TERRA VAC

DRILLING REPORT
FORMER CHEVRON STATION 9-4587
609 OAK STREET
OAKLAND, CALIFORNIA
PROJECT #30-0219

8-30-95

TERRA VAC

DRILLING REPORT
FORMER CHEVRON STATION 9-4587
609 OAK STREET
OAKLAND, CALIFORNIA

Prepared For

Chevron U.S.A. Products Company
6001 Bollinger Canyon Road
San Ramon, California 94583

Prepared By

Terra Vac Corporation
San Leandro, California

Cliff M. Garratt
Hydrogeologist

Timothy M. Warner
Project Manager

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Division Manager

REGISTERED GEOLOGIST
JAMES A. PERKINS
6/96
№ 4472
STATE OF CALIFORNIA

August 30, 1995

DRILLING REPORT
FORMER CHEVRON STATION 9-4587
609 OAK STREET
OAKLAND, CALIFORNIA

1.0 INTRODUCTION

The site, located at 609 Oak Street in Oakland, was formerly a Chevron Service Station (No. 9-4587). The underground storage tanks (USTs) and associated piping have been removed from the site. Previous environmental investigations conducted at the site have confirmed the presence of petroleum hydrocarbons in the soil and groundwater beneath the service station site. Currently the site is a vacated car wash.

Chevron contracted Terra Vac to design and install a dual vacuum extraction remedial system at the former station. Included in the project is the installation of five dual vapor extraction wells/air sparge wells and five dual vapor extraction wells (Figure 1). The new wells will be incorporated into the remedial system.

2.0 FIELD INVESTIGATION

Between July 10 and July 12, 1995, Spectrum Exploration, Inc., under the direction of Terra Vac, drilled and completed five dual vapor extraction wells (DVE-1 through DVE-5) and five dual vapor extraction/air sparge wells (DVSP-1 through DVSP-5). A CME 75 truck mounted drill rig using 10 and 12-inch diameter hollow-stem augers was used to drill the borings. The total depth and screen interval of each well was determined in the field based on subjective evaluation of hydrocarbon concentrations (PID measurements), lithologies, and groundwater levels.

Soil samples were collected at five-foot intervals from each boring using a modified split-spoon sampler. The sampler was driven eighteen inches ahead of the augers using a standard 140 pound hammer repetitively dropped 30 inches. A minimum of three samples per boring were collected for lithology classification and volatile screening analysis. A hand-held ProREA-75 photo ionization detector (PID) was used to examine each set of soil samples collected. The Unified Soils Classification System was used in the field to describe the soil characteristics and moisture content of the samples.

gw ?

Each well was constructed of Schedule 40 PVC well screen and riser. A slot size of 0.010 inches was selected based on the targeted lithology (poorly graded fine sand) at the site. The filter pack for each well consists of Lone Star 2/12 silica sand. Dual completed air sparge wells were backfilled with 3/8" bentonite from the top of the lower filter pack to the within one foot of the DVE well screen. A one foot-thick bentonite seal (hydrated 3/8" chips) was placed between the filter pack and the grout. The well seal is composed of neat cement grout. Well logs containing well construction information are presented in Appendix A. All wells were completed below grade.

Standard decontamination procedures for on site equipment were followed to prevent cross contamination between borings. Prior to use, the soil sampler was cleaned using an Alconox wash and rinsed with potable water. Upon well completion, auger flights, the auger bit, and other pieces of intrusive equipment were steam cleaned to prevent cross contamination between borings.

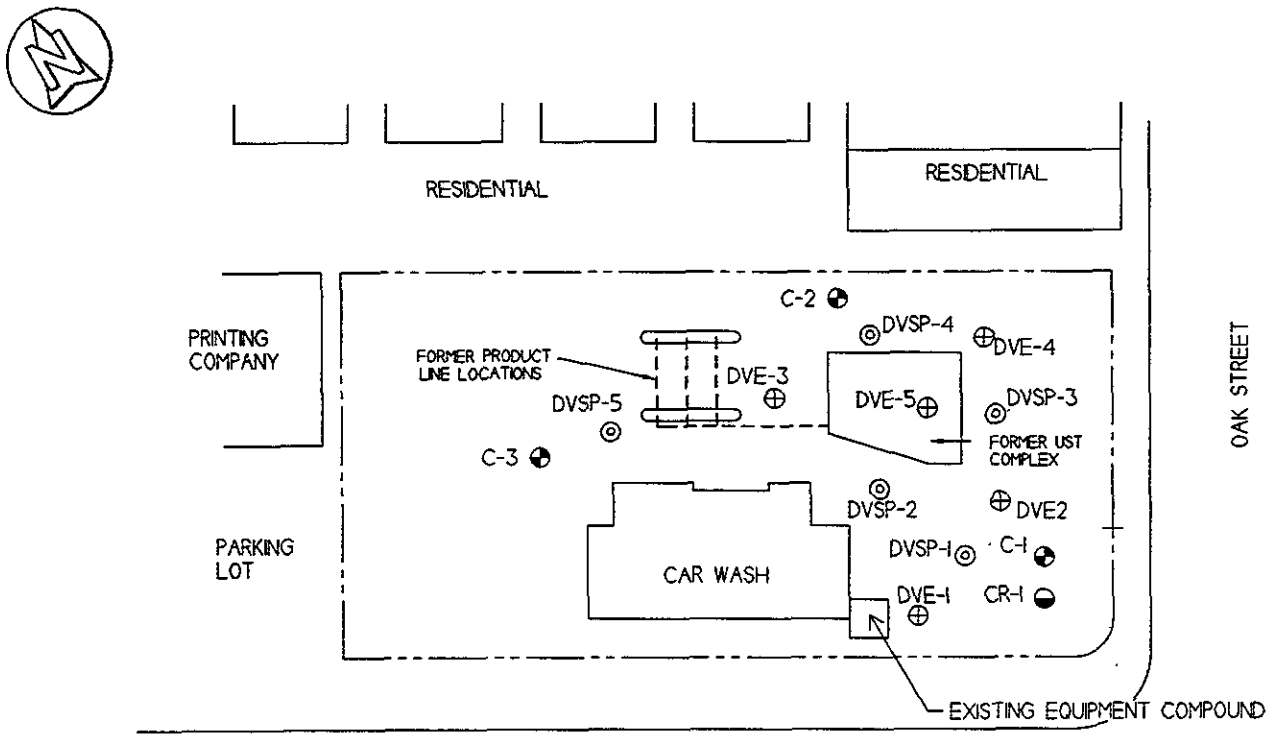
3.0 ANALYTICAL RESULTS

Selected soil samples were submitted for analytical testing. Upon return of the split-spoon, samples were capped, labeled and stored on ice until transported to the laboratory. A chain of custody form was initiated by the sampling personnel and completed during subsequent handling of the samples. Analytical testing was conducted by Sequoia Analytical Laboratories (a State of California certified laboratory) of Redwood City, California, using EPA method 8020 for Total Petroleum Hydrocarbons as gasoline (TPH-g) and EPA method 8015 for benzene, toluene, ethylbenzene and xylenes (BTEX). Laboratory analytical results of analyses are included in Appendix B. A summary of these results is presented in Table 1.

