

TRANSMITTAL

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

Berkeley (510) 525-2780 **Napa (707) 252-3353**
Fax: (707) 252-3385

DATE: December 9, 1996

PROJECT: 3365.4

ATTENTION: Mr. Casimero Damele

COMPANY: 3750 Victor Avenue
Oakland, California 94619

REGARDING: Damele Property

ENCLOSURE: REPORT - Quarterly Groundwater Monitoring
June 1996
Damele Property
4401 Market Street
Oakland, California

COMMENTS:

Enclosed you will find a revised copy of the Quarterly Groundwater Monitoring - June 1996 performed at 4401 Market Street in Oakland, California. The analytical laboratory report from another project was inadvertently included in the original QMR. We apologize for an inconvenience this may have caused.

Please note a final copy of this report has been submitted, as per your authorization, to the Alameda County Department of Environmental Health.

SENT BY: Geoffery Fiedler, R.G.

cc: Alameda County Department of Environmental Health

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

Berkeley (510) 525-2780

Fax: (707) 252-3385

Napa (707) 252-3363

GROUNDWATER MONITORING REPORT

JUNE 1996

DAMELE PROPERTY
4401 Market Street
Oakland, California

ENVIRONMENTAL
PROTECTION
96 DEC 17 AM 9:51

July 29, 1996
(Revised December 10, 1996)
W.A. Craig, Inc.
Project No. 3365-D

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) 521-7244

Berkeley (510) 525-2780

Napa (707) 252-3353

Fax: (707) 252-3385

July 29, 1996 (Revised 12/9/96)

Mr. and Mrs. Casimiro Damele
3750 Victor Avenue
Oakland, California 94619
510/ 531-0778

Attention: Mr. and Mrs. Damele

Project No. 3365-D

Subject: REPORT - Groundwater Monitoring
June 1996
Damele Property
4401 Market Street
Oakland, California

Dear Mr. and Mrs. Damele:

W. A. Craig, Inc. (WAC), is pleased to submit this Groundwater Monitoring Report for sampling conducted on June 19, 1996 at the Damele Property site located at 4401 Market Street, Oakland, California. The site location is shown on **Figure 1**. This is the seventh quarter of groundwater monitoring since the installation of three groundwater monitoring wells at the site in October, 1994. This work was performed in accordance with the scope of work presented in WAC's Work Plan dated February 10, 1994.

Scope of Work

The scope of work conducted by WAC during this period included the following tasks:

- Measuring static water levels in three monitoring wells;
- Purging and sampling groundwater from the three monitoring wells at the site;
- Analyzing groundwater samples for total petroleum hydrocarbons as gasoline range organic compounds (TPH-g), and benzene, toluene, ethylbenzene, and xylenes (BTEX) and methyl tertiary butyl ether (MTBE); and
- Preparation of this report.

Groundwater Elevations

On June 19, 1996, WAC technical staff measured water levels in the monitoring wells using an electronic water level indicator. The monitoring wells were surveyed by a State-Licensed surveyor in November, 1994. The surveyed elevations and the field water level measurements were used to interpret the groundwater surface elevations at the site. The groundwater surface elevations collected for this sampling event generally indicate that groundwater flow is toward the south. The average groundwater elevations were approximately 1.2-feet lower than were measured during the previous, March 1996, sampling event. Groundwater elevations for this and previous monitoring events are presented in **Table 1**. The locations of the monitoring wells and a depiction of the site groundwater elevation contours are shown in **Figure 2**.

Groundwater Sampling

Three well casing volumes were purged from each monitoring well prior to collecting groundwater samples. Field parameters including temperature, pH, conductivity, and turbidity were intermittently monitored during purging of the wells. Groundwater samples were collected using disposable polyethylene bailers. Field observations and well volume calculations were recorded on field groundwater sampling logs. Copies of the field logs are included as **Attachment A**.

Groundwater samples were submitted under chain-of-custody control to McCampbell Analytical, Inc. (MAI), of Pacheco, California. The purged groundwater is currently stored on-site in labeled, DOT approved, 55-gallon, steel drums.

