Western Operations

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

Clayton
ENVIRONMENTAL
CONSULTANTS

January 4, 1996

Ms. Juliet Shin
Hazardous Materials Specialist
ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY
1131 Harbor Bay Parkway, 2nd Floor
Alameda California 94502

Clayton Project No. 57787.00

Subject: Groundwater Investigation and Monitoring Reports for the Ballena Isle Marina Facility at 1150 Ballena Boulevard in Alameda, California

Dear Ms. Shin:

On behalf of the Ballena Isle Marina Clayton Environmental Consultants, Inc. is pleased to submit the groundwater investigation and monitoring reports for activities performed at the Ballena Isle Marina facility located at 1150 Ballena Boulevard in Alameda, California.

If you have Any questions please call me or Mr. Rick Day at (510) 426-2600.

Sincerely,

Dariush Dastmalchi
Geologist

DD/dd
cc: Mr. Don Anderson, Ballena Isle Marina

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Quarterly Groundwater Sampling
at
Ballena Isle Marina Facility
located at
1150 Ballena Boulevard
in
Alameda, California

Clayton Project No. 57787.00
November 28, 1995

CONTENTS

1.0 INTRODUCTION

Clayton Environmental Consultants, Inc. is pleased to present this 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 the groundwater sample from monitoring well MW-1 on August 21, 1995. The monitoring well location is shown in Figure 2.

2.0 BACKGROUND

In September 1991, a 250-gallon waste oil underground storage tank (UST) was removed from the subject facility by the site owner. 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)

TPH-D	TPH-G	TOG	Benzene	Toluene	Ethylbenzene	Xylenes
5,700	860	11,000	ND	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 by ENSR in May 1992, 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 mg/kg

Sample	TPH-D	TPH-G	TOG	Benzene	Toluene	Ethylbenzene	Xylenes
SW-1	2,200	91	5,300	ND	ND	ND	1.9

Sample	TPH-D	TPH-G	TOG	Benzene	Toluene	Ethylbenzene	Xylenes
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 to 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 boring HP-1 located approximately 8 feet northwest of the pit.

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

TOG was detected in the soil samples ranging from 53 mg/kg to 110 mg/kg. The grab water sample contained a toluene concentration of 0.3 micrograms per liter (µg/L). No other analytes in the soil and grab water samples were 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
Collected by Hydrocarbon Consultant in September 1993
All Concentrations in µg/L

Sample	TPH-D	TPH-G	TOG	Benzene	Toluene	Ethylbenzen	Xylenes
OP-1	9,100	580	43,000	ND	3.9	19	ND

In June 1994, Clayton collected one soil and one groundwater samples to further define the extent of soil and possible groundwater contamination. One temporary well (TW-1) was installed near the former UST excavation pit to collect the groundwater sample. The well was located in the estimated downgradient direction from the former UST. 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 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 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 in the groundwater sample was reported as 28,000 mg/l

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

In December 1994, Clayton installed monitoring well MW-1 near the previous location of temporary well TW-1 to monitor the groundwater for TDS and the presence of petroleum hydrocarbons. 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.

During the subsequent quarterly groundwater sampling and analysis, TPH-D or BTEX were not detected in the groundwater samples from monitoring well MW-1.

3.0 FIELD ACTIVITIES

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

To collect a representative groundwater sample, stagnant water was purged from the well by using a 2-inch submersible pump. Approximately four times the well volume was pumped from the well to ensure water representative of the aquifer was present in the well. Well volume was calculated by using the measured depth to groundwater to the nearest 0.01 foot upon arrival at the site before purging. The purging was continued until sufficient volume of water had been purged for pH, temperature, and electrical conductivity to stabilize.

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

Groundwater was transferred 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.

Groundwater samples were 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. To document and track samples from time of collection, a signed chain-of-custody record was completed by the sampler and accompanied the samples through the laboratory analyses. The completed chain-of-custody was included with the analytical report from the laboratory. Details of the groundwater sampling event are provided in the water sampling field survey forms (Appendix A).

4.0 ANALYTICAL RESULTS

The groundwater sample was analyzed using the United States Environmental Protection Agency (USEPA) Method (modified) 8015 for TPH-D and the standard Method 5520F for total oil and grease (TOG).

