Self Monitoring Report
(March 1997)

Former Pacific Dry Dock and Repair Company - Yard I
1441 Embarcadero
Oakland, California

Prepared for
Crowley Marine Services, Inc.
2401 Fourth Avenue
Seattle, Washington 98111

Prepared by
The Gauntlett Group, LLC
111 West Evelyn Avenue, Suite 305
Sunnyvale, California 94086

April 1997

PROFESSIONAL CERTIFICATION
Self-Monitoring Report
(March 1997)

Former Pacific Dry Dock
and Repair Company - Yard I
1441 Embarcadero
Oakland, California

April 1997

This *Self-Monitoring Report* has been prepared by The Gauntlett Group, LLC, under the professional supervision of Patrick Lacey and Janet C. Kappmeyer. The findings, recommendations, specifications and/or professional opinions presented in this report have been prepared in accordance with generally accepted professional geologic practices, and within the scope of the project. There is no other warranty, either express or implied.

Patrick Lacey
The Gauntlett Group, LLC

4/30/97
Date

Janet C. Kappmeyer
Cypress Environmental
RG 4032, CEG 1684

4/30/97
Date

TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

1.0 INTRODUCTION

This *Self-Monitoring Report* has been prepared by The Gauntlett Group, LLC (Gauntlett) on behalf of Crowley Marine Services, Inc. (Crowley) for the former Pacific Dry Dock and Repair Company yard at 1441 Embarcadero in Oakland, California (the Site)(see Figures 1 and 2). This report is intended to satisfy the January 15, 1997 letter from the Alameda County Health Care Services (ACHCS) requesting that one additional round of groundwater monitoring be performed before the ACHCS considers case closure for the Site.

The following groundwater monitoring activities were performed at the Site during the first calendar quarter of 1997.

- Groundwater levels and floating product thickness were measured in six groundwater monitoring wells on March 28, 1997.

- Groundwater samples were collected from six groundwater monitoring wells on March 28, 1997. All six samples were analyzed for total petroleum hydrocarbons as diesel (TPHd); total petroleum hydrocarbons as gasoline (TPHg); benzene, toluene, ethylbenzene, and xylenes (BTEX); and dissolved lead.

- This *Self-Monitoring Report* documenting the recent activities was prepared.

The procedures used for groundwater sampling and analysis are presented below in Section 2. The results of groundwater analyses performed this quarter are discussed in Section 3.

2.0 GROUNDWATER SAMPLING AND ANALYSIS PROCEDURES

Figure 2 shows the locations of all the monitoring wells present at the Site. The wells are completed in the shallowest water-bearing zone encountered beneath the area of investigation.

On March 28, 1997, water levels and floating product thickness in all six monitoring wells were measured to within 0.01 foot. The measurements were made using an electronic measuring device capable of measuring the static fluid level and the hydrocarbon product/water interface in one immersion. Groundwater samples were then collected from all six wells. Prior to purging the wells, the water levels and well depths were rechecked using an electronic water level sounder. Following the protocol in Figure 3, each well was then purged with a Teflon bailer until approximately three casing volumes of water were removed.[1] The purge water was monitored for temperature, pH, and conductivity. Turbidity was also noted as purging proceeded.

Each well was sampled after the water level in the well had recovered sufficiently. Groundwater samples for chemical analysis were collected using a Teflon bailer. The sampling equipment was washed with an Alconox solution and triple-rinsed with distilled water before each use to avoid potential cross-contamination. The samples for analysis of TPHg and BTEX were collected in 40-milliliter volatile organic analysis (VOA) bottles which contained a premeasured volume of hydrochloric acid for preservation. The groundwater was transferred to the VOA bottles in a manner which minimized aeration or volatilization, and care was taken to ensure that air bubbles were not present in the sample bottles. The samples collected for analysis of TPHd were collected in unpreserved 1-liter amber glass bottles. The samples collected for analysis of dissolved lead were field-filtered using a 0.45-micron filter before being placed in 0.5-liter plastic bottles which contained a premeasured volume of nitric acid for preservation. The bottles were labeled and placed in a cooler with blue ice. The samples were delivered to the analytical laboratory the same day they were collected and a chain-of-custody document was maintained with the samples as transfers were made between sample custodians.

The groundwater samples were analyzed by Columbia Analytical Services, Inc., which is accredited by the California Department of Health Services to perform the specified analyses. The groundwater samples were analyzed in accordance with the following analytical methods:

- TPHd and TPHg by USEPA Method 8015M
- BTEX by USEPA Method 8020
- Dissolved lead by USEPA Method 7421

The field data sheets are presented in Appendix A; the certified analytical reports (CARs) and chain-of-custody are presented in Appendix B.

[1] Well MW-4 purged dry after 4.0 gallons (2.5 casing volumes) of groundwater were removed.

3.0 GROUNDWATER MONITORING RESULTS

3.1 Water Level and Floating Product Data

Table 1 presents the historic water level data for the Site, including the data collected in March 1997. Figure 4 presents the March 1997 groundwater elevation contours for the shallow water-bearing zone.

Floating product was not detected in any of the monitoring wells in March 1997. The groundwater elevation contours presented in Figure 4 indicate the presence of a hydraulic "mound" centered in the area of well MW-4. Based on the March 1997 data, groundwater appears to flow radially away from well MW-4 at a gradient of 0.033 to the north, 0.01 to the west, and 0.008 to the south-southeast. Based on historical hydraulic gradient information recorded by Versar, Inc., the groundwater flow direction and gradient at the Site have been variable (see Table 2). Given the proximity of the Site to the bay, it is most likely that groundwater flow is strongly influenced by tides.

3.2 Quality Control Results

Laboratory quality control (QC) data were evaluated to assess the acceptability of the analytical results. The QC results are included with the CARs in Appendix B; Table 3 summarizes the QC data.

Laboratory QC consisted of checking adherence to holding times and evaluating method blanks, surrogate recoveries, and reporting limits. All analyses were performed within the required holding times. TPHd, TPHg, BTEX, and lead were not detected in any of the method blanks. Surrogate recoveries reported for the organics analyses were all within the laboratory acceptance limits. The method reporting limits for TPHd, TPHg, and BTEX were all normal. Except for the samples from MW-1 and MW-3, where matrix interferences caused the laboratory to raise its reporting limiting to 0.05 milligrams per liter, the reporting limits for the lead analyses were normal (i.e., 0.005 milligrams per liter).

3.3 Groundwater Chemistry Results

Table 4 presents the historical groundwater chemistry data, including the March 1997 results. Figure 5 presents the concentrations of TPHd, TPHg, BTEX, and dissolved lead in groundwater samples collected this past quarter.

TPHg, BTEX, and dissolved lead were not detected in any of the recent groundwater samples. TPHd was reported in three of the six wells at concentrations ranging between 230 micrograms per liter (µg/L)(in well MW-3) and 440 µg/L (in well MW-1). Based on the historical groundwater chemistry data, this Site is an excellent candidate for closure as a "Low-Risk Groundwater Case." No further water level or groundwater sampling events are currently scheduled for the Site.

4.0 DISTRIBUTION

Mr. Stephen Wilson
Crowley Marine Services, Inc.
2401 Fourth Avenue
Seattle, Washington 98111

Ms. Beth Hamilton
Enea, Piunti & Hamilton
60 South Market Street
Suite 730
San Jose, California 95113

TABLES

TABLE 1

Historical Groundwater Elevations
Former Pacific Dry Docks and Repair Company Yard I
Port of Oakland, California

