SECOR
International Incorporated

August 11, 1995

Ms. Madhulla Logan
Hazardous Materials Specialist
Alameda County Health Care Services Agency
80 Swan Way
Alameda, California 94621

QUARTERLY GROUNDWATER MONITORING REPORT, FIRST AND SECOND QUARTERS 1995, 2099 GRAND STREET, ALAMEDA, CALIFORNIA

Dear Ms. Logan:

SECOR International Incorporated (*SECOR*) is pleased to submit this Quarterly Groundwater Monitoring Report for 2099 Grand Street in Alameda, California (the Site, see Figure 1, Site Location Map) on behalf of Crowley Marine Services, Inc. (Crowley) and Grand Marina, Inc. (Grand). This report presents monitoring well sounding and groundwater elevation from ten Site wells, and groundwater quality data collected from six Site wells during the first six months of 1995. This report also summarizes all Site-related activities conducted during the first and second quarters of 1995 and projected activities for the third quarter of 1995.

INTRODUCTION

The Site is presently used as a marina with docking, repair and office facilities. Above ground tanks (AGTs) were formerly located in the central portion of the Site. The tanks have since been demolished, although the concrete-floored and-bermed containment structure for the AGT farm remains, along with various underground conveyance pipelines.

On March 30, 1993, the Alameda County Health Care Services Agency (ACHCS) requested that a Plan of Corrective Action be submitted for the former AGT farm area, including related pipelines, and former underground storage tank (UST) location (collectively referred to as the "Site"). Since 1987, a total of sixteen groundwater monitoring wells have been installed at the Site. Three of the earliest installed wells were abandoned in 1994 (W-1, W-2, and W-5) and three others are covered by asphalt or buildings, were removed at an earlier time, and/or currently cannot be located (W-3, W-4, and B-7, see Figure 2).

A tidal influence study was conducted in December 1995. Results of the tidal study indicated that the shallow water-bearing zone beneath the Site appears to be at least partially influenced by tidal fluctuations. The relatively sharp groundwater level increases observed in the former AGT farm vicinity during sea level drop and similarly sharp groundwater level decreases associated with a rise in sea level indicate the possibility of significant groundwater withdrawal nearby.

In October 1994, quarterly groundwater monitoring activities were initiated at the Site. The Site currently has ten groundwater monitoring wells, eight maintained and sampled by *SECOR* and two maintained/sampled by others as part of a separate investigation (Figure 2).

The following activities were performed for the Site during the first and second quarters of 1995:

- Performed quarterly groundwater monitoring in February and May 1995 including sounding ten wells at the Site and chemically analyzing samples collected from six of these wells.
- Sounded ten monitoring wells (MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, MW5a, and MW6a) in January, March, April, and June 1995.
- Submitted the Additional Subsurface Investigation Report.

MONITORING WELL SOUNDING

All ten monitoring wells located at the Site were sounded monthly. Groundwater elevation contour maps based on the January through June, 1995 groundwater elevation data are presented as Figures 3 through 8. During this monitoring period, groundwater was measured at depths between 0.45 and 5.59 feet below the top of the PVC casing. Groundwater elevations have generally increased by 0.5 to two feet during this monitoring event when compared with the fourth quarter 1994 data. Interpretation of the groundwater elevation data displayed as Figures 3 through 8 indicates a general groundwater flow direction to the east and northeast under gradients ranging from 0.002 to 0.004.

FEBRUARY GROUNDWATER MONITORING PROCEDURES

On February 6, 1995, *SECOR* sounded ten on-site wells using an electronic water-level indicator. The depth to groundwater and total depth were measured for each well and recorded on Groundwater Sample Field Data Sheets included in Appendix A with detailed groundwater monitoring procedures. Sampling of monitoring wells MW-2, MW-3, MW-5a, and MW-6a was not conducted since these wells are not included in the *SECOR* sampling plan. A total of six primary water samples were submitted to National Environmental Testing, Inc. (NET) of Santa Rosa, California, for chemical analysis. Analytes included total petroleum hydrocarbons as gasoline (TPHg), as diesel (TPHd), as total oil and grease (TOG), and benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Methods 5030/8015, modified and 8020, respectively. Laboratory analytical reports and chain-of-custody records are included in Appendix B.

MAY GROUNDWATER MONITORING PROCEDURES

On May 9, 1995, *SECOR* sounded ten on-site wells (MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8, MW5a, and MW6a) using an electronic water-level indicator. The depth to groundwater and total depth were measured for each well and recorded on Groundwater Sample Field Data Sheets included in Appendix C with detailed groundwater monitoring procedures. Monitoring well MW-1 was not sampled due to inaccessibility as a car was parked over the wellhead. Sampling of monitoring wells MW-2, MW-3, MW-5a, and MW-6a was not conducted since these wells are not included in the *SECOR* sampling plan. A total of five primary samples were submitted to Superior Precision Analytical, Inc. (Superior) of Martinez, California, for chemical analysis. Analytes included TPHg, TPHd, TOG, and

BTEX compounds by EPA Methods 5030/8015, modified and 8020, respectively. Laboratory analytical reports and chain-of-custody records are included in Appendix D.

SUMMARY OF RESULTS

Results of historic groundwater monitoring well soundings for the first and second quarters of 1995 are summarized on Table 1. Groundwater chemical data collected since November 1994 are included on Table 2.

February Groundwater Chemical Results

Groundwater samples exhibited pH values ranging from 6.39 to 7.16 pH units; temperatures ranging from 60.2 to 65.5 degrees Fahrenheit; specific conductivities ranging from 641 to more than 2,000 micromhos per centimeter (μmhos/cm); and appearance ranging from slightly cloudy to cloudy. Groundwater chemical results for the first quarter 1995 are displayed graphically on Figure 9. Laboratory analytical reports and chain-of-custody records are included in Appendix B.

During this sampling event, groundwater samples collected from wells MW-4, and MW-5 contained TPHg at concentrations of 0.12, and 1.0 milligrams per liter (mg/ℓ) respectively. Each groundwater sample collected during the first quarter contained concentrations of TPHd ranging from 0.36 mg/ℓ to 1.3 mg/ℓ. The highest TPHd concentration was detected in the sample collected from well MW-1. TOG and BTEX were not detected in groundwater monitoring wells during the first quarter of 1995.

May Groundwater Chemical Results

Groundwater samples exhibited pH values ranging from 6.79 to 8.02 pH units; temperatures ranging from 63.7 to 67.0 degrees Fahrenheit; specific conductivities ranging from 535 to more than 2,000 micromhos per centimeter (μmhos/cm); and appearance ranging from slightly cloudy to cloudy. Groundwater chemical results for the second quarter 1995 are displayed graphically on Figure 10. Laboratory analytical reports and chain-of-custody records are included in Appendix D.

No detectable analyte concentrations were identified in the groundwater monitoring wells during the second quarter of 1995.

Groundwater elevations rose during the first and second quarters, presumably due predominantly to heavy rainfall during the first six months of 1995. Groundwater analyte concentrations dropped during the May sampling event to below detection levels in all of the monitoring wells.

PLANNED ACTIVITIES FOR THIRD QUARTER 1995

- Continued quarterly groundwater monitoring and reporting.

Please do not hesitate to contact us at (415) 882-1548 with any question or comments regarding this document.

Sincerely,

SECOR International Incorporated

Terri J. Plunkett-Kalmey, REA
Project Manager

James G. Ritchie, R.G.
Principal Geologist

REGISTERED GEOLOGIST
JAMES G. RITCHIE
No. 4974
STATE OF CALIFORNIA

Attachments:

Table 1	Well Construction Detail and Groundwater Elevations
Table 2	Groundwater Chemical Analytical Data
Figure 1	Site Location Map
Figure 2	Site Plan
Figure 3	Groundwater Elevation Contours - January 13, 1995
Figure 4	Groundwater Elevation Contours - February 6, 1995
Figure 5	Groundwater Elevation Contours - March 7, 1995
Figure 6	Groundwater Elevation Contours - April 10, 1995
Figure 7	Groundwater Elevation Contours - May 9, 1995
Figure 8	Groundwater Elevation Contours - June 19, 1995
Figure 9	Groundwater Chemical Analytical Results - February 6, 1995
Figure 10	Groundwater Chemical Analytical Results - May 9, 1995
Appendix A	Groundwater Sample Field Data Sheets and Groundwater Monitoring Procedures - February 6, 1995
Appendix B	Laboratory Analytical Reports and Chain-of-Custody Records - February 6, 1995
Appendix C	Groundwater Sample Field Data Sheets and Groundwater Monitoring Procedures - May 9, 1995
Appendix D	Laboratory Analytical Reports and Chain-of-Custody Records - May 9, 1995

Table 1
Well Construction Details and Groundwater Elevations
2099 Grand Street
Alameda, California

Well	Total Depth (ft)	Screened Interval (ft)	Top of Casing Elevation (ft, MSL)	Date Measured	Depth to Water (ft,bgs)	Groundwater Elevation (ft, MSL)
MW-1	15.00	3-15	6.77	10/31/94	3.70	3.07
				11/30/94	3.27	3.50
				12/29/94	3.31	3.46
				1/13/95	2.80	3.97
				2/6/95	3.20	3.57
				3/7/95	NR	NA
				4/10/95	NR	NA
				5/9/95	NR	NA
				6/19/95	NR	NA
MW-2	15.00	3-15	4.83	10/31/94	2.60	2.23
				11/30/94	3.26	1.57
				12/29/94	2.28	2.55
				1/13/95	1.73	3.10
				2/6/95	2.31	2.52
				3/7/95	2.37	2.46
				4/10/95	2.23	2.60
				5/9/95	2.47	2.36
				6/19/95	1.64	3.19
MW-3	15.00	3-15	7.28	10/31/94	4.76	2.52
				11/30/94	3.34	3.94
				12/29/94	3.63	3.65
				1/13/95	2.66	4.62
				2/6/95	3.44	3.84
				3/7/95	3.50	3.78
				4/10/95	3.66	3.62
				5/9/95	3.81	3.47
				6/19/95	3.77	3.51
MW-4	15.00	3-15	5.21	10/31/94	3.00	2.21
				11/30/94	2.63	2.58
				12/29/94	3.03	2.18
				1/13/95	3.01	2.20
				2/6/95	3.12	2.09
				3/7/95	2.72	2.49
				4/10/95	2.35	2.86
				5/9/95	3.10	2.11
				6/19/95	3.13	2.08
MW-5	13.75	3.5-13.5	8.26	10/31/94	5.76	2.50
				11/30/94	5.22	3.04
				12/29/94	5.16	3.10
				1/13/95	4.61	3.65
				2/6/95	5.25	3.01
				3/7/95	5.32	2.94
				4/10/95	5.47	2.79
				5/9/95	5.54	2.72
				6/19/95	5.48	2.78

Table 1
Well Construction Details and Groundwater Elevations
2099 Grand Street
Alameda, California

Well	Total Depth (ft)	Screened Interval (ft)	Top of Casing Elevation (ft, MSL)	Date Measured	Depth to Water (ft,bgs)	Groundwater Elevation (ft, MSL)
MW-6	14.25	4-14	8.14	10/31/94	6.06	2.08
				11/30/94	5.45	2.69
				12/29/94	5.36	2.78
				1/13/95	5.01	3.13
				2/6/95	5.47	2.67
				3/7/95	4.05	4.09
				4/10/95	5.61	2.53
				5/9/95	5.67	2.47
				6/19/95	5.59	2.55
MW-7	13.55	3.5-13.5	5.91	10/31/94	3.86	2.05
				11/30/94	3.07	2.84
				12/29/94	2.76	3.15
				1/13/95	2.86	3.05
				2/6/95	3.04	2.87
				3/7/95	3.21	2.70
				4/10/95	3.67	2.24
				5/9/95	3.55	2.36
				6/19/95	3.50	2.41
MW-8	13.50	3.5-13.5	5.65	10/31/94	3.92	1.73
				11/30/94	2.21	3.44
				12/29/94	2.39	3.26
				1/13/95	2.62	3.03
				2/6/95	2.16	3.49
				3/7/95	2.77	2.88
				4/10/95	2.93	2.72
				5/9/95	2.97	2.68
				6/19/95	2.83	2.82
MW-5a	12.25	3-13	5.01	10/31/94	3.00	2.01
				11/30/94	NR	NR
				12/29/94	1.99	3.02
				1/13/95	1.47	3.54
				2/6/95	2.15	2.86
				3/7/95	2.44	2.57
				4/10/95	2.02	2.99
				5/9/95	2.42	2.59
				6/19/95	1.26	3.75
MW-6a	12.36	3-13	4.96	10/31/94	3.86	1.10
				11/30/94	NR	NR
				12/29/94	2.73	2.23
				1/13/95	0.45	4.51
				2/6/95	0.94	4.02
				3/7/95	1.42	3.54
				4/10/95	1.70	3.26
				5/9/95	1.40	3.56
				6/19/95	1.80	3.16

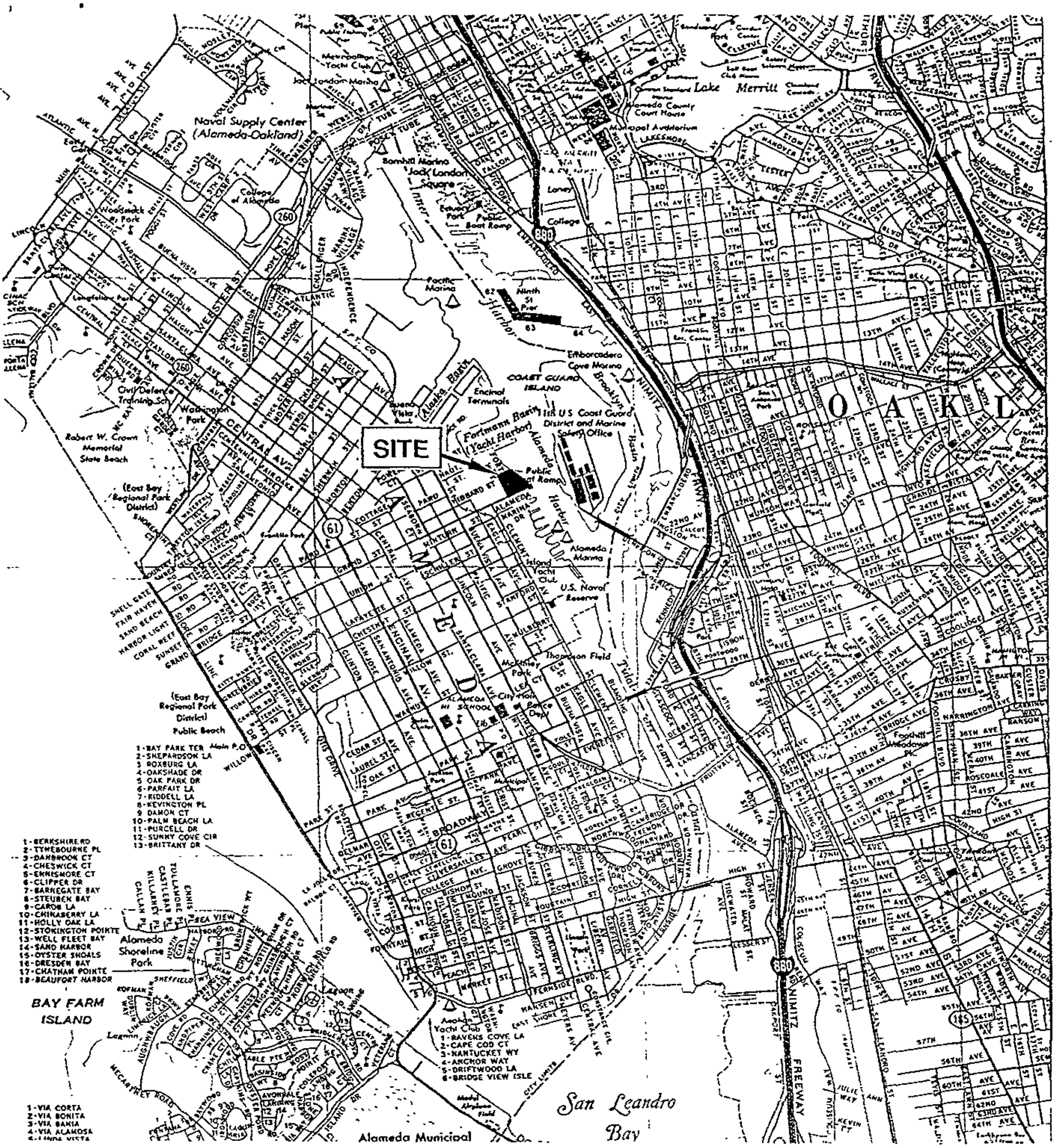
NR - No Reading Due to Inaccessibility of Well

