July 1, 1998

QUARTERLY GROUNDWATER MONITORING REPORT
Second Quarter 1998

4045 Broadway
Oakland, California

Project No. .1630

Prepared For

Ms. C.J. Gong
Gong Associates
637 Beacon Street
Oakland, CA 94610

Prepared By

All Environmental, Inc.
901 Moraga Road, Suite C
Lafayette, CA 94549
(800) 801-3224

AEI

ALL ENVIRONMENTAL, INC.
Environmental Engineering & Construction

June 30, 1998

Ms. C.J. Gong
Gong Associates
637 Beacon Street
Oakland, CA 94610

Re: Quarterly Groundwater Monitoring Report, *Second Quarter, 1998*
4045 Broadway
Oakland, California
Project No. 1630

Dear Ms. Gong:

All Environmental, Inc. (AEI) has prepared this report on your behalf, in response to your request for a groundwater investigation at 4045 Broadway in Oakland, California (Figure 1: Site Location Map). The investigation was initiated by the property owner in accordance with the requirements of the Alameda County Health Care Services Agency (ACHCSA). The following report describes the results of the fifth episode of groundwater monitoring during the second quarter of 1998.

Background

The site is located in a commercial zone at 4045 Broadway in Oakland, California, and currently supports the operation of Acc-U-Tune and Brake, an automotive repair facility. The topography of the site slopes gently to the south.

In December, 1995, one 550 gallon waste oil underground storage tank (UST) was removed from the property by AEI. Soil samples collected from the bottom of the excavation were impacted with 470 parts per million (ppm) TOG and minor concentrations of TPH as diesel, xylenes and metals. TPH as gasoline, benzene, toluene, ethylbenzene, poly nuclear aromatics (PNAs), and volatile halocarbons were not present above the detection limits within the excavation bottom samples. Soil samples collected from the stockpiled material were impacted with 410 ppm TOG, 32 ppm TPH as gasoline, 120 ppm TPH as diesel and minor concentrations of toluene, xylenes and metals. Benzene, ethylbenzene, volatile halocarbons, cadmium and PAHs were not found above the detection limits within the stockpile samples.

At the request of the ACHCSA, the stockpiled soil was disposed of off-site and clean soil was imported to backfill the excavation.

In May, 1996, AEI conducted a subsurface investigation to evaluate the potential presence of hydrocarbon contamination in the vicinity of a large asphalt patch. This area is suspected to be a former UST excavation. Analytical results from the investigation, indicated the groundwater beneath the site was impacted with up to 1200 parts per billion (ppb) TPH as gasoline and 1800 ppb TPH as diesel. Soil samples collected during the investigation indicated up to 150 ppm TPH as gasoline, 54 ppm TPH as diesel and 0.16 ppm benzene present.

On September 11, 1996, AEI drilled three soil borings and converted them to groundwater monitoring wells labeled MW-1, MW-2 and MW-3 (Groundwater Monitoring Well Installation Report, November 26, 1996, AEI). The wells were developed on September 16, 1996 and sampled on September 24, 1996. Refer to Figure 2 for well locations.

In September, 1997, AEI advanced eight soil borings in order to delineate soil contamination in the vicinity of the former tank hold and dispenser islands. In addition, groundwater was collected to delineate the lateral extent of the petroleum hydrocarbon plume for the placement of a fourth monitoring well. MW-4 was installed along the southern property boundary. The well was developed and sampled along with the existing three monitoring wells on September 24, 1997 (Phase II Subsurface Investigation and Monitoring Well Installation Report, January 28, 1998).

The following report describes the results of the fifth monitoring episode conducted on May 15, 1998.

Geology and Hydrogeology

According to logs of the soil borings advanced by AEI, the near surface sediments beneath the site consist of mainly clayey and silty sand to approximately eighteen feet below ground surface (bgs). The water-bearing stratum consists of silty sand that grades to a clean sand present at twenty feet bgs.

Water level measurements made during the current groundwater monitoring and sampling episode on May 15, 1998, indicate that the static water ranges from about 8.11to 9.38 feet bgs. Elevations of the tops of the well casings for the four wells were re-surveyed relative to Mean Sea Level (MSL) by Logan Surveying on October 15, 1997.

A summary of groundwater elevations measured during sampling is presented in Table 1.

The water level measurements were collected in order to calculate the groundwater gradient and flow direction. Based on these measurements, the groundwater flow is to

the west at a gradient of 0.01 feet per foot. The groundwater flow direction is depicted in Figure 3.

Summary of Activities

AEI measured the depth to groundwater and collected water samples from the wells on May 15, 1998. The sampling procedure for the wells involved measuring water levels, purging the wells, and the collection of water samples. The depth from the top of the well casing was measured prior to sampling with an electric water level indicator. The wells were purged and a groundwater sample was collected using a clean disposable Teflon bailer.

Temperature, pH, and turbidity were measured during the purging of the wells. AEI removed 3 to 4 well volumes. Once the temperature, pH, and turbidity stabilized, a water sample was collected. Refer to Attachment A for the Groundwater Monitoring Well Field Sampling Forms.

Water was poured from the bailers into liter bottles and 40 ml VOA vials and capped so that there was no head space or visible air bubbles within the sample containers. Samples were shipped on ice under proper chain of custody protocol to McCampbell Analytical, Inc. of Pacheco, California (State Certification #1644).

Groundwater samples were submitted for chemical analyses for Total Petroleum Hydrocarbons (TPH) as gasoline (EPA Method 5030/8015), TPH as diesel (EPA Method 3550/8015), methyl tertiary butyl ether (MTBE) (EPA Method 8020/602), benzene, toluene, ethylbenzene, and xylenes (BTEX) (EPA Method 8020/602). At the request of ACHCSA, groundwater from MW-3 was sampled for total oil and grease (TOG) (EPA method 5520 D & F).

Groundwater Quality

No sheen or free product was observed during monitoring activities.

Petroleum hydrocarbon concentrations in MW-2, the well in the center of the plume, decreased significantly compared to past readings. No contaminants were found in the up-gradient well, MW-1 or the down-gradient well, MW-3. MW-4, the most down-gradient well, showed concentrations of TPH as diesel, benzene and xylenes higher than the last quarter.

A summary of groundwater quality data, including historic data, is presented in Table 2. Laboratory results and chain of custody documents are included in Attachment B.

Recommendations

Based on previous groundwater monitoring data, AEI recommends discontinuing sampling of monitoring wells MW-1 and MW-3. Groundwater sampling should be continued on a quarterly basis for monitoring wells MW-2 and MW-4. Groundwater depth should be collected from all wells during subsequent sampling in order to calculate gradient beneath the site. The next groundwater monitoring and sampling episode is scheduled for August, 1998.

Report Limitations and Signatures

This report presents a summary of work completed by All Environmental, Inc., including observations and descriptions of site conditions. Where appropriate, it includes analytical results for samples taken during the course of the work. The number and location of samples are chosen to provide required information, but it cannot be assumed that they are entirely representative of all areas not sampled. All conclusions and recommendations are based on these analyses, observations, and the governing regulations. Conclusions beyond those stated and reported herein should not be inferred from this document.

These services were performed in accordance with generally accepted practices in the environmental engineering and construction field that existed at the time and location of the work.

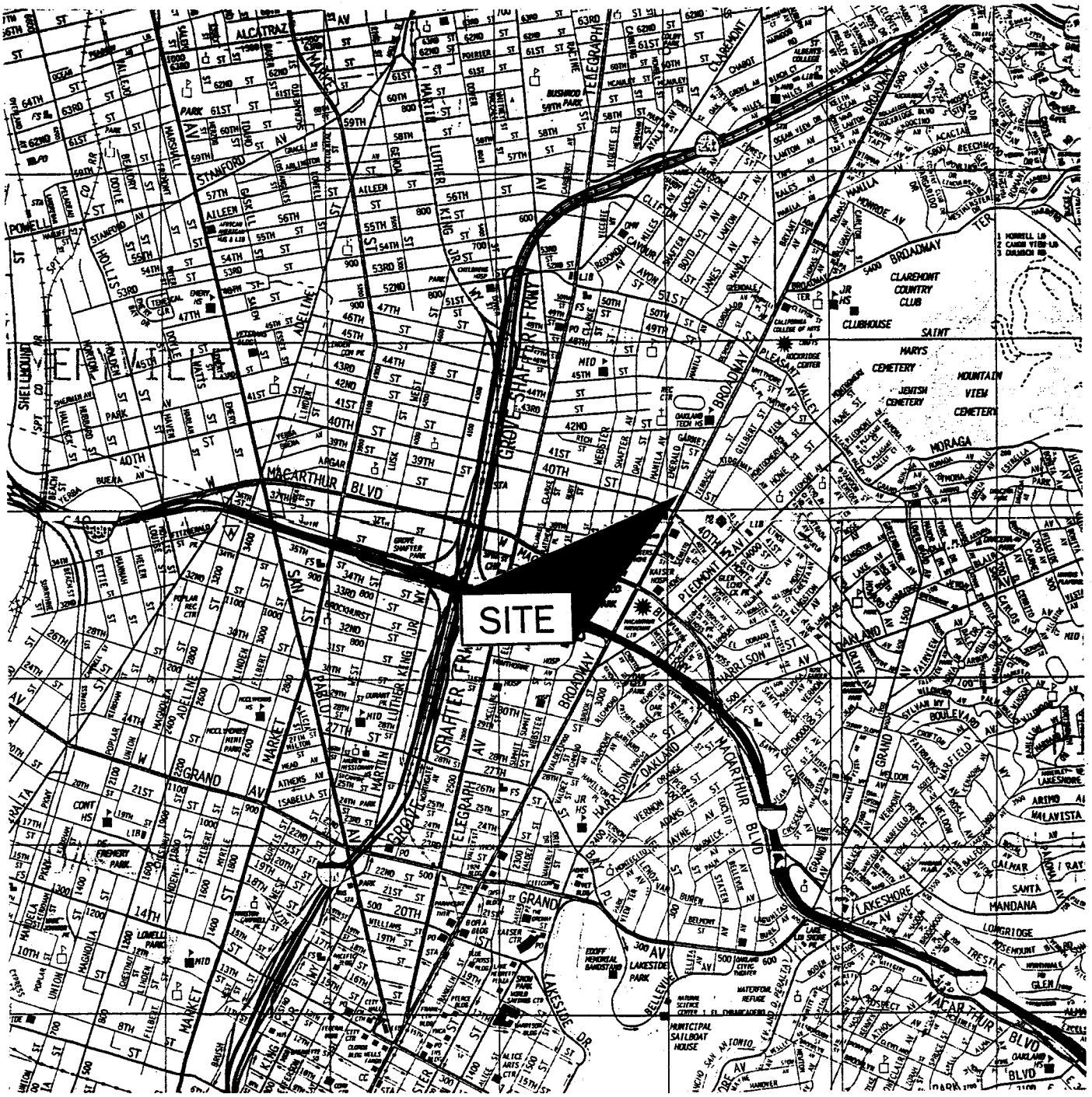
Sincerely,

Jennifer Pucci, REA
Project Manager

J. P. Derhake, PE, CAC
Senior Author

cc: Ms. Madhulla Logan, Alameda County Health Care Services Agency

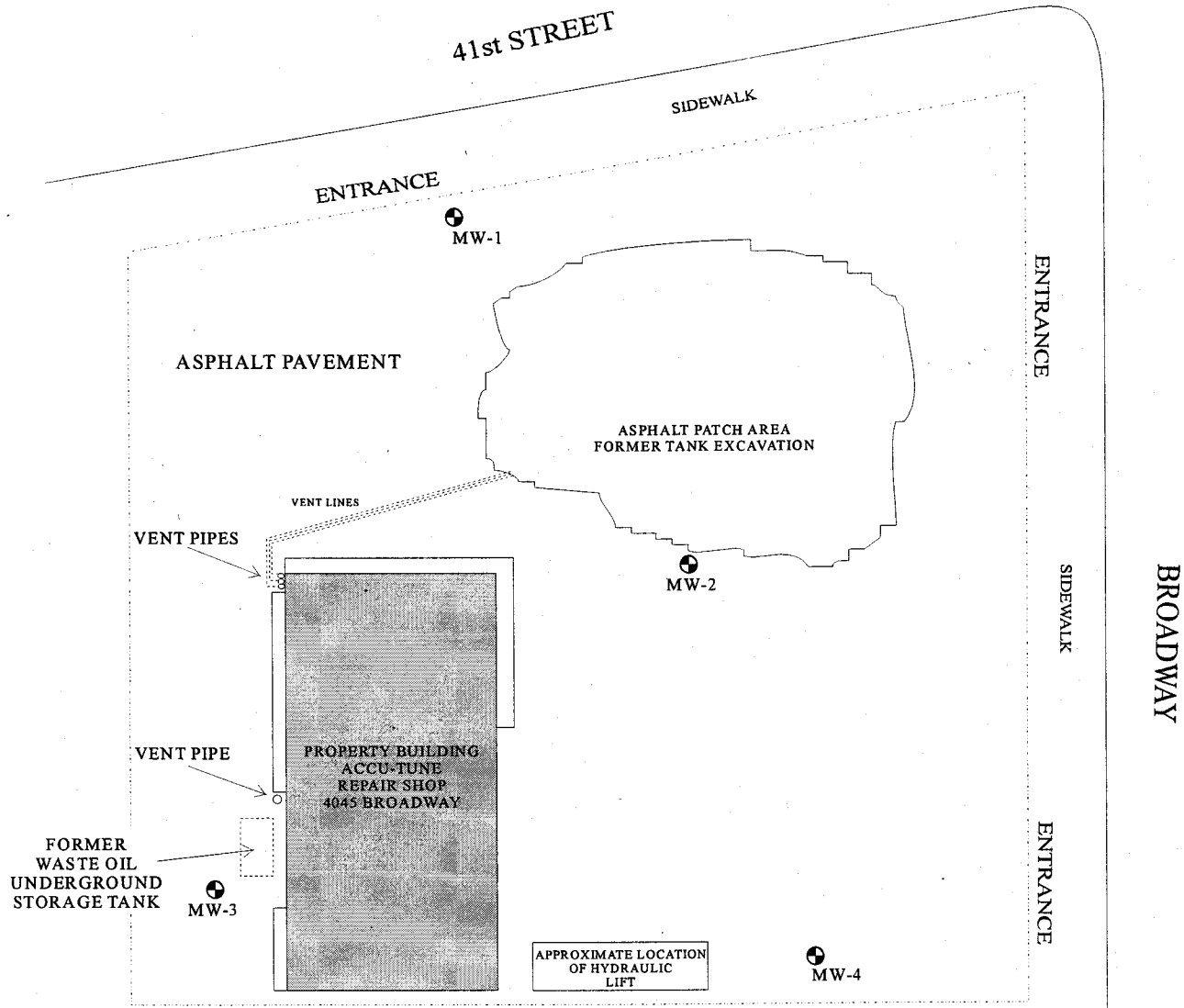
Figures
Tables
Attachment A
Attachment B



N

THOMAS BROS. MAPS
1997

ALL ENVIRONMENTAL, INC. 3364 MT. DIABLO BOULEVARD, LAFAYETTE		
SCALE: 1 IN = 2400 FT	APPROVED BY:	DRAWN BY:
DATE: 21 FEBRUARY 97		REVISED:
SITE LOCATION MAP		
4045 BROADWAY OAKLAND, CALIFORNIA		DRAWING NUMBER: FIGURE 1



KEY

⊕ GROUNDWATER MONITORING WELL LOCATION

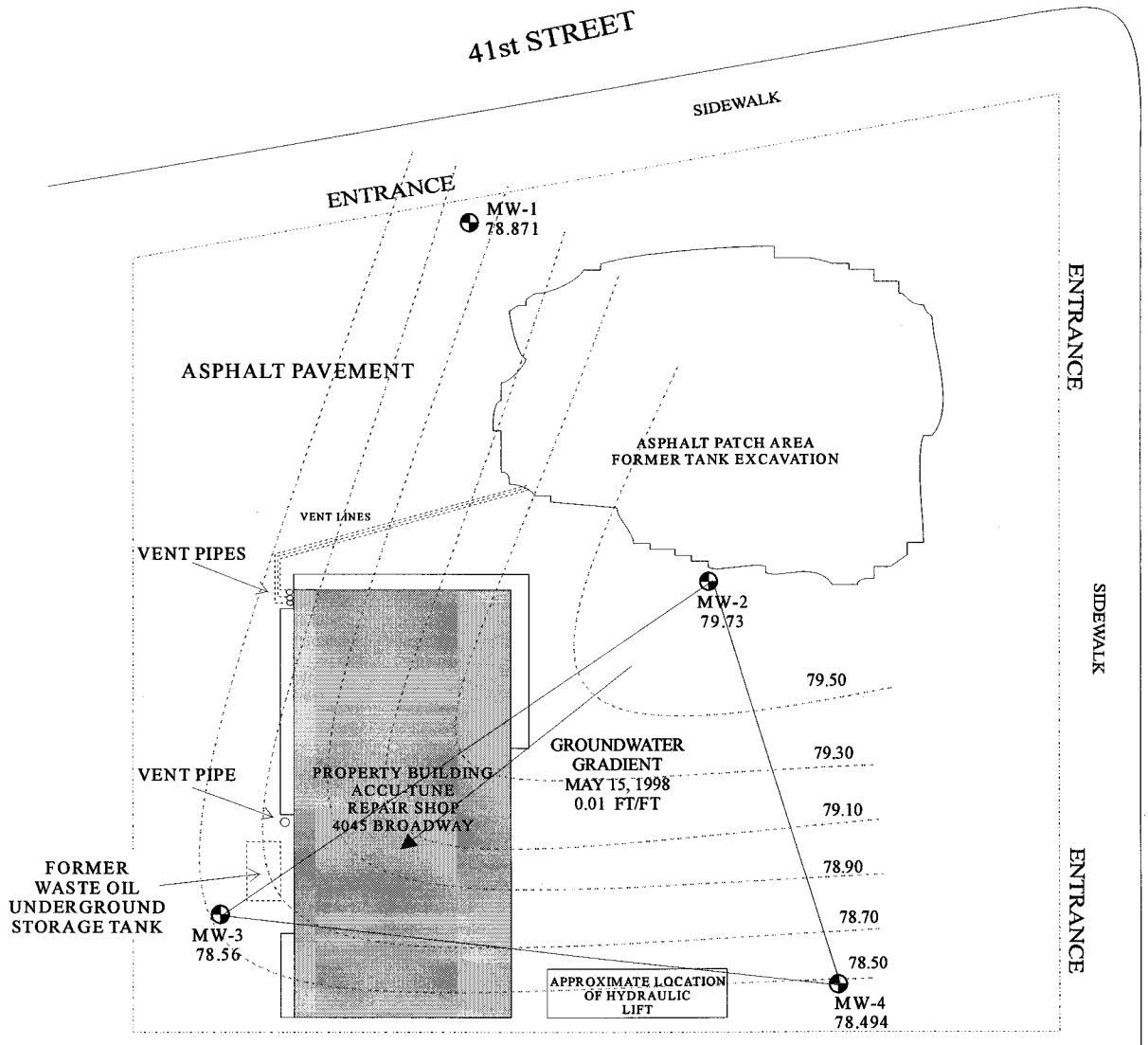
N

ALL ENVIRONMENTAL, INC.
3364 MT. DIABLO BOULEVARD, LAFAYETTE

SCALE: 1 IN = 20 FT	APPROVED BY:	DRAWN BY: J. PUCCI
DATE: 28 JANUARY 98		REVISED: J. PUCCI

WELL LOCATION MAP

4045 BROADWAY OAKLAND, CALIFORNIA	DRAWING NUMBER: FIGURE 2



KEY

GROUNDWATER MONITORING WELL LOCATION

N

ALL ENVIRONMENTAL, INC.

