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PACIFIC ENVIRONMENTAL GROUP, INC.

AUG 1 3 1987

Engineering • Hydrogeology • Chemistry

GETTLER-RYAN INC.

MEMORANDUM Project 120-36.01

Date: August 12, 1987

To: Gettler-Ryan Inc.

1992 National Avenue Hayward, CA 94545

Attn: Mr. Jerry Mitchell

Re: Chevron USA Station No. 1153

3126 Fernside Blvd. (at Gibbons)

Alameda, California

Attached are the results of a well survey program conducted in the vicinity of the Chevron USA station located at 3126 Fernside Boulevard in Alameda, California. The purpose of the survey was to determine the location and available usage and construction information for all documented wells within an approximate 1/2-mile radius of the site. Information included in this well survey was obtained from the California Department of Water Resources (DWR) and the Alameda County Flood Control District (ACFCD).

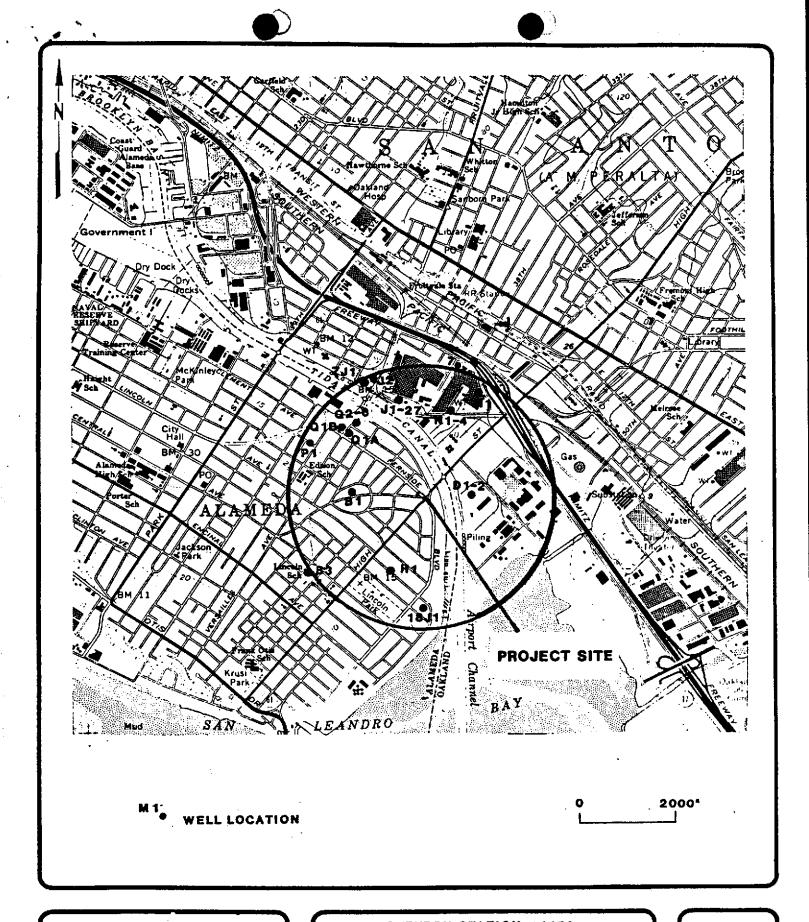
A total of 47 wells have been identified within approximately 1/2 mile of the site (see Figure 1). The majority of these wells are used for groundwater monitoring or cathodic protection purposes. The remainder of the wells are listed with the DWR and the ACFCD as being used for either irrigation or unknown purposes. A summary of the available information regarding the usage and depth of these wells is presented on Table 1.

Based on surface topography and the proximity of the site to Brooklyn Basin Tidal Canal and San Leandro Bay, groundwater gradient within the site vicinity appears to be toward the east. The closest wells to the site, D-1 and D-2, are monitoring wells which are located approximately 1,000 feet east across the tidal canal.

If you have any questions, please call.

PACIFIC ENVIRONMENTAL GROUP, INC.