Groundwater Monitoring Well	Date	Well Head Elevation (feet MSL[1])	Depth to Groundwater[2] (feet)	Groundwater Elevation (feet MSL)
MW-1	07/01/93	9.45	5.01	4.44
	10/14/93	9.45	6.54	2.91
	12/08/93	9.45	6.28	3.17
	01/17/94	9.45	4.93	4.52
	03/30/94	9.45	4.87	4.58
	07/15/94	9.45	5.31	4.14
	10/19/94	9.45	6.67	2.78
	02/02/95	9.45	4.24	5.21
	05/03/95	9.45	4.76	4.69
	09/07/95	9.45	6.16	3.29
	03/05/96	9.45	3.95	5.50
	03/28/97	9.45	5.04	4.41
MW-2	07/01/93	9.34	4.94	4.40
	10/14/93	9.34	5.74	3.60
	12/08/93	9.34	4.55	4.79
	01/17/94	9.34	4.90	4.44
	03/30/94	9.34	4.51	4.83
	07/15/94	9.34	5.16	4.18
	10/19/94	9.34	5.72	3.62
	02/02/95	9.35	3.43	5.92
	05/03/95	9.35	3.01	6.34
	09/07/95	9.35	5.34	4.01
	03/05/96	9.35	2.65	6.70
	03/28/97	9.35	4.74	4.61
MW-3	07/01/93	8.76	5.54	3.22
	10/14/93	8.76	3.98	4.78
	12/08/93	8.76	6.50	2.26
	01/17/94	8.76	6.60	2.16
	03/30/94	8.76	9.81	-1.05
	07/15/94	8.76	8.76	1.81
	10/19/94	8.76	5.00	3.76
	02/02/95	8.74	6.06	2.68
	05/03/95	8.74	8.90	-0.16
	09/07/95	8.74	7.66	1.08
	03/05/96	8.74	8.10	0.64
	03/28/97	8.74	3.00	5.74
MW-4	07/01/93	9.55	9.33	1.22
	10/14/93	9.55	6.45	3.10
	12/08/93	9.55	6.02	3.53
	01/17/94	9.55	6.05	3.50
	03/30/94	9.55	4.91	4.65
	07/15/94	9.55	9.55	3.49
	10/19/94	9.55	6.89	2.66
	02/02/95	9.50	2.92	6.58
	05/03/95	9.50	3.79	5.71
	09/07/95	9.50	6.58	2.92
	03/05/96	9.50	2.65	6.85
	03/28/97	9.50	3.18	6.32

TABLE 1

Historical Groundwater Elevations
Former Pacific Dry Docks and Repair Company Yard I
Port of Oakland, California

Groundwater Monitoring Well	Date	Well Head Elevation (feet MSL[1])	Depth to Groundwater[2] (feet)	Groundwater Elevation (feet MSL)
MW-5	07/01/93	9.51	6.56	2.95
	10/14/93	9.51	6.92	2.59
	12/08/93	9.51	6.71	2.80
	01/17/94	9.51	6.60	2.91
	03/30/94	9.51	6.35	3.16
	07/15/94	9.51	9.51	2.95
	10/19/94	9.51	7.00	2.51
	02/02/95	9.51	5.15	4.36
	05/03/95	9.51	5.91	3.60
	09/07/95	9.51	7.05	2.46
	03/05/96	9.51	5.70	3.81
	03/28/97	9.51	6.71	2.80
MW-6	03/05/96	8.26	3.48	4.78
	03/28/97	8.26	4.94	3.32

1 MSL = Mean Sea Level

2 Depth to groundwater measurements were taken during high, low, incoming or outgoing tides and are expressed in feet below top of casing

TABLE 2

Historical Hydraulic Gradient Information
Former Pacific Dry Docks and Repair Company Yard I
Port of Oakland, California

Date	**Tide During Groundwater Measurement**	**Hydraulic Gradient** (foot/foot)
07/01/93	High Tide	0.017 to the east
10/14/93	High Tide	0.013 to the north
12/08/93	Low Tide	0.016 to the east
01/17/94	High Tide	0.013 to the southeast
03/30/94	Low Tide	0.030 to the southeast
07/15/94	Outgoing Tide	0.013 to the southeast
10/19/94	Incoming Tide	0.007 to the northeast
02/02/95	Incoming Tide	0.017 to the southeast
05/03/95	Outgoing Tide	0.018 south of east
09/07/95	Outgoing Tide	0.014 south of east
03/05/96	Incoming Tide	0.017 to the southwest
03/28/97	Incoming Tide	0.008 to 0.033 to the north, west, and south-southeast

TABLE 3 - SUMMARY OF QUALITY CONTROL DATA
Former Pacific Dry Dock and Repair Company - Yard I
Port of Oakland, California

Parameter	Results	Comments
Holding Time	O.K.	All samples were analyzed within the required holding times
Trip Blank	None	A trip blank was not scheduled for collection this quarter
Equipment Blank	None	An equipment blank was not scheduled for collection this quarter
Method Blanks	O.K.	All analytes were ND
Surrogate Recovery	O.K.	All surrogate recoveries were within the lab's acceptance limits
Reporting Limits	O.K.	The reporting limits for TPHd and TPHg were 50 µg/L; the reporting limits for BTEX were 0.5 µg/L; the reporting limits for dissolved lead were 0.005 mg/L except for samples MW-1 and MW-3, where matrix interferences caused the laboratory to raise the reporting limit to 0.05 mg/L

Notes:

ND = Not detected above the method reporting limit
TPHd = Total petroleum hydrocarbons as diesel
TPHg = Total petroleum hydrocarbons as gasoline
BTEX = Benzene, toluene, ethylbenzene, and xylenes
µg/L = Micrograms per liter
mg/L = Milligrams per liter

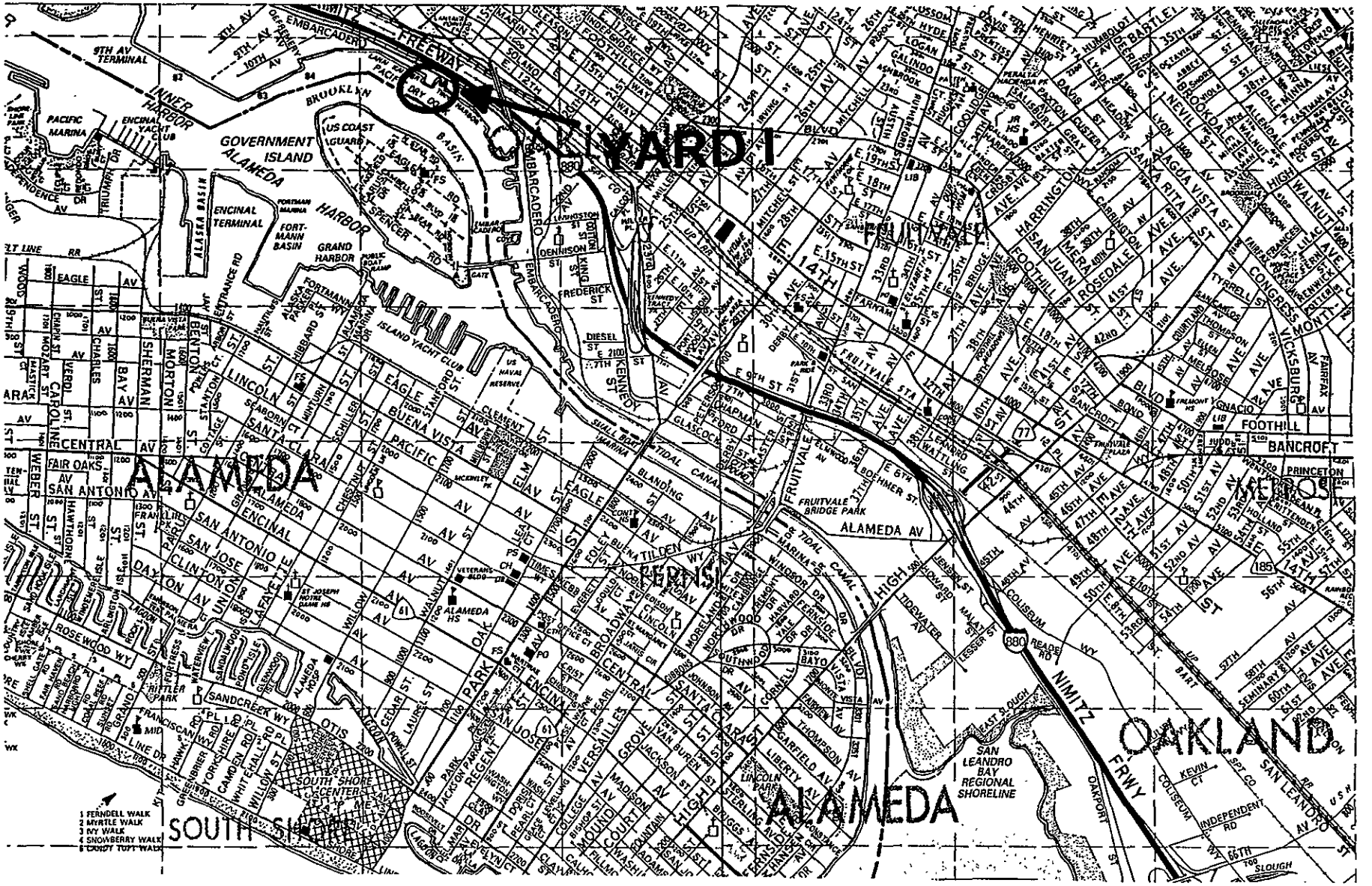
TABLE 4

Historical Groundwater Chemistry Data
Former Pacific Dry Docks and Repair Company Yard I
Port of Oakland, California

