Western Operations

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

Clayton
ENVIRONMENTAL
CONSULTANTS

No TOG analysis was conducted this qtr.

May 2, 1995

Mr. Don Anderson
BALLENA ISLE MARINA
1150 Ballena Boulevard
Alameda, California 94501

Clayton Project No. 57787.01

Subject: Quarterly Groundwater Sampling at Ballena Isle Marina Isle Facility Located at 1150 Ballena Boulevard in Alameda, California

Dear Mr. Anderson:

Clayton Environmental Consultants, Inc. is pleased to present the quarterly groundwater sampling and analytical report for the groundwater sample collected at the Ballena Isle Marina facility located at 1150 Ballena Boulevard in Alameda, California (Figure 1). Clayton collected a groundwater sample from monitoring wells MW-1, on February 23, 1995. The monitoring well location is shown in Figure 2.

BACKGROUND

In September 1991 a 250-gallon waste oil underground storage tank (UST) was removed from the subject facility by the owner of the site. The soil around the tank appeared to be impacted with petroleum hydrocarbons. One soil sample was collected from the excavation pit and transported to Trace Analysis Laboratory (TAL). The analytical results identified various organic compounds in the soil sample. Analytical results for organic compounds are summarized in Table 1.

Table 1

Analytical Results for Soil Samples 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

TPH-D Total petroleum hydrocarbons as diesel
TPH-G Total petroleum hydrocarbons as gasoline
TOG Total oil and grease, hydrocarbons

Subsequently, the excavation pit was overexcavated to remove petroleum hydrocarbon impacted soils. Two soil samples were collected from the overexcavated tank pit. One sample was collected from the north wall of the pit (SW-1) and the other sample was collected from the bottom of the pit (PB-1). The analytical results identified TPH-D and TPH-G in the soil samples from the excavation pit. Analytical results for petroleum hydrocarbons are summarized in Table 2.

Table 2

Analytical Results for 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 southwest, and utility vaults on the north.

In December 1992 Law/Crandall, Inc. drilled five soil borings and collected five 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 hydropunch (HP-1) located approximately 8 feet northwest of the pit.

The soil and grab water samples were analyzed for TPH-G, TPH-D, BTEX, VOCs, semivolatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs) and pesticides, TOG, and Metals.

TOG was detected in the soil samples ranging from 53 milligrams per kilogram (mg/kg) 110 mg/kg. The grab water sample contained a toluene concentration of 0.3 micrograms per liter (µg/L). The other analytes in the soil and grab water samples were not detected at or above the analytical detection limits.

On October 2, 1993, Hydrocarbon Consultants collected a grab water sample from the excavation pit (OP-1). Analytical results for the soil sample OP-1 are summarized in Table 3.

Table 3

Analytical Results for Grab Water Sample OP-1
Collected by Hydrocarbon Consultant in September 1993
All concentrations in µg/L

Sample	TPH-D	TPH-G	TOG	Toluene	Ethylbenzene
OP-1	9,100	580	43,000	3.9	19

In June, 1994 Clayton collected one soil and one groundwater samples to further define the extent of soil and possible groundwater contamination. To collect the groundwater samples 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. The temporary well location is shown in Figure 2. The 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. The soil and groundwater samples were analyzed for TPH-D, TPH-G, BTEX, TOG. In addition the groundwater sample was analyzed using EPA Method 160.1 for total dissolved solids (TDS).

Analytical results identified the following:

- TPH-D was detected in the soil sample at concentration of 460 mg/kg
- TPH-D was detected in the groundwater sample at concentration of 260 micrograms per liter (µg/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.

On July 19, 1994, Alameda County Health Care Services Agency (ACHCSA) requested that Ballena Isle Marina to install a permanent monitoring well (MW-1) and collect quarterly groundwater samples for a period of 1 year.

In December 1994 Clayton installed the monitoring well MW-1 near the previous location of temporary well TW-1 to monitor the groundwater for the presence of petroleum hydrocarbons and TDS. The monitoring well location is shown in Figure 2. Analytical reports did not identify TPH-D, BTEX, and TOG in the soil or groundwater samples.

FIELD ACTIVITIES

Prior to collecting water samples, the depth to water and separate phase product thickness was measured in each well.

To collect a representative sample of the groundwater, the water was purged from each well by using a pump. Approximately four times the well volume was pumped from the wells.