3364 MT. DIABLO BOULEVARD, LAFAYETTE

SCALE: 1 IN = 20 FT	APPROVED BY:	DRAWN BY: J. PUCCI
DATE: 28 JANUARY 98		REVISED: J. PUCCI

GROUNDWATER GRADIENT

4045 BROADWAY OAKLAND, CALIFORNIA	DRAWING NUMBER: FIGURE 3

Table 1
Groundwater Data

Well ID	Date	Well Elevation (ft msl)	Depth to Water (ft)	Groundwater Elevation (ft msl)
MW-1	9/24/96	86.98	8.75	78.23
	2/21/97	86.98	8.98	78.00
	9/24/97	86.98	8.76	78.22
	1/28/98	86.98	8.17	78.81
	5/15/98	86.98	8.11	78.87
MW-2	9/24/96	87.93	9.90	78.03
	2/21/97	87.93	10.05	77.88
	9/24/97	87.93	9.95	77.98
	1/28/98	87.93	9.26	78.67
	5/15/98	87.93	8.20	79.73
MW-3	9/24/96	87.94	10.20	77.74
	2/21/97	87.94	10.22	77.72
	9/24/97	87.94	10.19	77.75
	1/28/98	87.94	9.41	78.53
	5/15/98	87.94	9.38	78.56
MW-4	9/24/97	87.10	9.41	77.69
	1/28/98	87.10	8.66	78.44
	5/15/98	87.10	8.61	78.49

Notes: All well elevations are measured from the top of casing.
ft msl = feet above mean sea level

Table 2
Groundwater Sample Analytical Data

Well ID	Date	TPHg (µg/L)	TPHd (µg/L)	Total Oil & Grease (mg/L)	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/l)	Ethyl-Benzene (µg/l)	Xylenes (µg/l)
MW-1	9/24/96	190	110	NA	<5.0	<0.5	<0.5	<0.5	5.7
	2/21/97	<50	<50	NA	<5.0	<0.5	<0.5	<0.5	<0.5
	9/24/97	<50	<50	NA	<5.0	<0.5	<0.5	<0.5	<0.5
	1/28/98	<50	<50	NA	<5.0	<0.5	<0.5	<0.5	<0.5
	5/15/98	<50	<50	NA	<5.0	<0.5	<0.5	<0.5	<0.5
MW-2	9/24/96	18,000	6800	NA	170	440	1200	190	2200
	2/21/97	2,100	1,600	NA	27	71	82	30	110
	9/24/97	260	170	NA	<5.0	5.6	6.8	3.2	9.4
	1/28/98	990	500	NA	ND<25	74	33	21	66
	5/15/98	<50	<50	NA	<5.0	6.6	<0.5	<0.5	1.0
MW-3	9/24/96	<50	<50	NA	<5.0	<0.5	<0.5	<0.5	5.7
	2/21/97	<50	<50	NA	<5.0	<0.5	<0.5	<0.5	<0.5
	9/24/97	<50	<50	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5
	1/28/98	<50	53	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5
	5/15/98	<50	<50	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5
MW-4	9/24/97	160	68	NA	ND<10	19	1.5	<0.5	18
	1/28/98	<50	<50	NA	9.3	6.1	0.65	<0.5	0.74
	5/15/98	<50	110	NA	<5.0	7.4	<0.5	<0.5	1.6

TPHg - Total Petroleum Hydrocarbons as gasoline
TPHd - Total Petroleum Hydrocarbons as diesel
TOG - Total Oil & Grease
MTBE - Methyl Tertiary Butyl Ether
mg/L - Micrograms per Liter (ppb)
mg/L - Milligrams per Liter (ppm)
NA - Not analyzed

APPENDIX A

GROUNDWATER MONITORING WELL FIELD SAMPLING FORMS

ALL ENVIRONMENTAL INC. - GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-1

Project Name: Gong	Date of Sampling: 5/15/98
Job Number: 1630	Name of Sampler: DR
Project Address: 4045 Broadway	
Oakland	

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"
Seal at Grade -- Type and Condition	concrete/good
Well Cap & Lock -- OK/Replace	OK
Elevation of Top of Casing	86.98
Depth of Well	18.30
Depth to Water	8.11
Water Elevation	78.87
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	4.89
4" casing: (TD - DTW)(0.65)(3)	NA
6" casing: (TD - DTW)(1.44)(3)	NA
Actual Volume Purged (gallons)	8
Appearance of Purge Water	clear

GROUNDWATER SAMPLES

Number of Samples/Container Size	2 Voas/1 Liter

Time	Vol Remvd (gal)	Temp C	pH	Cond (mS)	Comments
	1	79.0	7.11	889	
	3	78.5	7.21	901	
	5	78.5	7.15	905	
	7	78.5	7.15	905	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

No odor, fast recharge

TD - Total Depth of Well
DTW - Depth To Water

ALL ENVIRONMENTAL INC. - GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-2

Project Name: Gong	Date of Sampling: 1/28/98
Job Number: 1630	Name of Sampler: DR
Project Address: 4045 Broadway	
Oakland	

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"
Seal at Grade -- Type and Condition	concrete/good
Well Cap & Lock -- OK/Replace	OK
Elevation of Top of Casing	87.93
Depth of Well	18.50
Depth to Water	8.20
Water Elevation	79.73
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	4.94
4" casing: (TD - DTW)(0.65)(3)	NA
6" casing: (TD - DTW)(1.44)(3)	NA
Actual Volume Purged (gallons)	8
Appearance of Purge Water	clear

GROUNDWATER SAMPLES

Number of Samples/Container Size	2 Voas/1 Liter

Time	Vol Remvd (gal)	Temp C	pH	Cond (mS)	Comments
	1	78.1	7.04	990	
	3	78.3	7.11	975	
	5	78.3	7.08	960	
	7	78.3	7.08	966	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

TD - Total Depth of Well
DTW - Depth To Water

ALL ENVIRONMENTAL INC. - GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-3

Project Name: Gong	Date of Sampling: 5/15/98
Job Number: 1630	Name of Sampler: DR
Project Address: 4045 Broadway	
Oakland	

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"
Seal at Grade -- Type and Condition	concrete/good
Well Cap & Lock -- OK/Replace	OK
Elevation of Top of Casing	87.94
Depth of Well	19.70
Depth to Water	9.38
Water Elevation	78.56
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	4.95
4" casing: (TD - DTW)(0.65)(3)	NA
6" casing: (TD - DTW)(1.44)(3)	NA
Actual Volume Purged (gallons)	8
Appearance of Purge Water	turbid

GROUNDWATER SAMPLES

Number of Samples/Container Size	2 Voas/2 Liter

Time	Vol Remvd (gal)	Temp C	pH	Cond (mS)	Comments
	1	78.2	7.33	1050	
	3	77.9	7.21	999	
	5	77.9	7.11	980	
	7	77.9	7.10	983	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

No odor, fast recharge

TD - Total Depth of Well
DTW - Depth To Water

ALL ENVIRONMENTAL INC. - GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-4

Project Name: Gong	Date of Sampling: 5/15/98
Job Number: 1630	Name of Sampler: DR
Project Address: 4045 Broadway	
Oakland	

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"
Seal at Grade -- Type and Condition	concrete/good
Well Cap & Lock -- OK/Replace	OK
Elevation of Top of Casing	87.10
Depth of Well	19.50
Depth to Water	8.61
Water Elevation	78.49
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	5.23
4" casing: (TD - DTW)(0.65)(3)	NA
6" casing: (TD - DTW)(1.44)(3)	NA
Actual Volume Purged (gallons)	8
Appearance of Purge Water	clear

GROUNDWATER SAMPLES

Number of Samples/Container Size	2 Voas/1 Liter

Time	Vol Remvd (gal)	Temp C	pH	Cond (mS)	Comments
	1	78.5	7.01	785	
	3	78.5	6.99	801	
	5	78.5	6.98	805	
	7	78.5	6.98	805	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

No odor, fast recharge

TD - Total Depth of Well
DTW - Depth To Water

APPENDIX B

CURRENT LABORATORY ANALYSES WITH CHAIN OF CUSTODY DOCUMENTATION

McCAMPBELL ANALYTICAL INC.
110 Second Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

All Environmental, Inc. 901 Moraga Road, Suite C Lafayette, CA 94549	Client Project ID: #1630; Gong	Date Sampled: 05/15/98
		Date Received: 05/15/98
	Client Contact: Jennifer Pucci	Date Extracted: 05/15/98
	Client P.O:	Date Analyzed: 05/15/98

05/22/98

Dear Jennifer:

Enclosed are:

1). the results of **4** samples from your **#1630; Gong** project,

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 Second Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

All Environmental, Inc.	Client Project ID: #1630; Gong	Date Sampled: 05/15/98
901 Moraga Road, Suite C		Date Received: 05/15/98
Lafayette, CA 94549	Client Contact: Jennifer Pucci	Date Extracted: 05/19-05/21/98
	Client P.O:	Date Analyzed: 05/19-05/21/98

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & 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)+	MTBE	Benzene	Toluene	Ethylben-zene	Xylenes	% Recovery Surrogate
89361	MW-1	W	ND	ND	ND	ND	ND	ND	107
89362	MW-2	W	ND	ND	6.6	ND	ND	1.0	94
89363	MW-3	W	ND	ND	ND	ND	ND	ND	107
89364	MW-4	W	ND	ND	7.4	ND	ND	1.6	105
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	5.0	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP and SPLP extracts in ug/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 Second Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

All Environmental, Inc. 901 Moraga Road, Suite C Lafayette, CA 94549	Client Project ID: #1630; Gong	Date Sampled: 05/15/98
		Date Received: 05/15/98
	Client Contact: Jennifer Pucci	Date Extracted: 05/15/98
	Client P.O:	Date Analyzed: 05/15/98

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel *

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	TPH(d)+	% Recovery Surrogate
89361	MW-1	W	ND	100
89362	MW-2	W	ND	99
89363	MW-3	W	ND	99
89364	MW-4	W	110,b	103
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	
		S	1.0 mg/kg	

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

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+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 diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel (?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
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All Environmental, Inc. 901 Moraga Road, Suite C Lafayette, CA 94549	Client Project ID: #1630; Gong	Date Sampled: 05/15/98
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	Client Contact: Jennifer Pucci	Date Extracted: 05/19/98
	Client P.O:	Date Analyzed: 05/19/98

Petroleum Oil & Grease (with Silica Gel Clean-up) *

EPA methods 413.1, 9070 or 9071; Standard Methods 5520 D/E&F or 503 D&E for solids and 5520 B&F or 503 A&E for liquids

Lab ID	Client ID	Matrix	Oil & Grease*
89363	MW-3	W	ND
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	5 mg/L
		S	50 mg/kg

* water samples are reported in mg/L, wipe samples in mg/wipe, soil and sludge samples in mg/kg, and all TCLP / STLC / SPLP extracts in mg/L

h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5vol. % sediment.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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

QC REPORT FOR HYDROCARBON ANALYSES

Date: 05/15/98 Matrix: WATER

Analyte	Concentration (mg/L) Sample (#89216)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Benzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Toluene	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ethyl Benzene	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Xylenes	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TPH(diesel)	0	141	141	150	94	94	0.2
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

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

QC REPORT FOR HYDROCARBON ANALYSES

Date: 05/18/98-05/19/98 Matrix: WATER

Analyte	Concentration (mg/L) Sample (#89049)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.0	94.1	98.4	100.0	94.1	98.4	4.5
Benzene	0.0	9.9	10.5	10.0	99.0	105.0	5.9
Toluene	0.0	10.0	10.7	10.0	100.0	107.0	6.8
Ethyl Benzene	0.0	10.2	10.8	10.0	102.0	108.0	5.7
Xylenes	0.0	31.0	32.7	30.0	103.3	109.0	5.3
TPH(diesel)	0	160	149	150	107	99	7.5
TRPH (oil & grease)	0	28100	30000	30000	94	100	6.5

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

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

QC REPORT FOR HYDROCARBON ANALYSES

Date: 05/20/98-05/21/98 Matrix: WATER

Analyte	Concentration (mg/L) Sample (#89171)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.0	102.3	83.1	100.0	102.3	83.1	20.7
Benzene	0.0	9.1	9.0	10.0	91.0	90.0	1.1
Toluene	0.0	9.5	9.1	10.0	95.0	91.0	4.3
Ethyl Benzene	0.0	9.6	9.2	10.0	96.0	92.0	4.3
Xylenes	0.0	29.2	28.1	30.0	97.3	93.7	3.8
TPH(diesel)	0	172	154	150	115	103	10.7
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

11220 Xale 258.doc

McCAMBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553-5560
Telephone: (925) 798-1620 Fax: (925) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HOUR ☐ 48 HOUR ☒ 5 DAY

Report To: JENNIFER RUCCI Bill To: AEI
Company: AEI ENVIRONMENTAL Inc
901 MORAGA RD
LAFAYETTE 94549
Tele: (510) 283-6000 Fax: (510) 283-6121
Project #: 1630 Project Name: GONG
Project Location: OAKLAND
Sampler Signature: [signature]

SAMPLE ID	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX Water	MATRIX Soil	MATRIX Air	MATRIX Sludge	MATRIX Other	METHOD PRESERVED Ice	METHOD PRESERVED HCl	METHOD PRESERVED HNO_3	METHOD PRESERVED Other	BTEX & TPH as Gas (602/8020 + 8015)/ MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601 / 8010	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8080	EPA 608 / 8080 PCB's ONLY	EPA 624 / 8240 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI	Other	Comments
MW-1		5/15/98		3		X									X	X															
MW-2		"		3		X									X	X															
MW-3		"		4		X									X	X	X														
MW-4		"		3		X									X	X															

89361
89362
89363
89364

Relinquished By:	Date:	Time:	Received By:
[signature]	5/15/98	5:05	[signature]
Relinquished By:	Date:	Time:	Received By:
Relinquished By:	Date:	Time:	Received By:

Remarks:

ICE/T ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
PRESERVATION APPROPRIATE CONTAINERS ✓

VOAS | O&G | METALS | OTHER
✓

March 5, 1998

QUARTERLY GROUNDWATER MONITORING REPORT

First Quarter, 1998

4045 Broadway
Oakland, California

Project No. 1630

Prepared For

Ms. C.J. Gong
Gong Associates
637 Beacon Street
Oakland, CA 94610

Prepared By

All Environmental, Inc.
901 Moraga Road, Suite C
Lafayette, CA 94549
(800) 801-3224

AEI

ALL ENVIRONMENTAL, INC.
Environmental Engineering & Construction

March 5, 1998

Ms. C.J. Gong
Gong Associates
637 Beacon Street
Oakland, CA 94610

Re: Quarterly Groundwater Monitoring Report, *First Quarter, 1998*
4045 Broadway
Oakland, California
Project No. 1630

Dear Ms. Gong:

All Environmental, Inc. (AEI) has prepared this report on your behalf, in response to your request for a groundwater investigation at 4045 Broadway in Oakland, California (Figure 1: Site Location Map). The investigation was initiated by the property owner in accordance with the requirements of the Alameda County Health Care Services Agency (ACHCSA). The following report describes the results of the fourth episode of groundwater monitoring during the first quarter of 1998.

Background

The site is located in a commercial zone at 4045 Broadway in Oakland, California, and currently supports the operation of Acc-U-Tune and Brake, an automotive repair facility. The topography of the site slopes gently to the south.

In December, 1995, one 550 gallon waste oil underground storage tank (UST) was removed from the property by AEI. Soil samples collected from the bottom of the excavation were impacted with 470 parts per million (ppm) TOG and minor concentrations of TPH as diesel, xylenes and metals. TPH as gasoline, benzene, toluene, ethylbenzene, poly nuclear aromatics (PNAs), volatile halocarbons were not present within the excavation bottom samples above the detection limits. Soil samples collected from the stockpiled material were impacted with 410 ppm TOG, 32 ppm TPH as gasoline, 120 ppm TPH as diesel and minor concentrations of toluene, xylenes and metals. Benzene, ethylbenzene, volatile halocarbons, cadmium and PAHs were not found above the detection limits within the stockpile samples.

At the request of the ACHCSA, the stockpiled soil was disposed of off-site and clean soil was imported to backfill the excavation.

In May, 1996, AEI conducted a subsurface investigation to evaluate the potential presence of hydrocarbon contamination in the vicinity of a large asphalt patch. This area is suspected to be a former UST excavation. Analytical results from the investigation, indicated the groundwater beneath the site was impacted with up to 1200 parts per billion (ppb) TPH as gasoline and 1800 ppb TPH as diesel. Soil samples collected during the investigation indicated up to 150 ppm TPH as gasoline, 54 ppm TPH as diesel and 0.16 ppm benzene present.

On September 11, 1996, AEI drilled three soil borings and converted them to groundwater monitoring wells labeled MW-1, MW-2 and MW-3 (Groundwater Monitoring Well Installation Report, November 26, 1996, AEI). The wells were developed on September 16, 1996 and sampled on September 24, 1996. Refer to Figure 2 for well locations.

In September, 1997, AEI advanced eight soil borings in order to delineate soil contamination in the vicinity of the former tank hold and dispenser islands. In addition, groundwater was collected to delineate the lateral extent of the petroleum hydrocarbon plume for the placement of a fourth monitoring well. MW-4 was installed along the southern property boundary. The well was developed and sampled along with the existing three monitoring wells on September 24, 1997 (Phase II Subsurface Investigation and Monitoring Well Installation Report, January 28, 1998).

The following report describes the results of the fourth monitoring episode on January 28, 1998.

Geology and Hydrogeology

According to logs of the soil borings advanced by AEI, the near surface sediments beneath the site consist of mainly clayey and silty sand to approximately eighteen feet below ground surface (bgs). The water-bearing stratum consists of silty sand which grades to a clean sand present at twenty feet bgs.

Water level measurements made during the current groundwater monitoring and sampling episode on January 28, 1998, indicate that the static water ranges from about 8.17 to 9.41 feet bgs. Elevations of the tops of the well casings for the four wells were re-surveyed relative to Mean Sea Level (MSL) by Logan Surveying on October 15, 1997.

A summary of groundwater elevations measured during sampling is presented in Table 1.

The water level measurements were collected in order to calculate the groundwater gradient and flow direction. Based on these measurements, the groundwater flow is

southwest at a gradient of 0.003 feet per foot. The groundwater flow direction is depicted in Figure 3.

Summary of Activities

AEI measured the depth to groundwater and collected water samples from the wells on January 28, 1998. The sampling procedure for the wells involved measuring water levels, purging the wells, and the collection of water samples. The depth from the top of the well casing was measured prior to sampling with an electric water level indicator. The wells were purged and a groundwater sample was collected using a clean disposable Teflon bailer.

Temperature, pH, and turbidity were measured during the purging of the wells. AEI removed 3 to 4 well volumes. Once the temperature, pH, and turbidity stabilized, a water sample was collected. Refer to Attachment A for the Groundwater Monitoring Well Field Sampling Forms.

Water was poured from the bailers into liter bottles and 40 ml VOA vials and capped so that there was no head space or visible air bubbles within the sample containers. Samples were shipped on ice under proper chain of custody protocol to McCampbell Analytical, Inc. of Pacheco, California (State Certification #1644).

Groundwater samples were submitted for chemical analyses for Total Petroleum Hydrocarbons (TPH) as gasoline (EPA Method 5030/8015), TPH as diesel (EPA Method 3550/8015), methyl tertiary butyl ether (MTBE) (EPA Method 8020/602), benzene, toluene, ethylbenzene, and xylenes (BTEX) (EPA Method 8020/602). At the request of ACHCSA, groundwater from MW-3 was sampled for total oil and grease (TOG) (EPA method 5520 D & F).

Groundwater Quality

No sheen or free product was observed during monitoring activities.

Fuel concentrations in MW-2, the well in the center of the plume, remained relatively high, consistent with past readings. No contaminants were found in the up-gradient well, Mw-1. As the for the down-gradient wells, MW-3 showed minor concentrations of TPH as diesel for the first time and MW-4 showed contaminant concentrations slightly lower than the last quarter.

A summary of groundwater quality data, including historic data, is presented in Table 2. Laboratory results and chain of custody documents are included in Attachment B.

Recommendations

AEI recommends that groundwater monitoring and sampling be continued on a quarterly basis. The next groundwater monitoring and sampling episode is scheduled for April, 1998.

Report Limitations and Signatures

This report presents a summary of work completed by All Environmental, Inc., including observations and descriptions of site conditions. Where appropriate, it includes analytical results for samples taken during the course of the work. The number and location of samples are chosen to provide required information, but it cannot be assumed that they are entirely representative of all areas not sampled. All conclusions and recommendations are based on these analyses, observations, and the governing regulations. Conclusions beyond those stated and reported herein should not be inferred from this document.

These services were performed in accordance with generally accepted practices in the environmental engineering and construction field that existed at the time and location of the work.

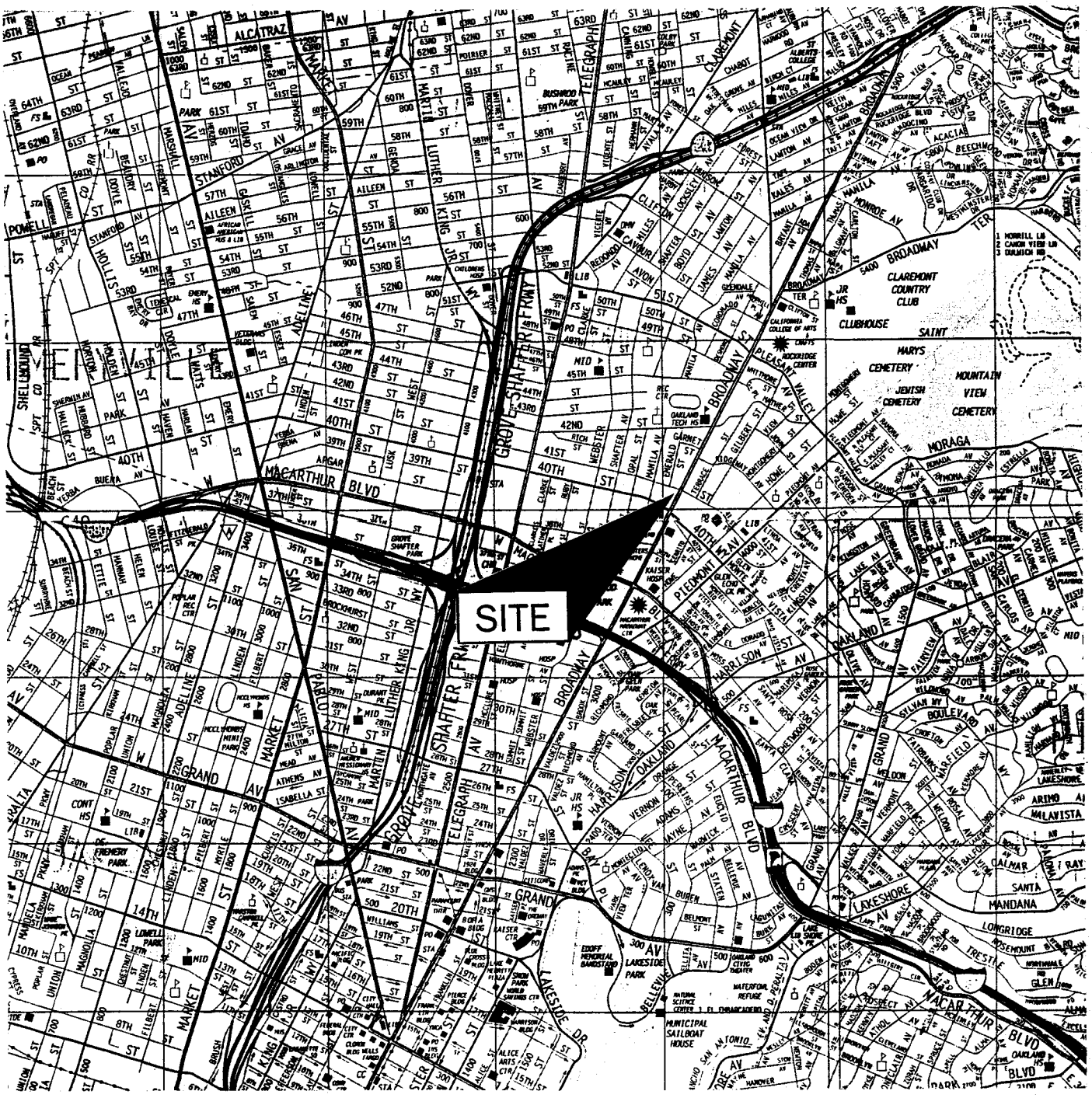
Sincerely,

Jennifer Pucci, REA
Project Manager

J. P. Derhake, PE, CAC
Senior Author

cc: Ms. Madhulla Logan, Alameda County Health Care Services Agency

Figures
Tables
Attachment A
Attachment B



N

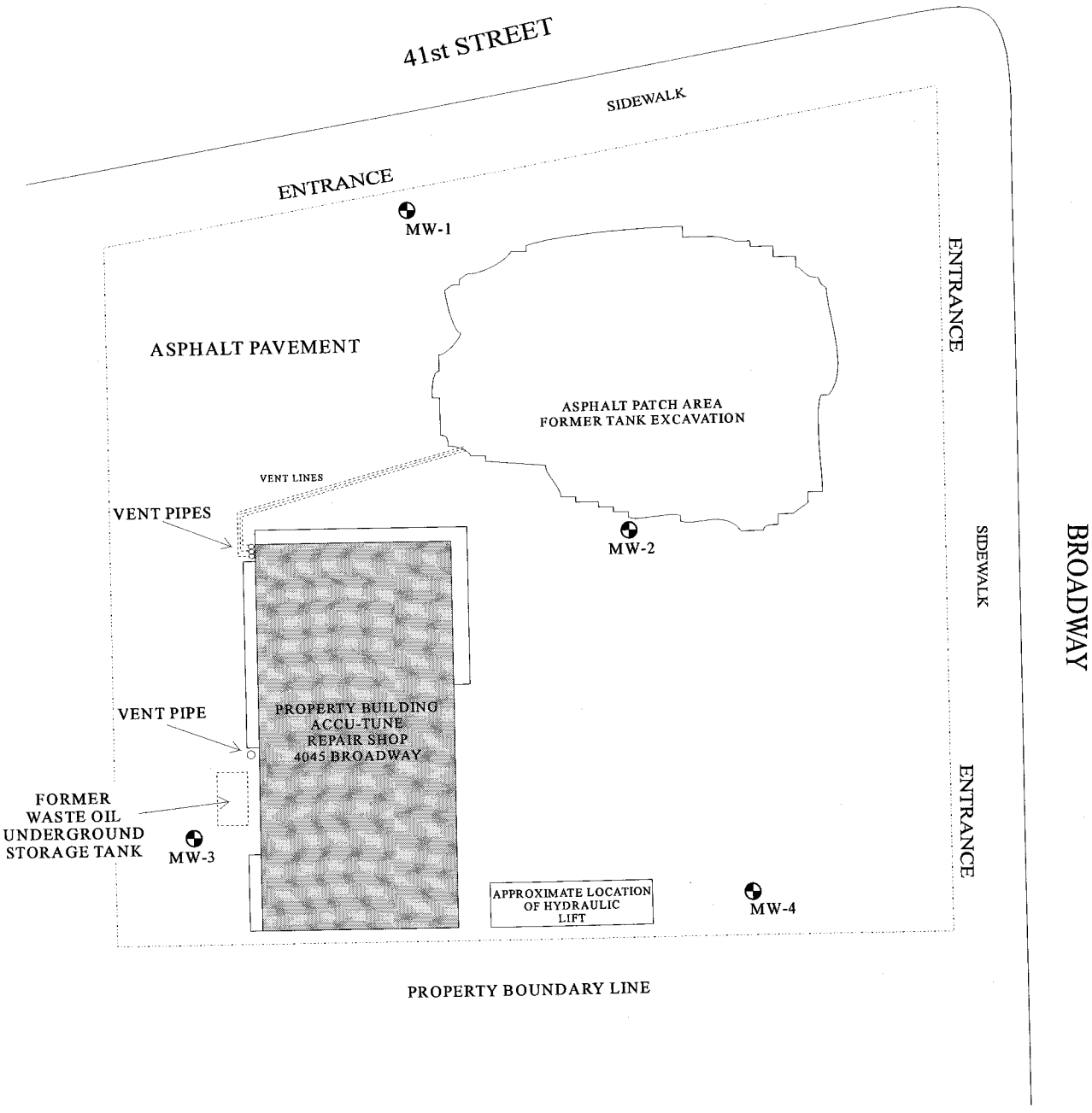
THOMAS BROS. MAPS
1997

ALL ENVIRONMENTAL, INC.
3364 MT. DIABLO BOULEVARD, LAFAYETTE

SCALE: 1 IN = 2400 FT	APPROVED BY:	DRAWN BY:
DATE: 21 FEBRUARY 97		REVISED:

