

Chevron U.S.A. Inc.

2410 Camino Ramon, San Ramon, California • Phone (415) 842-9500 Mail Address: RO. Box 5004, San Ramon, CA 94583-0804

Marketing Operations
D. Moller
Division Manager, Operations
S. L. Patterson
Area Manager, Operations
C. G. Trimbach
Manager, Engineering

June 21, 1989

Ariu Levi Alameda County Environmental Health 470 27th Street, Room 324 Oakland, California 94612

Re: Former Chevron Bulk Plant #1001067

1520 Powell Street Emeryville, California

Dear Mr. Levi:

Enclosed are the results of the quarterly ground water sampling conducted by Western Geologic Resources at the above referenced site. As indicated in the report, all water samples were analyzed for total purgeable petroleum hydrocarbons (TPH) and aromatic hydrocarbons (BTEX). In order to track the natural degradation of hydrocarbons in the groundwater beneath the site, Chevron will continue to monitor the site on a quarterly basis.

I declare under penalty of perjury that the information contained in the attached report is true and correct, and that any recommended actions are appropriate under the circumstances, to the best of my knowledge. If you have any questions or require additional information, please contact Lisa Marinaro at (415) 842-9527.

Sincerely, D. Moller

y U) Wa Marinaro, Engineer

cc: Tom Callaghan
California Regional Water
Quality Control Board
1111 Jackson Street
Oakland, California 94607



WESTERN GEOLOGIC RESOURCES INC.

2169 E. FRANCISCO BLVD., SUITE B./ SAN RAFAEL CALIFORNIA 94901 / FAX 415.457.8521 TELE 415.457.7595

90 JUL 25 AM 10: 40

23 July 1990

Mr. Dennis Byrne Alameda County Health Department Hazardous Materials Group 80 Swan Way, Suite 200 Oakland, California 94621

Re: Proposed Site Closure Former Chevron Asphalt Plant 1520 Powell Street Emeryville, California WGR Project #1-045

Dear Mr. Byrne:

As discussed during our telephone conversation of 31 May 1990, Western Geologic Resources, Inc. (WGR), on behalf of Chevron, USA, is transmitting the attached Closure Plan and background material for the former Chevron asphalt plant in Emeryville, California. An expanded Soils Remediation Report is being transmitted under separate cover.

As previously noted, the next step in the proposed closure of the site is a review by Alameda County. If you have questions concerning this review, or require any additional information concerning the site, please contact Christopher Alger at (415) 457-7595.

Sincerely,

Western Geologic Resources, Inc.

witch S. Oly

Christopher S. Alger Project Geologist

CSA:va

cc: Lisa Marinaro-Backlund, Chevron USA

ATTACHMENTS

Site Closure Plan Additional Subsurface Investigation Soil Sampling Correspondence

045L1JL0.va

WESTERN GEOLOGIC RESOURCES, INC.

2169 E. FRANCISCO BOULEVARD, SUITE B SAN RAFAEL, CALIFORNIA 94901 415/457-7595 FAX: 415/457-8521

QUARTERLY MONITORING REPORT

Abandoned Chevron Asphalt Plant and Terminal 1520 Powell Street Emeryville, CA

Prepared For

Chevron USA 2410 Camino Ramon San Ramon, CA

JUN 2 6 '89 H.C.H.

June 1989

QUARTERLY MONITORING REPORT

Abandoned Chevron Asphalt Plant and Terminal 1520 Powell Street Emeryville, CA

Prepared For

Chevron USA 2410 Camino Ramon San Ramon, CA

Prepared By

Western Geologic Resources, Inc. 2169 E. Francisco Blvd. San Rafael, CA

Thomas M. Howard Project Geologist

Sherwood Lovejoy Jr.

President/ Senior Hydrogeologist

John E. Crawford Senior Geologist CRG # 2635

No.002635 Exp. 6-30-90 JUN 2 6 '89 H.C.H.

CONTENTS

	<u>Pg. No.</u>
Introduction	1
Background	2
Groundwater Sampling	3
Analytic Results	4
Groundwater Flow	5
Summary	6

045R2JN9 i

FIGURES

- 1. Site Location Map
- 2. Monitoring Well Locations with Total Purgeable Petroleum Hydrocarbon Concentrations in Shallow Groundwater
- 3. Distribution of 1,2-Dichloroethene in Shallow Groundwater
- 4. Distribution of Vinyl Chloride in Shallow Groundwater
- 5. Potentiometric Surface of the Shallow Water-Bearing Zone



- 1. Analytic Results of Groundwater Sampling
- 2. Potentiometric Data for Shallow Groundwater

iii



- A. SOP-4: Groundwater Purging and Sampling
- B. Chain-of-Custody Forms
- C. Laboratory Reports
- D. Laboratory Quality Assurance Reports

i۷

1. INTRODUCTION

The scope of work for this project is:

- 1. Measure depth-to-water, depth-to-product, product-thickness, and well-bore volume in all groundwater monitoring wells and produce a potentiometric surface contour map based on liquid level measurements;
- 2. Collect water samples from the monitoring wells for analysis of total purgeable petroleum hydrocarbons (TPPH), aromatic hydrocarbons and purgeable priority pollutants by EPA Method 8260, gas chromatograph/mass spectroscopy, metals (cadmium, chromium, lead and zinc) by EPA Method 7131/7191/7421/7950 and petroleum-based oil and grease by EPA Method 503E;
- Start a database for water-level/product-level/productthickness measurements and for chemical data;
- 4. Produce distribution maps of total purgeable petroleum hydrocarbons (TPPH), 1,2-dichloroethene (1,2-DCE), and vinyl chloride (VC);
- 5. Review the results and prepare a report.

2. BACKGROUND

A brief description of work previously conducted at the site is given below. The site is presently abandoned, and was a former asphalt plant.

In March 1985, Harding Lawson Associates (HLA) installed 9 groundwater monitoring wells. Low levels of hydrocarbons were detected in groundwater samples. Groundwater flow direction was determined to be to the south.

In October 1987, above-ground storage tanks and associated piping were removed.

In July of 1988, HLA installed 3 additional groundwater monitoring wells; soil samples from the borings contained hydrocarbons and trichloroethene (TCE). Hydrocarbons and other regulated compounds were present in water samples.

In August and September of 1988, the loading dock and additional underground piping were removed.

In September 1988, Western Geologic Resources, Inc. (WGR) conducted soil sampling in the vicinity and perimeter of the loading dock; soil samples contained hydrocarbons and regulated compounds.

In December 1988, Groundwater Technology Inc. (GTI) conducted a subsurface soil investigation for the entire site and a small area offsite which borders the west property line. Soil samples contained hydrocarbons. Two plumes were defined in the vadose zone. A TPPH plume was defined in the vadose zone in the center of the property and a TCE plume was defined in the vadose zone under the loading dock and office building.

In June 1989, WGR initiated site remediation, beginning with the excavation of the vadose zone in the above mentioned areas.

3. GROUNDWATER SAMPLING

Groundwater samples were collected from monitoring wells MW-1 through MW-12, with the exception of MW-9 which could not be located, on 14 April 1989, according to WGR's standard operating procedure included as Attachment A. Travel blanks, consisting of deionized water, were transported from the laboratory to the site and along with the field samples back to the laboratory under chain-of-custody. All water, evacuated during the sampling process, was collected and temporarily stored on site in 55-gallon drums pending analytic results.

4. ANALYTIC RESULTS

Central Coast Analytical Services (CCAS) of San Luis Obispo, California analyzed the samples collected on 13 and 14 April 1989 for TPPH, aromatic hydrocarbons, purgeable priority pollutants, cadmium, chromium, lead, zinc, and petroleum-based oil and grease. Analytic results are presented in Table 1. Attachments B, C and D contain the chain-of-custody forms, the laboratory reports, and the laboratory quality assurance reports, respectively.

TPPH characterized as diesel #2 were detected at concentrations of 4300 ppb and 3300 ppb, respectively in groundwater samples from wells MW-5 and MW-6. TPPH characterized as gasoline were detected at 380 ppb in the groundwater sample from well MW-4. Benzene was detected in well MW-1 at 34.0 ppb and was below detection for all other wells. Toluene, ethylbenzene, and total xylenes were below detection limits for all wells. Oil and grease were below the detection limit of 3 ppm for samples from monitoring wells MW-2 through MW-8 and MW-10 through MW-12. Well MW-1 was not analyzed for oil and grease.

Several chlorinated compounds were detected including 1,2-dichloroethene (both cis and trans), 1,1-dichloroethene, trichloroethane, 1,2-dichloropropane, trichloroethene and vinyl chloride. Most of these compounds were detected in the sample from well MW-1, in concentrations from 6 ppb 1,2-dichloropropane to 739 ppb 1,2-dichloroethene. Wells MW-10 and MW-11 contained 1,1-DCE at 15.0 ppb and 120 ppb, and TCE at 5.0 ppb and 4.0 ppb, respectively. Well MW-10 and MW-4 both contained 2.0 ppb 1,1-DCA. Well MW-11 also contained 1.0 ppb 1,1-DCE. Wells MW-1 and MW-10 contained vinyl chloride at 340 ppb and 10 ppb, respectively. Well MW-12 contained 1.0 ppb TCA.

Cadmium was below detection limits for all samples. Chromium was detected at low levels in MW-5 and MW-7 at 0.15 ppm and 0.17 ppm, respectively. Lead was detected at the detection limit of 0.005 ppm in the sample from MW-5. Low levels of zinc were detected in samples from all wells, except MW-1, MW-4, MW-10 and MW-12, in concentrations from 0.05 ppm to 0.23 ppm.

Distribution maps for TPPH, 1,2-dichloroethene and vinyl chloride are included as Figures 2,3 and 4, respectively.

4

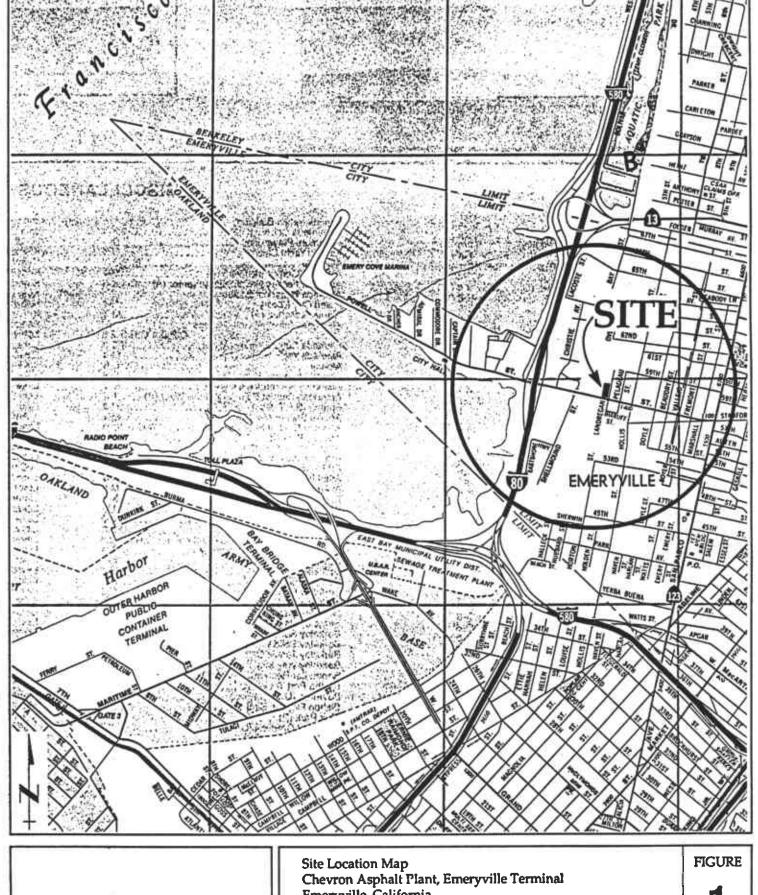
5. GROUNDWATER FLOW

Figure 5 is the potentiometric surface map of the shallow water-bearing zone based on depth-to-water measurements taken on 6 March 1989. Potentiometric data for shallow groundwater are tabulated in Table 2. Estimated ground water flow onsite is to south at an average gradient of about 1% (Figure 5).

5

6. SUMMARY

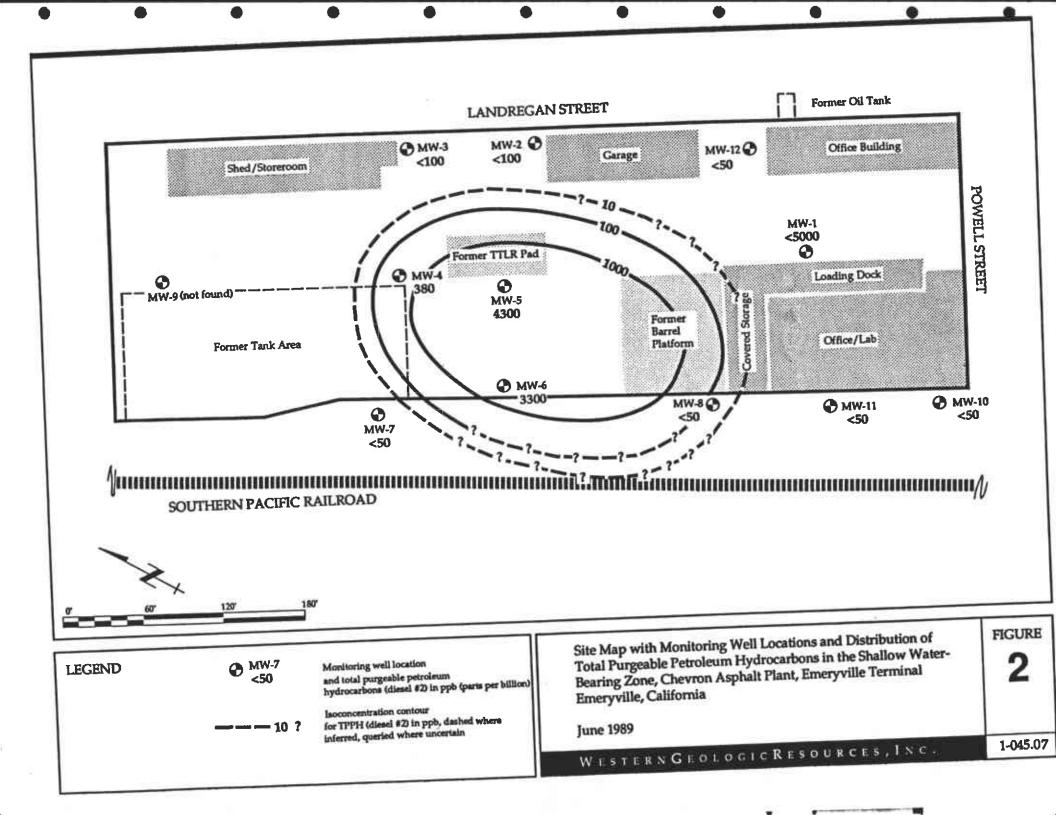
TPPH were detected in wells MW-4, MW-5 and MW-6. Various chlorinated compounds were detected in wells MW-1, MW-4, MW-7, MW-10, MW-11 and MW-12. Benzene was detected in well MW-1 at 34 ppb. Groundwater flow direction is to the south.