The following parameters were noted during the sampling activities:

- Monitoring well identification
- Static water level
- Well depth
- Condition of water prior to purging (e.g., amount of free product)
- Purge rate and volume
- pH, temperature, and conductivity during purging
- Time purged
- Time of sample collection
- Sampling method
- Name of sampler
- Climatic conditions

The groundwater samples were collected after a sufficient volume of water had been purged for pH, temperature, and electrical conductivity to stabilize.

The water sample from each well was collected using a new disposable bailer. All equipment coming into contact with groundwater was thoroughly cleaned and decontaminated before use at the site.

Groundwater was decanted in clean laboratory-supplied containers that were closed, labeled, placed immediately into an ice chest, and transported to Clayton's state-certified laboratory for analysis. One trip blank was furnished in accordance with Clayton's quality assurance/quality control (QA/QC) program.

The samples were collected in such a manner so as to minimize the volatilization of a sample due to agitation and/or transfer from the bailer to the sample containers. To document and trace samples from time of collection, a signed chain-of-custody record was filled out by the sampler and accompanies the samples through the laboratory analyses. The completed chain-of-custody was included with the analytical report from the laboratory. Detail of the groundwater sampling event is provided in the water sampling field survey forms (Attachment 1).

ANALYTICAL RESULTS

The groundwater samples were analyzed using the following United States Environmental Protection Agency (USEPA) methods:

- USEPA Method (modified) 8015 for TPH-D
- USEPA Method 8020 for BTEX

TPH-D and BTEX were not detected in the groundwater sample. The analytical reports are included in Attachment 2.

FINDINGS

Based on the analytical reports and our field observations our findings follow:

- TPH-D, BTEX, and TOG were not detected in the groundwater sample.

- TDS was detected in the groundwater sample at concentration of 12,000 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.

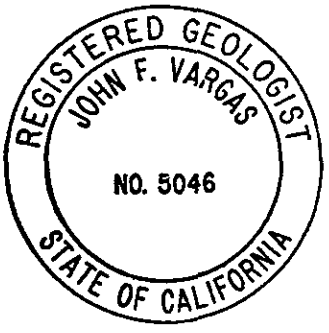
Based on our findings we recommend to submit a copy of this report ACHCSA for review. The next quarterly sampling event is scheduled for May 1995.

If you have any questions, please call me or Dariush Dastmalchi at (510) 426-2600.

