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ENVIRONMENTAL
CONSULTANTS

ALCO
HAZMAT

94 FEB 14 PM 3:33

February 8, 1994

Mr. Steve Chrissanthos
Alameda Cellars
1702 Lincoln Avenue
Alameda, CA 94501

RE: Field Investigation
and Results of Groundwater Sampling at
2425 Encinal, Alameda, California
Permit No. 93681

Dear Mr. Chrissanthos:

Thank you for providing ACC with the opportunity to present this report.
The enclosed report describes the materials and procedures used during a field investigation performed at 2425 Encinal, Alameda, California. ACC's investigative approach was to drill and install three groundwater monitoring wells. This work was performed to evaluate the vertical extent of groundwater contamination.

Soil samples collected during drilling were submitted to Chromalab, Inc. for petroleum hydrocarbon analyses, in accordance with the "Tri Regional Guidelines for Underground Storage Tank Sites".

The results of the chemical analysis of the soil samples indicated below detectable levels of Total Petroleum Hydrocarbons (TPH) as gasoline and Benzene, Toluene, Ethylbenzene, and Total Xylenes (BTEX) from the three borings.

Analysis of the groundwater samples from monitoring wells MW-1, MW-2, MW-3, and MW-4 indicated elevated concentrations of hydrocarbons. Analytical results of groundwater samples from monitoring wells MW-5 and MW-6 indicated below detectable levels of constituents indicating a lateral extent of contamination.

If you have any comments regarding this report, please call me.

Sincerely,

Misty C. Kaltreider
Geologist

cc: Mr. Richard Hiett - Regional Water Quality Control Board
Ms. Juliet Shin - Alameda County Health Care Services - Division of Hazardous Materials
Mr. Wyman Hong - Alameda County Flood Control and Water Conservation District, Zone 7

1000 Atlantic Avenue, Suite 110 • Alameda, CA 94501 • (510) 522-8188 • FAX: (510) 865-5731

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CONSULTANTS

SOIL AND GROUNDWATER INVESTIGATION

2425 ENCINAL
ALAMEDA, CALIFORNIA

January 1994

Prepared for:
Mr. Steve Chrissanthos
Alameda Cellars
1702 Lincoln Avenue
Alameda, CA 94501

Prepared by:

Prepared by: _____
Misty Kaltreider
Project Geologist

Reviewed by: _____
Christopher M. Palmer, CEG #1262
Certified Engineering Geologist

REGISTERED GEOLOGIST
CHRISTOPHER M. PALMER
№ 1262
CERTIFIED
ENGINEERING
GEOLOGIST
STATE OF CALIFORNIA

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ATTACHMENTS

1.0 INTRODUCTION

This report presents the procedures and findings of a soil and groundwater investigation conducted by ACC Environmental Consultants, Inc., ("ACC") on behalf of Mr. Steve Chrissanthos and Alameda Cellars, site owner at 2425 Encinal, Alameda, California. The project objective, as described in the Work Plan prepared on November 5, 1993, was to drill and install three groundwater monitoring wells to evaluate the extent of groundwater impact from the previous underground storage of gasoline.

2.0 BACKGROUND

The site is presently occupied by Alameda Cellars, a commercial liquor store. The property is owned by Mr. Steve Chrissanthos. In March, 1990, two 10,000-gallon gasoline tanks were removed from the above referenced site. Analysis of the soil samples collected from beneath the two gasoline tanks indicated up to 710 parts per million (ppm) of Total Petroleum Hydrocarbons (TPH) as gasoline. Soil samples collected from beneath the diesel tank indicated less than detectable levels of TPH as diesel.

In December 1992, five borings were drilled on-site. Three of the borings were converted into monitoring wells MW-1, MW-2a, and MW-3. Analytical results of the soil collected during drilling and soil sampling indicated a maximum soil concentration of Total Petroleum Hydrocarbons (TPH) as gasoline as 1,365 ppm. Benzene concentration was 18.9 ppm in the same sample.

Initial groundwater samples collected in January, 1993, from the monitoring wells indicated a maximum TPH-gasoline concentration of 5,680 ppb (MW-2a) and a maximum benzene concentration of 1,560 ppb (MW-1).

Additional soil investigation was conducted in May, 1993 to evaluate the extent of contamination in the soil and groundwater. Findings of the additional investigation indicated the lateral extent of hydrocarbon impacted soil did not appear to extend beyond the property boundaries along the northern, western, and eastern sides. However, along the southern side, the impacted soil appears to extend into Park and Encinal Avenues. Field observations made during the additional investigation and soil sample analysis indicated the soil hydrocarbon plume is primarily around the former tank excavation and the former dispenser island. The vertical limit of hydrocarbons in the soil is estimated to occur at the present groundwater table.

Analysis of "grab" groundwater samples collected from borings drilled during the additional investigation indicate the residual hydrocarbons from the former tank excavation and dispenser island is migrating off-site via the groundwater.

Per request of Alameda County Health Care Services - Hazardous Materials Division, this preliminary Site Assessment was conducted to further evaluate the groundwater contamination from the gasoline release on-site.

ACC was retained by Mr. Chrissanthos, to perform the work requested by the Alameda County Health Care Services.

3.0 FIELD PROCEDURES

Borings MW-4 and MW-5 were drilled on December 10, 1993 using a B-53 mobile drill rig equipped with 8-inch outside diameter hollow-stem augers. Boring MW-6 was drilled on December 14, 1993 using a SEMCO Limited Access drill rig equipped with 8-inch outside diameter hollow-stem augers. Concurrent with drilling, subsurface soil samples were obtained with a Modified California Sampler equipped with three six-inch long brass liners. The sampler and brass liners were pre-cleaned prior to use and between sample drives by washing them with a trisodium phosphate (TSP) and potable water solution, a potable water rinse, and distilled water rinse.

Soil samples were collected every five feet, at any noted changes in lithology, and at the approximate soil/groundwater interface. Subsurface soil samples were obtained by drilling to the approximate sampling location and then driving the sampler eighteen inches into undisturbed material.

An HNU photoionization detector (PID) was used during drilling and sampling procedures to detect field evidence of volatile hydrocarbon vapor in the soil.

Soil sample and drill cuttings were prescreened for volatile organic compounds with a PID calibrated for Hexane. Upon removal from the sampler, each end of the brass liner was covered with Teflon tape and plastic caps, labeled, and stored in an ice-filled cooler to be transported under chain of custody to Chromalab, Inc., a Cal-EPA certified analytical laboratory.

A minimum of two soil samples were selected from each boring and submitted to ChromaLab for analysis according to the "Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites", dated August 10, 1990. Samples from the borings were submitted for analysis for Total Petroleum Hydrocarbons (TPH) as gasoline by EPA test method 5030 and benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA test method 8020. Copies of the analytical results and chain of custody forms are provided in Appendix A.

The soil cuttings and samples were logged by an ACC geologist during drilling operations. Soil cuttings are described in accordance with the Unified Soil Classification System. Lithologic logs of the borings and the Unified Soil Classification System are attached in Appendix B. Soil cuttings were stored on-site in DOT approved drums pending disposal at an accepting facility.

3.1 Monitoring Well Construction and Development

Monitoring wells MW-4, MW-5 and MW-6 were installed within borings MW-4, MW-5, and MW-6, respectively, upon completion of drilling. Well construction details are attached in Appendix B. The three monitoring Wells were installed with well casings consisting of 2-inch I.D. Schedule 40 PVC with 13 feet of 0.020-inch factory slotted screen below 5 feet of solid casing.

The wells were installed with Lonestar #2/12 sand used as annular fill to at least one foot above the top of the screen. One-half foot of 1/4-inch pelletized bentonite was placed between the annular sand and neat cement seal. "Christy" boxes were cemented over the tops of the PVC casings and set slightly above grade to drain surface waters away from the well head. Locking expansion plugs with locks were placed on each well.

The wells were developed on December 31, 1992 and December 15, 1993, by bailing with designated disposal Teflon bailers . Each well was developed until development water was clear and essentially free of fine material. Approximately four well volumes of water were removed from each well and placed in sealed 55-gallon drums on-site. The drums were labeled pending analytical results.

3.2 Groundwater Sampling

Groundwater samples were taken on December 20, 1993 from monitoring wells MW-1, MW-2a, MW-3, MW-4, MW-5, and MW-6. Prior to groundwater sampling the depth to the surface of the water table was measured from the top of the PVC casing using a Solinst Water Level Meter. Information regarding well elevations and groundwater level measurements is summarized in Table 1.

TABLE 1 - Groundwater Depth Information

Date Sampled	Depth to Groundwater (Ft.)	Groundwater Elevation (Ft.)
Well No. MW-1	Elevation of Top of Casing-27.61 MSL	
01/09/93	6.75	20.86
02/09/93	6.41	21.20
03/10/93	6.34	21.27
04/12/93	6.52	21.09
05/17/93	7.38	20.23
06/28/93	8.42	19.19
07/13/93	8.68	18.93
08/10/93	8.25	19.36
09/10/93	8.73	18.88
10/12/93	9.04	18.57
12/20/93	7.87	19.74
Well No. MW-2a	Elevation of Top of Casing-27.98 MSL	
01/09/93	7.06	20.92
02/09/93	6.63	21.35
03/10/93	6.57	21.41
04/12/93	6.77	21.21
05/17/93	7.61	20.37
06/28/93	8.68	19.30
07/13/93	8.94	19.04
08/10/93	8.66	19.32
09/10/93	8.95	19.03
10/12/93	9.36	18.62
12/20/93	8.24	19.74

TABLE 1 - Groundwater Depth Information, cont.