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

5.0 FINDINGS

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

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

Based on our findings we recommend the following:

- Submit a copy of this report ACHCSA for review.
- Request a case closure for the site from the ACHCSA

This report prepared by: Dariush Dastmalchi

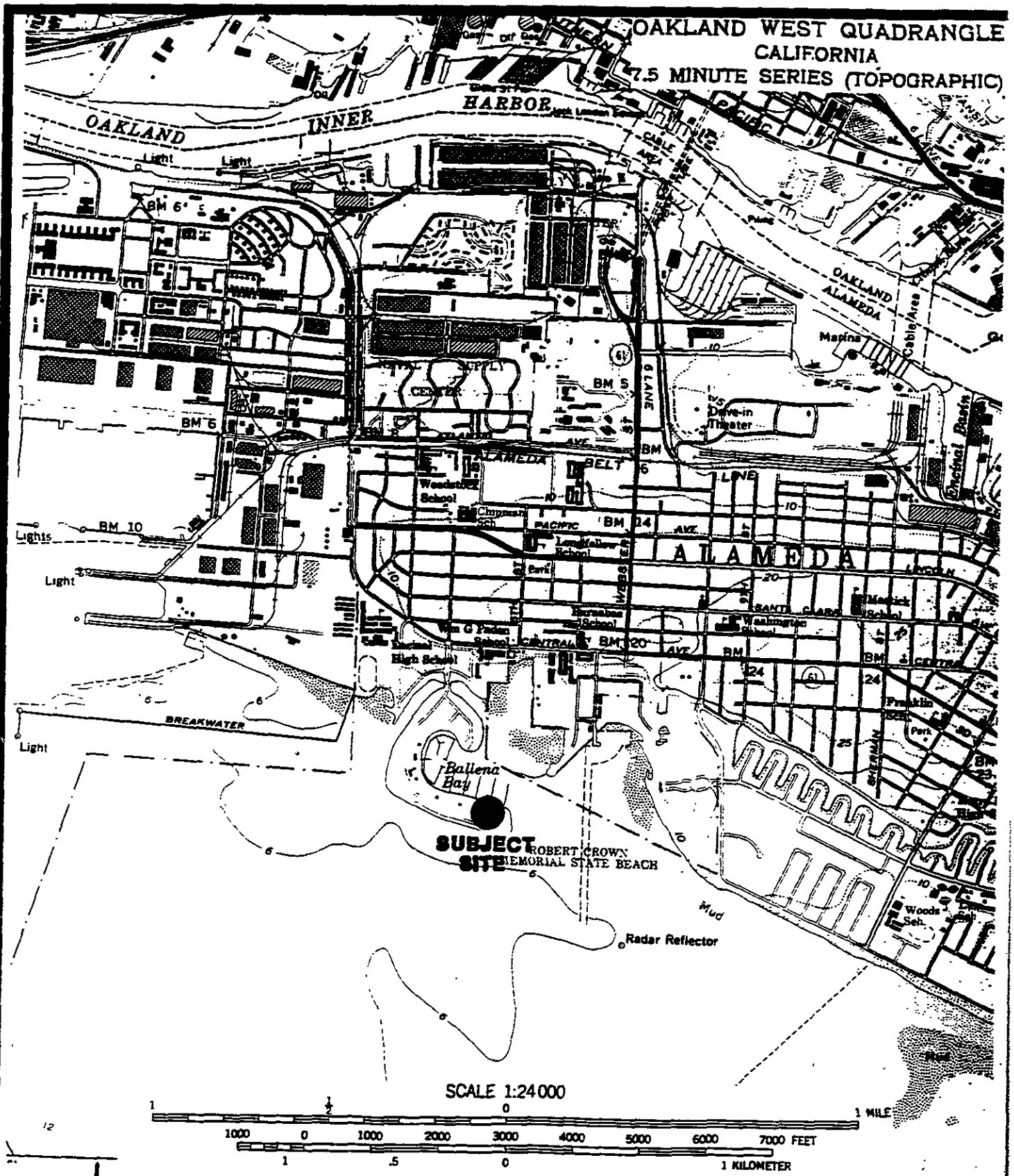
Dariush Dastmalchi, REA
Project Geologist

This report reviewed by:

Richard W. Day, R.G., CEG, CHG
Supervisor, Geosciences/Remediation
Environmental Management and Remediation
San Francisco Regional Office