Groundwater Monitoring Well	Sample Date	TPH-G[1] (µg/L)[3]	TPH-D[2] (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	Filtered Lead (mg/L)[4]
MW-1	07/01/93	ND[5]	ND	ND	ND	ND	ND	NA[6]
	10/14/93	ND	63	ND	ND	ND	ND	NA
	01/18/94	ND	60	NA	1.0	1.4	1.5	NA
	03/30/94	ND	110	2.5	1.7	0.56	1.9	NA
	07/15/94	ND	60	ND	ND	ND	ND	NA
	10/19/94	ND	830	ND	ND	ND	ND	NA
	02/02/95	ND	ND	ND	ND	ND	ND	NA
	05/03/95	ND	78	1.6	0.58	ND	ND	NA
	09/07/95	ND	ND	ND	ND	ND	ND	NA
	03/05/96	ND	320	7.5	ND	ND	ND	ND
	03/28/97	ND	440[7]	ND	ND	ND	ND	<0.05[8]
MW-2	07/01/93	ND	ND	ND	ND	ND	ND	NA
	10/14/93	ND	ND	ND	ND	ND	ND	NA
	01/18/94	ND	ND	ND	ND	ND	ND	NA
	03/30/94	ND	ND	ND	2.2	ND	ND	NA
	07/15/94	ND	ND	ND	ND	ND	ND	NA
	03/05/96	ND	53	ND	ND	ND	ND	ND
	03/28/97	ND	ND	ND	ND	ND	ND	ND
MW-3	07/01/93	ND	ND	ND	ND	ND	ND	NA
	10/14/93	ND	840	ND	ND	ND	ND	NA
	01/18/94	ND	64	ND	ND	ND	ND	NA
	03/30/94	ND	ND	ND	0.90	ND	ND	NA
	07/15/94	ND	ND	ND	ND	ND	ND	NA
	10/19/94	ND	ND	ND	ND	ND	ND	NA
	02/02/95	100	ND	38	0.55	ND	ND	NA
	05/03/95	ND	ND	ND	ND	ND	ND	NA
	09/07/95	ND	ND	ND	ND	ND	ND	NA
	03/05/96	ND	ND	ND	ND	ND	ND	ND
	03/28/97	ND	230[7]	ND	ND	ND	ND	<0.05[8]
MW-4	07/01/93	ND	ND	ND	ND	ND	ND	NA
	10/14/93	ND	ND	ND	ND	ND	ND	NA
	01/18/94	ND	ND	ND	ND	ND	ND	NA
	03/30/94	ND	ND	ND	1.5	ND	1.5	NA
	07/15/94	ND	ND	ND	ND	ND	ND	NA
	03/05/96	ND	ND	ND	ND	ND	ND	ND
	03/28/97	ND	340[7]	ND	ND	ND	ND	ND
MW-5	07/01/93	ND	ND	ND	ND	ND	ND	NA
	10/14/93	ND	ND	ND	ND	ND	ND	NA
	01/18/94	ND	ND	ND	ND	ND	ND	NA
	03/30/94	ND	ND	ND	0.87	ND	ND	NA
	07/15/94	ND	ND	ND	ND	ND	NA	NA
	03/05/96	ND	98	ND	ND	ND	ND	ND
	03/28/97	ND	ND	ND	ND	ND	ND	ND
MW-6	03/05/96	ND	77	ND	ND	ND	ND	ND
	03/28/97	ND	ND	ND	ND	ND	ND	ND

1 TPH-G = Total Petroleum Hydrocarbons as Gasoline
2 TPH-D = Total Petroleum Hydrocarbons as Diesel
3 (µg/L) = micrograms per liter
4 (mg/L) = milligrams per liter
5 ND = not detected at or above method reporting limit
6 NA = not analyzed
7 Diesel in sample appeared to be weathered
8 The method reporting limit was elevated because of matrix interferences

FIGURES

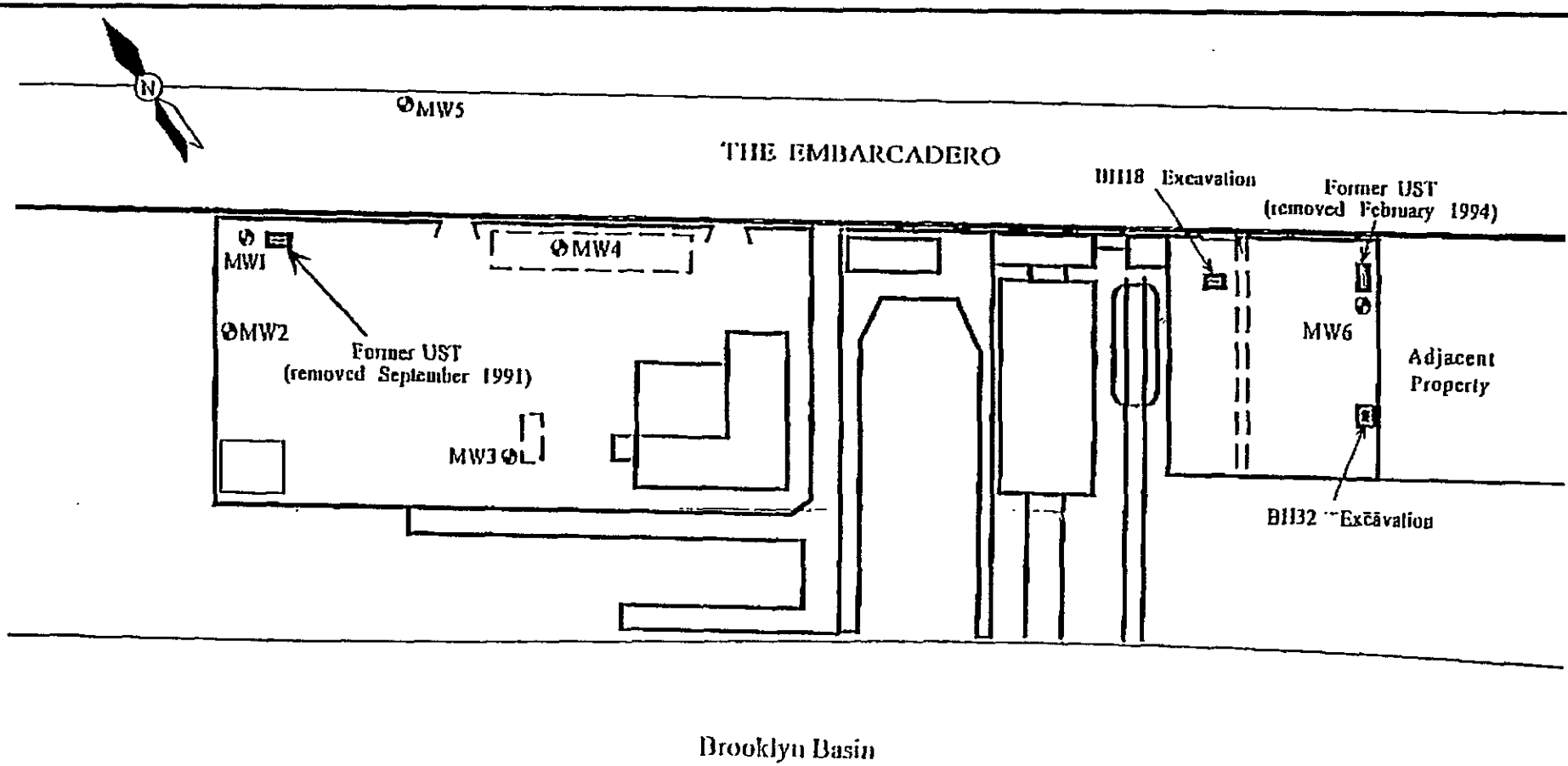


Site Location

Former Pacific Dry Dock and Repair Company Yard I
1441 Embarcadero
Oakland, California

