ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
(510) 337-9335 (FAX)

REMEDIAL ACTION COMPLETION CERTIFICATION

August 12, 1999

Mr. Steve Chrissanthos
Alameda Cellars
1709 Otis Drive
Alameda, CA 94501

RE: Alameda Cellars, 2425 Encinal, Alameda, CA 94501

Dear Mr. Chrissanthos:

This letter confirms the completion of a site investigation and remedial action for the underground storage tanks formerly located at the above described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tanks are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, no further action related to the underground tank release is required.

This notice is issued pursuant to a regulation contained in Section 2721(e) of Title 23 of the California Code of Regulations.

Please contact our office if you have any questions regarding this matter.

Sincerely,

Mee Ling Tung
Director of Environmental Health Services

cc: Chief, Hazardous Materials Division - files
Larry Seto, ACDEH
Chuck Headlee, RWQCB
Dave Deaner, SWRCB (w/ Case Closure Summary)
Captain Steve McKinley, City of Alameda Fire Department
Files

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August 12,1999

Mr. Steve Chrissanthos
Alameda Cellars
1709 Otis Drive
Alameda, CA 94501
STID 3952

Re: Alameda Cellars, 2425 Encinal,Alameda, CA 94501

Dear Mr. Chrissanthos:

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with Chapter 6.75 (Article 4, Section 25299.37[h]). The State Water Resources Control Board adopted this letter on February 20, 1997. As of March 1, 1997, the Alameda County Environmental Protection Division is required to use this case closure letter for all UST leak sites. We are also transmitting to you the enclosed case closure summary. These documents confirm the completion of the investigation and cleanup of the reported release at the subject site. The subject fuel leak case is closed.

SITE INVESTIGATION AND CLEANUP SUMMARY

Please be advised that the following conditions exist at the site:

Groundwater samples from the most recent sampling (8-8-97) contained 3,500 ppb TPH(g), 330 ppb benzene, 27 ppb toluene, 310 ppb xylenes, and 100 ppb ethylbenzene

Over-excavation was not performed on-site, and up to 1,500 ppm TPH(g), 15 ppm benzene, 0.5 ppm toluene, 32 ppm xylenes and 18 ppm ethylbenzene remains in the soil

If you have any questions, please contact me at (510)567-6774. Thank you.

Sincerely,

Larry Seto
Senior Hazardous Materials Specialist

Cc: Chief, Hazardous Materials Division - files
Larry Seto, Environmental Health
Captain Steve McKinley, City of Alameda Fire Department
Chuck Headlee, RWQCB
Dave Deaner, SWRCB (w/case closure summary)
Files

Enclosures:
1. Case Closure Letter
2. Case Closure Summary

RB # 01-0039

CASE CLOSURE SUMMARY
Leaking Underground Fuel Storage Tank Program

I. AGENCY INFORMATION **Date:** **August 3, 1998**

Agency name: **Alameda County-HazMat** Address: **1131 Harbor Bay Pkwy.**
City/State/Zip: **Alameda, CA 94502** Phone: **(510) 567-6774**
Responsible staff person: **Larry Seto** Title: **Senior HMS**

II. CASE INFORMATION

Site facility name: Alameda Cellars

Site facility address: 2425 Encinal, Alameda, CA 94501

RB LUSTIS Case No: Local Case No./LOP 3952

URF filing date: 11-01-95 SWEEPS No: **N/A**

Responsible Parties:	**Addresses:**	**Phone Numbers:**
Steve Chrissanthos	1709 Otis Drive, Alameda, CA 94501	(510) 523-3061

Tank No	Size in Gallons	Contents:	Closed in-place or Removed?	Date:
	10,000	Gas	Removed	3-1-90
	10,000	Gas	Removed	3-1-90

Leaking Underground Fuel Storage Tank Program

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Cause and type of release: Spill or equipment failure

Monitoring Wells installed? Yes Number: 6

Site characterization complete? Yes

Date approved by oversight agency:

Proper screened interval?

Highest GW depth below ground surface: 18.6' Lowest depth: 23.0'

Flow direction: Southwest

Most sensitive current use:

Are drinking water wells affected? No Aquifer Name:

Is surface water affected? No Nearest affected SW name: ---

Off-site beneficial use impacts (addresses/locations): Unknown

Report(s) on file? Yes Where is report(s) filed? **Alameda County**
1131 Harbor Bay Pkwy.
Alameda, CA 94502

Treatment and Disposal of Affected Material:

Material	Amount (include units)	Action (Treatment or Disposal /destination)	Date
Underground Tank	10,000 gallons	Erickson, Richmond, CA	3-1-90
Underground Tank	10,000 gallons	Erickson, Richmond, CA	3-1-90
Impacted Soil	150 Cu.Yd.	Redwood Landfill, Novato, Ca	No documentation

III. RELEASE AND SITE CHARACTERIZATION INFORMATION

Maximum Documented Contaminant Concentrations - - Before and After Cleanup

Contaminant	Soil (ppm)		Water (ppb)	
	Before[1]	After[3]	Before[2]	After[4]
TPH(g)	1,500	1,500	5,680	3,500
Benzene	15	15	1,560	330
Toluene	0.5	0.5	1,026	27
Xylenes	32	32	2,606	310
Ethylbenzene	18	18	840.2	100
MTBE	NA	NA	NA	ND

ND - Non-Detect
NA – Not Analyzed

1- Samples collected on the sidewall of tank pit during tank removal on 3-1-90
2- Samples collected on 1-9-93 from MW-1 and MW-2a
3- Samples collected on the sidewall of tank pit during tank removal on 3-1-90. No record of overexcavation.
4- Most recent quarterly water sample taken on 8-8-97.