Analytical Results

The groundwater samples were analyzed by MAI for TPH-g using EPA Method 8015 (modified) and purgeable aromatic hydrocarbons (BTEX) and MTBE using EPA Method 8020. MAI is certified by the State of California to perform the required analyses. The results of the analyses are summarized on **Table 2**. Copies of the laboratory analytical report and chain-of-custody documents are in **Attachment B**.

Groundwater samples from monitoring well MW-1 were reported to contain: TPH-g - 500 micrograms per liter ($\mu\text{g/l}$); ethylbenzene - $0.85 \mu\text{g/l}$; xylenes - $0.36 \mu\text{g/l}$; and MTBE - $84 \mu\text{g/l}$. Benzene and toluene were not detected above the laboratory limit of detection in the groundwater samples from monitoring well MW-1. The following constituents were detected in the groundwater samples from monitoring well MW-2: TPH-g - $9,000 \mu\text{g/l}$; benzene - $520 \mu\text{g/l}$; toluene - $82 \mu\text{g/l}$; ethylbenzene - $350 \mu\text{g/l}$; xylenes - $1,500 \mu\text{g/l}$; and MTBE - not detected above the laboratory limit of detection. TPH-g, BTEX, or MTBE were not detected above the laboratory limits of detection in the groundwater samples collected from monitoring well MW-3.

Conclusions

Groundwater elevations were approximately 1.2-feet lower than previously measured during the March 1996 sampling event. The groundwater flow in the general site area is consistently toward the south.

Analytical results for monitoring well MW-1 have remained below the detectable reporting limits for benzene and toluene. TPH-g, ethylbenzene, xylenes and MTBE were reported at higher concentrations than were reported during the previous two sampling periods, although the concentrations are generally consistent with historical concentrations. Groundwater sample analytical results for samples collected from MW-2 are slightly lower than reported for previous quarters, but are consistent with historical concentrations. The groundwater sample analytical results for samples from MW-3 are consistent with previous monitoring periods and continue to be below the laboratory limits of detection for TPH-g, BTEX, and MTBE.

Primary drinking water quality standards have been exceeded for MTBE (monitoring well MW-1) and benzene (monitoring well MW-2). The up gradient monitoring well MW-3 has had trace to non-detected concentrations of these constituents. Monitoring wells MW-1 and MW-2 are down gradient of the site. There does not appear to be a clear trend in the review of historical analytical results to indicate that these constituents are decreasing over time.

Recommendations

On the basis of WAC's review of the groundwater quality results information from seven quarterly groundwater monitoring events and the results of previous investigations, WAC recommends expanding the current groundwater monitoring well network to include one, or more, down gradient monitoring wells. These wells would be used to assess and monitor the lateral extent of gasoline and related constituents. WAC further recommends that the existing groundwater monitoring program should be continued and expanded to include any new wells.

Professional Certification

This report has been prepared by the staff of W. A. Craig, Inc., under the professional supervision of the persons whose seals and signatures appear hereon. 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 quarterly monitoring and sampling and they are subject to change.

The conclusions presented in this report are professional opinions based solely upon

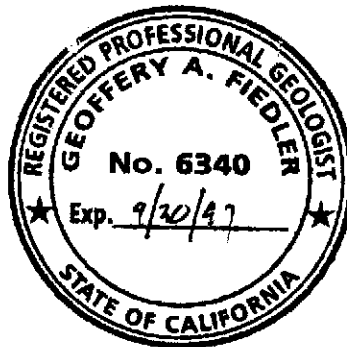
visual observations of the site and vicinity, and interpretation of available information as described in this report. W.A. Craig, Inc., recognizes that the limited scope of services performed in execution of this scope of work may not be appropriate to satisfy the needs, or requirements of other state 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. There is no other warranty, either expressed or implied.

Closing Statement

The next quarterly sampling event is scheduled for September, 1996. We appreciate this opportunity to be of service to you on this groundwater monitoring project. Should you have any questions regarding this report please give us a call at (707) 252-3353.