Date Sampled	Depth to Groundwater (Ft.)	Groundwater Elevation (Ft.)
Well No. MW-3	Elevation of Top of Casing-27.89 MSL	
01/09/93	6.68	21.21
02/09/93	6.25	21.64
03/10/93	6.18	21.71
04/12/93	6.41	21.48
05/17/93	7.37	20.52
06/28/93	8.47	19.42
07/13/93	8.74	19.15
08/10/93	8.45	19.44
09/10/93	8.52	19.37
10/12/93	9.20	18.69
12/20/93	7.95	19.94
Well No. MW-4	Elevation of Top of Casing-26.97 MSL	
12/20/93	7.25	19.72
Well No. MW-5	Elevation of Top of Casing-27.34 MSL	
12/20/93	8.01	19.33
Well No. MW-6	Elevation of Top of Casing-28.03 MSL	
12/20/93	8.00	20.03

Notes: All measurements in feet
MSL = Mean Sea Level

After water-level measurements were taken, each on-site well was purged by hand using a designated disposable Teflon bailer for each well. Groundwater Ph, temperature and electrical conductivity were monitored during well purging. Each well was considered to be purged when these parameters stabilized. Three to four well volumes were removed to purge each well. Worksheets of conditions monitored during purging are attached in Appendix C.

After the groundwater level had recovered to a minimum of approximately 80 percent of its static level, water samples were obtained using designated disposable Teflon bailers. Two 40 ml VOA vials, without headspace, were filled from the water collected from each monitoring well.

The samples were preserved on ice and submitted to Chromalab Inc. under chain of custody protocol. Laboratory results with chain of custody forms are attached in Appendix D.

4.0 FINDINGS

4.1 Subsurface Conditions

During drilling and sampling activities, the site was observed to be covered with a baserock/asphalt cap. Below the cap, the subsurface soils consisted of brown fine grained sand with silt to the depth investigated of 18 feet below the surface.

During drilling and sampling field evidence of volatile organics (i.e. discoloration and odor) were detected from boring MW-4 from approximately 8 to 11 feet below ground surface. No evidence of volatile organics was detected in borings MW-5 and MW-6.

Groundwater was encountered at approximately 9-1/2 to 10 feet below ground surface (bgs) during drilling. Monitoring wells MW-4, MW-5 and MW-6 were completed to the drilled depth in each boring, 18 feet below ground surface.

The sand is interpreted to be part of the Merritt Sand Formation which is interpreted to be a wind and water deposited beach and near-shore deposit and is exposed only in the Alameda and Oakland areas. A report by the Alameda County Flood Control and Water Conservation District, Geohydrology and Groundwater - Quality Overview, East Bay Plain Area, Alameda County, California, 205 (J) Report, June 1988, describes the Merritt Sand as consisting of loose well-sorted, fine to medium grained sand and silt, with lenses of sandy clay and clay.

4.2 Analytical Results - Soil

Two soil samples were collected from each boring and submitted Chromalab for analysis of TPH as gasoline with BTEX. Samples chosen for analysis were collected at the Fill material and Merritt Sand interface and capillary fringe. The samples indicated that below detectable levels of constituents were detected. Copy of the analytical results with chain of custody form is attached in Appendix A.

4.3 Analytical Results - Groundwater

One groundwater sample each from monitoring wells MW-1, MW-2a, MW-3, MW-4, MW-5, and MW-6 was collected and submitted to Chromalab for analysis for TPH as gasoline by EPA test method 5030 and BTEX by EPA test method 602. Analysis results from the groundwater samples are summarized in Table 2 and Figure 2. Copies of the analytical results are attached in Appendix D.

TABLE 2 - Analytical Results - Groundwater

Well Number	Date Collected	TPH-gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)
MW-1	01/09/93	5,360	1,560.0	1,026.6	641.0	2,706.2
	04/12/93	12,000	750.0	100.0	500.0	1,400.0
	07/13/93	720	119.6	32.7	70.8	262.0
	10/12/93	8,400	420.0	39.0	280.0	880.0
	12/20/93	5,200	270.0	58.0	170.0	590.0
MW-2a	01/09/93	5,680	801.6	598.6	840.2	2,196.1
	04/12/93	12,000	460.0	110.0	240.0	1,600.0
	07/13/93	550	145.2	47.5	126.8	127.4
	10/12/93	2,000	280.0	17.0	100.0	120.0
	12/20/93	3,300	450.0	40.0	200.0	350.0

TABLE 2 - Analytical Results - Groundwater

Well Number	Date Collected	TPH-gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)
MW-3	01/09/93	<50	<0.5	<0.5	<0.5	<0.5
	04/12/93	1,500	95.0	30.0	46.0	85.0
	07/13/93	540	18.3	106.2	75.7	128.0
	10/12/93	3,500	290.0	230.0	210.0	460.0
	12/20/93	690	31.0	10.0	31.0	25.0
MW-4	12/20/93	580	2.3	<0.5	1.4	1.1
MW-5	12/20/93	<50	<0.5	<0.5	<0.5	<0.5
MW-6	12/20/93	<50	<0.5	<0.5	<0.5	<0.5

Note: ug/L = parts per billion (ppb)

4.4 Groundwater Gradient

Prior to calculating the groundwater gradient, elevations for the on-site monitoring wells were surveyed by Ron Archer Civil Engineer, Inc. to an accuracy of one-hundredth of a foot. The well elevation was surveyed at the top of the PVC well casing. The elevations of the monitoring wells were established relative to a nearby benchmark located in the curb on the northwest corner of the intersection of Park and Encinal Avenues in Alameda, California.

The groundwater gradient was calculated using the on-site monitoring wells. The location of the wells is shown on Figure 1 - Site Plan. Groundwater elevations were collected from the wells on December 20, 1993 and are illustrated in Figure 3. The gradient was evaluated by triangulation using the elevation of the potentiometric surface measured with respect to Mean Sea Level datum.

The historical groundwater gradient and the direction of groundwater flow on-site is summarized in Table 3.

TABLE 3 - Historic Groundwater Gradient

Date Monitored	Gradient (foot/foot)	Direction
01/09/93	0.009	west
02/09/93	0.013	southwest
03/10/93	0.012	west/southwest
04/12/93	0.012	west/southwest
05/17/93	0.0078	south/southwest
06/28/93	0.0076	southwest
07/13/93	0.0058	southwest
08/10/93	0.004	west
09/10/93	0.015	southwest
10/12/93	0.004	southwest
12/20/93	0.0083	west

5.0 CONCLUSION

The data and observations discussed herein indicate that groundwater has been impacted due to an unauthorized hydrocarbon release. The analytical parameters used for soil and groundwater sampling performed were in accordance with the guidance document "Tri-Regional Water Quality Control Boards Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites", dated August 10, 1990, for gasoline tanks.

First quarter sampling and analysis indicated elevated levels of TPH as gasoline with BTEX in the groundwater from monitoring well MW-1 and MW-2a. Groundwater from monitoring well MW-3 has below detectable levels of constituents. Second quarterly sampling and analysis of the groundwater in April indicated an increase in levels of Total Petroleum Hydrocarbons as gasoline in all wells, however, the benzene, toluene, ethylbenzene and xylenes levels have declined in water samples from monitoring wells MW-1 and MW-2a. Constituents detected during July 1993 appear decreasing due to the fluctuating groundwater elevation. During October 1993 sampling, constituents in monitoring wells MW-1 and MW-3 have increased while only TPH as gasoline and benzene have increased in monitoring well MW-2a. Benzene increase in MW-2a is probably due to residual drainage and the well's close proximity to the former tank location.

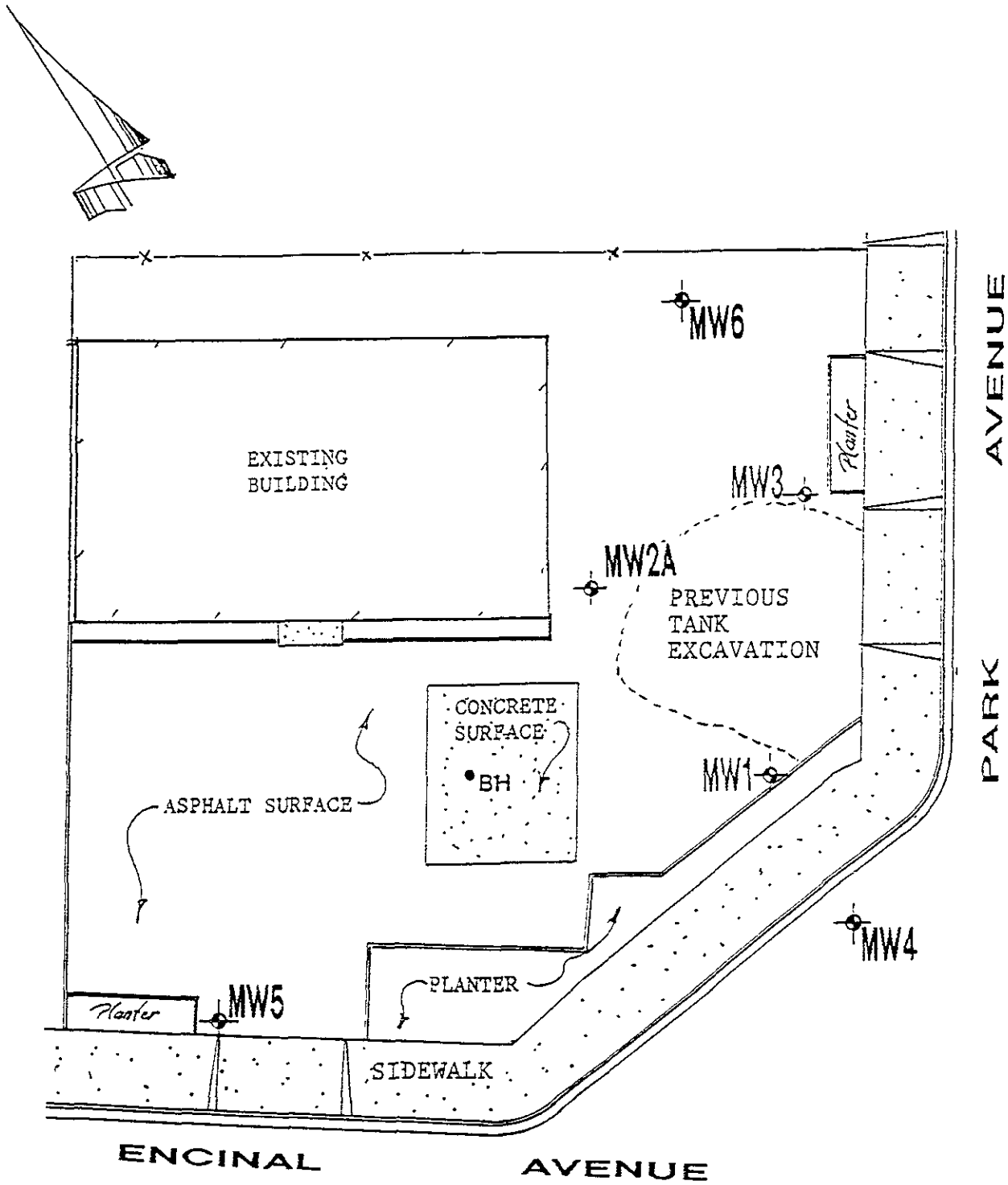
Three additional monitoring wells (MW-4, MW-5, and MW-6) were installed to evaluate the extent of groundwater contaminate plume. Laboratory analysis of the soil collected from each boring indicated below detectable levels of constituents which verifies the lateral extent of soil contamination.