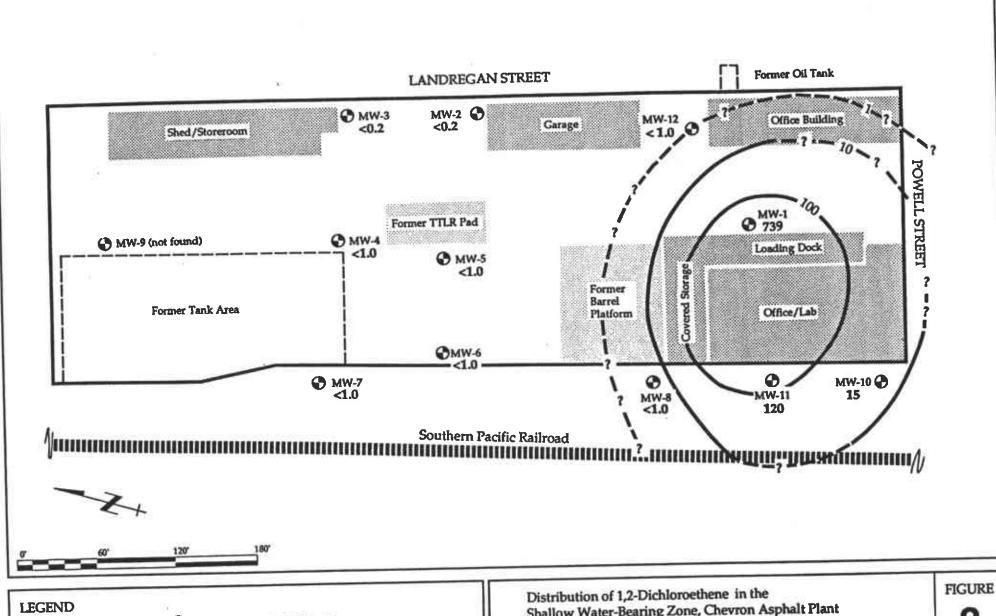


Site Location Map
Chevron Asphalt Plant, Emeryville Terminal
Emeryville, California

June 1989

WESTERN GEOLOGIC RESOURCES, INC. 1-045.07





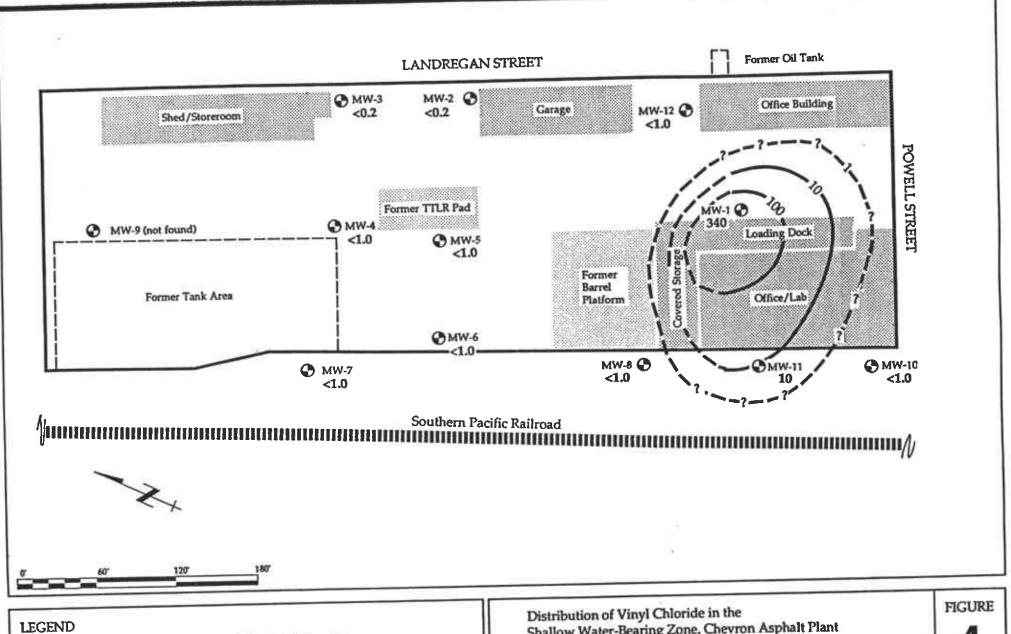
Distribution of 1,2-Dichloroethene in the Shallow Water-Bearing Zone, Chevron Asphalt Plant Emeryville Terminal, Emeryville, California

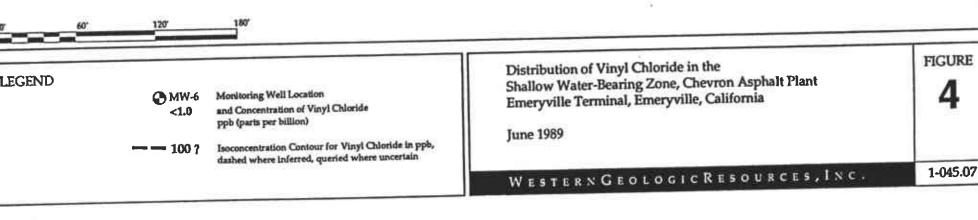
June 1989

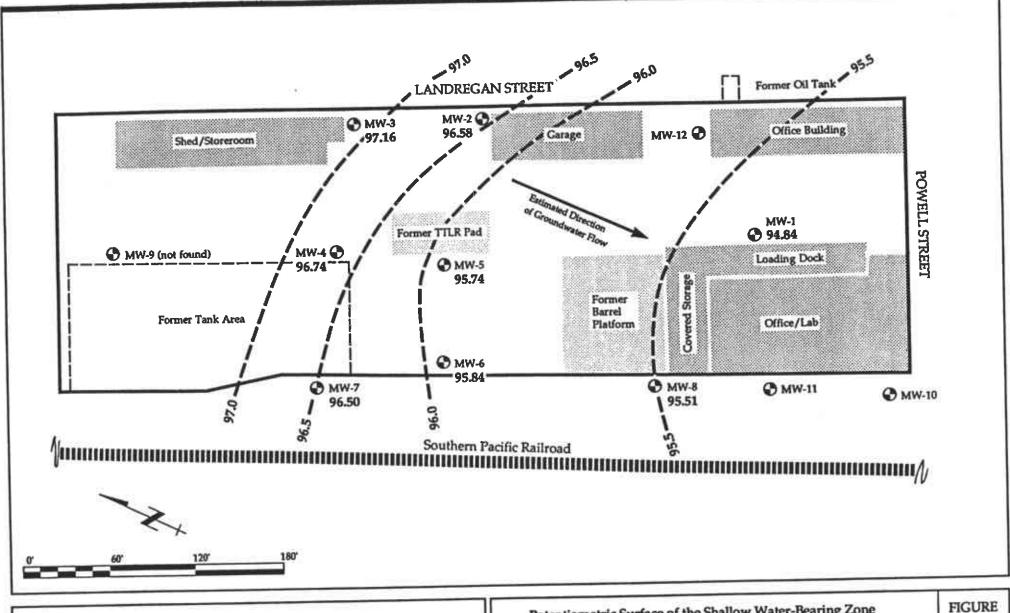
WESTERN GEOLOGIC RESOURCES, INC.

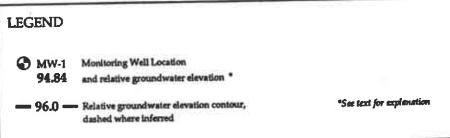
3

1-045.07









Potentiometric Surface of the Shallow Water-Bearing Zone 14 April 1989, Chevron Asphalt Plant, Emeryville Terminal Emeryville, California June 1989

1-045.07

WESTERN GEOLOGIC RESOURCES, INC.

TABLE 1. Analytic Results of Groundwater Sampling Job No. 1-045.07, Chevron Asphalt Plant

										4 3 505		VPA		VC
Well #	Date	O & G ppm	FC	TPPH <	В	T	E-8	Х	•	•	1,1 DCA b	TCA	TCE	••>
 MW-1	14 APR 89)		<5000	34.0	<5.0	<5.0	<10.0	<5.0	739.0	<5.0	<5.0	11.0	340.0 *
MV-2	14 APR 89	∢3.0		<100	<0.2	<0.2	<0.2	<0.4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
MW-3	14 APR 89	₹3.0		<100	<0.2	<0.2	<0.2	<0.4	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
MW-4	14 APR 89	₹3.0	GAS	380	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	2.0	<1.0	<1.0	<1.0
MW-5	14 APR 89	3.0	DSL 2	4300	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-6	14 APR 89	<3.0	DSL 2	3300	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MJ-7	14 APR 89	0.₺		<50	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	<1.0
8-WM	14 APR 89	₹.0		<50	<0.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-10	14 APR 89	₹3.0	•••	<50	<0.5	<1.0	<1.0	<1.0	<1.0	15.0	2.0	<1.0	5.0	<1.0
₩-11	14 APR 89	<3.0	•••	<50	<0.5	<1.0	<1.0	<1.0	1.0	120.0	<1.0	<1.0	4.0	10.0
MW-12	14 APR 89	₹3.0		<50	<0.5	<1.0	<1.0	<1.0	<1.0	1.0	<1.0	<1.0	<1.0	<1.0
18	14 APR 89			<50	<0.1	<0.1	<0.1	<0.2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1

Notes:

ppm = parts-per-million

ppb = parts-per-billion

O&G = Oil and gas

FC = Fuel characterization

GAS = Gasoline

DSL 2 = Diesel #2

TPPH = Total purgeable petroleum hydrocarbons

B = Benzene

T = Toluene

E-B = Ethylbenzene

X = Total Xylenes

1,1 DCE = 1,1-Dichloroethene

1,2 DCE = 1,2-Dichloroethene

1,1 DCA = 1,1-Dichloroethane

TCA = Trichloroethane

TCE = Trichloroethene

VC = Vinyl Chloride

* * 6 ppb 1,2-Dichloropropane

TABLE 1 (continued)
Analytic Results of Groundwater Sampling

Well	Ι	ate		CADMIUM	CHROMIUM	LEAD	ZINC
#							
MW-1	14	APR	89	<0.001	<0.005	<0.005	<0.005
MM-2	14	APR	89	<0.001	<0.005	<0.005	0.01
MW-3	14	APR	89	<0.001	<0.005	<0.005	0.16
MW-4	14	APR	89	<0.2	<0.05	<0.005	<0.05
MW-5	14	APR	89	<0.2	0.15	0.005	0.14
MM-6	14	APR	89	<0.2	<0.05	<0.005	0.14
MW-7	14	APR	89	0.2	0.17	<0.005	0.23
8-WM	14	APR	89	<0.2	<0.05	<0.005	0.05
MW-10	14	APR	89	<0.2	<0.05	<0.005	<0.05
MW-11	14	APR	89	<0.2	<0.05	<0.005	0.15
MW-12	14	APR	89	<0.2	<0.05	<0.005	<0.05

TABLE 2. Potentiometric Data
Former Chevron Asphalt Plant
Emeryville, Calfornia
WGR Project # 1-045.02

Monitor Well	DATE	TOC*	DTW	RWE
MW-1	13 Apr 89	98.56	3.72	94.84
MW-2	13 Apr 89	99.20	2.62	96.58
MW-3	13 Apr 89	99.50	2.34	97.16
MW-4	13 Apr 89	98.86	2.12	96.74
MW-5	13 Apr 89	98.53	2.79	95.74
MW-6	13 Apr 89	99.03	1.90	95.84
MW-7	13 Apr 89	98.40	1.90	96.50
8-WM	13 Apr 89	98.31	2.80	95.51

Notes:

TOC* = Top-of-casing elevations surveyed to temporary bench mark established at southwest corner of former totalizer set at 100.00 ft above mean sea level

DTW = Depth to water

RWE = Relative water elevation

WESTERN GEOLOGIC RESOURCES, INC.

ATTACHMENT A

SOP-4: GROUNDWATER PURGING AND SAMPLING

STANDARD OPERATING PROCEDURES RE: GROUNDWATER PURGING AND SAMPLING SOP-4

Prior to water sampling, each well is purged by evacuating a minimum of three well-casing volumes of groundwater or until the discharge water temperature, conductivity, and pH stabilize. The groundwater sample should be taken when the water level in the well recovers to 80% of its static level.

The sampling equipment used consists of either a teflon bailer or a stainless steel bladder pump with a teflon bladder. If the sampling system is dedicated to the well, then the bailer is made of teflon, but the bladder pump is PVC with a polypropylene bladder. Forty milliliter (ml) glass volatile-organic-analysis (VOA) vials, with teflon septa, are used as sample containers.

The groundwater sample is decanted into each VOA vial in such a manner that there is a meniscus at the top of the vial. The cap is quickly placed over the top of the vial and securely tightened. The VOA vial is then inverted and tapped to see if air bubbles are present. If none are present, the sample is labeled and refrigerated for delivery under chain-of-custody to the laboratory. Label information should include a sample identification number, job identification number, date, time, type of analysis requested, and the sampler's name.

For quality control purposes, a duplicate water sample is collected for each well. This sample is held at the laboratory unless needed. A trip blank is prepared at the laboratory and placed in the transport cooler. It remains with the cooler and is analyzed by the laboratory along with the groundwater samples. A field blank is prepared in the field when sampling equipment is not dedicated. The field blank is prepared after a pump or bailer has been steam-cleaned, prior to use in a second well, and is analyzed along with the other samples. The field blank demonstrates the quality of in-field cleaning procedures to prevent cross-contamination.

To minimize the potential for cross-contamination between wells, all the well-development and water-sampling equipment that is not dedicated to a well is steam-cleaned between each well. As a second precautionary measure, wells will be sampled in order of least to highest concentrations as established by previous analyses.