4.0 FINDINGS

Lithology at the site is characterized by clayey silt overlaying poorly sorted fine sand to a depth of approximately 13.5 feet. An apparent laterally continuous clayey sand unit was encountered below the sand unit. Measured depth to groundwater ranged from 9.0 to 10.15 feet below grade.

gw during drilling ?



northeast soil

LEGEND

C-1 ◔ - Groundwater Monitoring Well

CR-1 ◒ - Groundwater Recovery Well ✓

⊕ - Entrainment Extraction Well ✓ as per wp - 5

◎ - Dual Completed Well ✓ 5

EXTENDED SITE MAP
Former Chevron Station 9-4587
609 Oak Street
Oakland, California

Project	30-0219	Drawn by	CMG
Date	8/18/95	Revision	
Scale	1" = 50'	Checked	

TERRA VAC
14798 Wicks Boulevard
San Leandro, CA 94577
(510) 351-8900 fax: -0221

Figure 1

7-10-95

TABLE 1
SUMMARY OF ANALYTICAL RESULTS

Sample No.	TPH-g	Benzene	Toluene	Ethylbenzene	Xylene
DVE1-10.3	1.0	0.31	0.098	0.025	0.12
DVE2-14.0	7.6	1.0	0.032	0.43	1.3
DVE3-10.2	<1.0	0.13	0.071	0.021	0.082
DVE4-10.1	2.8	0.24	<0.0050	0.10	0.16
DVE5-18.8	5.6	0.045	0.055	0.26	1.3
DVSP1-15.5	8.5	4.2	<0.0050	0.47	0.069
DVSP2-10.5	<1.0	0.066	<0.0050	0.0096	<0.0050
DVSP3-15.5	<1.0	0.012	0.0082	0.0074	0.045
DVSP4-5.5	<1.0	<0.0050	<0.0050	<0.0050	<0.0050
DVSP5-10.5	700	15	8.3	25	140

as per wp

Analytical results in mg/kg (ppm).
< Value = None detected above the specified detection limit.
Analysis by Sequoia Analytical Laboratories of Walnut Creek on July 17 and 18, 1995

Project #30-0219
August 30, 1995

APPENDIX A

BORING/WELL LOGS

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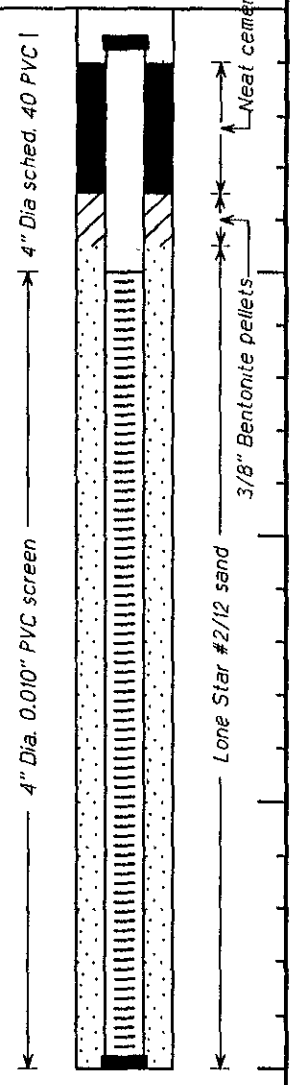
14798 Wicks Boulevard, San Leandro, CA 94577

LOG OF DVE-1

BLOWS/FT	PID (ppm)	SAMP.NO.	DEPTH (ft)	SAMPLES	SYMBOLS	MATERIALS DESCRIPTION
						FILL
					ML	SILT, 10-15% clay, trace coarse sand, olive gray (5Y5/2), very stiff, damp, low plasicity, iron staining
16	12.8	DVE1-5.5 DVE1-5.8	5			
					SP	SAND, fine, poorly graded, olive (5Y4/3), loose, damp, woody debris, organic staining
15	141.4	DVE1-10.2	10		SC	SAND, fine, poorly graded, 25-30% clay, light olive brown (2.5Y5/3) with dark greenish gray (10GY4/1) mottling, medium dense, moist, medium plasticity
					SP	SAND, fine, poorly graded, light olive brown (2.5Y5/3) with dark greenish gray (10GY4/1) mottling, medium dense, moist
10	23.9	DVE1-14.0 DVE1-14.3	15			
28	7.7	DVE1-19.0 DVE1-19.3	20			AS above, trace fines, dark greenish gray (10GY4/1) with light olive brown (2.5Y5/3) mottling, wet
			25			*Bottom of boring at 20 feet.*

WELL DIAGRAM



PROJECT	Chevron SS #9-4587	DRILLING COMPANY	Spectrum Exploration
LOCATION	609 Oak Street, Oakland	DATE DRILLED	7/12/95
JOB NUMBER	30-0219	SURFACE ELEVATION	Not surveyed
GEOLOGIST	Cliff M. Garratt	TOTAL DEPTH OF HOLE	20 Feet
BORING DIAMETER	10 in. dia Hollow Stem Auger	FIRST OBSERVED GW	

TERRA VAC CORPORATION
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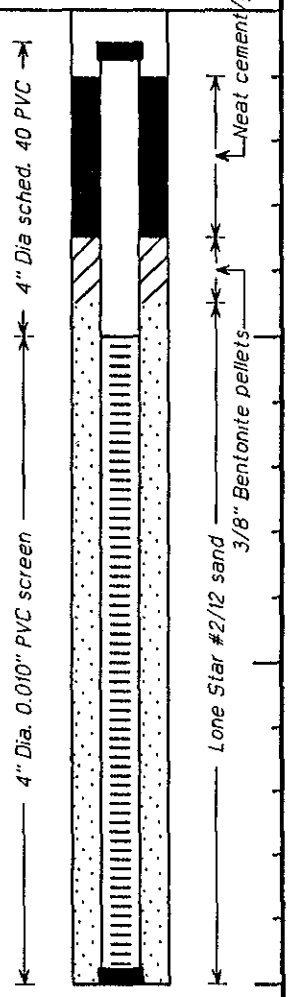
LOG OF DVE-2