Laboratory analysis of the groundwater samples collected from monitoring well MW-5 and MW-6 indicated below detectable levels of constituents evaluated. The groundwater results indicated a lateral extent of groundwater contamination. Laboratory analysis of groundwater collected from monitoring well MW-4 indicated low detectable levels of constituents. Constituents reported from monitoring well MW-4 are low when compared with reported levels in monitoring wells MW-1, MW-2a, and MW-3. The location of the southern edge of the groundwater contaminant plume is just off-site to the south. This "side" gradient movement is attributed to the relatively flat gradient and possible recharge into the excavated area.

6.0 RECOMMENDATIONS

Pursuant to the Tri-Regional Board guidelines, groundwater sampling and monitoring of the on-site wells should continue on a quarterly basis.

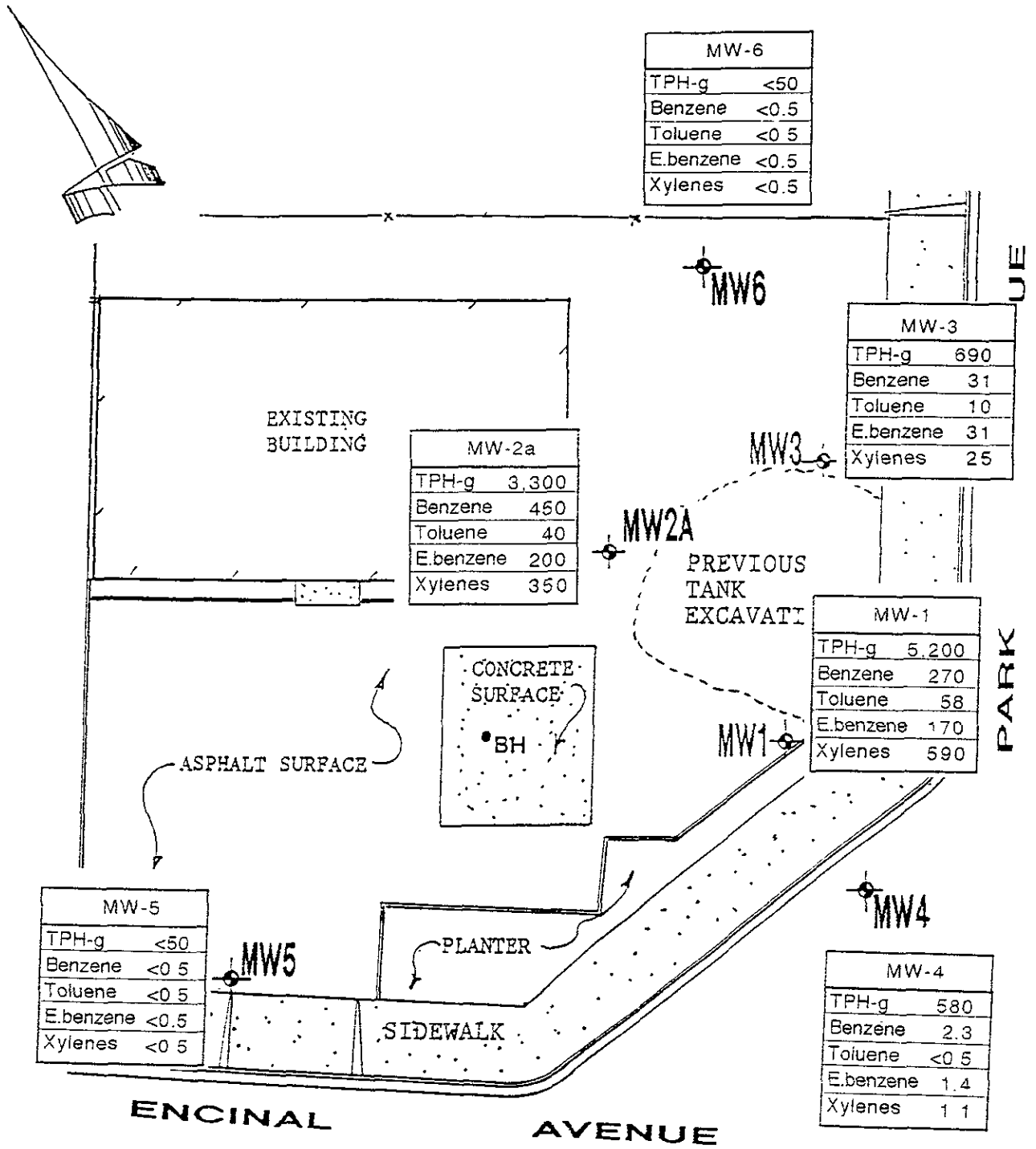
Pursuit to the CCR Title 23, Chapter 16, Articles 5, 7, and 11 of the Underground Storage Tank regulations a Corrective Action Plan is being drafted to determine the method of cleanup. The Corrective Action Plan will identify and evaluate the appropriate corrective actions for the property located at 2425 Encinal Avenue.



Scale: 1" = 20'

Project # 6039-5	1/12/94	Drawn By: TRF	Alameda Cellars 2425 Encinal Avenue	Site Plan Figure 1

ACC Environmental Consultants • 1000 Atlantic Ave, Suite 110 • Alameda, CA 94501 • (510) 522–8188 • FAX: (510) 865–5731



KEY

TPH-g = Total Petroleum Hydrocarbons as gasoline

E. benzene = Ethylbenzene

All results in parts per billion (ppb)

Scale: 1" = 20'

Figure 2

Project # 6039-5	1/12/94	Drawn By: TRF	Alameda Cellars 2425 Encinal Avenue	Analytical Results Groundwater

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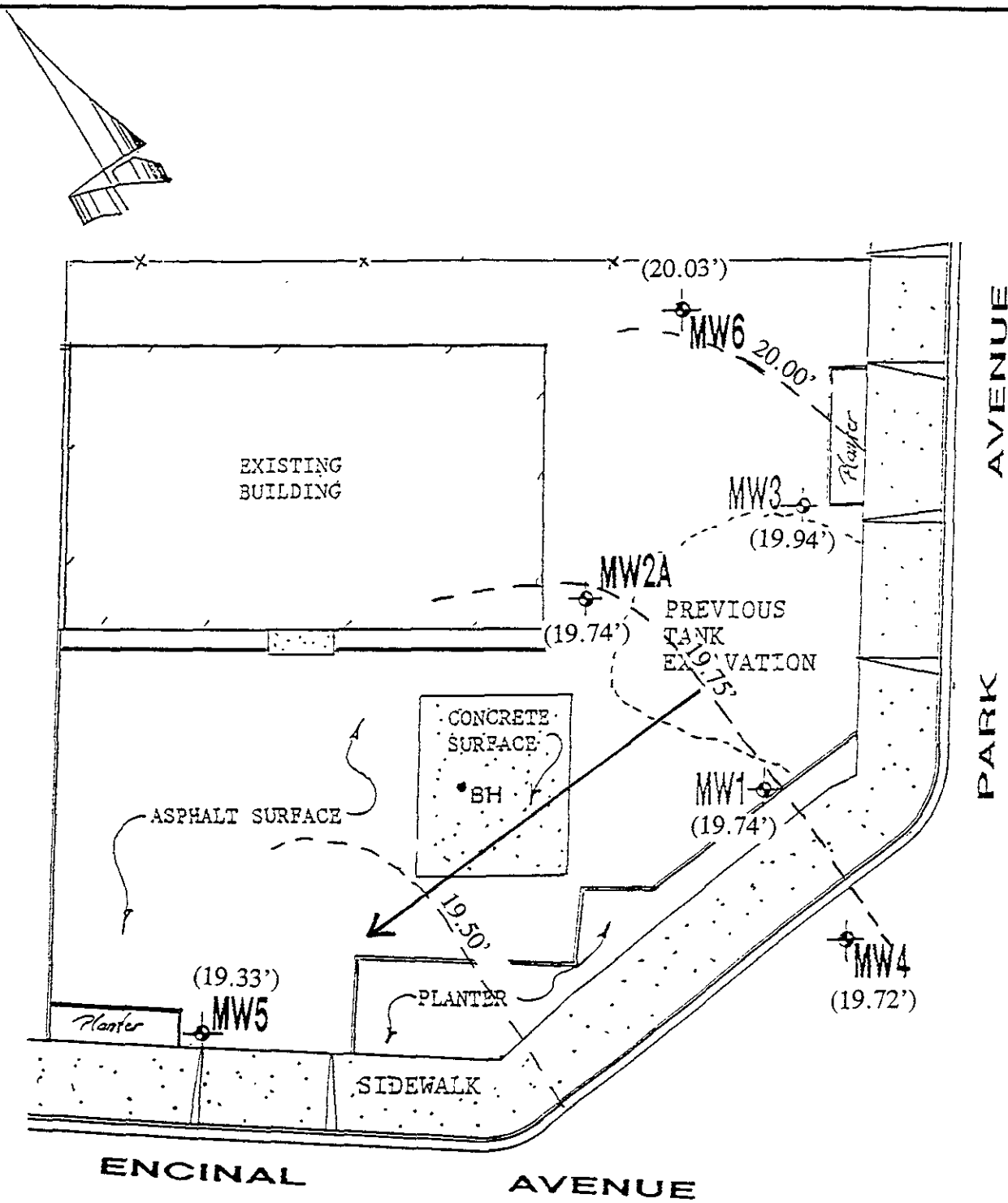


Elevations Illustrated in Feet Above Mean Sea Level

Scale: 1" = 20'

Figure 3

Project # 6039-5	1/12/94	Drawn By: TRF	Alameda Cellars 2425 Encinal Avenue	Groundwater Gradient 12/20/93

ACC Environmental Consultants • 1000 Atlantic Ave, Suite 110 • Alameda, CA 94501 • (510) 522–8188 • FAX: (510) 865–5731

APPENDIX A

CHROMALAB, INC.