ATTACHMENT B

CHAIN-OF-CUSTODY FORMS

Air, Water, & Hazardous Waste Sampling, Analysis, & Consultation State Certified Hazardous Waste, Chemistry, & Bacteriology Laboratories

141 Suburban Road, Suite C-4 San Luis Obispo, Ca 93/401 Fax (805) 543-2585 (805) 543-2553

6483-D Calle Real Golela, CA 93117 Fax (805) 976-4356 (805) 964-7633

,	(000) 000 000				-		~ ^	00	11	ス			
	SAM	IPLE CHA	IN OF	CUSTO	YO	,	Ψu —	ge	' \(\)			•	
MITTE													
2704	lern Geologic Resour	C15		CONTACT N	M_{\perp}	Hou	jar	<u>d</u>				•••	
11/09	East Francisco Blud	Sule B. Sa	in Rafa	el.CA.	944	01	PHO	<u>5) 4.</u>	57	-7	595	<u> </u>	
JEST	FROJECT NAME Eneryville						REDI	UEST:	ED /	7			\dashv
-04:	7	100-0	Ch.		98260F	E 3	12/2	ৡ/					
//aa	SAMPLE IDENTIFICATION	rdeleine. E DATE/TIME) XILLY	PRESERVE	82	3	50/0/05		/				
.3 #	(ID #, location, matrix)	COLLECTED	ITEMS		5609	11:0	10 LC		<i>/</i>	<u> </u>		<u> </u>	
4667	4504 A,B	7:489	2	Natisoy	X								
)	4504 C	10.14	1	H2504		Х							
4	4504 D	10,14	1	none			X						
465	4505 A,B	9.20	1	NaHSOY	X								
1	4505C	9.20	1	H2504		X							<u></u>
1	4505 D	9.20	0 1	none			χ					<u> </u>	
4669		9.29	\$ 2	Nattsly	X								<u> </u>
1	4506C	9.20	र ।	142504		<u> x</u>						<u> </u>	
T	4506D	9,2	९ /	none		<u> </u>	X			<u> </u>		<u> </u>	<u> </u>
4670	1 4	10.3	4 2	Nathsay	X	<u> </u>	<u> </u>	<u> </u>	<u> </u>		<u> </u>		<u> </u>
MARKS	:					 _						<u> </u>	
4	lease prepare rep	port ivi	YM DO	inples	٨. ٦	ser	70	И	40	<u>27</u>	· Y	<u> </u>	
	<u>'</u>							··· <u> </u>		•	···-		
_ \ ⊅\(emples reid pealed	d intact	celd									•	
V21 E	DEL THANTEUER BY	·	DATE/TI	MF RE	CEIV	ED B	Y:				•		
FIFLE	RELINQUISHED BY:	1 Dulan "	1		Gi	eu t	nou.	nd					
)	Grey hound	1 4	15	900	-4	na	lici	Ho	xv	lice.	K_		
				<u> </u>		···-						·	
	CDC1.WR1/8866						-						

Air, Water, & Hazardous Waste Sampling, Analysis, & Consultation State Certified Hazardous Waste, Chemistry, & Bacteriology Laboratories

141 Suburban Road, Suite C-4 San Luis Obispo, Ca 93401 Fax (905) 543-2585 (805) 543-2553 5453-D Calle Real Goleta, CA 93117 Fax (805) 975-4355 (805) 954-7633

SAMPLE CHAIN OF CUSTODY

jage 283

	, g , U
EMITTED EY:	LCONTICT NEME
Whetern Geologic Resources	Tom Howard
2169 East Francisco Blvd Suite B. Sa	n Radael, CA. 94901 (415) 457-7595
1-045.07 PROJECT NAME	ANALYSIS RECUESTED
Madeline Stanor Madelin	noB. Stanger Sel 3 737
CAS SAMPLE IDENTIFICATION DATE/TIME AB # (ID #, location, matrix) COLLECTED	E # of PRESERVE St. J.
1670 4507C 4.13.89	
1 4507D	4 1 none X
4671 4508 A,B	ic 2 Mattsay X
14508C	
4508D 12.1	
4509. A/B 1	2 Nortsoy X
450910 ///	11/1465941/13/11
4509 D	Prohe XXIIII
4672 4510 A,B 12.0	07 2 MaHSDy X 1
6 4510C 12.0	1 14-(A) X
EMARKS:	•
please meanre report live	ith samples sent on 4.13.89
samples rec'd intact, sec	aled, cold
	•
ANPLE RELINCUISHED, BY:	DATE/TIME RECEIVED BY:
april Museu	4/15 Matia Howlich
Grey hound	0400 Malia Havuce
COC3 1101 (8815	

Air, Water, & Hazardous Waste Sampling, Analysis, & Consultation State Centified Hazardous Waste, Chemistry, & Bacteriology Laboratories

141 Suburban Road, Suite C-4 San Luis Obispo, Ca 93401 Fax (805) 543-2585 (805) 543-2583 6483-D Calle Real Goleta, CA 93117 Fax (805) 976-4386 (805) 964-7833

SAMPLE CHAIN OF CUSTODY

page 3 of 3

				-					,			\neg
TITED BY:			CONTACT N	AME_				\				
"Western Geologic	Resource	<u> </u>			lon	12HCI	eus E	عربر				\dashv
Western Geologic ESS 2169 E Francisco EST # PROJECT NAME 045-07 Emenyille LER (Print & Sign Name)—	Blud Sa	n Ral	fael, Ca	94	901	7.50	45	7	759	<u> </u>	15)	
PROJECT NAME	Acdial	Plant		ANAL	.YSIS . 7 /	<u>เลยเ</u> เม√เ	<u> </u>	<u> </u>	1	1	7	
LER (Print & Sign Name)	M	1 (1)	pel Des	ر وريس وريس		(N/3						
April DuBois Markture	11600(Ine) 1 DATE/TIME	# 00	PRESERVE	8,7	<u> </u>	\$\\\\\$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	7	/		/		/
PROJECT NAME OUS-OF Emenyville LER (Print & Sign Name)— April DuBois MarkFrie S SAMPLE IDENTIFICATION # (ID #, location, matrix)	COLLECTED	ITEMS		ري الم	0.0	35		/	<u> </u>		<u>/</u>	_
572 4510D	14/14 12.07	1 -	none			У		1		- }	<u> </u>	
73/1845	4/14	1	Natisca	×					1		· [
574 4501 C	14/14 14.07	1	H2504		Х							
							j					
יין וויין וויין	1											ı.
F#4674 is a replaceme		1		İ								
for a OG which broke in supment		<u> </u>	<u>1</u>	<u> </u>	1	<u> </u>			1			<u> </u>
JA SPANCICE		<u> </u>		1	<u> </u>			<u> </u>	<u> </u> 	<u> </u>	1	<u> </u>
t		1							<u> </u>	<u> </u>	1	!
·									<u> </u>		<u> </u>	
											<u> </u>	
ARKS:		_!								•		
	•	•		•							<u></u>	
		<u>-</u>					<u>.</u>					
posuples rec'd	into t	a lad	cold									
possiples ruca	<u>. 170,000 X</u>	RIAMA.	1 1 2 2		<u>-</u>							
PLE RELINQUISHED BY:		DATE/TI	ME RE		ED E	-		,				
Usul DeBass				G	روبح	hou	no	1	 _			
Grey hound.	14	115	900	1/2	alio	hou w Ho	wil	ice	<u>ل</u>			
			1				:					
COC1.WR1/8886												

Control
Control
Analysical
Services

Air, Water, & Hazardous Waste Sampling, Analysis, & Consultation State Certified Hazardous Waste, Chemistry, & Bacteriology Laboratories

141 Suburban Road, Suite C-4 San Luis Obispo, Ca 93401 Fax (905) 543-2585 (905) 543-2583 6453-D Calle Real Goleta, CA 93117 Fax (805) 976-4366 (805) 964-7833

SAMPLE CHAIN OF CUSTODY

Page 343

	SAIY	IPLE CITA					0				
MITTE PLAY				CONTACT	NAME						\neg
W09	tern Geologic Resou	Ces		Tom		1 1	PHONE (4/15) 4	1167	7~	2	
169	East Francisco Blud. So	vite B. Sai	1 Rafael	2, CH-4	1901	YSIS	<u>(2/15) °</u> Redúes		<u> </u>	<u>")</u>	
					-ŧ.	シグリ	N3 \		1	7 /	I = I
Ylad	I make a to the Nodel	beleene	3.Sta	NOV / PRESERVE	Presion	出るな				/ /	
:4S :3 #	SAMPLE IDENTIFICATION / (ID #, location, matrix)	COLLECTED		PRESERVE	EPINS SC.	是 第 第 第 第 第 第 第 第 第 第 第 第 第	38	/ 7	<u> </u>		<u>/</u>
<u> </u>	4910D	4.14.59		nine			X -				<u> </u>
5 ′7 5	4511 A, B	4. 4.89	3 2	NaHSay	X					<u> </u>	<u> </u>
2/3	4511C	13.0		Hason	,	X			1		<u> </u>
	4511D	13.0	3 /	none			<u> </u>				<u> </u>
76	4512A,B	13,3		NaHSC	<u> </u>					<u> </u>	
	45/2C	13.	н /	17250	4	<u> X </u>					igspace
	4512D	122	١ /	none			<u> </u>			<u> </u>	<u> </u>
677	45TB	THE THE	1/	ARHS						<u> </u>	<u> </u>
				NA NE	t			_			_
MARKS	:				<u> </u>	1			1.	17.0	
	derse propose so	port il	UTA S	ampl	10 D	M	ped	OY	- 7-	<u>, , , , , , , , , , , , , , , , , , , </u>	ــــــــــــــــــــــــــــــــــــــ
<u></u>			- 1 1					<u>·</u>			
	pamples rec'd i	utact, po	alld,	cold_			<u> </u>				
MPLE	RELINCUISHED BY:	1_	DATE/TI	ME . IR	ECEIV	YS G3	:				
Ma	n the	14	14.89	4:00	(rey	Meur)	d			
	Greyhound.	4	115	900	live	lia	.14 cm	shi tu	~		
											
)							:				
	COC1.WR:/8886										

WESTERN GEOLOGIC RESOURCES, INC.

ATTACHMENT C

LABORATORY REPORTS

Central Coast
Analytical Services
141 Suburban Road, Suite C-4
San Luis Obispo, California 934£1
(8£5) 543-2553

Lab Number: As Listed
Collected: #4/13/89
Received: #4/14/89
Tested: As Listed
Collected by: Mark Frye

ATTN: Mark Frye

Western Geologic Resources 2169 E. Francisco Blvd. Suite B Sample Description:

Proj.#1-945.97, Water Samples As Listed

San Rafael, CA 949#1

REPORT

LAB NUMBER

SAMPLE DESCRIPTION

LEVEL FOUND

OIL & GREASE (mg/l)

EPA METHOD-----DETECTION LIMIT(PQL)**---DATE/ANALYST-----

5Ø3E 3.

Ø4/27/89 LAP

F-Ø46Ø6

45Ø2

₹3.

F-Ø46Ø7

45Ø3

₹3.

**Practical Quantitation Limit

#5-#6-89 F#46#6WG.WR1/#44 MH/kc Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

May Developed

Mary Havlicek, Ph.D., President

Central Coast Analytical Services 141 Suburban Road, Suite C-4 San Luis Obispo, California 93491 (8Ø5) 543-2553

Lab Number: As Listed Ø4/14/89 Collected: Received: Ø4/15/89 As Listed Tested:

Collected by: Madeleine Stanger

Attn: Tom Howard

Western Geologic Resources 2169 E. Francisco Blvd.

Suite B

San Rafael, Ca. 949Ø1

Sample Description:

1-945.97 Emeryville, Monitoring Water

Samples As Listed

REPORT

LAB NUMBER	SAMPLE DESCRIPTION	LEVEL FOUND OIL & GREASE mg/l				
EPA METHOD DETECTION LIMIT(PQL)** DATE/ANALYST		5Ø3E 3. Ø4/29/89 LAP				
		* <u>=</u> .				
F-4667	45Ø4 C	<3.				
F-4668	45Ø5 C	₹3.				
F-4669	45Ø6 C	₹3.				
F-467Ø	4507 C	₹3.				
F-4671	45Ø8 C	<3.				
F-4672	451Ø C	₹3.				
F-4674	45Ø1 C	No Analysis Done				
F-4675	4511 C	₹3.				
F-4676	4512 C	₹3.				

**Practical Quantitation Limit

Ø5/16/89 F4667WG.WR1/47 MH/ah

Respectfully submitted, CENTRAL COAST ANALYTICAL SERVICES Mary Havicek, Ph.D., President

Central Coast
Analytical Services
141 Suburban Road, Suite C-4
San Luis Obispo, California 93491
(895) 543-2553

Lab Number: F-46#5

Collected: **\$4/13/89 @ 1489** Received: **\$4/14/89 @ 898**

Tested: As Listed Collected by: Mark Frye

ATTN: Mark Frye Sample Description: Western Geologic

2169 E. Francisco Blvd., Suite B Project #1-945.97, #4581
San Rafael, CA 91486 Filtered, Monitoring Water

DIGESTED BY EPA METHOD 3005 ON 04/27/89 BY JJ.

REPORT

CONSTITUENT	EPA METHOD/DATE/ANALYST	DETECTION LIMIT (mg/1)(PQL)**	DISSOLVED LEVEL FOUND ***STLC mg/l mg/l
CADMIUM	7131 Ø5/Ø1/89 MM	Ø.ØØ1	<0.001 1.0
CHROMIUM	7191 Ø5/Ø1/89 MM	Ø.ØØ5	<Ø.ØØ5 56Ø.
LEAD :	7421 Ø5/Ø1/89 MM	Ø.ØØ5 	< Ø . Ø Ø 5 5 . Ø
ZINC	795Ø Ø5/Ø3/89 KRW	ø.øø5	<0.005 250.

**Practical Quantitation Limit

***SOLUBLE THRESHOLD LIMIT CONCENTRATION as listed in 22 Cal Adm Code Art 11 Sec. 66699 as persistent & bioaccumulative toxic substance.

Ø5/Ø5/89 F46Ø5ME.WR1/#44 MH/ke Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES
Mary Havlicek, Ph.D., President

Central Coast
Analytical Services
141 Suburban Road, Suite C-4
San Luis Obispo, California 934#1
(8#5) 543-2553

Lab Number: F-4686

Collected: 94/13/

94/13/89 @ 1792 94/14/89 @ 999

Received: Tested:

As Listed

Collected by: Mark Frye

ATTN: Mark Frye Western Geologic

2169 E. Francisco Blvd., Suite B

San Rafael, CA 914Ø6

Sample Description:

Project #1-845.97, #4582 Filtered, Monitoring Water

DIGESTED BY EPA METHOD 3005 ON 04/27/89 BY JJ.

REPORT

CONSTITUENT	EPA METHOD/DATE/ANALYST	DETECTION LIMIT (mg/l)(PQL)**	DISSOLVED LEVEL FOUND ***STL mg/l mg/l	
CADMIUM	7131 Ø5/Ø1/89 MM	Ø.ØØ1	<Ø.ØØ1 1.	Ø
CHROMIUM	7191 Ø5/Ø1/89 MM	ø.øø5	<Ø.ØØ5 56Ø.	
LEAD	7421 Ø5/Ø1/89 MM	ø.øø5 	<Ø.ØØ5 5.	Ø
ZINC	795Ø Ø5/Ø3/89 KRW	ø.øø5	ø.ø1ø 25ø.	•

**Practical Quantitation Limit

***SOLUBLE THRESHOLD LIMIT CONCENTRATION as listed in 22 Cal Adm Code Art 11 Sec. 66699 as persistent & bioaccumulative toxic substance.

Ø5/Ø5/89 F46Ø6ME.WR1/#44 MH/ke Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES
Mary Havlicek, Ph.D., President

Central Coast Analytical Services 141 Suburban Road, Suite C-4 San Luis Obispo, California 934#1 (8\$5) 543-2553

Lab Number: F-46#7

Collected: Ø4/13/89 @ 1723 Ø4/14/89 @ Ø9ØØ

Tested: As Listed Collected by: Mark Frye

ATTN: Mark Frye Western Geologic Sample Description:

Received:

2169 E. Francisco Blvd., Suite B San Rafael, CA 914#6

Project #1-545.57, #4553 Filtered, Monitoring Water

DIGESTED BY EPA METHOD 3005 ON \$4/27/89 BY JJ.

REPORT

CONSTITUENT	EPA METHOD/DATE/ANALYST	DETECTION LIMIT (mg/1)(PQL)**	DISSOLVED LEVEL FOUND mg/l	***STLC mg/1
CADMIUM	7131 Ø5/Ø1/89 MM	Ø.ØØ1	<0.991	1.Ø
CHROMIUM	7191 Ø5/Ø1/89 MM	ø.øø5	<Ø.ØØ5	56Ø.
LEAD	7421 Ø5/Ø1/89 MM	Ø.ØØ5	<Ø.ØØ5	5.0
ZINC	795Ø Ø5/Ø3/89 KRW	Ø.ØØ5	ø.16	25ø.

Ø5/Ø5/89 F46#7ME.WR1/#44 MH/ke

Respectfully submitted, CENTRAL COAST ANALYTICAL SERVICES Many Dauleren Mary Havlicek, Ph.D., President

^{**}Practical Quantitation Limit

^{***}SOLUBLE THRESHOLD LIMIT CONCENTRATION as listed in 22 Cal Adm Code Art 11 Sec. 66699 as persistent & bioaccumulative toxic substance.