SITE LOCATION MAP

4045 BROADWAY OAKLAND, CALIFORNIA	DRAWING NUMBER: FIGURE 1



KEY

⊕ GROUNDWATER MONITORING WELL LOCATION

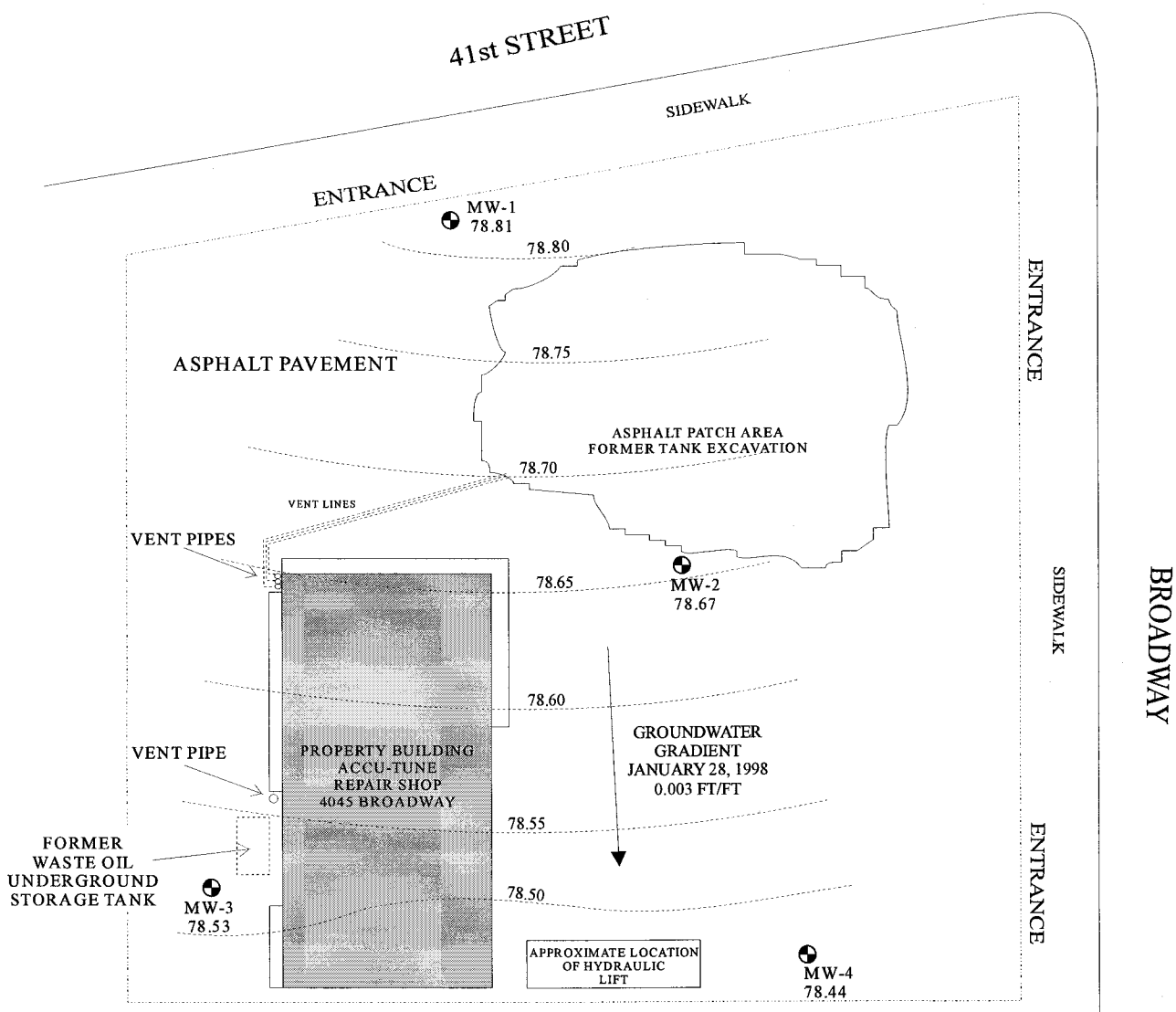
N

ALL ENVIRONMENTAL, INC.
3364 MT. DIABLO BOULEVARD, LAFAYETTE

SCALE: 1 IN = 20 FT	APPROVED BY:	DRAWN BY: J. PUCCI
DATE: 28 JANUARY 98		REVISED: J. PUCCI

WELL LOCATION MAP

4045 BROADWAY OAKLAND, CALIFORNIA	DRAWING NUMBER: FIGURE 2



KEY

GROUNDWATER MONITORING WELL LOCATION

N

ALL ENVIRONMENTAL, INC.

3364 MT. DIABLO BOULEVARD, LAFAYETTE

SCALE: 1 IN = 20 FT	APPROVED BY:	DRAWN BY: J. PUCCI
DATE: 28 JANUARY 98		REVISED: J. PUCCI

GROUNDWATER GRADIENT

4045 BROADWAY OAKLAND, CALIFORNIA	DRAWING NUMBER: FIGURE 3

Table 1
Groundwater Data

Well ID	Date	Well Elevation (ft msl)	Depth to Water (ft)	Groundwater Elevation (ft msl)
MW-1	9/24/96	86.98	8.75	78.23
	2/21/97	86.98	8.98	78.00
	9/24/97	86.98	8.76	78.22
	1/28/98	86.98	8.17	78.81
MW-2	9/24/96	87.93	9.90	78.03
	2/21/97	87.93	10.05	77.88
	9/24/97	87.93	9.95	77.98
	1/28/98	87.93	9.26	78.67
MW-3	9/24/96	87.94	10.20	77.74
	2/21/97	87.94	10.22	77.72
	9/24/97	87.94	10.19	77.75
	1/28/98	87.94	9.41	78.53
MW-4	9/24/97	87.10	9.41	77.69
	1/28/98	87.10	8.66	78.44

Notes: All well elevations are measured from the top of casing.
ft msl = feet above mean sea level

ALL ENVIRONMENTAL INC. - GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-1

Project Name: Gong	Date of Sampling: 1/28/98
Job Number: 1630	Name of Sampler: DR
Project Address: 4045 Broadway	
Oakland	

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"
Seal at Grade -- Type and Condition	concrete/good
Well Cap & Lock -- OK/Replace	OK
Elevation of Top of Casing	86.98
Depth of Well	18.30
Depth to Water	8.17
Water Elevation	78.81
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	4.9
4" casing: (TD - DTW)(0.65)(3)	NA
6" casing: (TD - DTW)(1.44)(3)	NA
Actual Volume Purged (gallons)	7
Appearance of Purge Water	Turbid, nearly clear

GROUNDWATER SAMPLES

Number of Samples/Container Size	2 Voas/1 Liter

Time	Vol Remvd (gal)	Temp C	pH	Cond (mS)	Comments
	1	75.0	6.50	815	
	3	74.9	6.49	760	
	5	74.9	6.46	755	
	7	74.9	6.44	751	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Turbid, No odor, fast recharge

TD - Total Depth of Well
DTW - Depth To Water

ALL ENVIRONMENTAL INC. - GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-2

Project Name: Gong	Date of Sampling: 1/28/98
Job Number: 1630	Name of Sampler: DR
Project Address: 4045 Broadway	
Oakland	

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"
Seal at Grade -- Type and Condition	concrete/good
Well Cap & Lock -- OK/Replace	OK
Elevation of Top of Casing	87.93
Depth of Well	18.50
Depth to Water	9.26
Water Elevation	78.67
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	4.4
4" casing: (TD - DTW)(0.65)(3)	NA
6" casing: (TD - DTW)(1.44)(3)	NA
Actual Volume Purged (gallons)	7
Appearance of Purge Water	turbid

GROUNDWATER SAMPLES

Number of Samples/Container Size	2 Voas/1 Liter

Time	Vol Remvd (gal)	Temp C	pH	Cond (mS)	Comments
	1	74.1	6.88	1110	
	3	74.1	6.72	1101	
	5	74.1	6.69	1088	
	7	74.1	6.69	1087	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

TD - Total Depth of Well
DTW - Depth To Water

ALL ENVIRONMENTAL INC. - GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-3

Project Name: Gong	Date of Sampling: 1/28/98
Job Number: 1630	Name of Sampler: DR
Project Address: 4045 Broadway	
Oakland	

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"
Seal at Grade -- Type and Condition	concrete/good
Well Cap & Lock -- OK/Replace	OK
Elevation of Top of Casing	87.94
Depth of Well	19.70
Depth to Water	9.41
Water Elevation	78.53
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	5.0
4" casing: (TD - DTW)(0.65)(3)	NA
6" casing: (TD - DTW)(1.44)(3)	NA
Actual Volume Purged (gallons)	7
Appearance of Purge Water	turbid

GROUNDWATER SAMPLES

Number of Samples/Container Size	2 Voas/2 Liter

Time	Vol Remvd (gal)	Temp C	pH	Cond (mS)	Comments
	1	74.2	6.99	655	
	2	74.0	6.97	680	
	4	74.0	6.97	688	
	7	74.0	6.97	689	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

No odor, fast recharge

TD - Total Depth of Well
DTW - Depth To Water

ALL ENVIRONMENTAL INC. - GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-4

Project Name: Gong	Date of Sampling: 1/28/98
Job Number: 1630	Name of Sampler: DR
Project Address: 4045 Broadway	
Oakland	

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"
Seal at Grade -- Type and Condition	concrete/good
Well Cap & Lock -- OK/Replace	OK
Elevation of Top of Casing	87.10
Depth of Well	19.50
Depth to Water	8.66
Water Elevation	78.44
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	5.0
4" casing: (TD - DTW)(0.65)(3)	NA
6" casing: (TD - DTW)(1.44)(3)	NA
Actual Volume Purged (gallons)	7
Appearance of Purge Water	Slightly turbid

GROUNDWATER SAMPLES

Number of Samples/Container Size	2 Voas/1 Liter

Time	Vol Remvd (gal)	Temp C	pH	Cond (mS)	Comments
	1	74.4	6.88	1011	
	2	74.6	6.89	1022	
	4	74.3	6.88	1015	
	7	74.4	6.88	1017	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

No odor, fast recharge

TD - Total Depth of Well
DTW - Depth To Water

McCAMPBELL ANALYTICAL INC.
110 Second Avenue South, #D7, Pacheco, CA 94553
Telephone : 510-798-1620 Fax : 510-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

All Environmental, Inc. 3364 Mt. Diablo Blvd. Lafayette, CA 94549	Client Project ID: #1630; Gong	Date Sampled: 01/28/98
		Date Received: 01/28/98
	Client Contact: Jennifer Pucci	Date Extracted: 01/28-01/31/98
	Client P.O:	Date Analyzed: 01/28-01/31/98

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & 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)*	MTBE	Benzene	Toluene	Ethylben-zene	Xylenes	% Recovery Surrogate
85398	MW-1	W	ND	ND	ND	ND	ND	ND	105
85399	MW-2	W	990,a	ND<25	74	33	21	66	103
85400	MW-3	W	ND	ND	ND	ND	ND	ND	105
85401	MW-4	W	ND	9.3	6.1	0.65	ND	0.74	106
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	5.0	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP and SPLP extracts in ug/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 Second Avenue South, #D7, Pacheco, CA 94553
Telephone : 510-798-1620 Fax : 510-798-1622
http://www.mccampbell.com E-mail: main@mocampbell.com

All Environmental, Inc.	Client Project ID: #1630; Gong	Date Sampled: 01/28/98
3364 Mt. Diablo Blvd.		Date Received: 01/28/98
Lafayette, CA 94549	Client Contact: Jennifer Pucci	Date Extracted: 01/29-02/04/98
	Client P.O:	Date Analyzed: 01/29-02/04/98

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel *

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	TPH(d)'	% Recovery Surrogate
85398	MW-1	W	ND	103
85399	MW-2	W	500,d	106
85400	MW-3	W	53,b	104
85401	MW-4	W	ND	104
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	
		S	1.0 mg/kg	

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

' cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

'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 diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel (?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment.

DHS Certification No. 1644

Edward Hamilton, Lab Director

10390 xale 223.doc

McCAMBELL ANALYTICAL INC.

110 2nd AVENUE SOUTH, #D7
PACHECO, CA 94553
Telephone: (510) 798-1620 Fax: (510) 798-1622

CHAIN OF CUSTODY RECORD

TURN AROUND TIME ☐ RUSH ☐ 24 HOUR ☐ 48 HOUR ☒ 5 DAY

Report To: Ignacio Rucci Bill To: AEI
Company: All Environmental, Inc.
3364 Mt. Diablo Blvd.
Lafayette, CA 94549
Tele: (510) 283-6000 Fax: (510) 283-6121
Project #: 1630 Project Name: GON 6
Project Location: OAKLAND
Sampler Signature:

SAMPLE ID	LOCATION	SAMPLING Date	SAMPLING Time	# Containers	Type Containers	MATRIX: Water	Soil	Air	Sludge	Other	METHOD PRESERVED: Ice	HCl	HNO_3	Other	BTEX & TPH as Gas (602/8020 + 8015)/ MTBE	TPH as Diesel (8015)	Total Petroleum Oil & Grease (5520 E&F/B&F)	Total Petroleum Hydrocarbons (418.1)	EPA 601 / 8010	BTEX ONLY (EPA 602 / 8020)	EPA 608 / 8080	EPA 608 / 8080 PCB's ONLY	EPA 624 / 8240 / 8260	EPA 625 / 8270	PAH's / PNA's by EPA 625 / 8270 / 8310	CAM-17 Metals	LUFT 5 Metals	Lead (7240/7421/239.2/6010)	RCI
+1 MW-1		1/28/98		3		X									X	X													
+1 MW-2		"		3		X									X	X													
+ MW-3		"		4		X									X	X	X												
+1 MW-4		"		3		X									X	X													

[redacted]

Relinquished By: Date: 1/28/98 Time: 5:00 Received By:
Relinquished By: Date: Time: Received By:
Relinquished By: Date: Time: Received By:

Remarks:

ICE ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓
PRESERVATION APPROPRIATE ✓
CONTAINERS ✓
VOAS ✓ O&G METALS OTHER

March 10, 1997

QUARTERLY GROUNDWATER MONITORING AND SAMPLING REPORT

First Quarter, 1997

4045 Broadway
Oakland, California

Project No. 1434

Prepared for

Ms. C.J. Gong
637 Beacon Street
Oakland, CA 94610

Prepared by

All Environmental, Inc.
3364 Mt. Diablo Blvd.
Lafayette, CA 94549
(510) 283-6000

AEI

ALL ENVIRONMENTAL, INC.
Environmental Engineering & Construction

March 10, 1997

Ms. C.J. Gong
637 Beacon Street
Oakland, CA 94610

Re: Quarterly Groundwater Monitoring Report, *First Quarter, 1997*
4045 Broadway
Oakland, California
Project No. 1434

Dear Ms. Gong:

All Environmental, Inc. (AEI) has prepared this report on behalf of Ms. C.J. Gong, in response to her request for a groundwater investigation at 4045 Broadway in Oakland, California (Figure 1: Site Location Map). The investigation was initiated by the property owner in accordance with the requirements of the Alameda County Health Care Services Agency (ACHCSA). The following report describes the results of the second episode of groundwater monitoring at the site.

Background

The site is located in a commercial zone at 4045 Broadway in Oakland, California, and currently supports the operation of Acc-U-Tune and Brake, an automotive repair facility. The topography of the site slopes gently to the south.

In December, 1995, one 550 gallon waste oil underground storage tank (UST) was removed from the property by AEI. Soil samples collected from the bottom of the excavation were impacted with 470 parts per million (ppm) TOG and minor concentrations of TPH as diesel, xylenes and metals. TPH as gasoline, benzene, toluene, ethylbenzene, poly nuclear aromatics (PNAs), volatile halocarbons were not present within the excavation bottom samples above the detection limits. Soil samples collected from the stockpiled material were impacted with 410 ppm TOG, 32 ppm TPH as gasoline, 120 ppm TPH as diesel and minor concentrations of toluene, xylenes and metals. Benzene, ethylbenzene, volatile halocarbons, cadmium and PAHs were not found above the detection limits within the stockpile samples.

At the request of the ACHCSA, the stockpiled soil was disposed of off-site and clean soil was imported to backfill the excavation.

In May, 1996, AEI conducted a subsurface investigation to evaluate the potential presence of hydrocarbon contamination in the vicinity of a large asphalt patch. This area is suspected to be a former UST excavation. Analytical results from the investigation, indicated the groundwater beneath the site was impacted with up to 1200 parts per billion (ppb) TPH as gasoline and 1800 ppb TPH as diesel. Soil samples collected during the investigation indicated up to 150 ppm TPH as gasoline, 54 ppm TPH as diesel and 0.16 ppm benzene present.

On September 11, 1996, AEI drilled three soil borings and converted them to groundwater monitoring wells labeled MW-1, MW-2 and MW-3 (Groundwater Monitoring Well Installation Report, November 26, 1996, AEI). The wells were developed on September 16, 1996 and sampled on September 24, 1996. Refer to Figure 2 for well locations.

The following report describes the results of the second monitoring episode of the three wells which occured on February 21, 1997.

Geology and Hydrogeology

According to logs of the soil borings advanced by AEI, the near surface sediments beneath the site consist of mainly clayey and silty sand to approximately eighteen feet below ground surface (bgs). The water-bearing stratum consists of silty sand which grades to a clean sand present at twenty feet bgs.

Water level measurements made during the current groundwater monitoring and sampling episode on February 21, 1997, indicate that the static water ranges from about 8.98 to 10.22 feet bgs. Elevations of the tops of the well casings were surveyed relative to Mean Sea Level (MSL) by Logan Surveying on October 12, 1996.

A summary of groundwater elevations measured during sampling is presented in Table 1.

The water level measurements were collected in order to calculate the groundwater gradient and flow direction. Based on these measurements, the groundwater flow is west at a gradient less than 0.025 feet per foot. The groundwater flow direction is depicted in Figure 3.

Summary of Activities

AEI measured the depth to groundwater and collected water samples from the wells on February 21, 1997. The sampling procedure for the wells involved measuring water levels, purging the well, and the collecting water samples. The depth from the top of the well casing was measured prior to sampling with an electric water level indicator. The wells were purged and a groundwater sample was collected using a clean disposable Teflon bailer.

Temperature, pH, and turbidity were measured during the purging of the wells. AEI removed 3 to 4 well volumes. Once the temperature, pH, and turbidity stabilized, a water sample was collected. Refer to Attachment A for the Groundwater Monitoring Well Field Sampling Forms.

Water was poured from the bailers into 500 ml plastic bottles and 40 ml VOA vials and capped so that there was no head space or visible air bubbles within the sample containers. Samples were shipped on ice under proper chain of custody protocol to McCampbell Analytical, Inc. of Pacheco, California (State Certification #1644).

Groundwater samples were submitted for chemical analyses for Total Petroleum Hydrocarbons (TPH) as gasoline (EPA Method 5030/8015), TPH as diesel (EPA Method 3550/8015), methyl tertiary butyl ether (MTBE) (EPA Method 8020/602), benzene, toluene, ethylbenzene, and xylenes (BTEX) (EPA Method 8020/602).

Groundwater Quality

No sheen or free product was observed during monitoring activities.

No concentrations of petroleum hydrocarbons were detected in groundwater samples collected from MW-1 and MW-3. The lack of the detection of petroleum hydrocarbons in samples obtained from MW-3 is consistent with the previous monitoring episode. Concentrations in MW-1 decreased from 190 ug/L TPH as gasoline and 110 ug/L TPH as diesel detected in September, 1996 to no petroleum hydrocarbons detected above the method detection limit in February, 1997. Concentrations of TPH as gasoline and TPH as diesel in samples collected from MW-2 decreased significantly from the last sampling episode. Benzene concentrations decreased from 170 ug/L in September, 1996 to 71 ug/L in February, 1997.

A summary of groundwater quality data, including historic data, is presented in Table 2. Laboratory results and chain of custody documents are included in Attachment B. Previous laboratory results and chain of custody documents are included in Attachment C.

Recommendations

AEI recommends that groundwater monitoring and sampling be continued on a quarterly basis. The next groundwater monitoring and sampling episode is scheduled for May, 1997.

