CF 12/14/96

W. A. CRAIG, INC.
Environmental Consulting and Contracting
P. O. Box 448
Napa, California 94559-0448
Contractor and Hazardous Substances License #455752
Cal/OSHA Statewide Annual Excavation Permit #559351
(800) 522-7244
Phone: (510) 525-2780 Berkeley Napa (707) 252-3353
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July 5, 1995

Mr. And Mrs. Casimiro Damele
3750 Victor Avenue
Oakland, CA 94619
(510) 531-0778

PROJECT NO. 3365D

SUBJECT: THIRD QUARTER GROUNDWATER SAMPLING RESULTS FOR 4401 MARKET STREET, OAKLAND, CALIFORNIA.

Dear Mr. and Mrs. Damele:

Enclosed is a copy of the third quarter groundwater monitoring results from the June 6, 1995 sampling event performed at 4401 Market Street, Oakland, California. Three wells were sampled and analyzed TPH-G, and BTEX. The laboratory results revealed elevated levels of TPH-G (540 ppb and 6,200 ppb respectfully) in monitoring wells MW-1 and MW-2. High levels of Benzene (500 ppb) were also detected in MW-2. MW-3 results were below the reporting detectable limits. The next quarterly sampling is scheduled for September 7, 1995.

W. A. Craig, Inc. understand that you will forward copies of this report to the Alameda County Departmental of Environmental Management (ACDEM) for their review. If you have any questions in regard to this report, please call me at 707-252-3353.