Erin Garner



PACIFIC ENVIRONMENTAL GROUP, INC. CHEVRON STATION ≠1153 3126 FERNSIDE BLVD. (AT GIBBONS) ALAMEDA, CALIFORNIA

WELL LOCATION MAP

FIGURE

1
PROJECT NO.
120-36.01

TABLE 1 SUMMARY OF WELL SURVEY DATA

Wells Within 1/2-mile Radius of the Site

Well	Depth	Year	Use
Number	(feet)	<u>Drilled</u>	•
2S3W7J1	464	1911	?
2\$3\7J2	180	1910	?
2S3W7J1-27	16-30	1986	Monitoring
2S3W7P1	120	1976	Cathodic
2S3W7Q1A	24	1977	Irrigation
2S3W7Q1B	76	. 1976	Cathodic
2S3W7Q2-6	10-30	1984	Monitoring
2S3W7	292	?	?
253W8Ml	22	1986	Monitoring
2S3W8N1-4	31	1986	Monitoring
2S3W17D1-2	20, 15	1986	Monitoring
2S3W18B1	55	1977	Irrigation
2S3W18B3	40	1977	Irrigation
2\$3W18H1	120	1975	Cathodic
2S3W18J1	16.5	1977	Irrigation

Monitoring wells have been grouped together on this table and on the map (Figure 1). NOTE:

SOURCE:

California Department of Water Resources, and Alameda County Flood Control and Water Conservation

District.



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EVERLIZ ENKISONIKEALIYİ CELONS' TRC

Pacific Environmental Group, Inc.

1601 Civic Center Drive

Suite 202

Santa Clara, CA 95050

August 4, 1987

AUG 1-3 1987

GETTLER-RYAN INC.

SEMERAL CONTRACTORS

ATTN: Erin Garner

Following are the results of analyses on the samples described below.

Project Number:

120-36.02, CUSA, Fernside & Gibbons

Lab Numbers:

\$7-07-171-01 thru \$7-07-171-03

Number of Samples:

Sample Type: Date Received: water 7/22/87

Analyses Requested: Low Boiling Hydrocarbons

The method of analysis for low boiling hydrocarbons is taken from E.P.A. Methods 8015, 8020 and 5030. The sample is examined using the purge and trap technique. Final detection is by gas chromatography using a flame ionization detector as well as a photoioniozation detector.

The result for total low boiling hydrocarbons is calculated as gasoline and include benzene, toluene, ethyl benzene and xylenes.