FIGURE 1

THE GAUNTLETT GROUP, INC.
INDUSTRY ADVISORS FOR SUSTAINABLE DEVELOPMENT

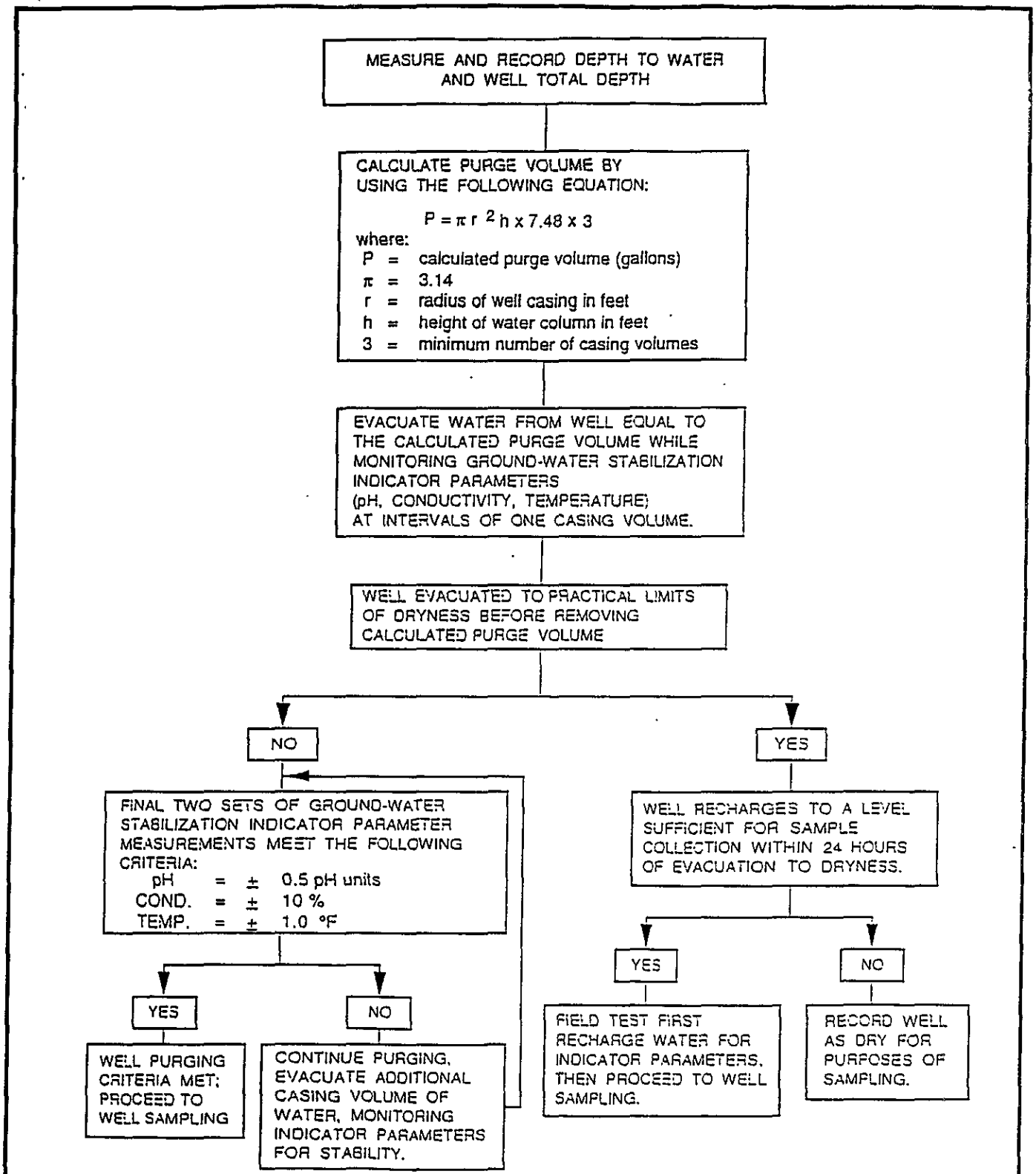


Site Layout

Former Pacific Dry Dock and Repair Company Yard I
1441 Embarcadero
Oakland, California

FIGURE
2

THE GAUNTLETT GROUP, INC.
INDUSTRY ADVISORS FOR SUSTAINABLE DEVELOPMENT

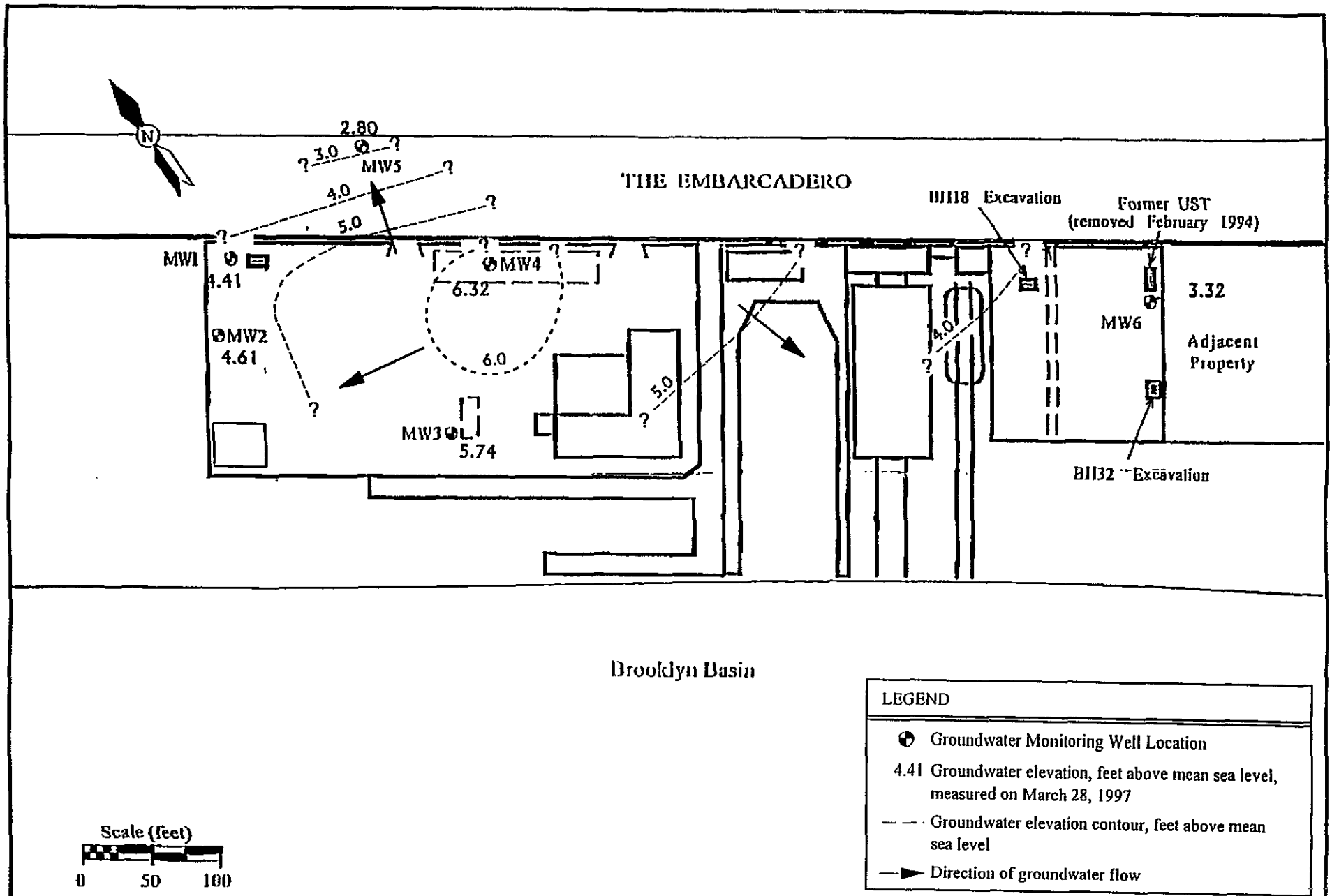


MONITORING WELL PURGING PROTOCOL

FIGURE 3

THE GAUNTLETT GROUP, INC.