Sincerely,

W. A. CRAIG, INC.

Roland Goodlin CAM
for W.A. Craig, II

W. A. Craig, II
President, R.E.A. 01414

W. A. CRAIG, INC.

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Fax: (707) 252-3385

THIRD QUARTERLY MONITORING REPORT

Located at:
4401 MARKET STREET
OAKLAND, CALIFORNIA

Prepared for:
MR. AND MRS. CASIMIRO DAMELE
3750 VICTOR AVENUE
OAKLAND, CA 94619

By:
RAFAEL L. GALLARDO
Project Geologist

REGISTERED ENVIRONMENTAL ASSESSOR
WILLIAM A. CRAIG, II
No. 01414
Expires 6-96
STATE OF CALIFORNIA

W. A. Craig II, R.E.A. 01414

Frank Goldman, R.G. 5557

Rafael L. Gallardo, Project Geologist

W. A. Craig, Inc. Job No. 3365D
JULY 5, 1995

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1.0 INTRODUCTION

1.1 Site location and description

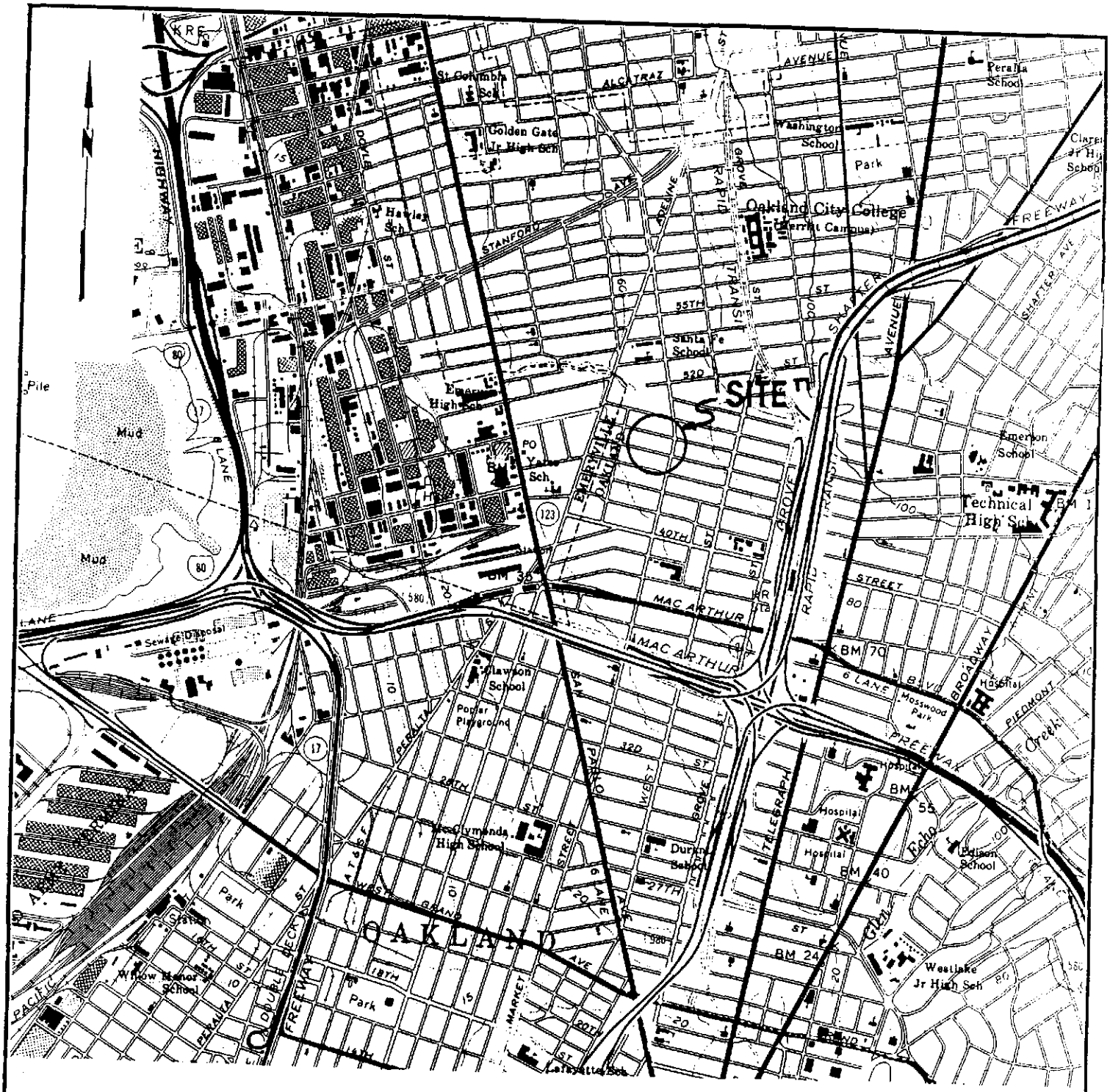
The Damele property is located at 4401 Market Street, Oakland, California. The site is relatively flat and covered with concrete. San Francisco Bay is located approximately 1.25 miles to the west (see attached **Figure 1**). Residential and small commercial properties surround the property. The site contains three groundwater monitoring wells MW-1, MW-2, and MW-3 (see attached **Figure 2**).

1.2 Site History

The site was a former gasoline dispensing station. On June 22, 1990, four underground fuel storage tanks were removed from the site. The tanks were rusted, pitted, and contained one or more holes in them. Soil staining and strong petroleum odors were noticed in the excavated tank areas. The obvious contaminated soils were in the vicinity of the tank pit and left in place. Soil samples were collected and analyzed for TPH-G and BTEX. The results revealed elevated levels of TPH-G (up to 870 ppm), and Benzene (5 ppm).

On February 10, 1994, W. A. Craig, Inc., submitted a work plan to Alameda County Health Services.

On January 9, 1995, W. A. Craig, Inc., submitted a report entitled "Report for Soil and Groundwater Investigation Damele Property, 4401 Market Street, Oakland, California."



NOTES

SOURCE: US GEOLOGICAL SURVEY 7.5-MINUTE TOPOGRAPHIC QUADRANGLE, OAKLAND WEST, CALIFORNIA, 1959 (PHOTOREVISED 1980), WITH 20-FOOT CONTOUR INTERVALS.