FR/ksr

1 Page Following - Table of Results

IT/Santa Clara to
Pacific Environmental Group, Inc.
ATTN: Erin Garner

August 4, 1987
Page 1 of 1

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AUG 1 3 1987

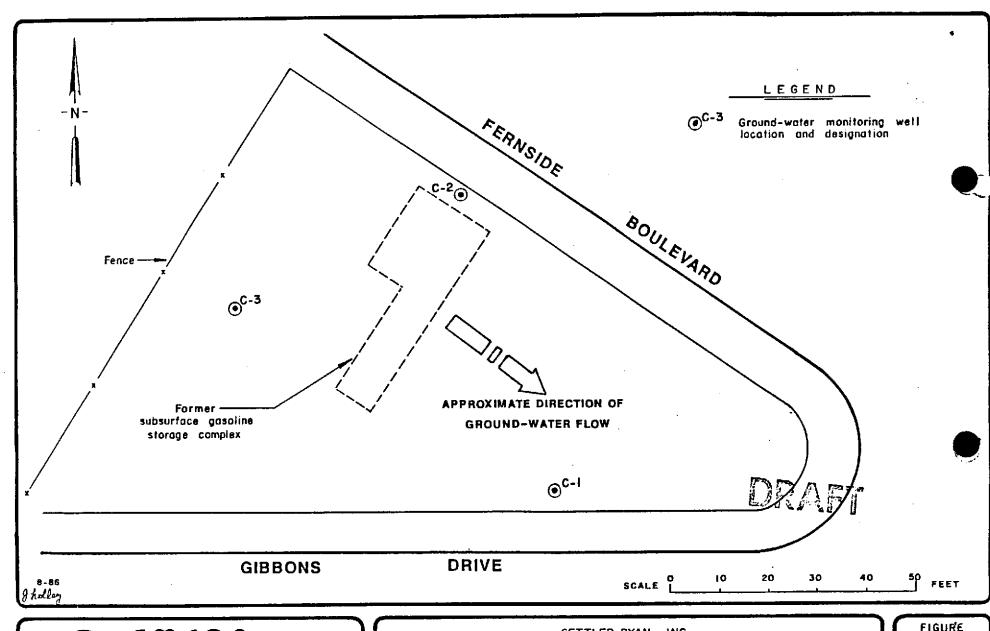
Summary of Results

GETTLER-RYAN INC.

Project Number: 120-36.02, CUSA, Fernside & Gibbons

SEMERAL CONTRACTOR

		Micrograms per Liter							
nd = none det Lab Number	Sample Identification	Low Boiling Hydrocarbons (Gasoline)	Benzene	Toluene	Ethyl benzene and xylenes				
s7-07-171-01	C-1	1,100.	25Ø.	7.	40.				
s7-Ø7-171-Ø2	C-2	nd	1.8	nd	nd				
s7-Ø7-171-Ø3	C-3	nd	nd	nd	nd				
Detection Lin	iit.	5Ø.	ø . 5	1.	4.				





GETTLER-RYAN INC.
SUBSURFACE HYDROGEOLOGIC INVESTIGATION
FORMER CHEVRON SERVICE STATION, FERNSIDE BLVD. È GIBBONS DR.
ALAMEDA, CALIFORNIA

MONITORING WELL LOCATION MAP

FIGURE
PROJECT NO.
800-75.01



RECEIVED

SEP 1 9 1986

MEMORANDUM

GETTLER-RYAN INC.

September 18, 1986 Project 800-75.01

Gettler-Ryan Inc. 1992 National Avenue Hayward, California 94545

Attention: Mr. Jeffrey M. Ryan

Re: Former Chevron Service Station, Fernside Blvd. and Gibbons Drive, Alameda, California Station # 1153

Gentlemen:

This memorandum documents the installation of three monitoring wells (C-1 through C-3) on August 18, 1986 by EMCON Associates at the former Chevron service station located at Fernside Boulevard and Gibbons Drive in Alameda, California. The locations of the monitoring wells are shown on the attached Figure 1.

The borings for Wells C-1, C-2, and C-3 were drilled using continuous-flight hollow-stem auger drilling equipment, and were logged by an EMCON geologist. Soil samples for logging were obtained from auger return materials and by advancing a California modified split-spoon sampler into undisturbed soil beyond the tip of the auger. Upon completion, all borings were converted to 3-inch monitoring wells. Well details accompany the attached Exploratory Boring Logs.

The borings encountered interbedded sand, silty sand, and clayey sand to the total depth explored of 22-1/2 feet. Ground water was encountered at a depth of approximately 4 feet. Strong product odor was noted in soils from Borings C-1 and C-2 from depths ranging between 1-1/2 and 5-1/2 feet. Faint product odor was noted in sand fill from Boring C-3 at a depth of 1 foot, and in soils from Boring C-1 at 9 feet.

The monitoring wells were field-checked for water level and presence of floating product by EMCON on September 4, 1986. No floating product was found in any of the wells. Therefore, ground water samples were collected from each of the wells. Prior to sampling, four casing volumes of water

Headquarters:

