# PCC Property Contamination Control, Inc.

2220 LIVINGSTON STREET, SUITE 208

OAKLAND, CALIFORNIA 94606

(415) 532-2442

Alameda County Health Agency Division of Hazardous Materials Department of Environmental Health 80 Swan Way, Room #200 Oakland, CA. 94621

October 26,1990

Attention; Mr. Dennis Byrne

RE: Project U552817 1461 Park Ave. Emeryville, CA.

Dear Mr. Byrne, attached you will find the groundwater monitoring well construction, initial sampling and evaluation repots on this subject property.

You will also find analytical results and estimates of the area and amount of contaminated soils on this site. I have fowarded this information as well as a proposal to remediate this site utilizing on site aeration of contaminated soils.

Sincerety

Ron Richmond

Property Contamination Control, Inc.

86:11 MA S- VON 08

# PCC Property Contamination Control, Inc.

2220 LIVINGSTON STREET, SUITE 208

OAKLAND, CALIFORNIA 94606

(415) 532-2442

# GROUND WATER MONITORING WELL CONSTRUCTION SAMPLING AND EVALUATION

PROJECT: 1461 PARK AVE. EMERYVILLE, CA.

Submitted by

Property Contamination Control, Inc.
Oakland, CA.
October 24,1990

# 1.0 INTRODUCTION

In March of 1990 two underground fuel tanks were removed from the property located at 1461 Park Ave. Emeryville, CA. During the removal process it was noted that one of the two tanks removed had failed. The material that had leaked into the soil ajacent to the tank was identified as gasoline. The contamination levels in the soil were sufficient to require the installation of groundwater monitoring wells. The work was performed to assess the impact of the gasoline contamination on the groundwater. Secondarily the work was designed to quantify the area of soil contamination in order to facilitate soil remediation.

The site is located about 1/3 of a mile north of Interstate 580 and about 1/2 mile east of the San Francisco Bay. This location is in the city of Emeryville, CA. on the southwest corner of Park Ave. and Horton street. Currently the site houses Western Brake Co., which is a distribution center for motor vehicle brake parts. The site has one concrete block single story building that almost covers the entire property. The remaining areas are covered with either asphalt or concrete.

# 2.0 DRILLING PROCEDURES

In August of 1990, a mobile B-61 drilling rig with 8" hollow stem augers drilled to 20.0 ft. depth below grade in three locations on the subject property. Two bores on the east side of the building and one bore on the west side of the building. The rig was steam cleaned prior to arrival on site. Undisturbed soil samples were collected at five foot intervals from 5-10 feet. with a hammer driven California split spoon sampler, which had also been precleaned. The borings were logged and sample and well construction procedures were documented.

From approximately grade to 5 feet gasoline odors were present in MW#1 bore. No odors were noted from any of the other bores or samples. First groundwater was encountered at about 6.5 feet. from about 9-20' depth the soil was primarily clay and the borings were terminated.

# 3.0 WELL CONSTRUCTION PROCEDURES

Upon completion of drilling, three 2" schedule 40 PVC wells were installed, in three locations at the site, to a depth of 20 feet total depth each. Fifteen feet of .010" slotted casing with threaded bottom caps were followed by 5 feet of blank casings in each well bringing the wells up to grade. The wells were sanded with #3 sand through the augers, from 20 feet up to 7 feet in depth. About 11/2 feet of bentonite pellets followed with water for activation of the pellets. The remainder of the borings were filled to grade with cement/bentonite grout, and 8" street covers were installed along with locking inner caps.

# 4.0 SAMPLING PROCEDURES

The soil samples were collected in 2"x6" precleaned brass tubes and sealed with foil, plastic caps and tape. The sampler was cleaned with TSP solution and rinsed with tap water between samplings. The samples were put into a cooler on ice and transported and put under refridgeration then transported on ice to a State Certified Analytical Laboratory for analysis following chain of custody procedures.

The completed well was developed and sampled by Alpha Chemical and Biomedical Laboratories . Their report of methods and analytical results are attached to this report.

# 5.0 SAMPLE ANALYSIS

All soil samples obtained on August 11 and 12,1990 were analyzed for total petroleum hydrocarbons as gasoline, by EPA method 5030/CA. Dept of Health Services method, LUFT manual and BTXE by EPA method 602/8020.