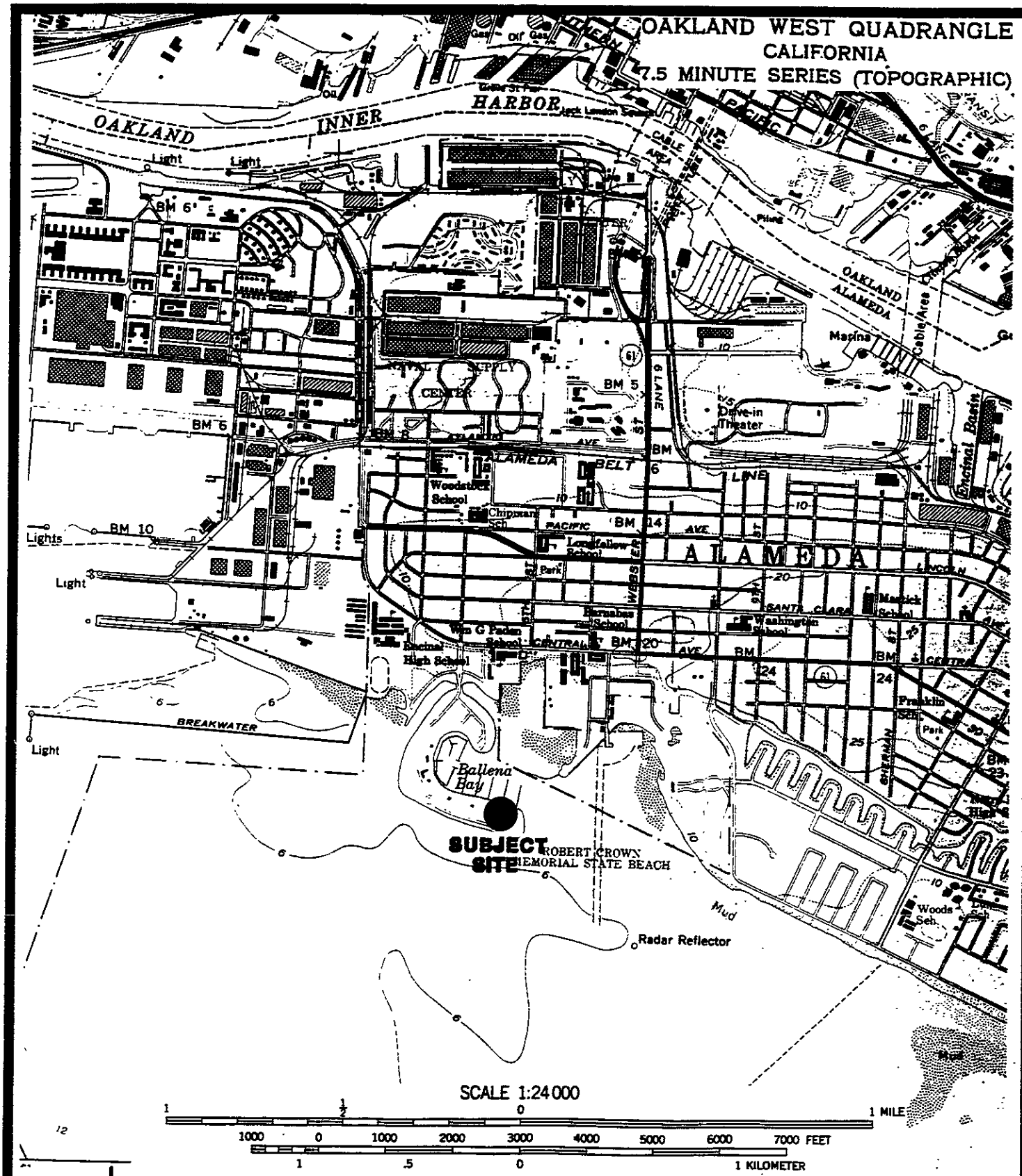
Sincerely,

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

JFV/dd



FIGURES



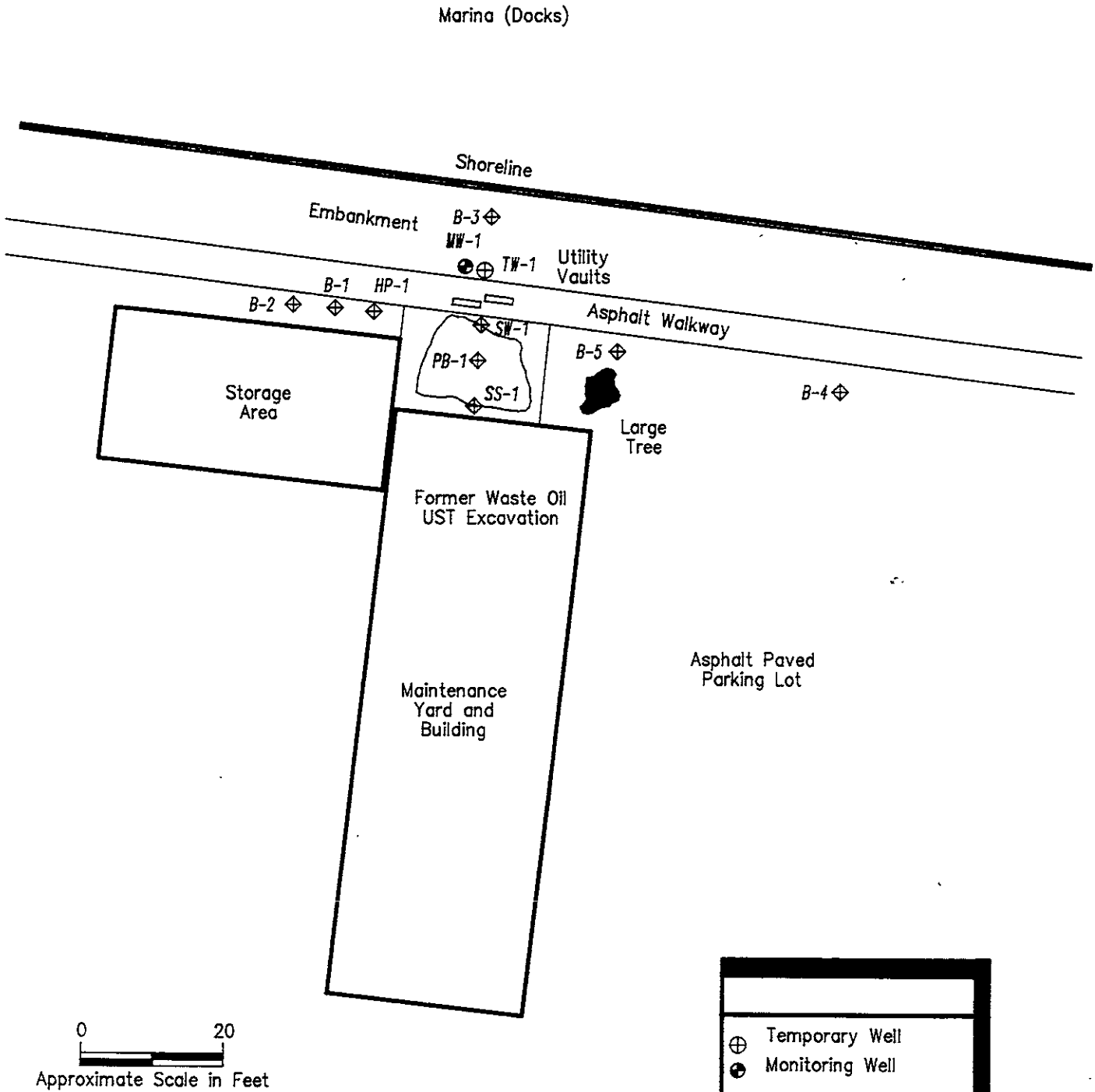
Site Location and Topographic Map
BALLENA ISLE MARINA
1150 Ballena Boulevard
Alameda, California