1921 Ringwood Avenue, San Jose, California 95131, (408) 275-1444

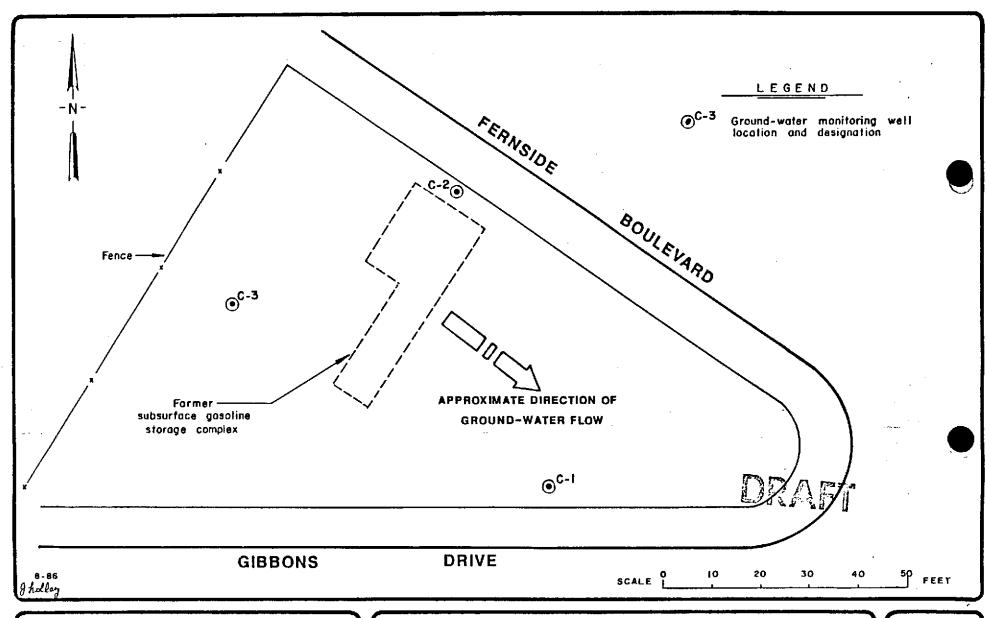
Branch office: 445 W. Garfield Avenue, Glendale, California 91204

Gettler-Ryan Inc. September 15, 19 Page 2

were purged from the wells using a suction pump. The ground-water samples were then colleted using a teflon bailer. The samples were placed on ice and delivered directly to a certified analytical laboratory. The samples were analyzed for the presence of gasoline and BTX (benzene, toluene, xylene) compounds. Gasoline was detected in ground-water samples from C-1, C-2 and C-3 at 15,000 parts per billion (ppb), 1,000 ppb and 50 ppb, respectively. Certified analytical reports and methods of analysis are attached.

If you have any questions regarding the contents of this memorandum, please do not hesitate to call.

Susan M. Willhite





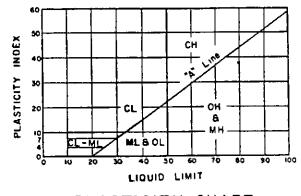
GETTLER-RYAN INC.
SUBSURFACE HYDROGEOLOGIC INVESTIGATION
FORMER CHEVRON SERVICE STATION, FERNSIDE BLVD. & GIBBONS DR.
ALAMEDA, CALIFORNIA

MONITORING WELL LOCATION MAP

M	AJOR SIONS	SYMBOLS	TYPICAL DESCRIPTIONS
		GW	Well graded gravels or gravel—sond mixtures, little or no fines
ILS sieve size)	GRAVELS	GP	Poorly graded gravels or gravel-sand mixtures, little or no fines
SOIL:	(More than 1/2 of coarse fraction) no. 4 sieve size)	GM CO	Silty gravels, gravel-sand-silt mixtures
GRAINED SO		GC	Clayey gravels, gravel-sand-clay mixtures
	<u>;</u>	sw	Well graded sands or gravelly sands, little or no fines
COARSE than 1/2	SANDS	SP	Poorly graded sands or gravelly sands, little or no fines
More 1	(More than 1/2 of coarse fraction (SM	Sitty sands, sand-sitt mixtyres
		sc	Clayey sands, sand-clay mixtures
e size)	SILTS & CLAYS	ML	Inorganic silts and very fine sands, rack flour, silty or clayey fine sands or clayey silts with slight plasticity
SOILS 200 sieve	LL (50	CL	Inarganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		OL	Organic silts and organic sitty clays of low plasticity
15 2	SILTS & CLAYS	мн	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
FINE (LL>50	СН	Inorganic clays of high plasticity, fat clays
(More t		он	Organic clays of medium to high plasficity, organic silty clays, organic silts
Н	IGHLY ORGANIC SOILS	Pt	Peat and other highly organic soils