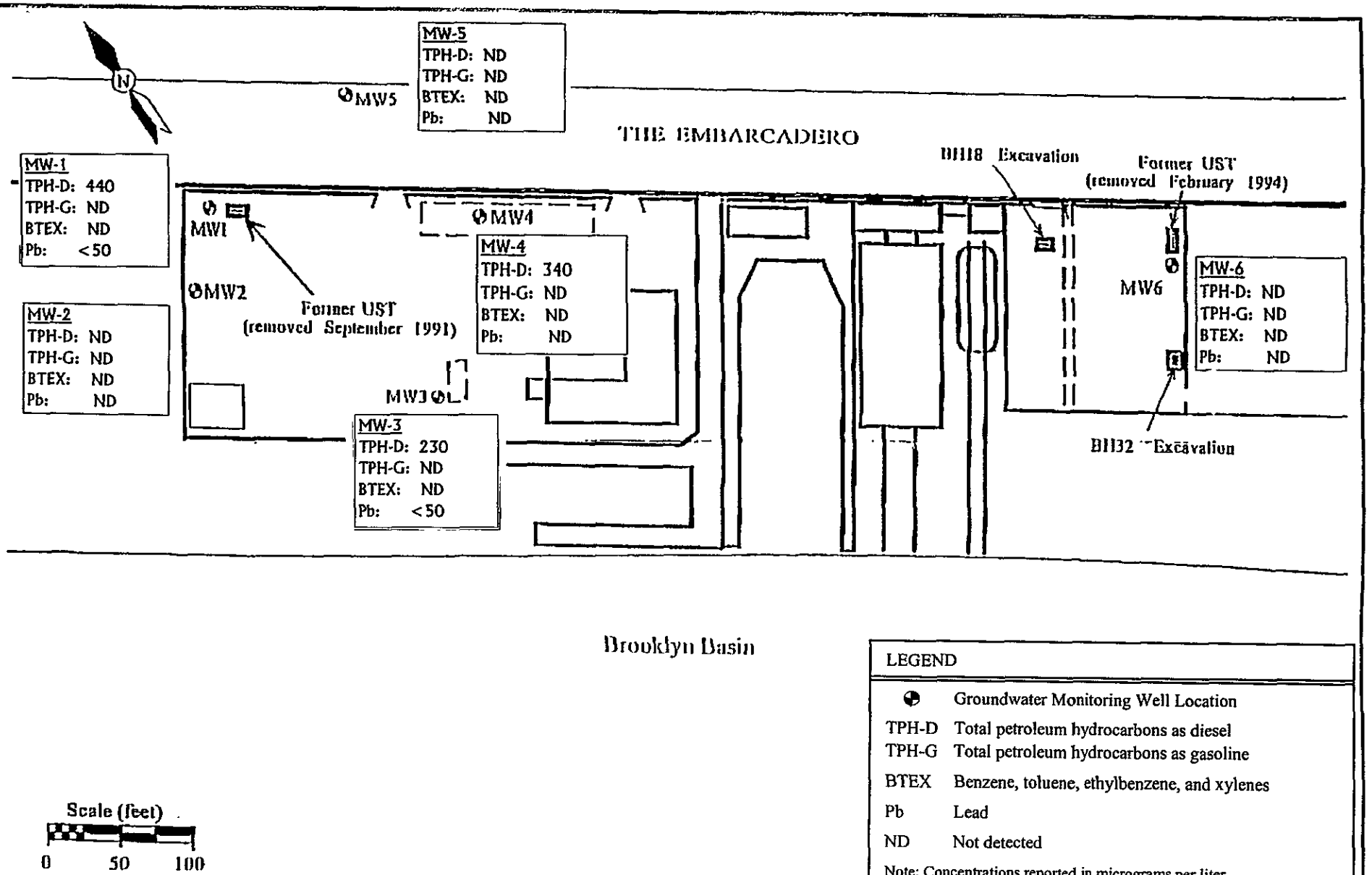
INDUSTRY ADVISORS FOR SUSTAINABLE DEVELOPMENT



Groundwater Elevation Contours
March 28, 1997
Former Pacific Dry Dock and Repair Company
1441 Embarcadero
Oakland, California

FIGURE
4

THE GAUNTLETT GROUP, INC.
INDUSTRY ADVISORS FOR SUSTAINABLE DEVELOPMENT



Analytical Results for Groundwater Monitoring Wells
March 28, 1997
Former Pacific Dry Dock and Repair Company Yard I
1441 Embarcadero
Oakland, California

FIGURE
5

THE GAUNTLETT GROUP, INC.
INDUSTRY ADVISORS FOR SUSTAINABLE DEVELOPMENT

APPENDICES

APPENDIX A

FIELD DATA SHEETS

Water Level Survey Field Data Sheet

Well ID	Time (24 hour)	Depth to Water (feet)	Total Depth of Well (feet)	Comments
MW-1	1142	5.04	14.5	
MW-2	1126	4.74	14.3	Well lid bolt bent, extreamly hard to remove lid, Left bent bolt out when reclosed lid.
MW-3	1120	3.00	15.0	Well box lid broken, well located under stockpile.
MW-4	1115	3.18	13.3	
MW-5	1139	6.71	13.5	Well Located in the street, traffic control needed.
MW-6	1132	4.94	12.7	Well lid bolt missing.

Comments

Adjusted tides for Oakland Inner Harbor on March 28, 1997 are as follows:

Low Tide at 8:34 am @ 0.4 feet

High Tide at 3:30 pm @ 4.7 feet

Water Sample Field Data Sheet

Project Number: SU604.01.04
Purged By: J. Butera
Sampled By: J. Butera

Well ID: MW-1
Client Name: Crowley Marine
Location: Oakland, Yard 1

Well Type: Groundwater [X] Extraction [ ] Other [ ] Comments:

Casing Diameter (inches): 1 [ ] 2 [X] 3 [ ] 4 [ ] 4.5 [ ] 6 [ ] Other

Depth To Water (feet): 5.04
Depth of Well (feet): 14.5
Depth to Water Prior to Sample (feet): —

One Casing Volume (gal.): 1.5
Calculated Purge Volume (gal.): 4.6
Actual Purge Volume (gal.): 5.0

Date Purged: 3-28-97 Start (2400Hr): 1533 End (2400Hr): 1545
Date Sampled: 3-28-97 Start (2400Hr): 1558 End (2400Hr): 1615

TIME (2400Hr)	VOLUME (gal.)	TEMP (° F)	E.C. (µmhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (visual)
1537	1.5	66.5	6,800	7.12	Lt Gry	Light
1540	3.0	66.7	14,390	7.20	Lt Gry	Light
1543	5.0	67.2	17,600	7.31	Lt Gry	Light

Dissolved Oxygen (ppm): NA Odor: None NTU Range: NR

Field QC samples collected at this location: NR

PURGING EQUIPMENT

- [ ] Bladder Pump
- [ ] Centrifugal Pump
- [ ] Submersible Pump
- [ ] Dedicated
- [X] Bailer (Teflon)
- [ ] Bailer (PVC)
- [ ] Bailer (Stainless)
- [ ] Other

SAMPLING EQUIPMENT

- [ ] Bladder Pump
- [X] Bailer (Teflon)
- [ ] Bailer (Stainless)
- [ ] Point Source
- [ ] Dedicated
- [ ] Other

Well Integrity: Two bolts sheared off in the vault box LOCK: None

Comments: Well is functionally dry at 5 gallon purge. Allow recharge before sample. Sample treated with acid preservative.

Meter Calibration: Date: Time: Meter No: 2653 Temp (° F):

(EC 1000 ____ / ____) (pH 7 ____ / ____) (pH 10 ____ / ____) (pH 4 ____ / ____)

Location of previous calibration: MW-4

Signature: J. Butera Reviewed By: JB Page 1 of 6

Water Sample Field Data Sheet

Project Number: SU604.01.04
Purged By: J. Butera
Sampled By: J. Butera

Well ID: MW-2
Client Name: Crowley Marine
Location: Oakland, Yard I

Well Type: Groundwater [X] Extraction [ ] Other [ ] Comments:

Casing Diameter (Inches): 1 [ ] 2 [X] 3 [ ] 4 [ ] 4.5 [ ] 6 [ ] Other

Depth To Water (feet): ~~4.13~~ 4.74
Depth of Well (feet): 14.3
Depth to Water Prior to Sample (feet): —

One Casing Volume (gal.): 1.6
Calculated Purge Volume (gal.): 4.8
Actual Purge Volume (gal.): 5.0

Date Purged: 3-28-97 Start (2400Hr): 1400 End (2400Hr): 1410
Date Sampled: 3-28-97 Start (2400Hr): 1415 End (2400Hr): —

TIME (2400Hr)	VOLUME (gal.)	TEMP (° F)	E.C. (µmhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (visual)
1404	1.5	67.8	1837	7.26	Cloudy	LIGHT
1406	3.0	66.9	1463	7.08	Cloudy	LIGHT
1410	5.0	66.6	1470	7.09	Cloudy	LIGHT

Dissolved Oxygen (ppm): NA Odor: None NTU Range: NA

Field QC samples collected at this location: NA

PURGING EQUIPMENT

- [ ] Bladder Pump
- [ ] Centrifugal Pump
- [ ] Submersible Pump
- [ ] Dedicated
- [X] Bailer (Teflon)
- [ ] Bailer (PVC)
- [ ] Bailer (Stainless)
- [ ] Other

SAMPLING EQUIPMENT

- [ ] Bladder Pump
- [X] Bailer (Teflon)
- [ ] Bailer (Stainless)
- [ ] Point Source
- [ ] Dedicated
- [ ] Other

Well Integrity: One bolt bent on well cover LOCK: None

Comments: Roots in bottom of well.