Report Limitations and Signatures

This report presents a summary of work completed by All Environmental, Inc., including observations and descriptions of site conditions. Where appropriate, it includes analytical results for samples taken during the course of the work. The number and location of samples are chosen to provide required information, but it cannot be assumed that they are entirely representative of all areas not sampled. All conclusions and recommendations are based on these analyses, observations, and the governing regulations. Conclusions beyond those stated and reported herein should not be inferred from this document.

These services were performed in accordance with generally accepted practices in the environmental engineering and construction field which existed at the time and location of the work.

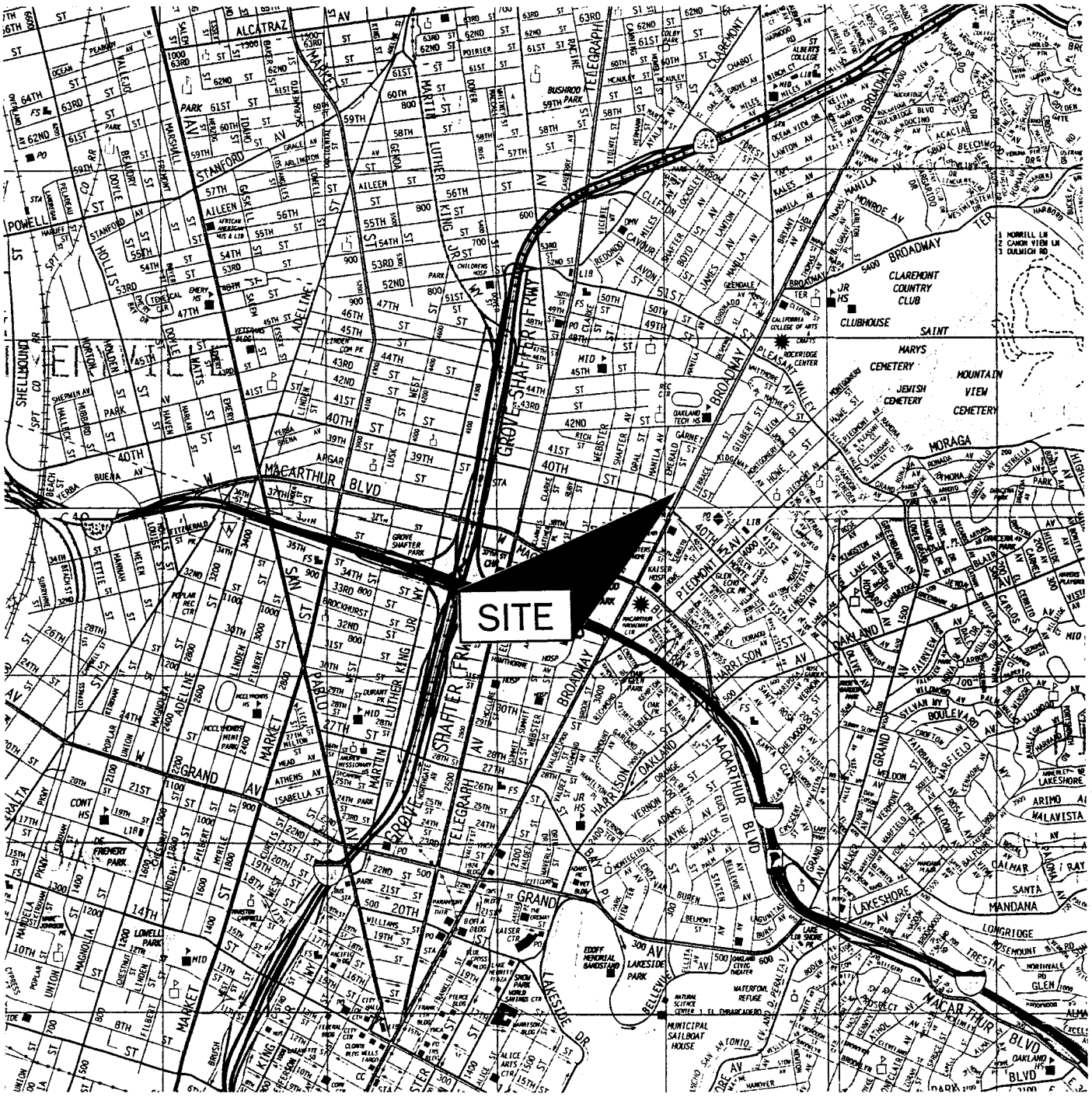
Sincerely,

Jennifer Anderson
Project Manager

J. P. Derhake, PE, CAC
Senior Author

cc: Ms. Madhulla Logan, Alameda County Health Care Services Agency
Jonathon Chase, Chase & Chase

Figures
Tables
Attachment A
Attachment B



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THOMAS BROS. MAPS
1997

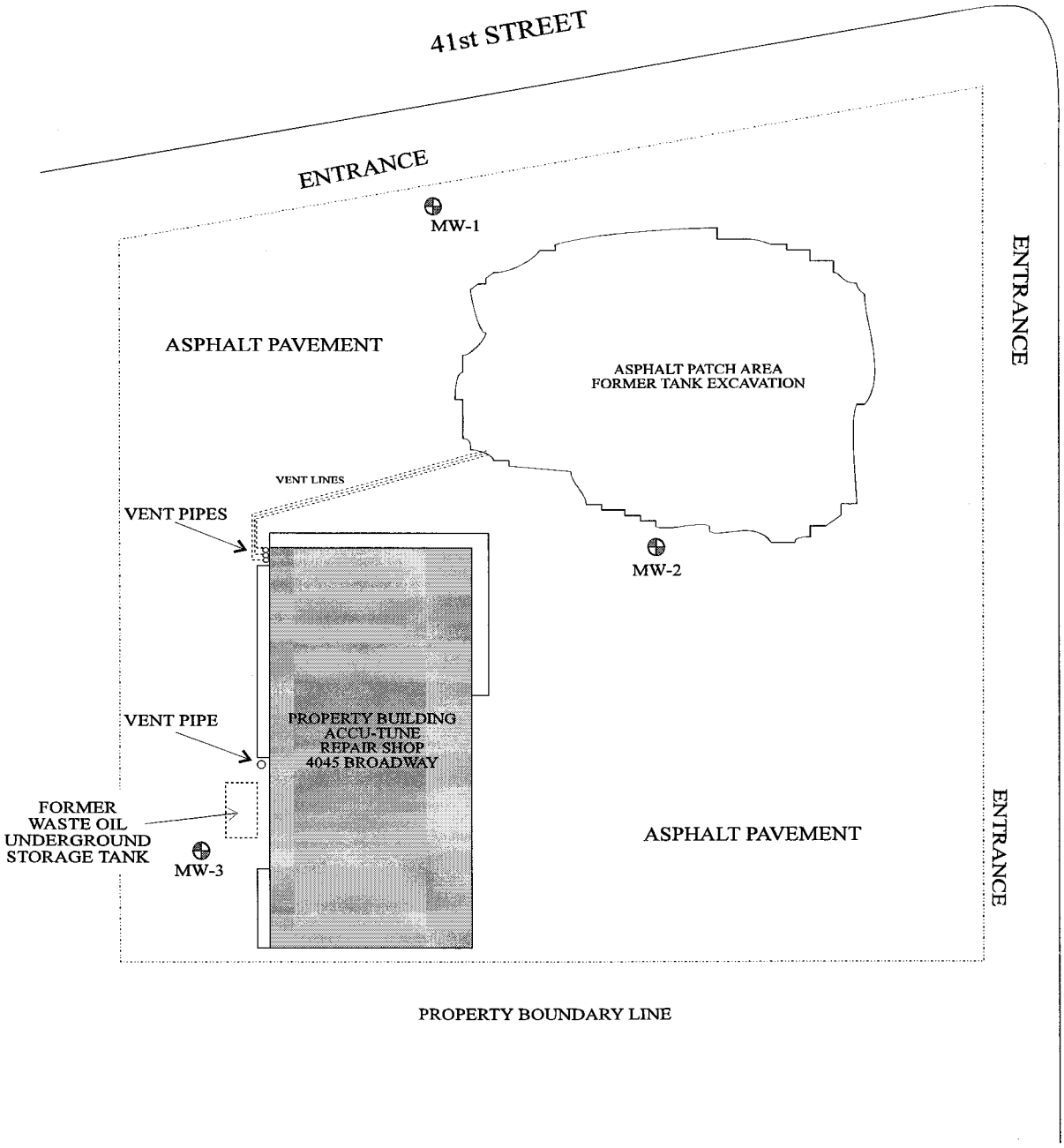
ALL ENVIRONMENTAL, INC.

3364 MT. DIABLO BOULEVARD, LAFAYETTE

SCALE: 1 IN = 2400 FT	APPROVED BY:	DRAWN BY:
DATE: 21 FEBRUARY 97		REVISED:

SITE LOCATION MAP

4045 BROADWAY OAKLAND, CALIFORNIA	DRAWING NUMBER: FIGURE 1



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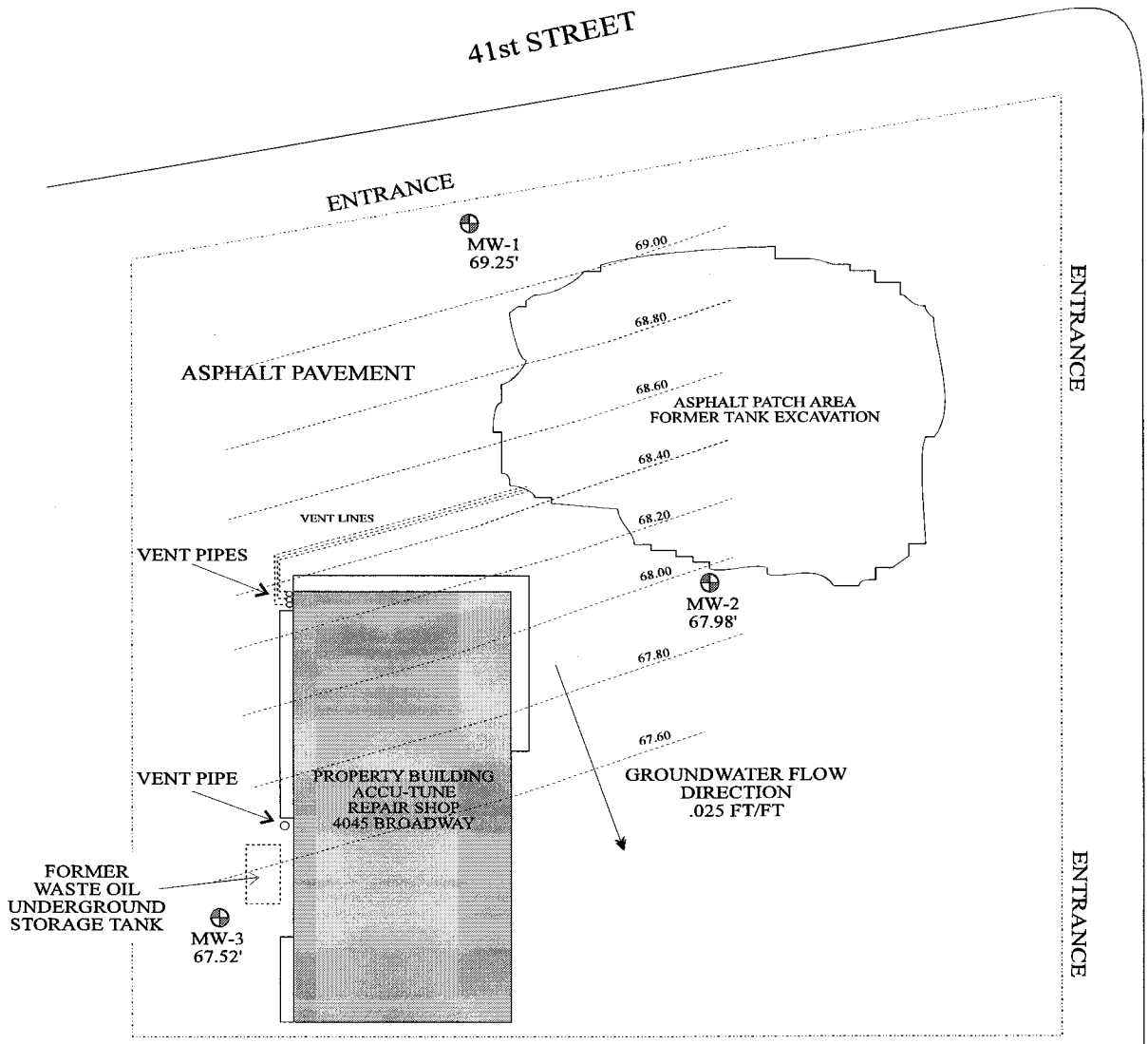
ALL ENVIRONMENTAL, INC.

3364 MT. DIABLO BOULEVARD, LAFAYETTE

SCALE: 1 IN = 20 FT	APPROVED BY:	DRAWN BY: J.S. ANDERSON
DATE: 21 FEBRUARY 97		REVISED: J.S. ANDERSON

MONITORING WELL LOCATION MAP

4045 BROADWAY OAKLAND, CALIFORNIA	DRAWING NUMBER: FIGURE 2



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ALL ENVIRONMENTAL, INC. 3364 MT. DIABLO BOULEVARD, LAFAYETTE		
SCALE: 1 IN = 20 FT	APPROVED BY:	DRAWN BY: J.S. ANDERSON
DATE: 21 FEBRUARY 97		REVISED: J.S. ANDERSON
GROUNDWATER GRADIENT		
4045 BROADWAY OAKLAND, CALIFORNIA		DRAWING NUMBER: FIGURE 3

Table 2
Groundwater Sample Analytical Data

Well ID	Date	TPHg (ug/l)	TPHd (ug/l)	MTBE (ug/l)	Benzene (ug/l)	Toluene (ug/l)	Ethyl-Benzene (ug/l)	Xylenes (ug/l)
MW-1	9/24/96	190	110	<5.0	<0.5	<0.5	<0.5	5.7
	2/21/97	<50	<50	<5.0	<0.5	<0.5	<0.5	<0.5
MW-2	9/24/96	18,000	6800	170	440	1200	190	2200
	2/21/97	2,100	1,600	27	71	82	30	110
MW-3	9/24/96	<50	<50	<5.0	<0.5	<0.5	<0.5	5.7
	2/21/97	<50	<50	<5.0	<0.5	<0.5	<0.5	<0.5

Table 1
Groundwater Data

Well ID	Date	Well Elevation (ft msl)	Depth to Water (ft)	Groundwater Elevation (ft msl)
MW-1	9/24/97	78.23	8.75	69.48
	2/21/97	78.23	8.98	69.25
MW-2	9/24/97	78.03	9.90	68.13
	2/21/97	78.03	10.05	67.98
MW-3	9/24/97	77.74	10.20	67.54
	2/21/97	77.74	10.22	67.52

Notes: All well elevations are measured from the top of casing.
ft msl = feet above mean sea level

ATTACHMENT A

GROUNDWATER MONITORING WELL FIELD SAMPLING FORMS

ALL ENVIRONMENTAL INC. - GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-1

Project Name: Gong	Date of Sampling: 2/21/97
Job Number: 1434	Name of Sampler: DR
Project Address: 4045 Broadway	
Oakland	

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"
Seal at Grade -- Type and Condition	concrete/good
Well Cap & Lock -- OK/Replace	OK
Elevation of Top of Casing	78.23
Depth of Well	18.30
Depth to Water	8.98
Water Elevation	69.25
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	4.47
4" casing: (TD - DTW)(0.65)(3)	NA
6" casing: (TD - DTW)(1.44)(3)	NA
Actual Volume Purged (gallons)	6
Appearance of Purge Water	turbid

GROUNDWATER SAMPLES

Number of Samples/Container Size	2 Voas/1 Liter

Time	Vol Remvd (gal)	Temp C	pH	Cond (mS)	Comments
	2	72.5	7.65	520	
	4	72.1	7.02	489	
	6	72.1	7.02	488	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Turbid, No odor, fast recharge

TD - Total Depth of Well
DTW - Depth To Water

ALL ENVIRONMENTAL INC. - GROUNDWATER MONITORING WELL FIELD SAMPLING FORM					
Monitoring Well Number: MW-2					
Project Name: Gong				Date of Sampling: 2/21/97	
Job Number: 1434				Name of Sampler: DR	
Project Address: 4045 Broadway					
Oakland					
MONITORING WELL DATA					
Well Casing Diameter (2"/4"/6")				2"	
Seal at Grade -- Type and Condition				concrete/good	
Well Cap & Lock -- OK/Replace				OK	
Elevation of Top of Casing				78.03	
Depth of Well				18.50	
Depth to Water				10.05	
Water Elevation				67.98	
Three Well Volumes (gallons)*					
2" casing: (TD - DTW)(0.16)(3)				4.06	
4" casing: (TD - DTW)(0.65)(3)				NA	
6" casing: (TD - DTW)(1.44)(3)				NA	
Actual Volume Purged (gallons)				6	
Appearance of Purge Water				turbid	
GROUNDWATER SAMPLES					
Number of Samples/Container Size				2 Voas/1 Liter	
Time	Vol Remvd (gal)	Temp C	pH	Cond (mS)	Comments
	2	66.1	7.00	871	
	4	66.0	7.00	868	
	6	66.0	6.99	868	
COMMENTS (i.e., sample odor, well recharge time & percent, etc.)					
Turbid, Strong odor, fast recharge					

TD - Total Depth of Well
DTW - Depth To Water

ALL ENVIRONMENTAL INC. - GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-3

Project Name: Gong	Date of Sampling: 2/21/97
Job Number: 1434	Name of Sampler: DR
Project Address: 4045 Broadway	
Oakland	

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"
Seal at Grade -- Type and Condition	concrete/good
Well Cap & Lock -- OK/Replace	OK
Elevation of Top of Casing	77.74
Depth of Well	19.70
Depth to Water	10.22
Water Elevation	67.52
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	4.55
4" casing: (TD - DTW)(0.65)(3)	NA
6" casing: (TD - DTW)(1.44)(3)	NA
Actual Volume Purged (gallons)	6
Appearance of Purge Water	turbid

GROUNDWATER SAMPLES

Number of Samples/Container Size: 2 Voas/1 Liter

Time	Vol Remvd (gal)	Temp C	pH	Cond (mS)	Comments
	2	73.2	6.98	967	
	4	73.0	6.96	855	
	6	73.0	6.96	855	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

Turbid, No odor, fast recharge

TD - Total Depth of Well
DTW - Depth To Water

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

All Environmental, Inc. 3364 Mt. Diablo Blvd. Lafayette, CA 94549	Client Project ID: # 1434; Gong	Date Sampled: 02/21/97
		Date Received: 02/24/97
	Client Contact: Jennifer Anderson	Date Extracted: 02/24/97
	Client P.O:	Date Analyzed: 02/24/97

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & 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)+	MTBE	Benzene	Toluene	Ethylben-zene	Xylenes	% Rec. Surrogate
73836	MW-1	W	ND	ND	ND	ND	ND	ND	100
73837	MW2	W	2100,a	27	71	82	30	110	97
73838	MW3	W	ND	ND	ND	ND	ND	ND	104
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	5.0	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.05	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
Tele: 510-798-1620 Fax: 510-798-1622

All Environmental, Inc. 3364 Mt. Diablo Blvd. Lafayette, CA 94549	Client Project ID: # 1434; Gong	Date Sampled: 02/21/97 Date Received: 02/24/97
	Client Contact: Jennifer Anderson	Date Extracted: 02/24/97
	Client P.O:	Date Analyzed: 02/24/97

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel *

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	TPH(d)+	% Recovery Surrogate
73836	MW-1	W	ND	108
73837	MW-2	W	1600,d,b	104
73838	MW-3	W	ND	106
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	
		S	1.0 mg/kg	

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

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+ 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 diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel (?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~ 5 vol. % sediment.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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

QC REPORT FOR HYDROCARBON ANALYSES

Date: 02/24/97 Matrix: Water

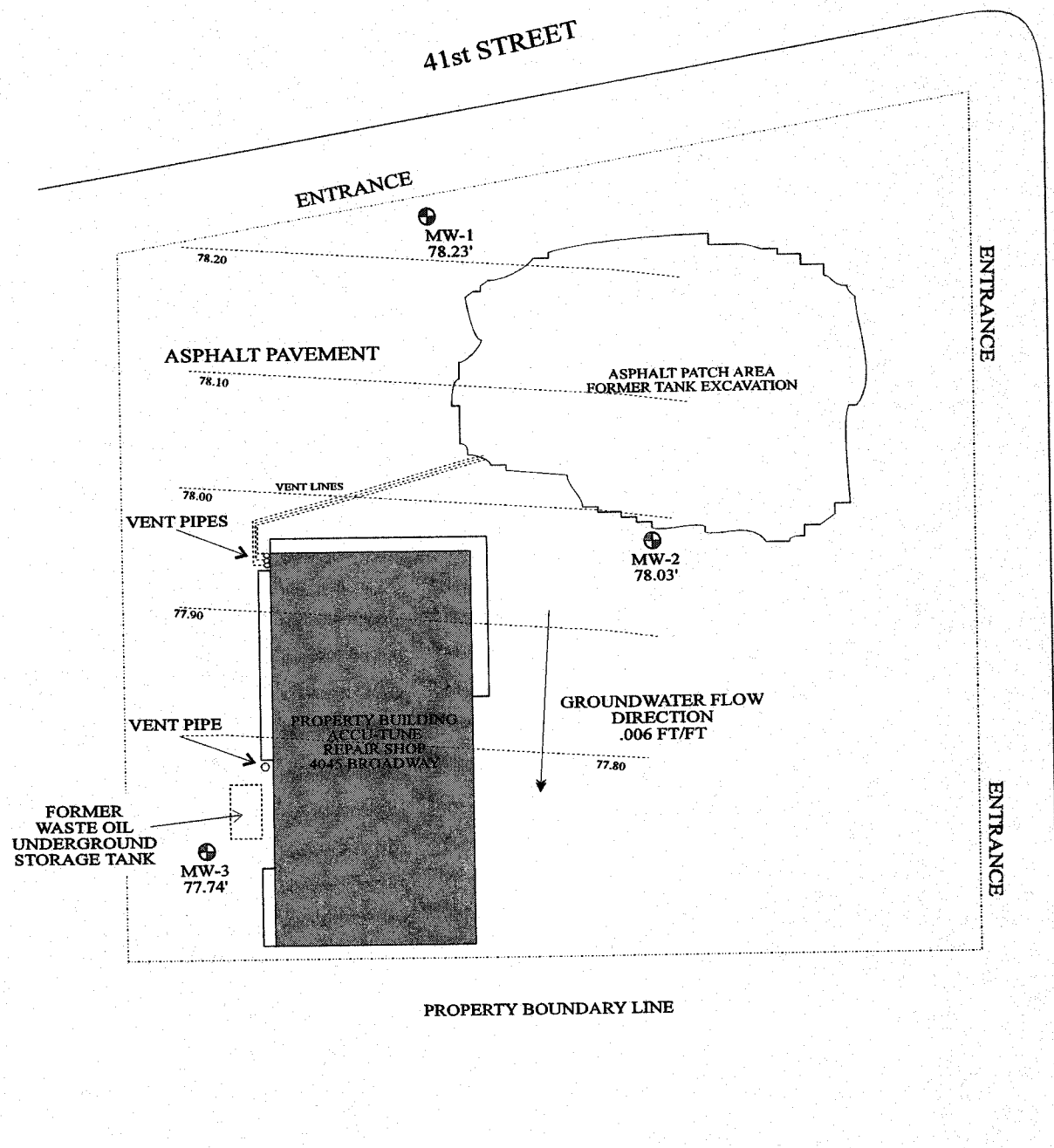
Analyte	Concentration (mg/L) Sample (#73797)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.0	89.0	93.2	100.0	89.0	93.2	4.6
Benzene	0.0	9.2	9.2	10.0	92.0	92.0	0.0
Toluene	0.0	9.5	9.7	10.0	95.0	97.0	2.1
Ethyl Benzene	0.0	9.6	9.8	10.0	96.0	98.0	2.1
Xylenes	0.0	28.7	29.2	30.0	95.7	97.3	1.7
TPH (diesel)	0	126	127	150	84	85	0.6
TRPH (oil & grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

