concentrations were well below California Administrative Code's Threshold Limit Concentration (TTL) Values. Semi-volatile organic compounds were not detected.

Subsequent Analyses

Subsequent to the discovery of O&G in soil samples from other areas of the site, the soil samples from MW-1 through MW-4 were also analyzed for O&G. The samples did not contain O&G in excess of laboratory detection limits.

4.2. Groundwater Gradient

As shown on Figure 3, the groundwater gradient was calculated to be towards the northwest at 0.0025 feet per foot. As previously stated, the groundwater gradient is expected to fluctuate due to tidal influences. Groundwater level measurements and top of casing elevations are summarized on Table 4.4.

5.0 REMEDIAL AND REGULATORY REQUIREMENTS

Cleanup requirements or levels for soil and groundwater contamination have not been established for sites in the San Francisco Bay Area. Regional Board Guidelines require a soil/groundwater investigation should soil samples collected during the removal of underground storage tanks exceed 100 mg/kg of total petroleum hydrocarbons or O&G. The required soil/groundwater investigation typically includes the installation of monitoring wells for sites with a groundwater depth of less than 50 feet. The Regional Board does not consider 100 mg/kg to be a cleanup level; the guidelines state that "in many instances it may not be appropriate to leave soil in-place which is contaminated with total petroleum hydrocarbons or other compounds at any concentration".

On December 18, 1992, potential cleanup and regulatory requirements were discussed with the County's assigned case worker, Ms. Juliet Shin. Specific requirements are subject to the County's review of the well and sample locations, previous assessment results, current assessment results, and future assessment results. Likely regulatory requirements for the areas of concern are discussed below.

Existing USTs

Monthly water level measurements and gradient determinations could be required since the groundwater gradient is expected to fluctuate. Groundwater remediation will likely not be required since the current groundwater sampling results indicate relatively low levels (near reporting limits) and the absence of benzene. Rather, quarterly groundwater monitoring will likely be required for a minimum period of one year. If groundwater concentrations remain similar to the current result after one year, site closure (removal from the regulatory list) will likely be recommended by the County. Final closure decisions rest with the San Francisco Regional Water Quality Control Board, San Francisco Bay Region.

Former Waste Oil UST

Approximately 2 feet from the perimeter of the waste oil UST excavation, a grab groundwater sample contained only toluene at 0.3 ug/l. Soil samples at further distances from the excavation contained O&G concentrations ranging from 53 mg/kg to 110 mg/kg. Previous soil samples collected from the tank pit indicated relatively high levels of contamination (up to 11,000 mg/kg of O&G). Widespread contamination was not identified during the current assessment at distances of 8 to 34 feet beyond the tank pit's perimeter; the tank pit area adjacent to the maintenance building was not evaluated due to access limitations. These results suggest that remedial activities may not be required since the groundwater in the vicinity of the excavation does not appear to be adversely affected. The soil sample analytical results are surprising since the soil samples collected from the tank pit contained much higher concentrations of contaminants. Documentation substantiating that further excavation is limited due to the close proximity to the maintenance building and underground utilities may be required. Alternately, the County may require additional excavation to the extent feasible without undertaking unusual methods to protect utilities and/or nearby structures.

Presence of O&G

The source of the widespread O&G concentrations and the evidence that it has not adversely impacted the groundwater should be documented. Current indications are that the O&G is due to the use of dredged fill material to create the site and that it has not impacted the groundwater. A cost/benefit analysis may be required to document that the costs of remediating the O&G far exceed the associated benefits.

6.0 OPINION OF REMEDIAL COSTS

Based on the results of the field assessment and our preliminary evaluation of remedial and regulatory requirements, the following additional activities are required at the site to obtain

closure (removal from regulatory lists and oversight). For purposes of this report, these additional activities are considered to comprise remedial costs. An opinion of remedial cost is provided for each area of concern; a summary is provided on Table 6.1.

6.1 Existing USTs

The groundwater gradient would be measured monthly for a period of six consecutive months. The three wells would be monitored for TPH/G, TPH/D, and BTEX for four consecutive quarters. Quarterly reports would be submitted to the County documenting the results of the groundwater monitoring activities; the reports would include appropriate documentation such as groundwater gradient maps. Following a period of one year with no significant changes in the groundwater concentrations, a request for closure report would be submitted to the County. Our estimated order-of-magnitude opinion of cost to complete these activities is approximately \$ 25,000.

6.2 Disposal of Stockpiled Soils

The soils previously excavated from the tank pit would be appropriately disposed, the tank area would be backfilled, and a report would be submitted to the County documenting that additional excavation is not feasible and requesting closure. Assuming that the stockpiled soils would require disposal at a Class 1 (hazardous) landfill due to the elevated level of contaminants (greater than 1,000 ppm of O&G) identified by previous laboratory analysis, our estimated order-of-magnitude opinion of cost is approximately \$ 25,000.

6.3 Additional Excavation of Waste Oil UST

Should additional excavation be required by the County, the excavation limits would likely not extend more than 10 feet to the north, west and east. Approximately 100 cubic yards of soil would be excavated. Soil samples would need to be collected from each end of the excavation to verify the levels of contaminants that remain. Soil samples would need to be analyzed for contaminants previously identified in the area (O&G, TPH/D, TPH/G, and BTEX). The excavated soil would likely require disposal at a Class 1 facility due to the elevated level of contaminants previously identified in the immediate vicinity of the tank pit. A report would be submitted documenting the excavation, soil sample results, disposal of excavated soils, and requesting site closure. Our estimated order-of-magnitude opinion of cost to complete these activities is approximately \$ 50,000.

6.4 Presence of O&G

A cost/benefit report would be submitted to the County documenting that the clean-up costs associated with removing the O&G contamination far exceed the benefits. Our estimated order-of-magnitude opinion of cost to complete this report is approximately \$ 10,000.

The above opinion of costs assume that the owner is responsive to the County's requirements and/or requests. Failure to provide information to the County in a timely manner may result in enforcement actions, fines, and/or requests for additional information. Our estimated costs exclude costs associated with being non-responsive to the County's requirements and/or requests.

7.0 STANDARD OF CARE

The services performed that are the subject of this report were performed according to generally accepted national standards of care, skill, diligence and professional competence applicable to Law/Crandall, Inc. and are subject to the extent and limitations contained in the scope of work between Law Associates, Inc. and G.A.P. Portfolio Partners outlined in job order number 92-1026-3 issued under the Master Consulting Agreement. Furthermore, this assessment included a review of reports prepared by other consultants upon which Law/Crandall, Inc. reasonably relied upon without verifying the accuracy of the information contained therein.

TABLES

**TABLE 4.1: SOIL SAMPLE RESULTS FOR WASTE OIL AREAS
 BALLENA ISLE MARINA, ALAMEDA, CA
 CONTROL NUMBER 1026, GREAT AMERICAN PORTFOLIO
 LAW/CRANDALL PROJECT NO. 2123-20669-1**

Sample ID:	B-1	B-2	B-3	B-4	B-7
Sample Depth, Feet:	10	10	10	10	5
Sample Date:	12/7/92	12/7/92	12/7/92	12/7/92	12/7/92
TPH/G	ND<1	ND<1	ND<1	ND<1	ND<1
TPH/D	ND<10	ND<10	ND<10	ND<10	ND<10
VOCs	ND	ND	ND	ND	ND
BTEX					
Benzene	ND<0.003	ND<0.003	ND<0.003	ND<0.003	ND<0.003
Toluene	ND<0.003	ND<0.003	ND<0.003	ND<0.003	ND<0.003
Ethylbenzene	ND<0.003	ND<0.003	ND<0.003	ND<0.003	ND<0.003
Xylenes	ND<0.003	ND<0.003	ND<0.003	ND<0.003	ND<0.003
Semi-volatiles	ND	ND	ND	ND	ND
Pesticides and PCBs	ND	ND	ND	ND	ND
Metals					
Cadmium	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Chromium	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Lead	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5
Nickel	ND<1	ND<1	ND<1	ND<1	ND<1
Zinc	ND<0.5	ND<0.5	ND<0.5	ND<0.5	ND<0.5

Notes:

All analytical results in mg/kg except lead.

TPH/D: Total Petroleum Hydrocarbons as Diesel by EPA Method Mod. 8015.

TPH/G: Total Petroleum Hydrocarbons as Gasoline by EPA Method 5030/Mod. 8015.

Pesticides/PCB: Polychlorinated biphenyls by EPA Method 8080.

VOC: Volatile Organics by EPA Method 8240.

BTEX: By EPA Method 8020.

Oil & Grease: By EPA Method 413.1 (5520 D & F).

Pesticides: By EPA Method 8080.

Semi-Volatile: By EPA Method 8270.

Metals: By California Administrative Code Title 22 and SW0846 Method 6010; results in mg/l.

TABLE 4.2: SOIL SAMPLE RESULTS FOR UST AREAS
 BALLENA ISLE MARINA, ALAMEDA, CA
 CONTROL NUMBER 1026, GREAT AMERICAN PORTFOLIO
 LAW/CRANDALL PROJECT NO. 2123-20669-1

Sample ID:	MW-1	MW-2	MW-3	MW-4
Sample Depth, Feet:	5	5	5	5
Sample Date:	12/4/92	12/4/92	12/4/92	12/4/92
TPH/G	ND<1	ND<1	ND<1	ND<1
TPH/D	ND<10	ND<10	ND<10	ND<10
Oil and Grease	ND<50	ND<50	ND<50	ND<50
BTEX				
Benzene	ND<0.003	ND<0.003	ND<0.003	ND<0.003
Toluene	ND<0.003	ND<0.003	ND<0.003	ND<0.003
Ethylbenzene	ND<0.003	ND<0.003	ND<0.003	ND<0.003
Xylenes	ND<0.003	ND<0.003	ND<0.003	ND<0.003
Lead	ND<0.5	ND<0.5	ND<0.5	ND<0.5

Notes:

All analytical results in mg/kg except lead.

TPH/D: Total Petroleum Hydrocarbons as Diesel by EPA Method Mod. 8015.

TPH/G: Total Petroleum Hydrocarbons as Gasoline by EPA Method 5030/Mod. 8015.

BTEX: By EPA Method 8020.

Lead: By California Administrative Code Title 22 and SW-846 Method 6010; results in mg/l.

Oil and Grease: By EPA Method 413.1(5520 D&F).

**TABLE 4.3: GROUNDWATER SAMPLE RESULTS FOR UST AREAS
 BALLENA ISLE MARINA, ALAMEDA, CA
 CONTROL NUMBER 1026, GREAT AMERICAN PORTFOLIO
 LAW/CRANDALL PROJECT NO. 2123-20669-1**

Sample ID:	MW-1	MW-2	MW-3	MW-4
Sample Date:	12/8/92	12/8/92	12/8/92	12/4/92
TPH/G	ND<50	ND<50	52	ND<50
TPH/D	ND<50	ND<50	ND<50	ND<50
BTEX				
Benzene	ND<0.3	ND<0.003	ND<0.3	ND<0.003
Toluene	0.5	ND<0.003	0.5	ND<0.003
Ethylbenzene	ND<0.3	ND<0.003	ND<0.3	ND<0.003
Xylenes	0.6	ND<0.003	0.6	ND<0.003
Lead	ND<0.1	ND<0.1	ND<0.1	ND<0.1

Notes:

All analytical results in mg/l.

TPH/D: Total Petroleum Hydrocarbons as Diesel by EPA Method Mod. 3550/8015.

TPH/G: Total Petroleum Hydrocarbons as Gasoline by EPA Method 5030/Mod. 8015.

BTEX: By EPA Method 8020.

Lead: By SW-846 Method 6010.

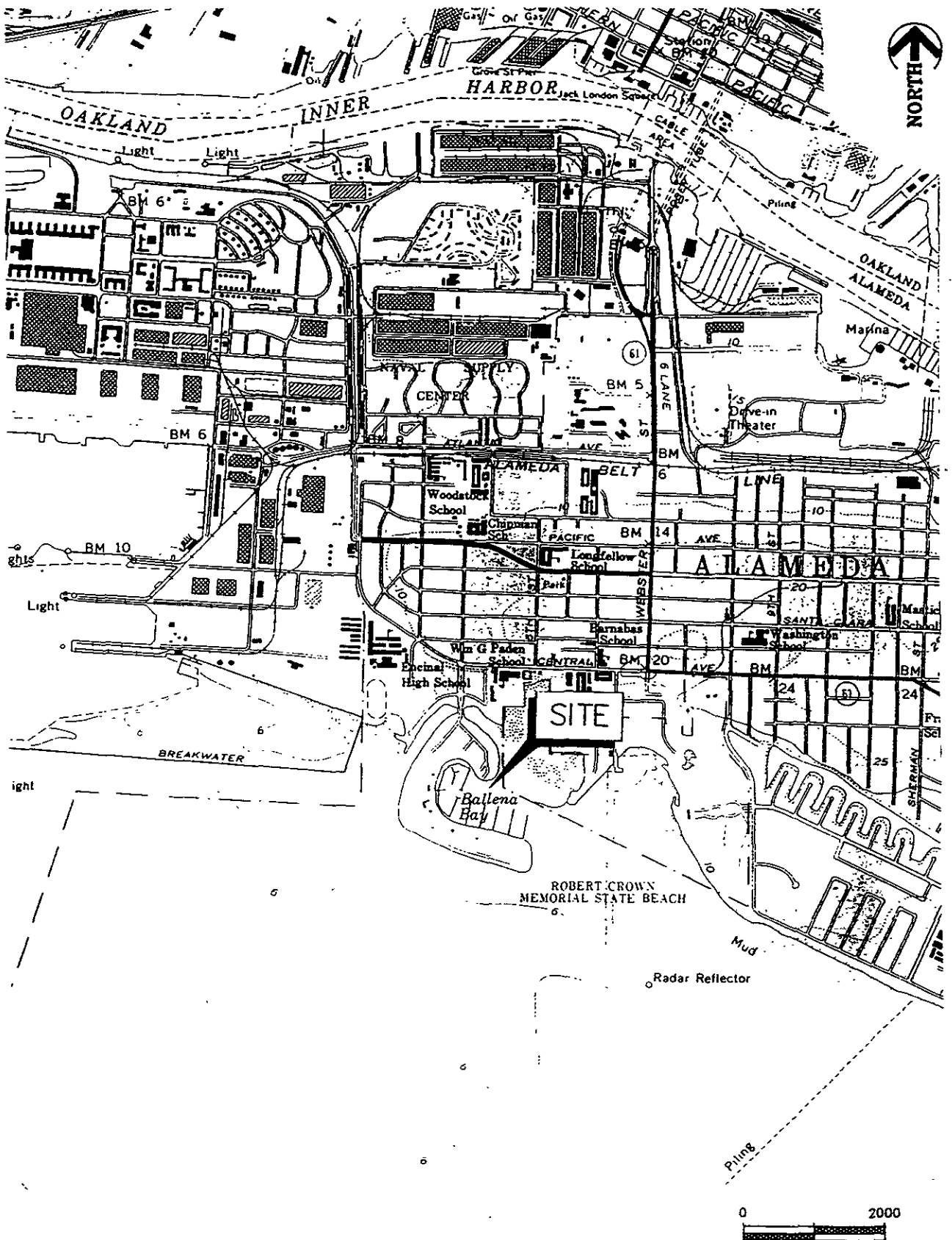
TABLE 4.4: GROUNDWATER ELEVATIONS
 BALLENA ISLE MARINA, ALAMEDA, CA
 CONTROL NUMBER 1026, GREAT AMERICAN PORTFOLIO
 LAW/CRANDALL PROJECT NO. 2123-20669-1

MONITORING WELL	DEPTH TO WATER (FT)	TOP OF CASING ELEVATION (FT)	GROUNDWATER ELEVATION (FT)
MW-1	4.16	9.66	5.50
MW-2	4.68	10.06	5.38
MW-3	4.56	9.99	5.43

Notes:

- 1) Top of casing elevations and groundwater elevations were calculated based on a temporary benchmark located at the southwest corner of the concrete pad which overlies the UST; the benchmark had an assumed elevation of 10 feet.
- 2) Groundwater levels were measured on 12/11/92.

FIGURES



REFERENCE: BASE MAP FROM USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE OAKLAND WEST, CALIFORNIA 1959 (PHOTOREVISED 1980).



G.A.P. PORTFOLIO PARTNERS
C/O COLONY ADVISORS, INC.
LOS ANGELES, CALIFORNIA

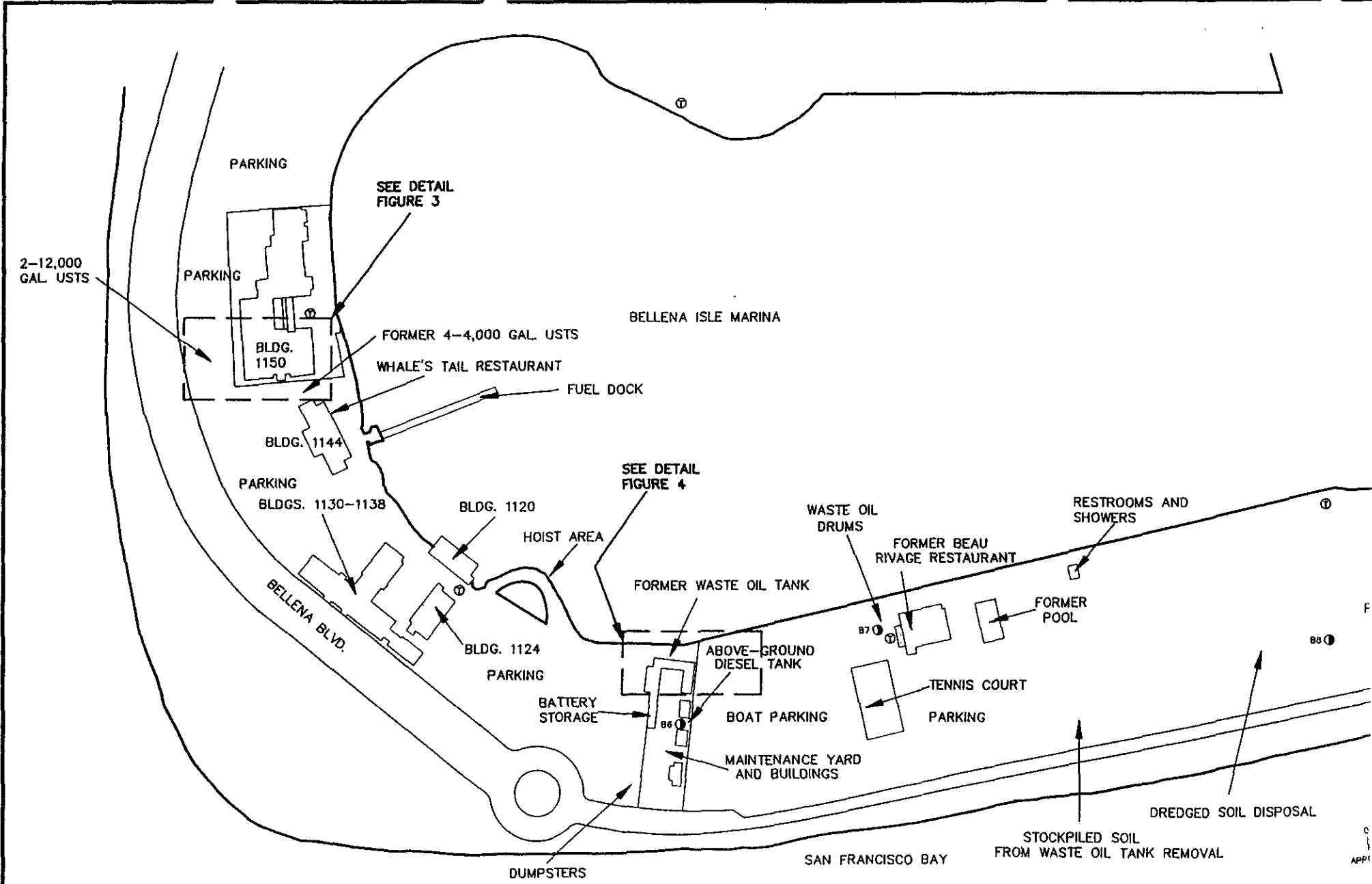


LAW/CRANDALL, INC.

SITE LOCATION MAP
GE SITE # 1026
BALLENA ISLE MARINA
ALAMEDA, CALIFORNIA

JOB NO. 2123-20669-1


FIGURE 1



LEGEND

- Ⓢ TRANSFORMER
- SOIL BORING

G.A.P. PORTFOLIO PARTNERS
 C/O COLONY ADVISORS, INC.
 LOS ANGELES, CALIFORNIA



LAW/CRANDALL, INC.

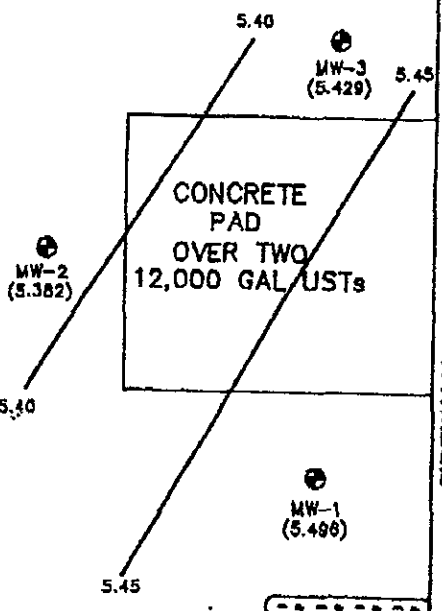
ST
 GE S
 BELLENA
 ALAMEDA

JOB NO. 2123-20669-1



←
APPARENT
GROUNDWATER
FLOW DIRECTION

BALLENA BLVD



BUILDING 1150

SIDEWALK

SIDEWALK

SIDEWALK

MW-4

LEGEND

- MW-1 (5.496) APPROXIMATE LOCATION OF MONITORING WELL SHOWING GROUNDWATER ELEVATION (12/11/82)
- MW-4 APPROXIMATE SOIL BORING LOCATION
- APPARENT FLOW DIRECTION (12/11/82)



G.A.P. PORTFOLIO PARTNERS
C/O COLONY ADVISORS, INC.
LOS ANGELES, CALIFORNIA



LAW/CRANDALL, INC.

EXISTING UST AREA
GE SITE # 1028
BALLENA ISLE MARINA
ALAMEDA, CALIFORNIA



MARINA (DOCKS)

SHORELINE

EMBANKMENT

UTILITY VAULTS

ASPHALT WALKWAY

STORAGE AREA

FORMER WASTE OIL UST EXCAVATION

LARGE TREE

ASPHALT PAVED PARKING LOT

MAINTENANCE YARD AND BUILDING

LEGEND

- B-1 ○ APPROXIMATE SOIL BORING LOCATION
- HP-2 ⊙ APPROXIMATE HYDROPUNCH LOCATION



G.A.P. PORTFOLIO PARTNERS
C/O COLONY ADVISORS, INC.
LOS ANGELES, CALIFORNIA



LAW/CRANDALL, INC.

FORMER WASTE OIL
UST AREA
GE SITE # 1026
BALLENA ISLE MARINA
ALAMEDA, CALIFORNIA

C:\DWGCS\GECAPTO\LA\0888F4 M.A.H. R11 12/23/92

APPENDIX A

SOIL BORING AND WELL CONSTRUCTION PERMIT



ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

5897 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588 (415) 484-2600

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT BALLENA ISLE MARINA 1150 BALLENA BLVD. ALAMEDA, CA

PERMIT NUMBER 92611 LOCATION NUMBER

CLIENT Name GENERAL ELECTRIC CAPITAL CORP. Address 260 LONG RIDGE RD Phone (415) 499-1422 City STAMFORD, CT Zip 06927-9100

PERMIT CONDITIONS

Circled Permit Requirements Apply

APPLICANT Name PAUL BURRAGE LAW/GRANDALL INC. Address 4000 CIVIC CENTER DR Phone (415) 499-1422 City SAN RAFAEL, CA Zip 94903

- A. GENERAL 1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date. 2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or drilling logs and location sketch for geotechnical projects. 3. Permit is void if project not begun within 90 days of approval date. B. WATER WELLS, INCLUDING PIEZOMETERS 1. Minimum surface seal thickness is two inches of cement grout placed by tremie. 2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet. C. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, treated cement grout shall be used in place of compacted cuttings. D. CATHODIC. Fill hole above anode zone with concrete placed by tremie. E. WELL DESTRUCTION. See attached.

TYPE OF PROJECT Construction Geotechnical Investigation Periodic Protection General Water Supply Contamination Monitoring X Well Destruction X

PROPOSED WATER SUPPLY WELL USE Domestic Industrial Other Municipal Irrigation

DRILLING METHOD: Rotary Air Rotary Auger X Other

DRILLER'S LICENSE NO. C-57 610487

WELL PROJECTS Drill Hole Diameter 8 in. Maximum Coaming Diameter 2 in. Depth 15 ft. Surface Seal Depth 3 ft. Number 4

TECHNICAL PROJECTS Number of Borings 6 Maximum Hole Diameter 8 in. Depth 15 ft.

ESTIMATED STARTING DATE 12/1/92 COMPLETION DATE 12/4/92

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-88.