Central Coast
Analytical Services
141 Suburban Road, Suite C-4
San Luis Obispo, California 93401
(805) 543-2553

Lab Number: F-4667
Collected: \$4/14/89
Received: \$4/15/89
Tested: As Listed

Collected by: Madeleine Stanger

ATTN: Tom Howard Western Geologic

2169 E. Francisco Blvd., Suite B

San Rafael, CA 914Ø6

Sample Description:

Project #1-845.87 Emeryville

#4594 D, Filtered, Monitoring Water

*Digested by EPA 3005 on 04/27/89 by EPM

	ICP,	AA SCAN FO	R CALE	PERON METALS		
				DETECTION	DISSOLVED	•
CONSTITUENT	EPA METHOD/DATE/ANALYST			LIMIT	LEYEL FOUND	STLC***
				(mg/l) (PQL)** mg/l	mg/l
ANTIMONY	6 Ø 1Ø	- Ø5/Ø3/89	MM	3.	<3.	15.
ARSENIC	6Ø1Ø	Ø5/Ø3/89	MM	2.	⟨2	5.Ø
BARIUM	6Ø1Ø	Ø5/Ø3/89	MM	Ø.Ø1	Ø.2Ø	100.
BERYLLIUM	6Ø1Ø	Ø5/Ø3/89	MM	Ø.Ø1	<Ø.Ø1	Ø.75
CADMIUM	6010	Ø5/Ø3/89	MM	Ø.2	<Ø.2	1.0
CALCIUM	6010	Ø5/Ø3/89	MM	1.	77.	NO LIMIT
CHROMIUM	6Ø1Ø	Ø5/Ø3/89	MM	Ø.Ø5	<Ø.Ø5	56Ø.
COBALT	6Ø1Ø	Ø5/Ø3/89	MM	Ø.Ø5	<Ø.Ø5	8Ø.
COPPER	6Ø1Ø	Ø5/Ø3/89	MM	Ø.Ø5	<Ø.Ø5	25.
IRON	6010	Ø5/Ø3/89	MM	Ø.Ø5	Ø.83	NO LIMIT
LEAD	7421	Ø5/Ø1/89	MM	Ø.ØØ5	<Ø.ØØ5	5.Ø
MAGNESIUM	6ø1ø	Ø5/Ø3/89	MM	1.	46.	NO LIMIT
MANGANESE	6 Ø 1 Ø	Ø5/Ø3/89	MM	Ø.Ø2	2.3	NO LIMIT
MOLYBDENUM	6ø1ø	Ø5/Ø3/89	MM	5.	₹5.	35Ø.
NICKEL	6 0 1Ø	Ø5/Ø3/89	MM	Ø.Ø5	<Ø.Ø5	2Ø.
POTASSIUM	6010	Ø5/Ø3/89	MM	3.	₹3.	NO LIMIT
SILVER	6010	Ø5/Ø3/89	MM	Ø.2	<∅.2	5.
SODIUM	6010	Ø5/Ø3/89	MM	1.	13Ø.	NO LIMIT
THALLIUM	784Ø	Ø5/Ø3/89	KRW	Ø.Ø5	<Ø.Ø5	7.Ø
VANADIUM	6010	Ø5/Ø3/89	MM	Ø.Ø2	<Ø.Ø2	24.
ZINC	6Ø1Ø	Ø5/Ø3/89	MM	Ø.Ø5	<Ø.Ø5	25Ø.

^{**}Practical Quantitation Limit

NOTE: Results obtained from ICP Scans (EPA 6010) are susceptible to positive interferences. Unacceptably high results using this method should be rechecked using atomic absorption spectrometry.

Ø5/Ø5/89 F4667ME.WR1/#44 MH/ke Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

Many Saulery
Mary Havlicek, Ph.D., President

^{***}SOLUBLE THRESHOLD LIMIT CONCENTRATION as listed in 22 Cal Adm Code Article 11 Sec. 66699 as persistent and bioaccumulative toxic substance. "NO LIMIT" means not listed therein as persistent and bioaccumulative toxic substance.

Central Coast
Analytical Services
141 Suburban Road, Suite C-4
San Luis Obispo, California 934Ø1
(8Ø5) 543-2553

Lab Number: F-4668
Collected: \$\pi4/14/89
Received: \$\pi4/15/89
Tested: As Listed

Collected by: Madeleine Stanger

ATTN: Tom Howard Western Geologic

2169 E. Francisco Blvd., Suite B

San Rafael, CA 91406

Sample Description:

Project #1-945.97 Emeryville

#4595 D, Filtered, Monitoring Water

*Digested by EPA 3005 on 04/27/89 by EPM

	ICP/	AA SCAN FO	R CALE	ERON METALS		
				DETECTION	DISSOLVED	
CONSTITUENT	EPA METHOD/DATE/ANALYST			LIMIT	LEVEL FOUND	STLC***
		(mg/1) (PQL))** mg/l	mg/l		
ANTIMONY	6Ø1Ø	-Ø5/Ø3/89	MM	3.	<3.	15.
ARSENIC	6Ø1Ø	Ø5/Ø3/89	MM	2.	⟨2	5.Ø
BARIUM	6Ø1Ø	Ø5/Ø2/89	MM	Ø.Ø1	Ø.36	1ØØ.
BERYLLIUM	6Ø1Ø	Ø5/Ø2/89	MM	Ø.Ø1	<Ø.Ø1	Ø.75
CADMIUM	6010	Ø5/Ø2/89	MM	Ø.2	<Ø.2	1.0
CALCIUM	6Ø1Ø	Ø5/Ø2/89	MM	1.	15Ø.	NO LIMIT
CHROMIUM	6Ø1Ø	Ø5/Ø2/89	MM	Ø.Ø5	Ø.15	56Ø.
COBALT	6Ø1Ø	Ø5/Ø2/89	MM	Ø.Ø5	<Ø.Ø5	8Ø.
COPPER	6Ø1Ø	Ø5/Ø2/89	MM	Ø.Ø5	Ø.Ø7	25.
IRON	6Ø1Ø	Ø5/Ø2/89	MM	Ø.Ø5	6.6	NO LIMIT
LEAD	7421	Ø5/Ø1/89	MM	Ø.ØØ5	Ø.ØØ5	5.Ø
MAGNESIUM	6 Ø 1 Ø	Ø5/Ø2/89	MM	1.	38.	NO LIMIT
MANGANESE	6Ø1Ø	Ø5/Ø2/89	MM	ø.ø2	7.2	NO LIMIT
MOLYBDENUM	6Ø1Ø	Ø5/Ø2/89	MM	5.	< 5.	35Ø.
NICKEL	6Ø1Ø	Ø5/Ø2/89	MM	Ø.Ø5	<Ø.Ø5	2Ø.
POTASSIUM	6ø1ø	Ø5/Ø2/89	MM	3.	4.	NO LIMIT
SILVER	6Ø1Ø	Ø5/Ø3/89	MM	Ø.2	<Ø.2	5.
SODIUM	6010	Ø5/Ø2/89	MM	1.	3Ø.	NO LIMIT
THALLIUM	784Ø	Ø5/Ø3/89	KRW	Ø.Ø5	<Ø.Ø5	7.Ø
VANADIUM	6010	Ø5/Ø2/89	MM	Ø.Ø2	Ø. 84	24.
ZINC	6010	Ø5/Ø2/89	MM	Ø.Ø5	Ø.14	25Ø.

^{**}Proctical Quantitation Limit

NOTE: Results obtained from ICP Scans (EPA 6010) are susceptible to positive interferences. Unacceptably high results using this method should be rechecked using atomic absorption spectrometry.

Ø5/1Ø/89 F4668ME.WR1/#44 MH/ke/ah Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES
Mary Havlicek, Ph.D., President

^{***}SOLUBLE THRESHOLD LIMIT CONCENTRATION as listed in 22 Cal Adm Code Article 11 Sec. 66699 as persistent and bioaccumlative toxic substance. "NO LIMIT" means not listed therein as persistent and bioaccumulative toxic substance.

Central Coast
Analytical Services
141 Suburban Road, Suite C-4
San Luis Obispo, California 93491
(895) 543-2553

Lab Number: F-4669
Collected: Ø4/14/89
Received: Ø4/15/89
Tested: As Listed

Collected by: Madeleine Stanger

ATTN: Tom Howard Western Geologic

2169 E. Francisco Blvd., Suite B

San Rafael, CA 91486

Sample Description:

Project #1-045.07 Emeryville

#4506 D, Filtered, Monitoring Water

*Digested by EPA 3005 on 04/27/89 by EPM

	ICP/	AA SCAN FO	R CALE	DERON METALS		
	•			DETECTION	DISSOLVED	
CONSTITUENT	EPA METHO	D/DATE/ANA	LYST	LIMIT	LEVEL FOUND	STLC***
		·		(mg/1) $(PQL)**$		mg/l
				(3) = , (, , , , , , , , , , , , , , , , ,		ar -
ANTIMONY	6Ø1Ø	Ø5/Ø3/89	MM	3.	<3.	15.
ARSENIC	6 Ø 1Ø	Ø5/Ø3/89	MM	2.	(2.	5.ø
BARIUM	6Ø1Ø	Ø5/Ø2/89	MM	Ø.Ø1	Ø.49	1ØØ.
BERYLLIUM	6Ø1Ø	Ø5/Ø2/89	MM	Ø.Ø1	<Ø.Ø1	Ø.75
CADMIUM	6Ø1Ø	Ø5/Ø2/89	MM	Ø.2	<Ø.2	1.0
CALCIUM	6Ø1Ø	Ø5/Ø2/89	MM	1.	16Ø.	NO LIMIT
CHROMIUM	6Ø1Ø	Ø5/Ø2/89	MM	Ø.Ø5	<Ø.Ø5	56Ø.
COBALT	6Ø1Ø	Ø5/Ø2/89	MM	Ø.Ø5	<Ø.Ø5	8ø.
COPPER	6Ø1Ø	Ø5/Ø2/89	MM	Ø.Ø5	Ø.Ø6	25.
IRON	6 Ø 1Ø	Ø5/Ø2/89	MM	Ø.Ø5	7.8	NO LIMIT
LEAD	7421	Ø5/Ø1/89	MM	Ø.ØØ5	<Ø.ØØ5	5.ø
MAGNESIUM	6010	Ø5/Ø2/89	MM	1.	51.	NO LIMIT
MANGANESE	6Ø1Ø	Ø5/Ø2/89	MM	Ø. Ø2	1Ø.	NO LIMIT
MOLYBDENUM	6Ø1Ø	Ø5/Ø2/89	MM	5.	<5.	35Ø.
NICKEL	6Ø1Ø	Ø5/Ø2/89	MM	Ø.Ø5	<Ø.Ø5	20.
POTASSIUM	6Ø1Ø	Ø5/Ø2/89	MM	3.	4.	NO LIMIT
SILVER	6Ø1Ø	Ø5/Ø3/89	MM	Ø.2	<Ø.2	5.
SODIUM	6Ø1Ø	Ø5/Ø2/89	MM	1,	64.	NO LIMIT
THALLIUM	784Ø	Ø5/Ø3/89	KRW	Ø.Ø5	<Ø.Ø5	7.Ø
VANADIUM,	6Ø1Ø	Ø5/Ø2/89	MM	Ø. Ø2	Ø. Ø3	24.
ZINC	6Ø1Ø	Ø5/Ø2/89	MM	Ø.Ø5	Ø.14	25Ø.

^{**}Practical Quantitation Limit

***SOLUBLE THRESHOLD LIMIT CONCENTRATION as listed in 22 Cal Adm Code Article 11 Sec. 66699 as persistent and bioaccumlative toxic substance. "NO LIMIT" means not listed therein as persistent and bioaccumulative toxic substance.

NOTE: Results obtained from ICP Scans (EPA 6010) are susceptible to positive interferences. Unacceptably high results using this method should be rechecked using atomic absorption spectrometry.

Ø5/1Ø/89 F4669ME.WR1/#44 MH/ke/ah Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

Many Havicek, Ph.D., President

Central Coast
Analytical Services
141 Suburban Road, Suite C-4
San Luis Obispo, California 93401
(805) 543-2553

Lab Number: F-467Ø
Collected: Ø4/14/89
Received: Ø4/15/89
Tested: As Listed

Collected by: Madeleine Stanger

ATTN: Tom Howard Western Geologic

2169 E. Francisco Blvd., Suite B

San Rafael, CA 914Ø6

Sample Description:

Project #1-#45.#7 Emeryville

#4507 D. Filtered, Monitoring Water

*Digested by EPA 3005 on 04/27/89 by EPM

•	ICP/	A SCAN FO	R CALE	ERON METALS		
				DETECTION	DISSOLVED	
CONSTITUENT	EPA METHO	EPA METHOD/DATE/ANALYST			LEVEL FOUND	STLC***
		•		(mg/l) (PQL)** mg/l	mg/1
ANTIMONY	6Ø1Ø	Ø5/Ø3/89	MM	3.	<3.	15.
ARSENIC	6Ø1Ø	Ø5/Ø3/89	MM	2.	⟨2.	5.Ø
BARIUM	6Ø1Ø	Ø5/Ø2/89	MM	Ø.Ø1	Ø.25	1ØØ.
BERYLLIUM	6Ø1Ø	Ø5/Ø2/89	MM	Ø.Ø1	<0.01	Ø.75
CADMIUM	6Ø1Ø	Ø5/Ø2/89	MM	Ø.2	Ø.2	1.0
CALCIUM	6Ø1Ø	Ø5/Ø2/89	MM	1.	8Ø.	NO LIMIT
CHROMIUM	6Ø1Ø	Ø5/Ø2/89	MM	Ø.Ø5	Ø.17	56Ø.
COBALT	6Ø1Ø	Ø5/Ø2/89	MM	Ø.Ø5	Ø.1Ø	8ø.
COPPER	6Ø1Ø	Ø5/Ø2/89	MM	Ø.Ø5	Ø.12	25.
IRON	6Ø1Ø	Ø5/Ø2/89	MM	ø.ø5	Ø.13	NO LIMIT
LEAD	7421	Ø5/Ø1/89	MM	Ø.ØØ5	<Ø.ØØ5	5.Ø
MAGNESIUM	6Ø1Ø	Ø5/Ø2/89	MM	1.	14.	NO LIMIT
MANGANESE	6Ø1Ø	Ø5/Ø2/89	MM	ø.ø2	ø.ø6	NO LIMIT
MOLYBDENUM	6010	Ø5/Ø2/89	MM	5.	<5.	35Ø.
NICKEL	6010	Ø5/Ø2/89	MM	Ø.Ø5	<Ø.Ø5	20.
POTASSIUM	6010	Ø5/Ø2/89	MM	3.	<3.	NO LIMIT
SILVER	6Ø1Ø	Ø5/Ø3/89	MM	Ø.2	⟨Ø.2	5.
SODIUM	6010	Ø5/Ø2/89	MM	1.	43.	NO LIMIT
THALLIUM	784Ø	Ø5/Ø3/89	KRW	Ø.Ø5	<Ø.Ø5	7.Ø
VANADIUM	6Ø1Ø	Ø5/Ø2/89	MM	Ø. Ø2	Ø.Ø6	24.
ZINC	6010	Ø5/Ø2/89	MM	Ø.Ø5	Ø.23	25Ø.

^{**}Practical Quantitation Limit

NOTE: Results obtained from ICP Scans (EPA 6010) are susceptible to positive interferences. Unacceptably high results using this method should be rechecked using atomic absorption spectrometry.

Ø5/1Ø/89 F467ØME.WR1/#44 MH/ke/ah Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

Many Havilcek, Ph.D., President

^{***}SOLUBLE THRESHOLD LIMIT CONCENTRATION as listed in 22 Cal Adm Code Article 11 Sec. 66699 as persistent and bioaccumlative toxic substance. "NO LIMIT" means not listed therein as persistent and bioaccumulative toxic substance.