Environmental Laboratory (1094)

5 DAYS TURNAROUND

December 17, 1993

ChromaLab File#: 9312163

ACC ENVIRONMENTAL CONSULTANTS

Atten: Misty Kaltreider

Project: 2425 ENCINAL **Project#:** 6039-5
Submitted: December 13, 1993

re: 4 samples for Gasoline and BTEX analysis.

Matrix: SOIL
Sampled on: December 10, 1993 *Analyzed on:* December 15, 1993
Method: EPA 5030/8015/8020 *Run#:* 1861

Lab # SAMPLE ID	Gasoline (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl Benzene (ug/Kg)	Total Xylenes (ug/Kg)
39363 MW-4-5 1/2	N.D.	N.D.	N.D.	N.D.	N.D.
39364 MW-4-11	N.D.	N.D.	N.D.	N.D.	N.D.
39365 MW-5-6	N.D.	N.D.	N.D.	N.D.	N.D.
39366 MW-5-11	N.D.	N.D.	N.D.	N.D.	N.D.
DETECTION LIMITS	1.0	5.0	5.0	5.0	5.0
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.
BLANK SPIKE RECOVERY(%)	96	114	109	109	112

ChromaLab, Inc.

Billy Thach
Chemist

Eric Tam
Laboratory Director

2239 Omega Road,#1 • San Ramon, California 94583
(510) 831-1788 • Facsimile (510) 831-8798
Federal ID #68-0140157

CHROMALAB, INC.

DOHS 1094

SUBM #: 9312163
CLIENT: ACCENV
DUE: 12/20/93
REF: 14438

6/6/94 # 14438
163/39363-39366

Chain of Custody

DATE 12/10/93 PAGE _____ OF _____

PROJ. MGR. M. Kaltreider
COMPANY ACC Environmental
ADDRESS 1000 Atlantic Ave, Sui 110
Alameda, CA 94501

SAMPLERS (SIGNATURE) Misty Kaltreider (PHONE NO.) (510) 522-8188

SAMPLE ID.	DATE	TIME	MATRIX	PRESERV.	TPH - Gasoline (EPA 5030, 8015)	TPH - Gasoline (5030, 8015) w/BTEX (EPA 602, 8020)	TPH - Diesel (EPA 3510/3550, 8015)	PURGEABLE AROMATICS BTEX (EPA 602, 8020)	PURGEABLE HALOCARBONS (EPA 601, 8010)	VOLATILE ORGANICS (EPA 624, 8240, 524.2)	BASE/NEUTRALS, ACIDS (EPA 625/627, 8270, 525)	TOTAL OIL & GREASE (EPA 5520, B+F, E+F)	PCB (EPA 608, 8080)	PESTICIDES (EPA 608, 8080)	TOTAL RECOVERABLE HYDROCARBONS (EPA 418.1)		METALS: Cd, Cr, Pb, Zn, Ni	CAM METALS (17)	PRIORITY POLLUTANT METALS (13)	TOTAL LEAD	EXTRACTION (TCLP, STLC)				NUMBER OF CONTAINERS
MW-4-5½	12/10/93		S			X																			1
MW-4-11			S			X																			1
MW-5-6'			S			X																			1
MW-5-11			S			X																			1

PROJECT INFORMATION

PROJECT NAME: 2425 Encinal
PROJECT NUMBER: 0039-5
P.O. # 0039-5
TAT: STANDARD 5-DAY | 24 | 48 | 72 | OTHER

SAMPLE RECEIPT

TOTAL NO OF CONTAINERS	4
HEAD SPACE	
REC'D GOOD CONDITION/COLD	
CONFORMS TO RECORD	

SPECIAL INSTRUCTIONS/COMMENTS:

RELINQUISHED BY 1.	RELINQUISHED BY 2.	RELINQUISHED BY 3.
Misty Kaltreider (SIGNATURE) (TIME)	(SIGNATURE) (TIME)	(SIGNATURE) (TIME)
Misty Kaltreider 12/10/93 (PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)
ACC Environmental (COMPANY)	(COMPANY)	(COMPANY)
RECEIVED BY 1	**RECEIVED BY 2.**	**RECEIVED BY (LABORATORY) 3.**
(SIGNATURE) (TIME)	(SIGNATURE) (TIME)	(SIGNATURE) 12/18 (TIME)
(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)	E. Marcus 12/13/93 (PRINTED NAME) (DATE)
(COMPANY)	(COMPANY)	Chromalab (LAB)

CHROMALAB, INC.

Environmental Laboratory (1094)

5 DAYS TURNAROUND

December 20, 1993 ChromaLab File#: 9312181

ACC ENVIRONMENTAL CONSULTANTS

Atten: Misty Kaltreider

Project: 2425 ENCINAL **Project#:** 6039-5
Submitted: December 14, 1993

re: 2 samples for Gasoline and BTEX analysis.

Matrix: SOIL
Sampled on: December 14, 1993 *Analyzed on:* December 15, 1993
Method: EPA 5030/8015/8020 *Run#:* 1860

Lab # SAMPLE ID	Gasoline (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl Benzene (ug/Kg)	Total Xylenes (ug/Kg)
39467 MW-6-6	N.D.	N.D.	N.D.	N.D.	N.D.
39468 MW-6-10 1/2	N.D.	N.D.	N.D.	N.D.	N.D.
DETECTION LIMITS	1.0	5.0	5.0	5.0	5.0
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.
BLANK SPIKE RECOVERY(%)	97	97	100	107	104

ChromaLab, Inc.

Billy Thach
Chemist

Eric Tam
Laboratory Director

2239 Omega Road,#1 • San Ramon, California 94583
(510) 831-1788 • Facsimile (510) 831-8798
Federal ID #68-0140157

CHROMALAB, INC.

22

SUBM #: 9312181
CLIENT: ACC
DUE: 12/21/93
REF: 14456

order # 14456
181/394167-8

DOHS 1094

Chain of Custody

DATE 12-14-93 PAGE 1 OF 1

PROJ. MGR. M. Kaltreider / ACC Environ.
COMPANY 1000 Atlantic Ave. Suite 110
ADDRESS Alameda, CA 94501

SAMPLERS (SIGNATURE) (PHONE NO.) (510) 522-8188
Misty Kaltreider

ANALYSIS REPORT

SAMPLE ID.	DATE	TIME	MATRIX	PRESERV.	TPH - Gasoline (EPA 5030, 8015)	TPH - Gasoline (5030, 8015) w/BTEX (EPA 602, 8020)	TPH - Diesel (EPA 3510/3550, 8015)	PURGEABLE AROMATICS BTEX (EPA 602, 8020)	PURGEABLE HALOCARBONS (EPA 601, 8010)	VOLATILE ORGANICS (EPA 624, 8240, 524.2)	BASE/NEUTRALS, ACIDS (EPA 625/627, 8270, 525)	TOTAL OIL & GREASE (EPA 5520, B+F, E+F)	PCB (EPA 608, 8080)	PESTICIDES (EPA 608, 8080)	TOTAL RECOVERABLE HYDROCARBONS (EPA 418.1)		METALS: Cd, Cr, Pb, Zn, Ni	CAM METALS (17)	PRIORITY POLLUTANT METALS (13)	TOTAL LEAD	EXTRACTION (TCLP, STLC)				NUMBER OF CONTAINERS
MW-6-5½	12/14/93		S			X																			1
MW-6-10½	1		1			X																			1

PROJECT INFORMATION

PROJECT NAME: 2425 Encinal
PROJECT NUMBER: 6039-5
P.O. # 6039-5

TAT: STANDARD 5-DAY | 24 | 48 | 72 | OTHER

SPECIAL INSTRUCTIONS/COMMENTS:

SAMPLE RECEIPT

TOTAL NO. OF CONTAINERS	2
HEAD SPACE	
REC'D GOOD CONDITION/COLD	
CONFORMS TO RECORD	

RELINQUISHED BY 1.	RELINQUISHED BY 2.	RELINQUISHED BY 3.
(SIGNATURE) Misty Kaltreider (TIME) 12/14/93	(SIGNATURE) (TIME)	(SIGNATURE) (TIME)
(PRINTED NAME) Misty Kaltreider (DATE)	(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)
(COMPANY) ACC Environmental	(COMPANY)	(COMPANY)
RECEIVED BY 1	**RECEIVED BY 2.**	**RECEIVED BY (LABORATORY) 3.**
(SIGNATURE) (TIME)	(SIGNATURE) (TIME)	(SIGNATURE) 1420 (TIME)
(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)	(PRINTED NAME) K. Marrow 12-14-93 (DATE)
(COMPANY)	(COMPANY)	(LAB) Chromalab

APPENDIX B

Well Sampling [✓] Well Development [ ] check one

Well Number: MW-1

Job Number: 6039-4

Job Name: 2425 Encinal

Date: 12/20/93

Sampler: Carl Soma

Depth to Water (measured from TOC): 7.57'

Inside Diameter of Casing: 2"

Depth of Boring: 18'

Method of well development/purging: Bailer

Amount of Water Bailed/Pumped from well: 7 gallons

Depth to Water after well development: —

Depth to water prior to sampling: 8.50'

Bailed water stored on-site ? How ? Drums

Number of well volumes removed: 4

TSP wash, distilled rinse, new rope ? New rope

Water Appearance:

	yes	no
froth		"
irridesence		"
oil		"
smell		"
product		"
other, describe		✓

Gallons Removed	pH	EC	Temp
5		645	72.1
10		609	75.2
15		2402	75.7
20		722	75.7
25		1498	75.7
30			
35			
40			
45			
50			

Samples Obtained:

TPH (gasoline)	✓
TPH (diesel)	"
TPH (motor oil)	
BTXE	✓
EPA 624	
EPA 625	
EPA 608	
PCBs only	
Metals	
Other, specify	
Field Blank	

Well Sampling [✓] Well Development [ ] check one

Well Number: MW-2a

Job Number: 6039-4

Job Name: ~~[illegible]~~ 2425 Encinal

Date: 12/20/93.