CLASSIFICATION CHART (Unified Soil Classification System)

CLASSIFICATION								
	U.S. Standard Sieve Size	Grain Size in Millimeters						
BOULDERS	Above 12"	Above 305						
COBBLES	12" to 3"	305 to 76.2						
GRAVEL coarse fine	3" to No. 4 3" to 3/4" 3/4" to No. 4	76.2 to 4.76 76.2 to 19.1 19.1 to 4.76						
SAND coarse medium fine	No. 4 40 No. 200 No. 4 to No. 10 No. 10 to No. 40 No. 40 to No. 200	4.76 to 0.074 4.76 to 2.00 2.00 to 0.420 0.420 to 0.074						
SILT & CLAY	Below No. 200	Below 0.074						



PLASTICITY CHART

GRAIN SIZE CHART

METHOD OF SOIL CLASSIFICATION



NOTES:

Logs of Exploratory Borings

2.5 YR, 6/2

Denotes color as field checked to Munsell Soil Color Charts (1975 Edition)

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Denotes undisturbed sample taken in 2-inch split-spoon sampler.

X

Denotes disturbed sample (bag sample).

 ∇

Denotes first observation of groundwater.

V

Denotes static ground-water level.

NR

No recovery

Penetration

Sample drive hammer weight = 140 pounds, drop = 30 inches. Blows required to drive sampler 1 foot are indicated on logs.

(ALA		LOG 🌒							PROJECT NO. 100-15.01 DATE 8-18-86 BORING NO. CLIENT GR. NON (C)				
	7	cvn: C				.		ا ہ	LOCATION ALAMEROA				
EMCO	n l	EXPLC	KHI	JKY	RC)K	11 19	5	LOGGED BY FEL DRILLER BAYLAND	Sheet			
ATTOCIATI	11									of/_			
Field la	Field location of boring: - 3								Drilling method H-S AUGER				
									Casing Installation data 3" PVC SCOTTED CHEMO IN S.				
		~ ~ ~ ~ ~ ~		17:	-115	Ś			2027027 SOUD TO SUPPLE SAND PACK TO +	Lett co			
]	Ground Elev.								TO 14"; CONCRETE TO SUCFACE.	BENDUM			
Ground	Elev.	100	,	atum"					TO THE POSITION OF THE PARTY OF				
	٤	S		7		l '	a		Water level 481 411				
T B T	~ Ē,		• e	a d	₽	ě	[2	6 S	Time 13.05 16.06				
Pocket Torr vand TSF	Pocket	Blows/ft. or Pressure P	Type of Sample	Skapte	Depth	Sample	Soll Group	Symbol (U.S.C.S.)	Date 8-18-81 8-18-86				
_ <u>_</u> _	Pocket Penetromet		– 67	W 2	-		မိ	"≠	DESCRIPTION	•			
							ربك	12.5	SAD FILL; BROWN (104R,5/8): 10-20%	FINES:			
		` .] 2.			-	70-80% FINE SAM 1 10-20% ME	D Sono			
			*			<u> </u>	8		PILE GLAVEL COSE PRY				
		4/4/4	78-1	0	- 4	14.1	77	<u>' : :</u>	SAND. DARLY GAMY (254, NY):				
	25	17 4	100%		14.		\$	//	FINE SAND: LOGE; WET, STRONG GAS	5-10% FINE			
					16-			1		<u></u>			
					18-	<u> </u>			CLAYEY SAND; MRX GRAY (254, N4)	30-40%			
<u> </u>	3,0	178716	70-1	(2)	1 -	77		11	FINES; FINE SAND. VERY STIPF; WET; OAS ODOL.	STRUNG			
	3,0	$\frac{11010}{1}$	1007	1027	 	12.0	1	//		OUN (25)			
					12-]	1	YIZ): FAINT GAS GOOZ	OUN CELY			
					۔ عرا	_		X/					
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	}	7/12/18	DE-C	(3)	1	154	ł		FINES: 80-90 & FILLE SAM!	5-10%			
		71.5118	100%		16.	 	1	,	MEDIUM SAND; MEDIUM DENSE; W				
					16]		CAS OPOLE	100			
+		171-22	722-1	 	۱"	18.00							
<u> </u>	-	12/2936	100%	8	₹	*			GRAVEL: VERY DENSE; NPO	שאות סד			
		10/12/17	_	(3)	2		œ	1//	Brance, Mary MANAGE, AIND.				
	3.0		100%	-		T.C	<u>~</u>	6/5	ELAYEY SAND: GRAYISM BROWN (254)	5/2); 25-			
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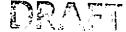
WELL DETAILS