Clayton Project No. 57787.00

Figure
1

57798-00-16

Clayton
ENVIRONMENTAL CONSULTANTS



Monitoring Well Locations
BALLENA ISLE MARINA
1150 Ballena Boulevard
Alameda, California

Clayton Project No. 57787.00

Figure 2

57787-00-17

Clayton ENVIRONMENTAL CONSULTANTS

ATTACHMENT 1

WATER SAMPLING FIELD SURVEY FORMS AND GROUNDWATER DATA

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM

Job # 5T787.00 Site: BALLENY ISLE Date: FEBRUARY 23, 1995

Well # MW-1 Sampling Team: RICHARD SILVA

Sampling Method: DISPOSABLE BAILER

Field Conditions: PARTLY CLOUDY, COOL, SLIGHT BREEZE

Describe Equipment D-Con Before Sampling This Well: SUBMERSIBLE PUMP WAS WASHED WITH DETERGENT THEN TRIPLE RINSED

Total Depth of Well: 17.94 feet Time: 1312 Depth to Water Before Pumping: 8.61 feet

Volume Height of Water Column:		Diameter 2-inch	Diameter 4-inch	Volume		Purge Factor		To Purge
9.33	feet *	(.16)	.65	= 1.49	gal *	4	=	5.96

Depth Purging From: 17 feet Time Surging Begins: 1320

Notes on Initial Discharge: BROWNISH, SILTY, NO ODOR

Time	Volume Purged	pH	Conductivity	T	Notes
1322	2-GAL	5.0	2000+	14.2	CLOUDY
1323	4-GAL	5.3	2000+	14.3	CLOUDY
1324	5-GAL	5.5	2000+	14.3	MURKY
1325	6-GAL	5.3	2000+	14.3	CLEAR

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM
(CONTINUED)

Time Field Parameter Measurement Begins: 1335

	Rep #1	Rep #2	Rep #3	Rep #4
pH	5.4	5.5	5.6	5.5
Conductivity	2000+	2000+	2000+	2000+
T°C	14.3	14.1	14.1	14.1

Pre-Sample Collection Gallons Purged: 6

Time Sample Collection Begins: 1340

Time Sample Collection Ends: 1345

Total Gallons Purged: 7

Comments: _____

ATTACHMENT 2

ANALYTICAL RESULTS FOR GROUNDWATER SAMPLE

. Western Operations

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

Clayton
ENVIRONMENTAL
CONSULTANTS

March 7, 1995

Mr. Dariush Dastmalchi
CLAYTON ENVIRONMENTAL CONSULTANTS, INC.
1252 Quarry Lane
Pleasanton, CA 94566

Client Ref.: 57787.00
Clayton Project No.: 95022.75

Dear Mr. Dastmalchi:

Attached is our analytical laboratory report for the samples received on February 23, 1995. Also enclosed is a copy of the Chain-of-Custody record acknowledging receipt of these samples.