DATE	FEBRUARY 1994
JOB NO.	3335
DESG'D	
DRAWN	RV
CHK'D	GSH
APP'D	WAC

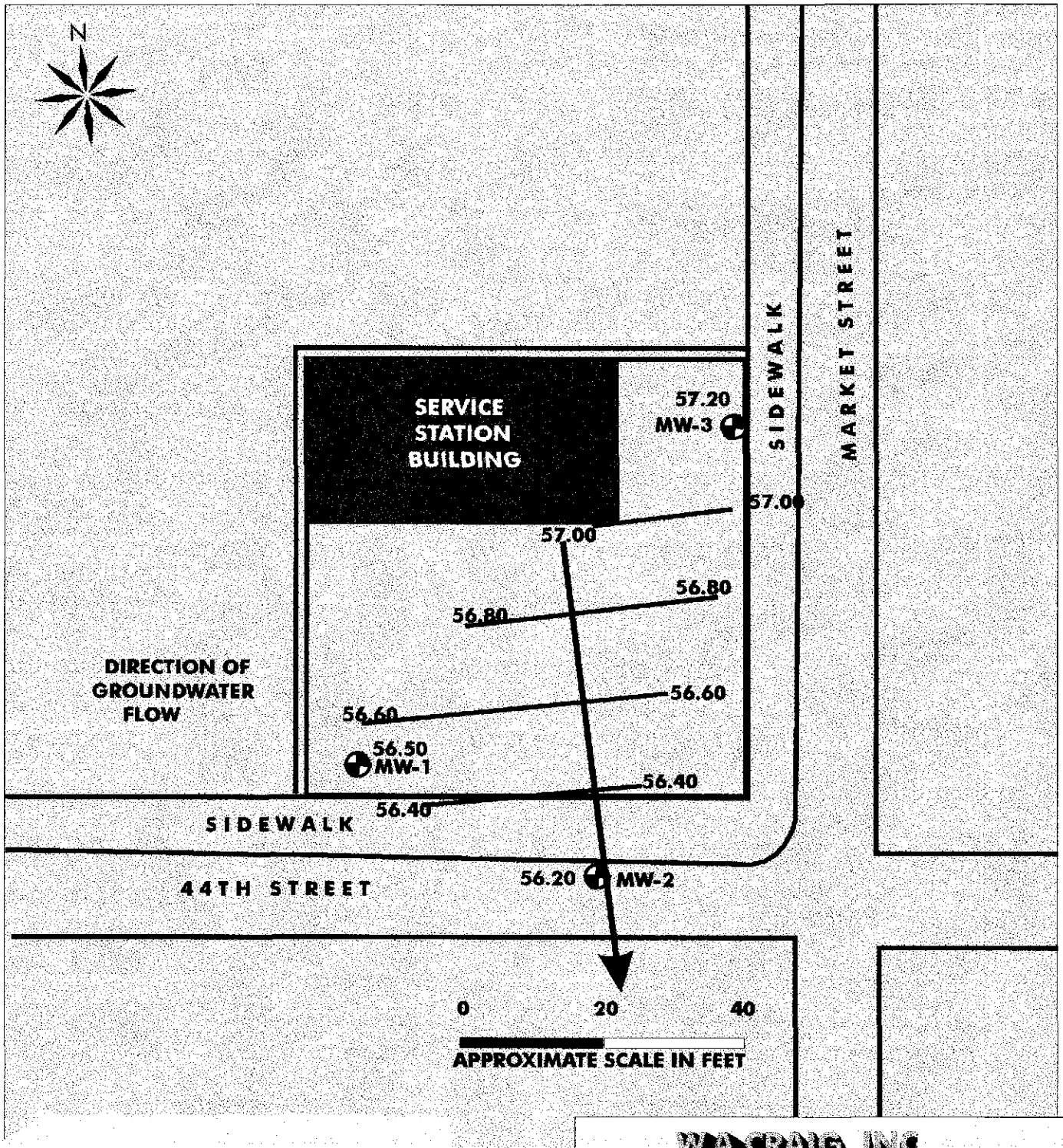
W. A. CRAIG, INC.

DANIELE PROPERTY
4401 MARKET STREET
OAKLAND, CALIFORNIA

FIGURE NO. 1

SITE LOCATION MAP

REV.



LEGEND

MW- WITH RELATIVE GROUNDWATER ELEVATION

CONTOUR INTERVAL IS 0.20'

WA CRAIG, INC.

P.O. BOX 448, NAPA, CALIFORNIA 94559-0448

MONITORING WELL LOCATION MAP
JOB # 3365D
DAMELE
4401 MARKET STREET
OAKLAND, CA

JUNE 6, 1995

FIGURE 2

	Elev	Depth To H_2O	Static H_2O El.
MW-1	71.12	14.62	56.5
MW-2	70.62	14.38	56.2
MW-3	71.79	14.64	57.2

Groundwater Calculations — Daniels Site
6-13-95 By Gallardo

$$\frac{56.5 - 56.2}{57.2 - 56.2} = \frac{X}{63.9}$$

$$\frac{0.3}{1}$$

$$.3 = \frac{X}{63.9}$$

$$X = 19.2$$

$$i = \frac{56.5 - 56.2}{18.0}$$

$$\frac{.3}{18.0}$$

$$i = .017$$

1.3 GEOLOGY AND HYDROGEOLOGY

Geology

The site is located on the East Bay Plain near the east shore of San Francisco Bay.

