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: September 13, 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 Propery
4401 Market Street
Oakland, California

COMMENTS:

Enclosed you will find a final report of the Quarterly Groundwater Monitoring - June 1996 performed at 4401 Market Street in Oakland, California.

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

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GROUNDWATER MONITORING REPORT
JUNE 1996

DAMELE PROPERTY
4401 Market Street
Oakland, California

July 29, 1996
W.A. Craig, Inc.
Project No. 3365-D

As 12/4/96
Letter out to RP Re:
inaccurate lab & chain of
Custody documentation.
OK w/ recommendations.

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Fax: (707) 252-3385

July 29, 1996

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 (μg/l); ethylbenzene - 0.85 μg/l; xylenes - 0.36 μg/l; and MTBE - 84 μg/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 μg/l; benzene - 520 μg/l; toluene - 82 μg/l; ethylbenzene - 350 μg/l; xylenes - 1,500 μg/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 upgradient monitoring well MW-3 has had trace to non-detected concentrations of these constituents. Monitoring wells MW-1 and MW-2 are downgradient 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, downgradient 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.,

REGISTERED PROFESSIONAL GEOLOGIST
GEOFFERY A. FIEDLER
No. 6340
Exp. 9/30/97
STATE OF CALIFORNIA

REGISTERED ENVIRONMENTAL ASSESSOR
WILLIAM A. CRAIG, II
No. 01414
Expires 6-97
STATE OF CALIFORNIA

Geoffery A. Fiedler, R.G.
Principal Geologist

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

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. Susan Hugo, 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.

Wells screened @ 20-25' bgs.

TABLE 2

Groundwater Sample Analytical Results
2877 Solano Avenue,
Napa, California
(reported in µg/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	4,600
	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	5.8
	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	1750

MCL = Maximum Contaminant Level Primary Drinking Water Standard
ND = Not detected above the laboratory limit of detection.
NT = Not Tested
µg/l= micrograms per liter