Approved Wyman Hong Date 24 Nov 92

APPLICANT'S SIGNATURE Paul Burrage Date 11/20/92

APPENDIX B

SOIL BORING AND MONITORING WELL CONSTRUCTION LOGS

MW-1 TEST BORING RECORD

DEPTH (FEET)	DESCRIPTION	LITH	S	DIAGRAM	MATERIALS	OVA READINGS
0.0	Asphalt 3 in., Gravel Base 3 in.				Locking vault and watertight well cap	
0.5	FILL-SAND (SP): tan - light grey; 90-95% fine sand; 5-10% silt; poorly graded; subangular; very loose; slightly moist; no unusual odors or discoloration				Grout Seal	
	NOTE: Sand becoming light - medium grey, no unusual odors or discoloration.		SA		Bentonite pellets	
					2" dia. PVC blank Schedule 40 casing	
						0
					#3 filter sand	
					2" dia. PVC slotted Schedule 40 casing (0.02 inch slots)	
						0
15.0	Boring terminated at approximately 15 feet, groundwater encountered at a depth of approximately 7 feet. Some sloughing of sands, no unusual odors or discoloration.				Threaded pointed endcap	
						0

REMARKS:

- 1) Boring advanced using 8-inch hollow stem augers.
- Groundwater encountered at depth of approximately 7 feet.
- 3) SA = Sample Analyzed
- 4) ≡ = Stabilized groundwater level
- 5) ≡≡ = Drilling water level

DRILLED BY	G. SIERRA	BORING NUMBER	MW-1
LOGGED BY	ATM	DATE STARTED	12/4/92
CHECKED BY	MIM	DATE COMPLETED	12/4/92
		JOB NUMBER	2123-20669-1



MW-2 TEST BORING RECORD

DEPTH (FEET)	DESCRIPTION	LITH	S	DIAGRAM	MATERIALS	OVA READINGS
0.0	Asphalt 6 in., Gravel Base 3 in.				Locking vault and watertight well cap	
0.8	FILL-SAND (SP): Tan-light grey; 90% fine grained sand; 10% silt; some silt lenses; poorly graded; subangular; loose; moist; no unusual odors or discoloration NOTE: Becoming light - medium grey at 3 feet NOTE: Sand is light-medium grey; 90% fine - medium sand; 5-10% silt; trace shell fragments; poorly graded; subangular; loose-very loose; wet; no unusual odors or discoloration, fill NOTE: Shell fragments make up 15% of soil		SA		Grout seal Bentonite pellets 2" dia. PVC blank Schedule 40 casing #3 filter sand 2" dia. PVC slotted Schedule 40 casing (0.02 inch slots)	20 120
15.0	Boring terminated at approximately 15 feet, groundwater encountered at a depth of approximately 7 feet. Some sloughing of sands, no unusual odors or discoloration.				Threaded pointed endcap	15

REMARKS:

- 1) Boring advanced using 8-inch hollow stem augers.
- 2) Groundwater encountered at a depth of approximately 7 feet.
- 3) SA = Sample Analyzed
- 4) ≡ = Stabilized groundwater level
- 5) ≡ = Drilling water level

DRILLED BY	G. SIERRA	BORING NUMBER	MW-2
LOGGED BY	ATM	DATE STARTED	12/4/92
CHECKED BY	MIM	DATE COMPLETED	12/4/92
		JOB NUMBER	2123-20669-1



MW-3 TEST BORING RECORD

DEPTH (FEET)	DESCRIPTION	LITH	S	DIAGRAM	MATERIALS	OVA READINGS
0.0	Asphalt 4 in., Gravel base 3 in.				Locking vault and watertight well cap	
0.6	FILL-SAND (SP) tan-light grey: 90% fine sand; 10% silt; poorly graded; subangular; loose; slightly moist; no unusual odors or discoloration				Grout seal	
	NOTE: Sand becoming light - medium grey, no unusual odors or discoloration				Bentonite pellets	
	NOTE: Silt content is decreasing; trace shell fragments; no unusual odors or discoloration.		SA		2' dia. PVC blank Schedule 40 casing	0
					#3 filter sand	
					2' dia. PVC slotted Schedule 40 casing (0.02 inch slots)	0
15.0	Boring terminated at approximately 15 feet, groundwater encountered at a depth of approximately 7 feet. Some sloughing of sands. No unusual odors or discoloration.				Threaded pointed endcap	0

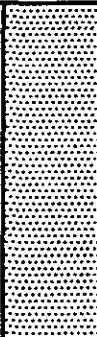

REMARKS:

- 1) Boring advanced using 8-inch hollow stem augers.
- 2) Groundwater encountered at a depth of approximately 7 feet.
- 3) SA = Sample Analyzed
- 4) ≡ = Stabilized groundwater level
- 5) ≡ = Drilling water level

DRILLED BY	G. SIERRA	BORING NUMBER	MW-3
LOGGED BY	ATM	DATE STARTED	12/4/92
CHECKED BY	MIM	DATE COMPLETED	12/4/92
		JOB NUMBER	2123-20669-1



MW-4 TEST BORING RECORD

DEPTH (FEET)	DESCRIPTION	LITH	S	DIAGRAM	MATERIALS	OVA READINGS
0.0	FILL-SAND (SP): light-medium grey; 90% fine sand; 10% shell fragments; poorly graded; subangular; very loose; wet; no unusual odors or discoloration		SA		Bentonite pellets	0
9.0	Hand augering terminated at approximately 9 feet. Groundwater encountered at a depth of approximately 7.3 feet. Some sloughing of sands, no unusual odors or discoloration.					

REMARKS:

- 1) Boring advanced using 3.5-inch hand auger
- 2) Groundwater encountered at a depth of 7.3 feet
- 3) SA = Sample analyzed
- 4) ☼ = Drilling water level

DRILLED BY	G. SIERRA	BORING NUMBER	MW-4
LOGGED BY	ATM	DATE STARTED	12/4/92
CHECKED BY	MIM	DATE COMPLETED	12/4/92
		JOB NUMBER	2123-20669-1



B-1 TEST BORING RECORD

DEPTH (FEET)	DESCRIPTION	LITH	S	DIAGRAM	MATERIALS	OVA READINGS
0.0	Asphalt 4 in., Gravel Base 3 in.					
0.6	FILL-SILTY SAND (SM): Tan-light grey; 70% fine sand; 10% silt; 20% shell fragments; poorly graded; subangular; very loose; moist; no unusual odors or discoloration NOTE: Color becoming light - medium grey				Neat Cement/Grout Seal	0
10.0	FILL-SAND (SP): light-medium grey; 90% fine sand; 10% shell fragments; poorly graded; subangular; very loose; wet; no unusual odors or discoloration		SA			0
15.0	Boring terminated at approximately 15 feet. Groundwater encountered at 10.6 feet. No unusual odors or discoloration.					0

REMARKS:

- 1) Boring advanced using 8-inch hollow stem augers.
- 2) Groundwater encountered at a depth of 10.8 feet.
- 3) SA = Sample Analyzed
- 4) ☼ = Drilling water level

DRILLED BY	G. SIERRA	BORING NUMBER	B-1
LOGGED BY	ATM	DATE STARTED	12/7/92
CHECKED BY	MIM	DATE COMPLETED	12/7/92
		JOB NUMBER	2123-20669-1



B-2 TEST BORING RECORD

DEPTH (FEET)	DESCRIPTION	LITH	S	DIAGRAM	MATERIALS	OVA READINGS
0.0	Asphalt 4 in., Gravel Base 3 in.					
0.6	FILL-SILTY SAND (SM): Tan-light grey; 70% fine sand; 10% silt; 20% shell fragments; poorly graded; subangular; very loose; moist; no unusual odors or discoloration NOTE: Color becoming light - medium grey				Neat Cement/Grout Seal	0
10.0	FILL-SAND (SP): light-medium grey; 90% fine sand; 10% shell fragments; poorly graded; subangular; very loose; wet; no unusual odors or discoloration		SA			0
15.0	Boring terminated at approximately 15 feet. Groundwater encountered at 10.6 feet. No unusual odors or discoloration.					0

REMARKS:

- 1) Boring advanced using 8-inch hollow stem augers.
- 2) Groundwater encountered at a depth of 10.6 feet.
- 3) SA = Sample Analyzed
- 4) ∇ = Drilling water level

DRILLED BY	G. SIERRA	BORING NUMBER	B-2
LOGGED BY	ATM	DATE STARTED	12/7/92
CHECKED BY	MIM	DATE COMPLETED	12/7/92
		JOB NUMBER	2123-20669-1



B-3 TEST BORING RECORD

DEPTH (FEET)	DESCRIPTION	LITH	S	DIAGRAM	MATERIALS	OVA READINGS
0.0	Asphalt 4 in., Gravel Base 3 in.					
0.6	FILL-SILTY SAND (SM): Tan-light grey; 70% fine sand; 10% silt; 20% shell fragments; poorly graded; subangular; very loose; moist; no unusual odors or discoloration NOTE: Color becoming light - medium grey				Neat Cement/Grout Seal	0
10.0	FILL-SAND (SP): light-medium grey; 90% fine sand; 10% shell fragments; poorly graded; subangular; very loose; wet; no unusual odors or discoloration		SA			0
15.0	Boring terminated at approximately 15 feet. Groundwater encountered at 10.6 feet. No unusual odors or discoloration.					0

REMARKS:

- 1) Boring advanced using 8-inch hollow stem augers.
- 2) Groundwater encountered at a depth of 10.8 feet.
- 3) SA = Sample Analyzed
- 4) ☼ = Drilling water level

DRILLED BY	G. SIERRA	BORING NUMBER	B-3
LOGGED BY	ATM	DATE STARTED	12/7/92
CHECKED BY	MIM	DATE COMPLETED	12/7/92
		JOB NUMBER	2123-20669-1



B-4 TEST BORING RECORD

DEPTH (FEET)	DESCRIPTION	LITH	S	DIAGRAM	MATERIALS	OVA READINGS
0.0	Asphalt 4 in., Gravel Base 3 in.					
0.6	FILL-SILTY SAND (SM): Tan-light grey; 70% fine sand; 10% silt; 20% shell fragments; poorly graded; subangular; very loose; moist; no unusual odors or discoloration NOTE: Color becoming light - medium grey				Neat Cement/Grout Seal	0
10.0	FILL-SAND (SP): light-medium grey; 90% fine sand; 10% shell fragments; poorly graded; subangular; very loose; wet; no unusual odors or discoloration		SA			0
15.0	Boring terminated at approximately 15 feet. Groundwater encountered at 10.6 feet. No unusual odors or discoloration.					0

REMARKS:

- 1) Boring advanced using 8-inch hollow stem augers.
- 2) Groundwater encountered at a depth of 10.8 feet.
- 3) SA = Sample Analyzed
- 4) ≡ = Drilling water level

DRILLED BY	G. SIERRA	BORING NUMBER	B-4
LOGGED BY	ATM	DATE STARTED	12/7/92
CHECKED BY	MIM	DATE COMPLETED	12/7/92
		JOB NUMBER	2123-20669-1



B-5 TEST BORING RECORD

DEPTH (FEET)	DESCRIPTION	LITH	S	DIAGRAM	MATERIALS	OVA READINGS
0.0	FILL-SILTY SAND (SM): Light-medium grey; 80% fine sand; 10% silt; 10% shell fragments and roots; poorly graded; subangular; very loose; no unusual stains or discoloration				Neat Cement/Grout Seal	
5.0	FILL-SAND (SP): Light-medium grey; 90% fine sand; 10% shell fragments; poorly graded; subangular; very loose; no unusual odors or discoloration					0
9.0	Hand augering terminated at approximately 9 feet, no unusual odors or discoloration		SA			0

REMARKS:

- 1) Boring advanced using 3.5 inch hand auger due to presence of large tree
- 2) groundwater not encountered
- 3) SA = Sample Analyzed

DRILLED BY	G.SIERRA	BORING NUMBER	B-5
LOGGED BY	ATM	DATE STARTED	12/7/92
CHECKED BY	MIM	DATE COMPLETED	12/7/92
		JOB NUMBER	2123-20669-1



B-6 TEST BORING RECORD

DEPTH (FEET)	DESCRIPTION	LITH	S	DIAGRAM	MATERIALS	OVA READINGS
0.0	Concrete 3 in., Gravel Base 3 in.					
0.5	FILL-SILTY SAND (SM): Tan-light grey; 80% fine sand; 10% silt; 10% shell fragments; poorly graded; subangular; very loose; moist; no unusual stains or discoloration				Neat Cement/Grout Seal	
5.0	Hand augering terminated at approximately 5 feet		SA			0

REMARKS:

- 1) Boring advanced using 3.5 inch hand auger.
- 2) Groundwater not encountered
- SA = Sample analyzed

DRILLED BY
LOGGED BY
CHECKED BY

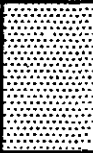

L/C
ATM
MIM

BORING NUMBER
DATE STARTED
DATE COMPLETED
JOB NUMBER

B-6
12/7/92
12/7/92
2123-20669-1



B-7 TEST BORING RECORD

DEPTH (FEET)	DESCRIPTION	LITH	S	DIAGRAM	MATERIALS	OVA READINGS
0.0	FILL-SAND (SP): Tan-light grey; 85% fine sand; 15% shell fragments and roots; poorly graded; subangular; very loose; moist; no unusual odors or discoloration		SA		Backfill	0
4.0	Boring terminated at 4.00 feet					
	NOTE: Angled boring					

REMARKS:

- 1) Hand augering terminated at 4 feet
- 2) Groundwater not encountered
- 3) SA = Sample analyzed

DRILLED BY
LOGGED BY
CHECKED BY

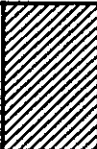
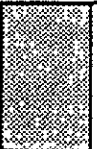
L/C
ATM
MIM

BORING NUMBER
DATE STARTED
DATE COMPLETED
JOB NUMBER

B-7
12/8/92
12/8/92
2123-20669-1



B-8 TEST BORING RECORD

DEPTH (FEET)	DESCRIPTION	LITH	S	DIAGRAM	MATERIALS	OVA READINGS
0.0	CLAY (CL): Dark brown - dark grey brown; high plasticity fines; trace fine sand; moist; no unusual odors or discoloration				Backfill	
4.0	Hand augering terminated at 4 feet.		SA			0

REMARKS:

- 1) Hand augering terminated at 4 feet.
- 2) Groundwater not encountered
-)SA = Sample analyzed

DRILLED BY	L/C	BORING NUMBER	B-8
LOGGED BY	ATM	DATE STARTED	12/8/92
CHECKED BY	MIM	DATE COMPLETED	12/8/92
		JOB NUMBER	2123-20669-1



APPENDIX C
LABORATORY ANALYTICAL RESULTS
AND
CHAIN-OF-CUSTODY DOCUMENTATION



Superior Precision Analytical, Inc.

1555 Burke, Unit 1 • San Francisco, California 94124 • (415) 617-2081 / fax (415) 821-7123

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 55903
 CLIENT: LAW/CRANDALL, INC.
 CLIENT JOB NO.: 2123206630001

DATE RECEIVED: 12/18/92
 DATE REPORTED: 12/23/92

ANALYSIS FOR TOTAL PETROLEUM OIL AND GREASE by Method 5520F (formerly 503E)

LAB #	Sample Identification	Concentration (mg/kg) Total Petroleum Oil & Grease
1	MW1 @ 5'	ND<50
2	MW2 @ 5'	ND<50
3	MW3 @ 5'	ND<50
4	MW4 @ 5'	ND<50

mg/kg - parts per million (ppm)

Minimum Detection Limit for oil & grease in Soil: 50mg/kg

QAQC Summary:
 MS/MSD Average Recovery = 99%
 Duplicate RPD = 6%

Richard Srna, Ph.D.

Onyi A. Anogwa
 Laboratory Director



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 55863
CLIENT: LAW/CRANDALL, INC.
CLIENT JOB NO.: 2123206630001

DATE RECEIVED: 12/04/92
DATE REPORTED: 12/15/92

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS by Modified EPA SW-846 Method 5030 and 8015

LAB #	Sample Identification	Concentration Gasoline Range
1	MW1 @ 5'	ND<1 mg/kg
2	MW2 @ 5'	ND<1 mg/kg
3	MW3 @ 5'	ND<1 mg/kg
4	MW4 @ 5'	ND<1 mg/kg
5	MW4	ND<50 ug/L

ug/L - parts per billion (ppb)
mg/kg - parts per million (ppm)

Method Detection Limit for Gasoline in Water: 50 ug/L
Method Detection Limit for Gasoline in Soil : 1 mg/kg

QAQC Summary:

Daily Standard run at 2mg/L: %Diff Gasoline = <15
MS/MSD Recovery = 95%: Duplicate RPD = 1%

Richard Srna, Ph.D.

Orly A. Noguera
Laboratory Manager

RECEIVED

DEC 16 1992

LAW ENVIRONMENTAL INC.



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 55863
CLIENT: LAW/CRANDALL, INC.
CLIENT JOB NO.: 2123206630001

DATE RECEIVED: 12/04/92
DATE REPORTED: 12/15/92
DATE REVISED : 12/17/92

ANALYSIS FOR BENZENE, TOLUENE, ETHYL BENZENE & XYLENES by EPA SW-846 Methods 5030 and 8020

LAB #	Sample Identification	Concentration			
		Benzene	Toluene	Ethyl Benzene	Xylenes
1	MW1 @ 5'	ND<.003	ND<.003	ND<.003	ND<.003 mg/kg
2	MW2 @ 5'	ND<.003	ND<.003	ND<.003	ND<.003 mg/kg
3	MW3 @ 5'	ND<.003	ND<.003	ND<.003	ND<.003 mg/kg
4	MW4 @ 5'	ND<.003	ND<.003	ND<.003	ND<.003 mg/kg
5	MW4	ND<0.3	ND<0.3	ND<0.3	ND<0.3 ug/L

ug/L - parts per billion (ppb)
g/kg - parts per million (ppm)

Method Detection Limit in Water: 0.3 ug/L
Method Detection Limit in Soil : 0.003 mg/kg

QAQC Summary:

Daily Standard run at 20ug/L: %Diff 8020 = <15%
MS/MSD Average Recovery = 91%: Duplicate RPD = 4%

Richard Srna, Ph.D.

Cecilia G. Joaquin (for)
Laboratory Manager



Superior Precision Analytical, Inc.

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C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 55863
CLIENT: LAW/CRANDALL
CLIENT JOB NO.: 2123206630001

DATE RECEIVED: 12/04/92
DATE REPORTED: 12/15/92

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS by Modified EPA SW-846 Method 8015

LAB #	Sample Identification	Concentration (mg/kg) Diesel Range	
1	MW1 @ 5'	ND<10	mg/kg
2	MW2 @ 5'	ND<10	mg/kg
3	MW3 @ 5'	ND<10	mg/kg
4	MW4 @ 5'	ND<10	mg/kg
5	MW4	ND<50	ug/L

mg/kg - parts per million (ppm)

ug/L - parts per billion (ppb)

Minimum Detection Limit for Diesel in Soil: 10mg/kg

Minimum Detection Limit for Diesel in Water : 50ug/L

QAQC Summary:

Daily Standard run at 200mg/L: %DIFF Diesel = <15%

MS/MSD Average Recovery = 88%: Duplicate RPD = 1%

Richard Srna, Ph.D.

Richard A. Srna (for)
Laboratory Director



Superior Precision Analytical, Inc.

825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 87362
CLIENT: LAW/CRANDALL
CLIENT JOB NO.: 2123206630001

DATE RECEIVED: 12/04/92
DATE REPORTED: 12/14/92
DATE SAMPLED : 12/04/92

ANALYSIS FOR STLC LEAD
by Calif. Admin. Code Title 22, Paragraph 66700 (WET)
and by EPA SW-846 Method 6010

LAB #	Sample Identification	Concentration (mg/L) Lead
1	MW1 @5'	ND<0.5
2	MW2 @5'	ND<0.5
3	MW3 @5'	ND<0.5
4	MW4 @5'	ND<0.5

mg/L = parts per million in extract

Method Detection Limit for Extractable Lead in Soil: 0.5 mg/L

QAQC Summary: MS/MSD Average Recovery : 92%
Duplicate RPD : 1%

Richard Srna, Ph.D.

Nancy A. Nelson for
Laboratory Manager

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DEC 16 1992

LAW ENVIRONMENTAL INC.



Superior Precision Analytical, Inc.

825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 87362
CLIENT: Law/Crandall
CLIENT JOB NO.: 2123206630001

DATE RECEIVED: 12/04/92
DATE REPORTED: 12/14/92
DATE SAMPLED: 12/4/92

ANALYSIS FOR TOTAL LEAD by SW-846 Method 6010

LAB #	Sample Identification	Concentration (mg/l) Total Lead
5	MW4	ND<0.1

mg/l - parts per million (ppm)

Method Detection Limit for Lead in Water: 0.1 mg/L

QAQC Summary: MS/MSD Average Recovery : 92%
Duplicate RPD : 2%

Richard Srna, Ph.D.
Nancy A. Nelson for
Laboratory Manager

CHAIN OF CUSTODY RECORD

BCA Log Number _____

Client name LAW/CRANDALL INC				Project or PO# 2123 206630001		Analyses required TPH/6 + BTEX TPH/D STLC LEAD Total LEAD _____ _____ Hazardous sample Special handling required							
Address 400 Civic Center Dr. Suite 305				Phone # 415 499 1422									
City, State, Zip			Report attention SUSAN BARRY										
Lab Sample number	Date sampled	Time sampled	Type* See key below	Sampled by ATM	Number of containers							Remarks	
	12/4/92	10:00	SO	MW1 at 5ft	1	X	X	X					5 day Turnaround
	12/4/92	11:30	SO	MW2 at 5ft	1	X	X	X					
	12/4/92	1:00	SO	MW3 at 5ft	1	X	X	X					
	12/4/92	3:00	SO	MW4 at 5ft	1	X	X	X					
	12/4/92	3:30	GW	MW4	5	X	X		X				

Signature	Print Name	Company	Date	Time
Relinquished by				
Received by				
Relinquished by				
Received by				
Relinquished by Andrew T. Mulla	Andrew T. Mulla	LAW/Crandall	12/4/92	18:10
Received by Laboratory Cecilia Joaquin	Cecilia JOAQUIN	SUPERIOR LAB	12/4/92	18:10

B C ANALYTICAL

1255 Powell Street, Emeryville, CA 94608 (510) 428-2300
 801 Western Ave, Redwood City, CA 94061 (818) 247-5737
 1200 Gene Autry, San Jose, CA 95128 (415) 978-0113

Note: Samples are discarded 30 days after results are reported unless other arrangements are made.
 Hazardous samples will be returned to client or disposed of at client's expense.

Disposal arrangements: _____

*KEY: WW—Wastewater SU—Surface Water SO—Soil
 SL—Sludge PE—Petroleum OT—Other
 NA—Nonaqueous GW—Gravel or AQ—Aqueous



Superior Precision Analytical, Inc.

1555 Burke, Unit 1 • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 55874
CLIENT: LAW/CRANDALL, INC.
CLIENT JOB NO.: 2123-20663-0001

DATE RECEIVED: 12/08/92
DATE REPORTED: 12/15/92

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS by Modified EPA SW-846 Method 5030 and 8015

LAB #	Sample Identification	Concentration Gasoline Range
1	SB 7	ND<1 mg/kg
3	MW 1	ND<50 ug/L
4	MW 2	ND<50 ug/L
5	MW 3	52 ug/L

ug/L - parts per billion (ppb)

Method Detection Limit for Gasoline in Soil: 1 mg/kg
Method Detection Limit for Gasoline in Water: 50 ug/L

QAQC Summary:

Daily Standard run at 2mg/L: %Diff Gasoline = <15
MS/MSD Recovery = 94%: Duplicate RPD = 4%

Richard Srna, Ph.D.

Cecilia G. Jorgensen (for)
Laboratory Manager



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 55874
CLIENT: LAW/CRANDALL, INC.
CLIENT JOB NO.: 2123-20663-0001

DATE RECEIVED: 12/08/92
DATE REPORTED: 12/15/92

ANALYSIS FOR BENZENE, TOLUENE, ETHYL BENZENE & XYLENES by EPA SW-846 Methods 5030 and 8020

LAB #	Sample Identification	Concentration			
		Benzene	Toluene	Ethyl Benzene	Xylenes
1	SB 7	ND<.003	ND<.003	ND<.003	ND<.003 mg/kg
3	MW 1	ND<0.3	0.5	ND<0.3	0.6 ug/L
4	MW 2	ND<0.3	ND<0.3	ND<0.3	ND<0.3 ug/L
5	MW 3	ND<0.3	0.5	ND<0.3	0.6 ug/L

ug/L - parts per billion (ppb)
g/kg - parts per million (ppm)

Method Detection Limit in Soil: 0.003 mg/kg
Method Detection Limit in Water: 0.3 ug/L

QAQC Summary:

Daily Standard run at 20ug/L: %Diff 8020 = <15%
MS/MSD Average Recovery = 93%: Duplicate RPD = 5%

Richard Srna, Ph.D.

Cecilia G. Joaquin (for)
Laboratory Manager



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 55874
CLIENT: LAW/CRANDALL, INC.
CLIENT JOB NO.: 2123-20663-0001

DATE RECEIVED: 12/08/92
DATE REPORTED: 12/15/92

ANALYSIS FOR TOTAL PETROLEUM OIL AND GREASE by Method 5520F (formerly 503E)

LAB #	Sample Identification	Concentration (mg/kg) Total Petroleum Oil & Grease
1	SB 7	83
2	SB 8	130

mg/kg - parts per million (ppm)

Minimum Detection Limit for oil & grease in Soil: 50mg/kg

QAQC Summary:
MS/MSD Average Recovery = 98%
Duplicate RPD = 8%

Richard Srna, Ph.D.

Cecilia G. Joaquin (for)
Laboratory Director



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 55874
CLIENT: LAW/CRANDALL, INC.
CLIENT JOB NO.: 2123-20663-0001

DATE RECEIVED: 12/08/92
DATE REPORTED: 12/16/92

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS by Modified EPA SW-846 Method 8015

LAB #	Sample Identification	Concentration Diesel Range
1	SB 7	ND<10 mg/kg
3	MW 1	ND<50 ug/L
4	MW 2	ND<50 ug/L
5	MW 3	ND<50 ug/L

mg/kg - parts per million (ppm)
ug/L - parts per billion (ppb)

Minimum Detection Limit for Diesel in Water: 50ug/L
Minimum Detection Limit for Diesel in Soil : 10mg/kg

QAQC Summary:

Daily Standard run at 200mg/L: %DIFF Diesel = <15%
MS/MSD Average Recovery = 67%: Duplicate RPD = 9%

Richard Srna, Ph.D.

Cecilia G. Joaguen (for)
Laboratory Director



Superior Precision Analytical, Inc.

1555 Burke, Unit 1 • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821 7123

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO. 55874-1
CLIENT: LAW/CRANDALL
DATE SAMPLED : 12/08/92
DATE ANALYZED: 12/11/92

DATE RECEIVED: 12/08/92
DATE REPORTED: 12/15/92
PROJECT NO. 2123-20663-0001

EPA SW-846 METHOD 8240 - VOLATILE ORGANICS
by Gas Chromatography/ Mass Spectrometry

SAMPLE: SB7

Compound	MDL	ug/kg	Compound	MDL	ug/kg
Chloromethane	50	ND	Cis-1,3-Dichloropropene	15	ND
Bromomethane	50	ND	Trichloroethene	15	ND
Vinyl Chloride	50	ND	Dibromochloromethane	15	ND
Chloroethane	50	ND	1,1,2-Trichloroethane	15	ND
Methylene Chloride	50	ND	Benzene	5	ND
Acetone	50	ND	Trans-1,3-Dichloropropene	15	ND
Carbon Disulfide	15	ND	2-Chloroethyl vinyl ether	15	ND
Trichlorofluoromethane	15	ND	Bromoform	15	ND
1,1-Dichloroethene	15	ND	4-Methyl-2-Pentanone	50	ND
1,1-Dichloroethane	15	ND	2-Hexanone	50	ND
trans-1,2-Dichloroethene	15	ND	Tetrachloroethene	15	ND
Chloroform	15	ND	1,1,2,2-Tetrachloroethane	15	ND
1,2-Dichloroethane	5	ND	Toluene	15	ND
2-Butanone	100	ND	Chlorobenzene	15	ND
1,1,1-Trichloroethane	15	ND	Ethylbenzene	15	ND
Carbon Tetrachloride	15	ND	Styrene	15	ND
Vinyl Acetate	50	ND	Total Xylenes	15	ND
Bromodichloromethane	15	ND	1,3-Dichlorobenzene	15	ND
1,2-Dichloropropane	15	ND	1,4-Dichlorobenzene	15	ND
cis-1,2-Dichloroethene	15	ND	1,2-Dichlorobenzene	15	ND

ug/kg = parts per billion (ppb)

ND = ANALYTE NOT DETECTED ABOVE QUANTITATION LIMIT

QC DATA:

Surrogate Recoveries

1,2-DCA-d4.....	105%
Toluene-d8.....	104%
Bromofluorobenzene.....	94%

QC LIMITS

soil
70-121 %
81-117 %
74-121 %

comments:

Richard Srna, Ph.D.

Cecilia G. Gonzalez (for)
Laboratory Director

Section...