BLOWS/FT	PID (ppm)	SAMP.NO.	DEPTH (ft)	SAMPLES	SYMBOLS	MATERIALS DESCRIPTION
						CONCRETE SLAB
						ML SILT, 15-20% clay, trace subrounded gravel, olive gray (5Y4/2), stiff, damp, low plasicity, mottling
15	6.1	DVE2-5.2 DVE2-5.5	5			
						AS above, some concrete rubble
30	14.9	DVE2-10.2	10			SP SAND, fine, poorly graded, trace clay, olive (5Y4/3), dense, damp
						SC SAND, fine, poorly graded, 15-20% clay, dark olive gray (5Y3/2) with dark greenish gray (10GY4/1) mottling, medium dense, wet,
13	18.2	DVE2-14.0 DVE2-14.3	15			
						Bottom of boring at 15 feet.
			20			▼ = Measured depth to groundwater

WELL DIAGRAM



PROJECT	Chevron SS #9-4587	DRILLING COMPANY	Spectrum Exploration
LOCATION	609 Oak Street, Oakland	DATE DRILLED	7/11/95
JOB NUMBER	30-0219	SURFACE ELEVATION	Not surveyed
GEOLOGIST	Cliff M. Garratt	TOTAL DEPTH OF HOLE	15 Feet
BORING DIAMETER	10 in. dia Hollow Stem Auger	FIRST OBSERVED GW	

TERRA VAC CORPORATION
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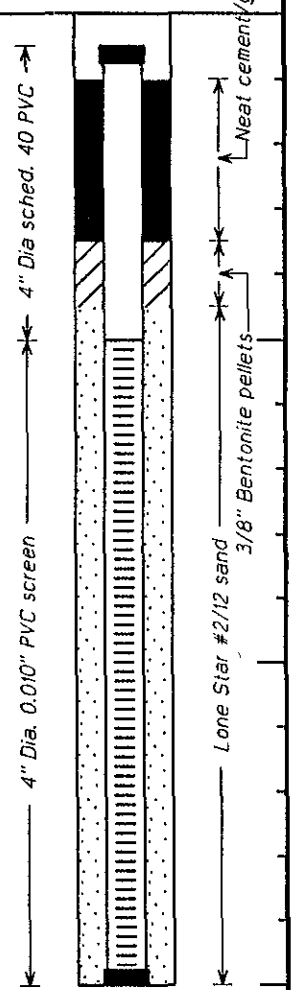
LOG OF DVE-3

BLOWS/FT	PID (ppm)	SAMP.NO.	DEPTH (ft)	SAMPLES	SYMBOLS	MATERIALS DESCRIPTION
						FILL, pea gravel
					ML	
	12.9					SILT, 30-35% medium sand, trace clay, dark grayish brown (2.5Y4/2), soft, damp, low plasicity
20	15.5	DVE3-5.2 DVE3-5.5	5			
						AS above, 15-20% fine to medium sand, fine sand stringers, trace clay, olive gray (5Y4/2), very stiff, damp, low plasticity
					SP	
						SAND, fine, poorly graded, trace coarse sand, very dark gray (5Y3/1), medium dense, damp, trace woody debris, iron staining
16	42.2	DVE3-10.2 DVE3-10.5	10			
					SC	
						SAND, fine, poorly graded, 20-25% clay, dark greenish gray (10Y4/1), medium dense, wet, some woody debris, mottling
19	6.9	DVE3-14.0 DVE3-14.3	15			
						Bottom of boring at 15 feet.
			20			▼ = Measured depth to groundwater

WELL DIAGRAM



PROJECT	Chevron SS #9-4587	DRILLING COMPANY	Spectrum Exploration
LOCATION	609 Oak Street, Oakland	DATE DRILLED	7/10/95
JOB NUMBER	30-0219	SURFACE ELEVATION	Not surveyed
GEOLOGIST	Cliff M. Garratt	TOTAL DEPTH OF HOLE	15 Feet
BORING DIAMETER	10 in. dia Hollow Stem Auger	FIRST OBSERVED GW	

TERRA VAC CORPORATION
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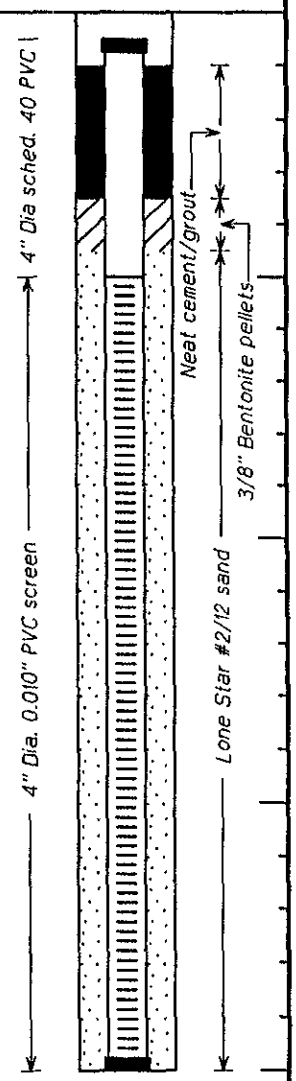
LOG OF DVE-4

BLOWS/FT	PID (ppm)	SAMP.NO.	DEPTH (ft)	SAMPLES	SYMBOLS	MATERIALS DESCRIPTION
						CONCRETE SLAB
					ML	SILT, 30-35% clay, trace medium sand, olive (5Y4/3), stiff, damp, low plasicity
					SP	SAND, graded trace fines, dark yellowish brown (10YR4/6) dense, damp
34	10.9	DVE4-5.3	5			
18	62.9	DVE4-10.1	10			
					SC	SAND, fine, poorly graded, 20-25% clay, very dark grayish brown (2.5Y3/2) with dark greenish gray (10GY4/1) mottling, medium dense, damp
27	7.7	DVE4-14.0 DVE4-14.3	15			
					SP	SAND, fine, poorly graded, trace fines, very dark grayish brown (2.5Y3/2) medium dense, wet
30	1.0	DVE4-18.5 DVE4-18.8	20			
						Bottom of boring at 20 feet.
			25			▼ = Measured depth to groundwater

WELL DIAGRAM



PROJECT Chevron SS #9-4587	DRILLING COMPANY Spectrum Exploration
LOCATION 609 Oak Street, Oakland	DATE DRILLED 7/11/95
JOB NUMBER 30-0219	SURFACE ELEVATION Not surveyed
GEOLOGIST Cliff M. Garratt	TOTAL DEPTH OF HOLE 20 Feet
BORING DIAMETER 10 in. dia Hollow Stem Auger	FIRST OBSERVED GW