Mag 14.00
Fri Sep 13 12:46 1996

Scale 1:31,250 (at center)
2000 Feet

NORTH

Project No. 3365.4

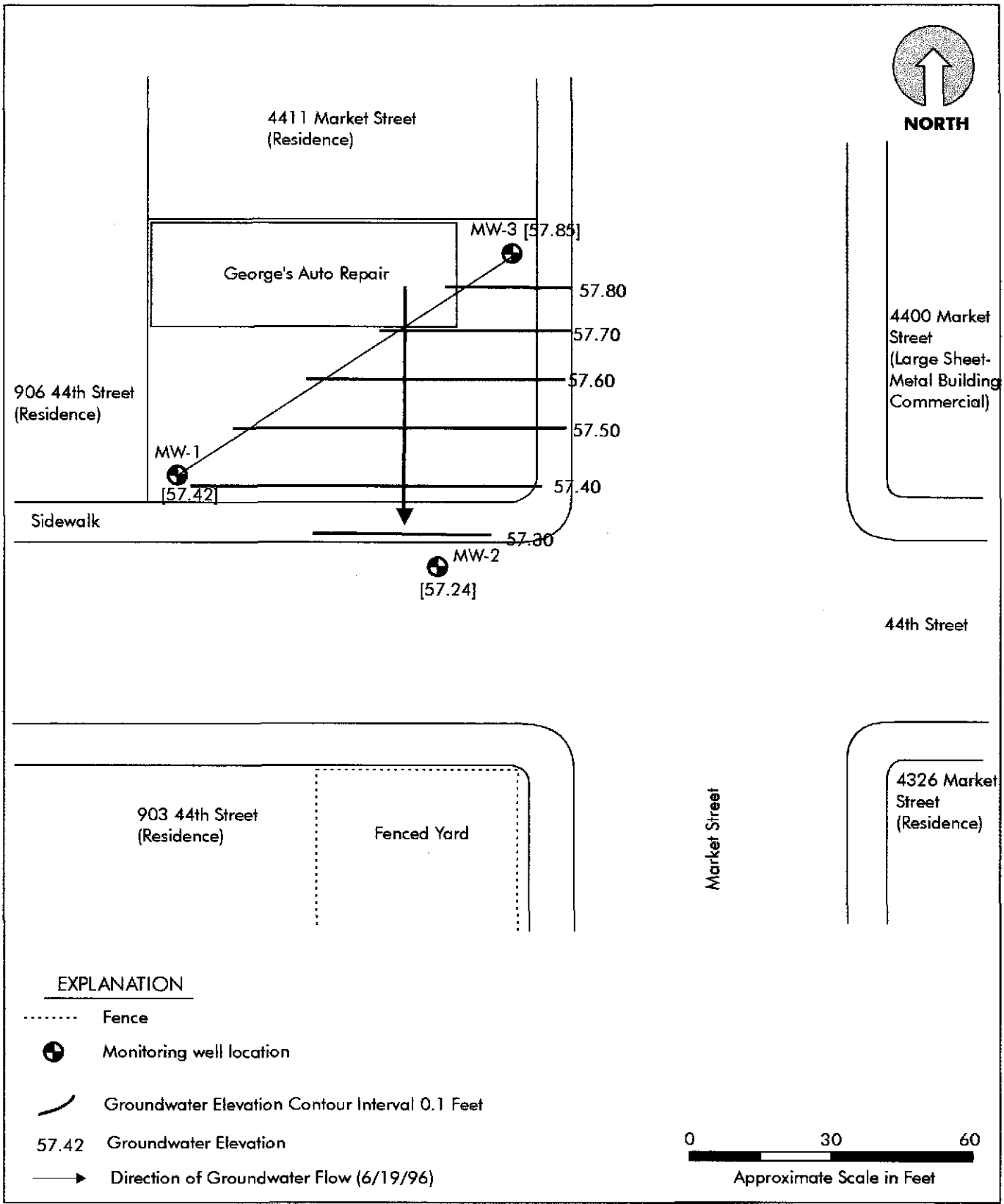
July 1996

SITE LOCATION MAP
Damele Site
4401 Market Street
Oakland, CA

Figure 1

Checked by:

W. A. CRAIG, INC.
Environmental Contracting and Consulting
P. O. Box 448
Napa, California 94559-0448
Cal License #455752
(707) 252-3353
FAX (707) 252-3385



Project No. 3365-D

July 1996

GROUNDWATER ELEVATION CONTOURS

Damele Property
4401 Market Street
Oakland, CA

Figure 2

Checked by:

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P. O. Box 448
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Cal License #455752
(707) 252-3353
FAX (707) 252-3385

ATTACHMENT A

GROUNDWATER SAMPLING LOGS

GROUNDWATER SAMPLING
WELL DEVELOPMENT LOG

WELL NUMBER: MW-1 FIELD PERSON(S): Russell Gentry

DATE STARTED: 6/19/96

TIME STARTED: JOB NUMBER: 3365

DATE COMPLETED: JOB NAME: Daniels

TIME COMPLETED:

DEPTH TO BOTTOM OR CASING LENGTH								WELL INSIDE DIAMETER		
TOTAL DEPTH TO BOTTOM	24.58'	DEPTH TO WATER	13.70	= Δ(FT)	10.88'			VOLUME FACTOR V.F. = GAL/FT	1"=0.041 1-1/2"=0.092 2"=0.163 3"=0.367	4"=0.653 6"=1.469 8"=2.611 12"=5.875
Δ H (FT)	10.88'	X (V.F.) =	0.163	= WELL CASING VOLUME (GAL)	1.77					
DATE(S) PURGED:	—							WELL DEWATERED	[ ] YES [X] NO	
PURGE METHOD:	Disp Hand Bailer							DATE SAMPLED:	6/19/96	
INITIAL DEPTH TO WATER:	—							TIME SAMPLED:	1405	
TOTAL VOLUME REMOVED (GAL):	5.50							SAMPLING METHOD:	Bailer	
CASING VOLUMES REMOVED:	3+							WEATHER CONDITIONS:	Sun Hot breeze	
PURGE RATE (GPM):	—							PURGES/SAMPLED BY:	RG	

DEPTH TO WATER AFTER RECOVERY 14.96 (FT) = 80+ % RECOVERED PRIOR TO SAMPLING

FIELD PARAMETERS:

TIME (24 HR CLOCK)	VOLUME REMOVED (GAL)	TEMPERATURE	X100 ELECTRICAL CONDUCTIVITY	PH	TURBIDITY (NTU)
1351	1.75	71.7	4.79	6.87	Clear
1356	~~3~~ 3.75	69.4	~~4~~ 4.68	~~7.07~~ 6.78	Slight
1400	5.50	68.4	4.62	6.96	Slight