Chain of Custody and Analysis Request

page ___ of ___

Consultant: LAW/CRANDALL
 Address: 4000 Civic Center Drive
SAN RAFAEL CA 94903
 Phone No. 415 499 1422 Fax No. 415 499 8419
 Project Manager: SUSAN GORNEY
 Alternate Contact: Andrew M. Mula
 Project No. 2123-20663-0001 P.O. No. _____

Turn Around Time
 (circle one)
 Same Day 72 Hrs
 24 Hrs 48 Hrs
Normal 5 Day



Superior Precision Analytical, Inc.
 P.O. Box 1545
 Martinez, California 94553
 Martinez 1 (510) 229-1512 Martinez 2 (510) 229-0166
 San Francisco (415) 647-2081

Sampler: AT Mula
 Regulatory Agency: _____

Section II: Analysis Request

Laboratory Sample Identification	Matrix S = Soil A = Air W = Water	mod 8015 - Gas	mod 8015 - BTEX	mod 8015 - Diesel	8010	8240	CAM17	TCLP Metals:	Metals: <u>Total Lead</u>	418.1 - TPH by IR	O & G	PCBs + Pesticides	8270	Date Sampled	Time Sampled	Number of Containers	Preservative (yes or no)	Sampling Remarks	
																		<input type="checkbox"/> Bio-remediation	<input checked="" type="checkbox"/> Underground storage tank
1 SB7	S	X	X	X		X					X	X	X	12/8	1:30		N		
2 SB8	S	X	X	X			X				X	X	X					RB: Do not run g/BTEX or Diesel	
3 MW1	W	X	X	X				X											
4 MW2	W	X	X	X				X											
5 MW3	W	X	X	X				X											
6																			
7																			
8																			
9																			
10																			
11																			
12																			

Relinquished by: <u>Andrew T. Mula</u> Organization: <u>Law/Crandall</u>	Date/Time: <u>12/8/92 8:30 PM</u>	Received by: _____ Organization: _____	Date/Time: _____	Lab please initial the following: Samples Stored in Ice: <u>Yes</u> Appropriate Containers: <u>Yes</u> Samples Preserved: <u>NO</u> VDAs without Headspace: <u>Yes</u> Comments: _____
Relinquished by: _____ Organization: _____	Date/Time: _____	Received by: _____ Organization: _____	Date/Time: _____	
Relinquished by: _____ Organization: _____	Date/Time: _____	Received by: <u>Cecilia Joergensen</u> Organization: <u>Superior Lab</u>	Date/Time: <u>12/8/92 8:30 PM</u>	

Chain of Custody and Analysis Request

Section I

page 1 of 1

From: Superior Precision Analytical, Inc.
1555 Burke St. Unit 1
San Francisco, CA 92124
 Phone No. (415) 647-2081 Fax No. (415) 821-7123
 Contact: RENE BOONHAIWAT
 P.O. No. 55874

Turn Around Time
 (circle one)
 Same Day 72 Hrs
 24 Hrs 5 Day
 48 Hrs 10 Day



Superior Precision Analytical, Inc.
 P.O. Box 1545
 Martinez, California 94553

Work Subcontracted to: MTZ

Section II: Analysis Request

Laboratory Sample Identification	Matrix	CAM17	Metals:	418.1	6270	9080 (pest. and PCB's)	STLC C, Cr, Pb Bn, Ni	TOTAL LEAD	Client Sample Identification	Number of Containers	Preservative (yes or no)	Sampling Remarks
1 55874-1	S						X			1	N	
2 -2	S	X								1	N	
3 -3	W							X		1	Y	
4 -4	↓							X		1	↓	
5 -5	↓							X		1	↓	
6												
7												
8												
9												
10												
11												
12												

Sampling Remarks

Chevron
 Non-Chevron

** Please Fax Results **

Relinquished by <u>R. Boonhaiwatt</u>	Date/Time <u>12/9/92 17:00</u>	Received by _____	Date/Time _____	Lab please initial the following: Samples Stored in Ice _____ Appropriate Containers _____ Samples Preserved _____ VDAs without Headspace _____ Comments _____
Organization <u>SUPERIOR</u>		Organization _____		
Relinquished by _____	Date/Time _____	Received by _____	Date/Time _____	
Organization _____		Organization _____		
Relinquished by _____	Date/Time _____	Received by _____	Date/Time _____	
Organization _____		Organization _____		

Chain of Custody and Analysis Request

Section I

From: Superior Precision Analytical, Inc.
1555 Busby St. Unit 11
San Francisco, CA 92124

Phone No. (415) 847-2081 Fax No. (415) 821-7123

Contact: RENE BOONGALING

P.O. No. 55874

Turn Around Time
 (circle one)
 Same Day 72 Hrs
 24 Hrs 5 Day
 48 Hrs 10 Day



Superior Precision Analytical, Inc.
 P.O. Box 1545
 Martinez, California 94553

Work Subcontracted to: CLAYTON

Section II: Analysis Request

Laboratory Sample Identification	Matrix	CAM17	Metals:	418.1	8270	BQ80 (pest. and PCB's)	Client Sample Identification	Number of Containers	Preservative (yes or no)	Sampling Remarks
1 <u>55874-1</u>	<u>S</u>				<u>X</u>	<u>X</u>		<u>1</u>	<u>N</u>	
2 <u>-2</u>	<u>S</u>				<u>X</u>			<u>1</u>	<u>N</u>	
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										

Sampling Remarks

Chevron
 Non-Chevron

****Please Fax Results****

Relinquished by <u>R. Boongaling</u>	Date/Time <u>5:00 PM</u>	Received by _____	Date/Time _____	Lab please initial the following: Samples Stored in Ice _____ Appropriate Containers _____ Samples Preserved _____ VOAs without Headspace _____ Comments _____
Organization <u>SUPERIOR</u>	<u>12/9/92</u>	Organization _____	Date/Time _____	
Relinquished by _____	Date/Time _____	Received by _____	Date/Time _____	
Organization _____	Date/Time _____	Organization _____	Date/Time _____	



Superior Precision Analytical, Inc.

825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 87386-1
CLIENT: Law/Crandall
CLIENT JOB NO.: 2123-20663-0001

DATE RECEIVED: 12/08/92
DATE REPORTED: 12/15/92
DATE SAMPLED : 12/08/92

Analysis For Soluble Cadmium, Chromium, Lead, Nickel, Zinc
by Calif. Admin. code Title 22, Paragraph 66700
& EPA Method SW-846 6010

LAB #	Sample I.D.	Concentration (mg/L)				
		Cadmium	Chromium	Lead	Nickel	Zinc
1	SB7	ND<0.5	ND<0.5	ND<0.5	ND<1.0	ND<0.5

mg/L = parts per million in extract

Method Detection Limit for Extractable Cadmium in Soil: 0.5 mg/L
Method Detection Limit for Extractable Chromium in Soil : 0.5 mg/L
Method Detection Limit for Extractable Lead in Soil : 0.5 mg/L
Method Detection Limit for Extractable Nickel in Soil : 1.0 mg/L
Method Detection Limit for Extractable Zinc in Soil : 0.5 mg/L

QAQC Summary: MS/MSD Average Recovery : 90%
Duplicate RPD : 3

Richard Srna, Ph.D.

Nancy A. Nelson for
Laboratory Manager

RECEIVED

DEC 17 1992

LAW ENVIRONMENTAL INC.



Superior Precision Analytical, Inc.

825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

CERTIFICATE OF ANALYSIS

LABORATORY NO.: 87386 -2
CLIENT: Law/ Crandall
CLIENT JOB NO.: 2123-20663-0001

DATE RECEIVED: 12/08/92
DATE REPORTED: 12/15/92
CLIENT SAMPLE ID: SB8
DATE SAMPLED: 12/08/92

CAM 17 METALS

Methods: EPA SW 846 6000 & 7000 Series
California Administrative Code Title 22

Compound	Results (mg/kg)	Detection Limit (mg/kg)
Antimony (Sb)	5	5
Arsenic (As)	3	0.01
Barium (Ba)	36	5
Beryllium (Be)	ND	0.5
Cadmium (Cd)	ND	1
Chromium (Cr)	50	5
Cobalt (Co)	ND	10
Copper (Cu)	40	10
Lead (Pb)	20	5
Mercury (Hg)	0.19	0.05
Molybdenum (Mo)	ND	5
Nickel (Ni)	50	10
Selenium (Se)	ND	1
Silver (Ag)	ND	5
Thallium (Tl)	ND	5
Vanadium (V)	40	10
Zinc (Zn)	80	20

mg/kg = parts per million (ppm)

QAQC Summary: Spike Recovery Range: 62-110%
Duplicate RPD = < 14

Richard Srna, Ph.D.

Nancy A. Nelson
Laboratory Manager



Superior Precision Analytical, Inc.

825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 87386
CLIENT: Law/Crandall
CLIENT JOB NO.: 2123-20663-0001

DATE RECEIVED: 12/08/92
DATE REPORTED: 12/15/92

ANALYSIS FOR TOTAL LEAD by SW-846 Method 6010

LAB #	Sample Identification	Concentration (mg/L) Total Lead
3	MW1	ND<0.1
4	MW2	ND<0.1
5	MW3	ND<0.1

mg/L - parts per million (ppm)

Method Detection Limit for Lead in Water: 0.1 mg/L

QAQC Summary: MS/MSD Average Recovery : 92 %
Duplicate RPD : 2 %

Richard Srna, Ph.D.

Nancy A. Nelson for
Laboratory Manager

Chain of Custody & Analysis Request

Consultant: LAWI GRANDALL
 Address: 4000 Civic Center Drive
San Rafael CA 94903
 Phone No. 415 499 1422 Fax No. 415 499 8419
 Project Manager: SUSAN Gohmy
 Alternate Contact: Andrew Mvha
 Project No. 2123-20663-0001 P.O. No. _____

Turn Around Time
 (circle one)
 Same Day 72 Hrs
 24 Hrs 48 Hrs
 Normal 5 Day



Superior Precision Analytical, Inc.
 P.O. Box 1545
 Martinez, California 94553
 Martinez I (510) 229-1512 Martinez Z (510) 229-0166
 San Francisco (415) 647-2081

Sampler: AT Mvha
 Regulatory Agency: _____

Section II: Analysis Request

Laboratory Sample Identification	Matrix S = Soil A = Air W = Water	mod 8015 - Gas			8010	8040	CAM17	TCMP Metals:	Metals: <u>Total Lead</u>	418.1 - TPH by IR	OGG	PCBs + Pesticides	8270	Cdx, Pb, Zn, Ni STLC	Date Sampled	Time Sampled	Number of Containers	Preservative (yes or no)	Sampling Remarks
		mod 8015 - BTEX	mod 8015 - Diesel	mod 8015 - Gas															mod 8015 - Diesel
1 SB 7	S	X	X	X	X					X	X	X	X	12/8/92	1:30	1	N		
2 SB 8	S	X	X	X		X				X		X		Please initial:				Do not run q/BTEX or Diesel	
3 MW1	W	X	X	X				X						Appropriate containers					
4 MW2	W	X	X	X				X						Appropriate containers					
5 MW3	W	X	X	X				X						Appropriate containers					
6														Appropriate containers					
7														Appropriate containers					
8														Appropriate containers					
9														Appropriate containers					
10														Appropriate containers					
11														Appropriate containers					
12														Appropriate containers					

Relinquished by: Andrew Mvha
 Organization: LAWI Grandall

Date/Time: 12/8/92 8:30 PM

Received by: Cecilia Joaquin
 Organization: Superior

Date/Time: 12/8/92 8:30 PM

Lab please initial the following:
 Samples Stored in loc: W
 Appropriate Containers: Yes
 Samples Preserved: NO
 VDAs without Headspace: Yes
 Comments: _____



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 55874
CLIENT: LAW/CRANDALL, INC.
CLIENT PROJECT NO.: 2123206630001

DATE RECEIVED: 12/08/92
DATE REPORTED: 12/17/92

Following is a list of Cross referenced Lab Numbers and Sample I.D.'s for referring to the following reports.

<u>Superior Lab Number</u>	<u>Subbed Lab Number</u>	<u>Customer Sample Identification</u>
55874- 1	9212151-01A	SB7
55874- 2	9212151-02A	SB8

Subbed to: CLAYTON ENVIRONMENTAL CONSULTANTS DOHS#1196.

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

December 17, 1992

Mr. Rene Boongaling
SUPERIOR ANALYTICAL LABORATORY
1555 Burke Street, Unit 1
San Francisco, CA 94124

Client Ref. 55874
Clayton Project No. 92121.51

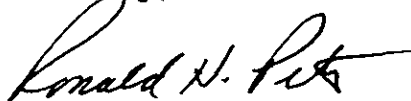
Dear Mr. Boongaling:

Attached is our analytical laboratory report for the samples received on December 10, 1992. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

Please note that any unused portion of the samples will be disposed of 30 days after the date of this report, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact Suzanne Silvera, Client Services Supervisor, at (510) 426-2657.

Sincerely,



Ronald H. Peters, CIH
Director, Laboratory Services
Western Operations

RHP/caa
Attachments

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55874
Clayton Project No. 92121.51

Sample Identification:	55874-1	Date Sampled:	12/08/92
Lab Number:	9212151-01A	Date Received:	12/10/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/14/92
Extraction Method:	EPA 3550	Date Analyzed:	12/15/92
Analytical Method:	EPA 8080		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Organochlorine Pesticides</u>			
alpha-BHC	319-84-6	ND	0.003
gamma-BHC (Lindane)	58-89-9	ND	0.003
beta-BHC	319-85-7	ND	0.003
Heptachlor	76-44-8	ND	0.003
delta-BHC	319-86-8	ND	0.003
Aldrin	309-00-2	ND	0.003
Heptachlor epoxide	1024-57-3	ND	0.003
Endosulfan I	959-98-8	ND	0.003
4,4'-DDE	72-55-9	ND	0.003
Dieldrin	60-57-1	ND	0.003
Endrin	72-20-8	ND	0.003
4,4'-DDD	72-54-8	ND	0.003
Endosulfan II	33212-65-9	ND	0.003
4,4'-DDT	50-29-3	ND	0.003
Endrin aldehyde	7421-93-4	ND	0.003
Endosulfan sulfate	1031-07-8	ND	0.003
Methoxychlor	72-43-5	ND	0.02
Chlordane	57-74-9	ND	0.02
Toxaphene	8001-35-2	ND	0.2

Polychlorinated Biphenyls (PCB's)

Aroclor 1016	12674-11-2	ND	0.03
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ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55874
Clayton Project No. 92121.51

Sample Identification:	55874-1	Date Sampled:	12/08/92
Lab Number:	9212151-01A	Date Received:	12/10/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/14/92
Extraction Method:	EPA 3550	Date Analyzed:	12/15/92
Analytical Method:	EPA 8080		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Polychlorinated Biphenyls (PCB's) (continued)</u>			
Aroclor 1221	1104-28-2	ND	0.03
Aroclor 1232	11141-16-5	ND	0.03
Aroclor 1242	53469-21-9	ND	0.03
Aroclor 1248	12672-29-6	ND	0.03
Aroclor 1254	11097-69-1	ND	0.03
Aroclor 1260	11096-82-5	ND	0.03
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u> LCL UCL
Tetrachloro-m-xylene	877-09-8	82	24 - 150
Dibutylchloroendate	1770-80-5	87	20 - 150

ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55874
Clayton Project No. 92121.51

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9212151-03A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Extracted:	12/14/92
Extraction Method:	EPA 3550	Date Analyzed:	12/15/92
Analytical Method:	EPA 8080		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Organochlorine Pesticides</u>			
alpha-BHC	319-84-6	ND	0.003
gamma-BHC (Lindane)	58-89-9	ND	0.003
beta-BHC	319-85-7	ND	0.003
Heptachlor	76-44-8	ND	0.003
delta-BHC	319-86-8	ND	0.003
Aldrin	309-00-2	ND	0.003
Heptachlor epoxide	1024-57-3	ND	0.003
Endosulfan I	959-98-8	ND	0.003
4,4'-DDE	72-55-9	ND	0.003
Dieldrin	60-57-1	ND	0.003
Endrin	72-20-8	ND	0.003
4,4'-DDD	72-54-8	ND	0.003
Endosulfan II	33212-65-9	ND	0.003
4,4'-DDT	50-29-3	ND	0.003
Endrin aldehyde	7421-93-4	ND	0.003
Endosulfan sulfate	1031-07-8	ND	0.003
Methoxychlor	72-43-5	ND	0.02
Chlordane	57-74-9	ND	0.02
Toxaphene	8001-35-2	ND	0.2

Polychlorinated Biphenyls (PCB's)

Aroclor 1016	12674-11-2	ND	0.03
--------------	------------	----	------

ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55874
Clayton Project No. 92121.51

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9212151-03A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Extracted:	12/14/92
Extraction Method:	EPA 3550	Date Analyzed:	12/15/92
Analytical Method:	EPA 8080		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
---------	-------	-----------------------	----------------------------

Polychlorinated Biphenyls (PCB's) (continued)

Aroclor 1221	1104-28-2	ND	0.03
Aroclor 1232	11141-16-5	ND	0.03
Aroclor 1242	53469-21-9	ND	0.03
Aroclor 1248	12672-29-6	ND	0.03
Aroclor 1254	11097-69-1	ND	0.03
Aroclor 1260	11096-82-5	ND	0.03

<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>	
			LCL	UCL
Tetrachloro-m-xylene	877-09-8	82	24	150
Dibutylchloroendate	1770-80-5	90	20	150

ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55874
Clayton Project No. 92121.51

Sample Identification:	55874-1	Date Sampled:	12/08/92
Lab Number:	9212151-01A	Date Received:	12/10/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/14/92
Extraction Method:	EPA 3550	Date Analyzed:	12/15/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Acid Extractables</u>			
Phenol	108-95-2	ND	0.2
2-chlorophenol	95-57-8	ND	0.2
2-methyl phenol	95-48-7	ND	0.2
4-methyl phenol	106-44-5	ND	0.2
2-nitrophenol	88-75-5	ND	0.2
2,4-dimethylphenol	105-67-9	ND	0.2
2,4-dichlorophenol	120-83-2	ND	0.2
4-chloro-3-methylphenol	59-50-7	ND	0.2
2,4,5-trichlorophenol	95-95-4	ND	0.2
2,4,6-trichlorophenol	88-06-2	ND	0.2
2,4-dinitrophenol	51-28-5	ND	1
4-nitrophenol	100-02-7	ND	1
2-methyl-4,6-dinitrophenol	534-52-1	ND	1
Pentachlorophenol	87-86-5	ND	1
<u>Base/Neutral Extractables</u>			
Bis(2-chloroethyl)ether	111-44-4	ND	0.2
1,3-dichlorobenzene	541-73-7	ND	0.2
1,4-dichlorobenzene	106-46-7	ND	0.2
Benzyl alcohol	100-51-6	ND	0.4
1,2-dichlorobenzene	95-50-1	ND	0.2
Bis-(2-chloroisopropyl)ether	108-60-1	ND	0.2

ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55874
Clayton Project No. 92121.51

Sample Identification:	55874-1	Date Sampled:	12/08/92
Lab Number:	9212151-01A	Date Received:	12/10/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/14/92
Extraction Method:	EPA 3550	Date Analyzed:	12/15/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Base/Neutral Extractables (continued)</u>			
N-nitrosodi-n-propylamine	621-64-7	ND	0.2
Hexachloroethane	67-72-1	ND	0.2
Nitrobenzene	98-95-3	ND	0.2
Isophorone	78-59-1	ND	0.2
Benzoic acid	65-85-0	ND	0.8
Bis-(2-chloroethoxy)methane	111-91-1	ND	0.2
1,2,4-trichlorobenzene	120-82-1	ND	0.2
Naphthalene	91-20-3	ND	0.2
Hexachlorobutadiene	87-68-3	ND	0.2
2-chloronaphthalene	91-58-7	ND	0.2
2-methyl naphthalene	91-57-6	ND	0.2
4-chloroaniline	106-47-8	ND	1
2-nitroaniline	88-74-4	ND	1
3-nitroaniline	99-09-2	ND	1
4-nitroaniline	100-01-6	ND	1
Hexachlorocyclopentadiene	77-47-4	ND	2
Dimethyl phthalate	131-11-3	ND	0.2
Acenaphthylene	208-96-8	ND	0.2
Acenaphthene	83-32-9	ND	0.2
Dibenzofuran	132-64-9	ND	0.2

ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55874
Clayton Project No. 92121.51

Sample Identification: 55874-1	Date Sampled: 12/08/92
Lab Number: 9212151-01A	Date Received: 12/10/92
Sample Matrix/Media: SOIL	Date Extracted: 12/14/92
Extraction Method: EPA 3550	Date Analyzed: 12/15/92
Analytical Method: EPA 8270	

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Base/Neutral Extractables (continued)</u>			
2,4-dinitrotoluene	121-14-2	ND	0.2
2,6-dinitrotoluene	606-20-2	ND	0.2
Diethyl phthalate	84-66-2	ND	0.2
4-chlorophenylphenylether	7005-72-3	ND	0.2
Fluorene	86-73-7	ND	0.2
N-nitrosodiphenylamine	86-30-6	ND	0.2
4-bromophenylphenylether	101-55-3	ND	0.2
Hexachlorobenzene	118-74-1	ND	0.2
Phenanthrene	85-01-8	ND	0.2
Anthracene	120-12-7	ND	0.2
Di-n-butylphthalate	84-74-2	ND	0.2
Fluoranthene	206-44-2	ND	0.2
Benzidine	92-87-5	ND	5
Pyrene	129-00-0	ND	0.2
Benzylbutylphthalate	85-68-7	ND	0.2
3,3'-dichlorobenzidine	91-94-1	ND	5
Benzo(a)anthracene	56-55-3	ND	0.2
Bis-(2-ethylhexyl)phthalate	117-81-7	ND	2
Chrysene	218-01-9	ND	0.2
Di-n-octylphthalate	117-84-0	ND	0.2

ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55874
Clayton Project No. 92121.51

Sample Identification:	55874-2	Date Sampled:	12/08/92
Lab Number:	9212151-02A	Date Received:	12/10/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/14/92
Extraction Method:	EPA 3550	Date Analyzed:	12/15/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Base/Neutral Extractables (continued)</u>			
N-nitrosodi-n-propylamine	621-64-7	ND	0.2
Hexachloroethane	67-72-1	ND	0.2
Nitrobenzene	98-95-3	ND	0.2
Isophorone	78-59-1	ND	0.2
Benzoic acid	65-85-0	ND	0.8
Bis-(2-chloroethoxy)methane	111-91-1	ND	0.2
1,2,4-trichlorobenzene	120-82-1	ND	0.2
Naphthalene	91-20-3	ND	0.2
Hexachlorobutadiene	87-68-3	ND	0.2
2-chloronaphthalene	91-58-7	ND	0.2
2-methyl naphthalene	91-57-6	ND	0.2
4-chloroaniline	106-47-8	ND	1
2-nitroaniline	88-74-4	ND	1
3-nitroaniline	99-09-2	ND	1
4-nitroaniline	100-01-6	ND	1
Hexachlorocyclopentadiene	77-47-4	ND	2
Dimethyl phthalate	131-11-3	ND	0.2
Acenaphthylene	208-96-8	ND	0.2
Acenaphthene	83-32-9	ND	0.2
Dibenzofuran	132-64-9	ND	0.2

ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55874
Clayton Project No. 92121.51

Sample Identification:	55874-2	Date Sampled:	12/08/92
Lab Number:	9212151-02A	Date Received:	12/10/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/14/92
Extraction Method:	EPA 3550	Date Analyzed:	12/15/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Acid Extractables</u>			
Phenol	108-95-2	ND	0.2
2-chlorophenol	95-57-8	ND	0.2
2-methyl phenol	95-48-7	ND	0.2
4-methyl phenol	106-44-5	ND	0.2
2-nitrophenol	88-75-5	ND	0.2
2,4-dimethylphenol	105-67-9	ND	0.2
2,4-dichlorophenol	120-83-2	ND	0.2
4-chloro-3-methylphenol	59-50-7	ND	0.2
2,4,5-trichlorophenol	95-95-4	ND	0.2
2,4,6-trichlorophenol	88-06-2	ND	0.2
2,4-dinitrophenol	51-28-5	ND	1
4-nitrophenol	100-02-7	ND	1
2-methyl-4,6-dinitrophenol	534-52-1	ND	1
Pentachlorophenol	87-86-5	ND	1

Base/Neutral Extractables

Bis(2-chloroethyl)ether	111-44-4	ND	0.2
1,3-dichlorobenzene	541-73-7	ND	0.2
1,4-dichlorobenzene	106-46-7	ND	0.2
Benzyl alcohol	100-51-6	ND	0.4
1,2-dichlorobenzene	95-50-1	ND	0.2
Bis-(2-chloroisopropyl)ether	108-60-1	ND	0.2

ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55874
Clayton Project No. 92121.51

Sample Identification:	55874-1	Date Sampled:	12/08/92
Lab Number:	9212151-01A	Date Received:	12/10/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/14/92
Extraction Method:	EPA 3550	Date Analyzed:	12/15/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
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Base/Neutral Extractables (continued)

Benzo(b)fluoranthene	205-99-2	ND	0.2
Benzo(k)fluoranthene	207-08-9	ND	0.2
Benzo(a)pyrene	50-32-8	ND	0.2
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.2
Dibenzo(a,h)anthracene	53-70-3	ND	0.2
Benzo(ghi)perylene	191-24-2	ND	0.2

<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>	
			LCL	UCL
2-Fluorophenol	367-12-4	55	25	121
Phenol-d6	13127-88-3	67	24	113
Nitrobenzene-d5	4165-60-0	69	23	120
2-Fluorobiphenyl	321-60-8	79	30	115
2,4,6-Tribromophenol	118-79-6	71	19	122
Terphenyl-d14	98904-43-9	71	18	137

ND Not detected at or above limit of detection

-- Information not available or not applicable

Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55874
Clayton Project No. 92121.51

Sample Identification:	55874-2	Date Sampled:	12/08/92
Lab Number:	9212151-02A	Date Received:	12/10/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/14/92
Extraction Method:	EPA 3550	Date Analyzed:	12/15/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Base/Neutral Extractables (continued)</u>			
2,4-dinitrotoluene	121-14-2	ND	0.2
2,6-dinitrotoluene	606-20-2	ND	0.2
Diethyl phthalate	84-66-2	ND	0.2
4-chlorophenylphenylether	7005-72-3	ND	0.2
Fluorene	86-73-7	ND	0.2
N-nitrosodiphenylamine	86-30-6	ND	0.2
4-bromophenylphenylether	101-55-3	ND	0.2
Hexachlorobenzene	118-74-1	ND	0.2
Phenanthrene	85-01-8	ND	0.2
Anthracene	120-12-7	ND	0.2
Di-n-butylphthalate	84-74-2	ND	0.2
Fluoranthene	206-44-2	ND	0.2
Benzidine	92-87-5	ND	5
Pyrene	129-00-0	ND	0.2
Benzylbutylphthalate	85-68-7	ND	0.2
3,3'-dichlorobenzidine	91-94-1	ND	5
Benzo(a)anthracene	56-55-3	ND	0.2
Bis-(2-ethylhexyl)phthalate	117-81-7	ND	2
Chrysene	218-01-9	ND	0.2
Di-n-octylphthalate	117-84-0	ND	0.2

ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55874
Clayton Project No. 92121.51

Sample Identification:	55874-2	Date Sampled:	12/08/92
Lab Number:	9212151-02A	Date Received:	12/10/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/14/92
Extraction Method:	EPA 3550	Date Analyzed:	12/15/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Base/Neutral Extractables (continued)</u>			
Benzo(b)fluoranthene	205-99-2	ND	0.2
Benzo(k)fluoranthene	207-08-9	ND	0.2
Benzo(a)pyrene	50-32-8	ND	0.2
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.2
Dibenzo(a,h)anthracene	53-70-3	ND	0.2
Benzo(ghi)perylene	191-24-2	ND	0.2