TERRA VAC CORPORATION
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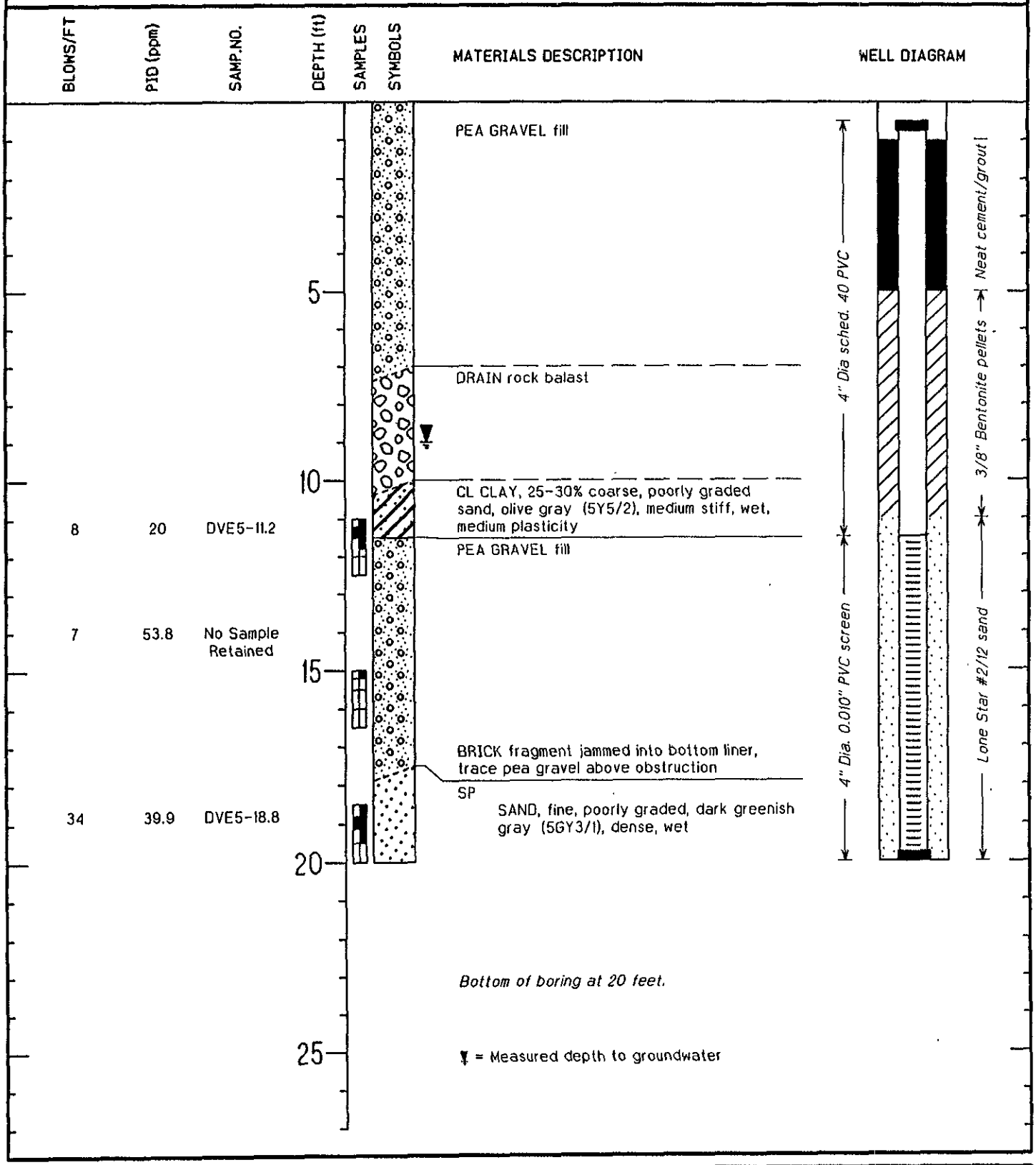
LOG OF DVE-5



PROJECT Chevron SS #9-4587
LOCATION 609 Oak Street, Oakland
JOB NUMBER 30-0219
GEOLOGIST Cliff M. Garratt
BORING DIAMETER 10 in. dia Hollow Stem Auger

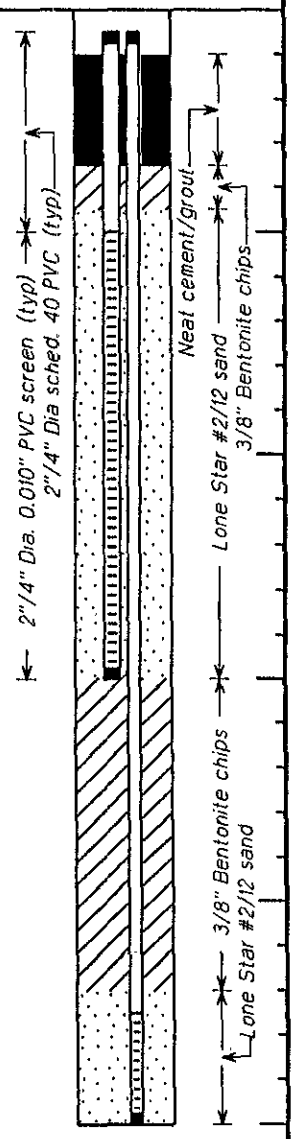
DRILLING COMPANY Spectrum Exploration
DATE DRILLED 7/11/95
SURFACE ELEVATION Not surveyed
TOTAL DEPTH OF HOLE 20 Feet
FIRST OBSERVED GW

TERRA VAC CORPORATION
14798 Wicks Boulevard, San Leandro, CA 94577

LOG OF DVSP-1

BLOWS/FT	PID (ppm)	SAMP.NO.	DEPTH (ft)	SAMPLES	SYMBOLS	MATERIALS DESCRIPTION
						CONCRETE SLAB
					ML	SILT, 30-35% clay, trace fine sand, olive (5Y4/3),soft, damp, low to medium plasicity
18	6.6	DVSP1-5.3 DVSP1-5.8	5			AS above, 20-25% clay, trace coarse gravel, olive gray (5Y5/2), very stiff, damp, low plasticity, mottling
50/5.5"	5.6	DVSP1-10.2	10		SP	SAND, fine, poorly graded, trace fines, dark olive gray (5Y3/2), very dense, damp, trace concrete rubble, glass fragments and woody debris
					SC	SAND, fine, poorly graded, 15-20% clay, olive (5Y4/3) medium dense, wet, trace interbedded fine sand, greenish gray (5GY5/1), iron staining
13	142	DVSP1-15.5 DVSP1-15.8	15			
					CL	CLAY, 5-10% coarse sand, trace silt, olive (5Y5/3), medium stiff, wet, high plsticity
24	12.6	DVSP1-20.5 DVSP1-20.8	20		SP	SAND, fine, poorly graded, very dark greenish gray (5GY3/1), medium dense, wet
23	12.7	DVSP1-24.0 DVSP1-24.3	25			*Bottom of boring at 25 feet.*
			30			▼ = Measured depth to groundwater