The groundwater samples obtained on August 26,1990 were analyzed for total petroleum hydrocarbons as gasoline, by EPA method-5030/CA-Dept. of Health Services method, LUFT manual and BTXE by EPA method 5030/8020. All analytical results are attached to this report.

# 6.0 MANUAL SOIL GAS PROBES

In combination with the bores that were later converted into the 3 groundwater monitoring wells, four 3/4" x 10' manual borings were performed. The bores were made using a Fisher stainless steel hand boring instrument. The purpose of these bores was to visually and with the human nose, test the soil for discoloration and evidence of gasoline odors. The bores were probed into the soil from grade to a maximum depth of 10 feet. The probe was checked at about one foot intervals and cleaned before resuming each probed foot of depth. Soil probe locations are shown in the attached area and cross section drawings. Only one of the four probes [sb#2] showed evidence of gasoline odors in the soil. The aromatic soil was seen from approximately 1 foot to a 5.5 foot depth. This information corrolates to the information obtained in the monitoring well bores and resultant soil samples.

# 7.0 CONCLUSIONS

All evidence obtained in the process of tank removal soil and water samples, monitoring well soil and water samples and soil odor probes indicates limited soil and groundwater gasoline contamination. The evidence appears to indicate that a wicking action of the gasoline wicked from the location of the leaking tank into the shallow soils ajacent to the tank and above the shallow groundwater. The area around the tank having been capped by asphalt appears to have limited the hydrogeological head pressure and limited the extent and migration of the contamination into the shallow groundwater.