ATTACHMENT C

PREVIOUS LABORATORY ANALYSES WITH CHAIN OF CUSTODY DOCUMENTATION



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ALL ENVIRONMENTAL, INC. 3364 MT. DIABLO BOULEVARD, LAFAYETTE		
SCALE: 1 IN = 20 FT	APPROVED BY:	DRAWN BY: J.S. ANDERSON
DATE: 21 FEBRUARY 97		REVISED: J.S. ANDERSON
GROUNDWATER MAP		
4045 BROADWAY OAKLAND, CALIFORNIA		DRAWING NUMBER: FIGURE 3

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

All Environmental, Inc. 3364 Mt. Diablo Blvd. Lafayette, CA 94549	Client Project ID: # 1434; Gong	Date Sampled: 09/24/96
		Date Received: 09/25/96
	Client Contact: Jennifer Anderson	Date Extracted: 09/25/96
	Client P.O:	Date Analyzed: 09/25/96

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & 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)+	MTBE	Benzene	Toluene	Ethylben-zene	Xylenes	% Rec. Surrogate
69500	MW-1	W	190,b,d,i	ND	ND	ND	ND	5.7	101
69501	MW-2	W	18,000,a,h,i	170	440	1200	190	2200	101
69502	MW-3	W	ND	ND	ND	ND	ND	ND	103
69503	D1	W	20,000,a,h,i	180	410	1300	200	2300	101
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	5.0	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.05	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

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		Date Received: 09/25/96
	Client Contact: Jennifer Anderson	Date Extracted: 09/27/96
	Client P.O:	Date Analyzed: 09/27/96

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel *

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	TPH(d)+	% Recovery Surrogate
69500	MW-1	W	110,d,i	96
69501	MW-2	W	6800,d,h,i	102
69502	MW-3	W	ND	94
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	
		S	1.0 mg/kg	

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

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+ 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 diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel (?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~ 5 vol. % sediment.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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

QC REPORT FOR HYDROCARBON ANALYSES

Date: 09/24/96-09/25/96 Matrix: Water

Analyte	Concentration (ug/L) Sample (#69240)	MS	MSD	Amount Spiked	% Recovery MS	% Recovery MSD	RPD
TPH (gas)	0.0	89.1	98.5	100.0	89.1	98.5	10.0
Benzene	0.0	10.1	10.2	10.0	101.0	102.0	1.0
Toluene	0.0	10.2	10.1	10.0	102.0	101.0	1.0
Ethyl Benzene	0.0	10.2	10.4	10.0	102.0	104.0	1.9
Xylenes	0.0	31.6	31.4	30.0	105.3	104.7	0.6
TPH (diesel)	0	159	155	150	106	103	2.4
TRPH (oil & grease)	0	22300	21600	23700	94	91	3.2

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

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

QC REPORT FOR HYDROCARBON ANALYSES

Date: 09/26/96-09/27/96 Matrix: Water

Analyte	Concentration (ug/L) Sample (#69240)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.0	91.0	91.9	100.0	91.0	91.9	1.0
Benzene	0.0	9.8	9.5	10.0	98.0	95.0	3.1
Toluene	0.0	9.8	9.6	10.0	98.0	96.0	2.1
Ethyl Benzene	0.0	9.9	9.7	10.0	99.0	97.0	2.0
Xylenes	0.0	29.4	28.7	30.0	98.0	95.7	2.4
TPH (diesel)	0	167	165	150	111	110	1.2
TRPH (oil & grease)	0	23600	23000	23700	100	97	2.6

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

ALL ENVIRONMENTAL, INC.
3364 Mt. Diablo Boulevard
Lafayette, CA 94549
(510) 283-6000 FAX: (510) 283-6121

Chain of Custody

DATE: 9/24/96 PAGE: 1 OF: 1

7288AALE84

AEI PROJECT MANAGER: JENNIFER ANDERSON
PROJECT NAME: GONG
PROJECT NUMBER: 1434
SIGNATURE:
TOTAL # OF CONTAINERS: 11
RECD. GOOD COND./COLD: YES

ANALYSIS REQUEST

SAMPLE I.D.	DATE	TIME	MATRIX	TPH-Gasoline (EPA 5030.8015)	TPH-Gasoline (EPA 5030.8015) w/ BTEX and MTBE (EPA 602.8020)	TPH-Diesel (EPA 3510/3550.8015)	PURGEABLE AROMATICS BTEX and MTBE (EPA 602.8020)	TOTAL OIL & GREASE (EPA 5520 E&F)	TOTAL LEAD (AA) (EPA 7420)	VOLATILE ORGANIC COMPOUNDS (EPA 8240)	LUFT Metals (EPA 7130.7190.7420.7520.7950)	STLC CAM 17 (EPA 1310/6010)	RCI REACTIVITY, CORROSIVITY, IGNITABILITY (Title 22, CCR 66261.21-3)			NUMBER OF CONTAINERS
+5 MW-1	92496	1550	WATER		X	X										3
+5 MW-2	↓	1630	↓		X	X										3
+2 MW-3		1725			X	X										3
+5 D1		—			X											2

69500
69501
69502
69503

VOAS O&G METALS OTHER

ICE/T ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓

PRESERVATIVE ✓
APPROPRIATE CONTAINERS ✓

ANALYTICAL LAB: McCampbell
ADDRESS:
PHONE: ( ) 798-1620 FAX: ( ) -

INSTRUCTIONS/COMMENTS:

RELINQUISHED BY: 1	RECEIVED BY: 1	RELINQUISHED BY: 2	RECEIVED BY: 2
Signature: Dusty Roy	Signature: Heidi Rucd	Signature:	Signature:
Printed Name: DUSTY ROY	Printed Name: H. RICCA	Printed Name:	Printed Name:
Company: AEI	Company: MAI	Company:	Company:
Time: 5:00pm Date: 9/25/96	Time: 17:00 Date: 9/25	Time: Date:	Time: Date:

ALL ENVIRONMENTAL, INC.
Environmental Engineering & Construction

March 12, 1997

Ms. Madhulla Logan
Alameda County Health Services Agency
Department of Environmental Health
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502

Re: 4045 Broadway, Oakland, California

Dear Ms. Logan:

Enclosed is the Quarterly Groundwater Monitoring and Sampling Report for the above referenced property. Please review the report and if you have any questions, don't hesitate to contact me at (510) 283-6000.

Sincerely,
All Environmental, Inc.

Jennifer Anderson
Project Manager

Corporate Headquarters:
364 Mt. Diablo Blvd.
Lafayette, CA 94549
Phone: (510) 283-6000
Fax: (510) 283-6121

Sacramento Office:
5524 Assembly Ct., Suite 10
Sacramento, CA 95823
Phone: (916) 429-0776
Fax: (916) 424-0182

Los Angeles Office:
111 N. Sepulveda Blvd., #250
Manhattan Beach, CA 90266
Phone: (310) 328-8878
Fax: (310) 798-2841

November 26, 1996

GROUNDWATER MONITORING WELL INSTALLATION REPORT

4045 Broadway
Oakland, California

Project No. 1434

Prepared For

Ms. C.J. Gong
637 Beacon Street
Oakland, CA 94610

Prepared By

All Environmental, Inc.
3364 Mt. Diablo Blvd.
Lafayette, CA 94549
(510) 283-6000

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AEI

1.0 INTRODUCTION

All Environmental, Inc. (AEI) has prepared this report on behalf of Ms. C. J. Gong, in response to her request for a soil and groundwater investigation at 4045 Broadway in Oakland, California (Figure 1: Site Location Map). The investigation was initiated by the property owner in accordance with the requirements of the Alameda County Health Care Services Agency (ACHCSA). The investigation was conducted to assess petroleum hydrocarbon concentrations found present in the groundwater during a Phase II Subsurface Investigation conducted in May, 1996.

2.0 SITE DESCRIPTION AND BACKGROUND

The site is located in a commercial zone at 4045 Broadway in Oakland, California, and currently supports the operation of Acc-U-Tune and Brake, an automotive repair facility. The topography of the site slopes gently to the south.

In December, 1995, one 550 gallon waste oil underground storage tank (UST) was removed from the property by AEI. Soil samples collected from the bottom of the excavation were impacted with 470 parts per million (ppm) TOG and minor concentrations of TPH as diesel, xylenes and metals. TPH as gasoline, benzene, toluene, ethylbenzene, poly nuclear aromatics (PNAs), volatile halocarbons were not present within the excavation bottom samples above the detection limits. Soil samples collected from the stockpiled material were impacted with 410 ppm TOG, 32 ppm TPH as gasoline, 120 ppm TPH as diesel and minor concentrations of toluene, xylenes and metals. Benzene, ethylbenzene, volatile halocarbons, cadmium and PAHs were not found above the detection limits within the stockpile samples.

At the request of the ACHCSA, the stockpiled soil was disposed of off-site and clean soil was imported to backfill the excavation.

In May, 1996, AEI conducted a subsurface investigation to evaluate the potential presence of hydrocarbon contamination in the vicinity of a large asphalt patch. This area is suspected to be a former UST excavation. Analytical results from the investigation, indicated the groundwater beneath the site was impacted with up to 1200 parts per billion (ppb) TPH as gasoline and 1800 ppb TPH as diesel. Soil samples collected during the investigation indicated up to 150 ppm TPH as gasoline, 54 ppm TPH as diesel and 0.16 ppm benzene present.

On September 11, 1996, AEI drilled three soil borings and converted them to groundwater monitoring wells. The wells were developed on September 16, 1996 and sampled on September 24, 1996. The following report describes the activities surrounding the well installations.

3.0 PERMITS

Prior to drilling, a work plan was submitted to the ACHCSA by AEI. The workplan was approved by Ms. Madhulla Logan, Hazardous Materials Specialist on August 20, 1996. Well construction permits were obtained from the Alameda County Flood Control and Water Conservation District, Zone 7. The property owner and operator were notified of the drilling schedule. A copy of the Zone 7 permit to perform the soil borings and monitoring well installations is included in Appendix A.

4.0 GEOLOGY AND HYDROGEOLOGY

According to logs of the soil borings advanced by AEI, the near surface sediments beneath the site consist of mainly clayey and silty sand to approximately eighteen feet below ground surface (bgs). The water-bearing stratum consists of silty sand which grades to a clean sand present at twenty feet bgs.

Water level measurements made during the current groundwater monitoring and sampling episode on September 24, 1996, indicate that the static water ranges from about 8.75 to 10.2 feet bgs. Elevations of the tops of the well casings were surveyed relative to Mean Sea Level (MSL) by Logan Surveying on October 12, 1996. Refer to Appendix B for the Groundwater Monitoring Well Field Sampling Forms.

The water level measurements were collected in order to calculate the groundwater gradient and flow direction. Based on these measurements, the groundwater flow is southwest at a gradient less than 0.01 feet per foot. The groundwater flow direction is depicted in Figure 3. Water elevations to date are summarized in the following table:

TABLE 1 - Water Level Measurements, September 24, 1996

Date	MW-1	MW-2	MW-3
Depth to Water (feet)	8.75	9.90	10.20
Depth of Well (feet)	18.30	18.50	19.70
Well Elevation (feet above msl)	78.23	78.03	77.74
Groundwater Elevation (feet above msl)	78.23	78.03	77.74

5.0 SOIL BORINGS

On September 11, 1996, three soil borings (SB-1, SB-2 and SB-3) were advanced at the site in the locations shown on Figure 2. SB-1 was advanced near the northern property boundary in the assumed up-gradient direction. SB-2 was advanced down-gradient from the suspected former UST excavation. SB-3 was advanced down-gradient from the previous waste oil UST. SB-1, SB-2 and SB-3 were converted to groundwater monitoring wells MW-1, MW-2 and MW-3, respectively

A Mobile B-61 rotary drill with 6.25" I.D. by 10.5" O.D. hollow stem augers was used to drill the borings. Drilling proceeded to a depth of 21.0 feet during the advancement of each boring. Soil samples were collected at depths of 6, 11, 16, and 21 feet with a hammer-driven California Modified split spoon sampler. The sampler, containing two-inch diameter brass sample tubes, was advanced ahead of the auger tip by successive hammer blows. Boring logs were maintained during drilling by one of AEI's geologists using the Unified Soil Classification System. The logs are

presented in Appendix B. Cuttings generated during drilling were stored on-site in 55 gallon drums for future off-site disposal.

6.0 WELL CONSTRUCTION

Soil borings SB-1, SB-2 and SB-3 were drilled and converted to groundwater monitoring wells, labeled MW-1, MW-2 and MW-3, respectively. The wells were constructed with 5 feet of 2" flush threaded blank Schedule 40 PVC blank casing, and 15 feet of .020" factory-slotted well screen that was installed through the hollow auger. The blank casing extends from 0.5 feet to 4.5 feet bgs. The slotted casing extends from 4.5 feet to near the total depth of the borings, 19.5 and 19.7 feet bgs, respectively. The well screens were fitted with a flush-threaded bottom cap. No. 3 Monterey sand was poured through the augers to form a sand pack from the bottom of the wells to 2.5 feet bgs (2 feet above the slotted well screen). Approximately 1 foot of bentonite pellets were placed above the sand and hydrated with tap water. The remainder of the borings were filled to about 0.5 feet below grade with neat cement grout. A flush mounted traffic rated well box was installed over the casing, and an expanding, locking water tight inner cap was placed on the casing top. Refer to the boring logs (Appendix B) for a visual description of the well construction.

7.0 SOIL SAMPLING

Soil samples were collected for chemical analyses to assess the extent of any contamination of soil and/or groundwater resulting from unauthorized releases of petroleum hydrocarbons, especially releases associated with underground fuel tanks that were formerly located at the site.

The drill rig and augers were steam cleaned prior to drilling and on-site before departure. Soil sampling equipment was decontaminated prior to each use with a TSP solution and rinsed with tap water in plastic buckets. Soil samples were sealed using Teflon tape and plastic caps.

Undisturbed soil samples were collected at depths of 6, 11, 16, 21 feet bgs from each boring during drilling and labeled S-1, S-2, S-3, S-4, respectively. Since groundwater was encountered at approximately 12 feet bgs during drilling, only samples BH-1, S-2; BH-2, S-2; and BH-3, S-2 were submitted for chemical analyses. Soil samples were put in a cooler containing ice and transported under proper chain of custody to McCampbell Analytical, Inc. of Pacheco, California.

8.0 WELL DEVELOPMENT AND SAMPLING

The three wells were developed on September 16, 1996. The wells were developed by bailing water into a 55 gallon drum until the water appeared to be reasonably clear with a minimum of 10 well volumes removed. The bailed water was turbid at first, but became clear by the end of the well development. The water level returned to a static level in approximately 30 minutes. The Groundwater Well Sampling Field Logs are included in Appendix B.

Groundwater samples were collected from the wells on September 24, 1996. Groundwater was checked for sheen and free product prior to purging and sampling. A slight sheen was observed on the water collected from MW-2. No sheen or free product was observed within MW-1 and MW-3. Depth to groundwater was measured prior to purging the wells. The wells were purged by bailing water into a 55 gallon drum until the groundwater temperature, pH and conductivity stabilized. The

groundwater samples were collected using clean disposable bailers. Water was poured from the bailers into amber liter bottles, 40 ml VOA vials and 500 milliliter plastic containers and capped so that no head space or visible air bubbles within the sample containers. For quality control purposes, a duplicate groundwater sample was collected from MW-2 and labeled D-1. The samples were labeled and placed on ice for transportation under chain of custody protocol for analysis to McCampbell Analytical, Inc.

9.0 ANALYTICAL RESULTS OF SAMPLES

Groundwater and soil samples were analyzed at McCampbell Analytical, Inc. of Pacheco, California (State Certification #1644). One soil sample from each boring and groundwater samples from each well were submitted for chemical analyses for TPH as gasoline, TPH as diesel, methyl tertiary butyl ether (MTBE), and benzene, toluene, ethylbenzene, and xylenes (BTEX). In addition, the soil sample analyzed from SB-3 was analyzed for total oil & grease (TOG).

Minor TPH as gasoline concentrations ranging from 7.7 ppm to 19 ppm were found present in the soil collected during the advancement of SB-1 and SB-3. Concentrations of TPH as diesel ranged from 5.0 ppm to 22.0 ppm. Minor concentrations of toluene, ethylbenzene and xylenes were also detected in the soil samples from SB-1 and SB-3. No detectable concentrations of benzene or TOG were present.

Significant concentrations of petroleum hydrocarbon contamination was found present in the soil sample collected from SB-2. Refer to the following table (Table 2) for a summary of the soil sample analyses.

TABLE 2 - Soil Sample Analytical Data

Sample Number/ Depth	TPH as gasoline (mg/kg)	TPH as diesel (mg/kg)	MTBE (mg/kg)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Xylenes (mg/kg)	Total Oil & Grease (mg/kg)
SB1,S-2,10	7.7	5.0	<0.05	<0.005	0.015	0.050	0.050	NA
SB2,S-2,10	2900	850	12	1.6	12	49	160	~~<50~~ NA
SB3,S-2,10	19	22.0	<0.05	<0.005	0.017	<0.005	0.014	~~NA~~ <50

mg/kg = milligrams per kilogram (ppm)
NA = Not Analyzed

Significant concentrations of dissolved petroleum hydrocarbons were present in groundwater collected from MW-2. Up to 18,000 parts per billion (ppb) TPH as gasoline, 6,800 ppb TPH as diesel, 170 ppb benzene, 1,200 ppb toluene, 190 ppb ethylbenzene and 2,200 xylenes were present in the groundwater. Results were consistent for the analysis of D-1, a duplicate groundwater sample from MW-2. Up to 190 ppb TPH as gasoline, 110 ppb TPH as diesel and 5.7 ppb xylenes were present in the groundwater sample collected from MW-1. No concentrations of petroleum hydrocarbons were detected during analysis of the water sample collected from MW-3. The groundwater sample analytical data is summarized below in Table 3.

TABLE 3 - Groundwater Sample Analytical Data

Sample Number/ Depth	TPH as gasoline (ug/L)	TPH as diesel (ug/L)	MTBE (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl-benzene (ug/L)	Xylenes (ug/L)
MW-1	190	110	<5.0	<0.5	<0.5	<0.5	5.7
MW-2	18,000	6,800	170	440	1,200	190	2,200
MW-3	<50.0	<50.0	<5.0	<0.5	<0.5	<0.5	<0.5
D-1	20,000	NA	180	410	1,300	200	2,300

ug/L = micrograms per liter (ppb)
NA = Not Analyzed

Laboratory results and chain of custody documentation are included in Appendix C.

AEI

10.0 SUMMARY AND RECOMMENDATIONS

AEI installed three groundwater monitoring wells to assess soil and groundwater contamination and to determine the groundwater gradient at 4045 Broadway in Oakland, California. The subsurface investigation included logging boreholes under the supervision of a professional geologist, soil sampling and analyses, well development, and groundwater sampling and analyses.

Significant concentrations of petroleum hydrocarbons are present in the soil and groundwater down-gradient from the suspected former UST excavation. Concentrations of TPH as gasoline as high as 2,900 ppm are present in the soil. Groundwater samples collected from MW-2 indicated up to 18,000 ppb TPH as gasoline, 6,800 ppb TPH as diesel and 180 ppb benzene present. Minor concentrations of TPH as gasoline and TPH as diesel are present in the up-gradient monitoring well, MW-1. No petroleum hydrocarbon contamination was detected in the groundwater samples collected from MW-3, which was installed down-gradient from the former waste oil UST.

AEI recommends the continued groundwater monitoring of the three on-site wells. Due to the high concentrations of petroleum hydrocarbons present in the soil and groundwater down-gradient from the suspected former UST excavation, further investigation into the contaminant plume extent may be required by ACHCSA.

11.0 REPORT LIMITATIONS AND SIGNATURES

This report presents a summary of work completed by All Environmental, Inc., including observations and descriptions of site conditions. Where appropriate, it includes analytical results for samples taken during the course of the work. The number and location of samples are chosen to provide required information, but it cannot be assumed that they are entirely representative of all areas not sampled. All conclusions and recommendations are based on these analyses, observations, and the governing regulations. Conclusions beyond those stated and reported herein should not be inferred from this document.

These services were performed in accordance with generally accepted practices in the environmental engineering and construction field which existed at the time and location of the work.