Central Coast
Analytical Services
141 Suburban Road, Suite C-4
San Luis Obispo, California 934Ø1
(8Ø5) 543-2553

Lab Number: F-4671
Collected: Ø4/14/89
Received: Ø4/15/89
Tested: As Listed

Collected by: Madeleine Stanger

ATTN: Tom Howard Western Geologic

2169 E. Francisco Blvd., Suite B

San Rafael, CA 91406

Sample Description:

Project #1-#45.#7 Emeryville

⟨Ø.2

16.

<Ø.Ø5

<Ø.02

Ø. Ø5

5.

NO LIMIT

24.

25Ø.

7.0

#45#8 D, Filtered, Monitoring Water

*Digested by EPA 3005 on 05/02/89 by RJ

DISSOLVED DETECTION LEVEL FOUND STLC*** CONSTITUENT EPA METHOD/DATE/ANALYST LIMIT (mg/l) (PQL)** mg/l mg/1ANTIMONY 6Ø1Ø Ø5/Ø3/89 MM 3. ₹3. 15. 5.Ø ARSENIC 6Ø1Ø Ø5/Ø3/89 MM ⟨2. 2. BARIUM 6Ø1Ø Ø5/Ø8/89 Ø. Ø1 Ø.18 1ØØ. MM BERYLLIUM 6Ø1Ø MM Ø.Ø1 <Ø.Ø1 Ø.75 Ø5/Ø8/89 1.0 CADMIUM 6Ø1Ø Ø5/Ø8/89 MM Ø.2 <Ø.2 CALCIUM 6Ø1Ø Ø5/Ø8/89 MM 48. NO LIMIT 1. 6Ø1Ø <Ø.Ø5 56Ø. CHROMIUM Ø5/Ø8/89 MM Ø. Ø5 6010 Ø5/Ø8/89 <0.05 80. COBALT MM Ø. Ø5 COPPER 6Ø1Ø Ø5/Ø8/89 Ø. Ø5 (Ø.Ø5 25. MM IRON 6Ø1Ø Ø5/Ø8/89 MM Ø.Ø5 <Ø.Ø5 NO LIMIT MM LEAD 7421 0.005 < Ø. ØØ5 5.Ø Ø5/Ø1/89 MAGNESIUM 6Ø1Ø 28. NO LIMIT Ø5/Ø2/89 MM 1. NO LIMIT MANGANESE 6Ø1Ø Ø5/Ø8/89 MM Ø. Ø2 3.Ø **MOLYBDENUM** 6Ø1Ø Ø5/Ø8/89 35Ø. MM 5. <5. NICKEL 6010 Ø.Ø5 <0.05 20. Ø5/Ø8/89 MM POTASSIUM 6010 Ø5/Ø8/89 MM ₹3. NO LIMIT 3.

Ø.2

1. Ø.Ø5

Ø. Ø2

Ø. Ø5

ICP/AA SCAN FOR CALDERON METALS

6Ø1Ø

6010

784Ø

6Ø1Ø

6Ø1Ø

Ø5/Ø3/89 MM

Ø5/Ø8/89 MM

Ø5/Ø3/89 KRW

Ø5/Ø8/89 MM

Ø5/Ø8/89 MM

NOTE: Results obtained from ICP Scans (EPA 6010) are susceptible to positive interferences. Unacceptably high results using this method should be rechecked using atomic absorption spectrometry.

Ø5/18/89 F4671ME.WR1/#48 MH/rh

SILVER

SODIUM

ZINC

THALLIUM

VANADIUM

Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

Many Sacres

^{**}Practical Quantitation Limit

^{***}SOLUBLE THRESHOLD LIMIT CONCENTRATION as listed in 22 Cal Adm Code Article 11 Sec. 66699 as persistent and bioaccumlative toxic substance. "NO LIMIT" means not listed therein as persistent and bioaccumulative toxic substance.

Central Coast Analytical Services 141 Suburban Road, Suite C-4 San Luis Obispo, California 93401 (8Ø5) 543-2553

Lab Number: F-4672 Collected: Ø4/14/89 Ø4/15/89 Received: As Listed Tested:

Collected by: Madeleine Stanger

ATTN: Tom Howard Western Geologic

2169 E. Francisco Blvd., Suite B

San Rafael, CA 91486

Sample Description:

Project #1-045.07 Emeryville

#451Ø D, Filtered, Monitoring Water

Digested by EPA 3005 on 05/02/89 by RJ.

	ICP/	AA SCAN FO	R CALD	ERON METALS		
DETECTION DISSO						
CONSTITUENT	EPA METHOD/DATE/ANALYST			LIMIT	LEVEL FOUND	STLC***
				(mg/1) (PQL)** mg/1		mg/l
					-	•
ANTIMONY	6Ø1Ø	_Ø5/Ø9/89	MM	3.	₹3.	15.
ARSENIC	6010	Ø5/Ø9/89	MM	2.	₹2.	5.Ø
BARIUM	6Ø1Ø	Ø5/Ø8/89	MM	Ø.Ø1	ø. ø5	1ØØ.
BERYLLIUM	6010	Ø5/Ø8/89	MM	Ø.Ø1	<Ø.Ø1	Ø.75
CADMIUM	6Ø1Ø	Ø5/Ø8/89	MM	Ø.2	<Ø.2	1.Ø
CALCIUM	6Ø1Ø	Ø5/Ø8/89	MM	1.	36.	NO LIMIT
CHROMIUM	6Ø1Ø	Ø5/Ø8/89	MM	Ø.Ø5	<Ø.Ø5	56Ø.
COBALT	6010	Ø5/Ø8/89	MM	Ø.Ø5	<Ø.Ø5	8Ø.
COPPER	6Ø1Ø	Ø5/Ø8/89	MM	Ø.Ø5	<Ø.Ø5	25.
IRON	6Ø1Ø	Ø5/Ø8/89	MM	Ø.Ø5	<Ø.Ø5	NO LIMIT
LEAD	7421	Ø5/12/89	RJ	Ø.ØØ5	<0.005	5.0
MAGNESIUM	6Ø1Ø	Ø5/Ø8/89	MM	1.	2Ø.	NO LIMIT
MANGANESE	6010	Ø5/Ø8/89	MM	ø.ø2	ø.ø9	NO LIMIT
MOLYBDENUM	6010	Ø5/Ø8/89	MM	5.	<5.	35Ø.
NICKEL	6010	Ø5/Ø8/89	MM	Ø.Ø5	<Ø.Ø5	2Ø.
POTASSIUM	6Ø1Ø	Ø5/Ø8/89	MM	3.	<3.	NO LIMIT
SILVER	6010	Ø5/Ø9/89	MM	Ø.2	<∅.2	5.
SODIUM	6Ø1Ø	Ø5/Ø8/89	MM	1.	72.	NO LIMIT
THALLIUM	784Ø	Ø5/1Ø/89	KRW	Ø.Ø5	<Ø.Ø5	7.0
VANADIUM	6Ø1Ø	Ø5/Ø8/89	MM	Ø.Ø2	<Ø.Ø2	24.
ZINC	6010	Ø5/Ø8/89	MM	Ø.Ø5	<Ø.Ø5	25Ø.

^{**}Proctical Quantitation Limit

***SOLUBLE THRESHOLD LIMIT CONCENTRATION as listed in 22 Cal Adm Code Article 11 Sec. 66699 as persistent and bioaccumlative toxic substance. "NO LIMIT" means not listed therein as persistent and bioaccumulative toxic substance.

NOTE: Results obtained from ICP Scans (EPA 6010) are susceptible to positive interferences. Unacceptably high results using this method should be rechecked using atomic absorption spectrometry.

Ø5/15/89 F4672ME.WR1/#47 MH/oh

Respectfully submitted, CENTRAL COAST ANALYTICAL SERVICES
Mary Havlicek, Ph.D., President

Central Coast
Analytical Services
141 Suburban Road, Suite C-4
San Luis Obispo, California 934#1
(8#5) 543-2553

Lab Number: F-4675
Collected: \$4/14/89
Received: \$4/15/89
Tested: As Listed

Collected by: Madeleine Stanger

ATTN: Tom Howard Western Geologic

2169 E. Francisco Blvd., Suite B

San Rafael, CA 914Ø6

Sample Description:

Project #1-Ø45.Ø7 Emeryville

#4511 D, Filtered, Monitoring Water

*Digested by EPA 3005 on 04/27/89 by EPM

ICP/AA SCAN FOR CALDERON METALS									
				DETEC	TION	DISSOLVED	ED		
CONSTITUENT	EPA METHO	METHOD/DATE/ANALYST		LIM	IT !	LEVEL FOUND	STLC***		
				(mg/1)	(PQL)**	mg/1	mg/l		
ANTIMONY	6Ø1Ø -	Ø5/Ø3/89	MM	3.		<3 .	15.		
ARSENIC	6Ø1Ø	Ø5/Ø3/89	MM	2.		₹2.	5.Ø		
BARIUM	6010	Ø5/Ø2/89	MM	Ø.Ø1		<Ø.Ø1	1ØØ.		
BERYLLIUM	6010	Ø5/Ø2/89	MM	Ø.Ø1		<Ø.Ø1	Ø.75		
CADMIUM	6010	Ø5/Ø2/89	MM	Ø.2		⟨Ø.2	1.Ø		
CALCIUM	6010	Ø5/Ø2/89	MM	1.		49.	NO LIMIT		
CHROMIUM	6Ø1Ø	Ø5/Ø2/89	MM	ø.ø5		<Ø.Ø5	56Ø.		
COBALT	6Ø1Ø	Ø5/Ø2/89	MM	Ø.Ø5		<Ø.Ø5	8ø.		
COPPER	6Ø1Ø	Ø5/Ø2/89	MM	Ø. Ø5		<Ø.Ø5	25.		
IRON	6Ø1Ø	Ø5/Ø2/89	MM	Ø.Ø5		<Ø.Ø5	NO LIMIT		
LEAD	7421	Ø5/Ø1/89	MM	Ø. ØØ5		<Ø.ØØ5	5.Ø		
MAGNESIUM	6010	Ø5/Ø2/89	MM	1.		23.	NO LIMIT		
		,,							
MANGANESE	6Ø1Ø	Ø5/Ø2/89	MM	Ø. Ø2		Ø.22	NO LIMIT		
MOLYBDENUM	6010	Ø5/Ø2/89	MM	5.		∢5.	35Ø.		
NICKEL	6Ø1Ø	Ø5/Ø2/89	MM	Ø. Ø5		<Ø.Ø5	2Ø.		
POTASSIUM	6010	Ø5/Ø2/89	MM	3.		∢3.	NO LIMIT		
SILVER	6010	Ø5/Ø3/89	MM	Ø.2		<Ø.2	5.		
SODIUM	6010	Ø5/Ø2/89	MM	1.		77.	NO LIMIT		
THALLIUM	784Ø	Ø5/Ø3/89	KRW	Ø. Ø5		<Ø.Ø5	7.Ø		
VANADIUM	6Ø1Ø	Ø5/Ø2/89	MM	Ø. Ø2		<Ø.Ø2	24.		
ZINC	6010	Ø5/Ø2/89	MM	Ø. Ø5		Ø.15	25Ø.		

^{**}Practical Quantitation Limit

NOTE: Results obtained from ICP Scans (EPA 6010) are susceptible to positive interferences. Unacceptably high results using this method should be rechecked using atomic absorption spectrometry.

Ø5/1Ø/89 F4675ME.WR1/#44 MH/ke/ah Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

/// Courses // Courses // Mary Havlicek, Ph.D., President

^{***}SOLUBLE THRESHOLD LIMIT CONCENTRATION as listed in 22 Cal Adm Code Article 11 Sec. 66699 as persistent and bioaccumlative toxic substance. "NO LIMIT" means not listed therein as persistent and bioaccumulative toxic substance.

Central Coast Analytical Services Analytical Services Collected: \$4,15/89 San Luis Obispo, California 934Ø1 Tested: (805) 543-2553

Lab Number: F-4676 Collected: **94/14/89** As Listed

Collected by: Madeleine Stanger

ATTN: Tom Howard Western Geologic

2169 E. Francisco Blvd., Suite B

San Rafael, CA 91406

Sample Description:

Project #1-#45.#7 Emeryville

#4512 D, Filtered, Monitoring Water

*Digested by EPA 3005 on 04/27/89 by EPM

ICP/AA SCAN FOR CALDERON METALS									
DETECTION DISSOLVED									
CONSTITUENT	EPA METHO	D/DATE/ANA	LYST	LIMIT	LEVEL FOUND	STLC***			
				(mg/1) (PQL)** mg/l	mg/l			
						•			
ANTIMONY	6010	Ø5/Ø3/89	MM	3.	<3.	15.			
ARSENIC	6Ø1Ø	Ø5/Ø3/89	MM	2.	<2.	5.Ø			
BARIUM	6010	Ø5/Ø3/89	MM	Ø.Ø1	Ø. Ø4	100.			
BERYLLIUM	6Ø1Ø	Ø5/Ø3/89	MM	Ø.Ø1	<0.01	Ø.75			
CADMIUM	6919	Ø5/Ø3/89	MM	Ø.2	<ø.2	1.Ø			
CALCIUM	6Ø1Ø	Ø5/Ø3/89	MM	1.	89.	NO LIMIT			
CHROMIUM	6Ø1Ø	Ø5/Ø3/89	MM	Ø.Ø5	<Ø.Ø5	56Ø.			
COBALT	6Ø1Ø	Ø5/Ø3/89	MM	Ø.Ø5	<∅.Ø5	8ø.			
COPPER	6010	Ø5/Ø3/89	MM	Ø.Ø5	<0.05	25.			
IRON	6Ø1Ø	Ø5/Ø3/89	MM	Ø.Ø5	<Ø.Ø5	NO LIMIT			
LEAD	7421	Ø5/Ø1/89	MM	Ø.ØØ5	<Ø.ØØ5	5.Ø			
MAGNESIUM	6010	Ø5/Ø3/89	MM	1.	6Ø.	NO LIMIT			
MANGANESE	6910	Ø5/Ø3/89	MM	ø.ø2	Ø.7Ø	NO LIMIT			
MOLYBDENUM	6010	Ø5/Ø3/89	MM	5.	<5.	35Ø.			
NICKEL	6010	Ø5/Ø3/89	MM	Ø.Ø5	<Ø.Ø5	2Ø.			
POTASSIUM	6Ø1Ø	Ø5/Ø3/89	MM	3.	<3.	NO LIMIT			
SILVER	6Ø1Ø	Ø5/Ø3/89	MM	Ø.2	<Ø.2	5.			
SODIUM	6Ø1Ø	Ø5/Ø3/89	MM	1.	110.	NO LIMIT			
THALLIUM	784Ø	Ø5/Ø3/89	KRW	Ø.Ø5	⟨Ø.Ø5	7.Ø			
VANADIUM	6Ø1Ø	Ø5/Ø3/89	MM	Ø.Ø2	<∅.∅2	24.			
ZINC	6Ø1Ø	Ø5/Ø3/89	MM	Ø.Ø5	<∅.∅5	25Ø.			

^{**}Practical Quantitation Limit

***SOLUBLE THRESHOLD LIMIT CONCENTRATION as listed in 22 Cal Adm Code Article 11 Sec. 66699 as persistent and bioaccumlative toxic substance. "NO LIMIT" means not listed therein as persistent and bioaccumulative toxic substance.

NOTE: Results obtained from ICP Scans (EPA 6010) are susceptible to positive interferences. Unacceptably high results using this method should be rechecked using atomic absorption spectrometry.