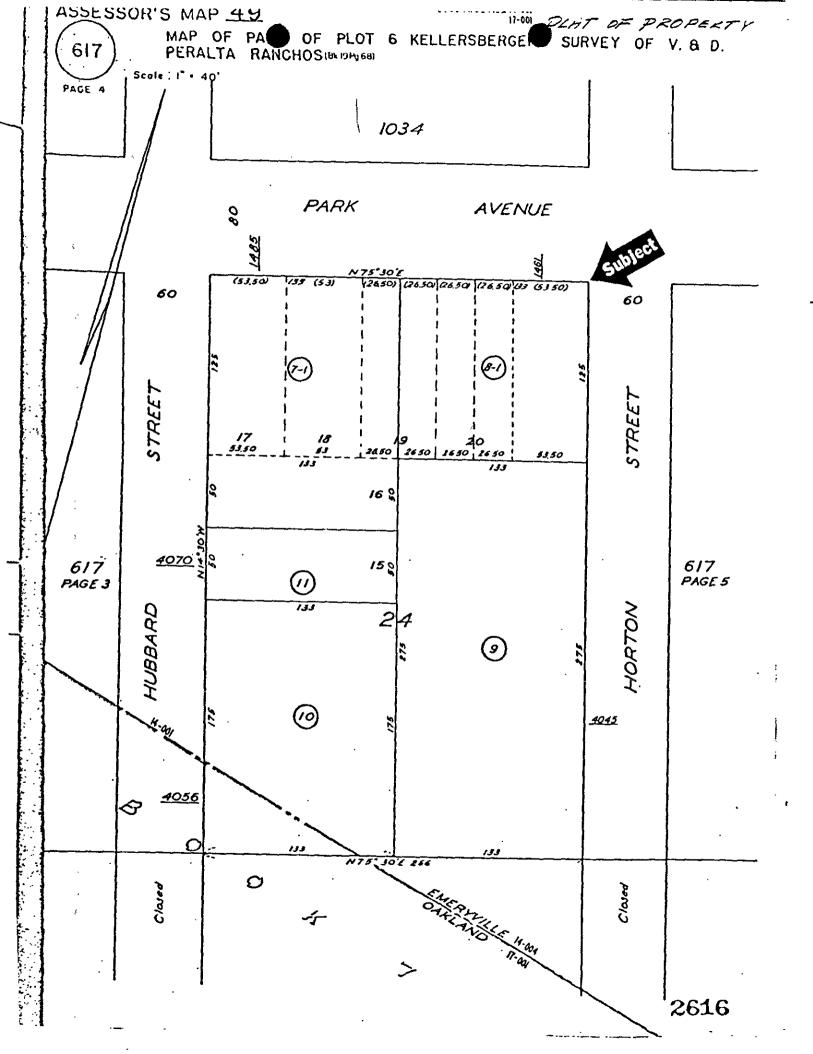
# 8.0 RECOMMENDATIONS

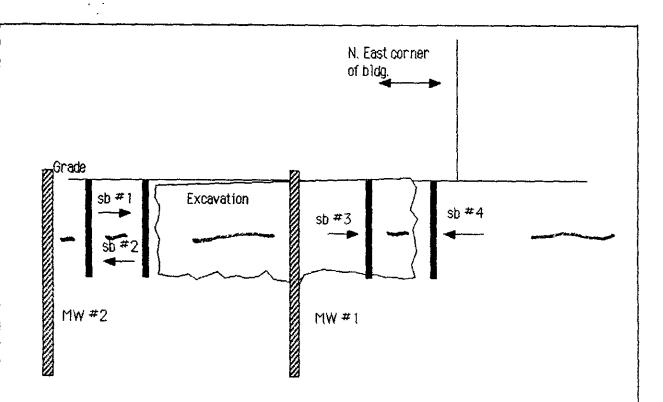
Soil remediation is recommended in the shallow soil area in the southeast corner of the original excavated tank pit including the tank pit soil. The soil depth to groundwater is relatively shallow in this area , depth of soils above the saturation zone are about 6.0 feet to 7.0 feet. If allowed, we recommend excavation of these soils and aeration of same on site. Aeration can be accomplished to bring the approximately 1580 ppm levels down below acceptable levels. Once levels are brought under limits the soils can be returned to the excavated pit areas and the site can be restored to prior surface conditions. The groundwater monitoring wells should then be sampled quarterly ,from a date starting after soil remediation has been completed, for a period of at least one year to monitor the condition of the groundwater. The groundwater samples should be analyzed using the same methods/ protocol as the earlier analyses. If future analyses show that groundwater has not only not been further impacted but has significantly been reduced in hydrocarbon levels, then perhaps periodic monitoring can be discontinued.

PROJECT; 1461 Park	Ave. Emer	yville, CA.	MW *	1
SOILS DESCRIPTION	Graphic symbol	Well Completion	НВ	REMARKS
Clay dark brown silty gravelly 20-30% gravels  Clay dark brown sandy gravelly moist to wet  Clay gray silty gravel mixed wet  Clay gray silty gravel mixed wet  Clays gray to brown mixed wet to moist  Clays gray to brown mixed wet to moist  Clays gray to brown mixed moist		5 - 10 - 15 - 20 - 25 - 30 - 30 - 30 - 30 - 30 - 30 - 30 - 3	ptld cement benonite pellets	locking well cover 2" schedule 40 pvc blank  soil sample 5' gasoline oder saturation zone prox 6.5 'to 7'.  soil sample 10' no odor  2" schedule 40 p 0.01" slotted

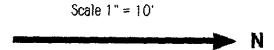
PROJECT; 1461 Park Ave. Emeryville, CA. MW # 2						
SOILS	DESCRIPTION	Graphic symbol	Well Completion	НВ	REMARKS	
3 - 3i 3 - 3i 4 - 5 - 6 6 - 3i 7 - 8 9 - 6i 10 - 11 - 12 - 13 - 14 - 15 - 6 16 - 17 - 18 - 19 - 20 - 6	lay dark brown ilty gravelly 20- 0% gravels lay dark brown andy gravelly moist o wet lay gray silty ravel mixed wet clays gray to brown nixed wet to moist clays gray to brown nixed moist		5 10-15 20-25	ptld cement benonite pellets	locking well cover 2" schedule 40 pvc blank  soil sample 5' no odor  saturation zone prox 6.5 'to 7.5'  soil sample 10' no odor  2" schedule 40 pvc 0.01" slotted	
PROPERTY	CONTAMINATION CO	ONTROL, INC.	logged	by: flich	date logged: 9/11/20	