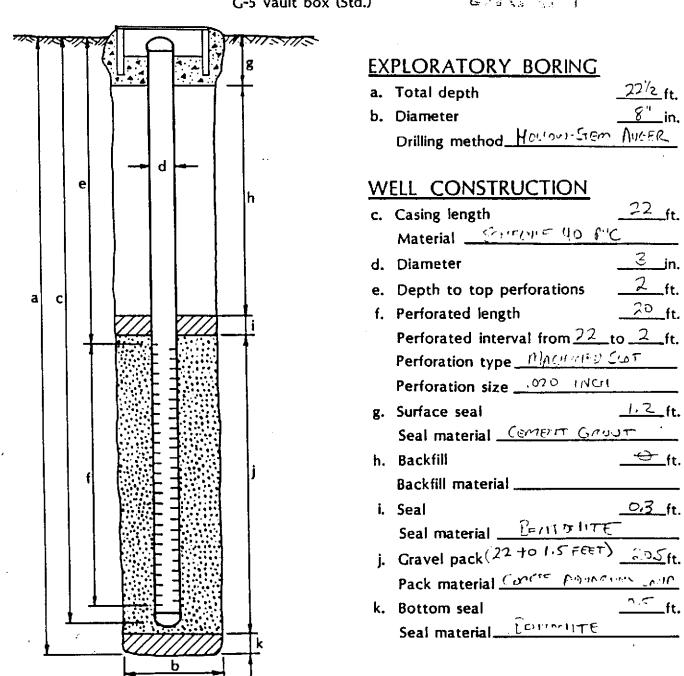


PROJECT NUMBER 800.75.01 PROJECT NAME G-P (HEVPING) COUNTY ALAMEDA

BORING / WELL NO. C-1 _____ TOP OF CASING ELEV.__ GROUND SURFACE ELEV. $7'\pm$ MSL WELL PERMIT NO. _____ DATUM USGS

G-5 vault box (Std.)





EMCON Field locat	lon of t		RATO		ВС	OR!	ING	PROJECT NO. 800-15:0 DATE &-15-50 BORING CLIENT GR TYRON C-2 LOCATION ACAMEDIT Sheet LOGGED BY EBL DRILLER PAYLITY D of Drilling method HS AUCER Hole dia 8 Casing Installation data 3" PIC SUTTED (ASING INSTALLED FE DE TO SUPPLE SAME SAME SAME TO SUPPLE TO SUPPLE SAME TO 15 BENTONITE TO 14"; CONCRETE TO SUPPLE				
•	<u> </u>	Blows/II. or Pressure PSI	Type of Sample	Sample	Depth	Sample	Soil Group Symbol (U.S.C.S.)	Water level 4,1 Time 16,04 Date 8-8-6 DESCRIPTION				
		7/18/19 5/15/15	DR-L 100%		2 4 6 8 0 1 4 6 8 20 22 21 26 28 20		3 5 7 8	DENSE; WET; NO PRODUCTIONS.				