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

GROUNDWATER SAMPLING
WELL DEVELOPMENT LOG

WELL NUMBER: MW-2 FIELD PERSON(S): Russell Gentry

DATE STARTED: 6/19/96

TIME STARTED: JOB NUMBER: 3365

DATE COMPLETED: JOB NAME: Damele

TIME COMPLETED:

DEPTH TO BOTTOM OR CASING LENGTH		WELL INSIDE DIAMETER	
TOTAL DEPTH TO BOTTOM 24.54' - DEPTH TO WATER = 13.38' = Δ(FT) 11.16'		VOLUME FACTOR V.F.= GAL/FT	1"=0.041 4"=0.653 1-1/2"=0.092 6"=1.469 2"=0.163 8"=2.611 3"=0.367 12"=5.875
Δ H (FT) 11.16' X (V.F.) = 0.163 = WELL CASING VOLUME (GAL) 1.82			
DATE(S) PURGED:		WELL DEWATERED	[ ] YES [X] NO
PURGE METHOD: Disp. Hand Bailer		DATE SAMPLED:	6/19/96
INITIAL DEPTH TO WATER:		TIME SAMPLED:	1420
TOTAL VOLUME REMOVED (GAL): 5.5		SAMPLING METHOD:	Bailer
CASING VOLUMES REMOVED: 3+		WEATHER CONDITIONS:	Sun, warm, breeze
PURGE RATE (GPM):		PURGES/SAMPLED BY:	RS
DEPTH TO WATER AFTER RECOVERY 13.60 (FT) = 80+ % RECOVERED PRIOR TO SAMPLING			

FIELD PARAMETERS:

TIME (24 HR CLOCK)	VOLUME REMOVED (GAL)	TEMPERATURE	ELECTRICAL CONDUCTIVITY (X100)	PH	TURBIDITY (NTU)
1247	2.00	72.8	7.60	6.91	Medium
1251	3.75	72.2	7.51	6.66	Slight
1257	5.50	72.1	7.43	6.64	Clear

COMMENTS: Medium odor, no sheen detected.

GROUNDWATER SAMPLING
WELL DEVELOPMENT LOG

WELL NUMBER: MW-3 FIELD PERSON(S): Russell Gentry

DATE STARTED: 6/19/96

TIME STARTED: JOB NUMBER: 3365

DATE COMPLETED: JOB NAME: Damele

TIME COMPLETED:

DEPTH TO BOTTOM OR CASING LENGTH		WELL INSIDE DIAMETER		
TOTAL DEPTH TO BOTTOM 24.62' - DEPTH TO WATER = 13.94' = Δ(FT) 10.68'		VOLUME FACTOR V.F.= GAL/FT	1"=0.041 1-1/2"=0.092 2"=0.163 3"=0.367	4"=0.653 6"=1.469 8"=2.611 12"=5.875
Δ H (FT) 10.68' X (V.F.) = 0.163 = WELL CASING VOLUME (GAL) 1.74				
DATE(S) PURGED: —		WELL DEWATERED	[ ] YES	[X] NO
PURGE METHOD: Disp. Hand Bailer		DATE SAMPLED:	6/19/96	
INITIAL DEPTH TO WATER: —		TIME SAMPLED:	1330	
TOTAL VOLUME REMOVED (GAL): 5.25		SAMPLING METHOD:	Bailer	
CASING VOLUMES REMOVED: 3+		WEATHER CONDITIONS:	Sun, warm, breeze	
PURGE RATE (GPM): —		PURGES/SAMPLED BY:	RJ	
DEPTH TO WATER AFTER RECOVERY 16.00' (FT) = 80 % RECOVERED PRIOR TO SAMPLING				

FIELD PARAMETERS:

TIME (24 HR CLOCK)	VOLUME REMOVED (GAL)	TEMPERATURE	X100 ELECTRICAL CONDUCTIVITY	PH	TURBIDITY (NTU)
13.18	1.75	70.2	3.87	7.23	Clear
1321	3.50	67.9	3.69	7.26	Slight
1326	5.25	68.1	3.60	7.18	Slight

COMMENTS: No sheen or odor detected.