Meter Calibration: Date: Time: Meter No: 2653 Temp (° F):

(EC 1000 ____ / ____) (pH 7 ____ / ____) (pH 10 ____ / ____) (pH 4 ____ / ____)

Location of previous calibration: MW-4

Signature: J. Butera Reviewed By: JS

Water Sample Field Data Sheet

Project Number: SU604.01.04
Purged By: J. Butera
Sampled By: J. Butera

Well ID: MW-3
Client Name: Crowley Marine
Location: OAKLAND - YARDT

Well Type: Groundwater [X] Extraction [ ] Other [ ] Comments: _____

Casing Diameter (inches): 1 [ ] 2 [X] 3 [ ] 4 [ ] 4.5 [ ] 6 [ ] Other _____

Depth To Water (feet): 3.00
Depth of Well (feet): 15.0
Depth to Water Prior to Sample (feet): NA

One Casing Volume (gal.): 2.0
Calculated Purge Volume (gal.): 6.0
Actual Purge Volume (gal.): 6.0

Date Purged: 3-28-97 Start (2400Hr): 1214 End (2400Hr): 1235
Date Sampled: 3-28-97 Start (2400Hr): 1237 End (2400Hr): 1245

TIME (2400Hr)	VOLUME (gal.)	TEMP (° F)	E.C. (µmhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (visual)
1221	2.0	63.1	>20,000	7.06	BLACK	HEAVY
1229	4.0	62.1	720,000	7.24	cloudy	Heavy
1235	6.0	62.5	720,000	7.22	cloudy	Heavy

Dissolved Oxygen (ppm): NA Odor: SLIGHT NTU Range: NA

Field QC samples collected at this location: NA

PURGING EQUIPMENT

- [ ] Bladder Pump
- [ ] Centrifugal Pump
- [ ] Submersible Pump
- [ ] Dedicated
- [X] Bailer (Teflon)
- [ ] Bailer (PVC)
- [ ] Bailer (Stainless)
- [ ] Other

SAMPLING EQUIPMENT

- [ ] Bladder Pump
- [X] Bailer (Teflon)
- [ ] Bailer (Stainless)
- [ ] Point Source
- [ ] Dedicated
- [ ] Other

Well Integrity: well box lid broken when we were trying to locate well. LOCK: none

Comments: _____

Meter Calibration: Date: _____ Time: _____ Meter No: 2653 Temp (° F): _____

(EC 1000 ____ / ____) (pH 7 ____ / ____) (pH 10 ____ / ____) (pH 4 ____ / ____)

Location of previous calibration: MW-4

Signature: J Butera Reviewed By: JB Page 3 of 6

Water Sample Field Data Sheet

Project Number: SU604.01.04
Purged By: J. Butera
Sampled By: J. Butera

Well ID: MW-4
Client Name: Crowley Marine
Location: Oakland - Yard I

Well Type: Groundwater [X] Extraction [ ] Other [ ] Comments:

Casing Diameter (inches): 1 [ ] 2 [X] 3 [ ] 4 [ ] 4.5 [ ] 6 [ ] Other

Depth To Water (feet): 3.18
Depth of Well (feet): 13.3
Depth to Water Prior to Sample (feet): —

One Casing Volume (gal.): 1.6
Calculated Purge Volume (gal.): 5.0
Actual Purge Volume (gal.): 4.0

Date Purged: 3-28-97 Start (2400Hr): 1150 End (2400Hr): 1210
Date Sampled: 3-28-97 Start (2400Hr): 1245 End (2400Hr): 1355

TIME (2400Hr)	VOLUME (gal.)	TEMP (° F)	E.C. (µmhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (visual)
1200	1.5	69.7	3,330	7.02	Cloudy	Heavy
1204	3.0	68.9	3,870	7.14	Cloudy	Heavy
1210 — well dried at 4.0 ~~gallons~~						
	no sufficient volume for reading.					

Dissolved Oxygen (ppm): NA Odor: none NTU Range: NA

Field QC samples collected at this location: NA

PURGING EQUIPMENT

- [ ] Bladder Pump
- [ ] Centrifugal Pump
- [ ] Submersible Pump
- [ ] Dedicated
- [X] Bailer (Teflon)
- [ ] Bailer (PVC)
- [ ] Bailer (Stainless)
- [ ] Other

SAMPLING EQUIPMENT

- [ ] Bladder Pump
- [X] Bailer (Teflon)
- [ ] Bailer (Stainless)
- [ ] Point Source
- [ ] Dedicated
- [ ] Other

Well Integrity: Water tight Lid LOCK: none

Comments: Well dry @ 4 gallons - Sample at 1250 - Fill two VOAs and one liter. Well dries again. Remaining samples collected at 1350. Low Yield well. Second liter not collected

Meter Calibration: Date: 3-28-97 Time: 1150 Meter No: 2653 Temp (° F): 77.1
(EC 1000 902 / 999) (pH 7 7.00 / —) (pH 10 9.92 / 10.00) (pH 4 4.07 / —)
Location of previous calibration: NR

Signature: J Butera Reviewed By: JB Page 4 of 6

Water Sample Field Data Sheet

Project Number: SU604.01.04
Purged By: J. BUTERA
Sampled By: J. BUTERA

Well ID: MW-5
Client Name: CROWLEY MARINE
Location: OAKLAND, YARD 1

Well Type: Groundwater [X] Extraction [ ] Other [ ] Comments: _____

Casing Diameter (Inches): 1 [ ] 2 [X] 3 [ ] 4 [ ] 4.5 [ ] 6 [ ] Other _____

Depth To Water (feet): 6.71
Depth of Well (feet): 13.5
Depth to Water Prior to Sample (feet): —

One Casing Volume (gal.): 1.1
Calculated Purge Volume (gal.): 3.3
Actual Purge Volume (gal.): 3.5

Date Purged: 3-28-97 Start (2400Hr): 1510 End (2400Hr): 1518
Date Sampled: 3-28-97 Start (2400Hr): 1519 End (2400Hr): 1525

TIME (2400Hr)	VOLUME (gal.)	TEMP (° F)	E.C. (µmhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (visual)
1512	1.1	67.1	3,650	6.93	Grey Brown	Heavy Moderate
1515	2.2	67.1	3,780	6.92	Grey	Heavy
1518	3.5	67.3	3,870	6.96	Grey	Heavy

Dissolved Oxygen (ppm): NA Odor: none NTU Range: NA

Field QC samples collected at this location: NONE

PURGING EQUIPMENT

- [ ] Bladder Pump
- [ ] Centrifugal Pump
- [ ] Submersible Pump
- [ ] Dedicated
- [X] Bailer (Teflon)
- [ ] Bailer (PVC)
- [ ] Bailer (Stainless)
- [ ] Other

SAMPLING EQUIPMENT

- [ ] Bladder Pump
- [X] Bailer (Teflon)
- [ ] Bailer (Stainless)
- [ ] Point Source
- [ ] Dedicated
- [ ] Other

Well Integrity: Well located in the street LOCK: None

Comments: _____

Meter Calibration: Date: _____ Time: _____ Meter No: 2653 Temp (° F): _____

(EC 1000 ____ / ____) (pH 7 ____ / ____) (pH 10 ____ / ____) (pH 4 ____ / ____)

Location of previous calibration: MW-4

Signature: J Butera Reviewed By: JB

Water Sample Field Data Sheet

Project Number: SU604.01.04
Purged By: J. Butera
Sampled By: J. Butera

Well ID: MW-6
Client Name: Crowley Marine
Location: OAKLAND YARD

Well Type: Groundwater [X] Extraction [ ] Other [ ] Comments: _____

Casing Diameter (inches): 1 [ ] 2 [X] 3 [ ] 4 [ ] 4.5 [ ] 6 [ ] Other _____

Depth To Water (feet): 4.94
Depth of Well (feet): 12.7
Depth to Water Prior to Sample (feet): _____

One Casing Volume (gal.): 1.3
Calculated Purge Volume (gal.): 3.8
Actual Purge Volume (gal.): 4.0

Date Purged: 3-28-97 Start (2400Hr): 1436 End (2400Hr): 1445
Date Sampled: 3-28-97 Start (2400Hr): _____ End (2400Hr): _____

TIME (2400Hr)	VOLUME (gal.)	TEMP (° F)	E.C. (µmhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (visual)
1442	1.5	67.9	2020	7.44	GREY	HEAVY
1443	2.5	66.4	2120	7.42	GREY	HEAVY
1445	4.0	66.2	2,110	7.42	GREY	Heavy

Dissolved Oxygen (ppm): NA Odor: None NTU Range: NR

Field QC samples collected at this location: NR

PURGING EQUIPMENT

- [ ] Bladder Pump
- [ ] Centrifugal Pump
- [ ] Submersible Pump
- [ ] Dedicated
- [X] Bailer (Teflon)
- [ ] Bailer (PVC)
- [ ] Bailer (Stainless)
- [ ] Other

SAMPLING EQUIPMENT

- [ ] Bladder Pump
- [X] Bailer (Teflon)
- [ ] Bailer (Stainless)
- [ ] Point Source
- [ ] Dedicated
- [ ] Other

Well Integrity: Good condition LOCK: None

Comments: _____

Meter Calibration: Date: _____ Time: _____ Meter No: 2653 Temp (° F): _____

(EC 1000 _____ / _____) (pH 7 _____ / _____) (pH 10 _____ / _____) (pH 4 _____ / _____)

Location of previous calibration: MW-4

Signature: [signature] Reviewed By: [signature] Page 6 of 6

APPENDIX B

CERTIFIED ANALYTICAL REPORTS
AND
CHAIN-OF-CUSTODY

Columbia Analytical Services INC.