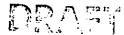
WELL DETAILS

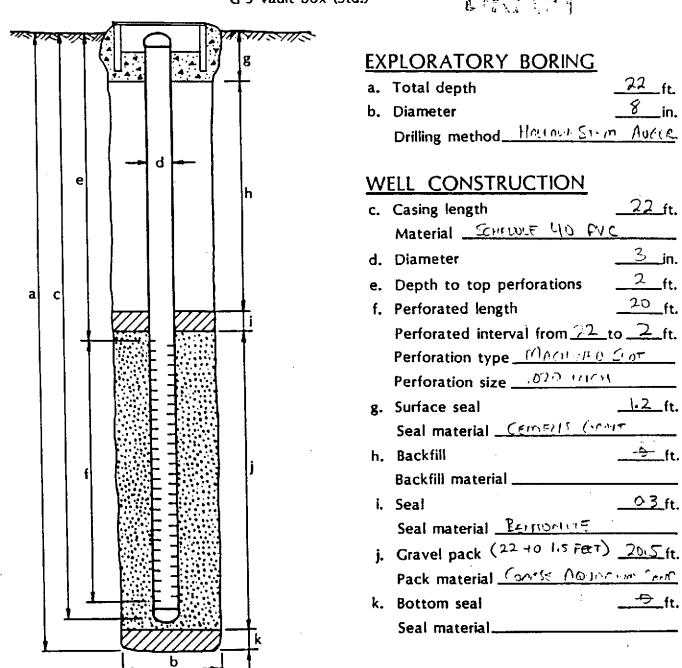


PROJECT NUMBER 800-75.01 PROJECT NAME GR CHEVRON TOP OF CASING ELEV. COUNTY ALAMEDA GROUND SURFACE ELEV. 7 1/2 MSL WELL PERMIT NO. _____ DATUM USGS

BORING / WELL NO. C-2

G-5 vault box (Std.)





EXPLORATORY BORING									PROJECT NO. 800-15.01 DATE 6-18-86 CLIENT GR (YRON C-3 LOCATION ALMEDA Sheet 1 LOGGED BY BL DRILLER BMLAND of 1				
Field loc	Field location of horizotsiDE								Drilling method H-S. AVCTR2 Hole dia				
Ground Elev. C3								:	Cooling installation data 3" PUC SCOTTED CASING INSTALLED FROM 22 TO 2 FEET, SOLIDS PUC FROM 2 FROM 2 FROM 18" BENTONITE FROM 16" +014"; CONCRETE FROM 14" TO SURFACE.				
Pocket Tors van	Pocket Ienetrometer TSF	Blows/ft. or Pressure PSI	Type of Semple	Sample	Depth	Sample	Soil Group	Symbol (U.S.C.S.)	Water level 4.0' Time 1.676 Date 8-10-86				
	ă.	Q.			2-		ببری ام	242	DESCRIPTION SAND-FILL; DUVE GRAY (54, 4/2); 10-70% FINTS - 60-70% FINT SANO; 10-20%, MEDIUM TO COARSE SANO; 10-20%, FINE TO COARSE GRAVEL;				
		2/5/7	D-L 20%	0	4-6		7 ▼		SAND; UT OF MALL GRANGE; DESTRONGE; THAT GAS DOUR. SAND; UT OF MALL GRANGE REDURN (10 (R; 3/2); 5-10/0 FINES; FINE SAND; 10-20%; INEXUM TO CORSE SAND; LUDSE; MAINT; NO				
	20	5/8/11	1V-C 100 x	<u> </u>	10-		8		GAYEY SAND; GRENISH LROWN (104R, 5/2); 4050% FINES: FINE SAND: STIFF WETIND PRIMER ODDR; ROOT FRAGMENTS AND HOLES.				
	3.0	1/25/35	100%	3	17-	100	SP SC	<u>```</u>	SANDI BROWN (10 YR; 4/3); 5-10% FINT:				
	3.0		100 4		16.		æ		1) O Prout 00012. CARTISHO: BROWN (104/R, 5/R): 25-35% FINES: FINES: FINES: FINES: FINES: FINES: FINES: WET: NO (KNOCT DOOK).				
	1.5	15/11/15	Del 1807,	(y)			SC	27	SAND: BROWN (10 YR, 4/3); > 10 % FINES; 80-10% FINE SAND; MEDIUM DENSE; LUFT; NPO CLAYEY SAND: DRX GRAY (25 Y, NY); 35-45% FINES; FI SAND; STIFF, WET; NPO				
					36				BOTTOM OF BUZING AT 22 FOFT				
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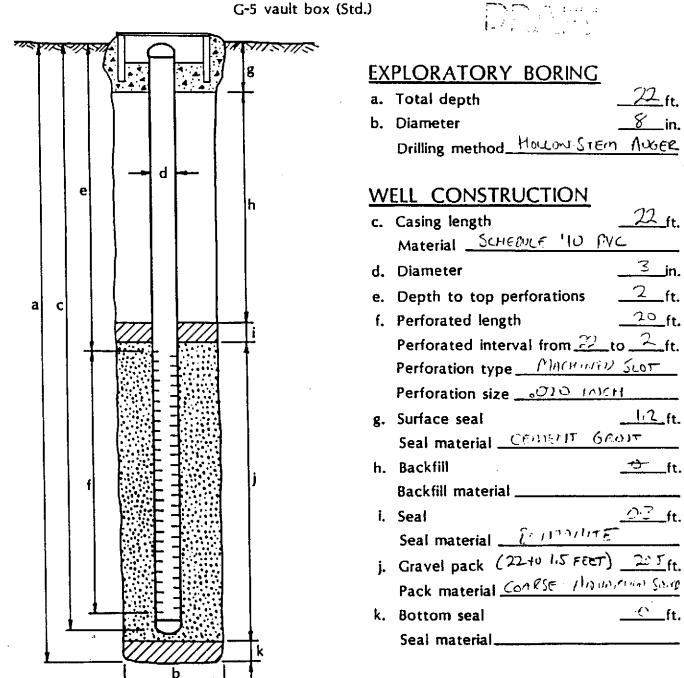
WELL DETAOS