WELL DIAGRAM

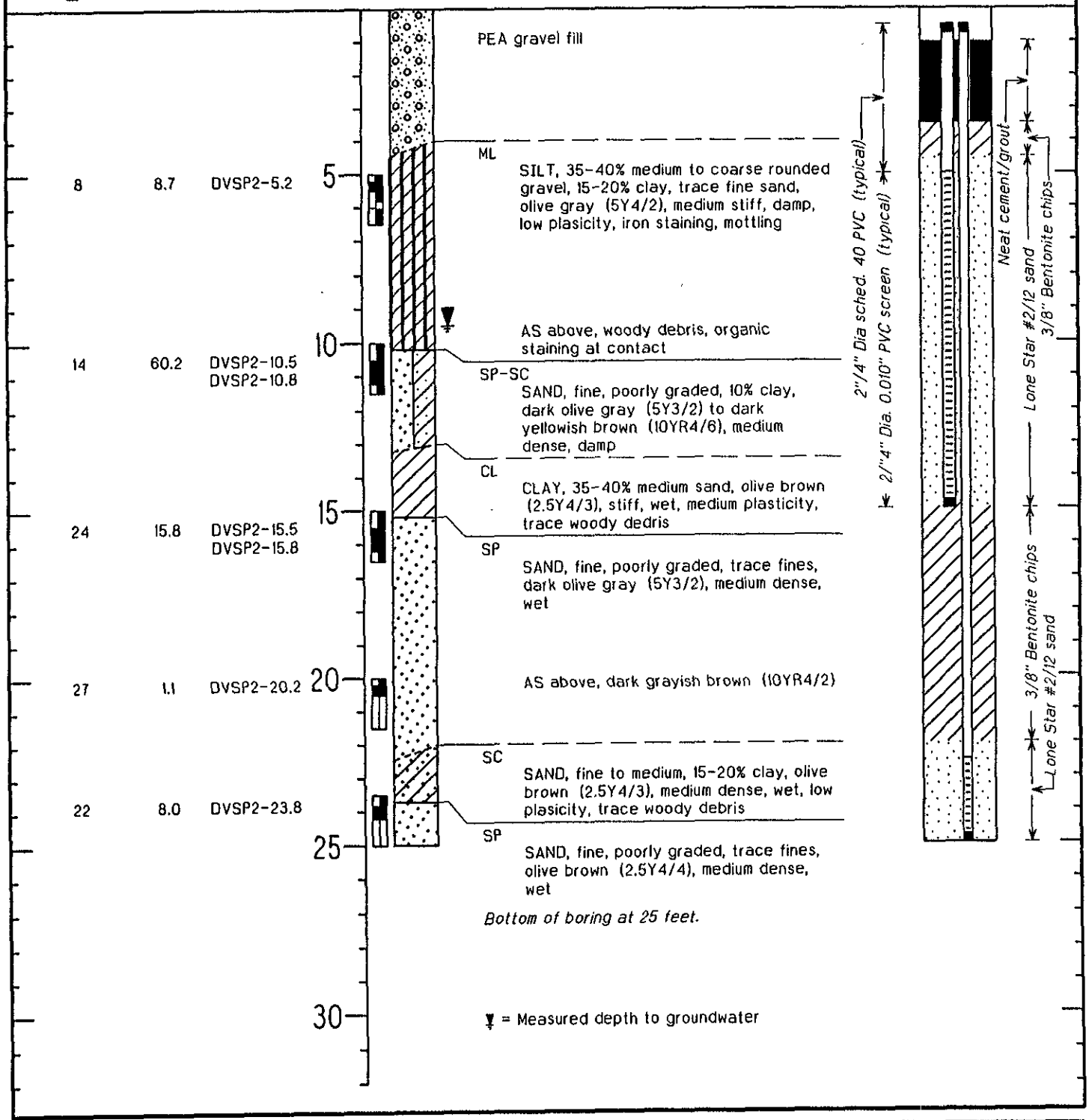


PROJECT Chevron SS #9-4587
LOCATION 609 Oak Street, Oakland
JOB NUMBER 30-0219
GEOLOGIST Cliff M. Garratt
BORING DIAMETER 12 in. dia Hollow Stem Auger

DRILLING COMPANY Spectrum Exploration
DATE DRILLED 7/11/95
SURFACE ELEVATION Not surveyed
TOTAL DEPTH OF HOLE 25 Feet
FIRST OBSERVED GW

TERRA VAC CORPORATION
14798 Wicks Boulevard, San Leandro, CA 94577

LOG OF DVSP-2



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GEOLOGIST Cliff M. Garratt
BORING DIAMETER 12 in. dia Hollow Stem Auger

DRILLING COMPANY Spectrum Exploration
DATE DRILLED 7/11/95
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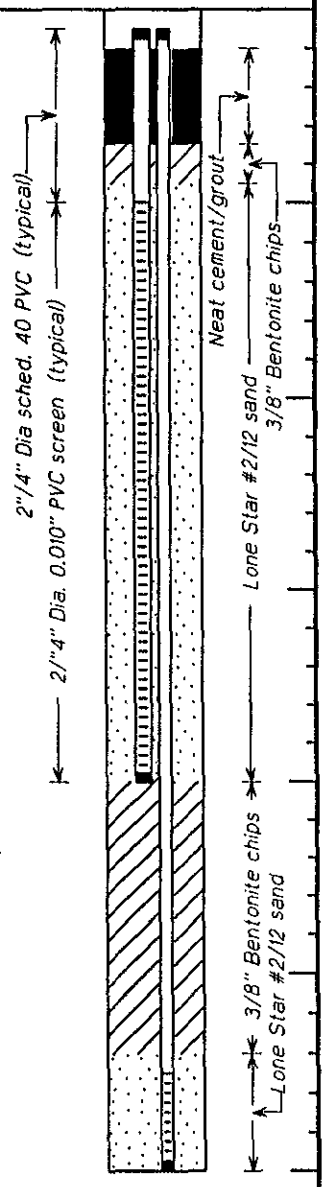
FIRST OBSERVED GW