<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>	
			LCL	UCL
2-Fluorophenol	367-12-4	61	25	121
Phenol-d6	13127-88-3	72	24	113
Nitrobenzene-d5	4165-60-0	71	23	120
2-Fluorobiphenyl	321-60-8	82	30	115
2,4,6-Tribromophenol	118-79-6	62	19	122
Terphenyl-d14	98904-43-9	70	18	137

ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55874
Clayton Project No. 92121.51

Sample Identification: METHOD BLANK	Date Sampled: --
Lab Number: 9212151-03A	Date Received: --
Sample Matrix/Media: SOIL	Date Extracted: 12/14/92
Extraction Method: EPA 3550	Date Analyzed: 12/15/92
Analytical Method: EPA 8270	

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Acid Extractables</u>			
Phenol	108-95-2	ND	0.2
2-chlorophenol	95-57-8	ND	0.2
2-methyl phenol	95-48-7	ND	0.2
4-methyl phenol	106-44-5	ND	0.2
2-nitrophenol	88-75-5	ND	0.2
2,4-dimethylphenol	105-67-9	ND	0.2
2,4-dichlorophenol	120-83-2	ND	0.2
4-chloro-3-methylphenol	59-50-7	ND	0.2
2,4,5-trichlorophenol	95-95-4	ND	0.2
2,4,6-trichlorophenol	88-06-2	ND	0.2
2,4-dinitrophenol	51-28-5	ND	1
4-nitrophenol	100-02-7	ND	1
2-methyl-4,6-dinitrophenol	534-52-1	ND	1
Pentachlorophenol	87-86-5	ND	1

Base/Neutral Extractables

Bis(2-chloroethyl)ether	111-44-4	ND	0.2
1,3-dichlorobenzene	541-73-7	ND	0.2
1,4-dichlorobenzene	106-46-7	ND	0.2
Benzyl alcohol	100-51-6	ND	0.4
1,2-dichlorobenzene	95-50-1	ND	0.2
Bis-(2-chloroisopropyl)ether	108-60-1	ND	0.2

ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55874
Clayton Project No. 92121.51

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9212151-03A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Extracted:	12/14/92
Extraction Method:	EPA 3550	Date Analyzed:	12/15/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Base/Neutral Extractables (continued)</u>			
N-nitrosodi-n-propylamine	621-64-7	ND	0.2
Hexachloroethane	67-72-1	ND	0.2
Nitrobenzene	98-95-3	ND	0.2
Isophorone	78-59-1	ND	0.2
Benzoic acid	65-85-0	ND	0.8
Bis-(2-chloroethoxy)methane	111-91-1	ND	0.2
1,2,4-trichlorobenzene	120-82-1	ND	0.2
Naphthalene	91-20-3	ND	0.2
Hexachlorobutadiene	87-68-3	ND	0.2
2-chloronaphthalene	91-58-7	ND	0.2
2-methyl naphthalene	91-57-6	ND	0.2
4-chloroaniline	106-47-8	ND	1
2-nitroaniline	88-74-4	ND	1
3-nitroaniline	99-09-2	ND	1
4-nitroaniline	100-01-6	ND	1
Hexachlorocyclopentadiene	77-47-4	ND	2
Dimethyl phthalate	131-11-3	ND	0.2
Acenaphthylene	208-96-8	ND	0.2
Acenaphthene	83-32-9	ND	0.2
Dibenzofuran	132-64-9	ND	0.2

ND Not detected at or above limit of detection

-- Information not available or not applicable

Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55874
Clayton Project No. 92121.51

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9212151-03A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Extracted:	12/14/92
Extraction Method:	EPA 3550	Date Analyzed:	12/15/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Base/Neutral Extractables (continued)</u>			
2,4-dinitrotoluene	121-14-2	ND	0.2
2,6-dinitrotoluene	606-20-2	ND	0.2
Diethyl phthalate	84-66-2	ND	0.2
4-chlorophenylphenylether	7005-72-3	ND	0.2
Fluorene	86-73-7	ND	0.2
N-nitrosodiphenylamine	86-30-6	ND	0.2
4-bromophenylphenylether	101-55-3	ND	0.2
Hexachlorobenzene	118-74-1	ND	0.2
Phenanthrene	85-01-8	ND	0.2
Anthracene	120-12-7	ND	0.2
Di-n-butylphthalate	84-74-2	ND	0.2
Fluoranthene	206-44-2	ND	0.2
Benzidine	92-87-5	ND	5
Pyrene	129-00-0	ND	0.2
Benzylbutylphthalate	85-68-7	ND	0.2
3,3'-dichlorobenzidine	91-94-1	ND	5
Benzo(a)anthracene	56-55-3	ND	0.2
Bis-(2-ethylhexyl)phthalate	117-81-7	ND	2
Chrysene	218-01-9	ND	0.2
Di-n-octylphthalate	117-84-0	ND	0.2

ND Not detected at or above limit of detection

-- Information not available or not applicable

Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55874
Clayton Project No. 92121.51

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9212151-03A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Extracted:	12/14/92
Extraction Method:	EPA 3550	Date Analyzed:	12/15/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Base/Neutral Extractables (continued)</u>			
Benzo(b)fluoranthene	205-99-2	ND	0.2
Benzo(k)fluoranthene	207-08-9	ND	0.2
Benzo(a)pyrene	50-32-8	ND	0.2
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.2
Dibenzo(a,h)anthracene	53-70-3	ND	0.2
Benzo(ghi)perylene	191-24-2	ND	0.2
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u> LCL UCL
2-Fluorophenol	367-12-4	58	25 - 121
Phenol-d6	13127-88-3	72	24 - 113
Nitrobenzene-d5	4165-60-0	80	23 - 120
2-Fluorobiphenyl	321-60-8	91	30 - 115
2,4,6-Tribromophenol	118-79-6	59	19 - 122
Terphenyl-d14	98904-43-9	74	18 - 137

ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Quality Assurance Results Summary
 for
 Clayton Project No. 92121.51

Clayton Lab Number: 9212151-01A
 Ext./Prep. Method: EPA3550
 Date: 12/14/92
 Analyst: CON
 Std. Source: G921201-04W
 Sample Matrix/Media: SOIL

Analytical Method: EPA8080
 Instrument ID: 02933
 Date: 12/15/92
 Time: 20:29
 Analyst: LC
 Units: MG/KG

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
4,4'-DDT	ND	0.0400	0.0320	80	0.0330	83	81	32	120	3.1	50
ALDRIN	ND	0.0400	0.0330	83	0.0340	85	84	34	132	3.0	43
DIELDRIN	ND	0.0400	0.0320	80	0.0320	80	80	31	134	0.0	38
ENDRIN	ND	0.0400	0.0350	88	0.0350	88	88	42	139	0.0	45
GAMMA-BHC (LINDANE)	ND	0.0400	0.0330	83	0.0340	85	84	46	127	3.0	50
HEPTACHLOR	ND	0.0400	0.0400	100	0.0400	100	100	35	130	0.0	31

LCS = Laboratory Control Sample
 ND = Not detected at or above limit of detection

LCL = Lower Control Limit

UCL = Upper Control Limit
 SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 92121.51

Clayton Lab Number: 9212109-MB
Ext./Prep. Method: EPA3550
Date: 12/14/92
Analyst: CON
Std. Source: M921202-01W
Sample Matrix/Media: SOIL

Analytical Method: EPAB270
Instrument ID: 05138
Date: 12/15/92
Time: 11:19
Analyst: AC
Units: MG/KG

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
1,2,4-Trichlorobenzene	ND	3.33	2.03	61	2.10	63	62	38	107	3.4	23
1,4-Dichlorobenzene	ND	3.33	2.06	62	1.97	59	61	28	104	4.5	27
2,4-Dinitrotoluene	ND	3.33	1.99	60	1.86	56	58	28	89	6.8	47
2-Chlorophenol	ND	3.33	2.36	71	2.33	70	70	25	102	1.3	50
4-Chloro-m-cresol	ND	3.33	2.47	74	2.53	76	75	26	103	2.4	33
4-Nitrophenol	ND	3.33	2.43	73	2.16	65	69	11	114	12	50
Acenaphthene	ND	3.33	2.70	81	2.40	72	77	31	137	12	19
N-Nitrosodipropylamine	ND	3.33	1.80	54	1.83	55	55	41	126	1.7	38
Pentachlorophenol	ND	3.33	2.19	66	2.76	83	74	17	109	23	47
Phenol	ND	3.33	1.74	52	1.66	50	51	26	90	4.7	35
Pyrene	ND	3.33	2.45	74	2.36	71	72	35	142	3.7	36

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection

LCL = Lower Control Limit

UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 92121.51

Clayton Lab Number: 9212109-06A
Ext./Prep. Method: EPA3550
Date: 12/14/92
Analyst: CON
Std. Source: M921202-01W
Sample Matrix/Media: SOIL

Analytical Method: EPA8270
Instrument ID: 05138
Date: 12/15/92
Time: 16:03
Analyst: AC
Units: MG/KG

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
1,2,4-Trichlorobenzene	ND	3.33	2.80	84	3.07	92	88	38	107	9.2	23
1,4-Dichlorobenzene	ND	3.33	2.96	89	2.96	89	89	28	104	0.0	27
2,4-Dinitrotoluene	ND	3.33	1.52	46	1.68	50	48	28	89	10	47
2-Chlorophenol	ND	3.33	2.78	83	2.79	84	84	25	102	0.4	50
4-Chloro-m-cresol	ND	3.33	2.33	70	2.76	83	76	26	103	17	33
* 4-Nitrophenol	ND	3.33	0.170	5	0.200	6	6*	11	114	16	50
Acenaphthene	3.40	3.33	5.94	76	6.11	81	79	31	137	2.8	19
N-Nitrosodipropylamine	ND	3.33	2.20	66	2.50	75	71	41	126	13	38
* Pentachlorophenol	ND	3.33	0.00010	0	0.00010	0	0*	17	109	0.0	47
Phenol	ND	3.33	2.35	71	2.54	76	73	26	90	7.8	35
Pyrene	2.30	3.33	5.22	88	5.63	100	94	35	142	7.6	36

* Note: 4-Nitrophenol and Pentachlorophenol spike result out of control limits due to matrix interferences

Chain of Custody and Analysis Request

Section I

page 1 of 1

From: Superior Precision Analytical, Inc.
1555 Burke St. Unit I
San Francisco, CA 92124
 Phone No. (415) 847-2081 Fax No. (415) 821-7123
 Contact: RENE BOONHVALING
 P.O. No. 95874

Turn Around Time
 (circle one)
 Same Day 72 Hrs
 24 Hrs 5 Day
 48 Hrs 10 Day



Superior Precision Analytical, Inc.

P.O. Box 1545
 Martinez, California 94553

Work Subcontracted to: CLAYTON

Section II: Analysis Request

9212151	S = Soil A = Air W = Water	CAM17	Metals:	418.1	8270	8080 (pest. and PCB's)	Client Sample Identification	Number of Containers	Preservative (yes or no)	Sampling Remarks
1 <u>95874-1</u>	S				X	X		1	N	**Please Fax Results** THANK RESULTS TO SUPERIOR. INVOICE SUPERIOR
2 <u>-2</u>	S				X			1	N	
3										
4										
5										
6										
7										
8										
9										Rec'd at 125ml about Jan Cond OK
10										
11										
12										✓ V/D/L/K CLAYTON COURIER THURS 12/10/92 Afternoon

OIA
O2A

Relinquished by <u>R. Boonhvaling</u>	Date/Time <u>12/9/92 5:00 PM</u>	Received by <u>Tracy A. ...</u>	Date/Time <u>12/10/92 6:10 PM</u>	Lab please initial the following: Samples Stored in Ice <u>Yes</u> Appropriate Containers <u>Yes</u> Samples Preserved <u>Yes</u> VOAs without Headspace <u>Yes</u> Comments <u>OK</u>
Relinquished by _____	Date/Time _____	Received by _____	Date/Time _____	
Organization <u>SUPERIOR</u>	Organization _____	Organization _____	Organization _____	

Section I

Chain of Custody and Analysis Request

page of

Consultant LAW/CRANDALL
 Address 4000 Civic Center Drive
San Rafael CA 94903
 Phone No. 415 499 1422 Fax No. 415 499 8419
 Project Manager Susan Gehring
 Alternate Contact Andrew M. M. M.
 Project No. 2123-20663-001 P.O. No.

Turn Around Time
 (circle one)
 Same Day 72 hrs
 24 hrs 48 hrs
 Normal 5 Day



Superior Precision Analytical, Inc.
 P.O. Box 1545
 Martinez, California 94553
 Martinez 1 (510) 229-1512 Martinez 2 (510) 229-0166
 San Francisco (415) 647-2081

Sampler: A.J. M. M.
 Regulatory Agency:

Section II: Analysis Request

9212151	Laboratory Sample Identification	Matrix	mod 8018 - Gas			8010	8040	QAM17	TOLP Metals	Metals: Total Lead	418.1 - TPH by IR	O & G	EPCs + Pesticides	8270	5720	Data Sampled	Time Sampled	Number of Containers	Preserved (yes or no)	Sampling Remarks	
			S = Soil A = Air W = Water	<input type="checkbox"/> Bio-remediation	<input checked="" type="checkbox"/> Underground storage tank																
1	SB 7	S	X	X	X		X				X	X	X			11:30					
2	SB 8	S					X				X		X								Do not run q/BTEX or Diesel
3	MW1	W	X	X	X				X												
4	MW2	W	X	X	X				X												
5	MW3	W	X	X	X				X												
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Relinquished by <u>Andrew T. M. M.</u> Organization <u>LAW/CRANDALL</u>	Date/Time <u>12/8/92 8:30 pm</u>	Received by <u> </u> Organization <u> </u>	Date/Time <u> </u>	Lab please initial the following: Samples Stored in Ice <u> </u> Appropriate Containers <u> </u> Samples Preserved <u> </u> VDA's without Headspace <u> </u> Comments <u> </u>
Relinquished by <u> </u> Organization <u> </u>	Date/Time <u> </u>	Received by <u> </u> Organization <u> </u>	Date/Time <u> </u>	
Relinquished by <u> </u> Organization <u> </u>	Date/Time <u> </u>	Received by <u>Cecilia Jarama</u> Organization <u>Superior</u>	Date/Time <u>12/8/92 8:30 pm</u>	



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 55864
CLIENT: LAW/CRANDALL, INC.
CLIENT JOB NO.: 2123206630001

DATE RECEIVED: 12/07/92
DATE REPORTED: 12/15/92

ANALYSIS FOR TOTAL PETROLEUM OIL AND GREASE by Method 5520F (formerly 503E)

LAB #	Sample Identification	Concentration (mg/L) Total Petroleum Oil & Grease
1	HP1	ND<5

mg/L - parts per million (ppm)

Minimum Detection Limit for oil & grease in Water: 5mg/L

QAQC Summary:
MS/MSD Average Recovery = 81%
Duplicate RPD = 2%

Richard Srna, Ph.D.

Richard Srna
Laboratory Director



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 55864
CLIENT: LAW/CRANDALL, INC.
CLIENT JOB NO.: 2123206630001

DATE RECEIVED: 12/07/92
DATE REPORTED: 12/15/92

ANALYSIS FOR BENZENE, TOLUENE, ETHYL BENZENE & XYLENES
by EPA SW-846 Methods 5030 and 8020

LAB #	Sample Identification	Concentration(ug/L)			
		Benzene	Toluene	Ethyl Benzene	Xylenes
1	HP1	ND<0.3	0.3	ND<0.3	ND<0.3

ug/L - parts per billion (ppb)

Method Detection Limit in Water: 0.3 ug/L

QAQC Summary:

Daily Standard run at 20ug/L: %Diff 8020 = <15%
MS/MSD Average Recovery = 94%: Duplicate RPD = 4%

Richard Srna, Ph.D.

Cecilia G. Joazeiro (for)
Laboratory Manager



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 55864
CLIENT: LAW/CRANDALL, INC.
CLIENT JOB NO.: 2123206630001

DATE RECEIVED: 12/07/92
DATE REPORTED: 12/15/92

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS by Modified EPA SW-846 Method 5030 and 8015

LAB #	Sample Identification	Concentration (ug/L) Gasoline Range
1	HP1	ND<50

ug/L - parts per billion (ppb)

Method Detection Limit for Gasoline in Water: 50 ug/L

QAQC Summary:

Daily Standard run at 2mg/L: %Diff Gasoline = <15
MS/MSD Recovery = 93%: Duplicate RPD = 5%

Richard Srna, Ph.D.

Cecilia G. Joaquin (for)
Laboratory Manager



Superior Precision Analytical, Inc.

1555 Burke, Unit 1 • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 55864
CLIENT: LAW/CRANDALL, INC.
CLIENT JOB NO.: 2123206630001

DATE RECEIVED: 12/07/92
DATE REPORTED: 12/16/92

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS by Modified EPA SW-846 Method 8015

LAB #	Sample Identification	Concentration (ug/L) Diesel Range
1	HP1	ND<50

ug/L - parts per billion (ppb)

Minimum Detection Limit for Diesel in Water: 50ug/L

QAQC Summary:

Daily Standard run at 200mg/L: %DIFF Diesel = <15%
MS/MSD Average Recovery = 67%: Duplicate RPD = 9%

Richard Srna, Ph.D.

Cecilia G. Jouquin (for)
Laboratory Director



Superior Precision Analytical, Inc.

1555 Burke, Unit 1 • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO. 55864-1
CLIENT: LAW/CRANDALL, INC.
DATE SAMPLED : 12/07/92.
DATE ANALYZED: 12/11/92

DATE RECEIVED: 12/07/92
DATE REPORTED: 12/15/92
PROJECT NO. 2123-20663-0001

EPA SW-846 METHOD 8240 - VOLATILE ORGANICS
by Gas Chromatography/ Mass Spectrometry

SAMPLE: HP1

Compound	MDL	ug/L	Compound	MDL	ug/L
Chloromethane	10	ND	Cis-1,3-Dichloropropene	3	ND
Bromomethane	10	ND	Trichloroethene	3	ND
Vinyl Chloride	10	ND	Dibromochloromethane	3	ND
Chloroethane	10	ND	1,1,2-Trichloroethane	3	ND
Methylene Chloride	10	ND	Benzene	1	ND
Acetone	10	ND	Trans-1,3-Dichloropropene	3	ND
Carbon Disulfide	3	ND	2-Chloroethyl vinyl ether	3	ND
Trichlorofluoromethane	3	ND	Bromoform	3	ND
1-Dichloroethene	3	ND	4-Methyl-2-Pentanone	10	ND
1,1-Dichloroethane	3	ND	2-Hexanone	10	ND
trans-1,2-Dichloroethene	3	ND	Tetrachloroethene	3	ND
Chloroform	3	ND	1,1,2,2-Tetrachloroethane	3	ND
1,2-Dichloroethane	1	ND	Toluene	3	ND
2-Butanone	20	ND	Chlorobenzene	3	ND
1,1,1-Trichloroethane	3	ND	Ethylbenzene	3	ND
Carbon Tetrachloride	3	ND	Styrene	3	ND
Vinyl Acetate	10	ND	Total Xylenes	3	ND
Bromodichloromethane	3	ND	1,3-Dichlorobenzene	3	ND
1,2-Dichloropropane	3	ND	1,4-Dichlorobenzene	3	ND
cis-1,2-Dichloroethene	3	ND	1,2-Dichlorobenzene	3	ND

ug/L = parts per billion (ppb)

ND = ANALYTE NOT DETECTED ABOVE QUANTITATION LIMIT

QC DATA:

Surrogate Recoveries	
1,2-DCA-d4.....	97%
Toluene-d8.....	106%
Bromofluorobenzene.....	100%

QC LIMITS	
water	
	76-114 %
	88-110 %
	86-115 %

comments:

Richard Srna, Ph.D.

Richard Srna
Laboratory Director



Superior Precision Analytical, Inc.

1555 Burke, Unit 1 • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 55864
CLIENT: LAW/CRANDALL, INC.
CLIENT PROJECT NO.: 2123206630001

DATE RECEIVED: 12/07/92
DATE REPORTED: 12/15/92

Following is a list of Cross referenced Lab Numbers and Sample I.D.'s for referring to the following reports.

<u>Superior Lab Number</u>	<u>Subbed Lab Number</u>	<u>Customer Sample Identification</u>
55864- 1	9212101-01A	HP1

ubbed to: CLAYTON ENVIRONMENTAL CONSULTANTS DOHS#1196.



Superior Precision Analytical, Inc.

825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 87364
CLIENT: Law/Crandall
CLIENT JOB NO.: 2123-20663-0001

DATE RECEIVED: 12/07/92
DATE REPORTED: 12/12/92
DATE SAMPLED :

ANALYSIS FOR TOTAL NICKEL by SW-846 METHOD 6010

LAB #	Sample Identification	Concentration (mg/L) Total Nickel
1	HP1	ND<0.1

mg/L - parts per million (ppm)

Method Detection Limit for Nickel in Water: 0.1 mg/L

QAQC Summary: MS/MSD Average Recovery : 85%
Duplicate RPD : 2%

Richard Srna, Ph.D.

Nancy A. Nelson for
Laboratory Manager



Superior Precision Analytical, Inc.

825 Arnold Drive, Suite 114 • Martinez, California 94553 • (510) 229-1512 / fax (510) 229-1526

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 87364
CLIENT: Law/Crandall
CLIENT JOB NO.: 2123-20663-0001

DATE RECEIVED: 12/07/92
DATE REPORTED: 12/12/92

ANALYSIS FOR CADMIUM, CHROMIUM, LEAD & ZINC by EPA SW-846 Method 6010

LAB #	Sample Identification	Concentration (mg/L)			
		Cadmium	Chromium	Lead	Zinc
1	HP1	ND<0.05	ND<0.05	ND<0.1	ND<0.05

mg/L - parts per million (ppm)

Method Detection Limit for Cadmium in Water: 0.05 mg/L
Method Detection Limit for Chromium in Water: 0.05 mg/L
Method Detection Limit for Lead in Water: 0.1 mg/L
Method Detection Limit for Zinc in Water: 0.05 mg/L

QAQC Summary: MS/MSD Average Recovery : 92%
Duplicate RPD : 2%

Richard Srna, Ph.D.

Nancy A. Nelson for
Laboratory Manager

CHAIN OF CUSTODY RECORD

55864

BCA Log Number _____

Client: **CRANDALL**
 Address: **100 Civic Center Dr. Suite 305**
 City, State, Zip: **San Rafael, CA 94903**
 Project or PO#: **2123-20663-001**
 Phone #: **415 499 1422**
 Report attention: **SUSAN GARRY**

Lab sample number	Date sampled	Time sampled	Type* See key below	Sampled by	Sample description	Number of containers	Analyses required								Remarks	
							TPH/C + BTEX	TPH/D	Semi Volatile Organics	Pesticides + PCBs	Volatile Organics	CO, Ca, Pb, Zn, Ni	D+G (5520(D+F))	Hazardous sample special handling required		
	12/7/92	3:30	GW	ATM	HPI	3	X									5 Day Turnaround
	12/7/92	3:30	GW		HPI	1		X								
	12/7/92	3:30	GW		HPI	1			X							
	12/7/92	3:30	GW		HPI	1				X						
	12/7/92	3:30	GW		HPI	3					X					
	12/7/92	3:30	GW		HPI	1						X				
	12/7/92	3:30	GW		HPI	1							X			

Please Initial:
 Samples stored in car ✓
 Appropriate containers ✓
 Samples preserved ✓
 VOA and PCBs preserved ✓
 Chain of custody maintained ✓
 Documents: ✓

Signature	Print Name	Company	Date	Time
Relinquished by <i>Andrew T. Muka</i>	Andrew T. Muka	Law/ Crandall	12/7/92	5:30
Received by <i>Doug Staats</i>	DOUG STAATS	AERO / Del	12/7/92	5:30
Relinquished by				
Received by				
Relinquished by				
Received by Laboratory <i>Kiehle</i>	KIEHLE	SPA	1/7/92	8:00 P

3 C ANALYTICAL
 1255 Powell Street, Emeryville, CA 94608 (510) 428-2300
 801 Western Avenue, Glendale, CA 91201 (818) 247-5737
 1200 Coast Ave., West Anaheim, CA 92705 (714) 979-0110

Note: Samples are discarded 30 days after results are reported unless other arrangements are made
 Hazardous samples will be returned to client or disposed of at client's expense.
 Disposal arrangements: _____

*KEY: WW—Wastewater SU—Surface Water SO—Soil
 SL—Sludge PE—Petroleum OT—Other
 NA—Nonaqueous GW—Groundwater AQ—Aqueous

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

December 15, 1992

Mr. Rich Kiehle
SUPERIOR ANALYTICAL LABORATORY
1555 Burke Street, Unit 1
San Francisco, CA 94124

Client Ref. 55864
Clayton Project No. 92121.01

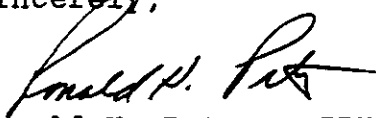
Dear Mr. Kiehle:

Attached is our analytical laboratory report for the samples received on December 8, 1992. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

Please note that any unused portion of the samples will be disposed of 30 days after the date of this report, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact Suzanne Silvera, Client Services Supervisor, at (510) 426-2657.

Sincerely,


Ronald H. Peters, CIH
Director, Laboratory Services
Western Operations

RHP/caa
Attachments

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55864
Clayton Project No. 92121.01

Sample Identification:	55864-1	Date Sampled:	12/07/92
Lab Number:	9212101-01A	Date Received:	12/08/92
Sample Matrix/Media:	WATER	Date Extracted:	12/10/92
Extraction Method:	EPA 3510	Date Analyzed:	12/12/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Acid Extractables</u>			
Phenol	108-95-2	ND	5
2-chlorophenol	95-57-8	ND	5
2-methyl phenol	95-48-7	ND	5
4-methyl phenol	106-44-5	ND	5
2-nitrophenol	88-75-5	ND	5
2,4-dimethylphenol	105-67-9	ND	5
2,4-dichlorophenol	120-83-2	ND	5
4-chloro-3-methylphenol	59-50-7	ND	5
2,4,5-trichlorophenol	95-95-4	ND	5
2,4,6-trichlorophenol	88-06-2	ND	5
2,4-dinitrophenol	51-28-5	ND	20
4-nitrophenol	100-02-7	ND	20
2-methyl-4,6-dinitrophenol	534-52-1	ND	20
Pentachlorophenol	87-86-5	ND	20
<u>Base/Neutral Extractables</u>			
Bis(2-chloroethyl)ether	111-44-4	ND	5
1,3-dichlorobenzene	541-73-7	ND	5
1,4-dichlorobenzene	106-46-7	ND	5
Benzyl alcohol	100-51-6	ND	10
1,2-dichlorobenzene	95-50-1	ND	5
Bis-(2-chloroisopropyl)ether	108-60-1	ND	5

ND Not detected at or above limit of detection
-- Information not available or not applicable

* Note: Tentative results reported for acid extractables due to low acid surrogate recoveries.