ATTACHMENT B

LABORATORY ANALYTICAL REPORTS

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

W.A. Craig, Inc. P.O. Box 448 Napa, CA 94559-0448	Client Project ID: # 9996; Rouch/Coldwell	Date Sampled: 06/19/96
		Date Received: 06/19/96
	Client Contact: Leland Yialelis	Date Extracted: 06/19/96
	Client P.O:	Date Analyzed: 06/19/96

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 ID	Client ID	Matrix	TPH(g)+	Benzene	Toluene	Ethylbenzene	Xylenes	% Rec. Surrogate
66074	S1-12"	S	ND	ND	ND	ND	ND	102
66075	S2-12"	S	ND	ND	ND	ND	ND	102
66076	S3-12"	S	ND	ND	ND	ND	ND	103
Reporting Limit unless otherwise stated; ND means not detected above the 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	

* water and vapor samples are reported in ug/L, soil and sludge samples in mg/kg, and all TCLP extracts in mg/L

cluttered chromatogram; sample peak coelutes with surrogate peak

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

DHS Certification No. 1644

Edward Hamilton, Lab Director

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

W.A. Craig, Inc. P.O. Box 448 Napa, CA 94559-0448	Client Project ID: # 9996; Rouch/Coldwell	Date Sampled: 06/19/96
		Date Received: 06/19/96
	Client Contact: Leland Yialelis	Date Extracted: 06/20/96
	Client P.O:	Date Analyzed: 06/20/96

Total Recoverable Petroleum Hydrocarbons as Oil & Grease (with Silica Gel Clean-up) by Scanning IR Spectrometry*

EPA method 418.1 or 9073; Standard Methods 5520 C&F

Lab ID	Client ID	Matrix	TRPH+	% Recovery Surrogate
66074	S1-12"	S	ND	NA
66075	S2-12"	S	ND	NA
66076	S3-12"	S	ND	NA
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	1.0 mg/L	
		S	10 mg/kg	

* water samples are reported in mg/L and soils and sludges in mg/kg

surrogate diluted out of range or not applicable to this sample

+ At the laboratory's discretion, one positive sample may be run by direct injection chromatography with FID detection. The following comments pertain to this GC result: a) gasoline-range compounds (C6-C12) are present; b) diesel range compounds (C10-C23) are present; c) oil-range compounds (> C18) are present; d) other patterned solvent (?); e) isolated peaks; f) GC compounds are absent or insignificant relative to TRPH inferring that complex biologically derived molecules (lipids?) are the source of IR absorption; h) a lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~ 5 vol. % sediment.

DHS Certification No. 1644

/s/ Edward Hamilton, Lab Director

W. A. CRAIG, INC. CHAIN-OF-CUSTODY RECORD

06-25-1996 11:58PM FROM McCampbell Analytical Inc TO 17072523385 P.04

PROJECT NO.	PROJECT NAME
9996	Rouch Caldwell
PURCHASE ORDER NO.	SIGNATURE OF SAMPLER
	Russell Grant

DATE 1996	TIME	W. A. CRAIG, INC.'S SAMPLE IDENTIFICATION	MATRIX: Soil, Water, Air, Sludge, Other	TPHgasoline (8015)	BTEX (602/8020)	TPHdiesel (8015)	TPHg & BTEX	TPH-org				Preserved?	REMARKS	LABORATORY I. D. NUMBER
6/19	0820	S1-12"	S				✓	✓				ICE	Paid #8806 6619 AWAC 630	66074
6/19	0835	S2-12"	S				✓	✓				✓		66075
6/19	0845	S3-12"	S				✓	✓				✓		66076

ICE/t° ✓ GOOD CONDITION ✓ HEAD SPACE ABSENT ✓

PRESERVATIVE (VOAS | O&G | METALS | OTHER) APPROPRIATE CONTAINERS ✓

RELINQUISHED BY (Signature):	DATE/TIME	RECEIVED BY (Signature):	LABORATORY:	PLEASE SEND RESULTS TO:
Russell Grant	6/19/96 11:55	Vicki Rice	McCampbell Analytical	W. A. CRAIG, INC.
RELINQUISHED BY (Signature):	DATE/TIME	RECEIVED BY (Signature):	TURNAROUND TIME: 5-day	P.O. BOX 448 NAPA, CA 94559-0448 (707) 252-3353
RELINQUISHED BY (Signature):	DATE/TIME	RECEIVED BY (Signature):		ATTN: Leland

WA GEOTECHNICA TECHFRM 606 (5/93)