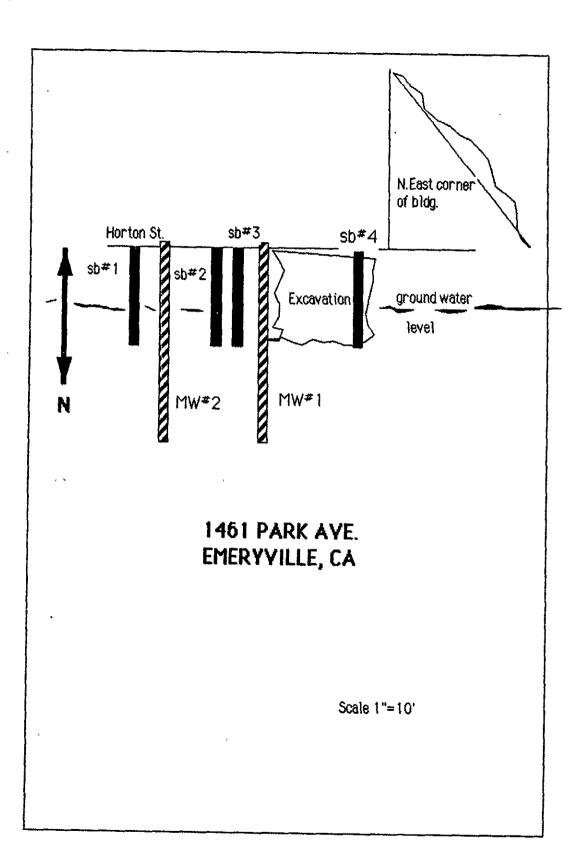
PROJECT; 1461 Park Ave. Emeryville, CA. MW * 3							
SOILS DESCRIPTION	Graphic symbol	Well Completion	НВ	REMARKS			
Clay dark brown silty gravelly 20-30% gravels  Clay dark brown sandy gravelly moist to wet  Clay gray silty gravel mixed wet  Clay gray silty gravel mixed wet  Clays gray to brown mixed wet to moist  Clays gray to brown mixed wet to moist  Clays gray to brown mixed moist	35333333	5 10- 15 20- 25-	ptld cement benonite pellets	locking well cover 2" schedule 40 pvc blank  soil sample 5' no odor  saturation zone prox 6.5 'to 7.5'  soil sample 10' no odor  2" schedule 40 pvc 0.01" slotted			
PROPERTY CONTAMINATION CO	ONTROL, INC	. logged	by: Ploh	date logged: 9/12/90			

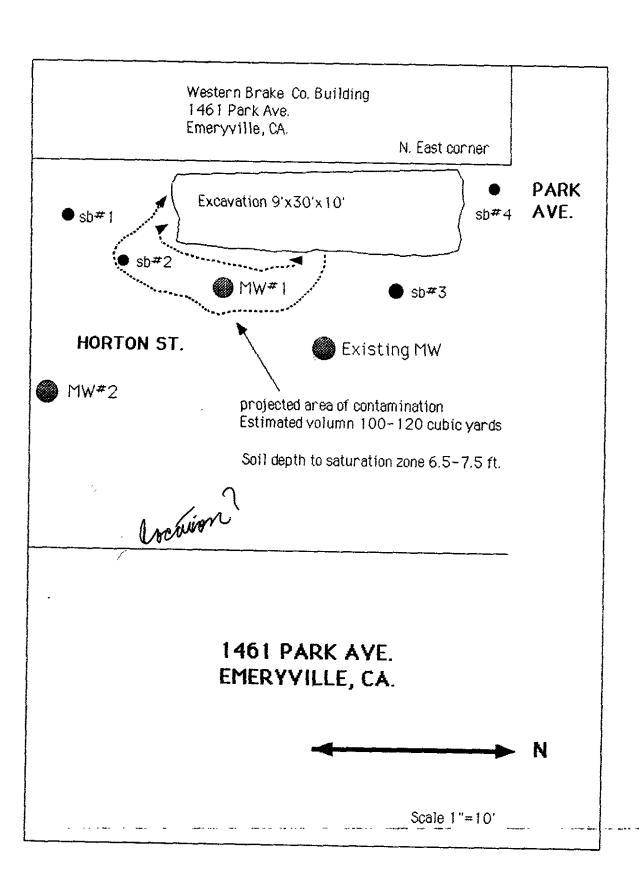




1461 PARK AVE. EMERYVILLE, CA







# CHROMALAB, INC.

Analytical Laboratory Specializing in GC-GC/MS

· Environmental Analysis

 Hazardous Waste (#E694)

Drinking Water

(#955)

Waste Water

Consultation

September 19, 1990

ChromaLab File No.:

0990048

AQUA SCIENCE ENGINEERS, INC.