Sampler: Carl

Depth to Water (measured from TOC): 8.24'

Inside Diameter of Casing: 2"

Depth of Boring: 15'

Method of well development/purging: Bailer

Amount of Water Bailed/Pumped from well: 4.6 gallons

Depth to Water after well development: _____

Depth to water prior to sampling: 8.80'

Bailed water stored on-site ? How ? Drums

Number of well volumes removed: 4

TSP wash, distilled rinse, new rope ? New Rope

Water Appearance:

	yes	no	
froth		X	
irridesence		X	
oil		X	
smell	X		gas
product		X	
other, describe		X	

Gallons Removed	pH	EC	Temp
5		6.90	68.1
10		7.16	70.0
15		7.24	70.7
20		7.16	70.7
25		6.99	72.3
30		7.23	72.8
35		7.05	73.1
40		7.22	73.7
45		7.08	75.2
50		7.17	75.2
		7.14	75.2

Samples Obtained:

TPH (gasoline)	✓
TPH (diesel)	
TPH (motor oil)	
BTXE	✓
EPA 624	
EPA 625	
EPA 608	
PCBs only	
Metals	
Other, specify	
Field Blank	

Well Sampling [✓] Well Development [ ] check one

Well Number: MW-3

Job Number: 6039-4

Job Name: 2425 Encinal

Date: 12/20/93

Sampler: Carl

1:00 PM

Depth to Water (measured from TOC): 7.75'

Inside Diameter of Casing: 2"

Depth of Boring: 15'

Method of well development/purging: Bailer

Amount of Water Bailed/Pumped from well: 4.6 gallons

Depth to Water after well development: —

Depth to water prior to sampling: 8.5'

Bailed water stored on-site ? How ? Drums

Number of well volumes removed: 4

TSP wash, distilled rinse, new rope ? New Rope

Water Appearance:

	yes	no	
froth		x	
irridesence		x	
oil		x	
smell	✓		gas
product		x	
other, describe		x	

Gallons Removed	pH	EC	Temp
5	7	4.12	65.7
10	7	5.20	67.6
15	7	6.90	68.4
20	7	7.02	68.9
25	7	7.09	68.4
30	7	7.06	68.9
35			
40			
45			
50			

Samples Obtained:

TPH (gasoline)	✓
TPH (diesel)	
TPH (motor oil)	
BTXE	✓
EPA 624	
EPA 625	
EPA 608	
PCBs only	
Metals	
Other, specify	
Field Blank	

Well Sampling [✓] Well Development [ ] check one

Well Number: MW-4

Job Number: 6039-4

Job Name: 2425 Encinal

Date: 12/20/93

Sampler: Carl Soan

2:30

Depth to Water (measured from TCC): 7.25'

Inside Diameter of Casing: 2"

Depth of Boring: 18'

Method of well development/purging: Bailer

Amount of Water Bailed/Pumped from well: 7 gallons

Depth to Water after well development: —

Depth to water prior to sampling: 7.52'

Bailed water stored on-site ? How ? Drums

Number of well volumes removed: 4

TSP wash, distilled rinse, new rope ? New rope

Water Appearance:

	yes	no
froth		
irridesence		
oil		
smell		
product		
other, describe		✓

Gallons Removed	pH	EC	Temp
5		5.67	66.8
10		5.66	67.0
15		5.67	66.9
20		5.62	67.0
25			
30			
35			
40			
45			
50			

Samples Obtained:

TPH (gasoline)	✓
TPH (diesel)	
TPH (motor oil)	
BTXE	✓
EPA 624	
EPA 625	
EPA 608	
PCBs only	
Metals	
Other, specify	
Field Blank	

Well Sampling [✓] Well Development [ ] check one

Well Number: MW-5

Job Number: 6039-4

Job Name: 2425 Encinal

Date: 12/20/93

Sampler: Carl Soan

3:00

Depth to Water (measured from TCC): 8.01'

Inside Diameter of Casing: 2"

Depth of Boring: 18'

Method of well development/purging: Bailer

Amount of Water Bailed/Pumped from well: 6.5 gallons

Depth to Water after well development: —

Depth to water prior to sampling: 8.52'

Bailed water stored on-site ? How ? Drums

Number of well volumes removed: 4

TSP wash, distilled rinse, new rope ? New rope

Water Appearance:

	yes	no
froth		
irridesence		
oil		
smell		
product		
other, describe		↓

Gallons Removed	pH	EC	Temp
5		7.87	71.3
10		7.80	71.3
15			~~71.3~~
20		7.82	71.3
25			
30			
35			
40			
45			
50			

Samples Obtained:

TPH (gasoline)	✓
TPH (diesel)	
TPH (motor oil)	
BTXE	✓
EPA 624	
EPA 625	
EPA 608	
PCBs only	
Metals	
Other, specify	
Field Blank	

Well Sampling [✓] Well Development [ ] check one

Well Number: MW-6

Job Number: 6039-4

Job Name: 2425 Encinal

Date: 12/20/93

Sampler: Carl Soan

12.00

Depth to Water (measured from TOC): 5.00'

Inside Diameter of Casing: 2"

Depth of Boring: 18'

Method of well development/purging: Bailer

Amount of Water Bailed/Pumped from well: 6.5 gallons

Depth to Water after well development: —

Depth to water prior to sampling: 8.05'

Bailed water stored on-site ? How ? Drums

Number of well volumes removed: 4

TSP wash, distilled rinse, new rope ? New rope

Water Appearance:

	yes	no
froth		✓
irridesence		✓
oil		✓
smell		✓
product		✓
other, describe		✓

Gallons Removed	pH	EC	Temp
5	10.64	4.96	64.6
10	12.20	4.96	64.0
15	12.20	4.96	64.0
20	12.20	4.89	63.9
25	—	4.95	63.9
30			
35			
40			
45			
50			

Samples Obtained:

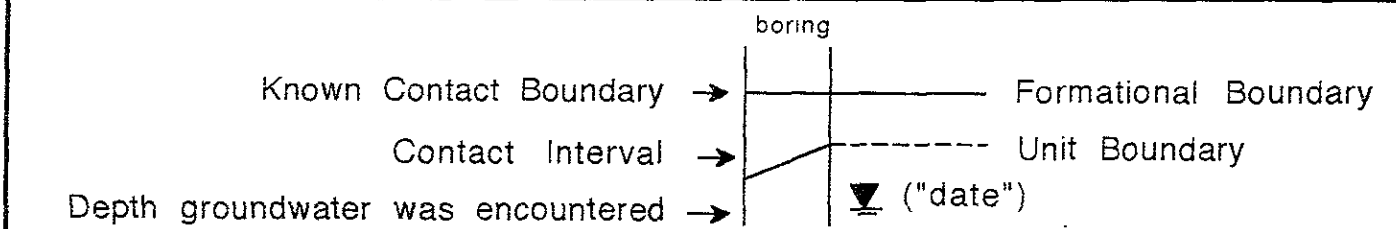
TPH (gasoline)	✓
TPH (diesel)	
TPH (motor oil)	
BTXE	✓
EPA 624	
EPA 625	
EPA 608	
PCBs only	
Metals	
Other, specify	
Field Blank	

APPENDIX C

UNIFIED SOIL CLASSIFICATION SYSTEM

	MAJOR DIVISIONS				TYPICAL NAMES
COARSE GRAINED SOILS more than half > #200 sieve	GRAVELS more than half coarse fraction is larger than No. 4 sieve	CLEAN GRAVELS WITH LITTLE OR NO FINES	GW		well graded gravels, gravel-sand mixtures
			GP		poorly graded gravels, gravel-sand mixtures
		GRAVELS WITH OVER 12% FINES	GM		silty gravels, poorly graded gravel-sand silt mixtures
			GC		clayey gravels, poorly graded gravel-sand clay mixtures
	SANDS more than half coarse fraction is smaller than No. 4 sieve	CLEAN SANDS WITH LITTLE OR NO FINES	SW		well graded sands, gravelly sands
			SP		poorly graded sands, gravelly sands
		SANDS WITH OVER 12% FINES	SM		silty sands, poorly graded sand-silt mixtures
			SC		clayey sands, poorly graded sand-clay mixtures
FINE GRAINED SOILS more than half < #200 sieve	SILTS AND CLAYS liquid limit less than 50		ML		inorg. silts and v.fine sands, rock flour silty or clayey sands, or clayey silts w/sl. plasticity
			CL		inorg. clays of low-med plasticity, gravelly clays, sandy clays, silty clays, lean clays
			OL		organic clays and organic silty clays of low plasticity
	SILTY AND CLAYS liquid limit greater than 50		MH		inorganic silty, micaceous or diatomacious fine sandy or silty soils, elastic silts
			CH		inorganic clays of high plasticity, fat clays
			OH		organic clays of medium to high plasticity organic silts
	HIGHLY ORGANIC SOILS		Pt		peat and other highly organic soils