The site is underlain by Quaternary Pleistocene deposits of the Temescal formation (Qtc). The formation covers most of the surface in this area. It ranges in depth from between five to sixty feet and consists of contemporaneous alluvial units of different origin, lithology, and physical properties. The material ranges from irregularly bedded clay, silt, sand and gravel to lenses of clay, silt, sand, and gravel with Claremont Chert. Much of the material is derived from underlying sandstone of the Franciscan group. The formation overlies the Alameda formation.

The Hayward Fault is approximately 3.25 miles northeast of the site and is an active historic Fault. The Hayward Fault is the only active fault in the Oakland East Quadrangle.

Hydrogeology

The site is located within the East Bay Plain which makes up the ground water reservoir in the area. The water bearing capacity varies within the area due to the juxtaposed positions of the various types of soils and strata encountered underneath the East Bay Plain.

In general the water bearing capacities of the Younger Alluvium range from moderately permeable to low permeable soils. Below the Younger Alluvium at a depth of approximately 70 feet lies the Older Alluvium, which yields large to small quantities of water. Groundwater was encountered at a depth between 23 to 25 feet.

References:

Radbruch, Dorothy H., Areal and Engineering Geology of the Oakland West Quadrangle, California, Map I-239, 1957.

Bulletin No. 118 California's Ground water.
State of California. Department of Water Resources, September 1975.

Bulletin 118-80, Ground Water Basins in California.
State of California. Department of Water Resources, January 1980.

2.0 GROUNDWATER SAMPLING

2.1 GROUNDWATER ELEVATION MEASUREMENTS

The groundwater elevation was measured for monitoring wells MW-1 through MW-3 on June 7, 1995. The static groundwater elevations were recorded on Sample Event Data Sheets for the June quarterly sampling and are presented in **Appendix A.**

The groundwater flow direction was calculated from the June 7, 1995 readings. Groundwater elevation data is shown on **Figure 2.** The groundwater flow direction is toward the south. The hydraulic gradient was .017ft/ft. The water level dropped an average of approximately 1.8 feet since the last measurement taken in February of 1995.

Table 1 contains the monitor well elevation, static water level and groundwater surface elevation.

2.2 MONITORING WELL SAMPLING

Monitoring Wells MW-1 through MW-3 were sampled on June 7, 1995. Each well was sampled after purging at least three casing volumes and allowing the water level to recover to at least 80% of the original, static level. Temperature, turbidity, electrical conductivity, and pH were monitored during each purging. The data was used to verify that water had been removed from well casing storage and that well water was representative of the aquifer. The sampling event data sheets are presented in **Appendix A.**

Water samples were collected using disposable Teflon bailers. Each water sample was contained in three 40-milliliter VOA vials. The samples were labeled and stored on ice until delivered, under chain-of-custody procedures, to McCampbell Analytical, Inc. of Pacheco, California, a State-Certified analytical laboratory. The samples were analyzed for total petroleum hydrocarbons as gasoline (TPH-G) and benzene, toluene, ethylbenzene, and xylenes (BTEX) using GCFID 5030/EPA Method 8015/8020.

TABLE 1

Groundwater Elevation Data
June 7, 1995
4401 Market Street, Oakland, California

WELL	WELL DIAMETER (Inches)	TOP OF CASING *(Feet)	DEPTH TO WATER (Feet)	STATIC WATER LEVEL (Feet)
MW-1	2	71.12	14.62	56.5
MW-2	2	70.62	14.38	56.2
MW-3	2	71.79	14.64	57.2

* Datum point, corner of 44th and Market Streets, city of Oakland = 71.547 Mean Sea Level, (MSL).

3.0 ANALYTICAL RESULTS

3.1 MONITORING WELL SAMPLING ANALYTICAL RESULTS

The analytical results of the June 1995 sampling and historical results of previous sampling rounds can be found in **Table 2.** The laboratory analytical data sheets and chain-of-custody records for the June sampling are included in **Appendix A.** The detection limits for the TPH-G analyses are 50 ug/L and for the BTEX analysis 0.5 ug/L.