Attn: Ron Richmond

RE: Six soil samples for Gasoline/BTEX analysis

Project Location: 1461 PARK AVE., EMERYVILLE

Date Sampled: Sept. 11-12,1990

Date Submitted: Sept. 12, 1990 Date Extracted: Sept. 14-18,1990 Date Analyzed Sept. 14-18, 1990

## RESULTS:

Sample No.	Gasolline (mg/Kg)	Benzene (µg/Kg)	Toluene (µg/Kg)	Ethyl Benzene (µg/Kg)	Total Xylenes (ug/Kg)
MW #I, SAMPLE 1 MW #I, SAMPLE 2 MW #II, SAMPLE 1 MW #II, SAMPLE 2 MW #III, SAMPLE 1 MW #III, SAMPLE 2		5000 93 14 35 5.1 N.D.	2200 N.D. N.D. N.D. N.D.	3100 N.D. N.D. N.D. N.D.	4900 N.D. N.D. N.D. N.D.
BLANK SPIKE RECOVERY DUP SPIKE REC. DETECTION LIMIT METHOD OF ANALYSIS	N.D. 98.7% 91.1% 2.5 5030/ 8015	N.D. 86.1% 89.3% 5	N.D. 92.5% 89.7% 5	N.D. 94.4% 90.0% 5	N.D. 93.5% 107.6% 5

ChromaLab, Inc.

David Duong

Senior Chemist

Estetam (by 00)

Eric Tam

Laboratory Director

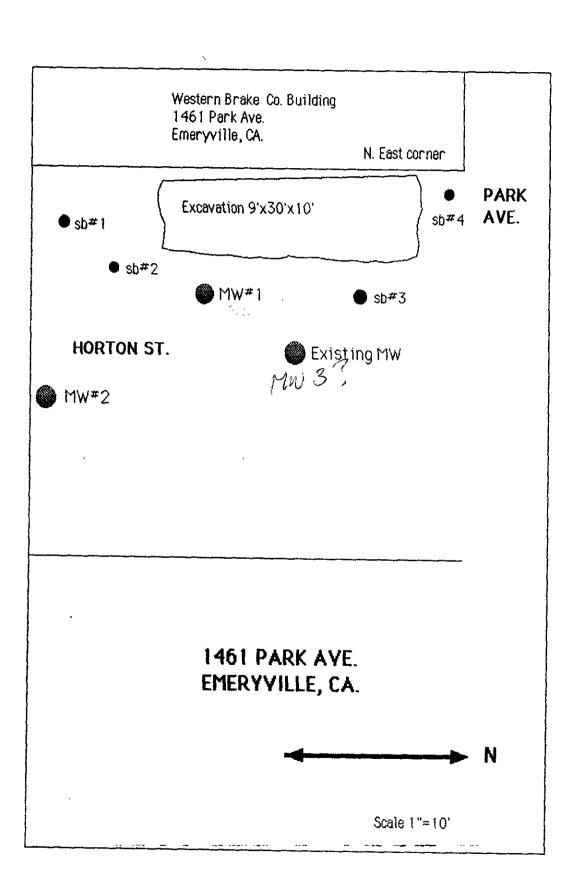


Aqua Science Engine

P.O. Box 535, San Ramon, CA 94583 • 415-820-9391

Chain of Custody

DATE 09/12/90 PAGE 01 OF ANALYSIS REQUEST NUMBER OF CONTAINERS COMPANY 2220 Livingitim St ADDRESS PRICRITY POLLUTANT METALS (13) CAN NETALS (18) W/Cr VI SAMPLERS ISIGNATURES (PHONE NO.) 532-2442 TIME MATRIX LAB (D. DATE SAMPLE ID. 10 pw ma 01 CHROMALAB FILE # 990048 MW I Sample 1 1210 MW #II SAMPL 2 15 Br 834 'MM RELINQUISHED BY RELINQUISHED BY RELINQUISHED BY SAMPLE RECEIPT **PROJECT INFORMATION** a mm 06 PROJECT. TOTAL NO. OF CONTAINERS (Time) (Signature) (Signature) (Time) (Signature)
Ron Richmond (Time) CHAIN OF CUSTODY SEALS PO NO REC'D GOOD CONDITION/COLD (Printed Name) (Date) (Date) (Printed Name) (Printed Name) BHIPPING ID NO. CONFORMS TO RECORD (Company) (Company) LAB NO. (Company) VIA. RECEIVED BY (LABORATORY) RECEIVED BY RECEIVED BY dandano SPECIAL INSTRUCTIONS/COMMENTS: (Time) (Signature) (Time) (Time) (Signature) DUONO (Signature) Normal TAT DOVID 09/11/190 DATE (Printed Name) (Date) (Printed Name) (Printed Name) Promalab (LAB) Tue (Company) (Company)