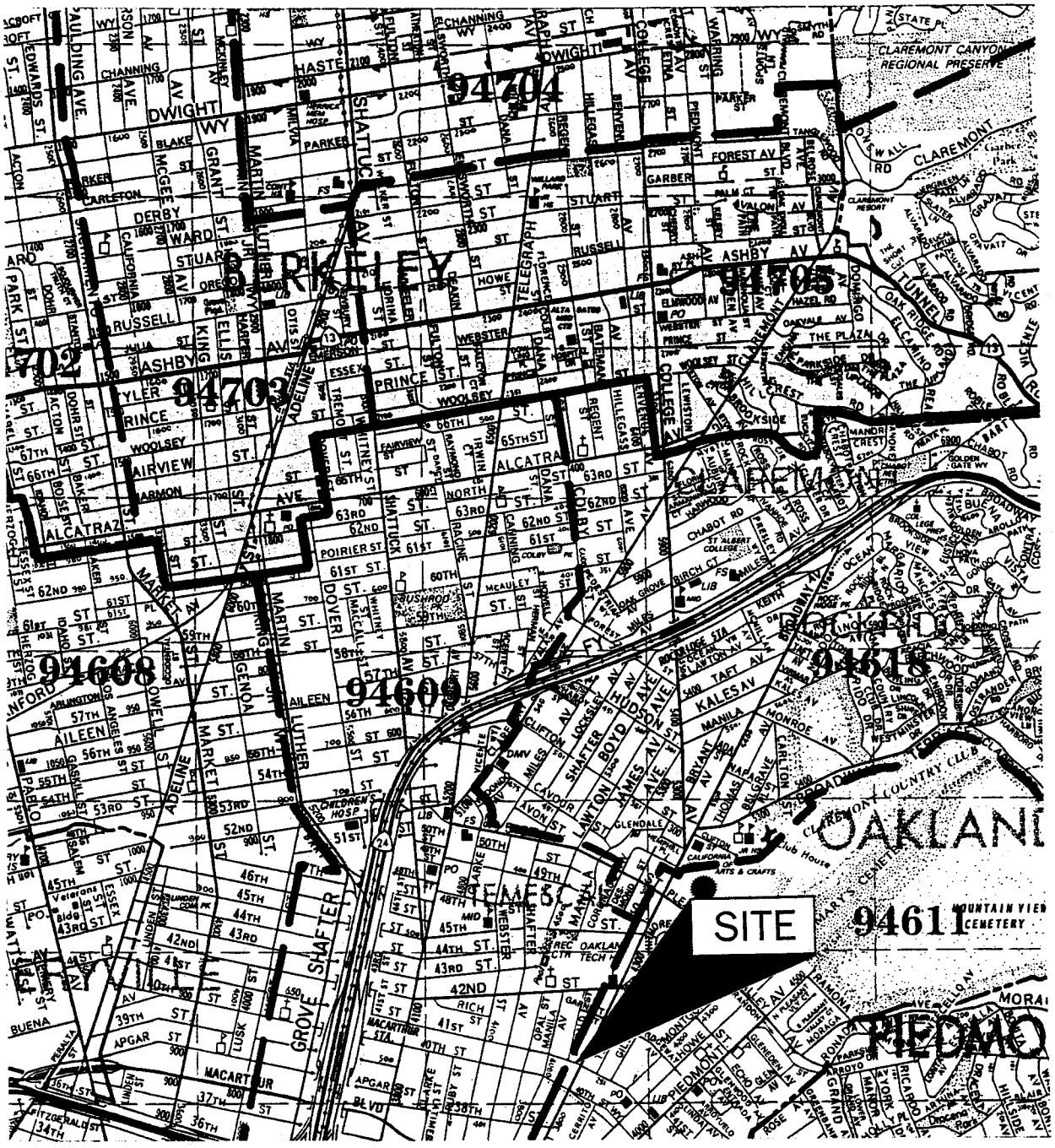
All Environmental, Inc.

Jennifer Anderson
Project Manager

Joseph Derhake
CAC, PE

AEI

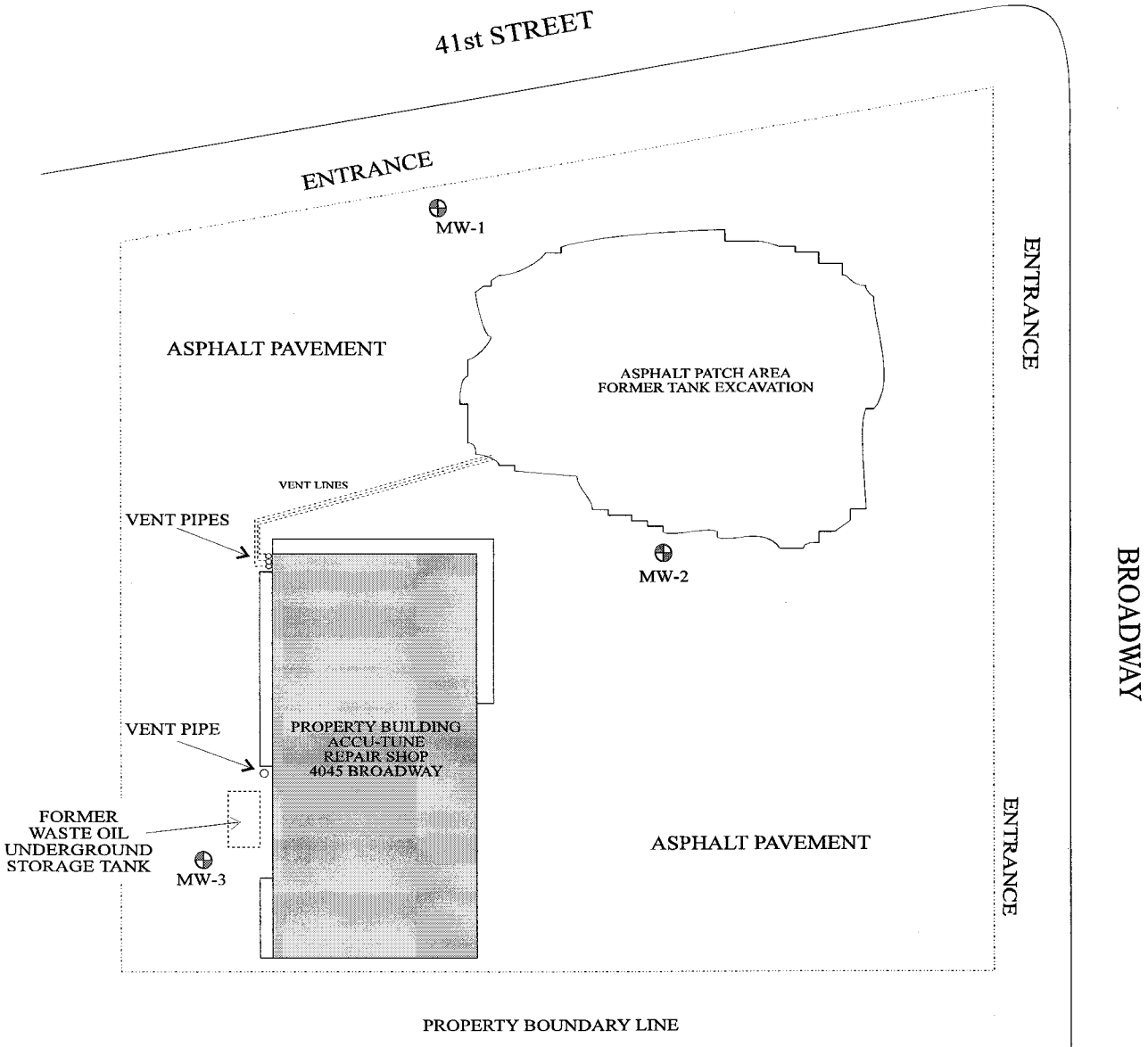
FIGURES



N

THOMAS BROS. MAPS
1994

ALL ENVIRONMENTAL, INC. 3364 MT. DIABLO BOULEVARD, LAFAYETTE		
SCALE: 1 IN = 2200 FT	APPROVED BY:	DRAWN BY:
DATE: 17 JUNE 96		REVISED:
SITE LOCATION MAP		
4045 BROADWAY OAKLAND		DRAWING NUMBER: FIGURE 1



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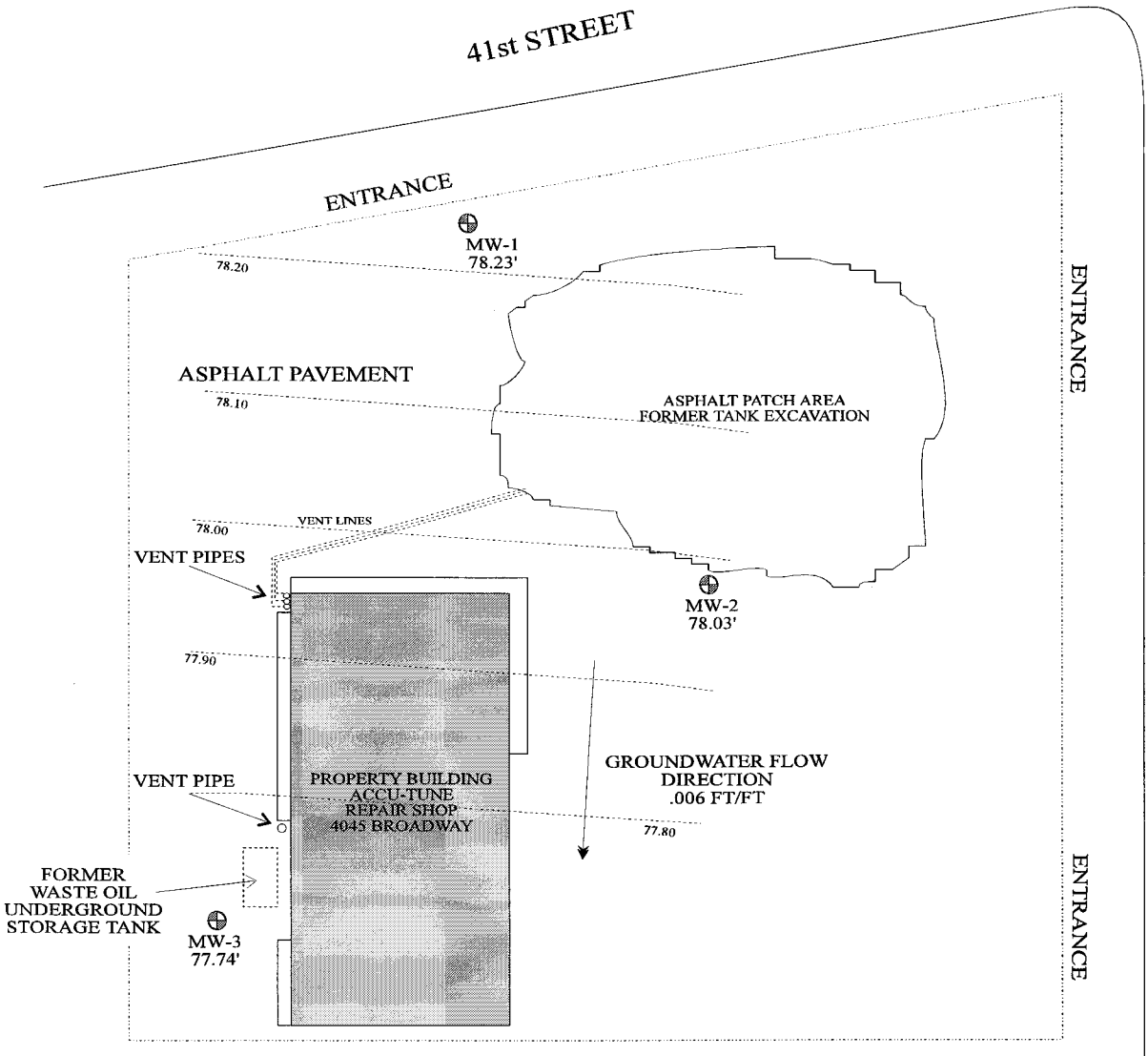
ALL ENVIRONMENTAL, INC. 3364 MT. DIABLO BOULEVARD, LAFAYETTE		
SCALE: 1 IN = 20 FT	APPROVED BY:	DRAWN BY: J.S. ANDERSON
DATE: 26 NOVEMBER 96		REVISED: J.S. ANDERSON
SOIL BORING AND MONITORING WELL LOCATION MAP		
4045 BROADWAY OAKLAND, CALIFORNIA		DRAWING NUMBER: FIGURE 2



N

ALL ENVIRONMENTAL, INC. 3364 MT. DIABLO BOULEVARD, LAFAYETTE		
SCALE: 1 IN = 20 FT	APPROVED BY:	DRAWN BY: J.S. ANDERSON
DATE: 26 NOVEMBER 96		REVISED: J.S. ANDERSON
GROUNDWATER MAP		
4045 BROADWAY OAKLAND, CALIFORNIA		DRAWING NUMBER: FIGURE 3

APPENDIX A

PERMITS AND NOTIFICATION DOCUMENTS

ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588 VOICE (510) 484-2600
FAX (510) 462-3914

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT Accutune
4045 Broadway
Oakland

CLIENT
Name C.J. Gong
Address 637 Beacon Str Voice (510) 531 6094
City Oakland Zip 94610

APPLICANT
Name All Environmental Inc.
Jennifer Anderson Fax (510) 283 6121
Address 3364 Mt Diablo Blvd Voice (510) 283 6000
City Lafayette Zip 94549

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	___	General	___
Water Supply	___	Contamination	___
Monitoring	X	Well Destruction	___

PROPOSED WATER SUPPLY WELL USE

Domestic	___	Industrial	___	Other	___
Municipal	___	Irrigation	___		

DRILLING METHOD:

Mud Rotary	___	Air Rotary	___	Auger	X
Cable	___	Other	___		

DRILLER'S LICENSE NO. C-57 485165

WELL PROJECTS

Drill Hole Diameter	6	in.	Maximum		
Casing Diameter	2	in.	Depth	25	ft.
Surface Seal Depth	2	ft.	Number	3	

GEOTECHNICAL PROJECTS

Number of Borings	___		Maximum		
Hole Diameter	___	in.	Depth	___	ft.

ESTIMATED STARTING DATE 8/30/96
ESTIMATED COMPLETION DATE 8/30/96

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 73-68.

APPLICANT'S SIGNATURE [signature] Date 8/23/96

FOR OFFICE USE

PERMIT NUMBER 96643
LOCATION NUMBER

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A.) GENERAL
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well Projects, or drilling logs and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approval date.

(B.) WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

C. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

E. WELL DESTRUCTION. See attached.

Approved Wyman Hong Date 11 Sep 96
Wyman Hong

91992

APPENDIX B

BORINGS LOGS, WELL CONSTRUCTION DIAGRAM, WELL FIELD SAMPLING FORMS

PROJECT: GONG # 1434	**LOG OF WELL NUMBER:** MW-1
BORING LOC.: REFER TO SITE PLAN	ELEVATION, TOC: 78.23
DRILLING CONTRACTOR: GREGG DRILLING	START DATE: 9/11/96 / END DATE: 9/11/96
DRILLING METHOD: HOLLOW STEM AUGER	TOTAL DEPTH: 19' / SCREEN INT: 9'-19'
DRILLING EQUIPMENT: MOBILE B-61	DEPTH TO WATER: 12' / CASING: 2" PVC
SAMPLING METHOD: 2" DRIVE SAMPLER	LOGGED BY: BC
HAMMER WEIGHT and FALL: 140 lb, 30"	RESPONSIBLE PROFESSIONAL: JPD

DEPTH (feet)	SOIL SYMBOLS	DESCRIPTION	SAMPLES: SAMPLE NO.	SAMPLES: INTERVAL	SAMPLES: BLOW COUNTS	WELL CONSTRUCTION DETAILS
0	AB	0.0 - 0.6; Asphalt, 3" Aggregate Base.				Universal Well Cover
1						
2						Locking Wing Nut
3						Neat Cement Grout
4	SC	0.6 - 9.0; Clayey Sand; dark gray with dark green modeling, moist, slight hyd. odor.				
5					6	
6			S-1		10 12	Bentonite
7						Blank SCH 40 PVC (2")
8						
9						
10	SM	9.0 - 19.0; Silty Sand; gray with dark yellow/orange modeling, very moist, strong hyd. odor.			7	No. 3 Monterey Sand
11			S-2		11 15	
12						
13						.020" Slotted Well Screen
14						

PROJECT: GONG #1434

LOG OF BOREHOLE: MW-1

DEPTH (feet)	SOIL SYMBOLS	DESCRIPTION	SAMPLES: SAMPLE NO.	SAMPLES: INTERVAL	SAMPLES: BLOW COUNTS	WELL CONSTRUCTION DETAILS
15	SM	9.0 - 19.0; Silty Sand (cont.)			6	
16			S-3		26	
17					29	
18						
19						End Cap
		Terminated at 19.0'				
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

PROJECT: GONG # 1434	**LOG OF WELL NUMBER:** MW-2
BORING LOC.: REFER TO SITE PLAN	ELEVATION, TOC: 78.03
DRILLING CONTRACTOR: GREGG DRILLING	START DATE: 9/11/96 / END DATE: 9/11/96
DRILLING METHOD: HOLLOW STEM AUGER	TOTAL DEPTH: 19' / SCREEN INT: 9'-19'
DRILLING EQUIPMENT: MOBILE B-61	DEPTH TO WATER: 13' / CASING: 2" PVC
SAMPLING METHOD: 2" DRIVE SAMPLER	LOGGED BY: BC
HAMMER WEIGHT and FALL: 140 lb, 30"	RESPONSIBLE PROFESSIONAL: JPD

DEPTH (feet)	SOIL SYMBOLS	DESCRIPTION	SAMPLES: SAMPLE NO.	SAMPLES: INTERVAL	SAMPLES: BLOW COUNTS	WELL CONSTRUCTION DETAILS
0	AB	0.0 - 0.6; Asphalt, 3" Aggregate Base.				Universal Well Cover
1						
2						Locking Wing Nut
3						Neat Cement Grout
4	SC	0.6 - 19.0; Clayey Sand; dark gray, slighty moist, strong hyd. odor.				
5					2	Blank SCH 40 PVC (2")
6			S-1		3	Bentonite
7					5	
8						
9						
10		0.6 - 19.0; Clayey Sand (cont.), dark greenish gray, strong hyd. odor.			8	No. 3 Monterey Sand
11			S-2		12	
12					18	
13		▼				.020" Slotted Well Screen
14						

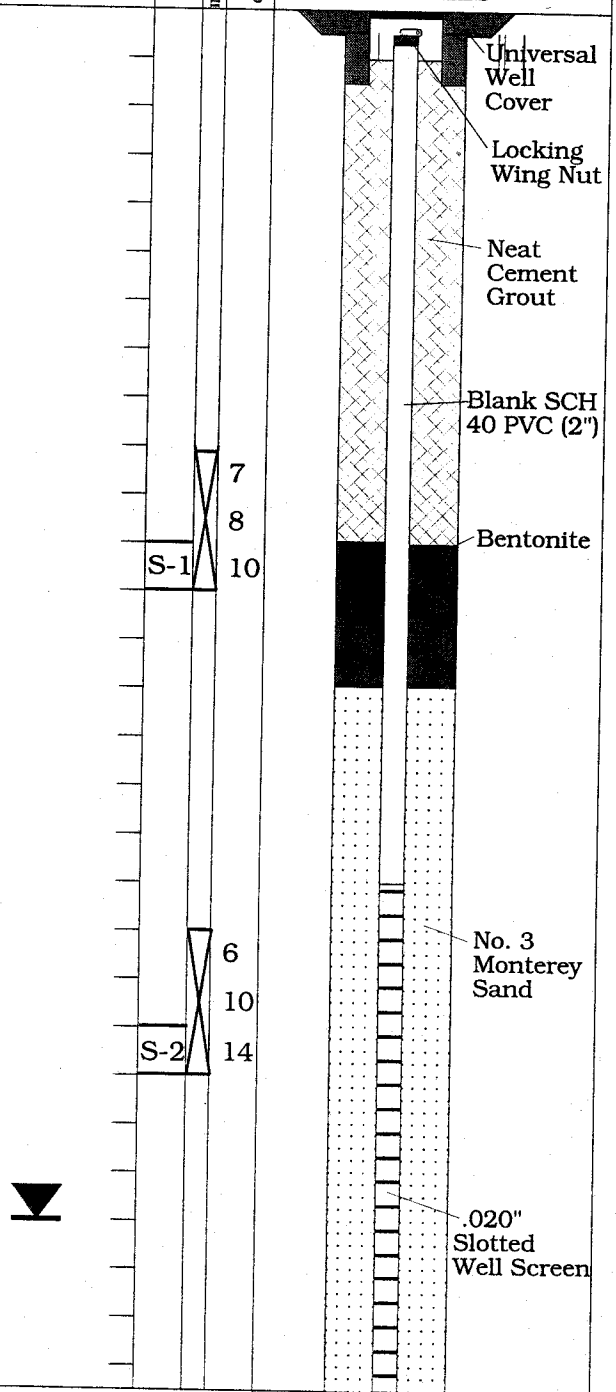
PROJECT: GONG #1434

LOG OF BOREHOLE: MW-2

DEPTH (feet)	SOIL SYMBOLS	DESCRIPTION	SAMPLES: SAMPLE NO.	SAMPLES: INTERVAL	SAMPLES: BLOW COUNTS	WELL CONSTRUCTION DETAILS
15	SC	0.6 - 19.0; Clayey Sand (cont.)	S-3			
16						
17						
18						
19		Terminated at 19.0'				End Cap
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

PROJEC : GONG # 1434	**LOG OF WELL NUMBER:** MW-3
BORING LOC.: REFER TO SITE PLAN	ELEVATION, TOC: 77.74
DRILLING CONTRACTOR: GREGG DRILLING	START DATE: 9/11/96 / END DATE: 9/11/96
DRILLING METHOD: HOLLOW STEM AUGER	TOTAL DEPTH: 20 / SCREEN INT: 9'-20'
DRILLING EQUIPMENT: MOBILE B-61	DEPTH TO WATER: 12.5' / CASING: 2" PVC
SAMPLING METHOD: 2" DRIVE SAMPLER	LOGGED BY: BC
HAMMER WEIGHT and FALL: 140 lb, 30"	RESPONSIBLE PROFESSIONAL: JPD

DEPTH (feet)	SOIL SYMBOLS	DESCRIPTION	SAMPLES: SAMPLE NO.	SAMPLES: INTERVAL	SAMPLES: BLOW COUNTS
0	AB	0.0 - 0.6; Asphalt, 3" Aggregate Base.			
1					
2					
3					
4	CL	0.6 - 15.0; Clay: grayish balck, slightly moist, no hyd. odor.			
5					7
6			S-1		8 10
7					
8					
9					
10		0.6 - 15.0; Clay (cont.)			6
11			S-2		10 14
12					
13					
14					



PROJECT: GONG #1434

LOG OF BOREHOLE: MW-3

DEPTH (feet)	SOIL SYMBOLS	DESCRIPTION	SAMPLES: SAMPLE NO.	SAMPLES: INTERVAL	SAMPLES: BLOW COUNTS	WELL CONSTRUCTION DETAILS
15						
16	SC	15.0 - 19.0; Clayey Sand; pale yellowish brown with dark yellowish orange modeling, very moist, no hyd. odor.	S-3		4 8 12	
17						
18						
19						
20		Terminated at 20.0'				End Cap
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

APPENDIX C

CURRENT LABORATORY ANALYSES WITH CHAIN OF CUSTODY DOCUMENTATION

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

All Environmental, Inc. 3364 Mt. Diablo Blvd. Lafayette, CA 94549	Client Project ID: Gong; # 1434	Date Sampled: 09/11/96
		Date Received: 09/13/96
	Client Contact: Jennifer Anderson	Date Extracted: 09/13/96
	Client P.O:	Date Analyzed: 09/14/96

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & 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)+	MTBE	Benzene	Toluene	Ethylben-zene	Xylenes	% Rec. Surrogate
69006	SB2,S-2,10	S	2900,b,j	12	1.6	12	49	160	119#
69009	SB1,S-2,10	S	7.7,j,b	ND	ND	0.015	0.035	0.050	105
69013	SB3,S-2,10	S	19,j	ND	ND	0.017	ND	0.014	100
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	5.0	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.05	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
Tele: 510-798-1620 Fax: 510-798-1622

All Environmental, Inc.	Client Project ID: Gong; # 1434	Date Sampled: 09/11/96
3364 Mt. Diablo Blvd.		Date Received: 09/13/96
Lafayette, CA 94549	Client Contact: Jennifer Anderson	Date Extracted: 09/13/96
	Client P.O:	Date Analyzed: 09/14/96

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & 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)+	MTBE	Benzene	Toluene	Ethylben-zene	Xylenes	% Rec. Surrogate
69006	SB2,S-2,10	S	2900,b,j	12	1.6	12	49	160	119#
69009	SB1,S-2,10	S	7.7,j,b	ND	ND	0.015	0.035	0.050	105
69013	SB3,S-2,10	S	19,j	ND	ND	0.017	ND	0.014	100
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	5.0	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.05	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
Tele: 510-798-1620 Fax: 510-798-1622

All Environmental, Inc. 3364 Mt. Diablo Blvd. Lafayette, CA 94549	Client Project ID: Gong; # 1434	Date Sampled: 09/11/96
		Date Received: 09/13/96
	Client Contact: Jennifer Anderson	Date Extracted: 09/13/96
	Client P.O:	Date Analyzed: 09/13/96

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel *

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	TPH(d)+	% Recovery Surrogate
69006	SB2,S-2,10	S	850,d	102
69009	SB1,S-2,10	S	5.0,d	99
69013	SB3,S-2,10	S	22,d,g	102
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	
		S	1.0 mg/kg	

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

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+ 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 diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel (?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~ 5 vol. % sediment.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.