Ø5/Ø5/89 F4676ME.WR1/#44 MH/ke

Respectfully submitted, CENTRAL COAST ANALYTICAL SERVICES 1 Day Janleet Mary Havlicek, Ph.D., President

Central Analytical Services, Inc. Lab Number : F-\$46\$5
Coast 141 Suburban Road, Suite C-4 Collected : \$4/13/89
Analytical San Luis Obispo, California 934\$1 Received : \$4/14/89
Services (8\$5) 543-2553 Tested : \$4/25/89
Collected by: M. Frye

EXTRACTED BY EPA METHOD 5636 (purge-and-trap)

EPA METHOD 8269

ATTN: Mark Frye El Western Geologic Resources 2169 E. Francisco Blvd. Suite B San Rafael. CA 949\$1

Sample Description: Project #1-945.87, 4591,

Water

Concentration Detection Limit (ug/L) Compound Analyzed (Practical Quantitation Limit) (ug/L) 34. 5. **Benzene** not found 5. Bromodichloromethane not found 1Ø. Bromoform not found 5. Carbon Tetrachloride not found 5. Chlorobenzene not found 2-Chloroethyl Vinyl Ether 5Ø. not found 20. Chloroform not found 5. Dibromochloromethane not found 5. 1,2-Dichlorobenzene not found 5. 1.3-Dichlorobenzene not found 5. 1,4-Dichlorobenzene not found 5. 1,1-Dichloroethane not found 1,2-Dichloroethane (EDC) not found 5. 1,1-Dichloroethene 72Ø. 5. c-1,2-Dichloroethene 19. 5. t-1.2-Dichloroethene Ĝ. 5. 1,2-Dichloropropane not found 5. c-1,3-Dichloropropene not found 5. t-1,3-Dichloropropene not found 5. Ethylbenzene not found Ethyl Chloride 5. not found 5. Ethylene Dibromide not found 5. Methyl Bromide not found 5. Methyl Chloride not found 5Ø. Methylene Chloride not found 20. 1,1,2,2-Tetrachloroethane not found Tetrachloroethylene (PCE) 5. not found 5. not found 1,1,1-Trichloroethane (TCA) 5. not found 5. 1.1.2-Trichloroethane 11. 5. Trichloroethene (TCE) not found 20. Trichlorotrifluoroethane (f113) not found Trichlorofluoromethane(F-11) 20. **340**. 5. Vinyl Chloride not found 1Ø. Xylenes not found 5000. Total Purgeable Petroleum Hydrocarbons (Gasoline) Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 93/87/82.

#5/#1/89/MSD#7
F#46#5v.wr1/41
MH/jg/re/tl

Respectfully submitted,

May Success
Mary Havicek, Ph.D., President

Central Lab Number : F-\$46\$6 Analytical Services, Inc. Coast 141 Suburban Road, Suite C-4 Collected : \$4/13/89 Analytical San Luis Obispo, California 934#1 Received : Ø4/14/89 Services (805) 543-2553 Tested : \$4/25/89

Collected by: M. Frye EXTRACTED BY EPA METHOD 5#3# (purge-and-trap) ATTN: Mark Frye

Western Geologic Resources 2169 E. Francisco Blvd.

Suite B

San Rafael, CA 949Ø1

EPA METHOD 826# Sample Description: Project #1-945.97, 4592, Water

Detection Limit (ug/L) Concentration Compound Analyzed (Practical Quantitation Limit) (ug/L) Ø.2 not found Benzene Ø.2 not found Bromodichloromethane not found **Bromoform** 9.4 Carbon Tetrachloride Ø.2 not found not found Chlorobenzene Ø.2 2-Chloroethyl Vinyl Ether 2. not found not found Chloroform 1. **Dibromochloromethane** Ø.2 not found Ø.2 not found 1,2-Dichlorobenzene 1,3-Dichlorobenzene Ø.2 not found 1,4-Dichlorobenzene 0.2 not found not found 1,1-Dichloroethane Ø.2 1,2-Dichloroethane (EDC) Ø.2 not found Ø.2 not found 1,1-Dichloroethene c-1,2-Dichloroethene Ø.2 not found t-1,2-Dichloroethene Ø.2 not found 1,2-Dichloropropane Ø.2 not found not found Ø.2 c-1,3-Dichloropropene not found t-1,3-Dichloropropene Ø.2 Ethylbenzene Ø.2 not found not found Ethyl Chloride Ø.2 not found Ø.2 Ethylene Dibromide Methyl Bromide Ø.2 not found Methyl Chloride Ø.2 not found Methylene Chloride not found 2. not found 1,1,2,2-Tetrachloroethane 1. Tetrachloroethylene (PCE) Ø.2 not found not found Toluene 0.2 not found 1,1,1-Trichloroethane (TCA) Ø.2 1,1,2-Trichloroethane Ø.2 not found not found Trichloroethene (TCE) Ø.2 Trichlorotrifluoroethane (f113) not found 1. Trichlorofluoromethane(F-11) not found Vinyl Chloride Ø.2 not found not found Xylenes 0.4 not found Total Purgeable Petroleum 100. Hydrocarbons (Gasoline)

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 95/80/96.

Ø5/Ø1/89/MSD#7 FØ45Ø6v.wr1/41 MH/cr/re/tl

Respectfully submitted, May Baderes Mary Havlicek, Ph.D., President

Central Analytical Services, Inc. Lab Number : F-#46#7
Coast 141 Suburban Road, Suite C-4 Collected : #4/13/89
Analytical San Luis Obispo, California 934#1 Received : #4/14/89
Services (8#5) 543-2553 Tested : #4/25/89

Collected by: M. Frye

ATTN: Mark Frye EXTRACTED BY EPA METHOD 5030 (purge-and-trop)

Western Geologic Resources EPA METHOD 8260
2169 E. Francisco Blvd. Sample Description:
Suite B Project #1-945.07, 4503,

San Rafael, CA 949#1 Water

Compound Analyzed	Detection Limit (ug/L) (Practical Quantitation Limit)	Concentration (ug/L)
Benzene	Ø.2	not found
Bromodichloromethane	Ø.2	not found
Bromoform	Ø.4	not found
Carbon Tetrachloride	Ø.2	not found
Chlorobenzene	Ø.2	not found
2-Chloroethyl Vinyl Ether	2.	not found
Chloroform	1.	not found
Dibromochloromethane	Ø.2	not found
1,2-Dichlorobenzene	Ø.2	not found
1,3-Dichlorobenzene	Ø.2	not found
1,4-Dichlorobenzene	Ø.2	not found
1,1-Dichloroethane	Ø.2	not found
1,2-Dichloroethane (EDC)	Ø.2	not found
1,1-Dichloroethene	Ø.2	not found
c-1,2-Dichloroethene	Ø.2	not found
t-1,2-Dichloroethene	Ø.2	not found
1,2-Dichloropropane	Ø.2	not found
c-1,3-Dichloropropene	Ø.2	not found
t-1,3-Dichloropropene	ø.2	not found
Ethylbenzene	Ø.2	not found
Ethyl Chloride	ø.2	not found
Ethylene Dibromide	ø.2	not found
Methyl Bromide	ø.2	not found
Methyl Chloride	Ø.2	not found
Methylene Chloride	2.	not found
1,1,2,2-Tetrachloroethane	1.	not found
Tetrachloroethylene (PCE)	Ø.2	not found
Toluene	ø.2	not found
1,1,1-Trichloroethane (TCA) Ø.2	not found
1,1,2-Trichloroethane	ø.2	not found
Trichloroethene (TCE)	Ø.2	not found
Trichlorotrifluoroethane (f113) 1.	not found
Trichlorofluoromethane(F-1		not found
Vinyl Chloride	Ø.2	not found
Xylenes	Ø.4	not found
Total Purgeable Petroleum Hydrocarbons (Gasoline)	100.	not found

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 94/80/94.

95/91/89/MSD#7
F#4697v.wr1/41
MH/cr/re/t1

Respectfully submitted,

Many Havlicek, Ph.D., President

Central Coast
Analytical Services, Inc.
141 Suburban Road, Suite C
San Luis Obispo, CA 93401
(805) 543-2553

Lab Number : F-4667
Collected : \$\frac{94}{14}/89
Received : \$\frac{94}{15}/89
Tested : \$\frac{94}{26}/89
Collected by: M. Stranger

EPA METHOD 8260

Western Geologic Resources 2169 E. Francisco Blvd., Suite B San Rafael, CA 93108 Sample Description:
Project # 1-845.87, Emeryville

45Ø4-A water

Compound Analyzed [Detection Limit *PQL (ug/l)	Concent (ug/1		Compound Analyzed	Detection *PQL (Concentration (ug/1)
Acetone	5Ø.	ND	1,2-01	chloroethe	ene	1.	ND
Benzeile	Ø.5	ND	1,2-Di	chloroprop	enoc	1.	ND
Bromodichloromethane	1.	ND	c-1,3-	Dichlorop	ropene	1.	ND
Bromoform	1.	ND	t-1,3-	Dichlorop	ropene	1.	ND
Bromomethane	1.	ND	Ethylb	enzene		1.	- ND
2-Butanone	1Ø.	ND	2-Hexa	none		5.	ND
Carbon Disulfide	1.	4.	Methyl	Isobutyl	Ketone	5.	ND
Carbon Tetrachloride	1.	ND	Methyl	ene Chlor	ide	5.	ND
Chlorobenzene	1.	ND	Styren	е		1.	ND
Chloroethane	1.	ND	1,1,2,	2-Tetrach	loroetha	ne 3.	ND
● 2-Chloroethylvinylet	her 2.	ND	Tetrac	hloroethe	ne	1.	ND
Chloroform	2.	ND	Toluer	10		1.	ND
Chloromethane	1.	ND	1,1,1-	Trichloro	ethane	1.	NĎ
Dibromochloromethane	1.	ND	1,1,2-	Trichloro	ethane	1.	ND
1,2-Dichlorobenzene	1.	ND	Trich?	oroethene		1,	ND
• 1,3-Dichlorobenzene	1.	ND	Trich]	lorofluoro	methane	1.	ND
1,4-Dichlorobenzene	1.	ND	Trich	Lorotriflu	oroethan	e 1.	ND
1.1-Dichloroethane	1.	2,		Acetate		5.	ND
1,2-Dichloroethane	1.	ND.	•	Chloride		1.	. ND
1,1-Dichloroethene	1.	ND	Xylen			1.	, ND
 Total Purgeable Petr 	oleum Hydrocart	oons (Gas	soline)			5Ø.	. 380.

*PQL - Practical Quantitation Limit

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 99/102/127

Constituents reported as ND would have been reported if present at or above the detection limit.

finn/#5/#1/89 f4667v.wr1 MH/brp/mc Respectfully submitted, CENTRAL COAST ANALYTICAL SERVICES

Central Coast Analytical Services, Inc. 141 Suburban Road, Suite C San Luis Obispo, CA 93491 (8Ø5) 543-2553

Lab Number : F-4668 Collected : \$4/14/89 : \$4/15/89 Received Tested : #4/26/89 Collected by: M. Stranger

EPA METHOD 826# Sample Description:

Western Geologic Resources 2169 E. Francisco Blvd., Suite B San Rafael, CA 931Ø8

Project # 1-#45.87, Emeryville

45Ø5-A water

	Compound Analyzed	Detection Limit *PQL (ug/1)	Concent (ug/1		Compound Analyzed	Detection *PQL (u		Concentration (ug/l)
	Acetone	5ø.	ND	1,2-D1	chloroethe	ene	1.	ND
_	Benzen e	Ø.5	ND	1,2-D1	chloroprop	oane	1.	GN
	Bromodichloromethane	1.	ND	c-1,3-	Dichloropi	ropene	1.	ND
	Bromoform	1.	· ND	t-1,3-	Dichlorop	ropene	1.	ND
	Bromomethane	1.	ND	Ethylb	enzene		1.	- ND
	2-Butanone	1ø	· · · ND	2-Hexc	ınonə		5.	ND
	Carbon Disulfide	1.	7.	Methy1	Isobutyl	Ketone	- 5.	ND
	Carbon Tetrachloride	1.	ND	-	ene Chlor		5.	ND
	Chlorobenzene	1.	ND	Styrer	ie		1.	ND
	Chloroethane	1.	ND	1,1,2,	2-Tetrach	loroethane	3.	ND
•	2-Chloroethylvinylet	ther 2.	ND	Tetro	hloroethe	ne	1.	ND
	Chloroform	2.	ND	Toluer	ne		1.	ND
	Chloromethane	1.	ND	1,1,1-	Trichloro	ethane	1.	ND
	Dibromochloromethane	1.	ND	1,1,2-	-Trichloro	ethane	1,	ND
	1,2-Cichlorobenzene	1.	ND	Trich	loroethene		1.	ND
•							_	
	1,3-Dichlorobenzene	1.	ND		lorofluoro		1.	ND
	1,4-Dichlorobenzene	1.	ND		lorotriflu	oroethane	1.	
	1,1-Dichloroethane	1.	ND	•	Acetate		5.	
	1,2-Dichloroethane	1.	ND	•	Chloride		1.	
•	1,1-Dichloroethene	1.	ND	Xylen	es		1.	ND
	Total Purgeable Pet	roleum Hydrocart	ons (Die	sel 2)			5∅.	43ØØ.

^{*}PQL - Practical Quantitation Limit

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: Constituents reported as ND would have been reported if present at or above the detection limit.

finn/Ø5/Ø1/89 f4668v.wr1 MH/brp/mc

Respectfully submitted, CENTRAL COAST ANALYTICAL SERVICES

Central Coast
Analytical Services, Inc.
141 Suburban Road, Suite C
San Luis Obispo, CA 934Ø1
(8Ø5) 543-2553

Lab Number : F-4669
Collected : \$4/14/89
Received : \$4/15/89
Tested : \$4/26/89
Collected by: M. Stranger

EPA METHOD 826#

Western Geologic Resources 2169 E. Francisco Blvd., Suite B San Rafael, CA 93198 Sample Description:
Project # 1-945.97, Emeryville
4596-A water

Compound Analyzed De	etection Limit *PQL (ug/1)	Concenti (ug/1			ncentration (ug/l)
Acetone.	5Ø.	ND	1,2-Dichloroethene	1.	ND
Benzene	Ø.5	ND	1,2-Dichloropropane	1.	ND
Bromodichloromethane	1.	ND	c-1,3-Dichloropropene	1.	ND
Bromoform	1.	ND	t-1,3-Dichloropropene	1.	ND
Bromomethane	1.	ND	Ethylbenzene	1.	· ND
_ 2-Butanone	1ø. ··	- ND	2-Hexanone	5.	ND
Carbon Disulfide	1.	4.	Methyl Isobutyl Ketone	- = 5.	ND
Carbon Tetrachloride	1.	ND	Methylene Chloride	5.	ND
Chlorobenzene	1.	ND	Styrene	1.	ND
Chloroethane	1.	ND	1,1,2,2-Tetrachloroethane	3.	ND
2-Chloroethylvinyleth	er 2.	ND	Tetrachloroethene	1.	ND
Chloroform	2.	ND	Toluene	1.	ND
Chloromethane	1.	ND	1,1,1-Trichloroethane	1.	ND
Dibromochloromethane	1.	ND	1,1,2-Trichloroethane	1.	ND
1,2-Dichlorobenzene	1.	ND	Trichloroethene	ì.	ND
1,3-Dichlorobenzene	1.	ND	Trichlorofluoromethane	1.	ND
1,4-Dichlorobenzene	1.	ND	Trichlorotrifluoroethane	1.	ND
1,1-Dichloroethane	1.	ND	Vinyl Acetate	5.	ND
1,2-Dichloroethane	1.	ND	Vinyl Chloride	1.	ND
1,1-Dichloroethene	1.	ND	Xylenes	1,	ND
Total Purgeable Petro	leum Hydrocarb	ons (Die	sel 2)	5Ø.	33ØØ.