PROPERTY CONTAMINATION CONTROL RE: Western Brake Building October 12, 1990 Page 3

# Analysis:

Total Petroleum Hydrocarbons as gasoline, by EPA Method 5030/Ca. Dept. of Health Services method, LUFT Manual.

Analysis date: 10/9/90.
BTXE by EPA Method 5030/8020.
Analysis date: 10/9/90.

Results:	MW	MW	
	# 0163 	# 0164 _μg/L	Detection <u>Limit µg/L</u>
Benzene	1,8	209	0.3
Toluene	1.1	33.7	0.3
Xylenes	3.3	128	0.6
Ethylbenzene	ND	5.4	0.3
Total Petroleum Hydrocarbons, as gasoline	ND	1200 ~	50

	MW3	
	# 0165 _#g/L	Detection <u>Limit μg/L</u>
Benzene	(5.7)	0.3
Toluene	ND	0.3
Xylenes	ND	0.6
Ethylbenzene	ND	0.3
Total Petroleum Hydrocarbons, as gasoline	ND	50

ND = None Detected

# WESTERN BRAKE 1461 Park Avenue Emeryville, CA

Park Avenue

Alpha Chemical & Biomedical Labs 245 Kentucky Street Petaluma, CA 94952 (707) 778-8607 10/12/90

Horton A	Avenue
onitoring Vell # 2	Monitoring Well # 1
WE	STERN BRAKE
lley	Monitoring Well # 3



# ALPHA CHEMICAL & BIOMEDICAL LABORATORIES

Joe E. Hodgkins, Ph.D. Director

October 12, 1990

PROPERTY CONTAMINATION CONTROL Attn: Ron Richmond 2220 Livingston Street, Suite 208 Oakland, CA 94606

REPORT

MONITORING WELL ANALYSIS
RE: WESTERN BRAKE BUILDING, EMERYVILLE

# Sample Identification:

Location : Western Brake, 1461 Park Ave., Emeryville.

See Map.

ACBL Sample # 0162 : Field blank.

# 0163 : Monitoring well # 1.

# 0164 : Monitoring well # 2.

# 0165 : Monitoring well # 3.

Date sampled : 9/26/90, 10:30 am to 2:00 pm by Scott

Forbes, ACBL chemist. See Chain of

Custody.

Received in Lab : 9/26/90, 4:12 pm.

#### Sample Collection:

#### Cleaning

Groundwater purging and sampling were performed with pre-cleaned PVC and teflon bailers. The bailers were triple rinsed (utilizing tap water, trisodium phosphate mixed with water, and a final rinse of distilled water) prior to purging or obtaining a water sample from each well.

#### Water

Before purging the first well (# 1), a field blank was prepared by filling a pre-cleaned teflon bailer with purified water and

PROPERTY CONTAMINATION CONTROL RE: Western Brake Building October 12, 1990 Page 2

then pouring the water into a 40 ml VOA vial. Once the field blank was prepared, groundwater samples were obtained with the same teflon bailer.

Prior to groundwater purging and sampling, the initial depth to water was measured and approximately three to five well volumes of water was evacuated from the well (well purging). While purging, the groundwater was monitored for pH, conductivity and temperature was monitored. Once well purging was complete, two 40 ml VOA vials of groundwater were obtained from each well. Immediately after filling the vials they were carefully capped so that no headspace was created. Once capped, the samples were labeled, sealed in plastic bags, immediately placed on ice and transported to Alpha Chemical & Biomedical Laboratories, Inc. under chain-of-custody protocol for laboratory analysis.