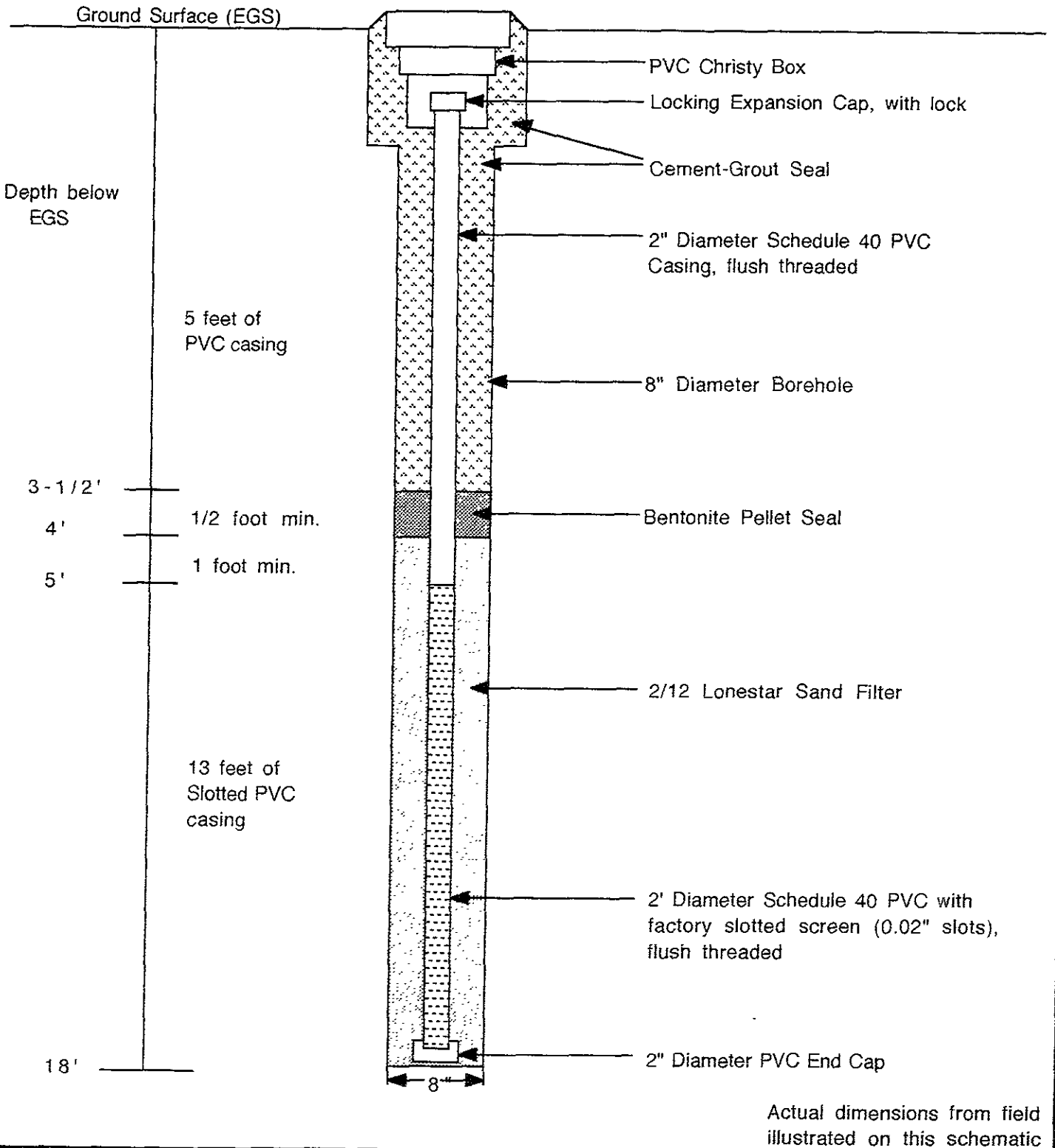
LEGEND FOR BORING LOGS



ACC ENVIRONMENTAL CONSULTANTS
1000 ATLANTIC AVENUE, SUITE 110
ALAMEDA, CA 94501

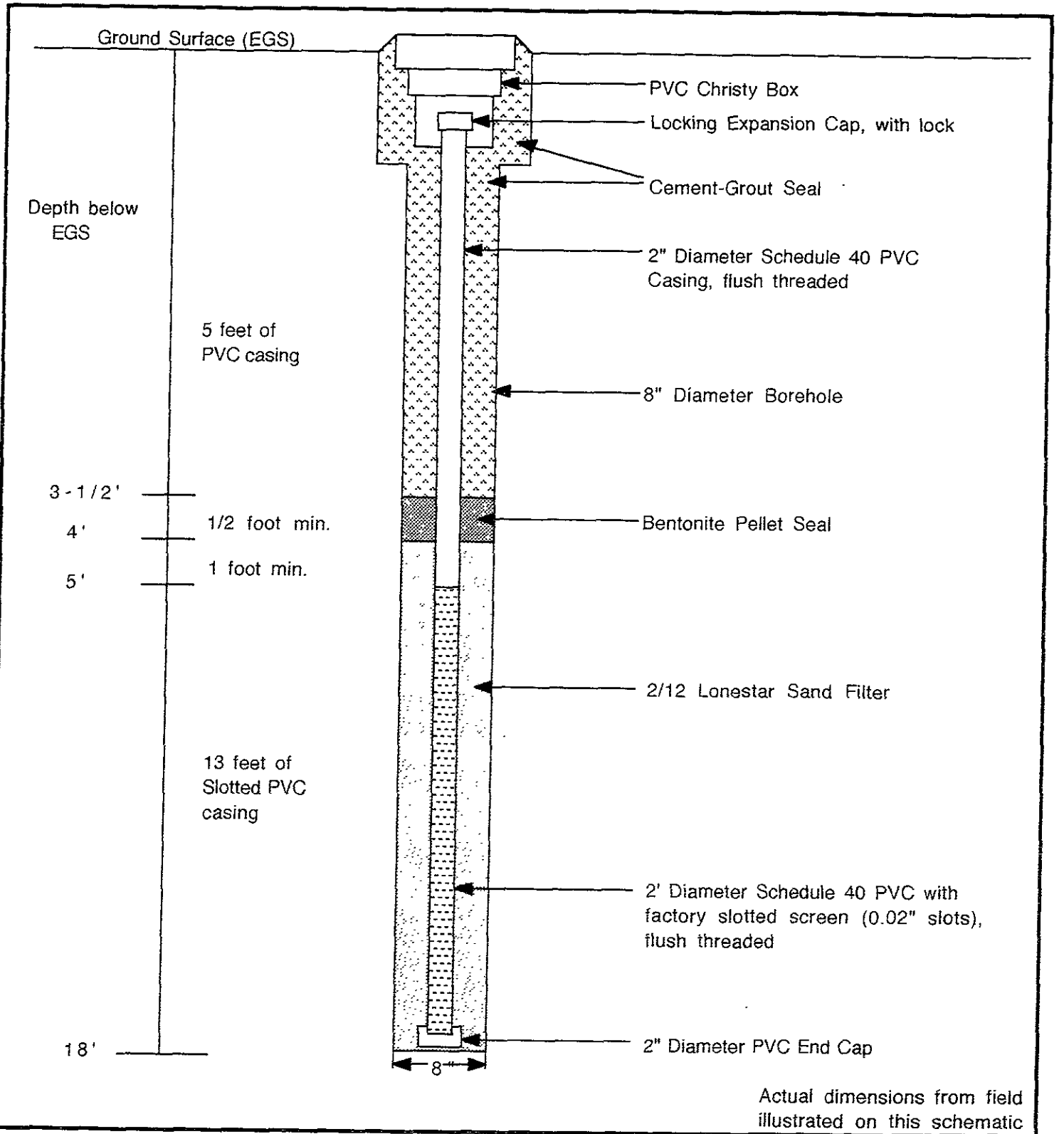
Soil Classification System

Project No. 6039-5	Date: 1/9/94	DRN: MCK	2425 Encinal Avenue Alameda, CA



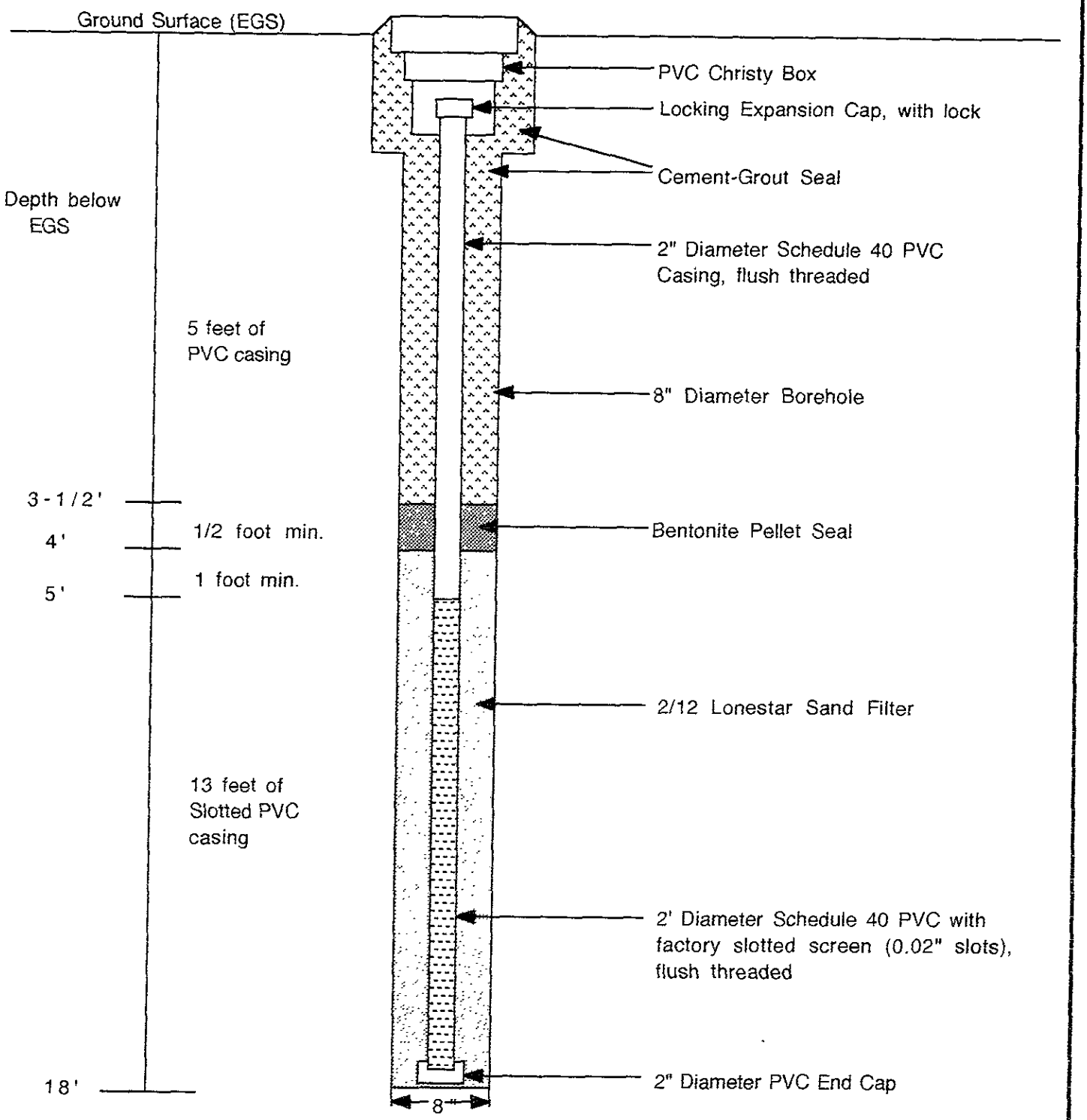
Actual dimensions from field illustrated on this schematic