Sincerely,

W.A. Craig, Inc.,



G.A. Fiedler
Geoffery A. Fiedler, R.G.
Principal Geologist

WAC/ GAF:snk

Attachments: Table 1 - Groundwater Elevations
Table 2 - Groundwater Sample Analytical Results
Figure 1 - Site Location Map
Figure 2 - Groundwater Contour Map
A - Groundwater Sampling Logs
B - Laboratory Analytical Reports

cc: Ms. Amy Leech, Alameda County Department of Environmental Management

A:\DAMELE7Q\DAMELE.7QT

TABLE 1
Groundwater Elevations
4401 Market Street
Oakland, California

Well Number	Date	Well Elevation	Depth to Water	Elevation
MW-1	02/14/95	71.12	12.65	58.47
	06/07/95	71.12	14.62	56.50
	08/29/95	71.12	15.04	56.08
	12/08/95	71.12	15.94	55.18
	03/07/96	71.12	12.36	58.76
	06/19/96	71.12	13.70	57.42
MW-2	02/14/95	70.62	12.12	58.50
	06/07/95	70.62	14.38	56.24
	08/29/95	70.62	14.40	56.22
	12/08/95	70.62	15.22	55.40
	03/07/96	70.62	12.04	58.58
	06/19/96	70.62	13.38	57.24
MW-3	02/14/95	71.79	13.45	58.34
	06/07/95	71.79	14.64	57.15
	08/29/95	71.79	14.94	56.85
	12/08/95	71.79	15.82	55.97
	03/07/96	71.79	12.89	58.90
	06/19/96	71.79	13.94	57.85

Note: Groundwater elevations are referenced to Mean Sea Level.

TABLE 2
Groundwater Sample Analytical Results
4401 Market Street,
Oakland, California
(reported in $\mu\text{g/l}$)

Well Number	Sample Date	MTBE	TPH-g	Benzene	Toluene	Ethylbenzene	Xylenes
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
	08/29/95	NT	440	ND	ND	1.3	1.1
	12/08/95	NT	ND	ND	ND	ND	ND
	03/07/96	44	77	ND	ND	ND	ND
	06/19/96	84	500	ND	ND	0.85	0.36
	MW-2	11/08/94	NT	20,000	1,400	960	980
02/14/95		NT	8,600	380	210	410	2,000
06/07/95		NT	6,200	500	78	270	1,200
08/29/95		NT	4,100	330	61	210	980
12/08/95		NT	9,400	360	190	440	2,000
03/07/96		18	12,000	790	170	440	2,000
06/19/96		ND	9,000	520	82	350	1,500
MW-3		11/08/94	NT	ND	0.71	0.84	1.2
	02/14/95	NT	ND	ND	ND	ND	ND
	06/07/95	NT	ND	ND	ND	ND	1.6
	08/29/95	NT	ND	ND	ND	ND	ND
	12/08/95	NT	ND	ND	ND	ND	ND
	03/07/96	ND	ND	ND	ND	ND	ND
	06/19/96	ND	ND	ND	ND	ND	ND
	California MCL		40	None Listed	1.0	150	700

MCL = Maximum Contaminant Level Primary Drinking Water Standard

ND = Not detected above the laboratory limit of detection.

NT = Not Tested

$\mu\text{g/l}$ = micrograms per liter

ATTACHMENT A

GROUNDWATER SAMPLING LOGS

**GROUNDWATER SAMPLING
WELL DEVELOPMENT LOG**

WELL NUMBER: 27W-1 FIELD PERSON(S): Russell Bentley
 DATE STARTED: 6/19/96
 TIME STARTED: _____ JOB NUMBER: 3365
 DATE COMPLETED: _____ JOB NAME: Damela
 TIME COMPLETED: _____

DEPTH TO BOTTOM OF CASING LENGTH				WELL INSIDE DIAMETER		
TOTAL DEPTH TO BOTTOM	DEPTH TO WATER	Δ (FT)		VOLUME FACTOR		
<u>27.50</u>	<u>13.70</u>	<u>10.80</u>		1"-0.041	4"-0.653	
			WELL CASING VOLUME (GAL)	1-1/2"-0.092	6"-1.469	
Δ H (FT)	<u>10.80</u>	<u>0.163</u>	<u>1.77</u>	2"-0.163	8"-2.611	
DATE(S) PURGED: _____				WELL DEWATERED <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
PURGE METHOD: <u>Hand Bail</u>				DATE SAMPLED: <u>6/19/96</u>		
INITIAL DEPTH TO WATER: _____				TIME SAMPLED: <u>1405</u>		
TOTAL VOLUME REMOVED (GAL): <u>5.50</u>				SAMPLING METHOD: <u>Bailer</u>		
CASING VOLUMES REMOVED: <u>3+</u>				WEATHER CONDITIONS: <u>Sun Hot, breeze</u>		
PURGE RATE (GPM): _____				PURGES/SAMPLED BY: <u>RB</u>		
DEPTH TO WATER AFTER RECOVERY <u>14.96</u> (FT) = <u>80+</u> % RECOVERED PRIOR TO SAMPLING						