*PQL - Practical Quantitation Limit

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 97/95/109
Constituents reported as ND would have been reported if present at or above the detection limit.

finn/#5/#1/89 f4669v.wr1 MH/brp/mc Respectfully submitted,
CENTRAL COAST ANALYTICAL SERVICES

Central Coast
Analytical Services, Inc.
141 Suburban Road, Suite C
San Luis Obispo, CA 934#1

(8Ø5) 543-2553

Collected: \$4/14/89
Received: \$4/15/89
Tested: \$4/26/89
Collected by: M. Stranger

Lab Number : F-467#

EPA METHOD 8260

Western Geologic Resources
2169 E. Francisco Blvd., Suite B
San Rafgel, CA 93108

Sample Description:
Project # 1-845.87, Emeryville

4507-A water

	Compound Analyzed	Detection Limit *PQL (ug/l)	Concent		Compound Analyzed		on Limit (ug/1)	Concentration (ug/1)
	Acetone	5ø.	ND	1,2-Di	chloroeth	ene	1.	ND
_	Benzene	Ø.5	ND	1,2-D1	chloropro	eno	1.	ND
	Bromodichloromethane	1.	ND	c-1,3-	Dichlorop	ropene	1.	ND
	Bromoform	1.	ND	t-1,3-	Dichlorop	ropene	1.	ND
	Bromomethane	1.	ND	_	enzene	•	1.	. ND
_	2-Butanone	1Ø,	_ ND	2-Hexc	enone		5.	ND
J	Corbon Disulfide	1.	6.	Methy]	Isobutyl	Ketone	- · 5.	ND
	Carbon Tetrachloride	a 1.	ND	-	lene Chlor		5.	ND
	Chlorobenzene	1.	ND	Styrer			1.	ND
	Chloroethane	1.	ND	1,1,2,	2-Tetrach	loroetho	ne 3.	ND
Ð	2-Chloroethylvinyle	ther 2.	ND	Tetra	chloroethe	ne	1.	ND
	Chloroform	2.	ND	Toluer	10		1.	ND
	Chloromethane	1.	ND	1,1,1-	-Trichloro	ethane	1.	1.
	Dibromochloromethan	a 1.	ND	1,1,2	-Trichloro	ethane	1.	ND
	1,2-Dichlorobenzene	1.	ND	Trich	loroethere		1.	ND
D	4 - 0 4- 131			.	lorofluoro		1.	ND
	1,3-Dichlorobenzene		ND		lorottuoro lorotriflu			
	1,4-Dichlorobenzene	1. 1.	ON ON	– .	Acetate	ol pariigii	5.	· - -
	1,1-Dichloroethane	* *	ND ND	•	Chloride		J. 1.	· -
	1,2-Dichloroethane 1,1-Dichloroethene	1.	ND	Xylen			1.	ND
D	Total Purgeable Pet			-	.		5ø.	

^{*}PQL - Practical Quantitation Limit

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 96/100/122
Constituents reported as ND would have been reported if present at or above the detection limit.

finn/Ø5/Ø1/89 f467Øv.wr1 MH/vg/mc Respectfully submitted, CENTRAL COAST .NALYTICAL SERVICES

Central Coast
Analytical Services, Inc.
141 Suburban Road, Suite C
San Luis Obispo, CA 934Ø1
(8Ø5) 543-2553

Lab Number : F-4671
Collected : Ø4/14/89
Received : Ø4/15/89
Tested : Ø4/26/89
Collected by: M. Stranger

EPA METHOD 826\$

Western Geologic Resources 2169 E. Francisco Blvd., Suite B San Rafael, CA 93198 Sample Description:
Project # 1-845.87, Emeryville

45Ø8-A water

	Compound Analyzed	Detection Limit *PQL (ug/l)	Concenti (ug/1		Compound Analyzed	Detectio *PQL (Concentration (ug/l)
	Acetone	5Ø.	ND	1,2-Di	chloroethe	ene	1.	ND
_	Benzene	Ø.5	ND	1,2-Di	chloroprop	ane	1.	ND
_	Bromodichloromethane	1.	ND	c-1,3-	Dichloropr	opene	1.	ND
	Bromoform	1.	ND	t-1,3-	Dichloropr	opene	1.	ND
	Bromomethane	1.	ND	Ethylb	enzene		1.	, ND
_	2-Butanone	10.	ND	2-Hexa	none		5.	ND
•	Carbon Disulfide	1.	ND	Methyl	Isobutyl	Ketone	5.	ND
	Carbon Tetrachloride	1.	ND	Methyl	ene Chlori	Lde	5.	ND
	Chlorobenzene	1,	ND	Styren	9		1.	ND
	Chloroethone	1.	ND	1,1,2,	2-Tetrach]	loroethan	ө 3.	ND
•	2-Chloroethylvinylet	her 2.	ND	Tetrac	hloroether	10	1.	ND
	Chloroform	2.	ОN	Toluen	е		1.	ND
	Chloromethane	1.	ND	1,1,1-	Trichloroe	ethane	1.	ND
	Dibromochloromethane	1,	ND	1,1,2-	Trichloro	ethone	1.	ND
	1,2-Dichlorobenzene	1.	ND	Trichl	oroethene		1.	ND
•	1.3-Dichlorobenzene	1.	ND	Teichl	orofluoro	methone	1.	ND
	1,4-Dichlorobenzene	1.	ND		orotriflu		- •	112
	1.1-Dichloroethane	1.	ND	· · · · · · · · · · · · · · · · · · ·	Acetate		5.	
	1.2-Dichloroethane	1.	ND	•	Chloride		1.	-
	1,1-Dichloroethene	1.	ND	Xylene			1.	
•	Total Purgeable Petr	roleum Hydrocarb	ons (Die	sel 2)			5Ø.	. ND

*PQL -- Practical Quantitation Limit

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 102/100/125, Constituents reported as ND would have been reported if present at or above the detection limit.

finn/Ø5/Ø1/89 f4671v.wr1 MH/vg/mc Respectfully submitted, CENTRAL COAST ANALYTICAL SERVICES

Central Coast
Analytical Services, Inc.
141 Suburban Road, Suite C
San Luis Obispo, CA 934Ø1
(8Ø5) 543-2553

Lab Number : F-4672
Collected : Ø4/14/89
Received : Ø4/15/89
Tested : Ø4/26/89
Collected by: M. Stranger

EPA METHOD 826# Sample Description:

Project # 1-845.97, Emeryville

4516-A water

Western Geologic Resources 2169 E. Francisco Blvd., Suite B San Rafael, CA 931Ø8

Compound Analyzed	Detection Limit *PQL (ug/1)	Concent (ug/l			ion Limit (ug/l)	Concentration (ug/l)
Acetone	5Ø.	DN	1,2-Dichlo	roethene	1.	15.
▲ Benzene	Ø.5	ND	1,2-Dichlo	ropropane	1.	ND
Bromodichloromethane	1.	ND	c-1,3-Dich	loropropene	1.	ND
Bromoform	1.	ND	t-1,3-Dich	loropropene	1.	ND
Bromomethane	1.	ND	Ethylbenze	ne	1.	, ND
_ 2-Butanone	1ø. ··	- ND	2+Hexanone	•	5.	ND ND
Carbon Disulfide	1,	9.	Methyl Iso	butyl Ketone		ND
Carbon Tetrachloride	1.	ND	Methylene	Chloride	5.	ND
Chlorobenzene	1.	ND	Styrene		1.	ND
Chloroethane	1.	ND	1,1,2,2-Te	trochloroeth	ane 3.	ND
• 2-Chloroethylvinylet	her 2.	ND	Tetrachlor	oethene	1.	ND
Chloroform Chloroform	2.	ND	Toluene		1.	ND
Chloromethane	1.	ND	1,1,1-Tric	hloroethane	1.	ND
Dibromochloromethane	1.	ND	1,1,2-Tric	hloroethane	1.	ND
1,2-Dichlorobenzene	1.	ND	Trichloroe	ethene	1.	5.
• 1,3-Dichlorobenzene	1.	ND	Trichloro	fluoromethane	e 1.	ND
1,4-Dichlorobenzene	1.	ND		trifluoroetho		ND
1,1-Dichloroethane	1.	2.	Vinyl Acet		5.	· · · · ·
1,2-Dichloroethane	1.	ND	Vinyl Chl		1.	_
1,1-Dichloroethene	1.	ND	Xylenes		1.	
 Total Purgeable Peti 	roleum Hydrocarb	ons (Die	esel 2)		5Ø.	ND

*PQL - Practical Quantitation Limit

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 95/95/123

Constituents reported as ND would have been reported if present at or above the detection limit:

finn/#5/#1/89 f4672v.wr1 MH/vg/mc Respectfully submitted, CENTRAL COAST ANALYTICAL SERVICES

Central Coast
Analytical Services, Inc.
141 Suburban Road, Suite C
San Luis Obispo, CA 934#1
(8#5) 543-2553

Lab Number : F-4675
Collected : Ø4/14/89
Received : Ø4/15/89
Tested : Ø4/26/89
Collected by: M. Stranger

EPA METHOD 826#

Western Geologic Resources 2169 E. Francisco Blvd., Suite B San Rafael, CA 93108 Sample Description:
Project # 1-#45.#7, Emeryville
4511 - A water

n

Compound Analyzed	Detection Limit *PQL (ug/l)	Concent (ug/l		Compound Detec	ction Limit QL (ug/l)	Concentration (ug/1)
Acetone	5 ø.	ND	1,2-Di	chloroethene	1.	120.
▲ Benzene	Ø.5	ND	1,2-D1	chloropropane	1.	ND
Bromodichloromethane	1.	ND	c-1,3-	Dichloropropen	e 1.	ND
Bromoform	1.	ND	t-1,3-	Dichlorupropen	e 1.	ND
Bromomethane	1.	ND	Ethylb	enzene	1.	ND
▲ 2-Butanone	1ø,	 ND	2-Hexc	inon e	5.	ND
Carbon Disulfide	1.	ND	Methy1	Isobutyl Keto	ne 📑 5.	ND
Corbon Tetrachloride	1.	ND		ene Chloride	5.	ND
Chlorobenzene	1.	ND	Styrer		1.	ND
Chloroethane	1.	ND	1,1,2,	2-Tetrachloroe	thane 3.	ND
• 2-Chloroethylvinyle	ther 2.	ND	Tetrac	chloroethene	1.	ND
Chloroform	2.	ND	Toluer	n e	1.	ND
Chloromethane	1.	ND	1,1,1-	-Trichloroethan	e 1.	ND
Dibromochloromethan	e 1.	ND	1,1,2-	-Trichloroethan	e 1.	DM
1,2-Dichlorobenzene	1.	ND	Trich!	loroethene	1.	4.
• 1,3-Dichlorobenzene	1.	ND	Trich'	lorofluorometho	ne 1.	ND
1,4-Dichlorobenzene	• •	ND		lorotrifluoroet		· · -
1,1-Dichloroethane	1.	ND		Acetate	5.	
1,2-Dichloroethane	1.	ND	•	Chloride	1.	
1,1-Dichloroethene	1.	1.	Xylene		1.	ND
Total Purgeable Pet	roleum Hydrocarb	ons (Die	esel 2)		5Ø.	ND

*PQL - Practical Quantitation Limit

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 100/102/120

Constituents reported as ND would have been reported if present at or above the detection limit.

finn/Ø5/Ø1/89 f4675v.wr1 MH/vg/mc Respectfully submitted, CENTRAL COAST ANALYTICAL SERVICES

Central Coast
Analytical Services, Inc.
141 Suburban Road, Suite C
San Luis Obispo, CA 93401
(805) 543-2553

Lab Number : F-4676
Collected : Ø4/14/89
Received : Ø4/15/89
Tested : Ø4/26/89
Collected by: M. Stranger

EPA METHOD 8268

Western Geologic Resources 2169 E. Francisco Blvd., Suite B San Rafael, CA 93108

Sample Description:
Project # 1-945.97, Emeryville

4512 - A water

Compound Analyzed	Detection Limit *PQL (ug/1)	Concent (ug/l		•	tection *PQL (ug		Concentration (ug/l)
Acetone	5Ø.	ND	1,2-Dichle	oroethene	•	1.	1.
▲ Benzene	Ø.5	ND	1,2-Dichle	propropan	e	1.	ND
Bromodichlorometho	ine 1.	ND	c-1,3-Dic	hloroprop	ene	1.	ND
Bromoform	1.	ND	t-1,3-Dic	hloroprop	ene	1.	. ND
Bromomethane	1.	ND	Ethylbenze	ene		1.	ND
▲ 2-Butanone	10.	. · ND	2-Hexanon	9		5.	ND
Carbon Disulfide	1.	ND	Methyl Is	obutyl Ke	tone	^{- :} 5.	ND
Carbon Tetrachlor	lde 1.	ND	Methylene	Chloride	•	5.	ND
Chlorobenzene	1.	ND	Styrene			1.	ND
Chloroethane	1.	ND	1,1,2,2-T	etrachlor	oethane	3.	ND
• 2-Chloroethylviny:	lether 2.	ND	Tetrachlo	roethene		1.	ND
Chloroform	2.	ND	Toluene			1.	ND
Chloromethane	1.	ND	1,1,1-Tri	chloroeth	ione	1.	ND
Dibromochlorometh	one 1.	ND	1,1,2-Tri	chloroeth	ane	1.	ND
1,2-Dichlorobenze	пе 1.	ND	Trichloro	ethene		1.	ND
•							
1,3-Dichlorobenze	• •	ND	Trichloro	fluoromet	hane	1.	ND
1.4-Dichlorobenze	· · · · · · · · · · · · · · · · · · ·	ND	Trichloro	trifluoro	ethane	1.	ND _.
1,1-Dichloroethan		ND	Vinyl Ace	tate		5.	ND
1,2-Dichloroethan		ND	Vinyl Chl	oride		1.	ND
1,1-Dichloroethen	e 1.	ND	Xylenes			1.	ND
Total Purgeable P	etroleum Hydrocarb	ons (Die	sel 2)			5Ø.	ND

*PQL - Practical Quantitation Limit

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 96/92/107
Constituents reported as ND would have been reported if present at or above the detection limit.

finn/65/61/89 f4676v.wr1 MH/vg/mc Respectfully submitted, CENTRAL COAST ANALYTICAL SERVICES

Central Coast
Analytical Services, Inc.
141 Suburban Road, Suite C
San Luis Obispo, CA 93401
(805) 543-2553

Lab Number : F-4673
Collected : #4/14/89
Received : #4/15/89
Tested : #4/26/89
Collected by: M. Stranger