## Field Analysis Procedure:

## Odor

No odor was noted while sampling any of the wells.

### Color

All samples exhibit a distinct yellow-green color.

## Conductivity, pH, Temperature

The conductivity, pH and temperature were measured during the purging of the wells (prior to sampling). The pH meter was calibrated and the slope was set (utilizing pH 4 and 7 standards) prior to monitoring and purging the first well.

### <u>Initial Depth of Groundwater</u>

The elevation of the groundwater was determined by physical measurement from the top of the well casing to the bottom of the bailer as it first touched the water.

## Turbidity

After allowing the samples to settle, the water derived from the monitoring wells was of high clarity and contained less than 2% suspended solids. The solids were brown to light brown grey in color.

PROPERTY CONTAMINATION CONTROL RE: Western Brake Building October 12, 1990 Page 4

OA/OC Data:	Percent Recovery Spike	Relative Percent Difference Duplicate
Benzene	97 %	5.3 %
Toluene	101 %	
Xylenes	101 %	
Ethylbenzene	91 %	
Total Petroleum Hydrocarbons, as gasoline	118 %	

Jee E. Hodgkins, Ph.D., C.T. Laboratory Director

Enclosures (Chain of Custody, Well Data Sheets, & Map) pcc.rpt

# WELL DEVELOPMENT/PURGING/BAMELING DATA

Project & Well # _	PCC "Wester	n Brake" well #1 (	South to	*2)		
Date <u> 9/26/90</u> We	eather <u>Fair</u>	Field Sampler 5.	Forbes			
Total Depth of Wel	1 (DT) <u>19-9</u>	Radius of Casi	ing _/"			
Initial Depth of Groundwater (DGW) 4-5"						
Depth of Column of Water (DT - DGW) 15-4"						
Well Volume 2.5	$Gal = (\pi \cdot R^2)$ where F	) x (Column of Water) and column of water a	x (7.5 Gal/) ire in feet	Ft <sup>3</sup> )		
Type of Extraction	Equipment					
Bailer	Purge - PVC	Sampling - Teft	on			
Bladder Pump						
Surface Pump						
Other						
Amount of Water Re	moved 10 Ge	l	······································			
Depth of Water Aft	er Removal and	or Sampling		<del></del>		
Water Removed	рH	Conductivity $(\mu mhos/cm)$	Tempera (°C)			
2 G.L	6.66	2380	<u>75</u>			
4 Gal	6.58	2450	70			
L Gal	6.60	2320	70			
8 Gul	6.66	2380	フム			
10 bal	6.65	2380	70			
Type of Samples Ta	ken water					
Indication of Cont						
Frothing	one					
Iridescence _	None					
Oil None						
Smell Norm	<u> </u>					
Other <u>Color</u>	: yellow -	Green < 2% 500	lils			
Cleaning Procedure	s					
Source of Wate	er <u>  [ Gal</u>	Tag Tap water	Clean # 1	linea		
Type of Rinse	4	Tag Tap Water 1% TSP	H	-A		
Materials (Ro	pe, Tape, Etc.	" D.I. Water	(1	<u> </u>		
ALPHA CHENICAL & BIOMEDICAL	JOB NO.	WELL SAMPLING	DATA	PLATE		
	BY	Western Blake				
MULT.		1461 Park AVE Emery Ville CA				
LABORATORIES, INCORPORATED	LICENSE	Emeryville -A	<u> </u>			