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55864
Clayton Project No. 92121.01

Sample Identification:	55864-1	Date Sampled:	12/07/92
Lab Number:	9212101-01A	Date Received:	12/08/92
Sample Matrix/Media:	WATER	Date Extracted:	12/10/92
Extraction Method:	EPA 3510	Date Analyzed:	12/12/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Base/Neutral Extractables (continued)</u>			
N-nitrosodi-n-propylamine	621-64-7	ND	5
Hexachloroethane	67-72-1	ND	5
Nitrobenzene	98-95-3	ND	5
Isophorone	78-59-1	ND	5
Benzoic acid	65-85-0	ND	20
Bis-(2-chloroethoxy)methane	111-91-1	ND	5
1,2,4-trichlorobenzene	120-82-1	ND	5
Naphthalene	91-20-3	ND	5
Hexachlorobutadiene	87-68-3	ND	5
2-chloronaphthalene	91-58-7	ND	5
2-methyl naphthalene	91-57-6	ND	5
4-chloroaniline	106-47-8	ND	20
2-nitroaniline	88-74-4	ND	20
3-nitroaniline	99-09-2	ND	20
4-nitroaniline	100-01-6	ND	20
Hexachlorocyclopentadiene	77-47-4	ND	5
Dimethyl phthalate	131-11-3	ND	10
Acenaphthylene	208-96-8	ND	5
Acenaphthene	83-32-9	ND	5
Dibenzofuran	132-64-9	ND	5

ND Not detected at or above limit of detection
-- Information not available or not applicable

* Note: Tentative results reported for acid extractables due to low acid surrogate recoveries.

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55864
Clayton Project No. 92121.01

Sample Identification:	55864-1	Date Sampled:	12/07/92
Lab Number:	9212101-01A	Date Received:	12/08/92
Sample Matrix/Media:	WATER	Date Extracted:	12/10/92
Extraction Method:	EPA 3510	Date Analyzed:	12/12/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Base/Neutral Extractables (continued)</u>			
2,4-dinitrotoluene	121-14-2	ND	5
2,6-dinitrotoluene	606-20-2	ND	5
Diethyl phthalate	84-66-2	ND	5
4-chlorophenylphenylether	7005-72-3	ND	5
Fluorene	86-73-7	ND	5
N-nitrosodiphenylamine	86-30-6	ND	5
4-bromophenylphenylether	101-55-3	ND	5
Hexachlorobenzene	118-74-1	ND	5
Phenanthrene	85-01-8	ND	5
Anthracene	120-12-7	ND	5
Di-n-butylphthalate	84-74-2	ND	5
Fluoranthene	206-44-2	ND	5
Benzidine	92-87-5	ND	30
Pyrene	129-00-0	ND	5
Benzylbutylphthalate	85-68-7	ND	5
3,3'-dichlorobenzidine	91-94-1	ND	40
Benzo(a)anthracene	56-55-3	ND	5
Bis-(2-ethylhexyl)phthalate	117-81-7	ND	10
Chrysene	218-01-9	ND	5
Di-n-octylphthalate	117-84-0	ND	5

ND Not detected at or above limit of detection
-- Information not available or not applicable

* Note: Tentative results reported for acid extractables due to low acid surrogate recoveries.

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55864
Clayton Project No. 92121.01

Sample Identification:	55864-1	Date Sampled:	12/07/92
Lab Number:	9212101-01A	Date Received:	12/08/92
Sample Matrix/Media:	WATER	Date Extracted:	12/10/92
Extraction Method:	EPA 3510	Date Analyzed:	12/12/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Base/Neutral Extractables (continued)</u>			
Benzo(b)fluoranthene	205-99-2	ND	5
Benzo(k)fluoranthene	207-08-9	ND	5
Benzo(a)pyrene	50-32-8	ND	5
Indeno(1,2,3-cd)pyrene	193-39-5	ND	5
Dibenzo(a,h)anthracene	53-70-3	ND	5
Benzo(ghi)perylene	191-24-2	ND	5

<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>	
			LCL	UCL
2-Fluorophenol	367-12-4	2*	21	100
Phenol-d6	13127-88-3	0*	10	94
Nitrobenzene-d5	4165-60-0	85	35	114
2-Fluorobiphenyl	321-60-8	92	43	116
2,4,6-Tribromophenol	118-79-6	27	10	123
Terphenyl-d14	--	83	33	141

ND Not detected at or above limit of detection

-- Information not available or not applicable

* Note: Tentative results reported for acid extractables due to low acid surrogate recoveries.

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55864
Clayton Project No. 92121.01

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9212101-02A	Date Received:	--
Sample Matrix/Media:	WATER	Date Extracted:	12/10/92
Extraction Method:	EPA 3510	Date Analyzed:	12/12/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Acid Extractables</u>			
Phenol	108-95-2	ND	5
2-chlorophenol	95-57-8	ND	5
2-methyl phenol	95-48-7	ND	5
4-methyl phenol	106-44-5	ND	5
2-nitrophenol	88-75-5	ND	5
2,4-dimethylphenol	105-67-9	ND	5
2,4-dichlorophenol	120-83-2	ND	5
4-chloro-3-methylphenol	59-50-7	ND	5
2,4,5-trichlorophenol	95-95-4	ND	5
2,4,6-trichlorophenol	88-06-2	ND	5
2,4-dinitrophenol	51-28-5	ND	20
4-nitrophenol	100-02-7	ND	20
2-methyl-4,6-dinitrophenol	534-52-1	ND	20
Pentachlorophenol	87-86-5	ND	20

Base/Neutral Extractables

Bis(2-chloroethyl)ether	111-44-4	ND	5
1,3-dichlorobenzene	541-73-7	ND	5
1,4-dichlorobenzene	106-46-7	ND	5
Benzyl alcohol	100-51-6	ND	10
1,2-dichlorobenzene	95-50-1	ND	5
Bis-(2-chloroisopropyl)ether	108-60-1	ND	5

ND Not detected at or above limit of detection
-- Information not available or not applicable

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55864
Clayton Project No. 92121.01

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9212101-02A	Date Received:	--
Sample Matrix/Media:	WATER	Date Extracted:	12/10/92
Extraction Method:	EPA 3510	Date Analyzed:	12/12/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Base/Neutral Extractables (continued)</u>			
N-nitrosodi-n-propylamine	621-64-7	ND	5
Hexachloroethane	67-72-1	ND	5
Nitrobenzene	98-95-3	ND	5
Isophorone	78-59-1	ND	5
Benzoic acid	65-85-0	ND	20
Bis-(2-chloroethoxy)methane	111-91-1	ND	5
1,2,4-trichlorobenzene	120-82-1	ND	5
Naphthalene	91-20-3	ND	5
Hexachlorobutadiene	87-68-3	ND	5
2-chloronaphthalene	91-58-7	ND	5
2-methyl naphthalene	91-57-6	ND	5
4-chloroaniline	106-47-8	ND	20
2-nitroaniline	88-74-4	ND	20
3-nitroaniline	99-09-2	ND	20
4-nitroaniline	100-01-6	ND	20
Hexachlorocyclopentadiene	77-47-4	ND	5
Dimethyl phthalate	131-11-3	ND	10
Acenaphthylene	208-96-8	ND	5
Acenaphthene	83-32-9	ND	5
Dibenzofuran	132-64-9	ND	5

ND Not detected at or above limit of detection
-- Information not available or not applicable

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55864
Clayton Project No. 92121.01

Sample Identification: METHOD BLANK	Date Sampled: --
Lab Number: 9212101-02A	Date Received: --
Sample Matrix/Media: WATER	Date Extracted: 12/10/92
Extraction Method: EPA 3510	Date Analyzed: 12/12/92
Analytical Method: EPA 8270	

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Base/Neutral Extractables (continued)</u>			
2,4-dinitrotoluene	121-14-2	ND	5
2,6-dinitrotoluene	606-20-2	ND	5
Diethyl phthalate	84-66-2	ND	5
4-chlorophenylphenylether	7005-72-3	ND	5
Fluorene	86-73-7	ND	5
N-nitrosodiphenylamine	86-30-6	ND	5
4-bromophenylphenylether	101-55-3	ND	5
Hexachlorobenzene	118-74-1	ND	5
Phenanthrene	85-01-8	ND	5
Anthracene	120-12-7	ND	5
Di-n-butylphthalate	84-74-2	ND	5
Fluoranthene	206-44-2	ND	5
Benzidine	92-87-5	ND	30
Pyrene	129-00-0	ND	5
Benzylbutylphthalate	85-68-7	ND	5
3,3'-dichlorobenzidine	91-94-1	ND	40
Benzo(a)anthracene	56-55-3	ND	5
Bis-(2-ethylhexyl)phthalate	117-81-7	ND	10
Chrysene	218-01-9	ND	5
Di-n-octylphthalate	117-84-0	ND	5

ND Not detected at or above limit of detection
-- Information not available or not applicable

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55864
Clayton Project No. 92121.01

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9212101-02A	Date Received:	--
Sample Matrix/Media:	WATER	Date Extracted:	12/10/92
Extraction Method:	EPA 3510	Date Analyzed:	12/12/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Base/Neutral Extractables (continued)</u>			
Benzo(b)fluoranthene	205-99-2	ND	5
Benzo(k)fluoranthene	207-08-9	ND	5
Benzo(a)pyrene	50-32-8	ND	5
Indeno(1,2,3-cd)pyrene	193-39-5	ND	5
Dibenzo(a,h)anthracene	53-70-3	ND	5
Benzo(ghi)perylene	191-24-2	ND	5

<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>	
			LCL	UCL
2-Fluorophenol	367-12-4	55	21	100
Phenol-d6	13127-88-3	45	10	94
Nitrobenzene-d5	4165-60-0	81	35	114
2-Fluorobiphenyl	321-60-8	79	43	116
2,4,6-Tribromophenol	118-79-6	92	10	123
Terphenyl-d14	--	88	33	141

ND Not detected at or above limit of detection
-- Information not available or not applicable

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55864
Clayton Project No. 92121.01

Sample Identification:	55864-1	Date Sampled:	12/07/92
Lab Number:	9212101-01B	Date Received:	12/08/92
Sample Matrix/Media:	WATER	Date Extracted:	12/08/92
Extraction Method:	EPA 3510	Date Analyzed:	12/09/92
Analytical Method:	EPA 8080		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Organochlorine Pesticides</u>			
alpha-BHC	319-84-6	ND	0.01
gamma-BHC (Lindane)	58-89-9	ND	0.01
beta-BHC	319-85-7	ND	0.01
Heptachlor	76-44-8	ND	0.01
delta-BHC	319-86-8	ND	0.01
Aldrin	309-00-2	ND	0.01
Heptachlor epoxide	1024-57-3	ND	0.01
Endosulfan I	959-98-8	ND	0.01
4,4'-DDE	72-55-9	ND	0.01
Dieldrin	60-57-1	ND	0.01
Endrin	72-20-8	ND	0.01
4,4'-DDD	72-54-8	ND	0.01
Endosulfan II	33212-65-9	ND	0.01
4,4'-DDT	50-29-3	ND	0.01
Endrin aldehyde	7421-93-4	ND	0.01
Endosulfan sulfate	1031-07-8	ND	0.01
Methoxychlor	72-43-5	ND	0.05
Chlordane	57-74-9	ND	0.05
Toxaphene	8001-35-2	ND	1
<u>Polychlorinated Biphenyls (PCB's)</u>			
Aroclor 1016	12674-11-2	ND	0.5

ND Not detected at or above limit of detection
-- Information not available or not applicable

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55864
Clayton Project No. 92121.01

Sample Identification:	55864-1	Date Sampled:	12/07/92
Lab Number:	9212101-01B	Date Received:	12/08/92
Sample Matrix/Media:	WATER	Date Extracted:	12/08/92
Extraction Method:	EPA 3510	Date Analyzed:	12/09/92
Analytical Method:	EPA 8080		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Polychlorinated Biphenyls (PCB's) (continued)</u>			
Aroclor 1221	1104-28-2	ND	0.5
Aroclor 1232	11141-16-5	ND	0.5
Aroclor 1242	53469-21-9	ND	0.5
Aroclor 1248	12672-29-6	ND	0.5
Aroclor 1254	11097-69-1	ND	0.5
Aroclor 1260	11096-82-5	ND	0.5
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u> LCL UCL
Tetrachloro-m-xylene	877-09-8	79	24 - 150
Dibutylchloroendate	1770-80-5	59	24 - 154

ND Not detected at or above limit of detection
-- Information not available or not applicable

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55864
Clayton Project No. 92121.01

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9212101-02A	Date Received:	--
Sample Matrix/Media:	WATER	Date Extracted:	12/08/92
Extraction Method:	EPA 3510	Date Analyzed:	12/09/92
Analytical Method:	EPA 8080		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Organochlorine Pesticides</u>			
alpha-BHC	319-84-6	ND	0.01
gamma-BHC (Lindane)	58-89-9	ND	0.01
beta-BHC	319-85-7	ND	0.01
Heptachlor	76-44-8	ND	0.01
delta-BHC	319-86-8	ND	0.01
Aldrin	309-00-2	ND	0.01
Heptachlor epoxide	1024-57-3	ND	0.01
Endosulfan I	959-98-8	ND	0.01
4,4'-DDE	72-55-9	ND	0.01
Dieldrin	60-57-1	ND	0.01
Endrin	72-20-8	ND	0.01
4,4'-DDD	72-54-8	ND	0.01
Endosulfan II	33212-65-9	ND	0.01
4,4'-DDT	50-29-3	ND	0.01
Endrin aldehyde	7421-93-4	ND	0.01
Endosulfan sulfate	1031-07-8	ND	0.01
Methoxychlor	72-43-5	ND	0.05
Chlordane	57-74-9	ND	0.05
Toxaphene	8001-35-2	ND	1
<u>Polychlorinated Biphenyls (PCB's)</u>			
Aroclor 1016	12674-11-2	ND	0.5

ND Not detected at or above limit of detection
-- Information not available or not applicable

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55864
Clayton Project No. 92121.01

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9212101-02A	Date Received:	--
Sample Matrix/Media:	WATER	Date Extracted:	12/08/92
Extraction Method:	EPA 3510	Date Analyzed:	12/09/92
Analytical Method:	EPA 8080		

Analyte	CAS #	Concentration (ug/L)	Limit of Detection (ug/L)
<u>Polychlorinated Biphenyls (PCB's) (continued)</u>			
Aroclor 1221	1104-28-2	ND	0.5
Aroclor 1232	11141-16-5	ND	0.5
Aroclor 1242	53469-21-9	ND	0.5
Aroclor 1248	12672-29-6	ND	0.5
Aroclor 1254	11097-69-1	ND	0.5
Aroclor 1260	11096-82-5	ND	0.5
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u> LCL UCL
Tetrachloro-m-xylene	877-09-8	70	24 - 150
Dibutylchloroendate	1770-80-5	95	24 - 154

ND Not detected at or above limit of detection
-- Information not available or not applicable

Quality Assurance Results Summary
for
Clayton Project No. 92121.01

Clayton Lab Number: 9212121-MB
Ext./Prep. Method: EPA3510
Date: 12/10/92
Analyst: CON
Std. Source: M921202-01W
Sample Matrix/Media: WATER

Analytical Method: EPA625 8270
Instrument ID: 05138
Date: 12/12/92
Time: 16:05
Analyst: AC
Units: UG/L

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
1,2,4-Trichlorobenzene	ND	100	61.0	61	60.0	60	61	39	98	1.7	28
1,4-Dichlorobenzene	ND	100	56.0	56	59.0	59	58	36	97	5.2	28
2,4-Dinitrotoluene	ND	100	59.0	59	62.0	62	61	24	96	5.0	38
2-Chlorophenol	ND	100	69.0	69	68.0	68	69	27	123	1.5	40
4-Chloro-m-cresol	ND	100	69.0	69	69.0	69	69	23	97	0.0	42
4-Nitrophenol	ND	100	26.0	26	35.0	35	31	10	80	30	50
Acenaphthene	ND	100	77.0	77	85.0	85	81	46	118	9.9	31
N-Nitrosodipropylamine	ND	100	65.0	65	68.0	68	67	41	116	4.5	38
Pentachlorophenol	ND	100	52.0	52	67.0	67	60	9	103	25	50
Phenol	ND	100	35.0	35	37.0	37	36	12	89	5.6	42
Pyrene	ND	100	74.0	74	72.0	72	73	26	127	2.7	31

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection

LCL = Lower Control Limit

UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration

Quality Assurance Results Summary
for
Clayton Project No. 92121.01

Clayton Lab Number: 9212028-MB
Ext./Prep. Method: EPA3510
Date: 12/09/92
Analyst: GAU
Std. Source: G921201-04W
Sample Matrix/Media: WATER

Analytical Method: EPA8080
Instrument ID: 02933
Date: 12/09/92
Time: 21:07
Analyst: LC
Units: UG/L

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
4,4'-DDT	ND	0.200	0.130	65	0.160	80	73	40	140	21	30
ALDRIN	ND	0.200	0.180	90	0.190	95	93	40	120	5.4	30
DIELDRIN	ND	0.200	0.150	75	0.160	80	78	52	126	6.5	30
ENDRIN	ND	0.200	0.160	80	0.170	85	83	56	121	6.1	30
GAMMA-BHC (LINDANE)	ND	0.200	0.160	80	0.170	85	83	56	123	6.1	30
HEPTACLOR	ND	0.200	0.190	95	0.180	90	93	40	131	5.4	30

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection

LCL = Lower Control Limit

UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

12101


Chain of Custody and Analysis Request

page ___ of ___

Section I

From: Superior Precision Analytical, Inc.
1555 Burke St. Unit II
San Francisco, CA 92124
 Phone No. (415) 847-2081 Fax No. (415) 821-7123
 Contact: 55864
 P.O. No. KK

Turn Around Time
 (circle one)
 Same Day
 24 Hrs
 48 Hrs
 72 Hrs
5 Day
 10 Day

 **Superior Precision Analytical, Inc.**
 P.O. Box 1545
 Martinez, California 94553
per Lester

Work Subcontracted to: Chryfin

Section II: Analysis Request

Laboratory Sample Identification	Matrix	S = Soil A = Air W = Water	CAM17	Metals:	418.1	8270	8080 (pest. and PCB's)	Client Sample Identification	Number of Containers	Preservative (yes or no)	Sampling Remarks	
											<input type="checkbox"/> Chevron	<input checked="" type="checkbox"/> Non-Chevron
1. 55864-1	water					X	X	HP1				
2												
3												
4												
5												
6												
7												
8												
9												
10												
11												
12												

Relinquished by <u>Kurt Kuehn</u> Organization _____ Date/Time <u>12/7/92</u> 10P	Received by <u>Terry S. Jones</u> Organization <u>C.F.C.</u> Date/Time <u>12/8/92 1:00p</u>	Lab please initial the following: Samples Stored in Ice <u>OK</u> Appropriate Containers <u>sk</u> Samples Preserved <u>N/A</u> VOAs without Headspace <u>sk</u> Comments <u>Rec'd 2 TL'd</u>
Relinquished by _____ Organization _____ Date/Time _____	Received by _____ Organization _____ Date/Time _____	
Relinquished by _____ Organization _____ Date/Time _____	Received by _____ Organization _____ Date/Time _____	



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 55866
CLIENT: LAW/CRANDALL, INC.
CLIENT JOB NO.: 2123206630001

DATE RECEIVED: 12/07/92
DATE REPORTED: 12/15/92

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS by Modified EPA SW-846 Method 8015

LAB #	Sample Identification	Concentration (mg/kg) Diesel Range
1	SB605'	ND<10

mg/kg - parts per million (ppm)

Minimum Detection Limit for Diesel in Soil: 10mg/kg

QAQC Summary:

Daily Standard run at 200mg/L: %DIFF Diesel = <15%
MS/MSD Average Recovery = 88%: Duplicate RPD = 1%

Richard Srna, Ph.D.

Angi A. Wagoner
Laboratory Director



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 55866
CLIENT: LAW/CRANDALL, INC.
CLIENT JOB NO.: 2123206630001

DATE RECEIVED: 12/07/92
DATE REPORTED: 12/15/92

ANALYSIS FOR BENZENE, TOLUENE, ETHYL BENZENE & XYLENES
by EPA SW-846 Methods 5030 and 8020

LAB #	Sample Identification	Concentration (mg/kg)			
		Benzene	Toluene	Ethyl Benzene	Xylenes
1	SB605'	ND<.003	ND<.003	ND<.003	ND<.003

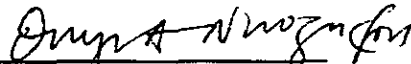
ug/kg - parts per million (ppm)

Method Detection Limit in Soil: 0.003 mg/kg

QAQC Summary:

Daily Standard run at 20 ug/L: RPD = <15%
MS/MSD Average Recovery = 89%: Duplicate RPD = 1%

Richard Srna, Ph.D.


Laboratory Manager

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DEC 16 1992

LAW ENVIRONMENTAL INC.



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 55865
CLIENT: LAW/CRANDALL, INC.
CLIENT JOB NO.: 2123206630001

DATE RECEIVED: 12/07/92
DATE REPORTED: 12/15/92

ANALYSIS FOR TOTAL PETROLEUM OIL AND GREASE by Method 5520F (formerly 503E)

LAB #	Sample Identification	Concentration (mg/kg) Total Petroleum Oil & Grease
1	B1@10'	110
2	B2@10'	60
3	B3@10'	100
4	B4@10'	80
5	B5@10'	53

mg/kg - parts per million (ppm)

Minimum Detection Limit for oil & grease in Soil: 50mg/kg

QAQC Summary:
MS/MSD Average Recovery = 98%
Duplicate RPD = 8%

Richard Srna, Ph.D.

Quinn A. Nwogu
Laboratory Director



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 55865
CLIENT: LAW/CRANDALL, INC.
CLIENT JOB NO.: 2123206630001

DATE RECEIVED: 12/07/92
DATE REPORTED: 12/15/92

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS by Modified EPA SW-846 Method 5030 and 8015

LAB #	Sample Identification	Concentration (mg/kg) Gasoline Range
1	B1@10'	ND<1
2	B2@10'	ND<1
3	B3@10'	ND<1
4	B4@10'	ND<1
5	B5@10'	ND<1

mg/kg - parts per million (ppm)

Method Detection Limit for Gasoline in Soil: 1 mg/kg

QAQC Summary:

Daily Standard run at 2mg/L: %Diff Gasoline = <15
MS/MSD Recovery = 96%: Duplicate RPD = 2%

Richard Srna, Ph.D.

Erin A. Nugent
Laboratory Manager



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 55865
CLIENT: LAW/CRANDALL, INC.
CLIENT JOB NO.: 2123206630001

DATE RECEIVED: 12/07/92
DATE REPORTED: 12/15/92

ANALYSIS FOR BENZENE, TOLUENE, ETHYL BENZENE & XYLENES
by EPA SW-846 Methods 5030 and 8020

LAB #	Sample Identification	Concentration (mg/kg)			
		Benzene	Toluene	Ethyl Benzene	Xylenes
1	B1@10'	ND<.003	ND<.003	ND<.003	ND<.003
2	B2@10'	ND<.003	ND<.003	ND<.003	ND<.003
3	B3@10'	ND<.003	ND<.003	ND<.003	ND<.003
4	B4@10'	ND<.003	ND<.003	ND<.003	ND<.003
5	B5@10'	ND<.003	ND<.003	ND<.003	ND<.003

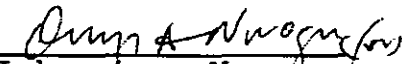
mg/kg - parts per million (ppm)

Method Detection Limit in Soil: 0.003 mg/kg

QAQC Summary:

Daily Standard run at 20ug/L: %Diff 8020 = <15%
MS/MSD Average Recovery = 91%: Duplicate RPD = 1%

Richard Srna, Ph.D.


Laboratory Manager



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO.: 55865
CLIENT: LAW/CRANDALL, INC.
CLIENT JOB NO.: 2123206630001

DATE RECEIVED: 12/07/92
DATE REPORTED: 12/16/92

ANALYSIS FOR TOTAL PETROLEUM HYDROCARBONS by Modified EPA SW-846 Method 8015

LAB #	Sample Identification	Concentration (mg/kg) Diesel Range
1	B1@10'	ND<10
2	B2@10'	ND<10
3	B3@10'	ND<10
4	B4@10'	ND<10
5	B5@10'	ND<10

mg/kg - parts per million (ppm)

Minimum Detection Limit for Diesel in Soil: 10mg/kg

QAQC Summary:

Daily Standard run at 200mg/L: %DIFF Diesel = <15%
MS/MSD Average Recovery = 88%: Duplicate RPD = 1%

Richard Srna, Ph.D.

Cecilia G. Joaquin (for)
Laboratory Director



Superior Precision Analytical, Inc.

1555 Burke, Unit 1 • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO. 55865-1
CLIENT: LAW/CRANDALL, INC.
DATE SAMPLED : 12/07/92
DATE ANALYZED: 12/11/92

DATE RECEIVED: 12/07/92
DATE REPORTED: 12/15/92
PROJECT NO. 2123206630001

EPA SW-846 METHOD 8240 - VOLATILE ORGANICS
by Gas Chromatography/ Mass Spectrometry

SAMPLE: B1 @ 10'

Compound	MDL	ug/kg	Compound	MDL	ug/kg
Chloromethane	50	ND	Cis-1,3-Dichloropropene	15	ND
Bromomethane	50	ND	Trichloroethene	15	ND
Vinyl Chloride	50	ND	Dibromochloromethane	15	ND
Chloroethane	50	ND	1,1,2-Trichloroethane	15	ND
Methylene Chloride	50	ND	Benzene	5	ND
Acetone	50	ND	Trans-1,3-Dichloropropene	15	ND
Carbon Disulfide	15	ND	2-Chloroethyl vinyl ether	15	ND
Trichlorofluoromethane	15	ND	Bromoform	15	ND
1,1-Dichloroethene	15	ND	4-Methyl-2-Pentanone	50	ND
1,1-Dichloroethane	15	ND	2-Hexanone	50	ND
trans-1,2-Dichloroethene	15	ND	Tetrachloroethene	15	ND
Chloroform	15	ND	1,1,2,2-Tetrachloroethane	15	ND
1,2-Dichloroethane	5	ND	Toluene	15	ND
2-Butanone	100	ND	Chlorobenzene	15	ND
1,1,1-Trichloroethane	15	ND	Ethylbenzene	15	ND
Carbon Tetrachloride	15	ND	Styrene	15	ND
Vinyl Acetate	50	ND	Total Xylenes	15	ND
Bromodichloromethane	15	ND	1,3-Dichlorobenzene	15	ND
1,2-Dichloropropane	15	ND	1,4-Dichlorobenzene	15	ND
cis-1,2-Dichloroethene	15	ND	1,2-Dichlorobenzene	15	ND

ug/kg = parts per billion (ppb)

ND = ANALYTE NOT DETECTED ABOVE QUANTITATION LIMIT

QC DATA:

Surrogate Recoveries

1,2-DCA-d4.....	100%
Toluene-d8.....	94%
Bromofluorobenzene.....	110%

QC LIMITS

soil	
70-121 %	
81-117 %	
74-121 %	

comments:

Richard Srna, Ph.D.