ACC Environmental Consultants 1000 Atlantic Avenue, Suite 110 Alameda, CA 94501	Job No.: 6039-5	Alameda Cellars 2425 Encinal Avenue Alameda, California
	Date: 1/7/94	Schematic of Monitoring Well No.: MW-6



Actual dimensions from field illustrated on this schematic

ACC Environmental Consultants 1000 Atlantic Avenue, Suite 110 Alameda, CA 94501	Job No.: 6039-5	Alameda Cellars 2425 Encinal Avenue Alameda, California
	Date: 1/7/94	Schematic of Monitoring Well No.: MW-5



Actual dimensions from field illustrated on this schematic

ACC Environmental Consultants 1000 Atlantic Avenue, Suite 110 Alameda, CA 94501	Job No.: 6039-5	Alameda Cellars 2425 Encinal Avenue Alameda, California
	Date: 1/7/94	Schematic of Monitoring Well No.: MW-4

Gregg Drilling and Testing
Semco limited Access
(8" hollow stem auger)

Equipment: Calif. Modified Split Spoon
Logged By: M. Kaltreider
PROJECT: 2425 Encinal
Start Date: 12/10/93

*Blows/6" (approx.)	HNu (ppm)	SAMPLE #	Sample Int.	Depth (feet)	
				0	Asphalt: 4" lift. Lt. brown silty gravel (GM) & clayey gravel (GC), med grained,dense (baserock)
				2	Fill: Dark brown silty sand (SM) with trace gravel, mottled reddish brown, medium dense, moist.
				4	
	0	MW-6 6		6	Merritt Sand: Dark yellowish brown sand (SP) fine grain, with trace clay, medium dense, very moist.
				8	
				10	
	0	MW-6 10-1/2 11		12	
				14	
	0	MW-6 15-1/2		16	Same as above, saturated
				18	BOTTOM OF BORING @ 18 FEET (Converted into Monitoring Well MW-6)
				20	
				22	
				24	
				26	
				28	

Soil color described using Munsell soil color charts

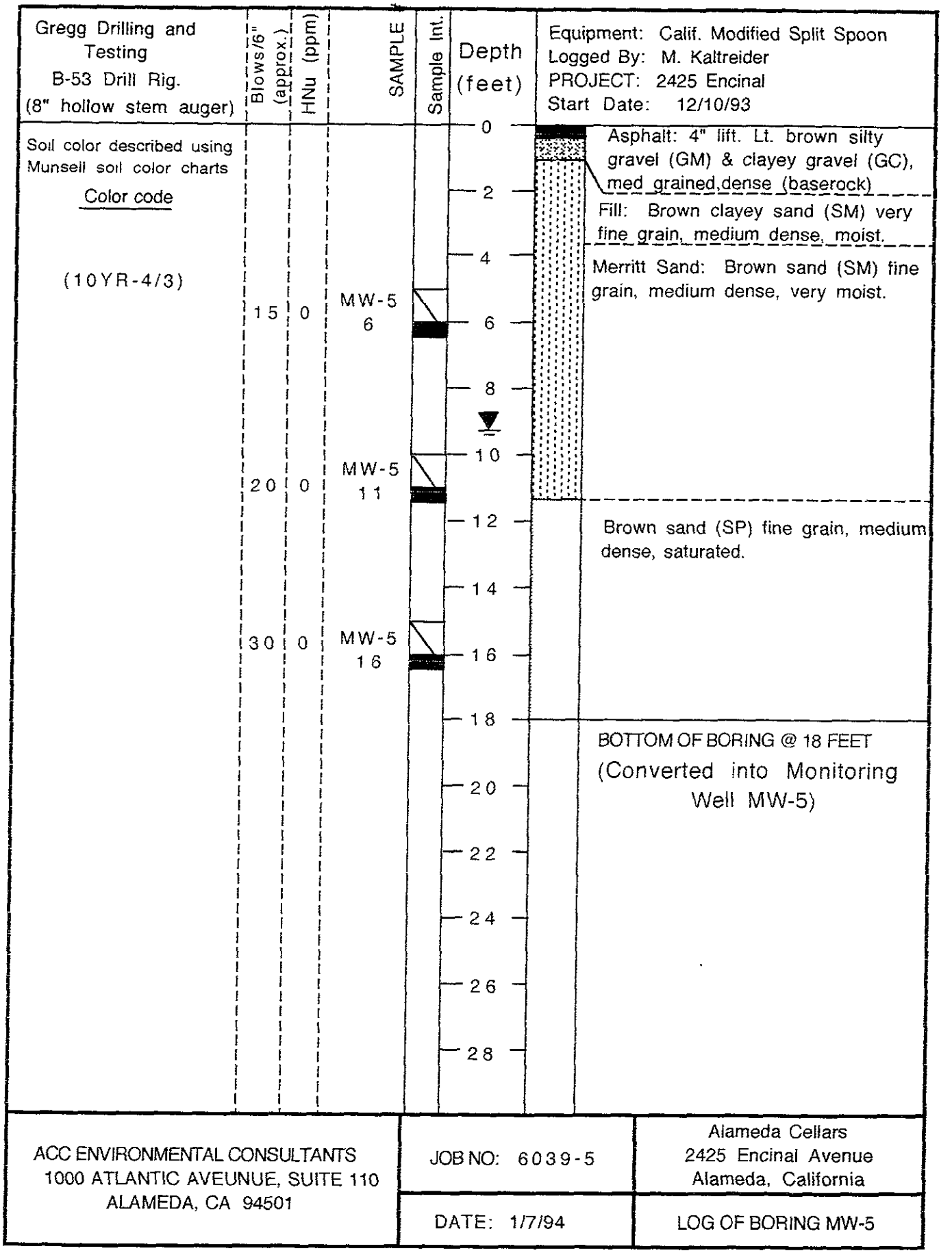
Color code

(10YR-3/3)

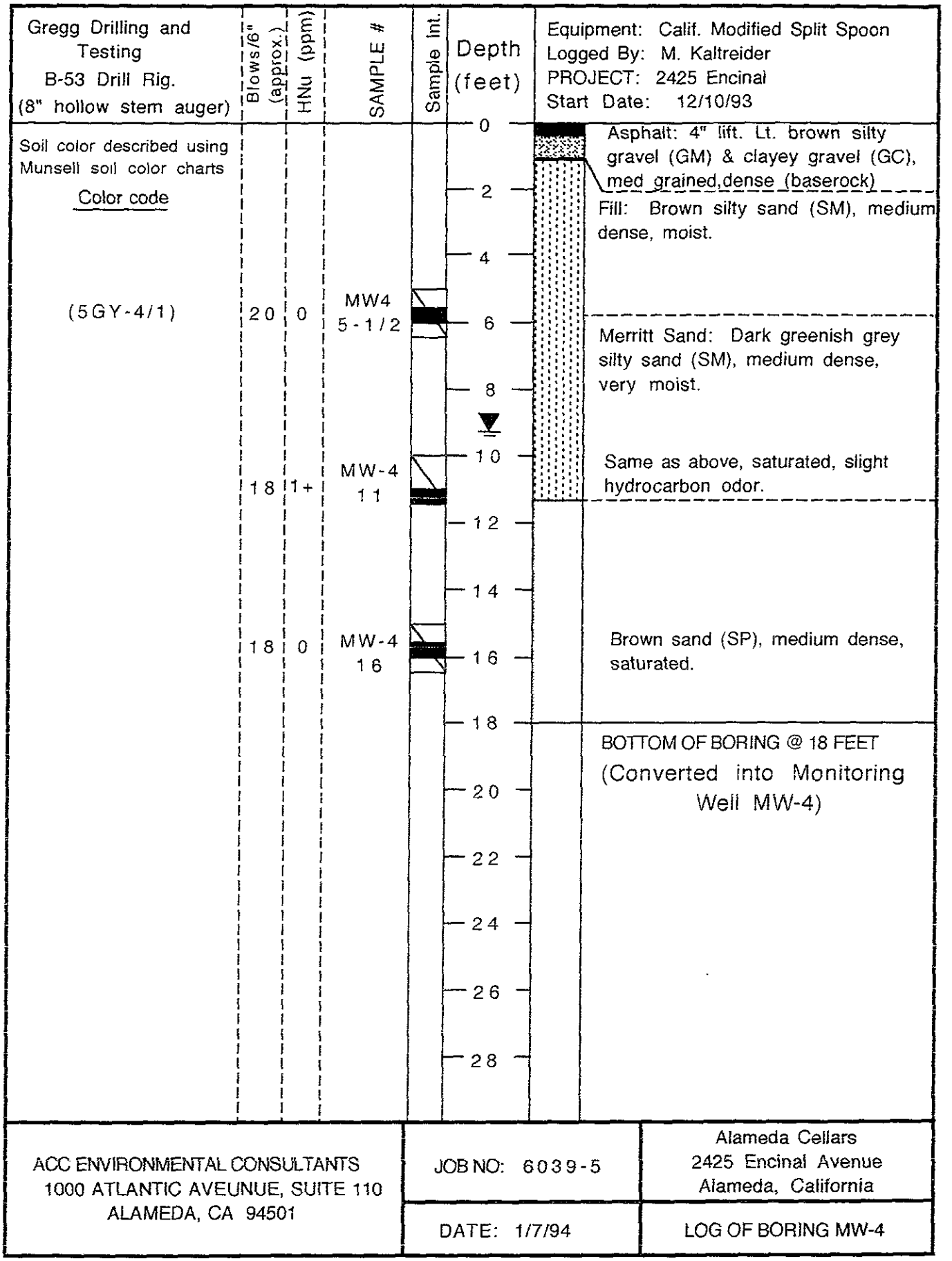
(10YR-4/4)