# WELL DEVELOPMENT/PURGING/SAMPLING DATA

Project & Well # _	PCC "Wester	1 Brake " Well # Z	· ( Harton the )			
Date 9/24/90 We	eather Fair	Field Sampler5.6	-o-kee			
		Radius of Casing	31"			
Initial Depth of G						
Depth of Column of						
Well Volume $2.22$ Gal = $(\pi \cdot R^2)$ x (Column of Water) x (7.5 Gal/Ft <sup>3</sup> ) where R and column of water are in feet						
Type of Extraction						
Bailer	Pungi - PUC	Sampling - Teflon				
Bladder Pump						
Surface Pump						
Other						
Amount of Water Re						
Depth of Water Aft	er Removal and/	or Sampling 4-7"				
Water Removed	РĦ	Conductivity (µmhos/cm)	Temperature (°C)			
26el	4.76	2220	74(F)			
4	6.74	2200	70 (°F)			
6	4.65	2170	69			
8	6.68	2220	69			
	6.65	2170	69			
Type of Samples Ta	ken Water	2160	69			
Indication of Cont						
Frothing	lone					
Iridescence _	Done					
0il None	•					
Smell Now						
		5 rean < 20/0 Sol	Da			
Cleaning Procedure	s					
Source of Wat	er 162 Ju	g - Tap Water - 1 - 1% TSP -	linse # Clean			
Type of Rinse	.;	- 1% T3P -	и			
Materials (Ro	pe, Tape, Etc.)	"- D.I. Water-				
ALPHA CHENICAL & BIOMEDICAL	JOB NO.	WELL SAMPLING DA	TA PLATE			
		WESTERN BRAKE	•			
Nulla	ВУ	1461 Park Ave.				
LABORATORIES, INCORPORATED	LICENSE	Emergille CA.				

		•	T 411 -11 0 1 A
Project & Well # _	PCC " Western	Brake" well #	In Alley off Park Au Behind WB Build
Date 9/26/70 We	ather Fair	Field Sampler	5. Forhes
Total Depth of Wel	1 (DT) <u>20-4</u>	Radius of Ca	sing/
Initial Depth of G			
Depth of Column of	Water (DT - DGW	1) 15-6"	
Well Volume 2.54	Gal = $(\pi \cdot R^2)$ where R a	x (Column of Water) ind column of water	x (7.5 Gal/Ft <sup>3</sup> ) are in feet
Type of Extraction			
Bailer	Purge - PVC	Sampling -	Teflon
Bladder Pump	<u> </u>	• 0	
Surface Pump			
Other			
Amount of Water Re	moved 12 Gal		
Depth of Water Aft		or Sampling	
Water Removed	рн	Conductivity (µmhos/cm)	Temperature (°C)
2 6el	6.55	2400	71 (°F)
. 4	6.64	2270	69.5
	6.67	2360	69
8	6.68	2450	69
10	4.69	2400	69
Type of Samples Tal	ken <u>vater</u>	2390	69
Indication of Conta	amination		
Frothing	Jone		
Iridescence _	None		
Oil	- None.		
Smell	mal		
Other Color	: Gellow- (-	near <2%	Tolids
Cleaning Procedures			
Source of Wate	er 16al Jug	- Tap Water -	Clear & Ringe
Type of Rinse	***	- Tap Water - - 1% TSP -	4
Materials (Rop	pe, Tape, "Etc.)	- D.I. Weter	
ALPHA CHENICAL & BICHEDICAL	JOB NO.	WELL SAMPLING	DATA PLATE
	. Pv	Western Blak	
Null	BY	1461 Park Ave	· · · · · · · · · · · · · · · · · · ·
LABORATORIES, INCORPORATED	LICENSE	Emeryville co	9



# ALPHA CHEMICAL & BIOMEDICAL LABORATORIES

CLIENT	ADDRES PHONE: OJECT: MPLER (	S: 2220 Oa (4 Western signatur	kland (A 15) 532	Suite 208 94606 -2442 Park Ave, Emergrille CA	NO. of Containers			1500 A 80 A 1000					REMARKS/ SAMPLE CONDITION ON RECEIPT
-	ACBL AMPLE NO.	COLLECTED  Bate/Time  9/26/90	SAMPLE		1	<b>/</b>		4			/		1.1.6
	0162	10:30	Field Bl	ank	1	()	$\Theta$						4 Viats of Tetlon
<b>)</b>	0163	11:30 (ii)	MW-1		2	$\triangle$						septa	
(	0164	12:30	MW-2		2	X	X						
	0165	2: m	MW-3		2	X	X					Sampled	a/ Bailer
	_											3 well or	olumna then
												constant	pH, Conductivity
												g*	Tany.
													Ţ
	elinguished Scott Fo	by (signature)	Pate/Time	Received by (signature):				<u> </u>	(sign			Date/Time	Received by (signature):
R	elinquished 8	by (signature)	: Date/Time	Received by (signature):	1	Cal	egei vi	d ja	Labor	etory	by (	signature):	Matertine 9/26/20 4:12 pm
	EMARKS Samples	Cold or	n ice				/						