TERRA VAC CORPORATION
14798 Wicks Boulevard, San Leandro, CA 94577

LOG OF DVSP-3

BLOWS/FT	PID (ppm)	SAMP.NO.	DEPTH (ft)	SAMPLES	SYMBOLS	MATERIALS DESCRIPTION
						CONCRETE SLAB
					ML	SILT, 35-40% clay, trace medium sand, olive (5Y4/3), medium stiff, damp, low plasicity,
12	99	DVSP3-5.5 DVSP3-5.2	5			AS above, 20-25% clay, low pasticity, stiff damp, dark grayish brown, (2.5Y4/2), trace interbedded medium to coarse sand, mottling
					SP	SAND, fine, poorly graded, trace fines,
10	395	No Sample Retained	10			very dark olive gray (5Y3/1) medium dense, wet
22	20	DVSP3-15.5 DVSP3-15.8	15			AS above, trace clay, olive brown (2.5Y4/3)
					CL	CLAY, 15-20% silt, trace coarse gravel,
47	115	DVSP3-20.5 DVSP3-20.8	20			olive (5Y4/2) stiff, wet, medium plasticity, organic material at top of sample
					SP	SAND, fine, poorly graded, trace fines,
42	30	DVSP3-23.8 DVSP3-24.2	25			olive gray (5Y4/2) to olive (5Y4/3), medium dense, wet,
						AS above, trace clay
		No Sample Collected	30			
			35			*Bottom of boring at 30 feet.*
						▼ = Measured depth to groundwater

WELL DIAGRAM



PROJECT Chevron SS #9-4587	DRILLING COMPANY Spectrum Exploration
LOCATION 609 Oak Street, Oakland	DATE DRILLED 7/10/95
JOB NUMBER 30-0219	SURFACE ELEVATION Not surveyed
GEOLOGIST Cliff M. Garratt	TOTAL DEPTH OF HOLE 30 Feet
BORING DIAMETER 12 in. dia Hollow Stem Auger	FIRST OBSERVED GW

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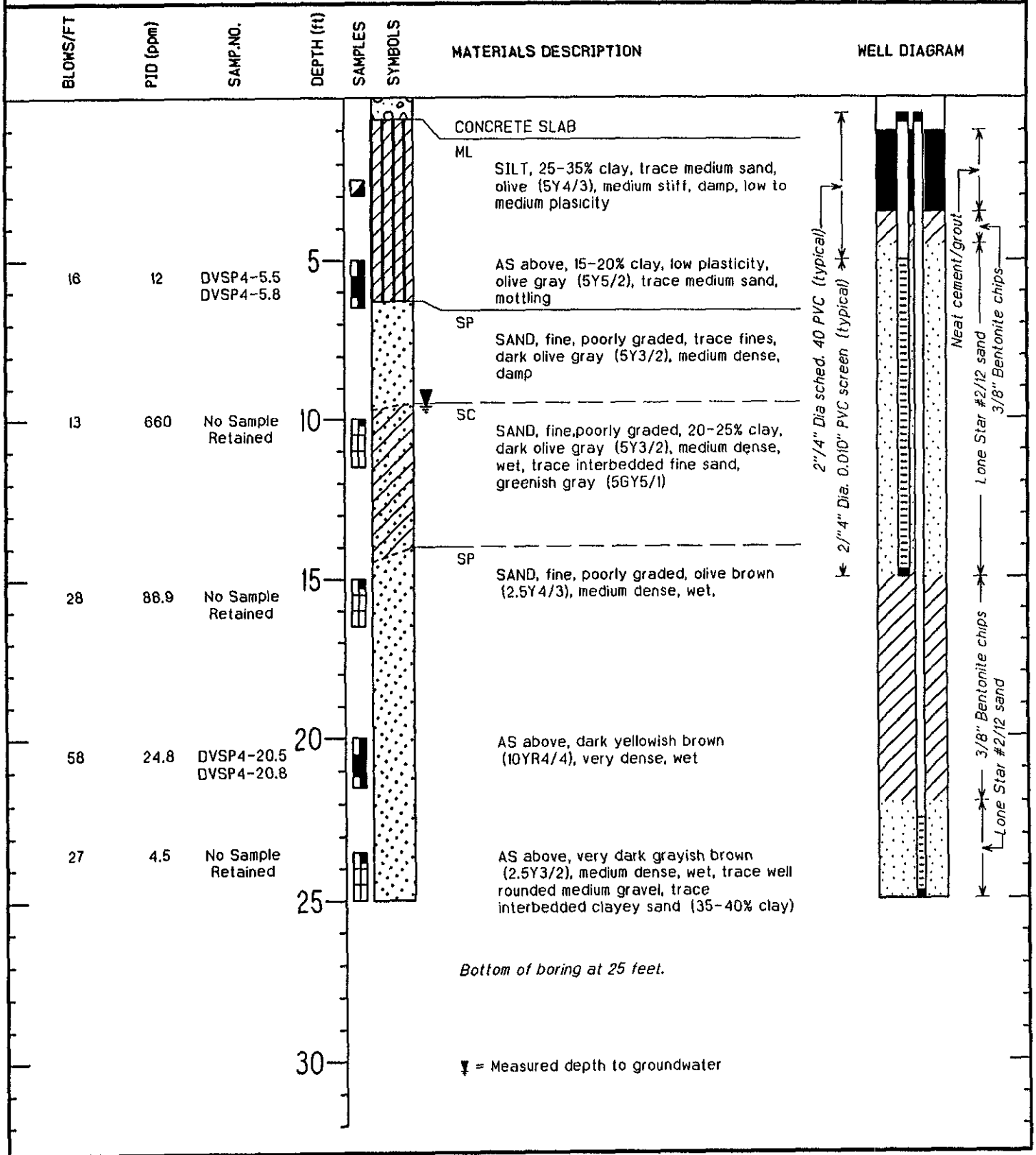
LOG OF DVSP-4



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GEOLOGIST Cliff M. Garratt
BORING DIAMETER 12 in. dia Hollow Stem Auger

DRILLING COMPANY Spectrum Exploration
DATE DRILLED 7/10/95
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TOTAL DEPTH OF HOLE 25 Feet
FIRST OBSERVED GW