NA - Not Available

Table 2
Groundwater Chemical Analysis Data
2099 Grand Street
Alameda, California

Well	Date Sampled	TPH-g (mg/L)	TPH-d (mg/L)	TOG (mg/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (Total) (ug/L)
MW1	11/1/94	0.08	0.4	<5.0	0.5	1.1	<0.05	1.4
	2/6/95	<0.05	1.3	<5.0	<0.05	<0.05	<0.05	<0.05
	5/9/95	NS	NS	NS	NS	NS	NS	NS
MW4	11/1/94	<0.05	0.24	<5.0	<0.05	<0.05	<0.05	<0.05
	2/6/95	0.12	0.66	<5.0	<0.05	<0.05	<0.05	<0.05
	5/9/95	<0.05	<0.05	<5.0	<0.05	<0.05	<0.05	<0.05
MW5	11/1/94	<0.05	0.56	<5.0	<0.05	<0.05	<0.05	<0.05
	2/6/95	1.0	0.46	<5.0	<0.05	<0.05	<0.05	<0.05
	5/9/95	<0.05	<0.05	<5.0	<0.05	<0.05	<0.05	<0.05
MW6	11/1/94	<0.05	0.5	<5.0	<0.05	<0.05	<0.05	<0.05
	2/6/95	<0.05	0.57	<5.0	<0.05	<0.05	<0.05	<0.05
	5/9/95	<0.05	<0.05	<5.0	<0.05	<0.05	<0.05	<0.05
MW7	11/1/94	<0.05	0.97	<5.0	<0.05	<0.05	<0.05	<0.05
	2/6/95	<0.05	1.3	<5.0	<0.05	<0.05	<0.05	<0.05
	5/9/95	<0.05	<0.05	<5.0	<0.05	<0.05	<0.05	<0.05
MW8	11/1/94	<0.05	1.0	<5.0	<0.05	<0.05	<0.05	<0.05
	2/6/95	<0.05 (<0.05)	0.93 (0.47)	<5.0 (<5.0)	<0.05 (<0.05)	<0.05 (<0.05)	<0.05 (<0.05)	<0.05 (<0.05)
	5/9/95	<0.05 (<0.05)	<0.05 (<0.05)	<5.0 (<5.0)	<0.05 (<0.05)	<0.05 (<0.05)	<0.05 (<0.05)	<0.05 (<0.05)

TPH-g: Total Petroleum Hydrocarbons as gasoline
TPH-d: Total Petroleum Hydrocarbons as diesel
TOG: Total Petroleum Hydrocarbons as oil and grease
NS: Not Sampled/well inaccessible
<0.05: Below the Detection Limit
mg/L: milligrams per liter
ug/L: micrograms per liter
(0.47): Duplicate sample result

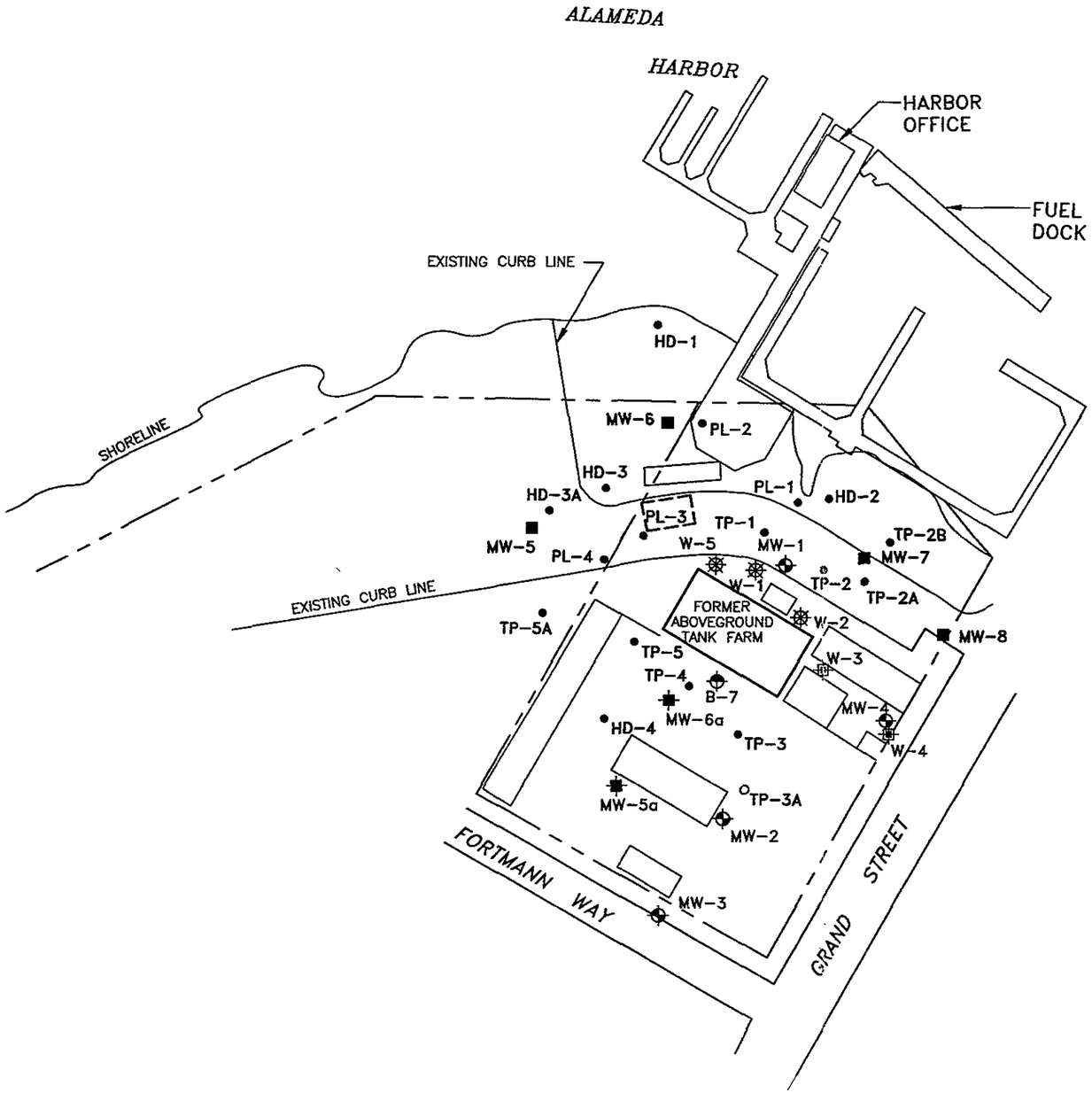


SOURCE: BASE MAP FROM H.M. GOUSHA, 1988,
OAKLAND AND EAST BAY CITIES.

NORTH

0 — 1
SCALE — MILE

SECOR INTERNATIONAL INCORPORATED	DRAWN: CCR APPR: JGR DATE: 23JAN95 JOB NO: 50085-001-01	FIGURE 1 GRAND MARINA FACILITY ALAMEDA, CALIFORNIA **SITE LOCATION MAP**



LEGEND

MW-5a ✱	MONITORING WELL (ACC, 10/94)
MW-8 ■	MONITORING WELL (SECOR, 10/94)
TP-3A ○	BORING (SECOR, 10/94)
PL-2 •	BORING (SECOR, 10/93)
MW-1 ⊕	MONITORING WELL (ZACCOR, 5/92)
B-7 ⊕	MONITORING WELL (HARDING-LAWSON, 6/87)
W-3 ✲	ABANDONED MONITORING WELL (CROWLEY ENVIRONMENTAL SERVICES, 4/87)
W-4 ✲	MONITORING WELL (CROWLEY, 4/87)
— — —	PROPERTY LINE

N

0 100 200
SCALE FEET

SOURCE. BASED ON SURVEY BY RON ARCHER, CIVIL ENGINEER INC., NOVEMBER 1994

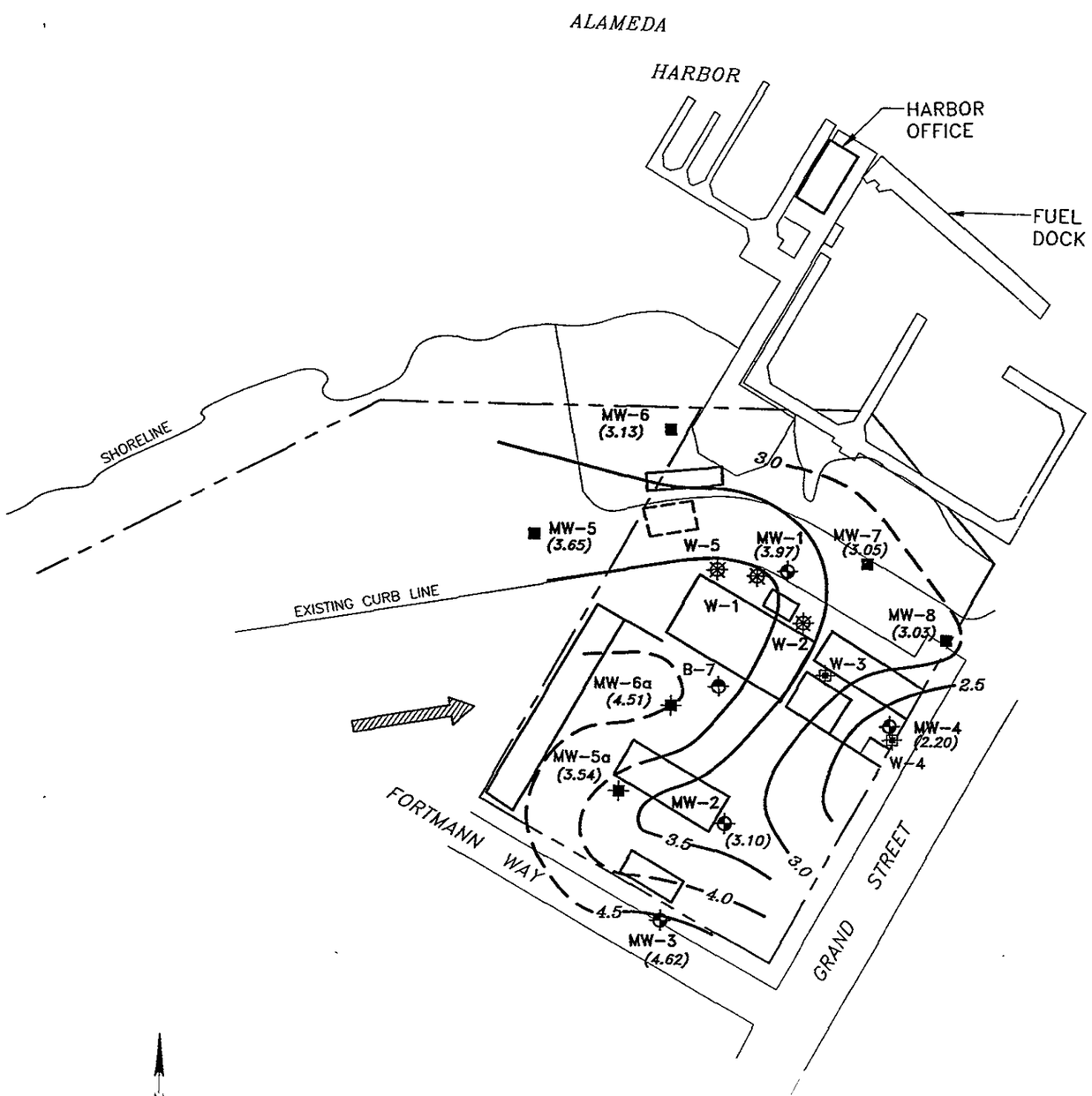
SECOR
INTERNATIONAL INCORPORATED

DRAWN	KN
APPR	JGR
DATE	06DEC94
JOB NO	50085-001-01

FIGURE 2
GRAND MARINA FACILITY
ALAMEDA CALIFORNIA

SITE PLAN

19950113 I:\JOBS\MARINA\SITEPLI



LEGEND

MW-5a	MONITORING WELL (ACC, 10/94)
MW-8	MONITORING WELL (SECOR, 10/94)
MW-1	MONITORING WELL (ZACCOR, 5/92)
B-7	MONITORING WELL (HARDING-LAWSON, 6/87)
W-3	ABANDONED MONITORING WELL (CROWLEY ENVIRONMENTAL SERVICES, 4/87)
W-4	MONITORING WELL (CROWLEY, 4/87)
(3.03)	GROUNDWATER ELEVATION (FEET MSL)
3.0	GROUNDWATER ELEVATION CONTOUR (FEET MSL)
	PROPERTY LINE
	APPROXIMATE GROUNDWATER FLOW DIRECTION

N

0 100 200
SCALE FEET

SOURCE BASED ON SURVEY BY RON ARCHER, CIVIL ENGINEER INC., NOVEMBER 1994

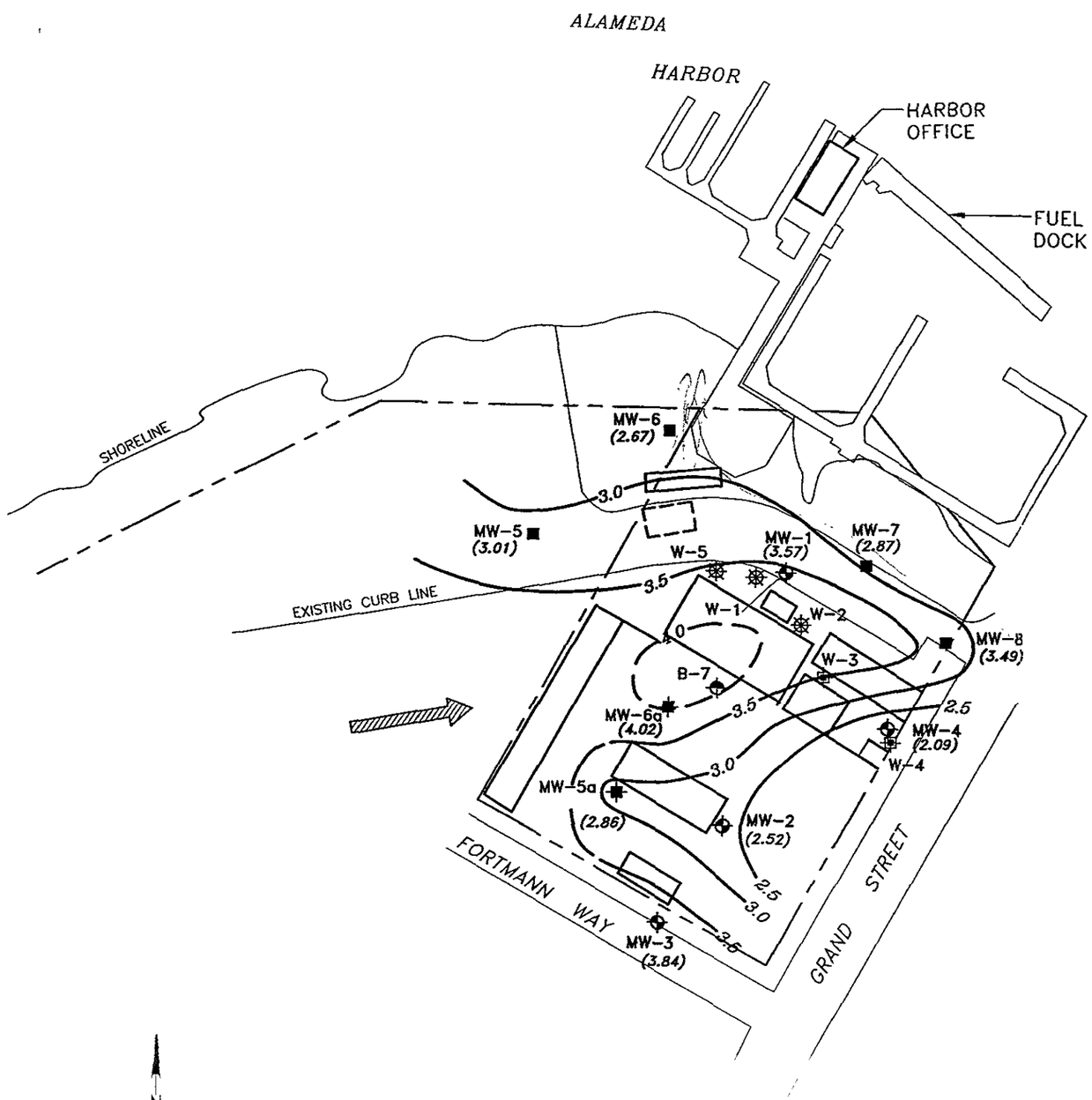
199504 101246 X:\JOBS\MARINA\GMAR1002

SECOR INTERNATIONAL INCORPORATED

DRAWN	KN
APPR	JGR
DATE	10APR95
JOB NO	50085-001-01

FIGURE 3
GRAND MARINA FACILITY
ALAMEDA CALIFORNIA

GROUNDWATER ELEVATION CONTOURS - JANUARY 13, 1995



LEGEND

MW-5a ✱	MONITORING WELL (ACC, 10/94)
MW-8 ■	MONITORING WELL (SECOR, 10/94)
MW-1 ⊕	MONITORING WELL (ZACCOR, 5/92)
B-7 ⊕	MONITORING WELL (HARDING-LAWSON, 6/87)
W-3 ✱	ABANDONED MONITORING WELL (CROWLEY ENVIRONMENTAL SERVICES, 4/87)
W-4 ⊕	MONITORING WELL (CROWLEY, 4/87)
(3.49)	GROUNDWATER ELEVATION (FEET MSL)
3.0 ———	GROUNDWATER ELEVATION CONTOUR (FEET MSL)
———	PROPERTY LINE
⇒	APPROXIMATE GROUNDWATER FLOW DIRECTION

0 100 200
SCALE FEET

SOURCE BASED ON SURVEY BY RON ARCHER, CIVIL ENGINEER INC., NOVEMBER 1994.