Comments (Depth of Remediation, etc.): See "Additional Comments" section.

IV. CLOSURE

Does completed corrective action protect existing beneficial uses per the Regional Board Basin Plan?

Does completed corrective action protect potential beneficial uses per the Regional Board Basin Plan?

Does corrective action protect public health for current land use? Yes

Site management requirements: **Commercial Use Only**

Should corrective action be reviewed if land use changes? **Yes, the risk assessment performed for this site was for on-site commercial workers, and on-site construction workers only, with the risk calculated to be less than a 10^{-5} excess cancer risk.**

Leaking Underground Fuel Storage Tank Program

List enforcement actions taken: ~~None~~ Enforcement action taken by the RWQCB on 4-27-92 per Felix Young at the RWQCB.

List enforcement actions rescinded: ~~None~~ Enforcement action listed above.

V. LOCAL AGENCY REPRESENTATIVE DATA

Name: Larry Seto Title: Senior HMS

Signature: Date: 9-10-98

Reviewed by:

Name: Madhulla Logan Title: Hazardous Materials Specialist

Signature: Madhulla Logan Date: 8/5/98

Name: Thomas Peacock Title: Supervising HMS

Signature: Thomas Peacock Date: 9-10-98

VI. RWQCB NOTIFICATION

Date Submitted to RB: RB Response:

RWQCB Staff Name: Chuck Headlee Title: Engineering Geologist

Chuck Headlee Date: 9/24/98

VII. ADDITIONAL COMMENTS, DATA, ETC.

Alameda Cellars, a commercial liquor store, currently occupies this site. On March 1, 1990 , two single-walled steel underground tanks with a capacity of 10,000 gallon each were removed. They were previously used to store gasoline. Analysis of the soil samples collected on the sidewalls of the tank pit during the tank removal indicated concentrations of up to 1,500 ppm TPH(gas) and 15 ppm benzene.

Leaking Underground Fuel Storage Tank Program

In December 1992, a subsurface investigation commenced that included the drilling of five borings on-site. Three of the borings were converted into monitoring wells MW-1, Mw-2a and MW-3. Analytical results of soil collected during drilling and sampling indicated concentrations up to 1,365 ppm TPH(g) and up to 18.9 ppm benzene. Initial groundwater samples collected in January 1993 from the monitoring wells identified up to 5,680 ppb TPH(g) in MW-2a and 1,560 ppb benzene in MW-1. The groundwater gradient had a general flow of west-southwest.

An additional subsurface investigation was conducted in May 1993 to evaluate the extent of impact to the soil and groundwater. Nine borings were drilled both on and off site. The maximum soil concentration of TPH(g) was 8.7 ppm, and of benzene was 0.13 ppm.

Findings of the additional investigation indicated the lateral extent of the petroleum 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 appeared to extend off site into Park Street and Encinal Avenue. Field observations made during the additional investigation and soil samples analysis indicated impacted soil existed primarily around the former tank excavation and the former dispenser island. The vertical extent of petroleum hydrocarbons in the soil occurs at the soil/groundwater interface.

Analytical results of grab groundwater samples collected from borings during the additional investigation indicated that residual petroleum hydrocarbons from the former tank excavation and dispenser island are migrating off-site via the groundwater. Up to 18,000 ppb TPH(g) and 1.2 ppb benzene were detected in off-site grab groundwater samples.

In December 1993, three additional monitoring wells (MW-4, MW-5 and MW-6) were installed on and adjacent to the property to further evaluate the extent of petroleum hydrocarbon impact to groundwater. Laboratory analysis of the soil samples collected from each boring indicated no detectable concentrations of TPH(g) and BTEX above laboratory reporting limits.

Groundwater samples were collected from MW-4, MW-5 and MW-6 on December 20, 1993. Analysis of water samples collected from the newly installed wells showed dissolved gasoline compounds in MW-4 only with concentrations of 580 ppb TPH(g), 2.3 ppb benzene, 1.4 ethylbenzene and 1.1 ppb xylenes.

ACC Environmental Consultants (ACC) prepared a Tier 1 Risk Assessment Report and ACC's February 12, 1997 Risk Assessment Addendum to evaluate the potential risk that impacted subsurface soil and groundwater have on usage of the property. Based on the risk assessment, the remaining impacted soil and groundwater at the site would not pose a significant risk to on-site workers. However, Alameda County Environmental Health requested that an evaluation be conducted in residential areas adjacent to the subject site, to determine whether the impacted groundwater is migrating toward residential areas which may pose a human health risk.