November 28, 1995

FIGURES



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

Clayton Project No. 57787.00

Figure 1

57798-00-16

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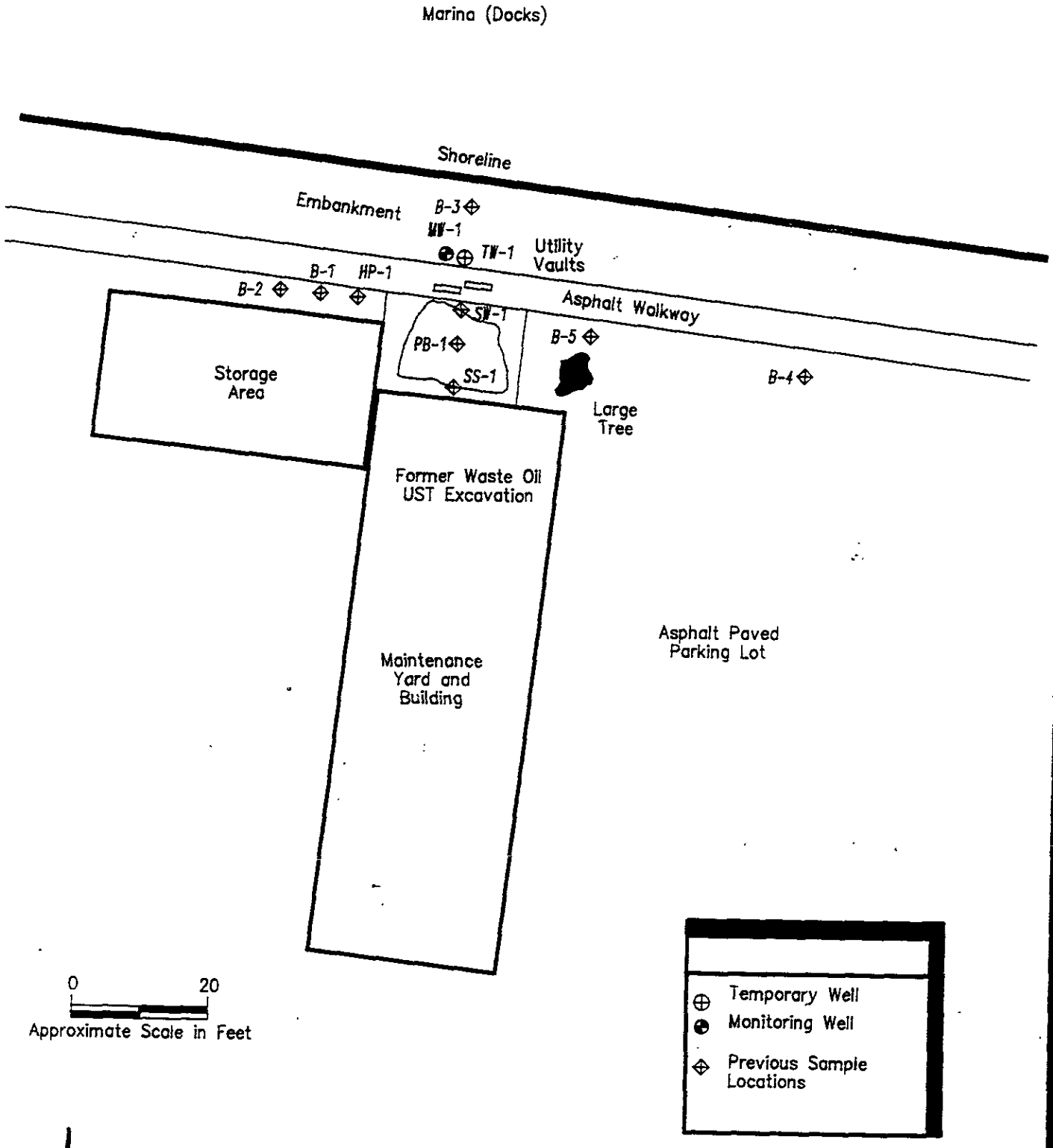

Monitoring Well Locations
BALLENA ISLE MARINA
1150 Ballena Boulevard
Alameda, California

Clayton Project No. 57787.00

Figure 2

57787-00-17

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APPENDIX A

WATER SAMPLING FIELD SURVEY FORMS AND GROUNDWATER DATA

CLAYTON ENVIRONMENTAL CONSULTANTS, INC.