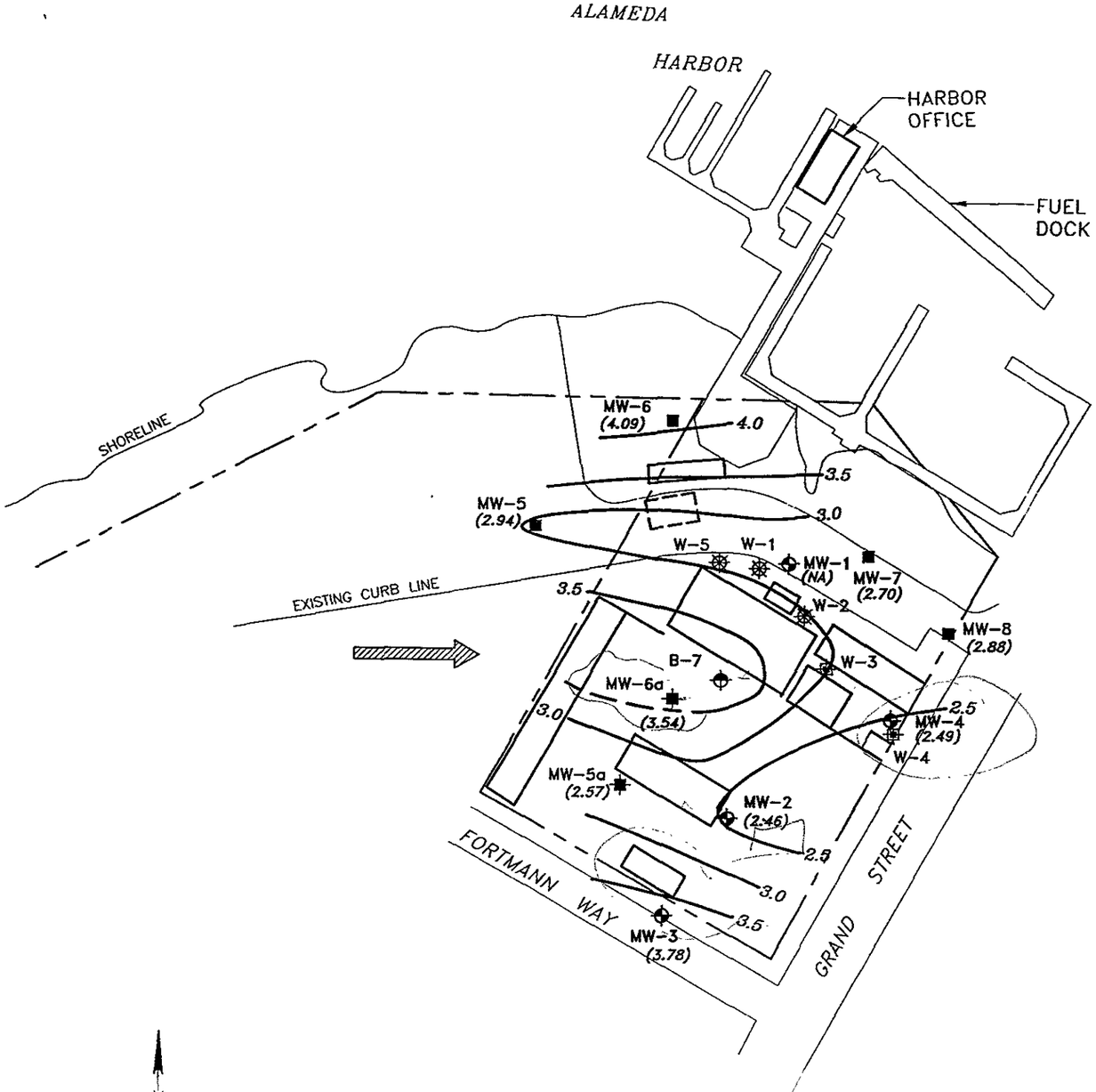
199504 101246 X:\JOBS\MARINA\GMAR1003

SECOR
INTERNATIONAL
INCORPORATED

DRAWN	KN
APPR	JGR
DATE	10APR95
JOB NO	50085-001-01

FIGURE 4
GRAND MARINA FACILITY
ALAMEDA, CALIFORNIA

GROUNDWATER ELEVATION CONTOURS - FEBRUARY 6, 1995



SOURCE: BASED ON SURVEY BY RON ARCHER, CIVIL ENGINEER INC., NOVEMBER 1994

LEGEND

- MW-5a — MONITORING WELL (ACC, 10/94)
- MW-8 — MONITORING WELL (SECOR, 10/94)
- MW-1 — MONITORING WELL (ZACCOR, 5/92)
- B-7 — MONITORING WELL (HARDING-LAWSON, 6/87)
- W-3 — ABANDONED MONITORING WELL (CROWLEY ENVIRONMENTAL SERVICES, 4/87)
- W-4 — MONITORING WELL (CROWLEY, 4/87)
- (2.88) — GROUNDWATER ELEVATION (FEET MSL)
- 3.0 — GROUNDWATER ELEVATION CONTOUR (FEET MSL)
- PROPERTY LINE
- APPROXIMATE GROUNDWATER FLOW DIRECTION

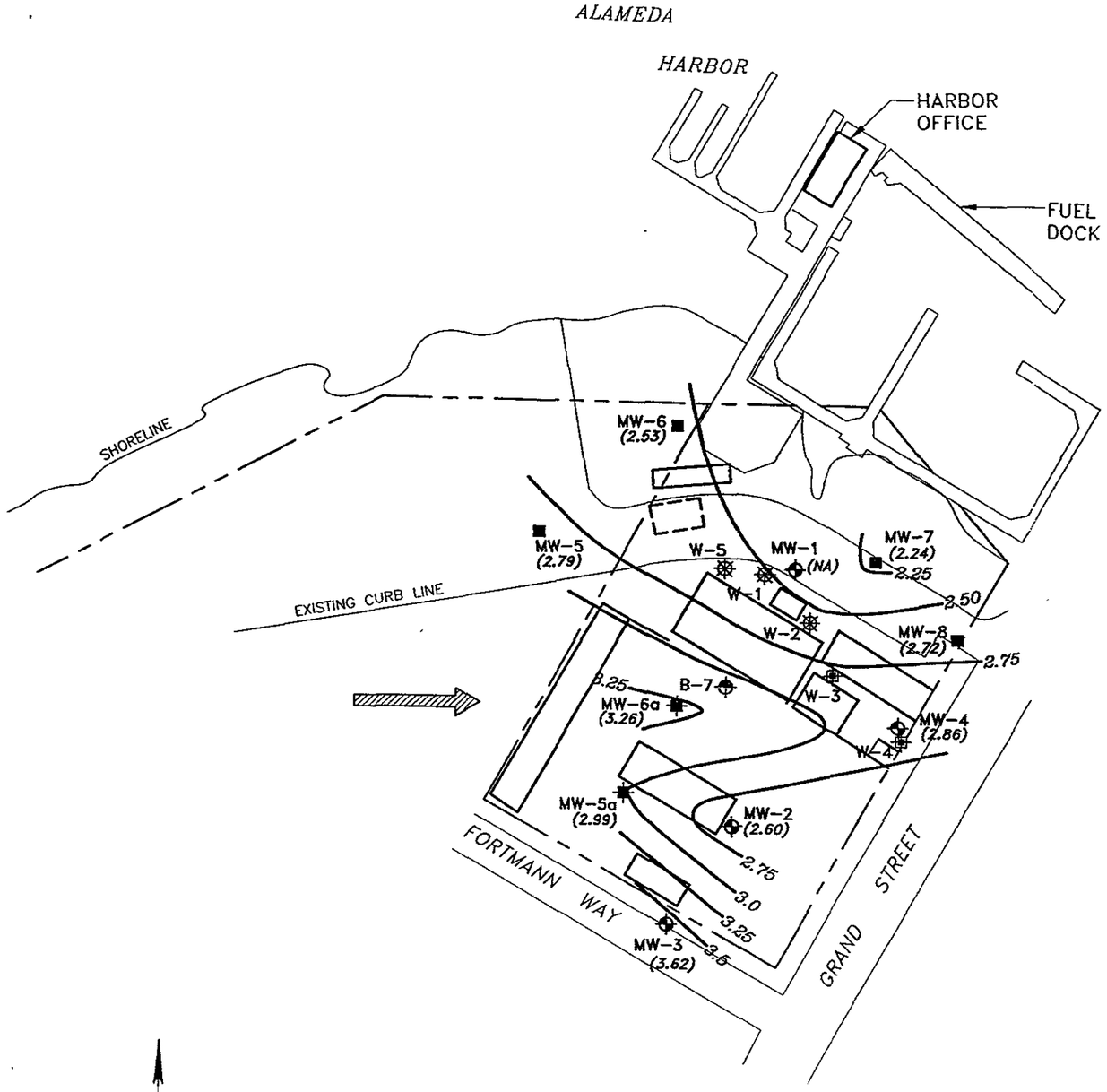
199504 101246 X:\JOBS\MARINA\GMAR1004

SECOR INTERNATIONAL INCORPORATED

DRAWN	KN
APPR	JGR
DATE	10APR95
JOB NO	50085-001-01

FIGURE 5
GRAND MARINA FACILITY
ALAMEDA, CALIFORNIA

GROUNDWATER ELEVATION CONTOURS - MARCH 7, 1995



LEGEND

MW-5a ✱	MONITORING WELL (ACC, 10/94)
MW-8 ■	MONITORING WELL (SECOR, 10/94)
MW-1 ⊕	MONITORING WELL (ZACCOR, 5/92)
B-7 ⊕	MONITORING WELL (HARDING-LAWSON, 6/87)
W-3 ✱	ABANDONED MONITORING WELL (CROWLEY ENVIRONMENTAL SERVICES, 4/87)
W-4 ⊕	MONITORING WELL (CROWLEY, 4/87)
(2.24)	GROUNDWATER ELEVATION (FEET MSL)
(NA)	NOT AVAILABLE
3.0 ———	GROUNDWATER ELEVATION CONTOUR (FEET MSL)
— — — —	PROPERTY LINE
▨	APPROXIMATE GROUNDWATER FLOW DIRECTION

0 100 200
SCALE FEET

SOURCE: BASED ON SURVEY BY RON ARCHER, CIVIL ENGINEER INC., NOVEMBER 1994.

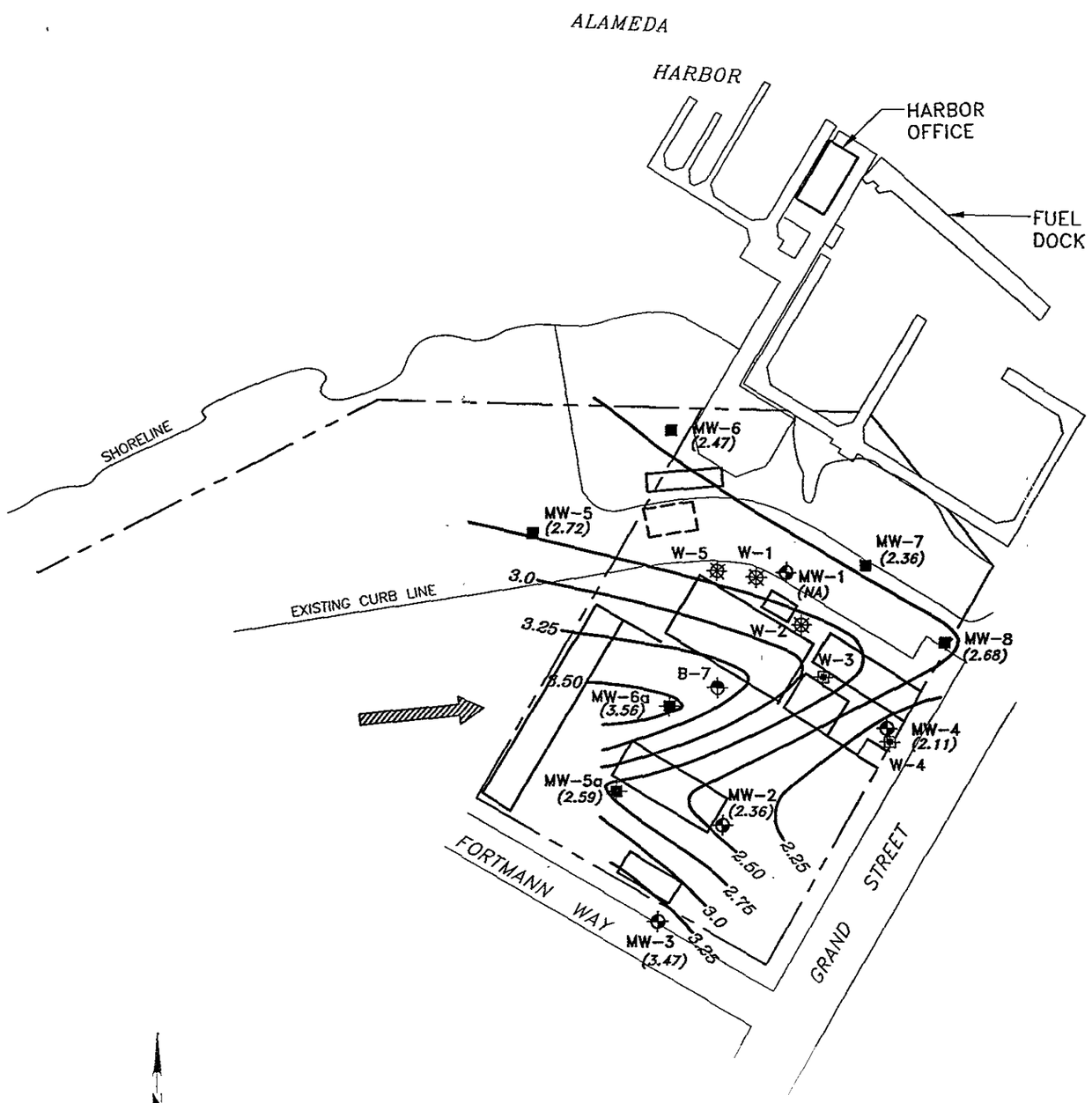
199506 301725 X:\JOBS\MARINA\GWAR1006

SECOR INTERNATIONAL INCORPORATED

DRAWN	KN
APPR	JGR
DATE	30JUNE95
JOB NO	50085-001-01

FIGURE 6
GRAND MARINA FACILITY
ALAMEDA, CALIFORNIA

GROUNDWATER ELEVATION CONTOUR MAP - APRIL 10, 1995



LEGEND

MW-5a ✚	MONITORING WELL (ACC, 10/94)
MW-8 ■	MONITORING WELL (SECOR, 10/94)
MW-1 ⊕	MONITORING WELL (ZACCOR, 5/92)
B-7 ⊕	MONITORING WELL (HARDING-LAWSON, 6/87)
W-3 ✳	ABANDONED MONITORING WELL (CROWLEY ENVIRONMENTAL SERVICES, 4/87)
W-4 ✳	MONITORING WELL (CROWLEY, 4/87)
(2.47)	GROUNDWATER ELEVATION (FEET MSL)
(NA)	NOT AVAILABLE
3.0 ———	GROUNDWATER ELEVATION CONTOUR (FEET MSL)
— — — —	PROPERTY LINE
▨	APPROXIMATE GROUNDWATER FLOW DIRECTION

0 100 200
SCALE FEET

SOURCE: BASED ON SURVEY BY RON ARCHER, CIVIL ENGINEER INC., NOVEMBER 1994.

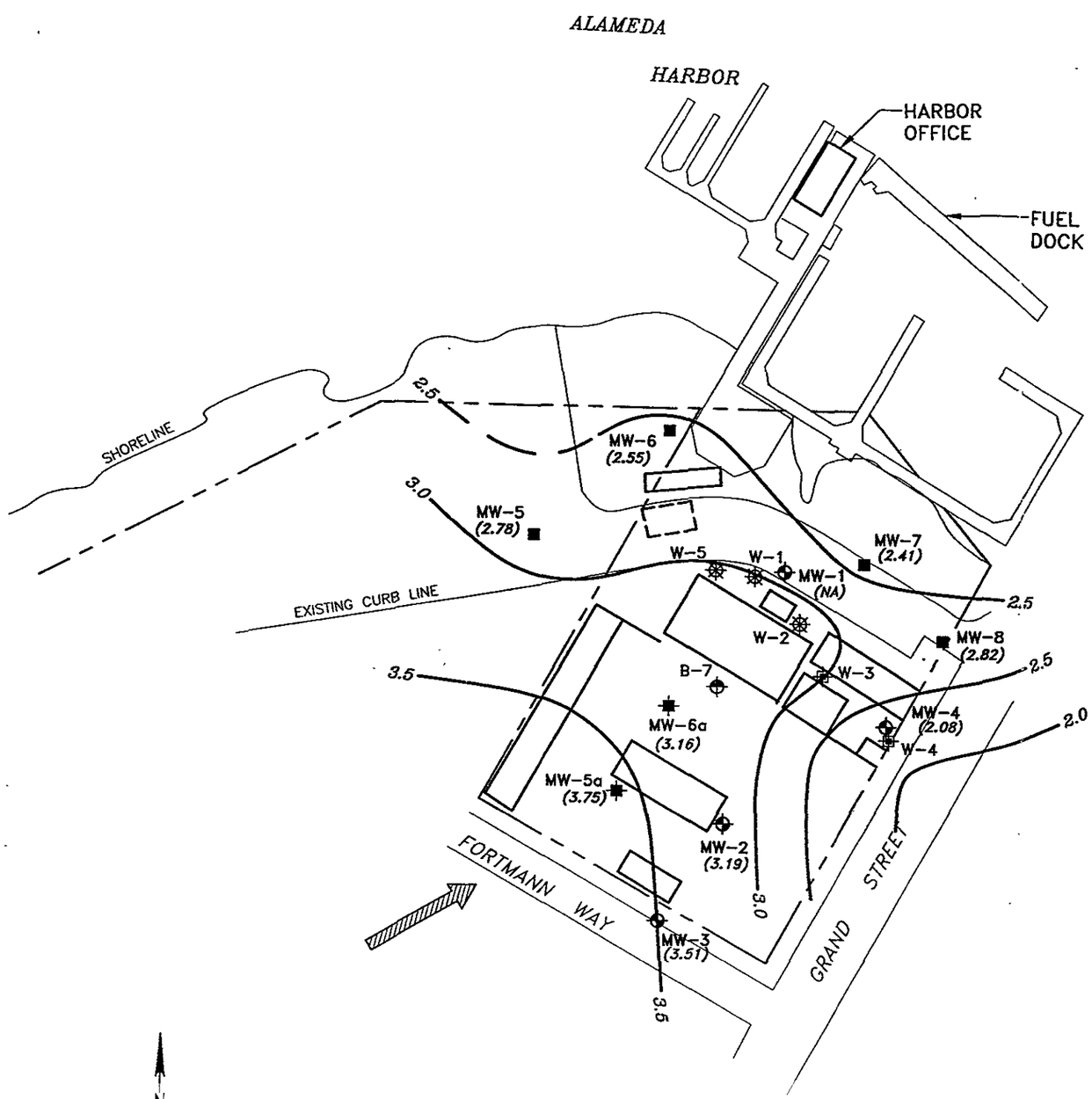
J99508.301727 X:\JOBS\MARINA\GMAR1007

SECOR INTERNATIONAL INCORPORATED

DRAWN	KN
APPR	JGR
DATE	30JUNE95
JOB NO	50085-001--01

FIGURE 7
GRAND MARINA FACILITY
ALAMEDA, CALIFORNIA

GROUNDWATER ELEVATION CONTOUR MAP - MAY 9, 1995



LEGEND

MW-5a	MONITORING WELL (ACC, 10/94)
MW-8	MONITORING WELL (SECOR, 10/94)
MW-1	MONITORING WELL (ZACCOR, 5/92)
B-7	MONITORING WELL (HARDING-LAWSON, 6/87)
W-3	ABANDONED MONITORING WELL (CROWLEY ENVIRONMENTAL SERVICES, 4/87)
W-4	MONITORING WELL (CROWLEY, 4/87)
(2.82)	GROUNDWATER ELEVATION (FEET MSL)
(NA)	NOT AVAILABLE
3.0	GROUNDWATER ELEVATION CONTOUR (FEET MSL)
	PROPERTY LINE
	APPROXIMATE GROUNDWATER FLOW DIRECTION

0 100 200
SCALE FEET

SOURCE: BASED ON SURVEY BY RON ARCHER, CIVIL ENGINEER INC., NOVEMBER 1994.