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

All Environmental, Inc. 3364 Mt. Diablo Blvd. Lafayette, CA 94549	Client Project ID: Gong; # 1434	Date Sampled: 09/11/96
		Date Received: 09/13/96
	Client Contact: Jennifer Anderson	Date Extracted: 09/18/96
	Client P.O:	Date Analyzed: 09/18/96

Petroleum Oil & Grease (with Silica Gel Clean-up) *

EPA methods 413.1, 9070 or 9071; Standard Methods 5520 D/E&F or 503 D&E for solids and 5520 B&F or 503 A&E for liquids

Lab ID	Client ID	Matrix	Oil & Grease*
69013	SB3,S-2,10	S	ND
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	5 mg/L
		S	50 mg/kg

* water samples are reported in mg/L and soil and sludge samples in mg/kg

h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~ 5vol. % sediment.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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

QC REPORT FOR HYDROCARBON ANALYSES

Date: 09/14/96 Matrix: Soil

Analyte	Concentration (mg/kg) Sample (#67156)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.000	2.213	2.141	2.03	109	105	3.3
Benzene	0.000	0.222	0.218	0.2	111	109	1.8
Toluene	0.000	0.224	0.218	0.2	112	109	2.7
Ethylbenzene	0.000	0.220	0.214	0.2	110	107	2.8
Xylenes	0.000	0.658	0.636	0.6	110	106	3.4
TPH (diesel)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
TRPH (oil and grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

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

QC REPORT FOR HYDROCARBON ANALYSES

Date: 09/13/96 Matrix: Soil

Analyte	Concentration (mg/kg) Sample (#67156)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.000	1.745	1.807	2.03	86	89	3.5
Benzene	0.000	0.194	0.176	0.2	97	88	9.7
Toluene	0.000	0.204	0.184	0.2	102	92	10.3
Ethylbenzene	0.000	0.208	0.186	0.2	104	93	11.2
Xylenes	0.000	0.608	0.542	0.6	101	90	11.5
TPH (diesel)	0	294	307	300	98	102	4.2
TRPH (oil and grease)	N/A	N/A	N/A	N/A	N/A	N/A	N/A

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

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

QC REPORT FOR HYDROCARBON ANALYSES

Date: 09/18/96 Matrix: Soil

Analyte	Concentration (mg/kg) Sample (#67156)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.000	1.955	1.821	2.03	96	90	7.1
Benzene	0.000	0.204	0.214	0.2	102	107	4.8
Toluene	0.000	0.212	0.218	0.2	106	109	2.8
Ethylbenzene	0.000	0.212	0.220	0.2	106	110	3.7
Xylenes	0.000	0.644	0.670	0.6	107	112	4.0
TPH (diesel)	0	305	303	300	102	101	0.9
TRPH (oil and grease)	0.0	19.6	20.3	20.8	94	98	3.5

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

ALL ENVIRONMENTAL, INC.
3364 Mt. Diablo Boulevard
Lafayette, CA 94549
(510) 283-6000 FAX: (510) 283-6121

Chain of Custody

DATE: 9/12/96 PAGE: 1 OF: 1

7178 AAL882

AEI PROJECT MANAGER: Jennifer Anderson
PROJECT NAME: Gong
PROJECT NUMBER: 1424
SIGNATURE: J Anderson
TOTAL # OF CONTAINERS: 11
RECD. GOOD COND./COLD: YES

ANALYSIS REQUEST

SAMPLE I.D.	DATE	TIME	MATRIX	TPH-Gasoline (EPA 5030/8015)	TPH-Gasoline (EPA 5030/8015) w/ BTEX and MTBE (EPA 602/8020)	TPH-Diesel (EPA 3510/3550/8015)	PURGEABLE AROMATICS BTEX and MTBE (EPA 602/8020)	TOTAL OIL & GREASE (EPA 5520 E&F)	TOTAL LEAD (AA) (EPA 7420)	VOLATILE ORGANIC COMPOUNDS (EPA 8260)	LUFT Metals (EPA 7130,7190,7420,7520,7950)	STLC CAM 17 (EPA 1310/6010)	RCI REACTIVITY, CORROSIVITY, IGNITABILITY (Title 22, CCR 66261.21-3)			NUMBER OF CONTAINERS
SB2, S-1, 5	9/11/96		SOIL		HOLD								[redacted]			1
SB2, S-2, 10	↓		↓		X	X										1
SB2, S-4, 20					HOLD											1
SB1, S-1, 5																1
SB1, S-2, 10					X	X										1
SB1, S-3, 15					} HOLD											1
SB1, S-4, 20																1
SB3, S-1, 5																1
SB3, S-2, 10					X	X		X								1
SB3, S-3, 15					} HOLD											1
SB3, S-4, 20																1

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

PRESERVATIVE
APPROPRIATE
CONTAINERS ✓

VOAS | O&G | METALS | OTHER

ANALYTICAL LAB:
ADDRESS:
PHONE: ( ) - FAX: ( ) -
INSTRUCTIONS/COMMENTS:

RELINQUISHED BY: 1	RECEIVED BY: 1	RELINQUISHED BY: 2	RECEIVED BY: 2
Signature: [signature]	Signature: Angela Rydelius	Signature	Signature
Printed Name: Bryan Campbell	Printed Name: Angela Rydelius	Printed Name	Printed Name
Company: AEI	Company: MAI	Company	Company
Time 9:00 Date 9/12	Time 11am Date 9/13/96	Time Date	Time Date

TOTAL P.03

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

All Environmental, Inc. 3364 Mt. Diablo Blvd. Lafayette, CA 94549	Client Project ID: # 1434; Gong	Date Sampled: 09/24/96
		Date Received: 09/25/96
	Client Contact: Jennifer Anderson	Date Extracted: 09/25/96
	Client P.O:	Date Analyzed: 09/25/96

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & 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)+	MTBE	Benzene	Toluene	Ethylben-zene	Xylenes	% Rec. Surrogate
69500	MW-1	W	190,b,d,i	ND	ND	ND	ND	5.7	101
69501	MW-2	W	18,000,a,h,i	170	440	1200	190	2200	101
69502	MW-3	W	ND	ND	ND	ND	ND	ND	103
69503	D1	W	20,000,a,h,i	180	410	1300	200	2300	101
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	5.0	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.05	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
Tele: 510-798-1620 Fax: 510-798-1622

All Environmental, Inc. 3364 Mt. Diablo Blvd. Lafayette, CA 94549	Client Project ID: # 1434; Gong	Date Sampled: 09/24/96
		Date Received: 09/25/96
	Client Contact: Jennifer Anderson	Date Extracted: 09/27/96
	Client P.O:	Date Analyzed: 09/27/96

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel *

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	TPH(d)+	% Recovery Surrogate
69500	MW-1	W	110,d,i	96
69501	MW-2	W	6800,d,h,i	102
69502	MW-3	W	ND	94
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	
		S	1.0 mg/kg	

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

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+ 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 diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel (?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~ 5 vol. % sediment.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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

QC REPORT FOR HYDROCARBON ANALYSES

Date: 09/24/96-09/25/96 Matrix: Water

Analyte	Concentration (ug/L) Sample (#69240)	MS	MSD	Amount Spiked	% Recovery MS	% Recovery MSD	RPD
TPH (gas)	0.0	89.1	98.5	100.0	89.1	98.5	10.0
Benzene	0.0	10.1	10.2	10.0	101.0	102.0	1.0
Toluene	0.0	10.2	10.1	10.0	102.0	101.0	1.0
Ethyl Benzene	0.0	10.2	10.4	10.0	102.0	104.0	1.9
Xylenes	0.0	31.6	31.4	30.0	105.3	104.7	0.6
TPH (diesel)	0	159	155	150	106	103	2.4
TRPH (oil & grease)	0	22300	21600	23700	94	91	3.2

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

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

QC REPORT FOR HYDROCARBON ANALYSES

Date: 09/26/96-09/27/96 Matrix: Water

Analyte	Concentration (ug/L) Sample (#69240)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.0	91.0	91.9	100.0	91.0	91.9	1.0
Benzene	0.0	9.8	9.5	10.0	98.0	95.0	3.1
Toluene	0.0	9.8	9.6	10.0	98.0	96.0	2.1
Ethyl Benzene	0.0	9.9	9.7	10.0	99.0	97.0	2.0
Xylenes	0.0	29.4	28.7	30.0	98.0	95.7	2.4
TPH (diesel)	0	167	165	150	111	110	1.2
TRPH (oil & grease)	0	23600	23000	23700	100	97	2.6

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

Chain of Custody

ALL ENVIRONMENTAL, INC.
3364 Mt. Diablo Boulevard
Lafayette, CA 94549
(510) 283-6000 FAX: (510) 283-6121

DATE: 9/24/96 PAGE: 1 OF: 1

7288AALE84

AEI PROJECT MANAGER: JENNIFER ANDERSON
PROJECT NAME: GONG
PROJECT NUMBER: 1434
SIGNATURE: [signature]
TOTAL # OF CONTAINERS: 11
RECD. GOOD COND./COLD: YES

ANALYSIS REQUEST

SAMPLE I.D.	DATE	TIME	MATRIX	TPH-Gasoline (EPA 5030.8015)	TPH-Gasoline (EPA 5030.8015) w/ BTEX and MTBE (EPA 602.8020)	TPH-Diesel (EPA 3510/3550.8015)	PURGEABLE AROMATICS BTEX and MTBE (EPA 602.8020)	TOTAL OIL & GREASE (EPA 5520 E&F)	TOTAL LEAD (AA) (EPA 7420)	VOLATILE ORGANIC COMPOUNDS (EPA 8240)	LUFT Metals (EPA 7130,7190,7420,7520,7950)	STLC CAM 17 (EPA 1310/6010)	RCI REACTIVITY, CORROSIVITY, IGNITABILITY (Title 22, CCR 66261.21-3)	NUMBER OF CONTAINERS
+5 MW-1	92496	1550	WATER		X	X								3
+5 MW-2	↓	1630	↓		X	X								3
+2 MW-3		1725			X	X								3
+5 D1		—			X									2

69500
69501
69502
69503

VOAS O&G METALS OTHER

ICE/T ✓
GOOD CONDITION ✓
HEAD SPACE ABSENT ✓

PRESERVATIVE ✓
APPROPRIATE
CONTAINERS ✓

ANALYTICAL LAB: McCampbell
ADDRESS:
PHONE: ( ) 798-1620 FAX: ( )

INSTRUCTIONS/COMMENTS:

RELINQUISHED BY: 1	RECEIVED BY: 1	RELINQUISHED BY: 2	RECEIVED BY: 2
Signature: [signature]	Signature: [signature]	Signature:	Signature:
Printed Name: Dusty Roy	Printed Name: H. Rocca	Printed Name:	Printed Name:
Company: AEI	Company: MAI	Company:	Company:
Time: 5:00pm Date: 9/25/96	Time: 17:00 Date: 9/25	Time: Date:	Time: Date:

January 21, 1999

QUARTERLY GROUNDWATER MONITORING REPORT

Third Quarter 1998

4045 Broadway Avenue
Oakland, California

Project No. 1630

Prepared For

Gong Associates
637 Beacon Street
Oakland, CA 94610

Prepared By

All Environmental, Inc.
901 Moraga Road, Suite C
Lafayette, CA 94549
(800) 801-3224

AEI

January 21, 1999

Ms. C.J. Gong
Gong Associates
637 Beacon Street
Oakland, CA 94610

RE: Quarterly Groundwater Monitoring Report, *Third Quarter 1998*
4045 Broadway Avenue
Oakland California
Project No. 1630

Dear Ms. Gong:

All Environmental, Inc. (AEI) has prepared this report on your behalf, in response to your request for a groundwater investigation at the above referenced site (Figure 1: Site Location Map). The investigation was initiated by the property owner in accordance with the requirements of the Alameda County Health Care Services Agency (ACHCSA). This report presents the findings of the Sixth Episode of groundwater monitoring during the third quarter of 1998.

Site Description and Background

The site is located in a commercial zone at 4045 Broadway in Oakland, California, and currently supports the operation of Acc-U-Tune and Brake, an automotive repair facility. The topography of the site slopes gently to the south.

In December, 1995, one 550 gallon waste oil underground storage tank (UST) was removed from the property by AEI. Soil samples collected from the bottom of the excavation were impacted with 470 mg/kg. Total Oil and Grease and minor concentrations of Total Petroleum Hydrocarbons (TPH) as diesel, xylenes and metals. TPH as gasoline, benzene, toluene, ethylbenzene, poly nuclear aromatics (PNAs), and volatile halocarbons were not present above the detection limits within the excavation bottom samples. Soil samples collected from the stockpiled material were impacted with 410 mg/kg TOG, 32 mg/kg TPH as gasoline, 120 mg/kg TPH as diesel and minor concentrations of toluene, xylenes and metals. Benzene, ethylbenzene, volatile halocarbons, cadmium and PAHs were not found above the detection limits within the stockpile samples.

At the request of the ACHCSA, the stockpiled soil was disposed of off-site and clean soil was imported to backfill the excavation.

In May, 1996, AEI conducted a subsurface investigation to evaluate the potential presence of hydrocarbon contamination in the vicinity of a large asphalt patch. This area is suspected to be a former UST excavation. Analytical results from the investigation, indicated the groundwater beneath the site was impacted with up to 1200 µg/L TPH as gasoline and 1800 µg/L TPH as diesel. Soil samples collected during the investigation indicated up to 150 mg/kg TPH as gasoline, 54 mg/kg TPH as diesel and 0.16 mg/kg benzene present.

On September 11, 1996, AEI drilled three soil borings and converted them to groundwater monitoring wells labeled MW-1, MW-2 and MW-3 (Groundwater Monitoring Well Installation Report, November 26, 1996, AEI). The wells were developed on September 16, 1996 and sampled on September 24, 1996. Refer to Figure 2 for well locations.

In September, 1997, AEI advanced eight soil borings in order to delineate soil contamination in the vicinity of the former tank hold and dispenser islands. In addition, groundwater was collected to delineate the lateral extent of the petroleum hydrocarbon plume for the placement of a fourth monitoring well. MW-4 was installed along the southern property boundary. The well was developed and sampled along with the existing three monitoring wells on September 24, 1997 (Phase II Subsurface Investigation and Monitoring Well Installation Report, January 28, 1998).

The following report describes the results of the sixth monitoring episode conducted on October 9, 1998.

Summary of Activities

AEI measured the depth to groundwater in the four wells and collected water samples on October 9, 1998. The well locations are shown in Figure 2. The depth from the top of the well casings were measured prior to sampling with an electric water level indicator. The wells were purged using a battery powered submersible pump and a groundwater sample was collected using a clean disposable Teflon bailer.

Temperature, pH, and turbidity were measured during the purging of the wells. AEI removed at least 3 well volumes. Once the temperature, pH, and turbidity stabilized, a water sample was collected.

Water was poured from the bailers into 1 liter amber bottles and 40 ml VOA vials and capped so that there was no head space or visible air bubbles within the sample containers. Samples were shipped on ice under proper chain of custody protocol to McCampbell Analytical, Inc. of Pacheco, California (State Certification #1644).

Groundwater samples were submitted for chemical analyses for Total Petroleum Hydrocarbons (TPH) as gasoline (EPA Method 5030/8015), TPH as diesel (EPA Method 3550/8015), methyl tertiary butyl ether (MTBE) (EPA Method 8020/602), and benzene, toluene, ethylbenzene and xylenes (BTEX) (EPA Method 8020/602). At the request of ACHCSA, groundwater from MW-3 was also analyzed for total oil and grease (TOG) (EPA method 5520 D & F)

Field Results

No sheen or free product was encountered during monitoring activities. Groundwater levels for the current monitoring episode ranged from 77.78 to 78.33 feet above Mean Sea Level (MSL). These groundwater elevations were an average of 0.88 feet lower than the previous monitoring episode. The direction of the groundwater flow at the time of measurement was towards the south-southwest, which is consistent with the previous two monitoring episodes during which the flow direction was between south and southwest. The latest estimated groundwater gradient is approximately 0.005 feet per foot, which is lower than the previous gradient of 0.01 feet per foot.

Groundwater elevation data is summarized in Table 1. The groundwater elevation contours and the groundwater flow direction are shown in Figure 2. Refer to Appendix B for the Groundwater Monitoring Well Field Sampling Forms.

Groundwater Quality

TPH as gasoline, TPH as diesel and benzene were detected in MW-2 at 950 µg/L, 310 µg/L, and 31 µg/L, respectively. MTBE and benzene were detected in MW-4 at 6.3 µg/L and 5 µg/L, respectively. No petroleum hydrocarbons were detected in MW-1 or MW-3.

A summary of groundwater quality data is presented in Table 2. Laboratory results and chain of custody documents are included in Appendix B.

Recommendations

Based on the following conclusions drawn from analysis of Risk Based Screening Levels, potential groundwater used, and current site conditions, AEI recommends that groundwater monitoring and sampling be discontinued and closure for this site be granted.

- The groundwater beneath the property is not used for drinking water purposes and it is unlikely that groundwater in this area will be used in the future for drinking water purposes.

- No free product has been observed during the monitoring activities. The concentrations of petroleum hydrocarbons in the groundwater have decreased significantly since the monitoring wells were installed in September 1996.

- The petroleum hydrocarbon plume is not migrating off site.

- The nearest surface water is Lake Merritt, approximately 1.2 miles to south of the property. No other sensitive receptors are located within 1 mile of the property.

- Analysis of Tier 1 Risk Based Screening Levels for groundwater revealed that the minor concentration of petroleum hydrocarbons remaining in the groundwater do not pose a risk to persons both on the property and in the surrounding area. The level of benzene, detected at 31 µg/L centrally on the property, is below an appropriate screening level of 74 µg/L for vapor intrusion of groundwater into buildings. The vapor volatilization of groundwater to the outdoors is not a concern due to the distance to the nearest surface water.

- TPH as gasoline and TPH as diesel were detected in soil samples taken in the vicinity of the suspected tank excavation in September 1997. However, the levels of these hydrocarbons have likely deceased over time, and based on the fact that the concentrations of TPH as gasoline and TPH as diesel have decreased in the groundwater, the impacted soil is not likely a source of future groundwater contamination. The impacted soil is not a threat to human health because the entire area of the subject property is paved with either cement or asphalt.

References

1. AEI, Underground Storage Tank Removal Report, December, 1995.

2. AEI, Phase II Subsurface Investigation Report, May 1996.

3. AEI, Groundwater Monitoring Well Installation Report, November 26, 1996.

4. AEI, Phase II Subsurface Investigation and Monitoring Well Installation Report, January 28, 1998.

Report Limitations and Signatures

This report presents a summary of work completed by All Environmental, Inc., including observations and descriptions of site conditions. Where appropriate, it includes analytical results for samples taken during the course of the work. The number and location of

samples are chosen to provide required information, but it cannot be assumed that they are entirely representative of all areas not sampled. All conclusions and recommendations are based on these analyses, observations, and the governing regulations. Conclusions beyond those stated and reported herein should not be inferred from this document.

These services were performed in accordance with generally accepted practices in the environmental engineering and construction field which existed at the time and location of the work.

Sincerely,
All Environmental, Inc.