*Not collected using Limited Access Drill Rig

ACC ENVIRONMENTAL CONSULTANTS 1000 ATLANTIC AVEUNUE, SUITE 110 ALAMEDA, CA 94501	JOB NO: 6039-5	Alameda Cellars 2425 Encinal Avenue Alameda, California
	DATE: 1/7/94	LOG OF BORING MW-6



ACC ENVIRONMENTAL CONSULTANTS 1000 ATLANTIC AVEUNUE, SUITE 110 ALAMEDA, CA 94501	JOB NO: 6039-5	Alameda Cellars 2425 Encinal Avenue Alameda, California
	DATE: 1/7/94	LOG OF BORING MW-5



ACC ENVIRONMENTAL CONSULTANTS
1000 ATLANTIC AVEUNUE, SUITE 110
ALAMEDA, CA 94501

JOB NO: 6039-5

DATE: 1/7/94

Alameda Cellars
2425 Encinal Avenue
Alameda, California

LOG OF BORING MW-4

APPENDIX D

CHROMALAB, INC.

Environmental Laboratory (1094)

5 DAYS TURNAROUND

December 30, 1993 ChromaLab File#: 9312268

ACC ENVIRONMENTAL CONSULTANTS

Atten: Misty Kaltreider

Project: 2425 ENCINAL **Project#:** 6039-4
Submitted: December 21, 1993

re: 6 samples for Gasoline and BTEX analysis.

Matrix: WATER
Sampled on: December 20, 1993 *Analyzed on:* December 28, 1993
Method: EPA 5030/8015/602 *Run#:* 1928

Lab # SAMPLE ID	Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
39957 MW-1	5200	270	58	170	590
39958 MW-2a	3300	450	40	200	350
39959 MW-3	690	31	10	31	25
39960 MW-4	580	2.3	N.D.	1.4	1.1
39961 MW-5	N.D.	N.D.	N.D.	N.D.	N.D.
39962 MW-6	N.D.	N.D.	N.D.	N.D.	N.D.
DETECTION LIMITS	50	0.5	0.5	0.5	0.5
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.
BLANK SPIKE RECOVERY(%)	97	102	97	91	94

ChromaLab, Inc.

Billy Thach
Chemist

Eric Tam
Laboratory Director

2239 Omega Road,#1 • San Ramon, California 94583
(510) 831-1788 • Facsimile (510) 831-8798
Federal ID #68-0140157

CHROMALAB, INC.

DOHS 1094

SUBM #: 9312268
CLIENT: ACC
22 DUE: 12/29/93
REF: 14555

Order # 14555
268/39957-39962

Chain of Custody

DATE 12/20/93 PAGE 1 OF 1

PROJ. MGR Misty Kaltreider
COMPANY ACC Environmental
ADDRESS 1000 Atlantic Ave, Suite 110
Alameda, CA 94501

SAMPLERS (SIGNATURE) (PHONE NO) (510) 522-8188

SAMPLE ID.	DATE	TIME	MATRIX	PRESERV.	TPH - Gasoline (EPA 5030, 8015)	TPH - Gasoline (5030, 8015) w/BTEX (EPA 602, 8020)	TPH - Diesel (EPA 3510/3550, 8015)	PURGEABLE AROMATICS BTEX (EPA 602, 8020)	PURGEABLE HALOCARBONS (EPA 601, 8010)	VOLATILE ORGANICS (EPA 624, 8240, 524.2)	BASE/NEUTRALS, ACIDS (EPA 625/627, 8270, 525)	TOTAL OIL & GREASE (EPA 5520, B+F, E+F)	PCB (EPA 608, 8080)	PESTICIDES (EPA 608, 8080)	TOTAL RECOVERABLE HYDROCARBONS (EPA 418.1)		METALS: Cd, Cr, Pb, Zn, Ni	CAM METALS (17)	PRIORITY POLLUTANT METALS (13)	TOTAL LEAD	EXTRACTION (TCLP, STLC)				NUMBER OF CONTAINERS
MW-1	12/20		Water	Cold		X																			2
MW-2a	"		"	"		X																			2
MW-3			"	"		X																			2
MW-4			"	"		X																			2
MW-5			"	"		X																			2
MW-6			"	"		X																			2

PROJECT INFORMATION

PROJECT NAME: 6039-4 2425 Encinal
PROJECT NUMBER: 6039-4
P.O. #

TAT: STANDARD 5-DAY | 24 | 48 | 72 | OTHER

SPECIAL INSTRUCTIONS/COMMENTS:

SAMPLE RECEIPT

TOTAL NO. OF CONTAINERS	12
HEAD SPACE	
REC'D GOOD CONDITION/COLD	
CONFORMS TO RECORD	

RELINQUISHED BY 1.
(SIGNATURE) (TIME)
Carl Soane 12/21/93
(PRINTED NAME) (DATE)
ACC
(COMPANY)

RECEIVED BY 1.
(SIGNATURE) (TIME)
(PRINTED NAME) (DATE)
(COMPANY)

RELINQUISHED BY 2.
(SIGNATURE) (TIME)
(PRINTED NAME) (DATE)
(COMPANY)

RECEIVED BY 2.
(SIGNATURE) (TIME)
(PRINTED NAME) (DATE)
(COMPANY)

RELINQUISHED BY 3.
(SIGNATURE) (TIME)
(PRINTED NAME) (DATE)
(COMPANY)

RECEIVED BY (LABORATORY) 3.
(SIGNATURE) 1514 (TIME)
B Morrow 12-21-93
(PRINTED NAME) (DATE)
Chromalab

CHROMALAB, INC.

DOHS 1094

2239 Omega Road, #1 • San Ramon, California 94583
510/831-1788 • Facsimile 510/831-8798

Chain of Custody

DATE 12/20/93 PAGE 1 OF 1

PROJ. MGR. Misty Kaltreider
COMPANY ACC Environmental
ADDRESS 1000 Atlantic Ave, Suite 110
Alameda, CA 94501

SAMPLERS (SIGNATURE) (PHONE NO.) (510) 522-8188

SAMPLE ID.	DATE	TIME	MATRIX	PRESERV.	TPH - Gasoline (EPA 5030, 8015)	TPH - Gasoline (5030, 8015) w/BTEX (EPA 602, 8020)	TPH - Diesel (EPA 3510/3550, 8015)	PURGEABLE AROMATICS BTEX (EPA 602, 8020)	PURGEABLE HALOCARBONS (EPA 601, 8010)	VOLATILE ORGANICS (EPA 624, 8240, 5242)	BASE/NEUTRALS, ACIDS (EPA 625/627, 8270, 525)	TOTAL OIL & GREASE (EPA 5520, B+F, E+F)	PCB (EPA 608, 8080)	PESTICIDES (EPA 608, 8080)	TOTAL RECOVERABLE HYDROCARBONS (EPA 418.1)		METALS: Cd, Cr, Pb, Zn, Ni	CAM METALS (17)	PRIORITY POLLUTANT METALS (13)	TOTAL LEAD	EXTRACTION (TCLP, STLC)				NUMBER OF CONTAINERS
MW-1	12/20		Water	Cold		X																			2
MW-2a	"		"	"		X																			2
MW-3			"	"		X																			2
MW-4			"	"		X																			2
MW-5			"	"		X																			2
MW-6			"	"		X																			2
																									2

PROJECT INFORMATION

PROJECT NAME: 6039-4 2425 Encinal
PROJECT NUMBER: 6039-4
P.O. #

TAT: (STANDARD 5-DAY) | | 24 | 48 | 72 | OTHER

SPECIAL INSTRUCTIONS/COMMENTS:

SAMPLE RECEIPT

TOTAL NO. OF CONTAINERS	12
HEAD SPACE	
REC'D GOOD CONDITION/COLD	
CONFORMS TO RECORD	

	1.	2.	3.
RELINQUISHED BY	(SIGNATURE) (TIME)	(SIGNATURE) (TIME)	(SIGNATURE) (TIME)
	Carl Soane 12/21/93 (PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)
	ACC (COMPANY)	(COMPANY)	(COMPANY)
RECEIVED BY	(SIGNATURE) (TIME)	(SIGNATURE) (TIME)	(SIGNATURE) (TIME)
	(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)	(PRINTED NAME) (DATE)
	(COMPANY)	(COMPANY)	(LAB)

RECEIVED BY (LABORATORY) 3.
(SIGNATURE) 1514 (TIME)
R Morrow 12-21-93 (PRINTED NAME) (DATE)
Chromalab