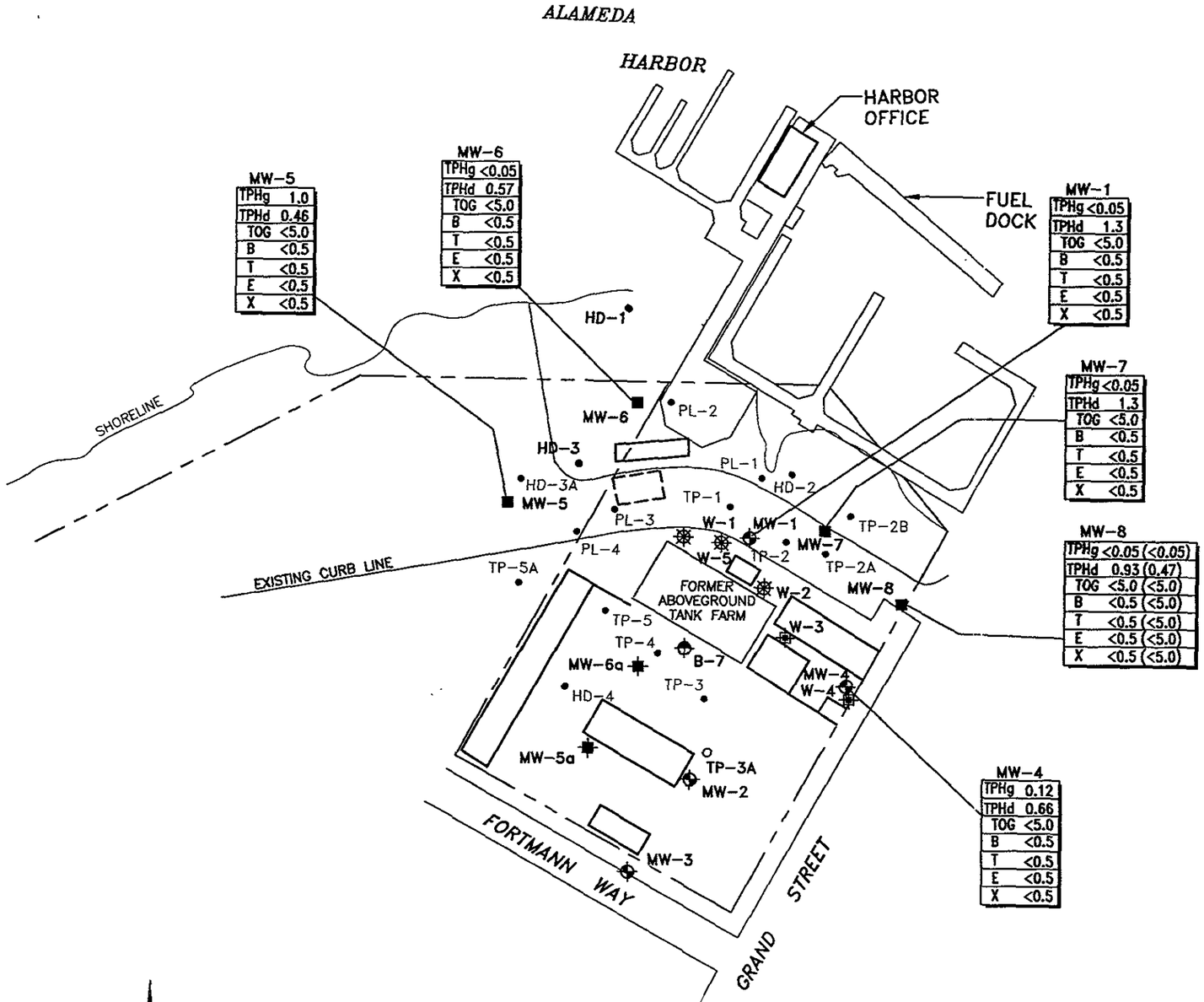
199508 301728 X:\JOBS\MARINA\GMAR1008

SECOR
INTERNATIONAL
INCORPORATED

DRAWN	KN
APPR	JGR
DATE	30JUNE95
JOB NO.	50085-001--01

FIGURE 8
GRAND MARINA FACILITY
ALAMEDA, CALIFORNIA

GROUNDWATER ELEVATION CONTOUR MAP - JUNE 19, 1995



LEGEND

- MW-5a ✱ — MONITORING WELL (ACC, 10/94)
- MW-8 ■ — MONITORING WELL (SECOR, 10/94)
- TP-3A ○ — BORING (SECOR, 10/94)
- PL-2 • — BORING (SECOR, 10/93)
- MW-1 ⊕ — MONITORING WELL (ZACCOR, 5/92)
- B-7 ⊕ — MONITORING WELL (HARDING-LAWSON, 6/87)
- W-3 ✱ — ABANDONED MONITORING WELL (CROWLEY ENVIRONMENTAL SERVICES, 4/87)
- W-4 ⊕ — MONITORING WELL (CROWLEY, 4/87)
- PROPERTY LINE

CHEMICAL ANALYTICAL RESULTS:

MW-8 — Boring/Well Number / Analyte

TPHg	20
TPHd	97 (98) — Duplicate Sample
TOG	390
B	<0.5 — Not Detected Above Laboratory Detection Limit
T	5.7
E	10
X	NA — Not Analyzed

ANALYTES:

TPHg	Total Petroleum Hydrocarbons as Gasoline
TPHd	Total Petroleum Hydrocarbons as Diesel
TOG	Total Oil and Grease
B	Benzene
T	Toluene
E	Ethylbenzene
X	Xylenes

NOTES:

BTEX RESULTS REPORTED IN MICROGRAMS PER LITER (ug/L), OTHER ANALYTE CONCENTRATIONS REPORTED IN MILLIGRAMS PER LITER (mg/L)

SOURCE. BASED ON SURVEY BY RON ARCHER, CIVIL ENGINEER INC., NOVEMBER 1994.

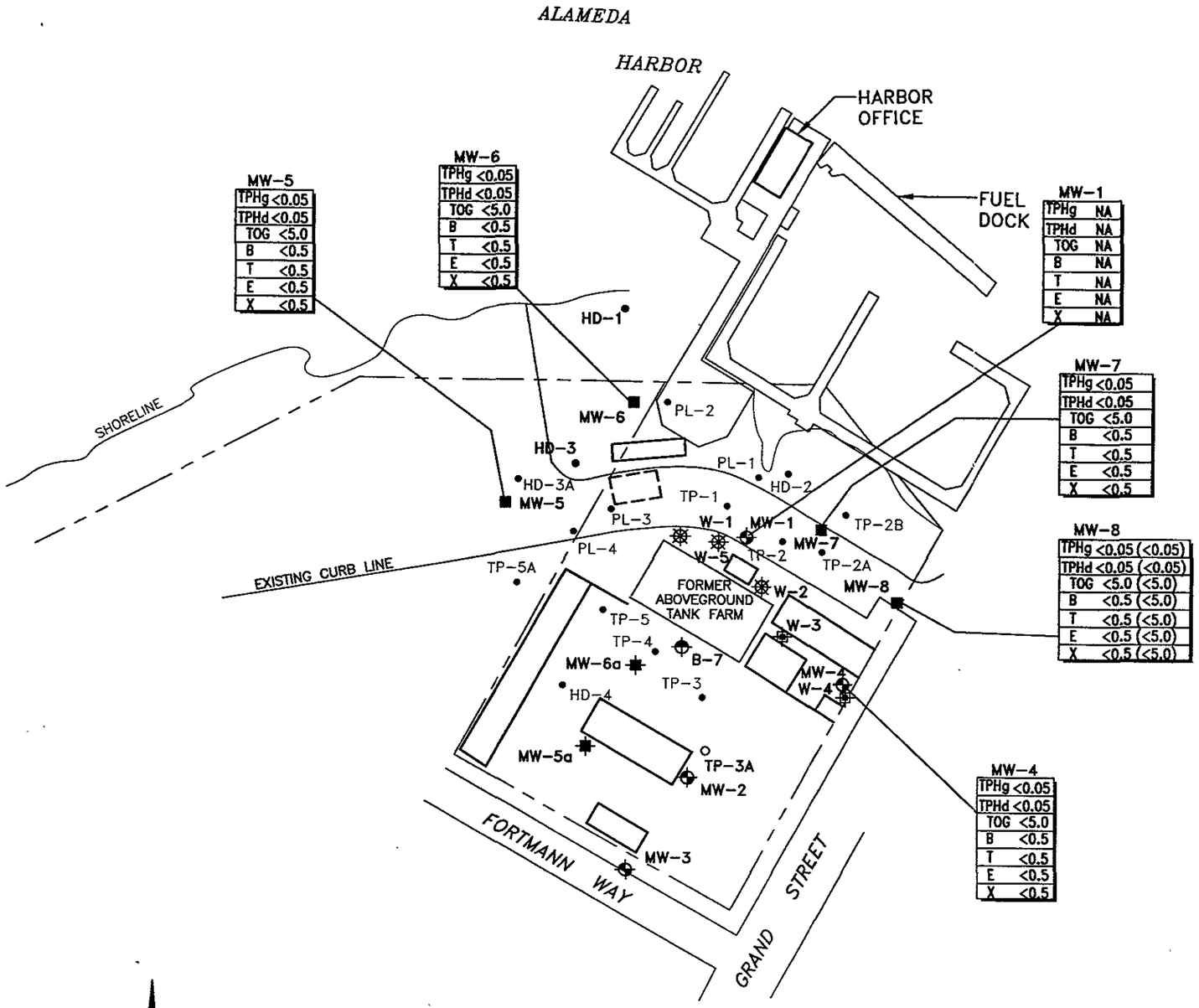
199504 061353 X:\JOBS\MARINA\GMAR1001

SECOR INTERNATIONAL INCORPORATED

DRAWN	KN
APPR	JGR
DATE	16JAN95
JOB NO	50085-001-01

FIGURE 9
GRAND MARINA FACILITY
ALAMEDA, CALIFORNIA

GROUNDWATER CHEMICAL ANALYTICAL RESULTS - FEBRUARY 6, 1995



LEGEND

- MW-5a ✸ MONITORING WELL (ACC, 10/94)
- MW-8 ■ MONITORING WELL (SECOR, 10/94)
- TP-3A ○ BORING (SECOR, 10/94)
- PL-2 • BORING (SECOR, 10/93)
- MW-1 ⊕ MONITORING WELL (ZACCOR, 5/92)
- B-7 ⊕ MONITORING WELL (HARDING-LAWSON, 6/87)
- W-3 ✵ ABANDONED MONITORING WELL (CROWLEY ENVIRONMENTAL SERVICES, 4/87)
- W-4 ✵ MONITORING WELL (CROWLEY, 4/87)
- PROPERTY LINE

CHEMICAL ANALYTICAL RESULTS:

MW-8 — Boring/Well Number

Analyte	
TPHg	3.3
TPHd	<0.05(<0.05) — Duplicate Sample
TOG	6.0
B	<0.5 — Not Detected Above Laboratory Detection Limit
T	530
E	39
X	NA — Not Analyzed

ANALYTES:

TPHg	Total Petroleum Hydrocarbons as Gasoline
TPHd	Total Petroleum Hydrocarbons as Diesel
TOG	Total Oil and Grease
B	Benzene
T	Toluene
E	Ethylbenzene
X	Xylenes

NOTES:

BTEX RESULTS REPORTED IN MICROGRAMS PER LITER (ug/L), OTHER ANALYTE CONCENTRATIONS REPORTED IN MILLIGRAMS PER LITER (mg/L).

SOURCE BASED ON SURVEY BY RON ARCHER, CIVIL ENGINEER INC., NOVEMBER 1994

199506 301723 X:\JOBS\MARINA\GMAR1005

SECOR INTERNATIONAL INCORPORATED

DRAWN	KN
APPR	JGR
DATE	30JUNE95
JOB NO	50085-001-01

FIGURE 10
GRAND MARINA FACILITY
ALAMEDA, CALIFORNIA

GROUNDWATER CHEMICAL ANALYTICAL RESULTS - MAY 9, 1995

APPENDIX A

Groundwater Sample Field Data Sheets and Groundwater Monitoring Procedures - February 6, 1995

SECOR
WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 50085-001-01
PURGED BY: GRC
SAMPLED BY: GRC

WELL ID: MW-1
SAMPLE ID: MW-1
CLIENT NAME: Crowley
LOCATION: Alameda

TYPE: Groundwater X Surface Water ____ Treatment Effluent ____ Other ____

CASING DIAMETER (inches): 2 X 3 ____ 4 ____ 4.5 ____ 6 ____ Other ____

CASING ELEVATION: (feet/MSL):		VOLUME IN CASING (gal.)	1.96
DEPTH TO WATER (feet):	3.20	CALCULATED PURGE (gal.)	5.87
DEPTH OF WELL (feet):	14.72	ACTUAL PURGE VOL. (gal.)	6.25

DATE PURGED: 2/6/95 Start (2400 Hr) 1:10 End (2400 Hr.) 1:25
DATE SAMPLED: 2/6/95 Start (2400 Hr) 3:45 End (2400 Hr.) ____

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, X-DUP-1): ____

FIELD MEASUREMENTS

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm@25°C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY ~~Odor~~ Visual
1:14	1.5	6.76	1367	60.2	BRN	7200
1:17	3.5	6.59	1543	61.0	BRN	7200
1:22	6.00	6.65	1974	62.6	BRN	7200
1:23	6.25	6.72	1853	62.5	BRN	7200

D.O. (ppm): ____ COLOR, COBALT (0-100): ____

ODOR: None

Clear
Cloudy
Yellow
Brown

PURGING EQUIPMENT

____	2" Bladder Pump	____	Bailer(Teflon®)
____	Centrifugal Pump	X	Bailer (PVC)
____	Submersible Pump	____	Bailer (Stainless Steel)
____	Well Wizard™	____	Dedicated

Other: ____

SAMPLING EQUIPMENT

____	2" Bladder Pump	____	Bailer(Teflon®)
____	DDL Sampler	X	Bailer (PVC/disposable)
____	Submersible Pump	____	Bailer (Stainless Steel)
____	Well Wizard™	____	Dedicated

Other: ____

WELL INTEGRITY: Going Dry @ 6.0 Gallons LOCK #: Dolphin
REMARKS: Good Recovery

SIGNATURE: [signature]

SECOR
WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 50085-001-01
PURGED BY: GRC
SAMPLED BY: GRC

WELL ID: MW #4
SAMPLE ID: MW-4
CLIENT NAME: Crowley
LOCATION: Alameda

TYPE: Groundwater X Surface Water ____ Treatment Effluent ____ Other ____

CASING DIAMETER (inches): 2 X 3 ____ 4 ____ 4.5 ____ 6 ____ Other ____

CASING ELEVATION: (feet/MSL):		VOLUME IN CASING (gal)	1.99
DEPTH TO WATER (feet):	3.12	CALCULATED PURGE (gal)	5.98
DEPTH OF WELL (feet):	14.85	ACTUAL PURGE VOL. (gal)	6.00

DATE PURGED: 2/6/95 Start (2400 Hr) 10:58 End (2400 Hr.) 11:06
DATE SAMPLED: 2/6/95 Start (2400 Hr) 12:20 End (2400 Hr.) ____

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, X-DUP-1): None

FIELD MEASUREMENTS

TIME (2400 Hr)	VOLUME (gal)	pH (units)	E.C. (umhos/cm@25°C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY ~~(NTU)~~ visual
11:01	2	6.95	9.32	62.6	grey	7200
11:03	4	6.81	9.09	62.5	grey	>200
11:05	6	6.82	9.13	62.4	grey	>200

D.O. (ppm): ____ COLOR, COBALT (0-100): ____

ODOR: slight

Clear
Cloudy
Yellow
(Brown)