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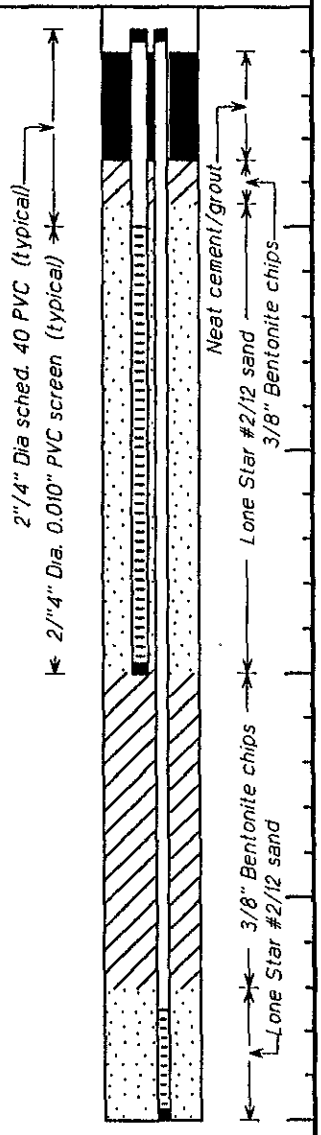
14798 Wicks Boulevard, San Leandro, CA 94577

LOG OF DVSP-5

BLOWS/FT	PID (ppm)	SAMP.NO.	DEPTH (ft)	SAMPLES	SYMBOLS	MATERIALS DESCRIPTION
			0			CONCRETE SLAB
						ML in=4 SILT, 15-20% clay, olive (5Y4/3), stiff, damp, low plasicity
26	22	DVSP5-5.5 DVSP5-5.8	5			SP SAND, fine, poorly graded, trace fines, dark yellowish brown (10YR4/6), medium dense, damp,
						SC SAND, fine, poorly graded, 15-20% clay, dark yellowish brown (10YR4/6), medium dense, moist, trace fine sand stringers, greenish gray (10G5/1), iron staining
11	422	DVSP5-10.5	10			
						SP SAND, fine, poorly graded, dark yellowish brown (10YR4/6), medium dense, wet, trace fine sand stringers, greenish gray (10G5/1)
28	8.5	DVSP5-15.5 DVSP5-15.8	15			
						CL CLAY, 15-20% coarse sand, olive (5Y4/3), soft, wet,
35	3.2	DVSP5-20.2 DVSP5-20.5	20			SP SAND, fine, poorly graded, olive brown (2.5Y4/3), dense, wet
						AS above
27	4.0	DVSP5-23.7 DVSP5-24.0	25			
						Bottom of boring at 25 feet.
			30			

WELL DIAGRAM



gw ?

PROJECT Chevron SS #9-4587	DRILLING COMPANY Spectrum Exploration
LOCATION 609 Oak Street, Oakland	DATE DRILLED 7/12/95
JOB NUMBER 30-0219	SURFACE ELEVATION Not surveyed
GEOLOGIST Cliff M. Garratt	TOTAL DEPTH OF HOLE 25 Feet
BORING DIAMETER 12 in. dia Hollow Stem Auger	FIRST OBSERVED GW

APPENDIX B

ANALYTICAL RESULTS

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Terra Vac Corp.
14798 Wicks Blvd.
San Leandro, Ca 94577
Attention: Tim Warner

Client Project ID: Chevron#9-4587
Sample Matrix: Soil
Analysis Method: EPA 5030/8015 Mod./8020
First Sample #: 507-0584

Sampled: Jul 10, 1995
Received: Jul 13, 1995
Reported: Jul 24, 1995

QC Batch Number:	SP071795	SP071895	SP071795	SP071895	SP071795	SP071895
	8020EXA	8020EXA	8020EXA	8020EXA	8020EXA	8020EXA

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. 507-0584 DVE1-10.3	Sample I.D. 507-0585 DVE2-14.0	Sample I.D. 507-0586 DVE3-10.2	Sample I.D. 507-0587 DVE4-10.1	Sample I.D. 507-0588 DVE5-18.8	Sample I.D. 507-0589 DVSP1-15.5
Purgeable Hydrocarbons	1.0	1.0	7.6	N.D.	2.8	5.6	8.5
Benzene	0.0050	0.31	1.0	0.13	0.24	0.045	4.2
Toluene	0.0050	0.098	0.032	0.071	N.D.	0.055	N.D.
Ethyl Benzene	0.0050	0.025	0.43	0.021	0.10	0.26	0.47
Total Xylenes	0.0050	0.12	1.3	0.082	0.16	1.3	0.069
Chromatogram Pattern:		Gasoline	Gasoline	--	Gasoline	Gasoline	Gasoline

Quality Control Data

Report Limit Multiplication Factor:	1.0	2.5	1.0	1.0	1.0	1.0
Date Analyzed:	7/17/95	7/18/95	7/17/95	7/18/95	7/17/95	7/18/95
Instrument Identification:	HP-2	HP-2	HP-2	HP-2	HP-2	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	105	109	109	123	115	109

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Kenneth L. Wimer
Project Manager

5070584.TTT <1>

Sequoia Analytical

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819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Terra Vac Corp.	Client Project ID:	Chevron#9-4587	Sampled: Jul 10, 1995
14798 Wicks Blvd.	Sample Matrix:	Soil	Received: Jul 13, 1995
San Leandro, Ca 94577	Analysis Method:	EPA 5030/8015 Mod./8020	Reported: Jul 24, 1995
Attention: Tim Warner	First Sample #:	507-0590	

QC Batch Number: SP071795 8020EXA | SP071795 8020EXA | SP071795 8020EXA | SP071895 8020EXA

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. 507-0590 DVSP2-10.5	Sample I.D. 507-0591 DVSP3-15.5	Sample I.D. 507-0592 DVSP4-5.8	Sample I.D. 507-0593 DVSP5-10.5
Purgeable Hydrocarbons	1.0	N.D.	N.D.	N.D.	770
Benzene	0.0050	0.066	0.012	N.D.	15
Toluene	0.0050	N.D.	0.0082	N.D.	8.3
Ethyl Benzene	0.0050	0.0096	0.0074	N.D.	25
Total Xylenes	0.0050	N.D.	0.045	N.D.	140
Chromatogram Pattern:		--	--	--	Gasoline

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	100
Date Analyzed:	7/17/95	7/17/95	7/17/95	7/18/95
Instrument Identification:	HP-2	HP-2	HP-2	HP-2
Surrogate Recovery, %: (QC Limits = 70-130%)	110	109	111	116

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

SEQUOIA ANALYTICAL, #1271

Kenneth L. Wimer
Project Manager

Sequoia Analytical

680 Chesapeake Drive, Redwood City, CA 94063, (415) 364-9600, FAX (415) 364-9233
404 N. Wiget Lane, Walnut Creek, CA 94598, (510) 988-9600, FAX (510) 988-9673
819 Striker Avenue, Suite 8, Sacramento, CA 95834, (916) 921-9600, FAX (916) 921-0100