The analytical results revealed elevated levels of TPH-G (540 to 6,200 ppb) in MW-1 and MW-2. Elevated levels of Benzene (500 ppb) were detected in MW-2. MW-3 was below the detectable reporting limits.

TABLE 2

Current sampling results for Damele Site

WELL NUMBER	SAMPLE DATE	TPH-Diesel ug/L	TPH-Gas ug/L	Benzene ug/L	Toluene ug/L	Ethyl Benzene ug/L	Xylenes ug/L
MW-1	11/08/94	NT	54	ND	ND	ND	1.2
	02/14/95	NT	71	ND	ND	ND	0.97
	06/07/95	**NT**	**540**	**0.60**	**ND**	**1.7**	**1.3**
MW-2	11/08/94	NT	20,000	1,400	960	980	4,600
	02/14/95	NT	8,600	380	210	410	2,000
	06/07/95	**NT**	**6,200**	**500**	**78**	**270**	**1,200**
MW-3	11/08/94	NT	ND	0.71	0.84	1.2	5.8
	02/14/95	NT	ND	ND	ND	ND	ND
	06/07/95	**NT**	**ND**	**ND**	**ND**	**ND**	**1.6**
*California Department of Health Services primary maximum contamination level for drinking water.		None Listed	None Listed	1.0	1000	680	1750

* Marshall, J.B., 1989, A Compilation of Water Quality Goals, Staff Report of the California Regional Water Quality Control Board, Central Valley Region, 15 p.

ND = Non-detectable levels
NT = Not Tested

4.0 RECOMMENDATIONS

Analytical results for monitoring wells MW-1 revealed increased levels of TPH-G and Benzene. MW-2 revealed a decrease of 2,400 ppb of TPH-G and an increase of 120 ppb of Benzene. MW-3 levels continues to be below the detectable reporting limits. W. A. Craig, Inc. recommends continued monitoring for another quarter. In addition, we recommend that the monitoring wells be measured hourly for one day. By performing this task, we will be able to determine if there is a hydraulic connection with the bay.

5.0 SCHEDULE OF ACTIVITIES FOR NEXT QUARTER

5.1 GROUNDWATER ELEVATION MEASUREMENT

The on-site wells will be sounded and the groundwater levels will be measured for each quarter. Water samples will again be collected along with water level measurements. The direction of groundwater flow and the hydraulic gradient will be calculated.

5.2 QUARTERLY SAMPLING

The next quarterly sampling event will occur the second week in September 1995. The quarterly report will present the results of the September sampling.

6.0 LIMITATIONS

This report has been prepared in accordance with generally accepted environmental, geological and engineering practices. No warranty, either expressed or implied, is made as to the professional advice presented herein. The analysis, conclusions and recommendations contained in this report are based upon site conditions as they existed at the time of the investigation and they are subject to change.

The conclusions presented in this report are professional opinions based solely upon visual observations of the site and vicinity, and interpretation of available information as described in this report. W. A. Craig, Inc., recognizes that the limited scope of services performed in execution of this investigation may not be appropriate to satisfy the needs, or requirements of other state agencies, or of other users. Any use or reuse of this document or its findings, conclusions or recommendations presented herein is at the sole risk of said user.

APPENDIX A

ANALYTICAL DATA SHEETS
AND
CHAIN-OF-CUSTODY RECORD
FOR MONITORING WELL SAMPLING
June 7, 1995

W. A. CRAIG, INC.

CHAIN-OF-CUSTODY RECORD

4281AWACX382

PROJECT NO.: 3365 | PROJECT NAME: Durado

PURCHASE ORDER | SIGNATURE OF SAMPLER: Ramon Gouty

DATE 1995	TIME	W. A. CRAIG, INC.'S SAMPLE IDENTIFICATION	MATRIX (Soil, Water, Air, Sludge, Other)	ANALYSIS: TPHgasoline (8015)	BTEX (602/8020)	TPHdiesel (8015)	TPHg & BTEX				Preserved? HCl	REMARKS	LABORATORY I. D. NUMBER
6/7	11:10	MW-2	W				✓				✓		53166
6/7	11:20	MW-3	W				✓				✓		53167
6/7	12:20	MW-1	W				✓				✓		53168

MATRIX (Soil, Water, Air, Sludge, Other)