PURGING EQUIPMENT

____ 2" Bladder Pump
____ Centrifugal Pump
____ Submersible Pump
____ Well Wizard™
____ Bailer(Teflon®)
X Bailer (PVC)
____ Bailer (Stainless Steel)
____ Dedicated

Other: ____

SAMPLING EQUIPMENT

____ 2" Bladder Pump
____ DDL Sampler
____ Submersible Pump
____ Well Wizard™
____ Bailer(Teflon®)
X Bailer (PVC/disposable)
____ Bailer (Stainless Steel)
____ Dedicated

Other: ____

WELL INTEGRITY: FAIR LOCK #: Dolphin
REMARKS: Sheen, smell

SIGNATURE: GRC

SECOR
WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 50085-001-01
PURGED BY: GRC
SAMPLED BY: GRC

WELL ID: MW-5
SAMPLE ID: MW-5
CLIENT NAME: Crowley
LOCATION: Alameda

TYPE: Groundwater X Surface Water ____ Treatment Effluent ____ Other ____

CASING DIAMETER (inches): 2 X 3 ____ 4 ____ 4.5 ____ 6 ____ Other ____

CASING ELEVATION: (feet/MSL):		VOLUME IN CASING (gal.)	1.40
DEPTH TO WATER (feet):	5.25	CALCULATED PURGE (gal.)	4.22
DEPTH OF WELL (feet):	13.53	ACTUAL PURGE VOL. (gal.)	4.50

DATE PURGED: 2/6/95 Start (2400 Hr) 9:30 End (2400 Hr.) 9:41
DATE SAMPLED: 2/6/95 Start (2400 Hr) 15:00 End (2400 Hr.) ____

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, X-DUP-1): ____

FIELD MEASUREMENTS

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm@25°C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY ~~(NTU)~~ visual
9:35	1.5	6.49	10.31	63.9	Brown	7200
9:38	3.0	6.39	10.65	64.7	Gray	7200
9:41	4.5	6.44	11.11	65.5	Gray	7200

D.O. (ppm): ____ COLOR, COBALT (0-100): ____

ODOR: Sheen, Gray, Stinky, Gas

Clear
Cloudy
Yellow
~~Brown~~

PURGING EQUIPMENT

____ 2" Bladder Pump
____ Centrifugal Pump
____ Submersible Pump
____ Well Wizard™
____ Bailer(Teflon®)
X Bailer (PVC)
____ Bailer (Stainless Steel)
____ Dedicated

Other: ____

SAMPLING EQUIPMENT

____ 2" Bladder Pump
____ DDL Sampler
____ Submersible Pump
____ Well Wizard™
____ Bailer(Teflon®)
X Bailer (PVC/disposable)
____ Bailer (Stainless Steel)
____ Dedicated

Other: ____

WELL INTEGRITY: Went Dry @ 4.5 Gallons LOCK #: Dolphin
REMARKS: Good Recovery

SIGNATURE: GRC

SECOR
WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 50085-001-01
PURGED BY: _____
SAMPLED BY: _____

WELL ID: MW 5A
SAMPLE ID: None
CLIENT NAME: _____
LOCATION: _____

TYPE: Groundwater X Surface Water _____ Treatment Effluent _____ Other _____

CASING DIAMETER (inches): 2 X 3 _____ 4 _____ 4.5 _____ 6 _____ Other _____

CASING ELEVATION: (feet/MSL):	_____	VOLUME IN CASING (gal.)	_____
DEPTH TO WATER (feet):	_____	CALCULATED PURGE (gal.)	_____
DEPTH OF WELL (feet):	_____	ACTUAL PURGE VOL. (gal.)	_____

DATE PURGED: _____ Start (2400 Hr) _____ End (2400 Hr.) _____
DATE SAMPLED: _____ Start (2400 Hr) _____ End (2400 Hr.) _____

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, X-DUP-1): _____

FIELD MEASUREMENTS

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm@25°C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY ~~(NTU)~~ visual
10:00	1.5	6.57	6.41	60.8	grey	7200
10:03	3.0	6.73	6.61	61.5	grey	7200
10:05	5.0	6.71	7.44	62.2	grey	7200

D.O. (ppm): _____ COLOR, COBALT (0-100): _____

ODOR: GAS,

Clear
Cloudy
Yellow
(Brown)

PURGING EQUIPMENT

____ 2" Bladder Pump
____ Centrifugal Pump
____ Submersible Pump
____ Well Wizard™
____ Bailer(Teflon®)
____ Bailer (PVC)
____ Bailer (Stainless Steel)
____ Dedicated

Other: _____

SAMPLING EQUIPMENT

____ 2" Bladder Pump
____ DDL Sampler
____ Submersible Pump
____ Well Wizard™
____ Bailer(Teflon®)
____ Bailer (PVC/disposable)
____ Bailer (Stainless Steel)
____ Dedicated

Other: _____

WELL INTEGRITY: _____ LOCK #: Dolphin
REMARKS: Terri - FYI.

SIGNATURE: GRC

SECOR
WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 50055-001-01
PURGED BY: GRC
SAMPLED BY: GRC

WELL ID: MW-6
SAMPLE ID: MW-6
CLIENT NAME: Crowley
LOCATION: Alameda

TYPE: Groundwater X Surface Water ____ Treatment Effluent ____ Other ____

CASING DIAMETER (inches): 2 X 3 ____ 4 ____ 4.5 ____ 6 ____ Other ____

CASING ELEVATION: (feet/MSL):		VOLUME IN CASING (gal.)	1.45
DEPTH TO WATER (feet):	5.47	CALCULATED PURGE (gal.)	4.35
DEPTH OF WELL (feet):	14.01	ACTUAL PURGE VOL. (gal.)	4.50

DATE PURGED: 2/6/95 Start (2400 Hr) 12:50 End (2400 Hr.) 13:05
DATE SAMPLED: 2/6/95 Start (2400 Hr) 13:20 End (2400 Hr.) ____

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, X-DUP-1): ____

FIELD MEASUREMENTS

TIME (2400 Hr)	VOLUME (gal)	pH (units)	E.C. (umhos/cm@25°C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY ~~OTHER~~ Visual
12:57	1.5	6.70	1528	63.0	Green/Brn	>200
12:59	3.0	6.61	1533	62.9	Green/Brn	>200
1:03	4.50	6.63	1551	62.7	Green/Brn	200

D.O. (ppm): ____ COLOR, COBALT (0-100): ____

ODOR: None

Clear
Cloudy
Yellow
(Brown)

PURGING EQUIPMENT

____ 2" Bladder Pump
____ Centrifugal Pump
____ Submersible Pump
____ Well Wizard™
____ Bailer(Teflon®)
X Bailer (PVC)
____ Bailer (Stainless Steel)
____ Dedicated

Other: ____

SAMPLING EQUIPMENT

____ 2" Bladder Pump
____ DDL Sampler
____ Submersible Pump
____ Well Wizard™
____ Bailer(Teflon®)
X Bailer (PVC/disposable)
____ Bailer (Stainless Steel)
____ Dedicated

Other: ____

WELL INTEGRITY: Going DRY LOCK #: Dolphin
REMARKS: 100% Recovery at Sample Time

SIGNATURE: [signature]

SECOR
WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 50085-001-01
PURGED BY: _____
SAMPLED BY: _____

WELL ID: MW 6A
SAMPLE ID: _____
CLIENT NAME: _____
LOCATION: _____

TYPE: Groundwater X Surface Water _____ Treatment Effluent _____ Other _____

CASING DIAMETER (inches): 2 X 3 _____ 4 _____ 4.5 _____ 6 _____ Other _____

CASING ELEVATION: (feet/MSL):	_____	VOLUME IN CASING (gal.)	_____
DEPTH TO WATER (feet):	_____	CALCULATED PURGE (gal.)	_____
DEPTH OF WELL (feet):	_____	ACTUAL PURGE VOL. (gal.)	_____

DATE PURGED: _____ Start (2400 Hr) _____ End (2400 Hr.) _____
DATE SAMPLED: _____ Start (2400 Hr) _____ End (2400 Hr.) _____

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, X-DUP-1): _____

FIELD MEASUREMENTS

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm@25°C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY (NTU)
10:17	2	6.65	12.04	60.8	grey	7200
10:20	4	6.61	12.97	61.4	grey	7200
10:22	6	6.68	15.44	62.7	grey	7200

D.O. (ppm): _____ COLOR, COBALT (0-100): _____

ODOR: _____

Clear
Cloudy
Yellow
(Brown)

PURGING EQUIPMENT

____ 2" Bladder Pump
____ Centrifugal Pump
____ Submersible Pump
____ Well Wizard™
____ Bailer(Teflon®)
____ Bailer (PVC)
____ Bailer (Stainless Steel)
____ Dedicated

Other: _____

SAMPLING EQUIPMENT

____ 2" Bladder Pump
____ DDL Sampler
____ Submersible Pump
____ Well Wizard™
____ Bailer(Teflon®)
____ Bailer (PVC/disposable)
____ Bailer (Stainless Steel)
____ Dedicated

Other: _____

WELL INTEGRITY: _____ LOCK #: Dolphin
REMARKS: _____

FYI.

SIGNATURE: _____

SECOR
WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 50085-001-01
PURGED BY: GRC
SAMPLED BY: GRC

WELL ID: MW-7
SAMPLE ID: MW-7
CLIENT NAME: Crowley
LOCATION: Alameda

TYPE: Groundwater X Surface Water ____ Treatment Effluent ____ Other ____

CASING DIAMETER (inches): 2 X 3 ____ 4 ____ 4.5 ____ 6 ____ Other ____

CASING ELEVATION: (feet/MSL):		VOLUME IN CASING (gal.)	1.74
DEPTH TO WATER (feet):	3.04	CALCULATED PURGE (gal.)	5.23
DEPTH OF WELL (feet):	13.31	ACTUAL PURGE VOL. (gal.)	5.25

DATE PURGED: 2/6/95 Start (2400 Hr) 1345 End (2400 Hr.) 13:58
DATE SAMPLED: 2/6/95 Start (2400 Hr) 16:00 End (2400 Hr.) ____

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, X-DUP-1): ____

FIELD MEASUREMENTS

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm@25°C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY ~~(NTU)~~ (visual)
1349	1.75	6.62	1900	61.6	BRN	7200
13:52	4.00	6.58	72000	63.3	BRN	7200
13:55	5.25	6.67	72000	64.9	BRN	7200

D.O. (ppm): ____ COLOR, COBALT (0-100): ____

Clear
Cloudy
Yellow
(Brown)

ODOR: GAS

PURGING EQUIPMENT

____ 2" Bladder Pump
____ Centrifugal Pump
____ Submersible Pump
____ Well Wizard™
____ Bailer(Teflon®)
X Bailer (PVC)
____ Bailer (Stainless Steel)
____ Dedicated

Other: ____

SAMPLING EQUIPMENT

____ 2" Bladder Pump
____ DDL Sampler
____ Submersible Pump
____ Well Wizard™
____ Bailer(Teflon®)
X Bailer (PVC/disposable)
____ Bailer (Stainless Steel)
____ Dedicated

Other: ____

WELL INTEGRITY: Dry @ 5.25 LOCK #: Dolphin
REMARKS: 100% recovery

SIGNATURE: GRC

SECOR
WATER SAMPLE FIELD DATA SHEET

PROJECT NO: 50085.001-01
PURGED BY: GRC
SAMPLED BY: GRC

WELL ID: MW-8
SAMPLE ID: MW-8
CLIENT NAME: Crowley
LOCATION: Alameda

TYPE: Groundwater X Surface Water ____ Treatment Effluent ____ Other ____

CASING DIAMETER (inches): 2 X 3 ____ 4 ____ 4.5 ____ 6 ____ Other ____

CASING ELEVATION: (feet/MSL):		VOLUME IN CASING (gal.)	1.87
DEPTH TO WATER (feet):	2.16	CALCULATED PURGE (gal.)	5.63
DEPTH OF WELL (feet):	13.20	ACTUAL PURGE VOL. (gal.)	5.75

DATE PURGED: 2/6/95 Start (2400 Hr) 14:05 End (2400 Hr.) 14:20
DATE SAMPLED: 2/6/95 Start (2400 Hr) 16:25 End (2400 Hr.) ____

FIELD QC SAMPLES COLLECTED AT THIS WELL (i.e. FB-1, X-DUP-1): Dup- MW-9 - 16:30

FIELD MEASUREMENTS

TIME (2400 Hr)	VOLUME (gal.)	pH (units)	E.C. (umhos/cm@25°C)	TEMPERATURE (°F)	COLOR (visual)	TURBIDITY ~~(NTU)~~ visual
14:09	2.00	7.16	981	62.5	BRN	7200
14:12	4.5	6.67	1353	63.9	BRN	7200
14:15	5.25	6.66	1719	64.5	BRN	7200
14:17	5.75	6.65	1751	64.7	BRN	7200

D.O. (ppm): ____ COLOR, COBALT (0-100): ____

ODOR: GAS, Smell

Clear
Cloudy
Yellow
(Brown)

PURGING EQUIPMENT

____ 2" Bladder Pump
____ Centrifugal Pump
____ Submersible Pump
____ Well Wizard™
____ Bailer(Teflon®)
X Bailer (PVC)
____ Bailer (Stainless Steel)
____ Dedicated

Other: ____

SAMPLING EQUIPMENT

____ 2" Bladder Pump
____ DDL Sampler
____ Submersible Pump
____ Well Wizard™
____ Bailer(Teflon®)
X Bailer (PVC/disposable)
____ Bailer (Stainless Steel)
____ Dedicated

Other: ____

WELL INTEGRITY: Dry @ 5.75 Gallons LOCK #: Dolphin
REMARKS: Good recovery

SIGNATURE: DRL

APPENDIX B

Laboratory Analytical Reports and Chain-of-Custody Records - February 6, 1995

NATIONAL ENVIRONMENTAL TESTING, INC.

Santa Rosa Division
435 Tesconi Circle
Santa Rosa, CA 95401
Tel: (707) 526-7200
Fax: (707) 526-9623

Terri Plunkett
Seacor
90 New Montgomery
Suite 620
San Francisco, CA 94105

Date: 02/15/1995
NET Client Acct. No: 74000
NET Pacific Job No: 95.00564
Received: 02/08/1995

Client Reference Information

Crowley, Alameda Grand Marina/Proj. No. 50085-001-01

Sample analysis in support of the project referenced above has been completed and results are presented on following pages. Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety. Please refer to the enclosed "Key to Abbreviations" for definition of terms. Should you have questions regarding procedures or results, please feel welcome to contact Client Services.

Approved by:

Thomas F. Cullen, Jr.
Division Manager

Linda DeMartino
Project Coordinator

Enclosure(s)

Ref: Crowley, Alameda Grand Marina/Proj. No. 50085-001-01

SAMPLE DESCRIPTION: MW-1
Date Taken: 02/06/1995
Time Taken: 03:45
NET Sample No: 235395

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
Oil & Grease (Total)	ND		5	mg/L	5520B		02/12/1995	304
Oil & Grease (Non-Polar)	ND		5	mg/L	5520B/F		02/12/1995	285
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						02/12/1995	2576
DILUTION FACTOR*	1						02/12/1995	2576
as Gasoline	ND		0.05	mg/L	5030		02/12/1995	2576
METHOD 8020 (GC,Liquid)	--						02/12/1995	2576
Benzene	ND		0.5	ug/L	8020		02/12/1995	2576
Toluene	ND		0.5	ug/L	8020		02/12/1995	2576
Ethylbenzene	ND		0.5	ug/L	8020		02/12/1995	2576
Xylenes (Total)	ND		0.5	ug/L	8020		02/12/1995	2576
SURROGATE RESULTS	--						02/12/1995	2576
Bromofluorobenzene (SURR)	89			% Rec.	5030		02/12/1995	2576
METHOD M8015 (EXT., Liquid)						02/09/1995		
DILUTION FACTOR*	1						02/11/1995	918
as Diesel	1.3	DH	0.05	mg/L	3510		02/11/1995	918

DH The positive result appears to be a heavier hydrocarbon than Diesel

Client Name: Seacor
Client Acct: 74000
NET Job No: 95.00564

Date: 02/15/1995
ELAP Cert: 1386
Page: 3

Ref: Crowley, Alameda Grand Marina/Proj. No. 50085-001-01

SAMPLE DESCRIPTION: MW-2
Date Taken: 02/06/1995
Time Taken: 11:48
NET Sample No: 235396

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
Oil & Grease (Total)	ND		5	mg/L	5520B		02/12/1995	304
Oil & Grease (Non-Polar)	ND		5	mg/L	5520B/F		02/12/1995	285
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						02/11/1995	2575
DILUTION FACTOR*	10						02/11/1995	2575
as Gasoline	1.7		0.5	mg/L	5030		02/11/1995	2575
METHOD 8020 (GC,Liquid)	--						02/11/1995	2575
Benzene	300		5	ug/L	8020		02/11/1995	2575
Toluene	210		5	ug/L	8020		02/11/1995	2575
Ethylbenzene	17		5	ug/L	8020		02/11/1995	2575
Xylenes (Total)	74		5	ug/L	8020		02/11/1995	2575
SURROGATE RESULTS	--						02/11/1995	2575
Bromofluorobenzene (SURR)	91			% Rec.	5030		02/11/1995	2575
METHOD M8015 (EXT., Liquid)						02/09/1995		
DILUTION FACTOR*	1						02/11/1995	918
as Diesel	1.9	DH,DL	0.05	mg/L	3510		02/11/1995	918

DH - The positive result appears to be a heavier hydrocarbon than Diesel
DL - The positive result appears to be a lighter hydrocarbon than Diesel