Terra Vac Corp.
14798 Wicks Blvd.
San Leandro, Ca 94577
Attention: Tim Warner

Client Project ID: Chevron#9-4587
Matrix: Solid

QC Sample Group: 5070584-93

Reported: Jul 24, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	SP071795	SP071795	SP071795	SP071795
Analy. Method:	8020EXA EPA 8020	8020EXA EPA 8020	8020EXA EPA 8020	8020EXA EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	M. Creusere	M. Creusere	M. Creusere	M. Creusere
MS/MSD #:	5070586	5070586	5070586	5070586
Sample Conc.:	0.13 mg/kg	0.071 mg/kg	0.021 mg/kg	0.082 mg/kg
Prepared Date:	7/17/95	7/17/95	7/17/95	7/17/95
Analyzed Date:	7/17/95	7/17/95	7/17/95	7/17/95
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
Conc. Spiked:	0.40 mg/kg	0.40 mg/kg	0.40 mg/kg	1.2 mg/kg
Result:	0.37	0.41	0.43	1.3
MS % Recovery:	93	103	108	108
Dup. Result:	0.4	0.45	0.46	1.4
MSD % Recov.:	100	113	115	114
RPD:	7.3	9.3	6.3	5.4
RPD Limit:	0-20	0-20	0-20	0-20
LCS #:	1LCS071795	1LCS071795	1LCS071795	1LCS071795
Prepared Date:	7/17/95	7/17/95	7/17/95	7/17/95
Analyzed Date:	7/17/95	7/17/95	7/17/95	7/17/95
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
Conc. Spiked:	0.40 mg/kg	0.40 mg/kg	0.40 mg/kg	1.2 mg/kg
LCS Result:	21	22	24	70
LCS % Recov.:	106	111	118	117
MS/MSD LCS Control Limits	55-145	47-149	47-155	56-140

SEQUOIA ANALYTICAL, #1271

Kenneth L. Wimer
Project Manager

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS=Matrix Spike, MSD=MS Duplicate, IS=Instrument Spike, ISD=IS Duplicate, RPD=Relative % Difference

Sequoia Analytical

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Terra Vac Corp.
14798 Wicks Blvd.
San Leandro, Ca 94577
Attention: Tim Warner

Client Project ID: Chevron#9-4587
Matrix: Solid

QC Sample Group: 5070584

Reported: Jul 24, 1995

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes
QC Batch#:	SP071895	SP071895	SP071895	SP071895
	8020EXA	8020EXA	8020EXA	8020EXA
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030
Analyst:	A.Tuzon	A.Tuzon	A.Tuzon	A.Tuzon
MS/MSD #:	5070710	5070710	5070710	5070710
Sample Conc.:	N.D.	N.D.	N.D.	N.D.
Prepared Date:	7/18/95	7/18/95	7/18/95	7/18/95
Analyzed Date:	7/18/95	7/18/95	7/18/95	7/18/95
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
Conc. Spiked:	0.40 mg/kg	0.40 mg/kg	0.40 mg/kg	1.2 mg/kg
Result:	0.35	0.41	0.45	1.4
MS % Recovery:	88	103	113	113
Dup. Result:	0.35	0.41	0.45	1.3
MSD % Recov.:	88	103	113	112
RPD:	0.0	0.0	0.0	0.89
RPD Limit:	0-20	0-20	0-20	0-20
LCS #:	1LCS071895	1LCS071895	1LCS071895	1LCS071895
Prepared Date:	7/18/95	7/18/95	7/18/95	7/18/95
Analyzed Date:	7/18/95	7/18/95	7/18/95	7/18/95
Instrument I.D.#:	HP-2	HP-2	HP-2	HP-2
Conc. Spiked:	0.40 mg/kg	0.40 mg/kg	0.40 mg/kg	1.2 mg/kg
LCS Result:	17-Jan	20	22	67
LCS % Recov.:	85	101	112	112
MS/MSD LCS Control Limits	55-145	47-149	47-155	56-140

SEQUOIA ANALYTICAL, #1271

Kenneth L. Wimer
Project Manager

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS = Matrix Spike, MSD = MS Duplicate, IS = Instrument Spike, ISD = IS Duplicate, RPD = Relative % Difference

Chain of Custody Record

Chevron U.S.A. Inc.
P.O. BOX 5004
San Ramon, CA 94583
FAX (415)842-9591

Chevron Facility Number: 9-4587
Facility Address: 609 Oak St, Oakland
Consultant Project Number: 30-0219
Consultant Name: Terra Vac Corp
Address: 14798 Wicks Blvd San Leandro
Project Contact (Name): Tim Wagner
(Phone) (510) 351-8900 (Fax Number) 351-0221

Chevron Contact (Name):
(Phone):
Laboratory Name: Sequoia
Laboratory Release Number:
Samples Collected by (Name): Cliff M Garratt
Collection Date: 7.10 to 7.12 95
Signature: Cliff M Garratt

Sample Number	Lab Sample Number	Number of Containers	Matrix S = Soil W = Water A = Air C = Charcoal	Type G = Grab C = Composite D = Discrete	Time	Sample Preservation	Iced (Yes or No)	Analyses To Be Performed: BTEX + TPH GAS (8020 + 8015)	TPH Diesel (8015)	Oil and Grease (5520)	Purgeable Halocarbons (8010)	Purgeable Aromatics (8020)	Purgeable Organics (8240)	Extractable Organics (8270)	Metals Cd,Cr,Pb,Zn,Ni (ICAP or AA)				Remarks
DVE1-10.3		1	S	D		Ice		X										5070584	
DVE2-14.0																		5070585	
DVE3-10.2																		5070586	
DVE4-10.1																		5070587	
DVE5-18.8																		5070588	
DVSP1-15.5																		5070589	
DVSP2-10.5																		5070590	
DVSP3-15.5																		5070591	
DVSP4-5.8																		5070592	
DVSP5-10.5		↓	↓	↓		↓		↓										5070593	

Relinquished By (Signature)	Organization	Date/Time	Received By (Signature)	Organization	Date/Time
			Tom Kilgore	Priority Express	7/13 1446
Relinquished By (Signature) Tom Kilgore	Organization Priority Express	Date/Time 7/13 1636	Received By (Signature)	Organization Sequoia	Date/Time 7/13 435pm
Relinquished By (Signature)	Organization	Date/Time	Received For Laboratory By (Signature)		Date/Time

Turn Around Time (Circle Choice)
24 Hrs.
48 Hrs.
5 Days
10 Days
As Contracted