EPA METHOD 8269 Sample Description: Project # 1-545.9

Project # 1-#45.#7, Emeryville TB45, TB#41289-BP#1 water

Western Geologic Resources 2169 E. Francisco Blvd., Suite B San Rafael, CA 93188

	tion Limit L (ug/l)	Concenti (ug/l			oncentration (ug/1)
Acetone	5Ø.	ND	1,2-Dichloroethene	1.	ND
Benzene	Ø.5	ND	1,2-Dichloropropane	1.	ND
Bromodichloromethane	1.	ND	c-1,3-Dichloropropene	1.	ND
Bromoform	1.	ND	t-1,3-Dichloropropene	1.	ND
Bromomethane	1.	ND	Ethylbenzene	1.	. ND
2-Butanone	1ø.	- ND	2-Hexanone	5.	NĎ
Carbon Disulfide	1.	17.	Methyl Isobutyl Ketone	- 5.	ND
Carbon Tetrachloride	1.	ND	Methylene Chloride	5.	ND
Chlorobenzene	1.	ND	Styrene	1.	ND
Chloroethane	1.	ND	1,1,2,2-Tetrachloroethane	3.	ND
2-Chloroethylvinylether	2.	ND	Tetrachloroethene	1.	ND
Chloroform	2.	ND	Toluene	1.	ND
Chloromethane	1.	ND	1,1,1-Trichloroethane	1.	ND
Dibromochloromethane	1.	ND	1,1,2-Trichloroethane	1.	ND
1,2-Dichlorobenzene	1.	ND	Trichloroethene	1.	ND
•					
1,3-Dichlorobenzene	1.	ND	Trichlorofluoromethane	1.	ND
1,4-Dichlorobenzene	1.	ND	Trichlorotrifluoroethane	1.	ND
1,1-Dichloroethane	1.	ND	Vinyl Acetate	5.	ND
1,2-Dichloroethane	1.	ND	Vinyl Chloride	1.	ND
1,1-Dichloroethene	1.	ND	Xγlenes	1.	ND
Total Purgeable Petroleum	n Hydrocarb	ons (Die	esel 2)	5Ø.	ND

*PQL - Practical Quantitation Limit

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 106/102/127

Constituents reported as ND would have been reported if present at or above the detection limit.

finn/#5/#1/89 f4673v.wr1 MH/vg/mc Respectfully submitted, CENTRAL COAST ANALYTICAL SERVICES

Central Coast Analytical Services, Inc. Collected : \$4/14/89 141 Suburban Road, Suite C Received : \$4/15/89 San Luis Obispo, CA 934Ø1

(805) 543-2553

Lab Number : F-4677 Tested : \$4/26/89 Collected by: M. Stranger

EPA METHOD 826# Sample Description:

Project # 1-945.97, Emeryville 45TB, TB#32#89-BP#5, water

Western Geologic Resources 2169 E. Francisco Blvd., Suite B San Rafael, CA 931Ø8

Compound Analyzed D	etection Limit *PQL (ug/1)	Concent (ug/l		Compound Analyzed	Detection *PQL (Concentration (ug/l)
Acetone	5Ø.	ND	1,2-D1	chloroethe	ene	1.	ND
Benzene	Ø.5	ND	1,2-Di	chloroprop	ane	1.	ND
Bromodichloromethane	1.	ND	c-1,3-	Dichlorop	ropene	1.	ND
Bromoform	1.	ND	t-1,3-	Dichlorope	ropene	1.	· ND
Bromomethone	1.	ND	Ethylb	enzene		1.	ND
2-Butanone	1Ø.	 ND	2-Hexc	none .	•	: 5 .	ND
Carbon Disulfide	1.	ND	Methyl	Isobutyl	Ketone	5.	ND
Corbon Tetrachloride	1.	ND	Methyl	ene Chlor	Lde	5.	ND
Chlorobenzene	1.	ND	Styrer			1.	ND
Chloroethane	1.	ND	1,1,2,	2-Tetrach:	loroethar	ne 3.	ND
	_					_	
2-Chloroethylvinyleth		ND		hloroethe	ne	1.	ND
Chloroform	2.	ND	Toluer	. –		1.	ND
Chloromethane	1.	ND		Trichloro		1.	ND
Dibromochloromethane	1.	ND		Trichloro	etnane	1.	ND
1,2-Dichlorobenzene	1,	ND	Trich]	loroethena		1.	ND
1,3-Dichlorobenzene	1.	ND	Trich:	lorofluoro	methane	1.	ND
1,4-Dichlorobenzene	1,	ND	Trich	lorotriflu	oroethan	e 1.	ND
1,1-Dichloroethane	1.	ND	Vinvl	Acetate		5.	ND
1.2-Dichloroethane	1.	ND	•	Chloride		1.	ND
1,1-Dichloroethene	1.	ND	Xylen			1.	ND
Total Purgeable Petr	oleum Hydrocart	ons (Die	sel 2)			5Ø.	ND

*PQL - Practical Quantitation Limit

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: Constituents reported as ND would have been reported if present at or above the detection limit.

finn/#5/#1/89 f4677v.wr1 MH/vg/mc

Respectfully submitted, CENTRAL COAST ANALYTICAL SERVICES

May D. Warlerik Mary D. Havlicek, Ph.D., President WESTERN GEOLOGIC RESOURCES, INC.

ATTACHMENT D

LABORATORY QUALITY ASSURANCE REPORTS

Central Analytical Services, Inc. Lab Number : F-94698 Coast 141 Suburban Road, Suite C-4 Collected: #4/12/89 Analytical San Luis Obispo, California 93401 Received (8\$5) 543-2553 Tested Services

Collected by: B. Pabst

: Ø4/14/89

: **Ø4/25/89**

EXTRACTED BY EPA METHOD 5836 (purge-and-trap) ATTN: Mark Frye

Western Geologic Resources 2169 E. Francisco Blvd. Suite B San Rafael, CA 949#1

EPA METHOD 826# Sample Description: Project #1-945.97, 45TB, TBØ412898PØ2, Water

Detection Limit (ug/L) Concentration Compound Analyzed (ug/L)(Practical Quantitation Limit) not found Ø.1 Benzene Ø.1 not found Bromodichloromethane not found Ø.2 Bromoform Carbon Tetrachloride not found Ø. 1 not found Ø. 1 Chlorobenzene 2-Chloroethyl Vinyl Ether 1. not found Ø.5 not found Chloroform Ø.1 not found Dibromochloromethane 0.1 not found 1,2-Dichlorobenzene not found 0.1 1.3-Dichlorobenzene not found Ø.1 1,4-Dichlorobenzene not found 1,1-Dichloroethane 0.1 Ø.1 not found 1,2-Dichloroethane (EDC) 1,1-Dichloroethene Ø.1 not found Ø.1 not found c-1,2-Dichloroethene not found t-1,2-Dichloroethene Ø.1 not found Ø.1 1,2-Dichloropropane not found Ø.1 c-1,3-Dichloropropene not found t-1,3-Dichloropropene Ø.1 not found Ethylbenzene Ø.1 Ethyl Chloride Ø.1 not found Ø.1 not found Ethylene Dibromide not found Methyl Bromide Ø.1 not found Methyl Chloride Ø.1 not found Methylene Chloride 1. not found 1,1,2,2-Tetrachloroethane 0.5 not found Tetrachloroethylene (PCE) Ø.1 Ø. 1 not found Toluene not found 1,1,1-Trichloroethane (TCA) Ø. 1 not found Ø.1 1,1,2-Trichloroethane not found Trichloroethene (TCE) Ø.1 not found Trichlorotrifluoroethane (f113) 0.5 not found Trichlorofluoromethane(F-11) Ø.5 Vinyl Chloride 0.1 not found Ø.2 not found Xylenes not found 5Ø. Total Purgeable Petroleum

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 107/90/80.

Ø5/Ø1/89/MSD#7 F\$46\$8v.wr1/41 MH/jg/re/tl

Hydrocarbons (Gasoline)

Respectfully submitted, ManNachall Mary Hávlicek, Ph.D., President

Analytical Services, Inc. Lab Number : QS-4259-2 141 Suburban Road, Suite C-4 Collected :

Services

CCAS

Central Coast

Analytical San Luis Obispo, California 934\$1 Received : (8#5) 543-2553

: \$4/25/89 Tested

Collected by:

EXTRACTED BY EPA METHOD 5939 (purge-and-trap)

EPA METHOD 524.2/8269 Sample Description: BOILED WATER SPIKE

Spiked with 2 ug/L VOA Stock

Compound Analyzed	Detection Limit (ug/L)(PQL)*	Concentration w/spike (ug/L)	Percent Recovery
Benzene	Ø.1	1.9	96.
Bromodichloromethane	Ø.1	1.9	93.
Bromoform	Ø.2	1.4	72.
Carbon Tetrachloride	Ø.7	1.4	69.
Chlorobenzene	Ø.1	2.7	134.
2-Chloroethyl Vinyl Ether	1.	not spiked	
Chloroform	Ø.5	1.6	79.
Dibromochloromethane	Ø.1	1.7	85.
1,2-Dichlorobenzene	Ø.1	not spiked	
1,3-Dichlorobenzene	Ø.1	1.9	95.
1,4-Dichlorobenzene	Ø.1	1.5	74.
1,1-Dichloroethane	Ø.1	1.8	9Ø.
1,2-Dichloroethane (EDC)	Ø.1	2.0	101.
1,1-Dichloroethene	Ø.1	1.8	91.
c-1,2-Dichloroethene	Ø.1	1.9	97.
t-1,2-Dichloroethene	Ø.1	1.9	93.
1,2-Dichloropropane	Ø. 1	1.6	79.
c-1,3-Dichloropropene	Ø.1	not spiked	
t-1,3-Dichloropropene	Ø.1	not spiked	
Ethylbenzene	Ø.1	2.6	13Ø.
Ethyl Chloride	Ø.1	1.5	76.
Ethylene Dibromide	Ø.1	not spiked	
Methyl Bromide	Ø.1	1.2	6Ø.
Methyl Chloride	Ø.1	not spiked	
Methylene Chloride	1.	1.8	92.
1,1,2,2-Tetrachloroethane	Ø.5	not spiked	
Tetrachloroethylene (PCE) Ø.1	2.9	144.
Toluene	Ø.1	not spiked	
1,1,1-Trichloroethane (TC	A) Ø.1	1.5	74.
1,1,2-Trichloroethane	Ø.1	2.1	194.
Trichloroethene (TCE)	Ø.1	1.8	91.
Trichlorotrifluoroethane	Ø.5	1.6	82.
Trichlorofluoromethane	Ø.5	1.6	79
Vinyl Chloride	Ø.1	1.6	78.
Xylenes	Ø.2	7.8	13Ø.

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 88/157/131.

Ø5/Ø1/89/MSD#7 Q\$4259v2.wr1/41 MH/b1/t1/t1

Respectfully submitted, Mary Havlicek, Ph.D., President

Analytical Services, Inc. Central Lab Number : B-\$4259 Coast 141 Suburban Road, Suite C-4 Collected Analytical San Luis Obispo, California 934#1

Services (8Ø5) 543-2553 Received Tested : \$4/25/89

Collected by:

EXTRACTED BY EPA METHOD 5#3# (purge-and-trap) EPA METHOD 826#

Sample Description: INSTRUMENT BLANK

Compound Analyzed	Detection Limit (ug/L) (Practical Quantitation Limit)	Concentration (ug/L)
	((09/2)
Benzene	Ø.1	not found
Bromodichloromethane	Ø.1	not found
Bromoform	Ø.2	not found
Carbon Tetrachloride	Ø.1	not found
Chlorobenzene	Ø.1	not found
2-Chloroethyl Vinyl Ether	1.	not found
Chloroform	ø.5	not found
Dibromochloromethane	ø.1	not found
1,2-Dichlorobenzene	Ø.1	not found
1,3-Dichlorobenzene	Ø.1	not found
1,4-Dichlorobenzene	Ø.1	not found
1,1-Dichloroethane	ø.1	not found
1,2-Dichloroethane (EDC)	Ø.1	not found
1,1-Dichloroethene	Ø.1	not found
c-1,2-Dichloroethene	Ø.1	not found
t-1,2-Dichloroethene	Ø.1	not found
1,2-Dichloropropane	Ø. T	not found
c-1,3-Dichloropropene	Ø.1	not found
t-1,3-Dichloropropene	Ø.1	not found
Ethylbenzene	Ø.1	not found
Ethyl Chloride	Ø.1	not found
Ethylene Dibromide	Ø. 1	not found
Methyl Bromide	Ø. T	not found
Methyl Chloride	Ø.1	not found
Methylene Chloride	1.	not found
1,1,2,2-Tetrachloroethane	Ø.5	not found
Tetrachloroethylene (PCE)	Ø.1	not found
Toluene	Ø.1	not found
1,1,1-Trichloroethane (TCA) Ø.1	not found
1,1,2-Trichloroethane	ø.1	not found
Trichloroethene (TCE)	Ø.1	not found
Trichlorotrifluoroethane (not found
Trichlorofluoromethane(F-1	1) Ø.5	not found
Vinyl Chloride	Ø.1	not found
Xylenes	Ø.2	not found

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 88/111/92.

Ø4/28/89/MSD#7 BØ4259v.wr1/41 MH/b1/re/t1

Respectfully submitted, Man Dauliers Mary Havlicek, Ph.D., President

Lab Number : QS-\$4259 Central Analytical Services, Inc. 141 Suburban Road, Suite C-4 Collected Coast

Analytical San Luis Obispo, California 93491 Received

Services (8#5) 543-2553 Tested : #4/25/89

Collected by:

EXTRACTED BY EPA METHOD 5939 (purge-and-trap)

CCAS EPA METHOD 524.2/8268

Sample Description: BOILED WATER SPIKE

Spiked with 2 ug/L VOA Stock

Compound Analyzed	Detection Limit (ug/L)(PQL)*	Concentration w/spike (ug/L)	Percent Recovery
Benzene	Ø.1	1.8	9ø.
Bromodichloromethane	Ø.1	2.5	123.
Bromoform	Ø.2	1.8	88.
Carbon Tetrachloride	Ø.1	1.7	85.
Chlorobenzene	Ø.1	1.2	58.
2-Chloroethyl Vinyl Ether	1.	not spiked	
Chloroform	Ø.5	1.9	97.
Dibromochloromethane	Ø.1	1.8	88.
1,2-Dichlorobenzene	Ø.1	1.3	64.
1,3-Dichlorobenzene	Ø.1	1.1	56.
1,4-Dichlorobenzene	Ø.1	1.2	61.
1,1-Dichloroethane	Ø.1	1.8	91.
1,2-Dichloroethane (EDC)	Ø.1	2.4	121.
1,1-Dichloroethene	Ø.1	1.4	71.
c-1,2-Dichloroethene	Ø.1	1.8	9Ø.
t-1,2-Dichloroethene	Ø.1	1.7	86.
1,2-Dichloropropane	Ø.1	1.9	95.
c-1,3-Dichloropropene	Ø . 1	not spiked	
t-1,3-Dichloropropene	Ø.1	not spiked	
Ethylbenzene	Ø.1	1.2	58.
Ethyl Chloride	Ø.1	1.6	8Ø.
Ethylene Dibromide	Ø.1	not spiked	
Methyl Bromide	Ø.1	2.4	119.
Methyl Chloride	Ø.1	not spiked	
Methylene Chloride	1.	1.8	91.
1,1,2,2-Tetrachloroethane		not spiked	
Tetrachloroethylene (PCE	•	1.2	58.
Toluene	Ø.1	1.2	61.
1,1,1-Trichloroethane (TC	A) Ø.1	2.8	142.
1,1,2-Trichloroethane	Ø.1	1.8	91.
Trichloroethene (TCE)	Ø.1	1.9	95.
Trichlorotrifluoroethane	Ø.5	1.7	85.
Trichlorofluoromethane	Ø.5	1.7	87.
Vinyl Chloride	Ø.1	not spiked	
Xylenes	Ø.2	3.4	57.

Percent Recoveries of Sample-Specific Quality Assurance Spikes are: 84/59/65.

Ø5/Ø1/89/MSD#7 QSØ4259v.wr1/41 MH/jg/tl/tl

Respectfully submitted, Mary Havlicek, Ph.D., President