Peter McIntyre
Project Geologist

J. P. Derhake, PE, CAC
Senior Author

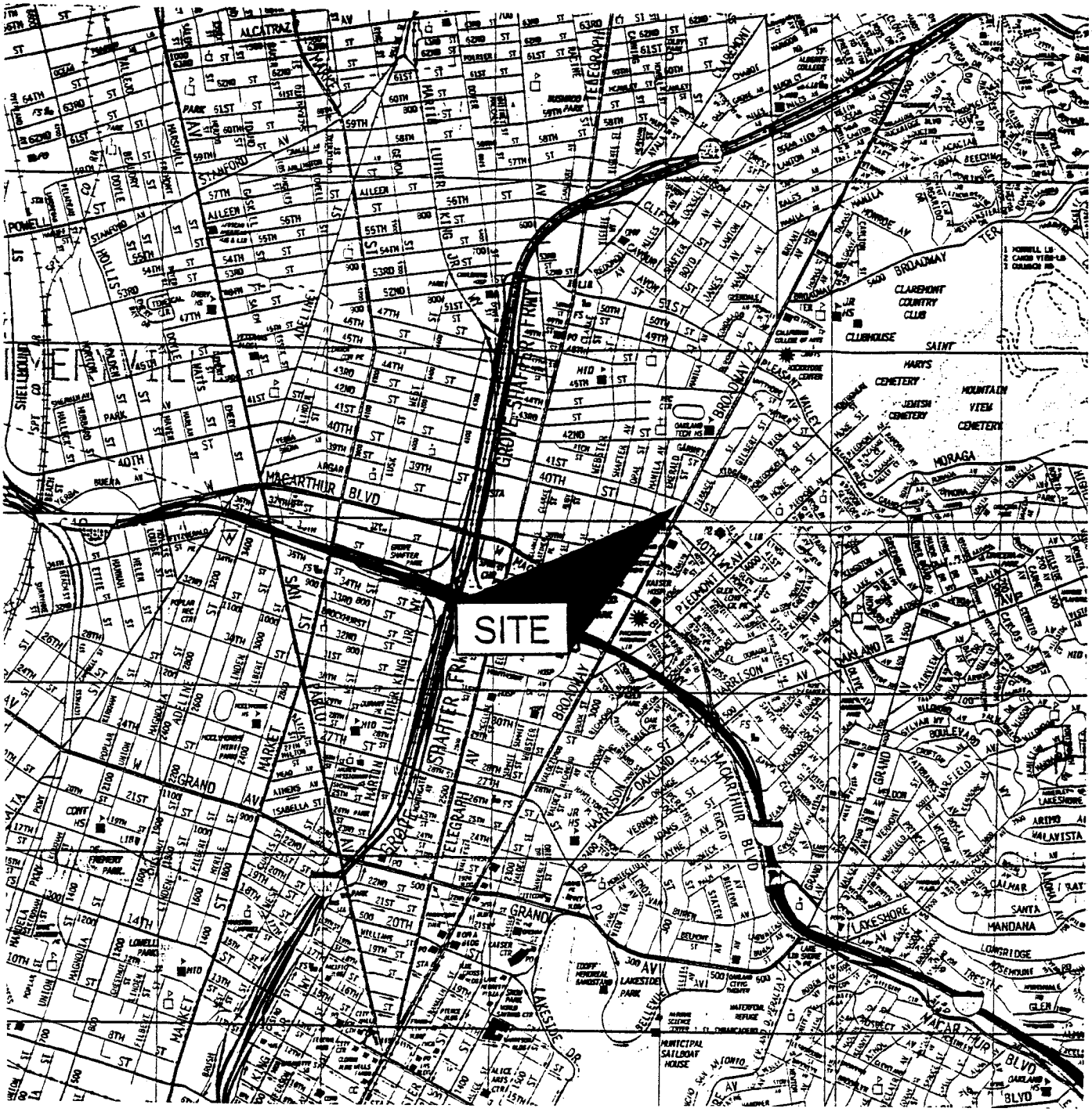
Figures

Figure 1	Site Location Map
Figure 2	Site Plan

Appendices

Appendix A	Groundwater Monitoring Well Field Sampling Forms
Appendix B	Current Laboratory Analyses With Chain of Custody Documentation

cc: Ms. Madhulla Logan, Alameda County Health Care Services Agency,
1131 Harbor Bay Parkway, Alameda, CA 94502



N

SOURCE:
THOMAS GUIDE 1997
SCALE : 1" = 2,400'

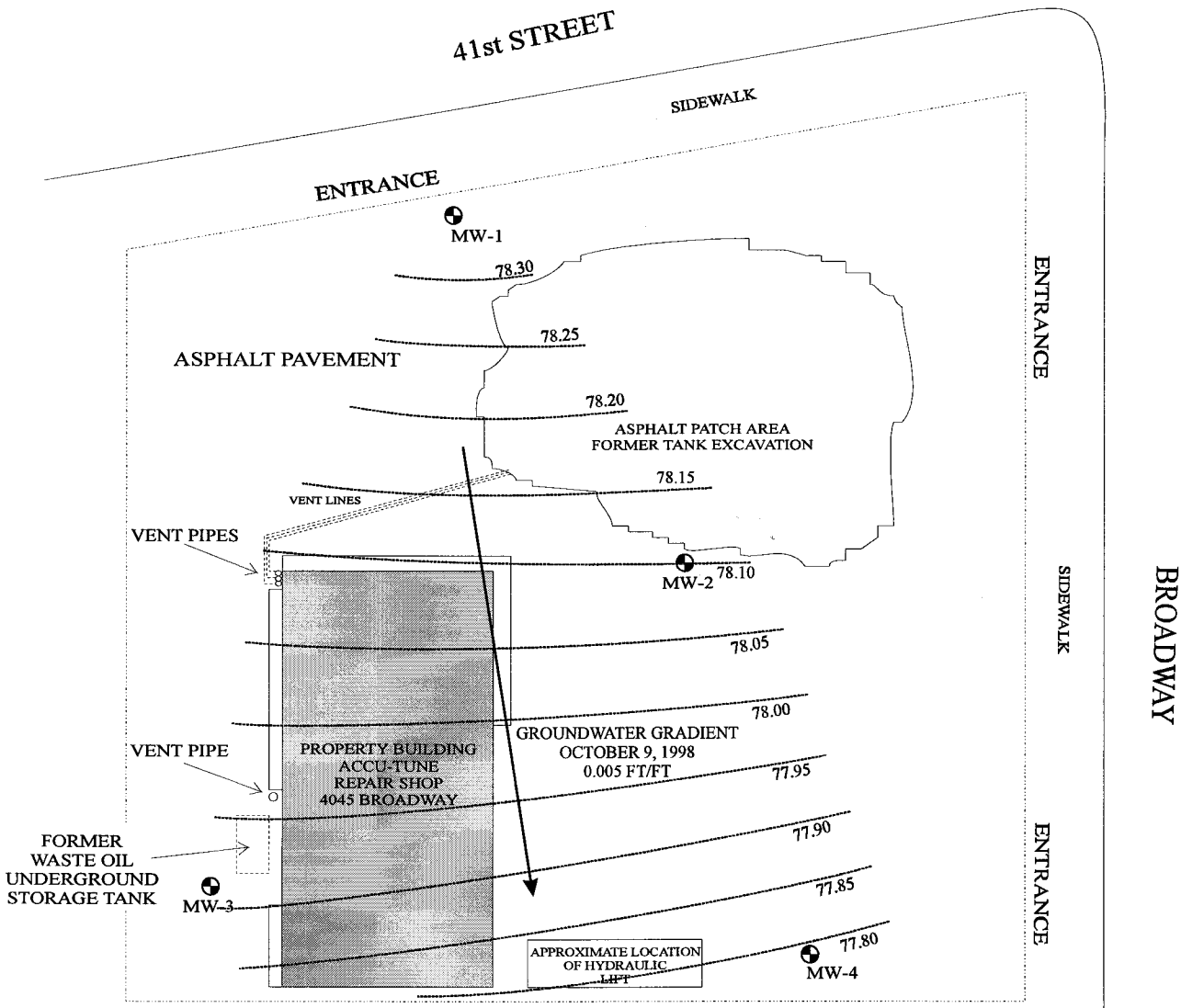
ALL ENVIRONMENTAL, INC.

901 MORAGA ROAD, SUITE C, LAFAYETTE, CA

SITE LOCATION MAP

4045 BROADWAY
OAKLAND, CALIFORNIA

FIGURE 1



KEY

- GROUNDWATER MONITORING WELL LOCATION
- 78.25 GROUNDWATER ELEVATION CONTOURS ELEVATION IN FEET ABOVE MEAN SEA LEVEL

N

ALL ENVIRONMENTAL, INC.

901 MORAGA ROAD, SUITE C, LAFAYETTE

SCALE: 1 IN = 20 FT		DRAWN BY: P. McINTYRE
DATE: OCTOBER 9, 1998		

WELL LOCATION MAP

4045 BROADWAY OAKLAND, CALIFORNIA	DRAWING NUMBER: FIGURE 2

Table 1
Groundwater Data

Well ID	Date	Well Elevation (ft msl)	Depth to Water (ft)	Groundwater Elevation (ft msl)
MW-1	9/24/96	86.98	8.75	78.23
	2/21/97	86.98	8.98	78.00
	9/24/97	86.98	8.76	78.22
	1/28/98	86.98	8.17	78.81
	5/15/98	86.98	8.11	78.87
	10/9/98	86.98	8.65	78.33
MW-2	9/24/96	87.93	9.90	78.03
	2/21/97	87.93	10.05	77.88
	9/24/97	87.93	9.95	77.98
	1/28/98	87.93	9.26	78.67
	5/15/98	87.93	8.20	79.73
	10/9/98	87.93	9.83	78.10
MW-3	9/24/96	87.94	10.20	77.74
	2/21/97	87.94	10.22	77.72
	9/24/97	87.94	10.19	77.75
	1/28/98	87.94	9.41	78.53
	5/15/98	87.94	9.38	78.56
	10/9/98	87.94	10.03	77.91
MW-4	9/24/97	87.10	9.41	77.69
	1/28/98	87.10	8.66	78.44
	5/15/98	87.10	8.61	78.49
	10/9/98	87.10	9.32	77.78

Notes: All well elevations are measured from the top of casing.
ft msl = feet above mean sea level

Table 2
Groundwater Sample Analytical Data

Well ID	Date	TPHg (µg/L)	TPHd (µg/L)	Total Oil & Grease (mg/L)	MTBE (µg/L)	Benzene (µg/L)	Toluene (µg/l)	Ethyl-Benzene (µg/l)	Xylenes (µg/l)
MW-1	9/24/96	190	110	NA	<5.0	<0.5	<0.5	<0.5	5.7
	2/21/97	<50	<50	NA	<5.0	<0.5	<0.5	<0.5	<0.5
	9/24/97	<50	<50	NA	<5.0	<0.5	<0.5	<0.5	<0.5
	1/28/98	<50	<50	NA	<5.0	<0.5	<0.5	<0.5	<0.5
	5/15/98	<50	<50	NA	<5.0	<0.5	<0.5	<0.5	<0.5
	10/9/98	**<50**	**<50**	**NA**	**<5.0**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
MW-2	9/24/96	18,000	6800	NA	170	440	1200	190	2200
	2/21/97	2,100	1,600	NA	27	71	82	30	110
	9/24/97	260	170	NA	<5.0	5.6	6.8	3.2	9.4
	1/28/98	990	500	NA	ND<25	74	33	21	66
	5/15/98	<50	<50	NA	<5.0	6.6	<0.5	<0.5	1.0
	10/9/98	**950**	**310**	**NA**	**ND<20**	**31**	**29**	**19**	**88.0**
MW-3	9/24/96	<50	<50	NA	<5.0	<0.5	<0.5	<0.5	5.7
	2/21/97	<50	<50	NA	<5.0	<0.5	<0.5	<0.5	<0.5
	9/24/97	<50	<50	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5
	1/28/98	<50	53	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5
	5/15/98	<50	<50	<5.0	<5.0	<0.5	<0.5	<0.5	<0.5
	10/9/98	**<50**	**<50**	**<5.0**	**<5.0**	**<0.5**	**<0.5**	**<0.5**	**<0.5**
MW-4	9/24/97	160	68	NA	ND<10	19	1.5	<0.5	18
	1/28/98	<50	<50	NA	9.3	6.1	0.65	<0.5	0.74
	5/15/98	<50	110	NA	<5.0	7.4	<0.5	<0.5	1.6
	10/9/98	**<50**	**<50**	**NA**	**6.3**	**5**	**<0.5**	**<0.5**	**<0.5**

TPHg - Total Petroleum Hydrocarbons as gasoline
TPHd - Total Petroleum Hydrocarbons as diesel
TOG - Total Oil & Grease
MTBE - Methyl Tertiary Butyl Ether
µg/L - Micrograms per Liter (ppb)
mg/L - Milligrams per Liter (ppm)
NA - Not analyzed

APPENDIX A

GROUNDWATER MONITORING WELL FIELD SAMPLING FORMS

ALL ENVIRONMENTAL INC. - GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-1

Project Name: Gong	Date of Sampling: October 9, 1998
Job Number: 1630	Name of Sampler: Peter McIntyre
Project Address: 4045 Broadway Avenue, Oakland	

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"
Seal at Grade -- Type and Condition	Concrete/ Good
Well Cap & Lock -- OK/Replace	OK
Elevation of Top of Casing	86.98
Depth of Well	18.30
Depth to Water	8.65
Water Elevation	78.33
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	4.63
4" casing: (TD - DTW)(0.65)(3)	
6" casing: (TD - DTW)(1.44)(3)	
Actual Volume Purged (gallons)	5
Appearance of Purge Water	Turbid

GROUNDWATER SAMPLES

Number of Samples/Container Size	2 - 40 ml VOAs, 1 - 1 liter bottle

Time	Vol Remvd (gal)	Temp (deg C)	pH	Cond (mS)	Comments
	2	69.4	7.36	636	Turbid
	4	70.3	10.76	609	
	5	69.5	1069	695	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

No Odor

TD - Total Depth of Well
DTW - Depth To Water

ALL ENVIRONMENTAL INC. – GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-2

Project Name: Gong	Date of Sampling: October 9, 1998
Job Number: 1630	Name of Sampler: Peter McIntyre
Project Address: 4045 Broadway Avenue, Oakland	

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"
Seal at Grade -- Type and Condition	Concrete/ Good
Well Cap & Lock -- OK/Replace	OK
Elevation of Top of Casing	87.93
Depth of Well	18.50
Depth to Water	9.83
Water Elevation	78.1
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	4.16
4" casing: (TD - DTW)(0.65)(3)	
6" casing: (TD - DTW)(1.44)(3)	
Actual Volume Purged (gallons)	5
Appearance of Purge Water	Light grey/brown – clears

GROUNDWATER SAMPLES

Number of Samples/Container Size	2 - 40 ml VOAs, 1 - 1 liter bottle

Time	Vol Remvd (gal)	Temp (deg C)	PH	Cond (mS)	Comments
	1	71.1	7.37	1357	
	3	70.9	10.48	1278	
	4	71.0	10.71	1252	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

No Odor

TD - Total Depth of Well
DTW - Depth To Water

ALL ENVIRONMENTAL INC. - GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-3

Project Name: Gong	Date of Sampling: October 9, 1998
Job Number: 1630	Name of Sampler: Peter McIntyre
Project Address: 4045 Broadway Avenue, Oakland	

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"
Seal at Grade -- Type and Condition	Concrete/ Good
Well Cap & Lock -- OK/Replace	OK
Elevation of Top of Casing	87.94
Depth of Well	19.70
Depth to Water	10.03
Water Elevation	77.91
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	4.64
4" casing: (TD - DTW)(0.65)(3)	
6" casing: (TD - DTW)(1.44)(3)	
Actual Volume Purged (gallons)	5
Appearance of Purge Water	Slightly turbid then clears

GROUNDWATER SAMPLES

Number of Samples/Container Size	2 - 40 ml VOAs, 2 - 1 liter bottles

Time	Vol Remvd (gal)	Temp (deg C)	pH	Cond (mS)	Comments
	2	68.1	7.41	794	
	3	68.0	10.67	777	
	5	68.0	10.69	800	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

No Odor

TD - Total Depth of Well
DTW - Depth To Water

ALL ENVIRONMENTAL INC. - GROUNDWATER MONITORING WELL FIELD SAMPLING FORM

Monitoring Well Number: MW-4

Project Name: Gong	Date of Sampling: October 9, 1998
Job Number: 1630	Name of Sampler: Peter McIntyre
Project Address: 4045 Broadway Avenue, Oakland	

MONITORING WELL DATA

Well Casing Diameter (2"/4"/6")	2"
Seal at Grade -- Type and Condition	Concrete/ Good
Well Cap & Lock -- OK/Replace	OK
Elevation of Top of Casing	87.10
Depth of Well	19.50
Depth to Water	9.32
Water Elevation	77.78
Three Well Volumes (gallons)*	
2" casing: (TD - DTW)(0.16)(3)	4.89
4" casing: (TD - DTW)(0.65)(3)	
6" casing: (TD - DTW)(1.44)(3)	
Actual Volume Purged (gallons)	5
Appearance of Purge Water	Slightly Turbid

GROUNDWATER SAMPLES

Number of Samples/Container Size	2 - 40 ml VOAs, 1 - 1 liter bottle

Time	Vol Remvd (gal)	Temp (deg C)	pH	Cond (mS)	Comments
	1	67.2	10.40	1019	
	3	67.1	10.33	1051	
	5	67.8	10.26	1164	

COMMENTS (i.e., sample odor, well recharge time & percent, etc.)

No Odor

TD - Total Depth of Well
DTW - Depth To Water

APPENDIX B

CURRENT LABORATORY ANALYSES WITH CHAIN OF CUSTODY DOCUMENTATION

McCAMPBELL ANALYTICAL INC.
110 Second Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

All Environmental, Inc. 901 Moraga Road, Suite C Lafayette, CA 94549	Client Project ID: #1638; Gong	Date Sampled: 10/09/98
		Date Received: 10/09/98
	Client Contact: Peter McInfyne	Date Extracted: 10/09/98
	Client P.O:	Date Analyzed: 10/09/98

10/16/98

Dear Peter:

Enclosed are:

1). the results of **4** samples from your **#1638; Gong** project,

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 Second Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

All Environmental, Inc.	Client Project ID: #1638; Gong	Date Sampled: 10/09/98
901 Moraga Road, Suite C		Date Received: 10/09/98
Lafayette, CA 94549	Client Contact: Peter McInfyne	Date Extracted: 10/09/98
	Client P.O:	Date Analyzed: 10/09-10/15/98

Gasoline Range (C6-C12) Volatile Hydrocarbons as Gasoline*, with Methyl tert-Butyl Ether* & 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)+	MTBE	Benzene	Toluene	Ethylben-zene	Xylenes	% Recovery Surrogate
96655	MW-1	W	ND	ND	ND	ND	ND	ND	105
96656	MW-2	W	950,a	ND<20	31	29	19	88	104
96657	MW-3	W	ND	ND	ND	ND	ND	ND	109
96658	MW-4	W	ND	6.3	5.0	ND	ND	ND	96
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	5.0	0.5	0.5	0.5	0.5	
		S	1.0 mg/kg	0.05	0.005	0.005	0.005	0.005	

* water and vapor samples are reported in ug/L, wipe samples in ug/wipe, soil and sludge samples in mg/kg, and all TCLP and SPLP extracts in ug/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 Second Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

All Environmental, Inc.	Client Project ID: #1638; Gong	Date Sampled: 10/09/98
901 Moraga Road, Suite C		Date Received: 10/09/98
Lafayette, CA 94549	Client Contact: Peter McInfyne	Date Extracted: 10/13/98
	Client P.O:	Date Analyzed: 10/13-10/14/98

Diesel Range (C10-C23) Extractable Hydrocarbons as Diesel *

EPA methods modified 8015, and 3550 or 3510; California RWQCB (SF Bay Region) method GCFID(3550) or GCFID(3510)

Lab ID	Client ID	Matrix	TPH(d)+	% Recovery Surrogate
96655	MW-1	W	ND	103
96656	MW-2	W	310,b,d	98
96657	MW-3	W	ND	100
96658	MW-4	W	ND	100
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	50 ug/L	
		S	1.0 mg/kg	

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

cluttered chromatogram resulting in coeluted surrogate and sample peaks, or; surrogate peak is on elevated baseline, or; surrogate has been diminished by dilution of original extract.

+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 diesel is significant; b) diesel range compounds are significant; no recognizable pattern; c) aged diesel? is significant); d) gasoline range compounds are significant; e) medium boiling point pattern that does not match diesel (?); f) one to a few isolated peaks present; g) oil range compounds are significant; h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5 vol. % sediment.

DHS Certification No. 1644

Edward Hamilton, Lab Director

McCAMPBELL ANALYTICAL INC.
110 Second Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

All Environmental, Inc. 901 Moraga Road, Suite C Lafayette, CA 94549	Client Project ID: #1638; Gong	Date Sampled: 10/09/98
		Date Received: 10/09/98
	Client Contact: Peter McInfyne	Date Extracted: 10/16/98
	Client P.O:	Date Analyzed: 10/16/98

Petroleum Oil & Grease (with Silica Gel Clean-up) *

EPA methods 413.1, 9070 or 9071; Standard Methods 5520 D/E&F or 503 D&E for solids and 5520 B&F or 503 A&E for liquids

Lab ID	Client ID	Matrix	Oil & Grease*
96657	MW-3	W	ND
Reporting Limit unless otherwise stated; ND means not detected above the reporting limit		W	5 mg/L
		S	50 mg/kg

* water samples are reported in mg/L, wipe samples in mg/wipe, soil and sludge samples in mg/kg, and all TCLP / STLC / SPLP extracts in mg/L.

h) lighter than water immiscible sheen is present; i) liquid sample that contains greater than ~5vol. % sediment.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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

QC REPORT FOR HYDROCARBON ANALYSES

Date: 10/09/98-10/10/98 Matrix: WATER

Analyte	Concentration (mg/L) Sample (#96429)	MS	MSD	Amount Spiked	% Recovery MS	MSD	RPD
TPH (gas)	0.0	89.8	89.5	100.0	89.8	89.5	0.3
Benzene	0.0	9.6	9.4	10.0	96.0	94.0	2.1
Toluene	0.0	9.8	9.6	10.0	98.0	96.0	2.1
Ethyl Benzene	0.0	9.9	9.8	10.0	99.0	98.0	1.0
Xylenes	0.0	29.7	29.5	30.0	99.0	98.3	0.7
TPH(diesel)	0.0	169	174	150	113	116	3.0
TRPH (oil & grease)	0	27900	27100	23700	118	114	2.9

% Rec. = (MS - Sample) / amount spiked x 100

RPD = (MS - MSD) / (MS + MSD) x 2 x 100

ALL ENVIRONMENTAL, INC.
901 Moraga Road, Suite C
Lafayette, CA 94549
(925) 283-6000 FAX: (925) 283-6121

Chain of Custody

12634 x Ale 308

DATE: 9/10 PAGE: ____ OF: ____

AEI PROJECT MANAGER: Peter McIntyre
PROJECT NAME: Cooney
PROJECT NUMBER: 1630
TOTAL # OF CONTAINERS: 13
RECD. GOOD COND./COLD: Cold / Good

ANALYSIS REQUEST

SAMPLE I.D.	DATE	TIME	MATRIX	TPH-Gasoline (EPA 5030,8015) w/ BTEX and MTBE (EPA 602,8020)	TPH-Diesel (EPA 3510/3550,8015)	TOTAL OIL & GREASE (EPA 5520 E&F)	VOLATILE HALOCARBONS (EPA 601 or 8010)	VOLATILE ORGANIC COMPOUNDS (EPA 8240)	TOTAL LEAD (AA) (EPA 7420)	LUFT Metals (EPA 7130,7190,7420,7520,7950)	STLC CAM 17 (EPA 1310/6010)	RCI REACTIVITY, CORROSIVITY, IGNITABILITY (Title 22 CCR 66261.21-3)	HOLD	NUMBER OF CONTAINERS
MW-1	10/9	11:00	W	X	X									3
MW-2	"		W	X	X									3
MW-3	"		W	X	X	X								4
MW-4	"		W	X	X									3

96655
96656
96657
96658

ICE/T ✓ VOAS | O&G | METALS | OTHER
GOOD CONDITION ✓ PRESERVATION ✓
HEAD SPACE ABSENT ✓ APPROPRIATE CONTAINERS ✓

ANALYTICAL LAB: McCampbell
ADDRESS:
PHONE: ( ) - FAX: ( ) -

INSTRUCTIONS/COMMENTS:

RELINQUISHED BY: 1	RECEIVED BY: 1	RELINQUISHED BY: 2	RECEIVED BY: 2
Signature	Signature	Signature	Signature
Peter McIntyre	Gina A. Butler		
Printed Name	Printed Name	Printed Name	Printed Name
AEI	MAI		
Company	Company	Company	Company
Time 5:30 Date 10/9	Time 6pm Date 10-9	Time ____ Date ____	Time ____ Date ____