Please note that any unused portion of the samples will be discarded after April 6, 1995, unless you have requested otherwise.

We appreciate the opportunity to assist you. If you have any questions concerning this report, please contact Suzanne Haus, Client Services Supervisor, at (510) 426-2657.

Sincerely,

Harriotte A. Hurley, CIH
Director, Laboratory Services
San Francisco Regional Office

HAH/caa

Attachments

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 57787.00
Clayton Project No. 95022.75

Sample Identification:	MW-1	Date Sampled:	02/23/95
Lab Number:	9502275-01A	Date Received:	02/23/95
Sample Matrix/Media:	WATER	Date Prepared:	02/27/95
Preparation Method:	EPA 5030	Date Analyzed:	02/27/95
Method Reference:	EPA 8020	Analyst:	WAS

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
BTEX			
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
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	84	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: 57787.00
Clayton Project No. 95022.75

Sample Identification:	METHOD BLANK	Date Sampled:	--
Lab Number:	9502275-03A	Date Received:	--
Sample Matrix/Media:	WATER	Date Prepared:	02/27/95
Preparation Method:	EPA 5030	Date Analyzed:	02/27/95
Method Reference:	EPA 8020	Analyst:	WAS

Analyte	CAS #	Concentration (ug/L)	Method Detection Limit (ug/L)
BTEX			
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
Surrogates		Recovery (%)	QC Limits (%)
a,a,a-Trifluorotoluene	98-08-8	88	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: 57787.00
Clayton Project No. 95022.75

Sample Identification:	See Below	Date Received:	02/23/95
Lab Number:	9502275	Date Extracted:	02/27/95
Sample Matrix/Media:	WATER	Date Analyzed:	02/28/95
Extraction Method:	EPA 3510		
Method Reference:	EPA 8015 (Modified)		

Lab Number	Sample Identification	Date Sampled	TPH-D (ug/L)	Method Detection Limit (ug/L)
-01	MW-1	02/23/95	ND	50
-03	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.

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 57787.00
Clayton Project No. 95022.75

Sample Identification: See Below
Lab Number: 9502275
Sample Matrix/Media: WATER
Method Reference: EPA 160.1

Date Received: 02/23/95
Date Analyzed: 02/28/95

Lab Number	Sample Identification	Date Sampled	Total Dissolved Solids (mg/L)	Method Detection Limit (mg/L)
-01	MW-1	02/23/95	12000	10
-03	METHOD BLANK	--	<10	10

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

Clayton
ENVIRONMENTAL
CONSULTANTS

REQUEST FOR LABORATORY ANALYTICAL SERVICES

For Clayton Use Only — Page ____

Project No.

Batch No. **9502275**

Ind. Code | W.P.

Date Logged In 2/24 | By CA

REPORT RESULTS TO

Name DHRUSH DASTMALCHI | Title

Company CLAYTON | Dept.

Mailing Address

City, State, Zip

Telephone No. | Telefax No.

SEND INVOICE TO

Purchase Order No. | Client Job No. 57787.00

Name

Company BALLENA ISLE | Dept.

Address

City, State, Zip

Date Results Req.: NORMAL TAT | Rush Charges Authorized? ☐ Yes ☒ No | Phone / Fax Results ☐ ☐

Special Instructions: (method, limit of detection, etc.)

* Explanation of Preservative: P = HCl

Samples are: (check if applicable)
☐ Drinking Water
☐ 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	BTEX	TDS	TPH-DIESEL	HOLD							FOR LAB USE ONLY
MW-1	2-23-95	H_2O	40 mls	2	XP										01A B
MW-1	↓	↓	250 mls	1		X									02A C
MW-1			LITER	2			XP								03A B D
TRIP BLANK #0013195			40 mls	2				XP							04 ↓ 02A
															2/24

CHAIN OF CUSTODY

Collected by: RICHARD SILVA (print) | Collector's Signature: Richard Silva

Relinquished by: Richard Silva | Date/Time 2-23-95/4:30pm | Received by: Carol Hammerberg | Date/Time 2/23/95 4:30

Relinquished by: | Date/Time | Received at Lab by: | Date/Time

Method of Shipment:

Sample Condition Upon Receipt: ☒ Acceptable ☐ Other (explain)

Authorized by: _____ Date _____
(Client Signature Must 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 (810) 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

2/92

DISTRIBUTION:
WHITE - Clayton Laboratory
YELLOW - Clayton Accounting
PINK - Client Retains