Ref: Crowley, Alameda Grand Marina/Proj. No. 50085-001-01

SAMPLE DESCRIPTION: MW-3
Date Taken: 02/06/1995
Time Taken: 16:50
NET Sample No: 235397

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
Oil & Grease (Total)	ND		5	mg/L	5520B		02/12/1995	304
Oil & Grease (Non-Polar)	ND		5	mg/L	5520B/F		02/12/1995	285
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						02/12/1995	2576
DILUTION FACTOR*	1						02/12/1995	2576
as Gasoline	ND		0.05	mg/L	5030		02/12/1995	2576
METHOD 8020 (GC,Liquid)	--						02/12/1995	2576
Benzene	ND		0.5	ug/L	8020		02/12/1995	2576
Toluene	ND		0.5	ug/L	8020		02/12/1995	2576
Ethylbenzene	ND		0.5	ug/L	8020		02/12/1995	2576
Xylenes (Total)	ND		0.5	ug/L	8020		02/12/1995	2576
SURROGATE RESULTS	--						02/12/1995	2576
Bromofluorobenzene (SURR)	94			% Rec.	5030		02/12/1995	2576
METHOD M8015 (EXT., Liquid)						02/09/1995		
DILUTION FACTOR*	1						02/11/1995	918
as Diesel	0.36	DH	0.05	mg/L	3510		02/11/1995	918

DH The positive result appears to be a heavier hydrocarbon than Diesel

Ref: Crowley, Alameda Grand Marina/Proj. No. 50085-001-01

SAMPLE DESCRIPTION: MW-4
Date Taken: 02/06/1995
Time Taken: 12:20
NET Sample No: 235398

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
Oil & Grease (Total)	ND		5	mg/L	5520B		02/12/1995	304
Oil & Grease (Non-Polar)	ND		5	mg/L	5520B/F		02/12/1995	285
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						02/12/1995	2576
DILUTION FACTOR*	1						02/12/1995	2576
as Gasoline	0.12	GH	0.05	mg/L	5030		02/12/1995	2576
METHOD 8020 (GC,Liquid)	--						02/12/1995	2576
Benzene	ND		0.5	ug/L	8020		02/12/1995	2576
Toluene	ND		0.5	ug/L	8020		02/12/1995	2576
Ethylbenzene	ND		0.5	ug/L	8020		02/12/1995	2576
Xylenes (Total)	ND		0.5	ug/L	8020		02/12/1995	2576
SURROGATE RESULTS	--						02/12/1995	2576
Bromofluorobenzene (SURR)	97			% Rec.	5030		02/12/1995	2576
METHOD M8015 (EXT., Liquid)						02/09/1995		
DILUTION FACTOR*	1						02/11/1995	918
as Diesel	0.66	DH	0.05	mg/L	3510		02/11/1995	918

DH The positive result appears to be a heavier hydrocarbon than Diesel
GH The positive result appears to be a heavier hydrocarbon than Gasoline

Ref: Crowley, Alameda Grand Marina/Proj. No. 50085-001-01

SAMPLE DESCRIPTION: MW-5
Date Taken: 02/06/1995
Time Taken: 15:00
NET Sample No: 235399

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
Oil & Grease (Total)	ND		5	mg/L	5520B		02/12/1995	304
Oil & Grease (Non-Polar)	ND		5	mg/L	5520B/F		02/12/1995	285
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						02/12/1995	2576
DILUTION FACTOR*	1						02/12/1995	2576
as Gasoline	ND		0.05	mg/L	5030		02/12/1995	2576
METHOD 8020 (GC,Liquid)	--						02/12/1995	2576
Benzene	ND		0.5	ug/L	8020		02/12/1995	2576
Toluene	ND		0.5	ug/L	8020		02/12/1995	2576
Ethylbenzene	ND		0.5	ug/L	8020		02/12/1995	2576
Xylenes (Total)	ND		0.5	ug/L	8020		02/12/1995	2576
SURROGATE RESULTS	--						02/12/1995	2576
Bromofluorobenzene (SURR)	91			% Rec.	5030		02/12/1995	2576
METHOD M8015 (EXT., Liquid)						02/09/1995		
DILUTION FACTOR*	1						02/11/1995	918
as Diesel	0.46	DH	0.05	mg/L	3510		02/11/1995	918

DH The positive result appears to be a heavier hydrocarbon than Diesel

Client Name: Seacor
Client Acct: 74000
NET Job No: 95.00564

Date: 02/15/1995
ELAP Cert: 1386
Page: 7

Ref: Crowley, Alameda Grand Marina/Proj. No. 50085-001-01

SAMPLE DESCRIPTION: MW-6
Date Taken: 02/06/1995
Time Taken: 15:20
NET Sample No: 235400

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
Oil & Grease (Total)	ND		5	mg/L	5520B		02/12/1995	304
Oil & Grease (Non-Polar)	ND		5	mg/L	5520B/F		02/12/1995	285
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						02/11/1995	2575
DILUTION FACTOR*	1						02/11/1995	2575
as Gasoline	ND		0.05	mg/L	5030		02/11/1995	2575
METHOD 8020 (GC,Liquid)	--						02/11/1995	2575
Benzene	ND		0.5	ug/L	8020		02/11/1995	2575
Toluene	ND		0.5	ug/L	8020		02/11/1995	2575
Ethylbenzene	ND		0.5	ug/L	8020		02/11/1995	2575
Xylenes (Total)	ND		0.5	ug/L	8020		02/11/1995	2575
SURROGATE RESULTS	--						02/11/1995	2575
Bromofluorobenzene (SURR)	74			% Rec.	5030		02/11/1995	2575
METHOD M8015 (EXT., Liquid)						02/09/1995		
DILUTION FACTOR*	1						02/11/1995	918
as Diesel	0.57	DH	0.05	mg/L	3510		02/11/1995	918

DH The positive result appears to be a heavier hydrocarbon than Diesel

NOTE: Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety.

Client Name: Seacor
Client Acct: 74000
NET Job No: 95.00564

Date: 02/15/1995
ELAP Cert: 1386
Page: 8

Ref: Crowley, Alameda Grand Marina/Proj. No. 50085-001-01

SAMPLE DESCRIPTION: MW-7
Date Taken: 02/06/1995
Time Taken: 16:00
NET Sample No: 235401

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
Oil & Grease (Total)	ND		5	mg/L	5520B		02/12/1995	304
Oil & Grease (Non-Polar)	ND		5	mg/L	5520B/F		02/12/1995	285
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						02/12/1995	2576
DILUTION FACTOR*	1						02/12/1995	2576
as Gasoline	ND		0.05	mg/L	5030		02/12/1995	2576
METHOD 8020 (GC,Liquid)	--						02/12/1995	2576
Benzene	ND		0.5	ug/L	8020		02/12/1995	2576
Toluene	ND		0.5	ug/L	8020		02/12/1995	2576
Ethylbenzene	ND		0.5	ug/L	8020		02/12/1995	2576
Xylenes (Total)	ND		0.5	ug/L	8020		02/12/1995	2576
SURROGATE RESULTS	--						02/12/1995	2576
Bromofluorobenzene (SURR)	90			% Rec.	5030		02/12/1995	2576
METHOD M8015 (EXT., Liquid)						02/09/1995		
DILUTION FACTOR*	1						02/11/1995	918
as Diesel	1.3	DH	0.05	mg/L	3510		02/11/1995	918

DH The positive result appears to be a heavier hydrocarbon than Diesel

NOTE Results apply only to the samples analyzed. Reproduction of this report is permitted only in its entirety

Client Name: Seacor
Client Acct: 74000
NET Job No: 95.00564

Date: 02/15/1995
ELAP Cert: 1386
Page: 9

Ref: Crowley, Alameda Grand Marina/Proj. No. 50085-001-01

SAMPLE DESCRIPTION: MW-8
Date Taken: 02/06/1995
Time Taken: 16:25
NET Sample No: 235402

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
Oil & Grease (Total)	ND		5	mg/L	5520B		02/12/1995	304
Oil & Grease (Non-Polar)	ND		5	mg/L	5520B/F		02/12/1995	285
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						02/11/1995	2575
DILUTION FACTOR*	1						02/11/1995	2575
as Gasoline	ND		0.05	mg/L	5030		02/11/1995	2575
METHOD 8020 (GC,Liquid)	--						02/11/1995	2575
Benzene	ND		0.5	ug/L	8020		02/11/1995	2575
Toluene	ND		0.5	ug/L	8020		02/11/1995	2575
Ethylbenzene	ND		0.5	ug/L	8020		02/11/1995	2575
Xylenes (Total)	ND		0.5	ug/L	8020		02/11/1995	2575
SURROGATE RESULTS	--						02/11/1995	2575
Bromofluorobenzene (SURR)	83			% Rec.	5030		02/11/1995	2575
METHOD M8015 (EXT., Liquid)						02/09/1995		
DILUTION FACTOR*	1						02/11/1995	918
as Diesel	0.93	DH	0.05	mg/L	3510		02/11/1995	918

DH : The positive result appears to be a heavier hydrocarbon than Diesel

Ref: Crowley, Alameda Grand Marina/Proj. No. 50085-001-01

SAMPLE DESCRIPTION: MW-9
Date Taken: 02/06/1995
Time Taken: 16:30
NET Sample No: 235403

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
Oil & Grease (Total)	ND		5	mg/L	5520B		02/12/1995	304
Oil & Grease (Non-Polar)	ND		5	mg/L	5520B/F		02/12/1995	285
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						02/11/1995	2575
DILUTION FACTOR*	1						02/11/1995	2575
as Gasoline	ND		0.05	mg/L	5030		02/11/1995	2575
METHOD 8020 (GC,Liquid)	--						02/11/1995	2575
Benzene	ND		0.5	ug/L	8020		02/11/1995	2575
Toluene	ND		0.5	ug/L	8020		02/11/1995	2575
Ethylbenzene	ND		0.5	ug/L	8020		02/11/1995	2575
Xylenes (Total)	ND		0.5	ug/L	8020		02/11/1995	2575
SURROGATE RESULTS	--						02/11/1995	2575
Bromofluorobenzene (SURR)	78			% Rec.	5030		02/11/1995	2575
METHOD M8015 (EXT., Liquid)						02/09/1995		
DILUTION FACTOR*	1						02/11/1995	918
as Diesel	0.47	DH	0.05	mg/L	3510		02/11/1995	918

DH The positive result appears to be a heavier hydrocarbon than Diesel

Ref: Crowley, Alameda Grand Marina/Proj. No. 50085-001-01

SAMPLE DESCRIPTION: T.B.
Date Taken: 02/06/1995
Time Taken:
NET Sample No: 235404

Parameter	Results	Flags	Reporting Limit	Units	Method	Date Extracted	Date Analyzed	Run Batch No.
TPH (Gas/BTXE,Liquid)								
METHOD 5030/M8015	--						02/11/1995	2575
DILUTION FACTOR*	1						02/11/1995	2575
as Gasoline	ND		0.05	mg/L	5030		02/11/1995	2575
METHOD 8020 (GC,Liquid)	--						02/11/1995	2575
Benzene	ND		0.5	ug/L	8020		02/11/1995	2575
Toluene	0.7	C	0.5	ug/L	8020		02/11/1995	2575
Ethylbenzene	ND		0.5	ug/L	8020		02/11/1995	2575
Xylenes (Total)	ND		0.5	ug/L	8020		02/11/1995	2575
SURROGATE RESULTS	--						02/11/1995	2575
Bromofluorobenzene (SURR)	84			% Rec.	5030		02/11/1995	2575

C Positive result confirmed by secondary column or GC/MS analysis

Ref: Crowley, Alameda Grand Marina/Proj. No. 50085-001-01

CONTINUING CALIBRATION VERIFICATION STANDARD REPORT

Parameter	CCV Standard % Recovery	CCV Standard Amount Found	CCV Standard Amount Expected	Units	Date Analyzed	Analyst Initials	Run Batch Number
TPH (Gas/BTXE,Liquid)							
as Gasoline	108.0	1.08	1.00	mg/L	02/11/1995	dfw	2575
Benzene	91.8	4.59	5.00	ug/L	02/11/1995	dfw	2575
Toluene	89.6	4.48	5.00	ug/L	02/11/1995	dfw	2575
Ethylbenzene	92.6	4.63	5.00	ug/L	02/11/1995	dfw	2575
Xylenes (Total)	92.0	13.8	15.0	ug/L	02/11/1995	dfw	2575
Bromofluorobenzene (SURR)	96.0	96	100	% Rec.	02/11/1995	dfw	2575
TPH (Gas/BTXE,Liquid)							
as Gasoline	108.0	1.08	1.00	mg/L	02/12/1995	dfw	2576
Benzene	93.2	4.66	5.00	ug/L	02/12/1995	dfw	2576
Toluene	102.4	5.12	5.00	ug/L	02/12/1995	dfw	2576
Ethylbenzene	94.6	4.73	5.00	ug/L	02/12/1995	dfw	2576
Xylenes (Total)	96.0	14.4	15.0	ug/L	02/12/1995	dfw	2576
Bromofluorobenzene (SURR)	92.0	92	100	% Rec.	02/12/1995	dfw	2576
METHOD M8015 (EXT., Liquid)							
as Diesel	100.1	1001	1000	mg/L	02/11/1995	tdn	918

Ref: Crowley, Alameda Grand Marina/Proj. No. 50085-001-01

METHOD BLANK REPORT

Parameter	Method Blank Amount Found	Reporting Limit	Units	Date Analyzed	Analyst Initials	Run Batch Number
Oil & Grease (Total)	ND	5	mg/L	02/12/1995	vah	304
Oil & Grease (Non-Polar)	ND	5	mg/L	02/12/1995	vah	285
TPH (Gas/BTXE,Liquid)						
as Gasoline	ND	0.05	mg/L	02/11/1995	dfw	2575
Benzene	ND	0.5	ug/L	02/11/1995	dfw	2575
Toluene	ND	0.5	ug/L	02/11/1995	dfw	2575
Ethylbenzene	ND	0.5	ug/L	02/11/1995	dfw	2575
Xylenes (Total)	ND	0.5	ug/L	02/11/1995	dfw	2575
Bromofluorobenzene (SURR)	93		% Rec.	02/11/1995	dfw	2575
TPH (Gas/BTXE,Liquid)						
as Gasoline	ND	0.05	mg/L	02/12/1995	dfw	2576
Benzene	ND	0.5	ug/L	02/12/1995	dfw	2576
Toluene	ND	0.5	ug/L	02/12/1995	dfw	2576
Ethylbenzene	ND	0.5	ug/L	02/12/1995	dfw	2576
Xylenes (Total)	ND	0.5	ug/L	02/12/1995	dfw	2576
Bromofluorobenzene (SURR)	92		% Rec.	02/12/1995	dfw	2576
METHOD M8015 (EXT., Liquid)						
as Diesel	ND	0.05	mg/L	02/11/1995	tdn	918

Ref: Crowley, Alameda Grand Marina/Proj. No. 50085-001-01

MATRIX SPIKE / MATRIX SPIKE DUPLICATE

Parameter	Matrix Spike % Rec.	Matrix Spike Dup % Rec.	RPD	Spike Amount	Sample Conc.	Matrix Spike Conc.	Matrix Spike Dup. Conc.	Units	Date Analyzed	Run Batch	Sample Spiked
Oil & Grease (Total)	99.3	99.1	0.2	282	ND	280	220	mg/L	02/12/1995	304	235626
Oil & Grease (Non-Polar)	99.3	99.1	0.2	282	ND	280	220	mg/L	02/12/1995	285	235626
TPH (Gas/BTXE,Liquid)											235400
as Gasoline	101.0	103.0	2.0	1.00	ND	1.01	1.03	mg/L	02/11/1995	2575	235400
Benzene	90.4	91.9	1.6	19.7	ND	17.8	18.1	ug/L	02/11/1995	2575	235400
Toluene	91.4	89.9	1.7	82.1	ND	75.0	73.8	ug/L	02/11/1995	2575	235400
TPH (Gas/BTXE,Liquid)											235462
as Gasoline	112.0	111.0	0.9	1.00	ND	1.12	1.11	mg/L	02/12/1995	2576	235462
Benzene	102.6	102.1	0.5	19.4	ND	19.9	19.8	ug/L	02/12/1995	2576	235462
Toluene	102.3	102.6	0.3	81.4	ND	83.3	83.5	ug/L	02/12/1995	2576	235462
METHOD M8015 (EXT., Liquid)											235403
as Diesel	105.0	133.0	23.5	2.00	0.47	2.57	3.13	mg/L	02/11/1995	918	235403

Ref: Crowley, Alameda Grand Marina/Proj. No. 50085-001-01

LABORATORY CONTROL SAMPLE REPORT

Parameter	LCS % Recovery	Duplicate LCS % Recovery	RPD	LCS Amount Found	Duplicate LCS Amount Found	LCS Amount Expected	Units	Date Analyzed	Analyst Initials	Run Batch
Oil & Grease (Total)	97.5			195		200	mg/L	02/12/1995	vah	304
Oil & Grease (Total)	98.6			216		219	mg/L	02/12/1995	vah	304
Oil & Grease (Non-Polar)	97.5			195		200	mg/L	02/12/1995	vah	285
Oil & Grease (Non-Polar)	98.6			216		219	mg/L	02/12/1995	vah	285
METHOD M8015 (EXT., Liquid) as Diesel	53.6			0.536		1.00	mg/L	02/11/1995	tdn	918

NET®

KEY TO ABBREVIATIONS and METHOD REFERENCES

<	:	Less than; When appearing in results column indicates analyte not detected at the value following. This datum supercedes the listed Reporting Limit.
*	:	Reporting Limits are a function of the dilution factor for any given sample. To obtain the actual reporting limits for this sample, multiply the stated Reporting Limits by the dilution factor (but do not multiply reported values).
ICVS	:	Initial Calibration Verification Standard (External Standard).
mean	:	Average; sum of measurements divided by number of measurements.
mg/Kg (ppm)	:	Concentration in units of milligrams of analyte per kilogram of sample, wet-weight basis (parts per million).
mg/L	:	Concentration in units of milligrams of analyte per liter of sample.
mL/L/hr	:	Milliliters per liter per hour.
MPN/100 mL	:	Most probable number of bacteria per one hundred milliliters of sample.
N/A	:	Not applicable.
NA	:	Not analyzed.
ND	:	Not detected; the analyte concentration is less than applicable listed reporting limit.
NTU	:	Nephelometric turbidity units.
RPD	:	Relative percent difference, 100 [Value 1 - Value 2]/mean value.
SNA	:	Standard not available.
ug/Kg (ppb)	:	Concentration in units of micrograms of analyte per kilogram of sample, wet-weight basis (parts per billion).
ug/L	:	Concentration in units of micrograms of analyte per liter of sample.
umhos/cm	:	Micromhos per centimeter.