April 10, 1997 Service Request No.: S9700572

Mr. Pat Lacey
THE GAUNTLETT GROUP
111 West Evelyn Avenue
Suite 305
Sunnyvale, CA 94086

RE: Crowley Marine/SU604-01.04

Dear Mr. Lacey:

The following pages contain analytical results for sample(s) received by the laboratory on March 28, 1997. Results of sample analyses are followed by Appendix A which contains sample custody documentation and quality assurance deliverables requested for this project. The work requested has been assigned the Service Request No. listed above. To help expedite our service, please refer to this number when contacting the laboratory.

Analytical results were produced by procedures consistent with Columbia Analytical Services' (CAS) Quality Assurance Manual (with any deviations noted). Signature of this CAS Analytical Report below confirms that pages 2 through 14, following, have been thoroughly reviewed and approved for release in accord with CAS Standard Operating Procedure ADM-DatRev3.

Please feel welcome to contact me should you have questions or further needs.

Sincerely,

Steven L. Green
Project Chemist

COLUMBIA ANALYTICAL SERVICES, Inc.

Acronyms

A2LA	American Association for Laboratory Accreditation
ASTM	American Society for Testing and Materials
BOD	Biochemical Oxygen Demand
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes
CAM	California Assessment Metals
CARB	California Air Resources Board
CAS Number	Chemical Abstract Service registry Number
CFC	Chlorofluorocarbon
CFU	Colony-Forming Unit
COD	Chemical Oxygen Demand
DEC	Department of Environmental Conservation
DEQ	Department of Environmental Quality
DHS	Department of Health Services
DLCS	Duplicate Laboratory Control Sample
DMS	Duplicate Matrix Spike
DOE	Department of Ecology
DOH	Department of Health
EPA	U. S. Environmental Protection Agency
ELAP	Environmental Laboratory Accreditation Program
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectrometry
IC	Ion Chromatography
ICB	Initial Calibration Blank sample
ICP	Inductively Coupled Plasma atomic emission spectrometry
ICV	Initial Calibration Verification sample
J	Estimated concentration. The value is less than the MRL, but greater than or equal to the MDL. If the value is equal to the MRL, the result is actually <MRL before rounding.
LCS	Laboratory Control Sample
LUFT	Leaking Underground Fuel Tank
M	Modified
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level. The highest permissible concentration of a substance allowed in drinking water as established by the U. S. EPA.
MDL	Method Detection Limit
MPN	Most Probable Number
MRL	Method Reporting Limit
MS	Matrix Spike
MTBE	Methyl tert-Butyl Ether
NA	Not Applicable
NAN	Not Analyzed
NC	Not Calculated
NCASI	National Council of the paper industry for Air and Stream Improvement
ND	Not Detected at or above the method reporting/detection limit (MRL/MDL)
NIOSH	National Institute for Occupational Safety and Health
NTU	Nephelometric Turbidity Units
ppb	Parts Per Billion
ppm	Parts Per Million
PQL	Practical Quantitation Limit
QA/QC	Quality Assurance/Quality Control
RCRA	Resource Conservation and Recovery Act
RPD	Relative Percent Difference
SIM	Selected Ion Monitoring
SM	Standard Methods for the Examination of Water and Wastewater, 18th Ed., 1992
STLC	Solubility Threshold Limit Concentration
SW	Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, 3rd Ed., 1986 and as amended by Updates I, II, IIA, and IIB.
TCLP	Toxicity Characteristic Leaching Procedure
TDS	Total Dissolved Solids
TPH	Total Petroleum Hydrocarbons
tr	Trace level. The concentration of an analyte that is less than the PQL but greater than or equal to the MDL. If the value is equal to the PQL, the result is actually <PQL before rounding.
TRPH	Total Recoverable Petroleum Hydrocarbons
TSS	Total Suspended Solids
TTLC	Total Threshold Limit Concentration
VOA	Volatile Organic Analyte(s)

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Gauntlett Group, LLC	**Service Request:**	S9700572
Project:	Crowley Marine/SU604-01.04	**Date Collected:**	3/28/97
Sample Matrix:	Water	**Date Received:**	3/28/97

BTEX and TPH as Gasoline

Sample Name:	MW-1	Units:	ug/L (ppb)
Lab Code:	S9700572-001	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	NONE	CA/LUFT	50	1	NA	4/9/97	ND	
Benzene	NONE	8020	0.5	1	NA	4/9/97	ND	
Toluene	NONE	8020	0.5	1	NA	4/9/97	ND	
Ethylbenzene	NONE	8020	0.5	1	NA	4/9/97	ND	
Xylenes, Total	NONE	8020	0.5	1	NA	4/9/97	ND	

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Gauntlett Group, LLC	**Service Request:**	S9700572
Project:	Crowley Marine/SU604-01.04	**Date Collected:**	3/28/97
Sample Matrix:	Water	**Date Received:**	3/28/97

BTEX and TPH as Gasoline

Sample Name:	MW-2	Units:	ug/L (ppb)
Lab Code:	S9700572-002	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	NONE	CA/LUFT	50	1	NA	4/9/97	ND	
Benzene	NONE	8020	0.5	1	NA	4/9/97	ND	
Toluene	NONE	8020	0.5	1	NA	4/9/97	ND	
Ethylbenzene	NONE	8020	0.5	1	NA	4/9/97	ND	
Xylenes, Total	NONE	8020	0.5	1	NA	4/9/97	ND	

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Gauntlett Group, LLC	**Service Request:**	S9700572
Project:	Crowley Marine/SU604-01.04	**Date Collected:**	3/28/97
Sample Matrix:	Water	**Date Received:**	3/28/97

BTEX and TPH as Gasoline

Sample Name:	MW-3	Units:	ug/L (ppb)
Lab Code:	S9700572-003	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	NONE	CA/LUFT	50	1	NA	4/10/97	ND	
Benzene	NONE	8020	0.5	1	NA	4/10/97	ND	
Toluene	NONE	8020	0.5	1	NA	4/10/97	ND	
Ethylbenzene	NONE	8020	0.5	1	NA	4/10/97	ND	
Xylenes, Total	NONE	8020	0.5	1	NA	4/10/97	ND	

lS22/020397p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Gauntlett Group, LLC	**Service Request:**	S9700572
Project:	Crowley Marine/SU604-01.04	**Date Collected:**	3/28/97
Sample Matrix:	Water	**Date Received:**	3/28/97

BTEX and TPH as Gasoline

Sample Name:	MW-4	Units:	ug/L (ppb)
Lab Code:	S9700572-004	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	NONE	CA/LUFT	50	1	NA	4/10/97	ND	
Benzene	NONE	8020	0.5	1	NA	4/10/97	ND	
Toluene	NONE	8020	0.5	1	NA	4/10/97	ND	
Ethylbenzene	NONE	8020	0.5	1	NA	4/10/97	ND	
Xylenes, Total	NONE	8020	0.5	1	NA	4/10/97	ND	

1522/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Gauntlett Group, LLC	**Service Request:**	S9700572
Project:	Crowley Marine/SU604-01.04	**Date Collected:**	3/28/97
Sample Matrix:	Water	**Date Received:**	3/28/97

BTEX and TPH as Gasoline

Sample Name:	MW-5	Units:	ug/L (ppb)
Lab Code:	S9700572-005	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	NONE	CA/LUFT	50	1	NA	4/10/97	ND	
Benzene	NONE	8020	0.5	1	NA	4/10/97	ND	
Toluene	NONE	8020	0.5	1	NA	4/10/97	ND	
Ethylbenzene	NONE	8020	0.5	1	NA	4/10/97	ND	
Xylenes, Total	NONE	8020	0.5	1	NA	4/10/97	ND	

1S22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Gauntlett Group, LLC	**Service Request:**	S9700572
Project:	Crowley Marine/SU604-01.04	**Date Collected:**	3/28/97
Sample Matrix:	Water	**Date Received:**	3/28/97