FIELD PARAMETERS:

TIME (24 HR CLOCK)	VOLUME REMOVED (GAL)	TEMPERATURE	X100 ELECTRICAL CONDUCTIVITY	PH	TURBIDITY (NTU)
<u>1355</u>	<u>1.75</u>	<u>71.7</u>	<u>4.79</u>	<u>6.87</u>	<u>Clear</u>
<u>1358</u>	<u>3.75</u>	<u>69.4</u>	<u>4.63</u>	<u>6.70</u>	<u>Slight</u>
<u>1400</u>	<u>5.50</u>	<u>68.4</u>	<u>4.62</u>	<u>6.76</u>	<u>Slight</u>

COMMENTS: Slight odor, no sheen detected.
Medium odor as bail purging progressed.

GROUNDWATER SAMPLING WELL DEVELOPMENT LOG

WELL NUMBER: MW-2 FIELD PERSON(S): [Signature]
 DATE STARTED: 6/19/96
 TIME STARTED: _____ JOB NUMBER: J-100
 DATE COMPLETED: _____ JOB NAME: Dewater
 TIME COMPLETED: _____

DEPTH TO BOTTOM OR CASING LENGTH				WELL INSIDE DIAMETER			
TOTAL DEPTH TO BOTTOM	<u>24.54'</u>	DEPTH TO WATER	<u>13.38'</u>	Δ (FT)	<u>11.16'</u>	VOLUME FACTOR V.F. = GAL/FT	1 = 0.041 2 = 0.163 3 = 0.337 4 = 0.503 5 = 0.669 6 = 0.835 7 = 1.001 8 = 1.167
Δ H (FT)	<u>11.16'</u>	X (V.F.)	<u>0.163</u>	WELL CASING VOLUME (GAL)	<u>1.82</u>		
DATE(S) PURGED: _____				WELL DEWATERED: YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>			
PURGE METHOD: <u>Disp. Hand Pump</u>				DATE SAMPLED: _____			
INITIAL DEPTH TO WATER: _____				TIME SAMPLED: _____			
TOTAL VOLUME REMOVED (GAL): <u>5.5</u>				SAMPLING METHOD: _____			
CASING VOLUMES REMOVED: <u>3+</u>				WEATHER CONDITIONS: _____			
PURGE RATE (GPM): _____				PURGES/SAMPLES: _____			
DEPTH TO WATER AFTER RECOVERY <u>13.60</u> (FT) = <u>80+</u> % RECOVERED PRIOR TO SAMPLING							

FIELD PARAMETERS:

TIME (24 HR CLOCK)	VOLUME REMOVED (GAL)	TEMPERATURE	2500 ELECTRICAL CONDUCTIVITY	PH	TURBIDITY
<u>1247</u>	<u>2.00</u>	<u>72.8</u>	<u>260</u>	<u>6.5</u>	
<u>1251</u>	<u>3.75</u>	<u>72.2</u>	<u>251</u>	<u>6.5</u>	
<u>1257</u>	<u>5.50</u>	<u>72.1</u>	<u>243</u>	<u>6.5</u>	

COMMENTS: Medium odor, no chgs detected

GROUNDWATER SAMPLING WELL DEVELOPMENT LOG

WELL NUMBER: MW-3 FIELD PERSON(S): Russell G. ...
 DATE STARTED: 6/19/96
 TIME STARTED: _____ JOB NUMBER: _____
 DATE COMPLETED: _____ JOB NAME: _____
 TIME COMPLETED: _____