PROJECT NUMBER FOO-75.01 BORING / WELL NO. 6-3 PROJECT NAME GR CHEYRON COUNTY ALAMEDA GROUND SURFACE ELEV. 7' ± MSL

TOP OF CASING ELEV. WELL PERMIT NO. _____ DATUM ___ USGS





LABORATORY METHODS

The method of analysis is taken from EPA methods 5030, 8015, 8020 and 602. Five milliliters of water sample or 50 microliters of methanol extract of a solid soil sample mixed in 5 milliliters of reagent are purged using an inert gas to transfer the analyze compounds from the liquid phase to the vapor phase. The vapor is passed through a sorbent tube in which the compounds of interest are trapped. When the purging of the liquid sample is complete, the sorbent trap is heated and back-flushed with the inert gas, and the compounds are transferred in this gas to a gas chromatograph. The compounds enter a chromatographic column that is temperature programmed to separate the compounds. The compounds are eluted off the column in the gas phase and enter a photo-ionization detector followed in series by a flame-ionization detector. The latter combination allows for discrimination between aliphatic and aromatic compounds. Quantitation is performed by integration under all peaks obtained. Benzene, toluene, xylene, and ethylbenzene are quantitated by comparison to fresh or evaporated gasoline standards.

EMCON SOCIATES . CHEMICAL LOCATORIES

Analysis • Consultation • Research • Environmental Studies
State Approved Water Laboratory



Project Number: 800-75.01

CERTIFIED ANALYTICAL REPORT

Report to:

Gettler-Ryan

1992 National Ave. Hayward, CA 94545

Location: Chevron, Alameda

Sample Type: WATER

Units: ug/1

Sample Designation:	C01	C02	CO3	
Field Date:	09/04/86	09/04/86	09/04/86	
Laboratory Number:	E86-0809	E86-0809	E86-0809	
Benzene	760	49	3.2	
Toluene	820	18	5.4	
Xylenes and Ethylbenzene	1500	84	5.8	
Volatile Hydrocarbons due to Gasoline	15000	1100	50	

Page 1

Reported by Muly Munoh

Date: 9-15-86