ICE? ✓ | PRESERVATIVE APPROPRIATE ✓
GOOD CONDITION ✓ | CONTAINERS ✓
HEAD SPACE ABSENT ✓

RELINQUISHED BY (Signature):	DATE/TIME	RECEIVED BY (Signature):
Ramon Gouty	6-7-95 1:15	Heidi Rucca
RELINQUISHED BY (Signature):	DATE/TIME	RECEIVED BY (Signature):
RELINQUISHED BY (Signature):	DATE/TIME	RECEIVED BY (Signature):

LABORATORY: McCampbell

TURNAROUND TIME: Paid Std #6757

PLEASE SEND RESULTS TO:
W. A. CRAIG, INC.
P.O. BOX 448
NAPA, CA 94559-0448
(707) 252-3353

ATTN:

ANALYTICAL INC. | 110 2nd Avenue South, #D7, Pacheco, CA 94553
Tele: 510-798-1620 Fax: 510-798-1622

W...	Client Project ID: # 3365; Danele	Date Sampled: 06/07/95
P.O. ...		Date Received: 06/07/95
Napa, CA ...559-0848	Client Contact: Bill Craig	Date Extracted: 06/08-06/09/95
	Client P.O:	Date Analyzed: 06/08-06/09/95

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with BTEX*

EPA methods 5030, modified 8015, and 8020 or 602; California RWQCB (SF Bay Region) method GCFID(5030)

Lab #	Client ID	Matrix	TPH(g)+	Benzene	Toluene	Ethylben-zene	Xylenes	% Rec. Surrogate
53166	MW-2	W	6200,a	500	78	270	1200	101
53167	MW-3	W	ND,b	ND	ND	ND	1.6	105
5316...	MW-1	W	540,b	0.60	ND	1.7	1.3	97
Reporting ...imit unless otherwise sta...d; ND means not detected a... reporting limit		W	50 ug/L	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.005	0.005	0.005	0.005	

* ...ples are reported in ug/L, soil samples in mg/kg, and all TCLP extracts in mg/L.

+ ...gram; sample peak coelutes with surrogate peak

a The ...riptions of the TPH chromatogram are cursory in nature and McCampbell Analytical is not responsible ... interpretation. a) unmodified or weakly modified gasoline is significant; b) heavier gasoline range co... are significant(aged gasoline?); c) lighter gasoline range compounds (the most mobile fraction) are signi... gasoline range compounds having broad chromatographic peaks are significant; biologically altered g...; e) TPH pattern that does not appear to be derived from gasoline (?); f) one to a few isolated peaks pre...; g) strongly aged gasoline or diesel range compounds are significant; h) lighter than water immiscible sheen is ... liquid sample that contains greater than ~ 5 wt. % sediment; j) no recognizable pattern.

GROUNDWATER SAMPLING DATA

TIME (24 HR CLOCK)	VOLUME REMOVED (GAL)	ELECTRICAL CONDUCTIVITY (µmhos/cm)	pH	TEMPERATURE (°C)	TURBIDITY (NTU)
12:01	1.5	4.94	7.05	69.2	Clear
12:05	3.0	4.98	6.96	68.3	"
12:09	4.5	4.77	6.99	67.7	"
		Med gas odor, no sheen detected by eye			

DEPTH TO BOTTOM OR CASING LENGTH

TOTAL DEPTH TO BOTTOM 24.60 − DEPTH TO WATER = 14.62 = ΔH (FT) 9.98

ΔH (FT) 9.98 x (V.F.) = 0.163 = WELL CASING VOLUME (GAL) 1.6

WELL INSIDE DIAMETER

VOLUME FACTOR V. F. = GAL / FT			
	2" = 0.163	5" = 1.02	10" = 4.08
	3" = 0.367	6" = 1.47	12" = 5.87
	4" = 0.653	8" = 2.61	

DATE (S) PURGED 6/7/95

WELL DEWATERED ☐ YES ☑ NO

PURGE METHOD Disp bailer

DATE SAMPLED 6/7/95

INITIAL DEPTH TO WATER 14.62

TIME SAMPLED 12:20

TOTAL VOLUME REMOVED (GAL) 4.5

SAMPLING METHOD bailer

CASING VOLUMES REMOVED 3

WEATHER CONDITIONS Sunny

PURGE RATE (GPM)

PURGED / SAMPLED BY R Beutz

DEPTH TO WATER AFTER RECOVERY 14.86 (FT) = 90 % RECOVERED PRIOR TO SAMPLING

NOTES

DATE

JOB NO.