Quyn A. Nguyen (67)
Laboratory Director



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO. 55865-2
CLIENT: LAW/CRANDALL, INC.
DATE SAMPLED : 12/07/92
DATE ANALYZED: 12/11/92

DATE RECEIVED: 12/07/92
DATE REPORTED: 12/15/92
PROJECT NO. 2123206630001

EPA SW-846 METHOD 8240 - VOLATILE ORGANICS
by Gas Chromatography/ Mass Spectrometry

SAMPLE: B2 @ 10'

Compound	MDL	ug/kg	Compound	MDL	ug/kg
Chloromethane	50	ND	Cis-1,3-Dichloropropene	15	ND
Bromomethane	50	ND	Trichloroethene	15	ND
Vinyl Chloride	50	ND	Dibromochloromethane	15	ND
Chloroethane	50	ND	1,1,2-Trichloroethane	15	ND
Methylene Chloride	50	ND	Benzene	5	ND
Acetone	50	ND	Trans-1,3-Dichloropropene	15	ND
Carbon Disulfide	15	ND	2-Chloroethyl vinyl ether	15	ND
Dichlorofluoromethane	15	ND	Bromoform	15	ND
1,1-Dichloroethene	15	ND	4-Methyl-2-Pentanone	50	ND
1,1-Dichloroethane	15	ND	2-Hexanone	50	ND
trans-1,2-Dichloroethene	15	ND	Tetrachloroethene	15	ND
Chloroform	15	ND	1,1,2,2-Tetrachloroethane	15	ND
1,2-Dichloroethane	5	ND	Toluene	15	ND
2-Butanone	100	ND	Chlorobenzene	15	ND
1,1,1-Trichloroethane	15	ND	Ethylbenzene	15	ND
Carbon Tetrachloride	15	ND	Styrene	15	ND
Vinyl Acetate	50	ND	Total Xylenes	15	ND
Bromodichloromethane	15	ND	1,3-Dichlorobenzene	15	ND
1,2-Dichloropropane	15	ND	1,4-Dichlorobenzene	15	ND
cis-1,2-Dichloroethene	15	ND	1,2-Dichlorobenzene	15	ND

ug/kg = parts per billion (ppb)

ND = ANALYTE NOT DETECTED ABOVE QUANTITATION LIMIT

QC DATA:

Surrogate Recoveries	
1,2-DCA-d4.....	86%
Toluene-d8.....	112%
Bromofluorobenzene.....	86%

QC LIMITS	
soil	
70-121 %	
81-117 %	
74-121 %	

comments:

Richard Srna, Ph.D.

Oliver A. Nwocinski
Laboratory Director



Superior Precision Analytical, Inc.

1555 Burke, Unit 1 • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO. 55865-3
CLIENT: LAW/CRANDALL, INC.
DATE SAMPLED : 12/07/92
DATE ANALYZED: 12/11/92

DATE RECEIVED: 12/07/92
DATE REPORTED: 12/15/92
PROJECT NO. 2123206630001

EPA SW-846 METHOD 8240 - VOLATILE ORGANICS
by Gas Chromatography/ Mass Spectrometry

SAMPLE: B3 @ 10'

Compound	MDL	ug/kg	Compound	MDL	ug/kg
Chloromethane	50	ND	Cis-1,3-Dichloropropene	15	ND
Bromomethane	50	ND	Trichloroethene	15	ND
Vinyl Chloride	50	ND	Dibromochloromethane	15	ND
Chloroethane	50	ND	1,1,2-Trichloroethane	15	ND
Methylene Chloride	50	ND	Benzene	5	ND
Acetone	50	ND	Trans-1,3-Dichloropropene	15	ND
Carbon Disulfide	15	ND	2-Chloroethyl vinyl ether	15	ND
Dichlorofluoromethane	15	ND	Bromoform	15	ND
1,1-Dichloroethene	15	ND	4-Methyl-2-Pentanone	50	ND
1,1-Dichloroethane	15	ND	2-Hexanone	50	ND
trans-1,2-Dichloroethene	15	ND	Tetrachloroethene	15	ND
Chloroform	15	ND	1,1,2,2-Tetrachloroethane	15	ND
1,2-Dichloroethane	5	ND	Toluene	15	ND
2-Butanone	100	ND	Chlorobenzene	15	ND
1,1,1-Trichloroethane	15	ND	Ethylbenzene	15	ND
Carbon Tetrachloride	15	ND	Styrene	15	ND
Vinyl Acetate	50	ND	Total Xylenes	15	ND
Bromodichloromethane	15	ND	1,3-Dichlorobenzene	15	ND
1,2-Dichloropropane	15	ND	1,4-Dichlorobenzene	15	ND
cis-1,2-Dichloroethene	15	ND	1,2-Dichlorobenzene	15	ND

ug/kg = parts per billion (ppb)
ND = ANALYTE NOT DETECTED ABOVE QUANTITATION LIMIT

QC DATA:

Surrogate Recoveries		QC LIMITS	
		soil	
1,2-DCA-d4.....	99%	70-121 %	
Toluene-d8.....	104%	81-117 %	
Bromofluorobenzene.....	96%	74-121 %	

comments:

Richard Srna, Ph.D.

Oliver A. Nwogu
Laboratory Director



Superior Precision Analytical, Inc.

1555 Burke, Unit 1 • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO. 55865-4
CLIENT: LAW/CRANDALL, INC.
DATE SAMPLED : 12/07/92
DATE ANALYZED: 12/14/92

DATE RECEIVED: 12/07/92
DATE REPORTED: 12/15/92
PROJECT NO. 2123206630001

EPA SW-846 METHOD 8240 - VOLATILE ORGANICS
by Gas Chromatography/ Mass Spectrometry

SAMPLE: B4 @ 10'

Compound	MDL	ug/kg	Compound	MDL	ug/kg
Chloromethane	50	ND	Cis-1,3-Dichloropropene	15	ND
Bromomethane	50	ND	Trichloroethene	15	ND
Vinyl Chloride	50	ND	Dibromochloromethane	15	ND
Chloroethane	50	ND	1,1,2-Trichloroethane	15	ND
Methylene Chloride	50	ND	Benzene	5	ND
Acetone	50	ND	Trans-1,3-Dichloropropene	15	ND
Carbon Disulfide	15	ND	2-Chloroethyl vinyl ether	15	ND
Dichlorofluoromethane	15	ND	Bromoform	15	ND
1,1-Dichloroethene	15	ND	4-Methyl-2-Pentanone	50	ND
1,1-Dichloroethane	15	ND	2-Hexanone	50	ND
trans-1,2-Dichloroethene	15	ND	Tetrachloroethene	15	ND
Chloroform	15	ND	1,1,2,2-Tetrachloroethane	15	ND
1,2-Dichloroethane	5	ND	Toluene	15	ND
2-Butanone	100	ND	Chlorobenzene	15	ND
1,1,1-Trichloroethane	15	ND	Ethylbenzene	15	ND
Carbon Tetrachloride	15	ND	Styrene	15	ND
Vinyl Acetate	50	ND	Total Xylenes	15	ND
Bromodichloromethane	15	ND	1,3-Dichlorobenzene	15	ND
1,2-Dichloropropane	15	ND	1,4-Dichlorobenzene	15	ND
cis-1,2-Dichloroethene	15	ND	1,2-Dichlorobenzene	15	ND

ug/kg = parts per billion (ppb)

ND = ANALYTE NOT DETECTED ABOVE QUANTITATION LIMIT

QC DATA:

Surrogate Recoveries

1,2-DCA-d4.....	97%
Toluene-d8.....	103%
Bromofluorobenzene.....	100%

QC LIMITS

soil	
70-121 %	
81-117 %	
74-121 %	

comments:

Richard Srna, Ph.D.

Orin A. Newson (for)
Laboratory Director



Superior Precision Analytical, Inc.

1555 Burke, Unit I • San Francisco, California 94124 • (415) 647-2081 / fax (415) 821-7123

C E R T I F I C A T E O F A N A L Y S I S

LABORATORY NO. 55865-5
CLIENT: LAW/CRANDALL, INC.
DATE SAMPLED : 12/07/92
DATE ANALYZED: 12/14/92

DATE RECEIVED: 12/07/92
DATE REPORTED: 12/15/92
PROJECT NO. 2123206630001

EPA SW-846 METHOD 8240 - VOLATILE ORGANICS
by Gas Chromatography/ Mass Spectrometry

SAMPLE: B5 @ 10'

Compound	MDL	ug/kg	Compound	MDL	ug/kg
Chloromethane	50	ND	Cis-1,3-Dichloropropene	15	ND
Bromomethane	50	ND	Trichloroethene	15	ND
Vinyl Chloride	50	ND	Dibromochloromethane	15	ND
Chloroethane	50	ND	1,1,2-Trichloroethane	15	ND
Methylene Chloride	50	ND	Benzene	5	ND
Acetone	50	ND	Trans-1,3-Dichloropropene	15	ND
Carbon Disulfide	15	ND	2-Chloroethyl vinyl ether	15	ND
Trichlorofluoromethane	15	ND	Bromoform	15	ND
1,1-Dichloroethene	15	ND	4-Methyl-2-Pentanone	50	ND
1,1-Dichloroethane	15	ND	2-Hexanone	50	ND
trans-1,2-Dichloroethene	15	ND	Tetrachloroethene	15	ND
Chloroform	15	ND	1,1,2,2-Tetrachloroethane	15	ND
1,2-Dichloroethane	5	ND	Toluene	15	ND
2-Butanone	100	ND	Chlorobenzene	15	ND
1,1,1-Trichloroethane	15	ND	Ethylbenzene	15	ND
Carbon Tetrachloride	15	ND	Styrene	15	ND
Vinyl Acetate	50	ND	Total Xylenes	15	ND
Bromodichloromethane	15	ND	1,3-Dichlorobenzene	15	ND
1,2-Dichloropropane	15	ND	1,4-Dichlorobenzene	15	ND
cis-1,2-Dichloroethene	15	ND	1,2-Dichlorobenzene	15	ND

ug/kg = parts per billion (ppb)

ND = ANALYTE NOT DETECTED ABOVE QUANTITATION LIMIT

QC DATA:

Surrogate Recoveries

1,2-DCA-d4.....	99%
Toluene-d8.....	104%
Bromofluorobenzene.....	104%

QC LIMITS

soil	
70-121 %	
81-117 %	
74-121 %	

comments:

Richard Srna, Ph.D.

Olun A Nwogu (for)
Laboratory Director

CHAIN OF CUSTODY RECORD

55065

BCA Log Number _____

Client name LAW / CRANDALL INC.			Project or PO# 2123-20663-0001		<table border="1"> <tr> <th colspan="7">Analyses required</th> <th rowspan="2">Remarks</th> </tr> <tr> <td>THH/G + BTEX</td> <td>THH/D</td> <td>Semi-Volatile Organics EPA 8250</td> <td>Pesticides + PCBs</td> <td>Volatile Organics</td> <td>STL & Cr, Pb, Zn, Ni</td> <td>O + 6 (5320 DIF)</td> <td>Hazardous sample Special handling required</td> </tr> </table>							Analyses required							Remarks	THH/G + BTEX	THH/D	Semi-Volatile Organics EPA 8250	Pesticides + PCBs	Volatile Organics	STL & Cr, Pb, Zn, Ni	O + 6 (5320 DIF)	Hazardous sample Special handling required
Analyses required												Remarks															
THH/G + BTEX	THH/D	Semi-Volatile Organics EPA 8250	Pesticides + PCBs	Volatile Organics									STL & Cr, Pb, Zn, Ni	O + 6 (5320 DIF)	Hazardous sample Special handling required												
Address 4000 Civic Center Drive, Suite 305			Phone # 415 499 1422																								
City, State, Zip SAN RAFAEL, CA 94903		Report attention SUSAN GAHAY																									
Lab Sample number	Date sampled	Time sampled	Type* See key below	Sampled by ATM	Sample description	Number of containers																					
	12/7/92	10:00	SO		B1 at 10	1		X	X	X	X	X	X	X	5 day Turnaround												
	12/7/92	10:30	SO		B2 at 10	1		X	X	X	X	X	X	X													
	12/7/92	11:00	SO		B3 at 10	1		X	X	X	X	X	X	X													
	12/7/92	11:45	SO		B4 at 10	1		X	X	X	X	X	X	X													
	12/7/92	12:30	SO		B5 at 10	1		X	X	X	X	X	X	X													

Please fill in
 Samples stored in coolers
 Appropriate containers
 Samples preserved
 VOA's without headspace
 Comments:

Signature	Print Name	Company	Date	Time
Relinquished by <i>Andrew T. Mula</i>	Andrew T. Mula	LAW / CRANDALL	12/7/92	5:30
Received by <i>Doug Strouts</i>	DOUG STROUTS	AERO / DEL	12/7/92	5:30
Relinquished by				
Received by				
Relinquished by				
Received by Laboratory <i>Michael Kiehle</i>	KIEHLE		12/7/92	9:00

B C ANALYTICAL
 1255 Powell Street, Emeryville, CA 94608 (510) 428-2300
 801 Western Avenue, Glendale, CA 91201 (818) 247-5737
 1200 Gene Autry Way, Anaheim, CA 92805 (714) 978-0113

Note: Samples are discarded 30 days after results are reported unless other arrangements are made
 Hazardous samples will be returned to client or disposed of at client's expense.
 Disposal arrangements: _____

*KEY: WW—Wastewater SU—Surface Water SO—Soil
 SL—Sludge PE—Petroleum OT—Other
 NA—Nonaqueous GW—Groundwater AO—Aqueous

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

December 15, 1992

Rich Kiehle
SUPERIOR ANALYTICAL LABORATORY
1555 Burke Street, Unit 1
San Francisco, CA 94124

Client Ref. 55865
Clayton Project No. 92120.97


Dear Mr. Kiehle:

Attached is our analytical laboratory report for the samples received on December 8, 1992. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

Please note that any unused portion of the samples will be disposed of 30 days after the date of this report, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact Suzanne Silvera, Client Services Supervisor, at (510) 426-2657.

Sincerely,



Ronald H. Peters, CIH
Director, Laboratory Services
Western Operations

RHP/caa
Attachments

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification:	55865-1	Date Sampled:	12/07/92
Lab Number:	9212097-01A	Date Received:	12/08/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/09/92
Extraction Method:	EPA 3550	Date Analyzed:	12/12/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Acid Extractables</u>			
Phenol	108-95-2	ND	0.2
2-chlorophenol	95-57-8	ND	0.2
2-methyl phenol	95-48-7	ND	0.2
4-methyl phenol	106-44-5	ND	0.2
2-nitrophenol	88-75-5	ND	0.2
2,4-dimethylphenol	105-67-9	ND	0.2
2,4-dichlorophenol	120-83-2	ND	0.2
4-chloro-3-methylphenol	59-50-7	ND	0.2
2,4,5-trichlorophenol	95-95-4	ND	0.2
2,4,6-trichlorophenol	88-06-2	ND	0.2
2,4-dinitrophenol	51-28-5	ND	1
4-nitrophenol	100-02-7	ND	1
2-methyl-4,6-dinitrophenol	534-52-1	ND	1
Pentachlorophenol	87-86-5	ND	1

Base/Neutral Extractables

Bis(2-chloroethyl)ether	111-44-4	ND	0.2
1,3-dichlorobenzene	541-73-7	ND	0.2
1,4-dichlorobenzene	106-46-7	ND	0.2
Benzyl alcohol	100-51-6	ND	0.4
1,2-dichlorobenzene	95-50-1	ND	0.2
Bis-(2-chloroisopropyl)ether	108-60-1	ND	0.2

ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification: 55865-1	Date Sampled: 12/07/92
Lab Number: 9212097-01A	Date Received: 12/08/92
Sample Matrix/Media: SOIL	Date Extracted: 12/09/92
Extraction Method: EPA 3550	Date Analyzed: 12/12/92
Analytical Method: EPA 8270	

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Base/Neutral Extractables (continued)</u>			
N-nitrosodi-n-propylamine	621-64-7	ND	0.2
Hexachloroethane	67-72-1	ND	0.2
Nitrobenzene	98-95-3	ND	0.2
Isophorone	78-59-1	ND	0.2
Benzoic acid	65-85-0	ND	0.8
Bis-(2-chloroethoxy)methane	111-91-1	ND	0.2
1,2,4-trichlorobenzene	120-82-1	ND	0.2
Naphthalene	91-20-3	ND	0.2
Hexachlorobutadiene	87-68-3	ND	0.2
2-chloronaphthalene	91-58-7	ND	0.2
2-methyl naphthalene	91-57-6	ND	0.2
4-chloroaniline	106-47-8	ND	1
2-nitroaniline	88-74-4	ND	1
3-nitroaniline	99-09-2	ND	1
4-nitroaniline	100-01-6	ND	1
Hexachlorocyclopentadiene	77-47-4	ND	2
Dimethyl phthalate	131-11-3	ND	0.2
Acenaphthylene	208-96-8	ND	0.2
Acenaphthene	83-32-9	ND	0.2
Dibenzofuran	132-64-9	ND	0.2

ND Not detected at or above limit of detection

-- Information not available or not applicable

Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification:	55865-1	Date Sampled:	12/07/92
Lab Number:	9212097-01A	Date Received:	12/08/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/09/92
Extraction Method:	EPA 3550	Date Analyzed:	12/12/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Base/Neutral Extractables (continued)</u>			
2,4-dinitrotoluene	121-14-2	ND	0.2
2,6-dinitrotoluene	606-20-2	ND	0.2
Diethyl phthalate	84-66-2	ND	0.2
4-chlorophenylphenylether	7005-72-3	ND	0.2
Fluorene	86-73-7	ND	0.2
N-nitrosodiphenylamine	86-30-6	ND	0.2
4-bromophenylphenylether	101-55-3	ND	0.2
Hexachlorobenzene	118-74-1	ND	0.2
Phenanthrene	85-01-8	ND	0.2
Anthracene	120-12-7	ND	0.2
Di-n-butylphthalate	84-74-2	ND	0.2
Fluoranthene	206-44-2	ND	0.2
Benzidine	92-87-5	ND	5
Pyrene	129-00-0	ND	0.2
Benzylbutylphthalate	85-68-7	ND	0.2
3,3'-dichlorobenzidine	91-94-1	ND	5
Benzo(a)anthracene	56-55-3	ND	0.2
Bis-(2-ethylhexyl)phthalate	117-81-7	ND	2
Chrysene	218-01-9	ND	0.2
Di-n-octylphthalate	117-84-0	ND	0.2

ND Not detected at or above limit of detection

-- Information not available or not applicable

Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification:	55865-1	Date Sampled:	12/07/92
Lab Number:	9212097-01A	Date Received:	12/08/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/09/92
Extraction Method:	EPA 3550	Date Analyzed:	12/12/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Base/Neutral Extractables (continued)</u>			
Benzo(b)fluoranthene	205-99-2	ND	0.2
Benzo(k)fluoranthene	207-08-9	ND	0.2
Benzo(a)pyrene	50-32-8	ND	0.2
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.2
Dibenzo(a,h)anthracene	53-70-3	ND	0.2
Benzo(ghi)perylene	191-24-2	ND	0.2

<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>	
			LCL	UCL
2-Fluorophenol	367-12-4	62	25	121
Phenol-d6	13127-88-3	77	24	113
Nitrobenzene-d5	4165-60-0	77	23	120
2-Fluorobiphenyl	321-60-8	95	30	115
2,4,6-Tribromophenol	118-79-6	78	19	122
Terphenyl-d14	98904-43-9	77	18	137

ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification:	55865-2	Date Sampled:	12/07/92
Lab Number:	9212097-02A	Date Received:	12/08/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/09/92
Extraction Method:	EPA 3550	Date Analyzed:	12/12/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection -- (mg/kg)
<u>Acid Extractables</u>			
Phenol	108-95-2	ND	0.2
2-chlorophenol	95-57-8	ND	0.2
2-methyl phenol	95-48-7	ND	0.2
4-methyl phenol	106-44-5	ND	0.2
2-nitrophenol	88-75-5	ND	0.2
2,4-dimethylphenol	105-67-9	ND	0.2
2,4-dichlorophenol	120-83-2	ND	0.2
4-chloro-3-methylphenol	59-50-7	ND	0.2
2,4,5-trichlorophenol	95-95-4	ND	0.2
2,4,6-trichlorophenol	88-06-2	ND	0.2
2,4-dinitrophenol	51-28-5	ND	1
4-nitrophenol	100-02-7	ND	1
2-methyl-4,6-dinitrophenol	534-52-1	ND	1
Pentachlorophenol	87-86-5	ND	1

Base/Neutral Extractables

Bis(2-chloroethyl)ether	111-44-4	ND	0.2
1,3-dichlorobenzene	541-73-7	ND	0.2
1,4-dichlorobenzene	106-46-7	ND	0.2
Benzyl alcohol	100-51-6	ND	0.4
1,2-dichlorobenzene	95-50-1	ND	0.2
Bis-(2-chloroisopropyl)ether	108-60-1	ND	0.2

ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification:	55865-2	Date Sampled:	12/07/92
Lab Number:	9212097-02A	Date Received:	12/08/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/09/92
Extraction Method:	EPA 3550	Date Analyzed:	12/12/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Base/Neutral Extractables (continued)</u>			
N-nitrosodi-n-propylamine	621-64-7	ND	0.2
Hexachloroethane	67-72-1	ND	0.2
Nitrobenzene	98-95-3	ND	0.2
Isophorone	78-59-1	ND	0.2
Benzoic acid	65-85-0	ND	0.8
Bis-(2-chloroethoxy)methane	111-91-1	ND	0.2
1,2,4-trichlorobenzene	120-82-1	ND	0.2
Naphthalene	91-20-3	ND	0.2
Hexachlorobutadiene	87-68-3	ND	0.2
2-chloronaphthalene	91-58-7	ND	0.2
2-methyl naphthalene	91-57-6	ND	0.2
4-chloroaniline	106-47-8	ND	1
2-nitroaniline	88-74-4	ND	1
3-nitroaniline	99-09-2	ND	1
4-nitroaniline	100-01-6	ND	1
Hexachlorocyclopentadiene	77-47-4	ND	2
Dimethyl phthalate	131-11-3	ND	0.2
Acenaphthylene	208-96-8	ND	0.2
Acenaphthene	83-32-9	ND	0.2
Dibenzofuran	132-64-9	ND	0.2

ND Not detected at or above limit of detection

-- Information not available or not applicable

Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification:	55865-2	Date Sampled:	12/07/92
Lab Number:	9212097-02A	Date Received:	12/08/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/09/92
Extraction Method:	EPA 3550	Date Analyzed:	12/12/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Base/Neutral Extractables (continued)</u>			
2,4-dinitrotoluene	121-14-2	ND	0.2
2,6-dinitrotoluene	606-20-2	ND	0.2
Diethyl phthalate	84-66-2	ND	0.2
4-chlorophenylphenylether	7005-72-3	ND	0.2
Fluorene	86-73-7	ND	0.2
N-nitrosodiphenylamine	86-30-6	ND	0.2
4-bromophenylphenylether	101-55-3	ND	0.2
Hexachlorobenzene	118-74-1	ND	0.2
Phenanthrene	85-01-8	ND	0.2
Anthracene	120-12-7	ND	0.2
Di-n-butylphthalate	84-74-2	ND	0.2
Fluoranthene	206-44-2	ND	0.2
Benzidine	92-87-5	ND	5
Pyrene	129-00-0	ND	0.2
Benzylbutylphthalate	85-68-7	ND	0.2
3,3'-dichlorobenzidine	91-94-1	ND	5
Benzo(a)anthracene	56-55-3	ND	0.2
Bis-(2-ethylhexyl)phthalate	117-81-7	ND	2
Chrysene	218-01-9	ND	0.2
Di-n-octylphthalate	117-84-0	ND	0.2

ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification:	55865-2	Date Sampled:	12/07/92
Lab Number:	9212097-02A	Date Received:	12/08/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/09/92
Extraction Method:	EPA 3550	Date Analyzed:	12/12/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Base/Neutral Extractables (continued)</u>			
Benzo(b)fluoranthene	205-99-2	ND	0.2
Benzo(k)fluoranthene	207-08-9	ND	0.2
Benzo(a)pyrene	50-32-8	ND	0.2
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.2
Dibenzo(a,h)anthracene	53-70-3	ND	0.2
Benzo(ghi)perylene	191-24-2	ND	0.2

<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>	
			LCL	UCL
2-Fluorophenol	367-12-4	73	25	121
Phenol-d6	13127-88-3	87	24	113
Nitrobenzene-d5	4165-60-0	84	23	120
2-Fluorobiphenyl	321-60-8	92	30	115
2,4,6-Tribromophenol	118-79-6	85	19	122
Terphenyl-d14	98904-43-9	86	18	137

ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification:	55865-3	Date Sampled:	12/07/92
Lab Number:	9212097-03A	Date Received:	12/08/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/09/92
Extraction Method:	EPA 3550	Date Analyzed:	12/12/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Acid Extractables</u>			
Phenol	108-95-2	ND	0.2
2-chlorophenol	95-57-8	ND	0.2
2-methyl phenol	95-48-7	ND	0.2
4-methyl phenol	106-44-5	ND	0.2
2-nitrophenol	88-75-5	ND	0.2
2,4-dimethylphenol	105-67-9	ND	0.2
2,4-dichlorophenol	120-83-2	ND	0.2
4-chloro-3-methylphenol	59-50-7	ND	0.2
2,4,5-trichlorophenol	95-95-4	ND	0.2
2,4,6-trichlorophenol	88-06-2	ND	0.2
2,4-dinitrophenol	51-28-5	ND	1
4-nitrophenol	100-02-7	ND	1
2-methyl-4,6-dinitrophenol	534-52-1	ND	1
Pentachlorophenol	87-86-5	ND	1

Base/Neutral Extractables

Bis(2-chloroethyl)ether	111-44-4	ND	0.2
1,3-dichlorobenzene	541-73-7	ND	0.2
1,4-dichlorobenzene	106-46-7	ND	0.2
Benzyl alcohol	100-51-6	ND	0.4
1,2-dichlorobenzene	95-50-1	ND	0.2
Bis-(2-chloroisopropyl)ether	108-60-1	ND	0.2

ND Not detected at or above limit of detection.
-- Information not available or not applicable
Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification:	55865-3	Date Sampled:	12/07/92
Lab Number:	9212097-03A	Date Received:	12/08/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/09/92
Extraction Method:	EPA 3550	Date Analyzed:	12/12/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Base/Neutral Extractables (continued)</u>			
N-nitrosodi-n-propylamine	621-64-7	ND	0.2
Hexachloroethane	67-72-1	ND	0.2
Nitrobenzene	98-95-3	ND	0.2
Isophorone	78-59-1	ND	0.2
Benzoic acid	65-85-0	ND	0.8
Bis-(2-chloroethoxy)methane	111-91-1	ND	0.2
1,2,4-trichlorobenzene	120-82-1	ND	0.2
Naphthalene	91-20-3	ND	0.2
Hexachlorobutadiene	87-68-3	ND	0.2
2-chloronaphthalene	91-58-7	ND	0.2
2-methyl naphthalene	91-57-6	ND	0.2
4-chloroaniline	106-47-8	ND	1
2-nitroaniline	88-74-4	ND	1
3-nitroaniline	99-09-2	ND	1
4-nitroaniline	100-01-6	ND	1
Hexachlorocyclopentadiene	77-47-4	ND	2
Dimethyl phthalate	131-11-3	ND	0.2
Acenaphthylene	208-96-8	ND	0.2
Acenaphthene	83-32-9	ND	0.2
Dibenzofuran	132-64-9	ND	0.2

ND Not detected at or above limit of detection

-- Information not available or not applicable

Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification:	55865-3	Date Sampled:	12/07/92
Lab Number:	9212097-03A	Date Received:	12/08/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/09/92
Extraction Method:	EPA 3550	Date Analyzed:	12/12/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Base/Neutral Extractables (continued)</u>			
2,4-dinitrotoluene	121-14-2	ND	0.2
2,6-dinitrotoluene	606-20-2	ND	0.2
Diethyl phthalate	84-66-2	ND	0.2
4-chlorophenylphenylether	7005-72-3	ND	0.2
Fluorene	86-73-7	ND	0.2
N-nitrosodiphenylamine	86-30-6	ND	0.2
4-bromophenylphenylether	101-55-3	ND	0.2
Hexachlorobenzene	118-74-1	ND	0.2
Phenanthrene	85-01-8	ND	0.2
Anthracene	120-12-7	ND	0.2
Di-n-butylphthalate	84-74-2	ND	0.2
Fluoranthene	206-44-2	ND	0.2
Benzidine	92-87-5	ND	5
Pyrene	129-00-0	ND	0.2
Benzylbutylphthalate	85-68-7	ND	0.2
3,3'-dichlorobenzidine	91-94-1	ND	5
Benzo(a)anthracene	56-55-3	ND	0.2
Bis-(2-ethylhexyl)phthalate	117-81-7	ND	2
Chrysene	218-01-9	ND	0.2
Di-n-octylphthalate	117-84-0	ND	0.2