DEPTH TO BOTTOM OR CASING LENGTH		WELL INSIDE DIAMETER	
TOTAL DEPTH TO BOTTOM	DEPTH TO WATER	Δ (FT)	VOLUME FACTOR V.F. = GAL/FT
<u>24.62'</u>	<u>13.94'</u>	<u>10.68'</u>	
Δ (FT)	X (V.F.)	WELL CASING VOLUME (GAL)	
<u>10.68'</u>	<u>0.163</u>	<u>1.74</u>	
DATE(S) PURGED: _____		WELL DEWATERED: YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
PURGE METHOD: <u>Disp. Hand. Bore</u>		DATE SAMPLED: _____	
INITIAL DEPTH TO WATER: _____		TIME SAMPLED: _____	
TOTAL VOLUME REMOVED (GAL): <u>5.25</u>		SAMPLING METHOD: _____	
CASING VOLUMES REMOVED: <u>3+</u>		WEATHER CONDITIONS: <u>Clear</u>	
PURGE RATE (GPM): _____		PURGES/SAMPLED BY: <u>RG</u>	
DEPTH TO WATER AFTER RECOVERY <u>16.00'</u> (FT) = <u>80</u> % RECOVERED PRIOR TO SAMPLING			

FIELD PARAMETERS:

TIME (24 HR CLOCK)	VOLUME REMOVED (GAL)	TEMPERATURE	X100 ELECTRICAL CONDUCTIVITY	PH	FIELD
<u>13.18</u>	<u>1.75</u>	<u>70.2</u>	<u>3.87</u>	<u>7.29</u>	<u>W6</u>
<u>13.21</u>	<u>3.50</u>	<u>67.9</u>	<u>3.69</u>	<u>7.20</u>	<u>W6</u>
<u>13.26</u>	<u>5.25</u>	<u>68.1</u>	<u>3.60</u>	<u>7.15</u>	<u>W6</u>

COMMENTS: No sheen or odor detected.

ATTACHMENT B

LABORATORY ANALYTICAL REPORTS

W. A. CRAIG, INC.

CHAIN-OF-CUSTODY RECORD

6622AWAC631

PROJECT NO. 3365		PROJECT NAME Darda		MATRIX: Soil, Water, Air, Sludge, Other	ANALYSIS						REMARKS	LABORATORY I. D. NUMBER
PURCHASE ORDER NO.		SIGNATURE OF SAMPLER Renee J...			TPHgasoline (8015)	BTEX (802/8020)	TPHdiesel (8015)	TPHg & BTEX	MTBE	Preserved?		
DATE	TIME	W. A. CRAIG, INC.'S SAMPLE IDENTIFICATION										
1996												
6/19	1330	MW-3	(2U00's)	✓			✓	✓	✓	✓	66110	
"	1405	MW-1	"	"			✓	✓	✓	✓	66111	
"	1420	MW-2	"	"			✓	✓	✓	✓	66112	

KEPT GOOD CONDITION
 HEAD SPACE ABSENT
 PRESERVED
 APPROPRIATE CONTAINERS

PREPARED BY (Signature): <i>Renee J...</i>	DATE/TIME: 6/19/96 14:58	RECEIVED BY (Signature): <i>Wade Green</i>	LABORATORY: McCampbell Analytical	PLEASE SEND RESULTS TO: W. A. CRAIG, INC. P.O. BOX 448 NAPA, CA 94559-0448 (707) 252-3353 GAF
DISPATCHED BY (Signature):	DATE/TIME:	RECEIVED BY (Signature):	TURNAROUND TIME: 5-day	ATTN:

06-25-1996 11:56PM FROM McCampbell Analytical Inc TO 1707252353

QC REPORT FOR LABORATORY ANALYSIS

Date: 06/19/96

Matrix: Diesel

Analyte	Concentration		
	Sample (#56024)	MS	MSD
TPH (gas)	0.0	98	100
Benzene	0.0	9.8	10.0
Toluene	0.0	9.8	10.0
o-xylene	0.0	9.8	10.0
m-xylene	0.0	9.8	10.0
p-xylene	0.0	9.8	10.0
TPH (diesel)	0	152	150
TPH (oil/grease)	N/A	N/A	N/A

* Rec. = (MS - Sample) / (MS - MSB) * 100

RPD = (MS - MSD) / (MS - MSB) * 100