Method References

Methods 100 through 493: see "Methods for Chemical Analysis of Water & Wastes", U.S. EPA, 600/4-79-020, rev. 1983.

Methods 601 through 625: see "Guidelines Establishing Test Procedures for the Analysis of Pollutants" U.S. EPA, 40 CFR, Part 136, rev. 1988.

Methods 1000 through 9999: see "Test Methods for Evaluating Solid Waste", U.S. EPA SW-846, 3rd edition, 1986.

SM: see "Standard Methods for the Examination of Water & Wastewater, 17th Edition, APHA, 1989.

Chain-of Custody Number: 5391

SECOR Chain-of Custody Record

Field Office 1390 Willow Pass Road Suite 360
Address Concord CA 94520-5250

☐ Additional documents are attached, and are a part of this Record.

Job Name: Crowley
Location: Alameda Grand Marina

Project # 50885-001-01 Task #
Project Manager Terri Plunkett
Laboratory N.E.T.
Turnaround Time Standard

Sampler's Name GARY CLIFT
Sampler's Signature

Analysis Request

Sample ID	Date	Time	Matrix	HCID	TPHg/BTEX/WTPH-G 8015 (modified)/8020	TPHd/WTPH-D 8015 (modified)	TPH 418.1/WTPH 418.1	Aromatic Volatiles 602/8020	Volatile Organics 624/8240 (GC/MS)	Halogenated Volatiles 601/8010	Semi-volatile Organics 625/8270 (GC/MS)	Pesticides/PCBs 608/8080	Total Lead 7421	Priority Pollutant Metals (13)	TCLP Metals	Total Oil & Grease and BTEX		Comments/ Instructions	Number of Containers
MW-1	2/6	3:45	H2O		X	X										X		2/8/95 - Run Gas, BTEX on	6
MW-4	2/6	12:20	H2O		X	X										X		T.B. Sample per Terry	6
MW-2	2/6	11:48	H2O		X	X										X		Plunkett to Pam Greene.	6
MW-3	2/6	16:50	H2O		X	X										X		09:50. PA	6
MW-8	2/6	16:25	H2O		X	X										X			6
MW-7	2/6	16:00	H2O		X	X										X		2/7/95	6
MW-6	2/6	15:20	H2O		X	X										X		1240	6
MW-5	2/6	15:00	H2O		X	X										X		Seal intact	6
MW-9	2/6	16:30	H2O		X	X										X			6
T.B.	2/6	—	H2O		X														1

Special Instructions/Comments:
Analize For TPHg, TPHd, Total Oil & Grease & BTEX

Any questions CALL Terri Plunket Kalmey at (415) 882-1548

RECEIVED

Relinquished by: SECOR
Sign
Print GARY CLIFT
Company SECOR
Time 8:00 Date 2/7/95

Relinquished by:
Sign Betty Harvey
Print Betty Harvey
Company N.E.T.
Time 11.20 Date 2/7/95

Relinquished by:
Sign Betty Harvey
Print Betty Harvey
Company NET
Time 1240 Date 2/7/95

Received
Relinquished by:
Sign J LeBaudour
Print J. LeBaudour
Company NET
Time 07:00 Date 2/8/95

Sample Receipt
Total no. of containers: 55
Chain of custody seals: intact
Rec'd. in good condition/cold: yes
Conforms to record: yes

Client: SECOR
Client Contact: Terri Plunket
Client Phone: (415) 882-1548

SECOR COSTREC Rev 9/94

Temp. recd. 0.3°C, 1.4°C & 0.8°C

Date: 2/7/95 Page 1 of 1

APPENDIX C

Groundwater Sample Field Data Sheets and Groundwater Monitoring Procedures - May 9, 1995

SECOR International Inc.

WATER SAMPLE FIELD DATA SHEET

PROJECT #: 50055 | PURGED BY: GRC | WELL I.D.: MW-4

CLIENT NAME: ~~HEWLETT PACKARD~~ | SAMPLED BY: GRC | SAMPLE I.D.: MW-4

LOCATION: Crowley | QA SAMPLES: ______

DATE PURGED 5/9/95 | START (2400hr) 12:25 | END (2400hr) 12:50

DATE SAMPLED 5/9/95 | SAMPLE TIME (2400hr) 2:30

SAMPLE TYPE: Groundwater X Surface Water ___ Treatment Effluent ___ Other ______

CASING DIAMETER:	2" X	3" ___	4" ___	5" ___	6" ___	8" ___	Other ___
Casing Volume: (gallons per foot)	(0.17)	(0.38)	(0.67)	(1.02)	(1.50)	(2.60)	( )

DEPTH TO BOTTOM (feet) = 14.85 | CASING VOLUME (gal) = 1.99

DEPTH TO WATER (feet) = 3.10 | CALCULATED PURGE (gal) = 5.99

WATER COLUMN HEIGHT (feet) = 11.75 | ACTUAL PURGE (gal) = 6.00

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
5/9	12:30	2	65.1	5.35	8.02	BRN	7200
5/9	12:45	4	64.2	9.45	10.88	BRN	7200
5/9	12:49	6	63.7	15.18	7.26	BRN	7200

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: ______ SAMPLE TURBIDITY: ______

80% RECHARGE: X YES ___NO ANALYSES: ______

ODOR: Yes SAMPLE VESSEL / PRESERVATIVE: ______

PURGING EQUIPMENT

___ Bladder Pump
___ Centrifugal Pump
___ Submersible Pump
___ Peristaltic Pump
___ Bailer (Teflon)
___ Bailer (PVC)
___ Bailer (Stainless Steel)
X Dedicated ______

Other: ______

Pump Depth: ______

SAMPLING EQUIPMENT

___ Bladder Pump
___ Centrifugal Pump
___ Submersible Pump
___ Peristaltic Pump
___ Bailer (Teflon)
X Bailer (___PVC or X disposable)
___ Bailer (Stainless Steel)
___ Dedicated ______

Other: ______

WELL INTEGRITY: Good LOCK#: Dolphin

REMARKS: ______

SIGNATURE GRC

Page 1 of 1

SECOR International Inc.

WATER SAMPLE FIELD DATA SHEET

PROJECT #: 50085 PURGED BY: GRC WELL I.D.: MW-5

CLIENT NAME: ~~HEWLETT-PACKARD~~ SAMPLED BY: GRC SAMPLE I.D.: MW-5

LOCATION: Crowley QA SAMPLES: _____

DATE PURGED 5/9 START (2400hr) 11:00 END (2400hr) 11:15

DATE SAMPLED 5/9 SAMPLE TIME (2400hr) 3:00

SAMPLE TYPE: Groundwater X Surface Water ____ Treatment Effluent ____ Other ____

CASING DIAMETER:	2"	3"	4"	5"	6"	8"	Other
Casing Volume: (gallons per foot)	X (0.17)	____ (0.38)	____ (0.67)	____ (1.02)	____ (1.50)	____ (2.60)	____ ( )

DEPTH TO BOTTOM (feet) = 13.53 CASING VOLUME (gal) = 1.35

DEPTH TO WATER (feet) = 5.54 CALCULATED PURGE (gal) = 4.07

WATER COLUMN HEIGHT (feet) = 7.99 ACTUAL PURGE (gal) = 4.25

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
5/9	11:00	1	67.0	12.93	6.79	BRN	7200
5/9	11:10	3	66.9	13.44	6.80	BRN	7200
5/9	11:12	dry 4.25	67.0	13.53	7.02	BRN	7200

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: _____ SAMPLE TURBIDITY: _____

80% RECHARGE: X YES ___ NO ANALYSES: _____

ODOR: Yes SAMPLE VESSEL / PRESERVATIVE: _____

PURGING EQUIPMENT

____ Bladder Pump
____ Centrifugal Pump
____ Submersible Pump
____ Peristaltic Pump
____ Bailer (Teflon)
____ Bailer (PVC)
____ Bailer (Stainless Steel)
X Dedicated

Other: _____

Pump Depth _____

SAMPLING EQUIPMENT

____ Bladder Pump
____ Centrifugal Pump
____ Submersible Pump
____ Peristaltic Pump
____ Bailer (Teflon)
X Bailer (___ PVC or X disposable)
____ Bailer (Stainless Steel)
____ Dedicated

Other: _____

WELL INTEGRITY: Dry @ 4.25 gallons LOCK#: Dolphin

REMARKS: _____

SIGNATURE: GRC

SECOR International Inc.

WATER SAMPLE FIELD DATA SHEET

PROJECT #: 50655 PURGED BY: GRC WELL I.D.: MW-6

CLIENT NAME: ~~HEWLETT PACKARD~~ SAMPLED BY: GRC SAMPLE I.D.: MW-6

LOCATION: Concord QA SAMPLES:

DATE PURGED 5/9 START (2400hr) 15:20 END (2400hr) 15:36

DATE SAMPLED 5/9 SAMPLE TIME (2400hr) 3:10

SAMPLE TYPE: Groundwater X Surface Water ___ Treatment Effluent ___ Other ___

CASING DIAMETER: 2" X 3" ___ 4" ___ 5" ___ 6" ___ 8" ___ Other ___

Casing Volume: (gallons per foot) (0.17) (0.38) (0.67) (1.02) (1.50) (2.60) ( )

DEPTH TO BOTTOM (feet) = 14.01 CASING VOLUME (gal) = 1.41

DEPTH TO WATER (feet) = 5.67 CALCULATED PURGE (gal) = 4.25

WATER COLUMN HEIGHT (feet) = 8.34 ACTUAL PURGE (gal) = 4.50

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
5/9	15:24	1.5	64.3	1659	7.62	GRY	7200
5/9	15:35	3.0	63.8	1632	7.26	BRN	7200
5/9	15:39	4.5	63.9	1639	7.16	BRN	7200

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: ___ SAMPLE TURBIDITY: ___

80% RECHARGE: X YES ___ NO ANALYSES: ___

ODOR: SLIGHT SAMPLE VESSEL / PRESERVATIVE: ___

PURGING EQUIPMENT

___ Bladder Pump
___ Centrifugal Pump
___ Submersible Pump
___ Peristaltic Pump
___ Bailer (Teflon)
___ Bailer (PVC)
___ Bailer (Stainless Steel)
X Dedicated ___

Other: ___

Pump Depth. ___

SAMPLING EQUIPMENT

___ Bladder Pump
___ Centrifugal Pump
___ Submersible Pump
___ Peristaltic Pump
___ Bailer (Teflon)
___ Bailer (___PVC or X disposable)
___ Bailer (Stainless Steel)
___ Dedicated ___

Other: ___

WELL INTEGRITY: Good LOCK# Padlock

REMARKS ___

SIGNATURE GRC

SECOR International Inc.

WATER SAMPLE FIELD DATA SHEET

PROJECT #: 50055 PURGED BY: GRC WELL I.D.: MW-7

CLIENT NAME: ~~HEWLETT PACKARD~~ Crowley SAMPLED BY: GRC SAMPLE I.D.: MW-7

LOCATION: Crowley QA SAMPLES: ______

DATE PURGED 5/4 START (2400hr) 14:50 END (2400hr) 15:15

DATE SAMPLED 5/4 SAMPLE TIME (2400hr) 3:20

SAMPLE TYPE: Groundwater X Surface Water ___ Treatment Effluent ___ Other ___

CASING DIAMETER: 2" X (0.17) 3" ___ (0.38) 4" ___ (0.67) 5" ___ (1.02) 6" ___ (1.50) 8" ___ (2.60) Other ___ ( )

Casing Volume: (gallons per foot)

DEPTH TO BOTTOM (feet) = 13.31 CASING VOLUME (gal) = 1.65

DEPTH TO WATER (feet) = 3.55 CALCULATED PURGE (gal) = 4.97

WATER COLUMN HEIGHT (feet) = 9.76 ACTUAL PURGE (gal) = 5.00

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
5/4	15:00	1.75	66.2	72000	7.17	BRN	7200
5/4	15:05	3.00	65.6	72000	6.99	BRN	7200
5/4	15:10	5.00	65.6	72000	7.28	BRN	7200

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: ______ SAMPLE TURBIDITY: ______

80% RECHARGE: X YES ___ NO ANALYSES: ______

ODOR: Yes SAMPLE VESSEL / PRESERVATIVE: ______

PURGING EQUIPMENT

___ Bladder Pump
___ Centrifugal Pump
___ Submersible Pump
___ Peristaltic Pump
___ Bailer (Teflon)
___ Bailer (PVC)
___ Bailer (Stainless Steel)
X Dedicated ______

Other: ______

Pump Depth ______

SAMPLING EQUIPMENT

___ Bladder Pump
___ Centrifugal Pump
___ Submersible Pump
___ Peristaltic Pump
___ Bailer (Teflon)
X Bailer (___ PVC or X disposable)
___ Bailer (Stainless Steel)
___ Dedicated ______

Other: ______

WELL INTEGRITY: Good LOCK#: Dolphin

REMARKS: ______

SIGNATURE: GRC

Page 1 of 1

SECOR International Inc.

WATER SAMPLE FIELD DATA SHEET

PROJECT #: 50055 | PURGED BY: GRC | WELL I.D.: MW-8

CLIENT NAME: ~~HEWLETT PACKARD~~ | SAMPLED BY: GRC | SAMPLE I.D.: MW-8

LOCATION: Crowley | QA SAMPLES: MW-10 - 5:00

DATE PURGED 5/4 | START (2400hr) 2:30 | END (2400hr) 2:45

DATE SAMPLED 5/4 | SAMPLE TIME (2400hr) 4:45

SAMPLE TYPE: Groundwater X | Surface Water ____ | Treatment Effluent ____ | Other ____

CASING DIAMETER: 2" X | 3" ____ | 4" ____ | 5" ____ | 6" ____ | 8" ____ | Other ____ ( )

Casing Volume: (gallons per foot) (0.17) | (0.38) | (0.67) | (1.02) | (1.50) | (2.60)

DEPTH TO BOTTOM (feet) = 13.20 | CASING VOLUME (gal) = 1.73

DEPTH TO WATER (feet) = 2.97 | CALCULATED PURGE (gal) = 5.21

WATER COLUMN HEIGHT (feet) = 10.23 | ACTUAL PURGE (gal) = 5.50

FIELD MEASUREMENTS

DATE	TIME (2400hr)	VOLUME (gal)	TEMP. (degrees F)	CONDUCTIVITY (umhos/cm)	pH (units)	COLOR (visual)	TURBIDITY (NTU)
5/4	2:33	1.75	65.9	6.80	7.85	BRN	7200
5/4	2:37	3.00	64.6	1486	7.13	BRN	7200
5/4	2:40	5.50	64.4	72000	7.05	BRN	7200

SAMPLE INFORMATION

SAMPLE DEPTH TO WATER: ____ | SAMPLE TURBIDITY: ____

80% RECHARGE: X YES ___ NO | ANALYSES: ____

ODOR: yes | SAMPLE VESSEL / PRESERVATIVE: ____

PURGING EQUIPMENT

____ Bladder Pump
____ Centrifugal Pump
____ Submersible Pump
____ Peristaltic Pump
____ Bailer (Teflon)
____ Bailer (PVC)
____ Bailer (Stainless Steel)
X Dedicated ____

Other ____

Pump Depth: ____

SAMPLING EQUIPMENT

____ Bladder Pump
____ Centrifugal Pump
____ Submersible Pump
____ Peristaltic Pump
____ Bailer (Teflon)
X Bailer (___ PVC or X disposable)
____ Bailer (Stainless Steel)
____ Dedicated ____

Other: ____

WELL INTEGRITY Good | LOCK#: Dolphin

REMARKS: ____

SIGNATURE: GRC

APPENDIX D
Laboratory Analytical Reports and Chain-of-Custody Records - May 9, 1995

Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

SECOR
90 NEW MONTGOMERY ST. #620
SAN FRANCISCO, CA 94105

Date: May 19, 1995

Attn: TERRI PLUNKETTKALMEY

Laboratory Number : 81511

Project Number/Name : 50085-001-01

This report has been reviewed and

approved for release.

Cecilia G. Joaquin 5/19/95
Senior Chemist
Account Manager

Superior Precision Analytical, Inc.