ND Not detected at or above limit of detection

-- Information not available or not applicable

Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification:	55865-3	Date Sampled:	12/07/92
Lab Number:	9212097-03A	Date Received:	12/08/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/09/92
Extraction Method:	EPA 3550	Date Analyzed:	12/12/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Base/Neutral Extractables (continued)</u>			
Benzo(b)fluoranthene	205-99-2	ND	0.2
Benzo(k)fluoranthene	207-08-9	ND	0.2
Benzo(a)pyrene	50-32-8	ND	0.2
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.2
Dibenzo(a,h)anthracene	53-70-3	ND	0.2
Benzo(ghi)perylene	191-24-2	ND	0.2

<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>	
			LCL	UCL
2-Fluorophenol	367-12-4	67	25	121
Phenol-d6	13127-88-3	73	24	113
Nitrobenzene-d5	4165-60-0	84	23	120
2-Fluorobiphenyl	321-60-8	91	30	115
2,4,6-Tribromophenol	118-79-6	87	19	122
Terphenyl-d14	98904-43-9	78	18	137

ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification:	55865-4	Date Sampled:	12/07/92
Lab Number:	9212097-04A	Date Received:	12/08/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/09/92
Extraction Method:	EPA 3550	Date Analyzed:	12/12/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Acid Extractables</u>			
Phenol	108-95-2	ND	0.2
2-chlorophenol	95-57-8	ND	0.2
2-methyl phenol	95-48-7	ND	0.2
4-methyl phenol	106-44-5	ND	0.2
2-nitrophenol	88-75-5	ND	0.2
2,4-dimethylphenol	105-67-9	ND	0.2
2,4-dichlorophenol	120-83-2	ND	0.2
4-chloro-3-methylphenol	59-50-7	ND	0.2
2,4,5-trichlorophenol	95-95-4	ND	0.2
2,4,6-trichlorophenol	88-06-2	ND	0.2
2,4-dinitrophenol	51-28-5	ND	1
4-nitrophenol	100-02-7	ND	1
2-methyl-4,6-dinitrophenol	534-52-1	ND	1
Pentachlorophenol	87-86-5	ND	1
<u>Base/Neutral Extractables</u>			
Bis(2-chloroethyl)ether	111-44-4	ND	0.2
1,3-dichlorobenzene	541-73-7	ND	0.2
1,4-dichlorobenzene	106-46-7	ND	0.2
Benzyl alcohol	100-51-6	ND	0.4
1,2-dichlorobenzene	95-50-1	ND	0.2
Bis-(2-chloroisopropyl)ether	108-60-1	ND	0.2

ND Not detected at or above limit of detection

-- Information not available or not applicable

Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification: 55865-4	Date Sampled: 12/07/92
Lab Number: 9212097-04A	Date Received: 12/08/92
Sample Matrix/Media: SOIL	Date Extracted: 12/09/92
Extraction Method: EPA 3550	Date Analyzed: 12/12/92
Analytical Method: EPA 8270	

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Base/Neutral Extractables (continued)</u>			
N-nitrosodi-n-propylamine	621-64-7	ND	0.2
Hexachloroethane	67-72-1	ND	0.2
Nitrobenzene	98-95-3	ND	0.2
Isophorone	78-59-1	ND	0.2
Benzoic acid	65-85-0	ND	0.8
Bis-(2-chloroethoxy)methane	111-91-1	ND	0.2
1,2,4-trichlorobenzene	120-82-1	ND	0.2
Naphthalene	91-20-3	ND	0.2
Hexachlorobutadiene	87-68-3	ND	0.2
2-chloronaphthalene	91-58-7	ND	0.2
2-methyl naphthalene	91-57-6	ND	0.2
4-chloroaniline	106-47-8	ND	1
2-nitroaniline	88-74-4	ND	1
3-nitroaniline	99-09-2	ND	1
4-nitroaniline	100-01-6	ND	1
Hexachlorocyclopentadiene	77-47-4	ND	2
Dimethyl phthalate	131-11-3	ND	0.2
Acenaphthylene	208-96-8	ND	0.2
Acenaphthene	83-32-9	ND	0.2
Dibenzofuran	132-64-9	ND	0.2

ND Not detected at or above limit of detection

-- Information not available or not applicable

Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification:	55865-4	Date Sampled:	12/07/92
Lab Number:	9212097-04A	Date Received:	12/08/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/09/92
Extraction Method:	EPA 3550	Date Analyzed:	12/12/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Base/Neutral Extractables (continued)</u>			
2,4-dinitrotoluene	121-14-2	ND	0.2
2,6-dinitrotoluene	606-20-2	ND	0.2
Diethyl phthalate	84-66-2	ND	0.2
4-chlorophenylphenylether	7005-72-3	ND	0.2
Fluorene	86-73-7	ND	0.2
N-nitrosodiphenylamine	86-30-6	ND	0.2
4-bromophenylphenylether	101-55-3	ND	0.2
Hexachlorobenzene	118-74-1	ND	0.2
Phenanthrene	85-01-8	ND	0.2
Anthracene	120-12-7	ND	0.2
Di-n-butylphthalate	84-74-2	ND	0.2
Fluoranthene	206-44-2	ND	0.2
Benzidine	92-87-5	ND	5
Pyrene	129-00-0	ND	0.2
Benzylbutylphthalate	85-68-7	ND	0.2
3,3'-dichlorobenzidine	91-94-1	ND	5
Benzo(a)anthracene	56-55-3	ND	0.2
Bis-(2-ethylhexyl)phthalate	117-81-7	ND	2
Chrysene	218-01-9	ND	0.2
Di-n-octylphthalate	117-84-0	ND	0.2

ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification:	55865-4	Date Sampled:	12/07/92
Lab Number:	9212097-04A	Date Received:	12/08/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/09/92
Extraction Method:	EPA 3550	Date Analyzed:	12/12/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Base/Neutral Extractables (continued)</u>			
Benzo(b)fluoranthene	205-99-2	ND	0.2
Benzo(k)fluoranthene	207-08-9	ND	0.2
Benzo(a)pyrene	50-32-8	ND	0.2
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.2
Dibenzo(a,h)anthracene	53-70-3	ND	0.2
Benzo(ghi)perylene	191-24-2	ND	0.2
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u> LCL UCL
2-Fluorophenol	367-12-4	64	25 - 121
Phenol-d6	13127-88-3	72	24 - 113
Nitrobenzene-d5	4165-60-0	86	23 - 120
2-Fluorobiphenyl	321-60-8	91	30 - 115
2,4,6-Tribromophenol	118-79-6	82	19 - 122
Terphenyl-d14	98904-43-9	79	18 - 137

ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification:	55865-5	Date Sampled:	12/07/92
Lab Number:	9212097-05A	Date Received:	12/08/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/09/92
Extraction Method:	EPA 3550	Date Analyzed:	12/12/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Acid Extractables</u>			
Phenol	108-95-2	ND	0.2
2-chlorophenol	95-57-8	ND	0.2
2-methyl phenol	95-48-7	ND	0.2
4-methyl phenol	106-44-5	ND	0.2
2-nitrophenol	88-75-5	ND	0.2
2,4-dimethylphenol	105-67-9	ND	0.2
2,4-dichlorophenol	120-83-2	ND	0.2
4-chloro-3-methylphenol	59-50-7	ND	0.2
2,4,5-trichlorophenol	95-95-4	ND	0.2
2,4,6-trichlorophenol	88-06-2	ND	0.2
2,4-dinitrophenol	51-28-5	ND	1
4-nitrophenol	100-02-7	ND	1
2-methyl-4,6-dinitrophenol	534-52-1	ND	1
Pentachlorophenol	87-86-5	ND	1
<u>Base/Neutral Extractables</u>			
Bis(2-chloroethyl)ether	111-44-4	ND	0.2
1,3-dichlorobenzene	541-73-7	ND	0.2
1,4-dichlorobenzene	106-46-7	ND	0.2
Benzyl alcohol	100-51-6	ND	0.4
1,2-dichlorobenzene	95-50-1	ND	0.2
Bis-(2-chloroisopropyl)ether	108-60-1	ND	0.2

ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification:	55865-5	Date Sampled:	12/07/92
Lab Number:	9212097-05A	Date Received:	12/08/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/09/92
Extraction Method:	EPA 3550	Date Analyzed:	12/12/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Base/Neutral Extractables (continued)</u>			
N-nitrosodi-n-propylamine	621-64-7	ND	0.2
Hexachloroethane	67-72-1	ND	0.2
Nitrobenzene	98-95-3	ND	0.2
Isophorone	78-59-1	ND	0.2
Benzoic acid	65-85-0	ND	0.8
Bis-(2-chloroethoxy)methane	111-91-1	ND	0.2
1,2,4-trichlorobenzene	120-82-1	ND	0.2
Naphthalene	91-20-3	ND	0.2
Hexachlorobutadiene	87-68-3	ND	0.2
2-chloronaphthalene	91-58-7	ND	0.2
2-methyl naphthalene	91-57-6	ND	0.2
4-chloroaniline	106-47-8	ND	1
2-nitroaniline	88-74-4	ND	1
3-nitroaniline	99-09-2	ND	1
4-nitroaniline	100-01-6	ND	1
Hexachlorocyclopentadiene	77-47-4	ND	2
Dimethyl phthalate	131-11-3	ND	0.2
Acenaphthylene	208-96-8	ND	0.2
Acenaphthene	83-32-9	ND	0.2
Dibenzofuran	132-64-9	ND	0.2

ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification:	55865-5	Date Sampled:	12/07/92
Lab Number:	9212097-05A	Date Received:	12/08/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/09/92
Extraction Method:	EPA 3550	Date Analyzed:	12/12/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Base/Neutral Extractables (continued)</u>			
2,4-dinitrotoluene	121-14-2	ND	0.2
2,6-dinitrotoluene	606-20-2	ND	0.2
Diethyl phthalate	84-66-2	ND	0.2
4-chlorophenylphenylether	7005-72-3	ND	0.2
Fluorene	86-73-7	ND	0.2
N-nitrosodiphenylamine	86-30-6	ND	0.2
4-bromophenylphenylether	101-55-3	ND	0.2
Hexachlorobenzene	118-74-1	ND	0.2
Phenanthrene	85-01-8	ND	0.2
Anthracene	120-12-7	ND	0.2
Di-n-butylphthalate	84-74-2	ND	0.2
Fluoranthene	206-44-2	ND	0.2
Benzidine	92-87-5	ND	5
Pyrene	129-00-0	ND	0.2
Benzylbutylphthalate	85-68-7	ND	0.2
3,3'-dichlorobenzidine	91-94-1	ND	5
Benzo(a)anthracene	56-55-3	ND	0.2
Bis-(2-ethylhexyl)phthalate	117-81-7	ND	2
Chrysene	218-01-9	ND	0.2
Di-n-octylphthalate	117-84-0	ND	0.2

ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification:	55865-5	Date Sampled:	12/07/92
Lab Number:	9212097-05A	Date Received:	12/08/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/09/92
Extraction Method:	EPA 3550	Date Analyzed:	12/12/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Base/Neutral Extractables (continued)</u>			
Benzo(b)fluoranthene	205-99-2	ND	0.2
Benzo(k)fluoranthene	207-08-9	ND	0.2
Benzo(a)pyrene	50-32-8	ND	0.2
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.2
Dibenzo(a,h)anthracene	53-70-3	ND	0.2
Benzo(ghi)perylene	191-24-2	ND	0.2

<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>	
			LCL	UCL
2-Fluorophenol	367-12-4	63	25	121
Phenol-d6	13127-88-3	75	24	113
Nitrobenzene-d5	4165-60-0	80	23	120
2-Fluorobiphenyl	321-60-8	99	30	115
2,4,6-Tribromophenol	118-79-6	81	19	122
Terphenyl-d14	98904-43-9	80	18	137

ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9212097-06A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Extracted:	12/09/92
Extraction Method:	EPA 3550	Date Analyzed:	12/12/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Acid Extractables</u>			
Phenol	108-95-2	ND	0.2
2-chlorophenol	95-57-8	ND	0.2
2-methyl phenol	95-48-7	ND	0.2
4-methyl phenol	106-44-5	ND	0.2
2-nitrophenol	88-75-5	ND	0.2
2,4-dimethylphenol	105-67-9	ND	0.2
2,4-dichlorophenol	120-83-2	ND	0.2
4-chloro-3-methylphenol	59-50-7	ND	0.2
2,4,5-trichlorophenol	95-95-4	ND	0.2
2,4,6-trichlorophenol	88-06-2	ND	0.2
2,4-dinitrophenol	51-28-5	ND	1
4-nitrophenol	100-02-7	ND	1
2-methyl-4,6-dinitrophenol	534-52-1	ND	1
Pentachlorophenol	87-86-5	ND	1

Base/Neutral Extractables

Bis(2-chloroethyl)ether	111-44-4	ND	0.2
1,3-dichlorobenzene	541-73-7	ND	0.2
1,4-dichlorobenzene	106-46-7	ND	0.2
Benzyl alcohol	100-51-6	ND	0.4
1,2-dichlorobenzene	95-50-1	ND	0.2
Bis-(2-chloroisopropyl)ether	108-60-1	ND	0.2

ND Not detected at or above limit of detection.
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9212097-06A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Extracted:	12/09/92
Extraction Method:	EPA 3550	Date Analyzed:	12/12/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection µ (mg/kg)
<u>Base/Neutral Extractables (continued)</u>			
N-nitrosodi-n-propylamine	621-64-7	ND	0.2
Hexachloroethane	67-72-1	ND	0.2
Nitrobenzene	98-95-3	ND	0.2
Isophorone	78-59-1	ND	0.2
Benzoic acid	65-85-0	ND	0.8
Bis-(2-chloroethoxy)methane	111-91-1	ND	0.2
1,2,4-trichlorobenzene	120-82-1	ND	0.2
Naphthalene	91-20-3	ND	0.2
Hexachlorobutadiene	87-68-3	ND	0.2
2-chloronaphthalene	91-58-7	ND	0.2
2-methyl naphthalene	91-57-6	ND	0.2
4-chloroaniline	106-47-8	ND	1
2-nitroaniline	88-74-4	ND	1
3-nitroaniline	99-09-2	ND	1
4-nitroaniline	100-01-6	ND	1
Hexachlorocyclopentadiene	77-47-4	ND	2
Dimethyl phthalate	131-11-3	ND	0.2
Acenaphthylene	208-96-8	ND	0.2
Acenaphthene	83-32-9	ND	0.2
Dibenzofuran	132-64-9	ND	0.2

ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9212097-06A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Extracted:	12/09/92
Extraction Method:	EPA 3550	Date Analyzed:	12/12/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection µg (mg/kg)
<u>Base/Neutral Extractables (continued)</u>			
2,4-dinitrotoluene	121-14-2	ND	0.2
2,6-dinitrotoluene	606-20-2	ND	0.2
Diethyl phthalate	84-66-2	ND	0.2
4-chlorophenylphenylether	7005-72-3	ND	0.2
Fluorene	86-73-7	ND	0.2
N-nitrosodiphenylamine	86-30-6	ND	0.2
4-bromophenylphenylether	101-55-3	ND	0.2
Hexachlorobenzene	118-74-1	ND	0.2
Phenanthrene	85-01-8	ND	0.2
Anthracene	120-12-7	ND	0.2
Di-n-butylphthalate	84-74-2	ND	0.2
Fluoranthene	206-44-2	ND	0.2
Benzidine	92-87-5	ND	5
Pyrene	129-00-0	ND	0.2
Benzylbutylphthalate	85-68-7	ND	0.2
3,3'-dichlorobenzidine	91-94-1	ND	5
Benzo(a)anthracene	56-55-3	ND	0.2
Bis-(2-ethylhexyl)phthalate	117-81-7	ND	2
Chrysene	218-01-9	ND	0.2
Di-n-octylphthalate	117-84-0	ND	0.2

ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9212097-06A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Extracted:	12/09/92
Extraction Method:	EPA 3550	Date Analyzed:	12/12/92
Analytical Method:	EPA 8270		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Base/Neutral Extractables (continued)</u>			
Benzo(b)fluoranthene	205-99-2	ND	0.2
Benzo(k)fluoranthene	207-08-9	ND	0.2
Benzo(a)pyrene	50-32-8	ND	0.2
Indeno(1,2,3-cd)pyrene	193-39-5	ND	0.2
Dibenzo(a,h)anthracene	53-70-3	ND	0.2
Benzo(ghi)perylene	191-24-2	ND	0.2

<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>	
			LCL	UCL
2-Fluorophenol	367-12-4	70	25	121
Phenol-d6	13127-88-3	80	24	113
Nitrobenzene-d5	4165-60-0	88	23	120
2-Fluorobiphenyl	321-60-8	96	30	115
2,4,6-Tribromophenol	118-79-6	83	19	122
Terphenyl-d14	98904-43-9	80	18	137

ND Not detected at or above limit of detection

-- Information not available or not applicable

Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification:	55865-1	Date Sampled:	12/07/92
Lab Number:	9212097-01A	Date Received:	12/08/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/10/92
Extraction Method:	EPA 3550	Date Analyzed:	12/10/92
Analytical Method:	EPA 8080		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Organochlorine Pesticides</u>			
alpha-BHC	319-84-6	ND	0.003
gamma-BHC (Lindane)	58-89-9	ND	0.003
beta-BHC	319-85-7	ND	0.003
Heptachlor	76-44-8	ND	0.003
delta-BHC	319-86-8	ND	0.003
Aldrin	309-00-2	ND	0.003
Heptachlor epoxide	1024-57-3	ND	0.003
Endosulfan I	959-98-8	ND	0.003
4,4'-DDE	72-55-9	ND	0.003
Dieldrin	60-57-1	ND	0.003
Endrin	72-20-8	ND	0.003
4,4'-DDD	72-54-8	ND	0.003
Endosulfan II	33212-65-9	ND	0.003
4,4'-DDT	50-29-3	ND	0.003
Endrin aldehyde	7421-93-4	ND	0.003
Endosulfan sulfate	1031-07-8	ND	0.003
Methoxychlor	72-43-5	ND	0.02
Chlordane	57-74-9	ND	0.02
Toxaphene	8001-35-2	ND	0.2

Polychlorinated Biphenyls (PCB's)

Aroclor 1016	12674-11-2	ND	0.03
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ND Not detected at or above limit of detection

-- Information not available or not applicable

Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification:	55865-1	Date Sampled:	12/07/92
Lab Number:	9212097-01A	Date Received:	12/08/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/10/92
Extraction Method:	EPA 3550	Date Analyzed:	12/10/92
Analytical Method:	EPA 8080		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Polychlorinated Biphenyls (PCB's) (continued)</u>			
Aroclor 1221	1104-28-2	ND	0.03
Aroclor 1232	11141-16-5	ND	0.03
Aroclor 1242	53469-21-9	ND	0.03
Aroclor 1248	12672-29-6	ND	0.03
Aroclor 1254	11097-69-1	ND	0.03
Aroclor 1260	11096-82-5	ND	0.03

<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>	
			LCL	UCL
Tetrachloro-m-xylene	877-09-8	92	24	150
Dibutylchloroendate	1770-80-5	95	20	150

ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification:	55865-2	Date Sampled:	12/07/92
Lab Number:	9212097-02A	Date Received:	12/08/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/10/92
Extraction Method:	EPA 3550	Date Analyzed:	12/10/92
Analytical Method:	EPA 8080		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Organochlorine Pesticides</u>			
alpha-BHC	319-84-6	ND	0.003
gamma-BHC (Lindane)	58-89-9	ND	0.003
beta-BHC	319-85-7	ND	0.003
Heptachlor	76-44-8	ND	0.003
delta-BHC	319-86-8	ND	0.003
Aldrin	309-00-2	ND	0.003
Heptachlor epoxide	1024-57-3	ND	0.003
Endosulfan I	959-98-8	ND	0.003
4,4'-DDE	72-55-9	ND	0.003
Dieldrin	60-57-1	ND	0.003
Endrin	72-20-8	ND	0.003
4,4'-DDD	72-54-8	ND	0.003
Endosulfan II	33212-65-9	ND	0.003
4,4'-DDT	50-29-3	ND	0.003
Endrin aldehyde	7421-93-4	ND	0.003
Endosulfan sulfate	1031-07-8	ND	0.003
Methoxychlor	72-43-5	ND	0.02
Chlordane	57-74-9	ND	0.02
Toxaphene	8001-35-2	ND	0.2

Polychlorinated Biphenyls (PCB's)

Aroclor 1016	12674-11-2	ND	0.03
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ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification:	55865-2	Date Sampled:	12/07/92
Lab Number:	9212097-02A	Date Received:	12/08/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/10/92
Extraction Method:	EPA 3550	Date Analyzed:	12/10/92
Analytical Method:	EPA 8080		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Polychlorinated Biphenyls (PCB's) (continued)</u>			
Aroclor 1221	1104-28-2	ND	0.03
Aroclor 1232	11141-16-5	ND	0.03
Aroclor 1242	53469-21-9	ND	0.03
Aroclor 1248	12672-29-6	ND	0.03
Aroclor 1254	11097-69-1	ND	0.03
Aroclor 1260	11096-82-5	ND	0.03
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u> LCL UCL
Tetrachloro-m-xylene	877-09-8	94	24 - 150
Dibutylchlorendate	1770-80-5	96	20 - 150

ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification:	55865-3	Date Sampled:	12/07/92
Lab Number:	9212097-03A	Date Received:	12/08/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/10/92
Extraction Method:	EPA 3550	Date Analyzed:	12/10/92
Analytical Method:	EPA 8080		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Organochlorine Pesticides</u>			
alpha-BHC	319-84-6	ND	0.003
gamma-BHC (Lindane)	58-89-9	ND	0.003
beta-BHC	319-85-7	ND	0.003
Heptachlor	76-44-8	ND	0.003
delta-BHC	319-86-8	ND	0.003
Aldrin	309-00-2	ND	0.003
Heptachlor epoxide	1024-57-3	ND	0.003
Endosulfan I	959-98-8	ND	0.003
4,4'-DDE	72-55-9	ND	0.003
Dieldrin	60-57-1	ND	0.003
Endrin	72-20-8	ND	0.003
4,4'-DDD	72-54-8	ND	0.003
Endosulfan II	33212-65-9	ND	0.003
4,4'-DDT	50-29-3	ND	0.003
Endrin aldehyde	7421-93-4	ND	0.003
Endosulfan sulfate	1031-07-8	ND	0.003
Methoxychlor	72-43-5	ND	0.02
Chlordane	57-74-9	ND	0.02
Toxaphene	8001-35-2	ND	0.2

Polychlorinated Biphenyls (PCB's)

Aroclor 1016	12674-11-2	ND	0.03
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ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification:	55865-3	Date Sampled:	12/07/92
Lab Number:	9212097-03A	Date Received:	12/08/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/10/92
Extraction Method:	EPA 3550	Date Analyzed:	12/10/92
Analytical Method:	EPA 8080		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Polychlorinated Biphenyls (PCB's) (continued)</u>			
Aroclor 1221	1104-28-2	ND	0.03
Aroclor 1232	11141-16-5	ND	0.03
Aroclor 1242	53469-21-9	ND	0.03
Aroclor 1248	12672-29-6	ND	0.03
Aroclor 1254	11097-69-1	ND	0.03
Aroclor 1260	11096-82-5	ND	0.03
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u> LCL UCL
Tetrachloro-m-xylene	877-09-8	88	24 - 150
Dibutylchloroendate	1770-80-5	93	20 - 150

ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification:	55865-4	Date Sampled:	12/07/92
Lab Number:	9212097-04A	Date Received:	12/08/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/10/92
Extraction Method:	EPA 3550	Date Analyzed:	12/10/92
Analytical Method:	EPA 8080		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Organochlorine Pesticides</u>			
alpha-BHC	319-84-6	ND	0.003
gamma-BHC (Lindane)	58-89-9	ND	0.003
beta-BHC	319-85-7	ND	0.003
Heptachlor	76-44-8	ND	0.003
delta-BHC	319-86-8	ND	0.003
Aldrin	309-00-2	ND	0.003
Heptachlor epoxide	1024-57-3	ND	0.003
Endosulfan I	959-98-8	ND	0.003
4,4'-DDE	72-55-9	ND	0.003
Dieldrin	60-57-1	ND	0.003
Endrin	72-20-8	ND	0.003
4,4'-DDD	72-54-8	ND	0.003
Endosulfan II	33212-65-9	ND	0.003
4,4'-DDT	50-29-3	ND	0.003
Endrin aldehyde	7421-93-4	ND	0.003
Endosulfan sulfate	1031-07-8	ND	0.003
Methoxychlor	72-43-5	ND	0.02
Chlordane	57-74-9	ND	0.02
Toxaphene	8001-35-2	ND	0.2
<u>Polychlorinated Biphenyls (PCB's)</u>			
Aroclor 1016	12674-11-2	ND	0.03

ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification: 55865-4	Date Sampled: 12/07/92
Lab Number: 9212097-04A	Date Received: 12/08/92
Sample Matrix/Media: SOIL	Date Extracted: 12/10/92
Extraction Method: EPA 3550	Date Analyzed: 12/10/92
Analytical Method: EPA 8080	

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Polychlorinated Biphenyls (PCB's) (continued)</u>			
Aroclor 1221	1104-28-2	ND	0.03
Aroclor 1232	11141-16-5	ND	0.03
Aroclor 1242	53469-21-9	ND	0.03
Aroclor 1248	12672-29-6	ND	0.03
Aroclor 1254	11097-69-1	ND	0.03
Aroclor 1260	11096-82-5	ND	0.03
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u> LCL UCL
Tetrachloro-m-xylene	877-09-8	82	24 - 150
Dibutylchloroendate	1770-80-5	88	20 - 150

ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification: 55865-5	Date Sampled: 12/07/92
Lab Number: 9212097-05A	Date Received: 12/08/92
Sample Matrix/Media: SOIL	Date Extracted: 12/10/92
Extraction Method: EPA 3550	Date Analyzed: 12/10/92
Analytical Method: EPA 8080	

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Organochlorine Pesticides</u>			
alpha-BHC	319-84-6	ND	0.003
gamma-BHC (Lindane)	58-89-9	ND	0.003
beta-BHC	319-85-7	ND	0.003
Heptachlor	76-44-8	ND	0.003
delta-BHC	319-86-8	ND	0.003
Aldrin	309-00-2	ND	0.003
Heptachlor epoxide	1024-57-3	ND	0.003
Endosulfan I	959-98-8	ND	0.003
4,4'-DDE	72-55-9	ND	0.003
Dieldrin	60-57-1	ND	0.003
Endrin	72-20-8	ND	0.003
4,4'-DDD	72-54-8	ND	0.003
Endosulfan II	33212-65-9	ND	0.003
4,4'-DDT	50-29-3	ND	0.003
Endrin aldehyde	7421-93-4	ND	0.003
Endosulfan sulfate	1031-07-8	ND	0.003
Methoxychlor	72-43-5	ND	0.02
Chlordane	57-74-9	ND	0.02
Toxaphene	8001-35-2	ND	0.2
<u>Polychlorinated Biphenyls (PCB's)</u>			
Aroclor 1016	12674-11-2	ND	0.03

ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification:	55865-5	Date Sampled:	12/07/92
Lab Number:	9212097-05A	Date Received:	12/08/92
Sample Matrix/Media:	SOIL	Date Extracted:	12/10/92
Extraction Method:	EPA 3550	Date Analyzed:	12/10/92
Analytical Method:	EPA 8080		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Polychlorinated Biphenyls (PCB's) (continued)</u>			
Aroclor 1221	1104-28-2	ND	0.03
Aroclor 1232	11141-16-5	ND	0.03
Aroclor 1242	53469-21-9	ND	0.03
Aroclor 1248	12672-29-6	ND	0.03
Aroclor 1254	11097-69-1	ND	0.03
Aroclor 1260	11096-82-5	ND	0.03
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u> LCL UCL
Tetrachloro-m-xylene	877-09-8	90	24 - 150
Dibutylchloroendate	1770-80-5	99	20 - 150

ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Results of Analysis
for
Superior Analytical Laboratory

Client Reference: 55865
Clayton Project No. 92120.97

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9212097-06A	Date Received:	--
Sample Matrix/Media:	SOIL	Date Extracted:	12/10/92
Extraction Method:	EPA 3550	Date Analyzed:	12/10/92
Analytical Method:	EPA 8080		

Analyte	CAS #	Concentration (mg/kg)	Limit of Detection (mg/kg)
<u>Polychlorinated Biphenyls (PCB's) (continued)</u>			
Aroclor 1221	1104-28-2	ND	0.03
Aroclor 1232	11141-16-5	ND	0.03
Aroclor 1242	53469-21-9	ND	0.03
Aroclor 1248	12672-29-6	ND	0.03
Aroclor 1254	11097-69-1	ND	0.03
Aroclor 1260	11096-82-5	ND	0.03
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u> LCL UCL
Tetrachloro-m-xylene	877-09-8	87	24 - 150
Dibutylchloroendate	1770-80-5	87	20 - 150

ND Not detected at or above limit of detection
 -- Information not available or not applicable
 Results are reported on a wet weight basis, as received

Quality Assurance Results Summary
for
Clayton Project No. 92120.97

Clayton Lab Number: 9212114-01B
Ext./Prep. Method: EPA3550
Date: 12/09/92
Analyst: SCB
Std. Source: M921202-01W
Sample Matrix/Media: SOIL

Analytical Method: EPA8270
Instrument ID: 05138
Date: 12/12/92
Time: 23:37
Analyst: AC
Units: MG/KG

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (NRPD)
1,2,4-Trichlorobenzene	ND	3.33	2.05	62	1.90	57	59	38	107	7.6	23
1,4-Dichlorobenzene	ND	3.33	1.70	51	2.00	60	56	28	104	16	27
2,4-Dinitrotoluene	ND	3.33	1.60	48	1.80	54	51	28	89	12	47
2-Chlorophenol	ND	3.33	1.90	57	2.20	66	62	25	102	15	50
4-Chloro-m-cresol	ND	3.33	2.10	63	2.30	69	66	26	103	9.1	33
4-Nitrophenol	ND	3.33	2.10	63	2.00	60	62	11	114	4.9	50
Acenaphthene	ND	3.33	2.20	66	2.30	69	68	31	137	4.4	19
N-Nitrosodipropylamine	ND	3.33	1.80	54	2.10	63	59	41	126	15	38
Pentachlorophenol	ND	3.33	2.10	63	2.50	75	69	17	109	17	47
Phenol	ND	3.33	1.80	54	2.10	63	59	26	90	15	35
Pyrene	ND	3.33	2.90	87	2.50	75	81	35	142	15	36

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection

LCL = Lower Control Limit

UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration

Quality Assurance Results Summary
for
Clayton Project No. 92120.97

Clayton Lab Number: 9212097-03A
Ext./Prep. Method: EPA3550
Date: 12/10/92
Analyst: STF
Std. Source: G921201-04W
Sample Matrix/Media: SOIL

Analytical Method: EPAB080
Instrument ID: 02933
Date: 12/11/92
Time: 03:13
Analyst: LC
Units: MG/KG

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
4,4'-DDT	ND	0.0400	0.0270	68	0.0280	70	69	32	120	3.6	50
ALDRIN	ND	0.0400	0.0320	80	0.0320	80	80	34	132	0.0	43
DIELDRIN	ND	0.0400	0.0300	75	0.0300	75	75	31	134	0.0	38
ENDRIN	ND	0.0400	0.0330	83	0.0330	83	83	42	139	0.0	45
GAMMA-BHC (LINDANE)	ND	0.0400	0.0320	80	0.0350	88	84	46	127	9.0	50
HEPTACHLOR	ND	0.0400	0.0380	95	0.0380	95	95	35	130	0.0	31

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection

LCL = Lower Control Limit

SOR = Spike out of range due to high sample concentration.
UCL = Upper Control Limit

12097

Chain of Custody and Analysis Request

page ___ of ___

Section I


From: Superior Precision Analytical, Inc.
1555 Burke St. Unit II
San Francisco, CA 92124

Phone No. (415) 847-2081 Fax No. (415) 821-7123

Contact: KK

P.O. No. 5765

Turn Around Time
 (circle one)
 Same Day
 24 Hrs
 48 Hrs
 72 Hrs
 5 Day
 10 Day

 **Superior Precision Analytical, Inc.**
 P.O. Box 1545
 Martinez, California 94553

Work Subcontracted to: clute

Section II: Analysis Request

Laboratory Sample Identification	S = Soil A = Air W = Water Matrix	CAM17	Metals:	418.1	8270	8080 (pest. and PCB's)	Client Sample Identification	Number of Containers	Preservative (yes or no)	Sampling Remarks	
										<input type="checkbox"/> Chevron	<input checked="" type="checkbox"/> Non-Chevron
1 5765-1	Soil				X	X	101 0 10'				
2 -2					X	X	620 10'				
3 -3					X	X	630 10'				
4 -4					X	X	640 10'				
5 -5					X	X	650 10'				
6											
7											
8											
9											
10											
11											
12											

Relinquished by <u>Walt Brown</u> Organization <u>12/7/92</u>	Date/Time <u>10 P</u>	Received by <u>Jenny J. also</u> Organization <u>C.E.C.</u>	Date/Time <u>12/8/92: 20p</u>	Lab please initial the following: Samples Stored in Ice <u>OK</u> Appropriate Containers <u>N/A</u> Samples Preserved <u>N/A</u> VOA's without Headspace <u>N/A</u> Comments <u>Rec'd 5/15/93</u>
Relinquished by _____ Organization _____	Date/Time _____	Received by _____ Organization _____	Date/Time _____	
Relinquished by _____ Organization _____	Date/Time _____	Received by _____ Organization _____	Date/Time _____	

APPENDIX E

HYDROCARBON CONSULTANTS ANALYTICAL SUMMARY

Table 2

Groundwater Analytical Data Summary-Petroleum Hydrocarbon Constituents
1150 Ballena Blvd., Alameda, California

Well No.	Date Sampled	TPH/d ^a (µg/L) ^g	TPH/g ^b (µg/L) ^g	B ^c (µg/L) ^g	T ^c (µg/L) ^g	E ^c (µg/L) ^g	X ^c (µg/L) ^g	SVOCs ^d (µg/L) ^g	TOG ^e (µg/L) ^g	PCBs ^f (µg/L) ^g
MW1	09/02/93	98	<50 ^h	<0.5	<0.5	<0.5	<0.5	NA ⁱ	NA	NA
MW2	09/02/93	<50	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA
MW3	09/02/93	<50	<50	<0.5	<0.5	<0.5	<0.5	NA	NA	NA
<i>Grab G.W. Sample</i> OP1	09/02/93	9,100	580	<0.5	<0.5	19	0.5	ND	43,000	<0.5

- a. TPH/d = total petroleum hydrocarbons as diesel
- b. TPH/g = total petroleum hydrocarbons as gasoline
- c. B = benzene; T = toluene; E = ethylbenzene; x = total xylenes
- d. SVOCs = semi volatile organic compounds
- e. TOG = total oil and grease
- f. PCBs = polychlorinated biphenols
- g. µg/L = micrograms per liter, equal to parts per billion (ppb)
- h. <50 = less than method detection limit of 50 µg/L
- i. NA = analysis not requested
- j. ND = no analytes detected above respective method detection limits
(see analytical test reports for individual analyte detection limits)

Table 3

Groundwater Analytical Data Summary-Metals
1150 Ballena Blvd., Alameda, California

Well No.	Cadmium (µg/L) ^a	Chromium (µg/L) ^a	Lead (µg/L) ^a	Nickel (µg/L) ^a	Zinc (µg/L) ^a
MW1	NA ^b	NA	NA	NA	NA
MW2	NA	NA	NA	NA	NA
MW3	NA	NA	NA	NA	NA
OP1	<1 ^c	50 60	20	140	100

µg/L = micrograms per liter, equal to parts per billion (ppb)

NA = analysis not requested

<1 = less than the method detection limit of 1 µg/L.

grab g.w. sample

APPENDIX F

ZONE 7 DRILLING PERMIT



ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

5997 PARKSIDE DRIVE • PLEASANTON, CALIFORNIA 94566 • (415) 484-2600

GROUNDWATER PROTECTION ORDINANCE PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT Ballena Isle Marina
1150 Ballena Boulevard
Alameda, California

PERMIT NUMBER 94328
LOCATION NUMBER

CLIENT
Name Ballena Isle Marina
Address 1150 Ballena Blvd Phone 510-523-5528
City Alameda Zip 94501

PERMIT CONDITIONS

Circled Permit Requirements Apply

APPLICANT
Name Dariush Dastmalchi
Clayton Environmental Consultants, Inc.
Address 1252 Quarry Lane Phone 510-426-2609
City Pleasanton Zip 94566

A. GENERAL

- 1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well projects, or drilling logs and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approval date.

B. WATER WELLS, INCLUDING PIEZOMETERS

- 1. Minimum surface seal thickness is two inches or cement grout placed by tremie.
2. Minimum seal depth is 30 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

- C. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremie cement grout shall be used in place of compacted cuttings.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

E. WELL DESTRUCTION. See attached.

TYPE OF PROJECT
Well Construction Geotechnical Investigation
Cathodic Protection General
Water Supply Contamination
Monitoring Well Destruction
Boring XXX

PROPOSED WATER SUPPLY WELL USE
Domestic Industrial Other
Municipal Irrigation

DRILLING METHOD:
Mud Rotary Air Rotary Auger
Cable Other

DRILLER'S LICENSE NO. 610487

WELL PROJECTS
Drill Hole Diameter 6 in. Maximum
Casing Diameter in. Depth 2 ft.
Surface Seal Depth ft. Number 1

GEOTECHNICAL PROJECTS
Number of Borings Maximum
Hole Diameter in. Depth ft.

ESTIMATED STARTING DATE 5/26/94
ESTIMATED COMPLETION DATE 5/26/94

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE [Signature] Date 5/27/94

Approved [Signature] Date 27 May 94
Wyman Hong

APPENDIX G

LITHOLOGIC BORING LOG

LOG OF EXPLORATORY BORING						Project No.: 55434.00 Date: 5/26/94		BORING NO. TW-1		
Field Location of Boring:						Drilling Method: Hollow stem auger				
						Hole Diameter: 8"				
Ground Elevation:			Datum:			Casing Installation Data: N/A				
Blow Count	PID --- OVA (ppm)	D E P T H	S A M P L E	Soil Group Symbol (uscs)	Litho- graphic Symbol	Water Level				
						Time				
						Date				
						DESCRIPTION				
		1		SP		Light brown, sand with little to no silt, damp (fill)				
		2								
		3								
		4					Grayish brown with shell fragments and little to no silt			
		5								
		6								
		7								
		8								
		9					Free water			
		10								
		11								
		12								
		13								
		14								
		15				TD = 15'				
		16								
		17								
		18								

APPENDIX H

CLAYTON'S ANALYTICAL REPORT

Western Operations

1252 Quarry Lane
P.O. Box 9019
Pleasanton, CA 94566
(510) 426-2600
Fax (510) 426-0106

Clayton
ENVIRONMENTAL
CONSULTANTS

June 10, 1994

Mr. Dariush Dastmalchi
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
1252 Quarry Lane
Pleasanton, CA 94566

Client Ref.: 55434.00
Clayton Project No.: 94054.16

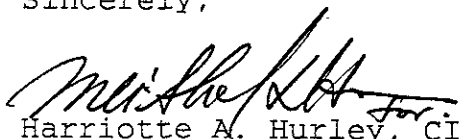
Dear Mr. Dastmalchi:

Attached is our analytical laboratory report for the samples received on May 26, 1994. A copy of the Chain-of-Custody form acknowledging receipt of these samples is attached.

Please note that any unused portion of the samples will be disposed of after July 10, 1994, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please contact Suzanne Silvera, Client Services Supervisor, at (510) 426-2657.

Sincerely,


Harriotte A. Hurley, CIH
Director, Laboratory Services
Western Operations

HAH/tjb

Attachments

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 55434.00
Clayton Project No. 94054.16

Sample Identification: SS-1	Date Sampled: 05/26/94
Lab Number: 9405416-01A	Date Received: 05/26/94
Sample Matrix/Media: SOIL	Date Prepared: 05/30/94
Preparation Method: EPA 5030	Date Analyzed: 05/31/94
Method Reference: EPA 8015/8020	Analyst: WAS

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
Toluene	108-88-3	ND	0.005
o-Xylene	95-47-6	ND	0.005
p,m-Xylenes	--	ND	0.005
Gasoline	--	0.3	0.3
<u>Surrogates</u>			
		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	79	50 - 150

ND: Not detected at or above limit of detection

--: Information not available or not applicable

Results are reported on a wet-weight basis, as received.

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 55434.00
Clayton Project No. 94054.16

Sample Identification: METHOD BLANK	Date Sampled: --
Lab Number: 9405416-05A	Date Received: --
Sample Matrix/Media: SOIL	Date Prepared: 05/30/94
Preparation Method: EPA 5030	Date Analyzed: 05/31/94
Method Reference: EPA 8015/8020	Analyst: WAS

Analyte	CAS #	Concentration (mg/kg)	Method Detection Limit (mg/kg)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	ND	0.005
Ethylbenzene	100-41-4	ND	0.005
Toluene	108-88-3	ND	0.005
o-Xylene	95-47-6	ND	0.005
p,m-Xylenes	--	ND	0.005
Gasoline	--	ND	0.3
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	77	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Results are reported on a wet-weight basis, as received.

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 55434.00
Clayton Project No. 94054.16

Sample Identification:	TW-1	Date Sampled:	05/26/94
Lab Number:	9405416-02A	Date Received:	05/26/94
Sample Matrix/Media:	WATER	Date Prepared:	05/28/94
Preparation Method:	EPA 5030	Date Analyzed:	05/28/94
Method Reference:	EPA 8015/8020	Analyst:	WAS

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	ND	0.4
Ethylbenzene	100-41-4	ND	0.3
Toluene	108-88-3	ND	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes	--	ND	0.4
Gasoline	--	ND	50
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	94	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 55434.00
Clayton Project No. 94054.16

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9405416-04A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	05/28/94
Preparation Method:	EPA 5030	Date Analyzed:	05/28/94
Method Reference:	EPA 8015/8020	Analyst:	WAS

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
<u>BTEX/Gasoline</u>			
Benzene	71-43-2	ND	0.4
Ethylbenzene	100-41-4	ND	0.3
Toluene	108-88-3	ND	0.3
o-Xylene	95-47-6	ND	0.4
p,m-Xylenes	--	ND	0.4
Gasoline	--	ND	50
<u>Surrogates</u>		<u>Recovery (%)</u>	<u>QC Limits (%)</u>
a,a,a-Trifluorotoluene	98-08-8	93	50 - 150

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 55434.00
Clayton Project No. 94054.16

Sample Identification: See Below
 Lab Number: 9405416
 Sample Matrix/Media: SOIL
 Extraction Method: SM 5520E
 Method Reference: SM 5520F
 Date Received: 05/26/94
 Date Extracted: 06/02/94
 Date Analyzed: 06/03/94

Lab Number	Sample Identification	Date Sampled	Hydrocarbons (mg/kg)	Method Detection Limit (mg/kg)
-01	SS-1	05/26/94	2100	50
-05	METHOD BLANK	--	ND	50

ND: Not detected at or above limit of detection
 --: Information not available or not applicable

Results are reported on a wet weight basis, as received

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 55434.00
Clayton Project No. 94054.16

Sample Identification: See Below	Date Received: 05/26/94
Lab Number: 9405416	Date Extracted: 06/02/94
Sample Matrix/Media: WATER	Date Analyzed: 06/03/94
Extraction Method: SM 5520B	
Method Reference: SM 5520F	

Lab Number	Sample Identification	Date Sampled	Hydrocarbons (mg/L)	Method Detection Limit (mg/L)
-02	TW-1	05/26/94	ND	5
-04	METHOD BLANK	--	ND	5

ND: Not detected at or above limit of detection
--: Information not available or not applicable

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 55434.00
Clayton Project No. 94054.16

Sample Identification: See Below
 Lab Number: 9405416
 Sample Matrix/Media: SOIL
 Extraction Method: EPA 3550
 Method Reference: EPA 8015 (Modified)

Date Received: 05/26/94
 Date Extracted: 06/01/94
 Date Analyzed: 06/07/94

Lab Number	Sample Identification	Date Sampled	TPH-D (mg/kg)	Method Detection Limit (mg/kg)
-01	SS-1	05/26/94	460 a	1
-05	METHOD BLANK	--	ND	1

ND: Not detected at or above limit of detection
 --: Information not available or not applicable

Results are reported on a wet-weight basis, as received.
 TPH-D = Extractable petroleum hydrocarbons from C10 to C42 quantitated as diesel.
 a Sample does not match the typical diesel pattern.
 Sample appears to be a mixture of diesel and oil.

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 55434.00
Clayton Project No. 94054.16

Sample Identification: See Below
 Lab Number: 9405416
 Sample Matrix/Media: WATER
 Extraction Method: EPA 3510
 Method Reference: EPA 8015 (Modified)
 Date Received: 05/26/94
 Date Extracted: 06/02/94
 Date Analyzed: 06/02/94

Lab Number	Sample Identification	Date Sampled	TPH-D (ug/L)	Method Detection Limit (ug/L)
-02	TW-1	05/26/94	280 a	50
-04	METHOD BLANK	--	ND	50

ND: Not detected at or above limit of detection
 --: Information not available or not applicable

TPH-D = Extractable petroleum hydrocarbons from C10 to C42 quantitated as diesel.
 a Sample does not match the typical diesel pattern.
 Sample appears to be oil.

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 55434.00
Clayton Project No. 94054.16

Sample Identification: See Below
Lab Number: 9405416
Sample Matrix/Media: WATER
Method Reference: EPA 160.1

Date Received: 05/26/94
Date Analyzed: 06/07/94

Lab Number	Sample Identification	Date Sampled	Total Dissolved Solids (mg/L)	Method Detection Limit (mg/L)
-02	TW-1	05/26/94	28000	10
-04	METHOD BLANK	--	<10	10

ND: Not detected at or above limit of detection
--: Information not available or not applicable

REQUEST FOR LABORATORY ANALYTICAL SERVICES

For Clayton Use Only Page 1 of 1

Project No. 55434.00

Batch No. **9405416**

Ind. Code _____ W.P. _____

Date Logged In 5/26/94 By TMM

REPORT RESULTS TO	Name <u>Danish Dastmalchi</u> Title _____		Purchase Order No. _____		Client Job No. _____		
	Company _____ Dept. _____		Name <u>Baldwin Park Marina</u>		Company _____ Dept. _____		
	Mailing Address _____		Address _____		City, State, Zip _____		
	City, State, Zip _____		Telephone No. _____		Telefax No. _____		
Date Results Req.: _____		Rush Charges Authorized? <input type="checkbox"/> Yes <input type="checkbox"/> No		Phone / Fax Results <input type="checkbox"/> <input type="checkbox"/>		Samples are: (check if applicable)	
Special Instructions: (method, limit of detection, etc.) _____		* Explanation of Preservative: _____		<input type="checkbox"/> Drinking Water <input type="checkbox"/> Collected in the State of New York		ANALYSIS REQUESTED (Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added. *)	
CLIENT SAMPLE IDENTIFICATION		DATE SAMPLED	MATRIX/MEDIA	AIR VOLUME (specify units)	Number of Containers	<div style="display: flex; justify-content: space-between;"> <div style="writing-mode: vertical-rl; transform: rotate(180deg); font-weight: bold;">SEND INVOICE TO</div> <div style="text-align: center;"> <p style="font-size: small;">TPH-D</p> <p style="font-size: small;">TPH-C/137E</p> <p style="font-size: small;">TO 9 (3520 F)</p> <p style="font-size: small;">TDS</p> <p style="font-size: small;">NO3-DSC</p> </div> </div>	
<u>SS-1</u>	<u>5/26/94</u>	<u>Sand</u>	<u>1 1/2 x 6 PC</u>	<u>1</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<u>TW-1</u>	<u>N</u>	<u>Water</u>	<u>40ml</u>	<u>2</u>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		<u>Water</u>	<u>1 qt</u>	<u>2</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		<u>Water</u>	<u>1 qt</u>	<u>2</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
		<u>Water</u>	<u>500ml</u>	<u>1</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<u>Receipt Book 0052094-HCL</u>		<u>H2O</u>	<u>of 40ml</u>	<u>2</u>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
CHAIN OF CUSTODY		Collected by: <u>Danish Dastmalchi</u> (print)		Collector's Signature: _____			
		Relinquished by: <u>Danish Dastmalchi</u> Date/Time <u>5/26/94/3:30</u>		Received by: _____ Date/Time _____			
		Relinquished by: _____ Date/Time _____		Received at Lab by: <u>TMM</u> Date/Time <u>5/26/94</u>			
		Method of Shipment: _____		Sample Condition Upon Receipt: <input checked="" type="checkbox"/> Acceptable <input type="checkbox"/> Other (explain) <u>15:30</u>			
Authorized by: _____ Date _____		(Client Signature <u>Must</u> Accompany Request)					

Please return completed form and samples to one of the Clayton Environmental Consultants, Inc. labs listed below:

22345 Roethel Drive Novi, MI 48375 (313) 344-1770	Raritan Center 160 Fieldcrest Ave. Edison, NJ 08837 (908) 225-6040	400 Chastain Center Blvd., N.W. Suite 490 Kennesaw, GA 30144 (404) 499-7500	1252 Quarry Lane Pleasanton, CA 94566 (510) 426-2657
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DISTRIBUTION:
 WHITE - Clayton Laboratory
 YELLOW - Clayton Accounting
 PINK - Client Retains

Quality Assurance Results Summary
Matrix Spike/Matrix Spike Duplicate Results
for
Clayton Project No. 94054.16

Quality Assurance Results Summary
for
Clayton Project No. 94054.16

Clayton Lab Number: 9405439-05A
Ext./Prep. Method: EPA3550
Date: 06/01/94
Analyst: DBG
Std. Source: G940521-01W
Sample Matrix/Media: SOIL

Analytical Method: EPA8015
Instrument ID: 02883
Date: 06/01/94
Time: 01:18
Analyst: AMN
Units: MG/KG

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
DIESEL	6.00	20.0	20.0	70	16.0	50	60	51	147	22	30

LCS = Laboratory Control Sample
ND = Not detected at or above limit of detection

LCL = Lower Control Limit

UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 94054.16

Clayton Lab Number: 9405416-MB
Ext./Prep. Method: EPA3510
Date: 06/02/94
Analyst: FHK
Std. Source: G940521-01W
Sample Matrix/Media: WATER

Analytical Method: EPA8015
Instrument ID: 02883
Date: 06/02/94
Time: 21:20
Analyst: AMN
Units: UG/L

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
DIESEL	ND	1,000	820	82	940	94	88	40	140	14	40

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Quality Assurance Results Summary
for
Clayton Project No. 94054.16

Clayton Lab Number: 9405416-02A
Ext./Prep. Method: EPA5030
Date: 05/28/94
Analyst: WAS
Std. Source: V940524-04W
Sample Matrix/Media: WATER

Analytical Method: EPA8015_8020
Instrument ID: 05587
Date: 05/28/94
Time: 12:29
Analyst: WAS
Units: UG/L

Analyte		Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
BENZENE	(PID)	ND	7.70	7.50	97	8.50	110	104	81	118	13	20
GASOLINE	(FID)	ND	500	423	85	475	95	90	80	150	12	25
TOLUENE	(PID)	ND	19.1	18.4	96	21.1	110	103	84	118	14	20

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Quality Assurance Results Summary
for
Clayton Project No. 94054.16

Clayton Lab Number: 9405287-06A
Ext./Prep. Method: EPA5030
Date: 05/30/94
Analyst: WAS
Std. Source: V940524-04W
Sample Matrix/Media: SOIL

Analytical Method: EPA8015 8020
Instrument ID: 05587
Date: 05/30/94
Time: 17:34
Analyst: WAS
Units: MG/KG

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
BENZENE	(PID) ND	0.0380	0.0410	108	0.0460	121	114	53	140	12	28
GASOLINE	(FID) ND	2.40	2.68	112	2.93	122	117	41	164	8.9	37
TOLUENE	(PID) ND	0.0950	0.103	108	0.120	126	117	60	139	15	22

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Quality Assurance Results Summary
for
Clayton Project No. 94054.16

Clayton Lab Number: 9405416-01A
Ext./Prep. Method: SM5520FS
Date: 06/02/94
Analyst: HYT
Std. Source: E940127-01W
Sample Matrix/Media: SOIL

Analytical Method: SM5520EF
Instrument ID: AE200
Date: 06/03/94
Time: 20:00
Analyst: GUD
Units: MG/KG

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
TOTAL PETROLEUM HYDROCARBONS	2,100	1,010	2,940	83	2,910	80	81	73	103	1.0	25

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LCL = Lower Control Limit

UCL = Upper Control Limit
SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
 for
 Clayton Project No. 94054.16

Clayton Lab Number: 9405416-MB
 Ext./Prep. Method: SM5520B
 Date: 06/02/94
 Analyst: HYT
 Std. Source: E940127-01W
 Sample Matrix/Media: WATER

Analytical Method: SM5520B
 Instrument ID: AE200
 Date: 06/03/94
 Time: 21:00
 Analyst: GUD
 Units: MG/L

Analyte	Sample Result	Spike Level	Matrix Spike Result	MS Recovery (%)	Matrix Spike Duplicate Result	MSD Recovery (%)	Average Recovery (% R)	LCL (% R)	UCL (% R)	RPD (%)	UCL (%RPD)
OIL AND GREASE	ND	20.3	15.2	75	15.8	78	76	75	125	3.9	25

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 SOR = Spike out of range due to high sample concentration.

Quality Assurance Results Summary
for
Clayton Project No. 94054.16

Page 1 of 1

Clayton Lab Number:	9405430-05A	Analytical Method:	EPA160_1
Ext./Prep. Method:	--	Instrument ID:	00008
Date:	/ /	Date:	06/07/94
Analyst:	--	Time:	04:00
		Analyst:	TT
Sample Matrix/Media:	WATER	Units:	mg/L

Analyte	Sample Result 1	Sample Result 2	RPD (%)	UCL (%RPD)
Total Dissolved Solids	1,780	1,800	0.8	20

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