DWG NO.

DRAWN

CHK'D

APP'D

Damele MW-1

WELL PURGING AND SAMPLING FIELD DATA

PLATE NO.

GROUNDWATER SAMPLING DATA

TIME (24 HR CLOCK)	VOLUME REMOVED (GAL)	ELECTRICAL CONDUCTIVITY (µmhos/cm)	pH	TEMPERATURE (°C)	TURBIDITY (NTU)
10:05	1.75	9.42	7.19	72.7	Clear
10:09	3.50	9.22	7.14	71.2	"
10:14	5.25	9.09	7.02	70.8	"
		Initially medium gray color, no sheen			
		Slight to mod. odor thereafter			

DEPTH TO BOTTOM OR CASING LENGTH

TOTAL DEPTH TO BOTTOM 24.68 — DEPTH TO WATER 14.39 = ΔH (FT) 10.26

ΔH (FT) 10.26 X (V.F.) 0.163 = WELL CASING VOLUME (GAL) 1.75

WELL INSIDE DIAMETER

VOLUME FACTOR V. F. = GAL / FT	2" = 0.163	5" = 1.02	10" = 4.08
	3" = 0.367	6" = 1.47	12" = 5.87
	4" = 0.653	8" = 2.61	

DATE (S) PURGED 6/7/95

WELL DEWATERED ☐ YES ☒ NO

PURGE METHOD Disp. Hand bailer

DATE SAMPLED 6/7/95

INITIAL DEPTH TO WATER 14.38

TIME SAMPLED 11:00

TOTAL VOLUME REMOVED (GAL) ~~5~~ 5.25

SAMPLING METHOD bailer

CASING VOLUMES REMOVED ~~4~~ 3+

WEATHER CONDITIONS Sunny

PURGE RATE (GPM)

PURGED / SAMPLED BY R. Gruber

DEPTH TO WATER AFTER RECOVERY 15.52 (FT) = 88 % RECOVERED PRIOR TO SAMPLING

NOTES

DATE	
JOB NO.	Diamond Mkt-2
DWG NO.	WELL PURGING AND SAMPLING FIELD DATA
DRAWN	
CHK'D	
APP'D	

PLATE NO.

GROUNDWATER SAMPLING DATA

TIME (24 HR CLOCK)	VOLUME REMOVED (GAL)	ELECTRICAL CONDUCTIVITY (µmhos/cm)	pH	TEMPERATURE (°C)	TURBIDITY (NTU)
0931	1.5	4.36	7.15	67.1	Clear
0941	3.0	4.22	7.46	68.1	Slight
0944	4.5	4.14	7.58	68.7	"
		No sheen or odor			

DEPTH TO BOTTOM OR CASING LENGTH

TOTAL DEPTH TO BOTTOM 24.60 — DEPTH TO WATER 14.64 = ΔH (FT) 9.96

ΔH (FT) 9.96 x (V.F.) 0.163 = WELL CASING VOLUME (GAL) 1.6

WELL INSIDE DIAMETER

VOLUME FACTOR V.F. = GAL/FT			
2" = 0.163	5" = 1.02	10" = 4.08	
3" = 0.367	6" = 1.47	12" = 5.87	
4" = 0.653	8" = 2.61		

DATE(S) PURGED 6/7/95

WELL DEWATERED ☐ YES ☑ NO

PURGE METHOD Disp bailer

DATE SAMPLED 6/7/95

INITIAL DEPTH TO WATER 14.64

TIME SAMPLED 11:21

TOTAL VOLUME REMOVED (GAL) 4.5 gal

SAMPLING METHOD bailer

CASING VOLUMES REMOVED 3

WEATHER CONDITIONS Sunny

PURGE RATE (GPM)

PURGED / SAMPLED BY R. Gratty

DEPTH TO WATER AFTER RECOVERY 14.42 (FT) = 90 % RECOVERED PRIOR TO SAMPLING

NOTES

DATE

JOB NO.

DWG NO.

DRAWN

CHK'D

APP'D

Damele MW-3

WELL PURGING AND SAMPLING FIELD DATA

PLATE NO.