BTEX and TPH as Gasoline

Sample Name:	MW-6	Units:	ug/L (ppb)
Lab Code:	S9700572-006	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	NONE	CA/LUFT	50	1	NA	4/10/97	ND	
Benzene	NONE	8020	0.5	1	NA	4/10/97	ND	
Toluene	NONE	8020	0.5	1	NA	4/10/97	ND	
Ethylbenzene	NONE	8020	0.5	1	NA	4/10/97	ND	
Xylenes, Total	NONE	8020	0.5	1	NA	4/10/97	ND	

IS22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Gauntlett Group, LLC	**Service Request:**	S9700572
Project:	Crowley Marine/SU604-01.04	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA

BTEX and TPH as Gasoline

Sample Name:	Method Blank	Units:	ug/L (ppb)
Lab Code:	S970409-MB	Basis:	NA
Test Notes:			

Analyte	Prep Method	Analysis Method	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
TPH as Gasoline	NONE	CA/LUFT	50	1	NA	4/9/97	ND	
Benzene	NONE	8020	0.5	1	NA	4/9/97	ND	
Toluene	NONE	8020	0.5	1	NA	4/9/97	ND	
Ethylbenzene	NONE	8020	0.5	1	NA	4/9/97	ND	
Xylenes, Total	NONE	8020	0.5	1	NA	4/9/97	ND	

IS22/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Gauntlett Group, LLC	**Service Request:**	S9700572
Project:	Crowley Marine/SU604-01.04	**Date Collected:**	3/28/97
Sample Matrix:	Water	**Date Received:**	3/28/97

Diesel

Prep Method:	EPA 3510	Units:	ug/L (ppb)
Analysis Method:	CA/LUFT	Basis:	NA
Test Notes:			

Sample Name	Lab Code	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
MW-1	S9700572-001	50	1	3/31/97	3/31/97	440	D8
MW-2	S9700572-002	50	1	3/31/97	3/31/97	ND	
MW-3	S9700572-003	50	1	3/31/97	3/31/97	230	D8
MW-4	S9700572-004	50	1	3/31/97	3/31/97	340	D8
MW-5	S9700572-005	50	1	3/31/97	3/31/97	ND	
MW-6	S9700572-006	50	1	3/31/97	3/31/97	ND	
Method Blank	S9700331-WB1	50	1	3/31/97	3/31/97	ND	

D8 Diesel in a sample appeared to be weathered.

1A/020597p

COLUMBIA ANALYTICAL SERVICES, INC.

Analytical Report

Client:	Gauntlett Group, LLC	**Service Request:**	S9700572
Project:	Crowley Marine/SU604-01.04	**Date Collected:**	3/28/97
Sample Matrix:	Water	**Date Received:**	3/28/97

Dissolved Metals
Lead

Prep Method:	NONE	Units:	mg/L (ppm)
Analysis Method:	7421	Basis:	NA
Test Notes:			

Sample Name	Lab Code	MRL	Dilution Factor	Date Extracted	Date Analyzed	Result	Result Notes
MW-1	S9700572-001	0.005	10	NA	4/2/97	< 0.05	M1
MW-2	S9700572-002	0.005	1	NA	4/2/97	ND	
MW-3	S9700572-003	0.005	10	NA	4/2/97	< 0.05	M1
MW-4	S9700572-004	0.005	1	NA	4/2/97	ND	
MW-5	S9700572-005	0.005	1	NA	4/2/97	ND	
MW-6	S9700572-006	0.005	1	NA	4/2/97	ND	
Method Blank	S970402-MB1	0.005	1	NA	4/2/97	ND	

M1 The MRL was elevated because of matrix interferences.

1A/020597p

APPENDIX A

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client:	Gauntlett Group, LLC	**Service Request:**	S9700572
Project:	Crowley Marine/SU604-01.04	**Date Collected:**	NA
Sample Matrix:	Water	**Date Received:**	NA
		Date Extracted:	NA
		Date Analyzed:	NA

Surrogate Recovery Summary
BTEX and TPH as Gasoline

Prep Method:	NONE	Units:	PERCENT
Analysis Method:	8020	Basis:	NA

Sample Name	Lab Code	Test Notes	Percent Recovery	
			4-Bromofluorobenzene	a,a,a-Trifluorotoluene
MW-1	S9700572-001		103	87
MW-2	S9700572-002		97	86
MW-3	S9700572-003		100	80
MW-4	S9700572-004		98	87
MW-5	S9700572-005		100	86
MW-6	S9700572-006		97	85
Method Blank	S970409-MB		96	91
CAS Acceptance Limits:			69-116	69-116

SUR2/020397p

COLUMBIA ANALYTICAL SERVICES, INC.

QA/QC Report

Client: Gauntlett Group, LLC
Project: Crowley Marine/SU604-01.04
Sample Matrix: Water

Service Request: S9700572
Date Collected: 3/28/97
Date Received: 3/28/97
Date Extracted: NA
Date Analyzed: NA

Surrogate Recovery Summary
Diesel

Prep Method: EPA3510
Analysis Method: CA/LUFT

Units: PERCENT
Basis: NA

Sample Name	Lab Code	Test Notes	Percent Recovery p-Terphenyl
MW-1	S9700572-001		93
MW-2	S9700572-002		97
MW-3	S9700572-003		94
MW-4	S9700572-004		87
MW-5	S9700572-005		50
MW-6	S9700572-006		85
Method Blank	S9700331-WB1		95

CAS Acceptance Limits: 50-140

SUR1/020597p

CHAIN OF CUSTODY/LABORATORY ANALYSIS REPORT FORM

Columbia Analytical Services, Inc.
2059 Junction Avenue • San Jose, CA 95131 • (408) 437-2400 • FAX (408) 437-9356

SERVICE REQUEST NO. S9700572 P.O.# _____ PAGE 1 OF 1

PROJECT NAME Crowley Marine # 96604-01.04
PROJECT MGR. P. Lacey
COMPANY GAUNTLETT GROUP, LLC
ADDRESS 111 W Evelyn Suite 305
Sunnyvale CA 94086 PHONE 328-0814
FAX 774-6157
SAMPLER'S SIGNATURE [signature]

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX	NUMBER OF CONTAINERS	PRESERVATIVE	NP	HCl	HCl	HCl	NP	HCl	HNO_3	NP	H_2SO_4	H_2SO_4	H_2SO_4	NaOH							REMARKS
						Base/Neu/Acid Organics GC/MS 625/8270	Volatile Organics GC/MS 624/8240/8260	Halogenated or Aromatic Volatiles 601/8010 7 602/8020 7	TPH as Gas/BTEX DHS LUFT / 8020	TPH as Diesel HBHC DHS LUFT	TRPH - 418.1 Oil and Grease Method	Metals (total or dissolved) List Below	pH, Cond. Cl, SO_4, F, TDS, TSS Alk. NO_3, NO_2 (circle)	NH_3-N, COD, Total-P, TKN, NO_3 / NO_2 (circle)	Total Organic Carbon TOC	Total Phenols Method	Cyanide							
MW-1	3/28	1600	1	water	5				X	X		X													
MW-2	|	1415	2	|	5				X	X		X													
MW-3	|	1240	3	|	5				X	X		X													
MW-4	|	1300	4	|	4				X	X		X													
MW-5	|	1520	5	|	9				X	X		X													
MW-6	↓	1450	6	↓	5				X	X		X	gb 3/28/97												

RELINQUISHED BY:	RECEIVED BY:	RELINQUISHED BY:	RECEIVED BY:
Signature [signature]	Signature Russell Platt	Signature	Signature
Printed Name J. Batera	Printed Name Russell Platt	Printed Name	Printed Name
Firm Gauntlett	Firm CAS	Firm	Firm
Date/Time 3/28/97 1710	Date/Time 3/28/97 1710	Date/Time	Date/Time

RELINQUISHED BY:	RECEIVED BY:
Signature	Signature
Printed Name	Printed Name
Firm	Firm
Date/Time	Date/Time

TURNAROUND REQUIREMENTS
___ 1 day ___ 2 day ___ 3 day
___ 5 day ___ Other
X Standard (10 working days)
___ Provide Preliminary Results
Date Due _____

REPORT REQUIREMENTS
X I Routine Report
___ II. Report (includes DUP.MAS MSD, as required, may be charged as samples)
___ III Data Validation Report (includes All Raw Data)
___ RWQCB (MDLs/PQLs/TRACE#)

SPECIAL INSTRUCTIONS/COMMENTS: Please charge per Quote provided by S. Green.

Circle which metals are to be analyzed:
Metals: Al Sb Ba Be B Cd Ca Cr Co Cu Fe Mg Mn Mo Ni K Ag Na Sn V Zn As (Pb) Se Tl Hg

- TPH as gasoline and BTEX
- TPH as diesel only
- Metals were field filtered
  Analyze for Lead only

DISTRIBUTION WHITE - return to originator, YELLOW - lab; PINK - retained by originator

33