A member of ESSCON Environmental Support Service Consortium

SECOR
Attn: TERRI PLUNKETTKALMEY

Project 50085-001-01
Reported on May 17, 1995

Total Oil and Grease by Standard Method 5520B

Chronology

Laboratory Number 81511

Sample ID	Sampled	Received	Extract.	Analyzed	QC Batch	LAB #
MW-2	05/09/95	05/10/95	05/15/95	05/15/95	BE151.34	01
MW-3	05/09/95	05/10/95	05/15/95	05/15/95	BE151.34	02
MW-4	05/09/95	05/10/95	05/15/95	05/15/95	BE151.34	03
MW-5	05/09/95	05/10/95	05/15/95	05/15/95	BE151.34	04
MW-6	05/09/95	05/10/95	05/15/95	05/15/95	BE151.34	05
MW-7	05/09/95	05/10/95	05/15/95	05/15/95	BE151.34	06
MW-8	05/09/95	05/10/95	05/15/95	05/15/95	BE151.34	07
MW-10	05/09/95	05/10/95	05/15/95	05/15/95	BE151.34	08

QC Samples

QC Batch #	QC Sample ID	TypeRef.	Matrix	Extract.	Analyzed
BE151.34-04	Method Blank	MB	Water	05/15/95	05/15/95
BE151.34-05	Laboratory Spike	LS	Water	05/15/95	05/15/95
BE151.34-06	Laboratory Spike Duplicate	LSD	Water	05/15/95	05/15/95

Certified Laboratories

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

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

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2992 / fax (206) 763-8429

BECOR
Attn: TERRI PLUNKETTKALMEY

Project 50085-001-01
Reported on May 17, 1995

Total Oil and Grease by Standard Method 5520B

LAB ID	Sample ID	Matrix	Dil.Factor	Moisture
81511-01	MW-2	Water	1.0	-
81511-02	MW-3	Water	1.0	-
81511-03	MW-4	Water	1.0	-
81511-04	MW-5	Water	1.0	-

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

Compound	81511-01 Conc. ug/L	RL	81511-02 Conc. ug/L	RL	81511-03 Conc. ug/L	RL	81511-04 Conc. ug/L	RL
Oil and Grease	6000	5000	ND	5000	ND	5000	ND	5000

Certified Laboratories

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

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

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2992 / fax (206) 763-8429

SECOR
Attn: TERRI PLUNKETTKALMEY

Project 50085-001-01
Reported on May 17, 1995

Total Oil and Grease by Standard Method 5520B

LAB ID	Sample ID	Matrix	Dil.Factor	Moisture
81511-05	MW-6	Water	1.0	-
81511-06	MW-7	Water	1.0	-
81511-07	MW-8	Water	1.0	-
81511-08	MW-10	Water	1.0	-

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

Compound	81511-05 Conc. ug/L	RL	81511-06 Conc. ug/L	RL	81511-07 Conc. ug/L	RL	81511-08 Conc. ug/L	RL
Oil and Grease	ND	5000	ND	5000	ND	5000	ND	5000

Certified Laboratories

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

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

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2992 / fax (206) 763-8429

Total Oil and Grease by Standard Method 5520B

Quality Assurance and Control Data

Laboratory Number: 81511
Method Blank(s)

	BE151.34-04	
	Conc.	RL
	ug/L	
Oil and Grease	ND	5000

Certified Laboratories

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

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

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2992 / fax (206) 763-8429

Total Oil and Grease by Standard Method 5520B

Quality Assurance and Control Data

Laboratory Number: 81511

Compound	Sample conc.	SPK Level	SPK Result	Recovery %	Limits %	RPD %
For Water Matrix (ug/L) BE151.34 05 / 06 - Laboratory Control Spikes						
Oil and Grease		30	23/24	77/80	50-110	4

Definitions:
ND = Not Detected
RL = Reporting Limit
NA = Not Analysed
RPD = Relative Percent Difference
ug/L = parts per billion (ppb)
mg/L = parts per million (ppm)
ug/kg = parts per billion (ppb)
mg/kg = parts per million (ppm)

Certified Laboratories

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

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

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2992 / fax (206) 763-8429

Superior Precision Analytical, Inc.
A member of ESSCON Environmental Support Service Consortium

SECOR
Attn: TERRI PLUNKETTKALMEY

Project 50085-001-01
Reported on May 18, 1995

Gasoline Range Petroleum Hydrocarbons and BTXE
by EPA SW-846 5030/8015M/8020
Gasoline Range quantitated as all compounds from C6-C10

Chronology

Laboratory Number 81511

Sample ID	Sampled	Received	Extract.	Analyzed	QC Batch	LAB #
MW-2	05/09/95	05/10/95	05/17/95	05/17/95	BE171.05	01
MW-3	05/09/95	05/10/95	05/17/95	05/17/95	BE171.05	02
MW-4	05/09/95	05/10/95	05/16/95	05/16/95	BE161.05	03
MW-5	05/09/95	05/10/95	05/16/95	05/16/95	BE161.05	04
MW-6	05/09/95	05/10/95	05/16/95	05/16/95	BE161.05	05
MW-7	05/09/95	05/10/95	05/16/95	05/16/95	BE161.05	06
MW-8	05/09/95	05/10/95	05/16/95	05/16/95	BE161.05	07
MW-10	05/09/95	05/10/95	05/16/95	05/16/95	BE161.05	08

QC Samples

QC Batch #	QC Sample ID	Type	Ref.	Matrix	Extract.	Analyzed
BE161.05-01	Method Blank	MB		Water	05/16/95	05/16/95
BE161.05-02	MW-5	MS	81500-05	Water	05/16/95	05/16/95
BE161.05-03	MW-5	MSD	81500-05	Water	05/16/95	05/16/95
BE171.05-01	Method Blank	MB		Water	05/17/95	05/17/95
BE171.05-02	MW-10	MS	81511-08	Water	05/17/95	05/17/95
BE171.05-03	MW-10	MSD	81511-08	Water	05/17/95	05/17/95

Certified Laboratories

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

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

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2992 / fax (206) 763-8429

SECOR
Attn: TERRI PLUNKETTKALMEY

Project 50085-001-01
Reported on May 18, 1995

Gasoline Range Petroleum Hydrocarbons and BTXE
by EPA SW-846 5030/8015M/8020
Gasoline Range quantitated as all compounds from C6-C10

LAB ID	Sample ID	Matrix	Dil.Factor	Moisture
81511-01	MW-2	Water	10.0	-
81511-02	MW-3	Water	1.0	-
81511-03	MW-4	Water	1.0	-
81511-04	MW-5	Water	1.0	-

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

Compound	81511-01 Conc. ug/L	81511-01 RL	81511-02 Conc. ug/L	81511-02 RL	81511-03 Conc. ug/L	81511-03 RL	81511-04 Conc. ug/L	81511-04 RL
Gasoline_Range	3300	500	ND	50	ND	50	ND	50
Benzene	700	5.0	ND	0.5	ND	0.5	ND	0.5
Toluene	530	5.0	ND	0.5	ND	0.5	ND	0.5
Ethyl Benzene	39	5.0	ND	0.5	ND	0.5	ND	0.5
Total Xylenes	160	5.0	ND	0.5	ND	0.5	ND	0.5
>> Surrogate Recoveries (%) <<								
Trifluorotoluene (SS)	98		105		101		104	

Certified Laboratories

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

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

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2992 / fax (206) 763-8429

SECOR
Attn: TERRI PLUNKETTKALMEY

Project 50085-001-01
Reported on May 18, 1995

Gasoline Range Petroleum Hydrocarbons and BTXE
by EPA SW-846 5030/8015M/8020
Gasoline Range quantitated as all compounds from C6-C10

LAB ID	Sample ID	Matrix	Dil.Factor	Moisture
81511-05	MW-6	Water	1.0	-
81511-06	MW-7	Water	1.0	-
81511-07	MW-8	Water	1.0	-
81511-08	MW-10	Water	1.0	-

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

Compound	81511-05 Conc. ug/L	RL	81511-06 Conc. ug/L	RL	81511-07 Conc. ug/L	RL	81511-08 Conc. ug/L	RL
Gasoline_Range	ND	50	ND	50	ND	50	ND	50
Benzene	ND	0.5	ND	0.5	ND	0.5	ND	0.5
Toluene	ND	0.5	ND	0.5	ND	0.5	ND	0.5
Ethyl Benzene	ND	0.5	ND	0.5	ND	0.5	ND	0.5
Total Xylenes	ND	0.5	ND	0.5	ND	0.5	ND	0.5
>> Surrogate Recoveries (%) <<								
Trifluorotoluene (SS)	104		105		105		104	

Certified Laboratories

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

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

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2992 / fax (206) 763-8429

Gasoline Range Petroleum Hydrocarbons and BTXE
by EPA SW-846 5030/8015M/8020
Gasoline Range quantitated as all compounds from C6-C10

Quality Assurance and Control Data

Laboratory Number: 81511
Method Blank(s)

	BE161.05-01		BE171.05-01	
	Conc. ug/L	RL	Conc. ug/L	RL
Gasoline_Range	ND	50	ND	50
Benzene	ND	0.5	ND	0.5
Toluene	ND	0.5	ND	0.5
Ethyl Benzene	ND	0.5	ND	0.5
Total Xylenes	ND	0.5	ND	0.5
>> Surrogate Recoveries (%) <<				
Trifluorotoluene (SS)	100		100	

Certified Laboratories

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

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

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2992 / fax (206) 763-8429

Gasoline Range Petroleum Hydrocarbons and BTXE
by EPA SW-846 5030/8015M/8020
Gasoline Range quantitated as all compounds from C6-C10

Quality Assurance and Control Data

Laboratory Number: 81511

Compound	Sample conc.	SPK Level	SPK Result	Recovery %	Limits %	RPD %
For Water Matrix (ug/L)						
BE161.05 02 / 03 - Sample Spiked: 81500 - 05						
Gasoline_Range	ND	320	360/310	113/97	65-135	15
Benzene	ND	20	21/21	105/105	65-135	0
Toluene	ND	20	21/20	105/100	65-135	5
Ethyl Benzene	ND	20	21/20	105/100	65-135	5
Total Xylenes	ND	60	67/61	112/102	65-135	9
>> Surrogate Recoveries (%) <<						
Trifluorotoluene (SS)				95/98	50-150	
For Water Matrix (ug/L)						
BE171.05 02 / 03 - Sample Spiked: 81511 - 08						
Gasoline_Range	ND	2000	1888/1800	94/90	65-135	4
Benzene	ND	20	19/19	95/95	65-135	0
Toluene	ND	20	19/19	95/95	65-135	0
Ethyl Benzene	ND	20	20/19	100/95	65-135	5
Total Xylenes	ND	60	60/58	100/97	65-135	3
>> Surrogate Recoveries (%) <<						
Trifluorotoluene (SS)				96/98	50-150	

Definitions:
ND = Not Detected
RL = Reporting Limit
NA = Not Analysed
RPD = Relative Percent Difference
ug/L = parts per billion (ppb)
mg/L = parts per million (ppm)

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

Certified Laboratories

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

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

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2992 / fax (206) 763-8429

SECOR
Attn: TERRI PLUNKETTKALMEY

Project 50085-001-01
Reported on May 18, 1995

Total Petroleum Hydrocarbons as Diesel
by EPA SW-846 Method 8015M
Diesel Range quantitated as all compounds from C10-C25

Chronology

Laboratory Number 81511

Sample ID	Sampled	Received	Extract.	Analyzed	QC Batch	LAB #
MW-2	05/09/95	05/10/95	05/15/95	05/16/95	BE151.21	01
MW-3	05/09/95	05/10/95	05/15/95	05/16/95	BE151.21	02
MW-4	05/09/95	05/10/95	05/15/95	05/16/95	BE151.21	03
MW-5	05/09/95	05/10/95	05/15/95	05/16/95	BE151.21	04
MW-6	05/09/95	05/10/95	05/15/95	05/16/95	BE151.21	05
MW-7	05/09/95	05/10/95	05/15/95	05/16/95	BE151.21	06
MW-8	05/09/95	05/10/95	05/15/95	05/16/95	BE151.21	07
MW-10	05/09/95	05/10/95	05/15/95	05/16/95	BE151.21	08

QC Samples

QC Batch #	QC Sample ID	TypeRef.	Matrix	Extract.	Analyzed
BE151.21-01	Method Blank	MB	Water	05/15/95	05/16/95
BE151.21-02	Laboratory Spike	LS	Water	05/15/95	05/16/95
BE151.21-03	Laboratory Spike Duplicate	LSD	Water	05/15/95	05/16/95

Certified Laboratories

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

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

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2992 / fax (206) 763-8429

SECOR
Attn: TERRI PLUNKETTKALMEY

Project 50085-001-01
Reported on May 18, 1995

Total Petroleum Hydrocarbons as Diesel
by EPA SW-846 Method 8015M
Diesel Range quantitated as all compounds from C10-C25

LAB ID	Sample ID	Matrix	Dil.Factor	Moisture
81511-01	MW-2	Water	1.0	-
81511-02	MW-3	Water	1.0	-
81511-03	MW-4	Water	1.0	-
81511-04	MW-5	Water	1.0	-

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

Compound	81511-01 Conc. ug/L	RL	81511-02 Conc. ug/L	RL	81511-03 Conc. ug/L	RL	81511-04 Conc. ug/L	RL
Diesel Range	290	50	*ND*	50	ND	50	ND	50
>> Surrogate Recoveries (%) <<								
Tetracosane	55		55		51		50	

Certified Laboratories

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

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

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2992 / fax (206) 763-8429

SECOR
Attn: TERRI PLUNKETTKALMEY

Project 50085-001-01
Reported on May 18, 1995

Total Petroleum Hydrocarbons as Diesel
by EPA SW-846 Method 8015M
Diesel Range quantitated as all compounds from C10-C25

LAB ID	Sample ID	Matrix	Dil.Factor	Moisture
81511-05	MW-6	Water	1.0	-
81511-06	MW-7	Water	1.0	-
81511-07	MW-8	Water	1.0	-
81511-08	MW-10	Water	1.0	-

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

Compound	81511-05 Conc. ug/L	RL	81511-06 Conc. ug/L	RL	81511-07 Conc. ug/L	RL	81511-08 Conc. ug/L	RL
Diesel Range	ND	50	ND	50	ND	50	ND	50
>> Surrogate Recoveries (%) <<								
Tetracosane	68		73		61		50	

Certified Laboratories

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

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

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2992 / fax (206) 763-8429

Total Petroleum Hydrocarbons as Diesel
by EPA SW-846 Method 8015M
Diesel Range quantitated as all compounds from C10-C25

Quality Assurance and Control Data

Laboratory Number: 81511
Method Blank(s)

	BE151.21-01	
	Conc. ug/L	RL
Diesel Range	ND	50
>> Surrogate Recoveries (%) <<		
Tetracosane	66	

Certified Laboratories

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

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

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108

Total Petroleum Hydrocarbons as Diesel
by EPA SW-846 Method 8015M
Diesel Range quantitated as all compounds from C10-C25

Quality Assurance and Control Data

Laboratory Number: 81511

Compound	Sample conc.	SPK Level	SPK Result	Recovery %	Limits %	RPD %
For Water Matrix (ug/L) BE151.21 02 / 03 - Laboratory Control Spikes						
Diesel Range		2000	1450/1630	73/82	50-150	12
>> Surrogate Recoveries (%) <<						
Tetracosane				70/74	50-150	

Definitions:
ND = Not Detected
RL = Reporting Limit
NA = Not Analysed
RPD = Relative Percent Difference
ug/L = parts per billion (ppb)
mg/L = parts per million (ppm)
ug/kg = parts per billion (ppb)
mg/kg = parts per million (ppm)

Certified Laboratories

825 Arnold Dr., Suite 114
Martinez, California 94553
(510) 229-1517 / fax (510) 229-1526

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

309 S. Cloverdale St., Suite B-24
Seattle, Washington 98108
(206) 763-2990 / fax (206) 763-9429

81511

Chain-of Custody Number:

SECOR Chain-of Custody Record

Field Office: SECOR

Address: 90 New Montgomery St. Suite 620
San Francisco, CA 94105

☐ Additional documents are attached, and are a part of this Record.

Job Name: Crowley / Grand Marina

Location: Alameda

Project # 50085-001-01 Task #

Project Manager Terri Plunkett

Laboratory Superior

Turnaround Time Standard

Sampler's Name GARY CLIFT

Sampler's Signature

Analysis Request

Sample ID	Date	Time	Matrix	HCID	TPHg/BTEX/WTPH-G 8015 (modified)/8020	TPHd/WTPH-D 8015 (modified)	TPH 418.1/WTPH 418.1	Aromatic Volatiles 602/8020	Volatile Organics 624/8240 (GC/MS)	Halogenated Volatiles 601/8010	Semi-volatile Organics 625/8270 (GC/MS)	Pesticides/PCBs 608/8080	Total Lead 7421	Priority Pollutant Metals (13)	TCLP Metals	Total Oil & Grease		Comments/ Instructions	Number of Containers
MW-2	5/9	10:30	H2O		X	X										X			5
MW-3	5/9	11:40	H2O		X	X										X			5
MW-4	5/9	2:30	H2O		X	X										X			5
MW-5	5/9	3:00	H2O		X	X										X			5
MW-6	5/9	3:10	H2O		X	X										X			5
MW-7	5/9	3:20	H2O		X	X										X			5
MW-8	5/9	4:45	H2O		X	X										X			5
MW-10	5/9	5:00	H2O		X	X										X			5

Comments/Instructions: 9 yes 4.9°C

Special Instructions/Comments.

Amber Needs to be preserved by lab For oil and Grease To be Done within 24 hours.

Relinquished by: SECOR
Sign
Print GARY R CLIFT
Company SECOR
Time 9:00 Date 5/10/95

Relinquished by:
Sign
Print
Company
Time Date

Relinquished by:
Sign
Print
Company
Time Date

Relinquished by:
Sign
Print
Company
Time 9:00 Date 5/10/95

Sample Receipt

Total no. of containers:	40
Chain of custody seals:	
Rec'd. in good condition/cold:	
Conforms to record:	

Client: SECOR

Client Contact: Terri Plunkett

Client Phone: (415) 882-1548

SECONCUST.REC Rev 9/94

Date: 5/10/95 Page 1 of 1