WATER SAMPLING FIELD SURVEY FORM

Project #: _____ Site: BALLENA ISLE Date: Aug. 21, 1995

Well #: MW-1 Sampling Team: R. SILVA

Sampling Method: DISPOSABLE BAILER

Field Conditions: CLOUDY, COOL, SLIGHT BREEZE, ~70°F

Describe Equipment D-Con Before Sampling This Well: _____

Total Depth of Well: 17.70 feet Time: 1010 Depth to Water Before Pumping: 9.52 feet

Height of Water Column: 8.18 feet * Diameter: 2-inch (.16) / 4-inch .65 = Volume 1.31 gal * Purge Factor 4 = Volume To Purge 5.24 gal

Depth Purging From: 17 feet Time Purging Begins: 10:30

Notes on Initial Discharge: BROWNISH, SILT, NO ODOR

Time	Volume Purged	pH	Conductivity	T	Notes
1031	2-GAL	7.4	2000+	18.8	CLOUDY
1032	4-GAL	7.5	2000+	19.0	CLEAR
1033	5-GAL	7.5	2000+	18.9	CLEAR
1034	6-GAL	7.5	2000+	18.9	CLEAR

APPENDIX B

ANALYTICAL RESULTS FOR GROUNDWATER SAMPLE

Western Operations

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

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August 31, 1995

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

Client Ref.: 57787.00
Clayton Project No.: 95082.34

Dear Mr. Dastmalchi:

Attached is our analytical laboratory report for the samples received on August 21, 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 September 30, 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/tjb

Attachments

Analytical Results
for
Clayton Environmental Consultants, Inc.
Client Reference: 57787.00
Clayton Project No. 95082.34

Sample Identification: See Below
Lab Number: 9508234
Sample Matrix/Media: WATER
Extraction Method: SM 5520B
Method Reference: SM 5520F

Date Received: 08/21/95
Date Extracted: 08/22/95
Date Analyzed: 08/22/95

Lab Number	Sample Identification	Date Sampled	Hydrocarbons (mg/L)	Method Detection Limit (mg/L)
-01	MW-1	08/21/95	ND	1
-03	METHOD BLANK	--	ND	1

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. 95082.34

Sample Identification: See Below
Lab Number: 9508234
Sample Matrix/Media: WATER
Extraction Method: EPA 3510
Method Reference: EPA 8015 (Modified)

Date Received: 08/21/95
Date Extracted: 08/25/95
Date Analyzed: 08/29/95

Lab Number	Sample Identification	Date Sampled	TPH-D (ug/L)	Method Detection Limit (ug/L)
-01	MW-1	08/21/95	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.

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REQUEST FOR LABORATORY ANALYTICAL SERVICES

For Clayton Use Only	Page 1 of 1
Project No.	
Batch No.	9508234
Ind. Code	W.P.
Date Logged In 8/21	By MJ

RESULTS TO

Name DARIUSH DASTMALCHI | Title
Company CLAYTON | Dept.
Mailing Address
City, State, Zip
Telephone No. | Telefax No.

SEND INVOICE TO

Purchase Order No. | Client Job No. 5778.00
Name
Company BALLENA ISLE | Dept.
Address
City, State, Zip

Date Results Req.: STANDARD 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

CLIENT SAMPLE IDENTIFICATION	DATE SAMPLED	MATRIX/ MEDIA	AIR VOLUME (specify units)	Number of Containers	ANALYSIS REQUESTED (Enter an 'X' in the box below to indicate request; Enter a 'P' if Preservative added.) TPH-Diesel	Oil & Grease	Hold	FOR LAB USE ONLY
MW-1	8-21-95	H2O	LITER	2	Xp			01 A,B
MW-1			LITER	2		Xp		C,D
MW-1			40 mls	2			Xp	E,F
MW-1			250 mls	1			Xp	G
TRIP BLANK # 0061495	↓	↓	40 mls	2			Xp	02 A,B

CHAIN OF CUSTODY

Collected by: RICHARD SILVA (print) | Collector's Signature: Richard Silva
Relinquished by: Richard Silva | Date/Time 8-21-95/1400 | Received by: | Date/Time
Relinquished by: | Date/Time | Received at Lab by: Carol Hammerberg | Date/Time 8/21/95 2:29pm
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