Leaking Underground Fuel Storage Tank Program

On August 4, 1997 an off-site groundwater investigation was conducted by advancing two exploratory borings into the shallow groundwater and collecting grab groundwater samples in the borings, adjacent to residential areas downgradient of the subject site. Groundwater samples were below detection limits for TPH(g), BTEX and MTBE.

In summary, this office is recommending that this case be closed for the following reasons:

1) The leak has been stopped and ongoing sources removed and remediated
2) The site has been adequately characterized
3) Little groundwater impact currently exists. Due to the relatively flat gradient, the potential for plume migration is limited. Impacted groundwater will likely degrade before any substantial downgradient migration occurs, and a stable plume has been clearly demonstrated.
4) No water wells, deeper drinking water aquifers, surface water or other sensitive receptors are likely to be impacted
5) The site presents no significant risk to human health.

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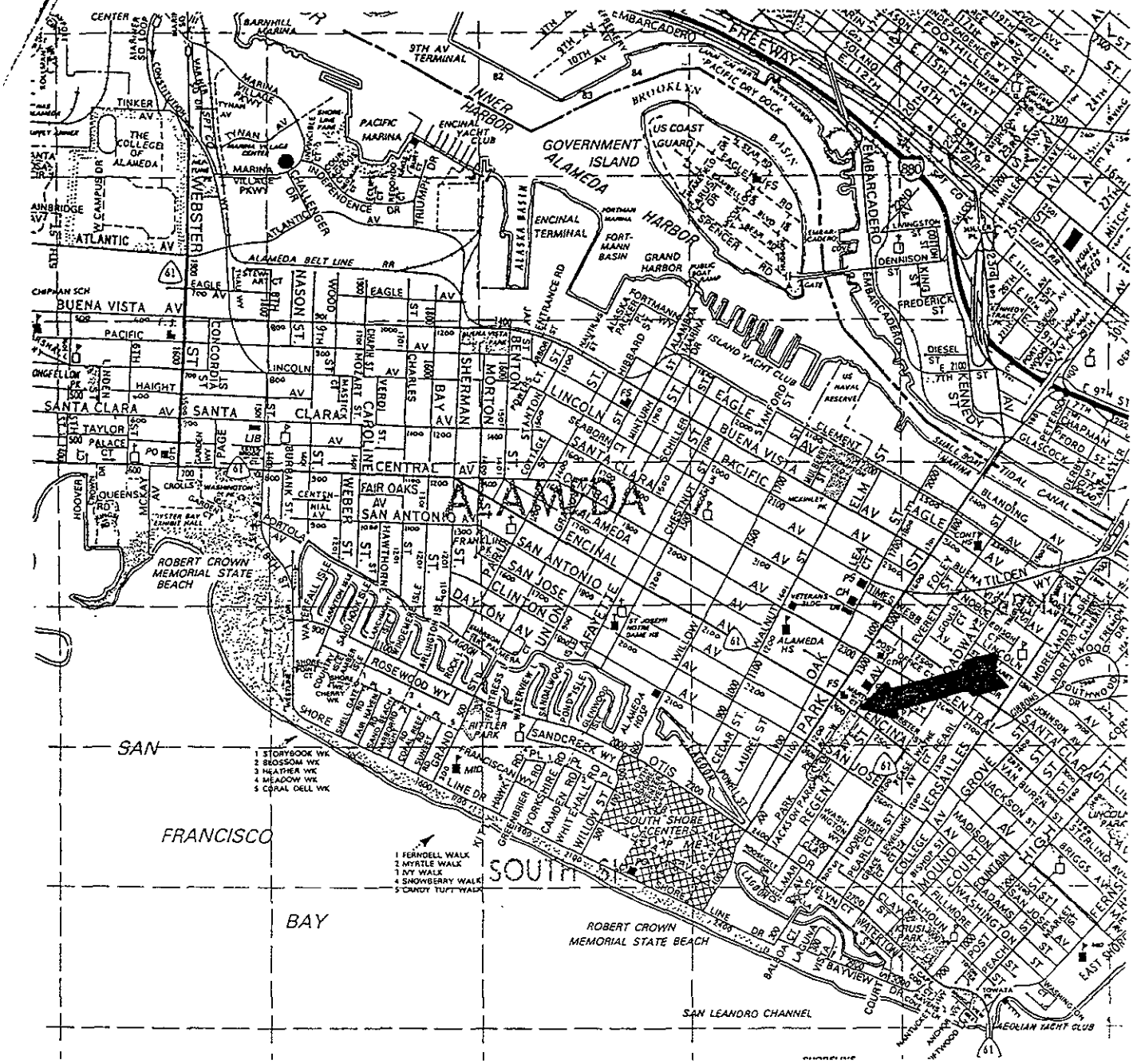

SOURCE: THOMAS BROTHERS GUIDE, 1990 ed.

Title:	Location Map 2425 Encinal Avenue Alameda, California		
Figure Number:	1.0	Scale:	1" = 1/4 mi
Drawn By:	JVC	Date:	3/19/96
Project Number:	6039-5		

ACC Environmental Consultants
7977 Capwell Drive, Suite 100
Oakland, California 94621
(510) 638-8400 Fax: (510) 638-8404

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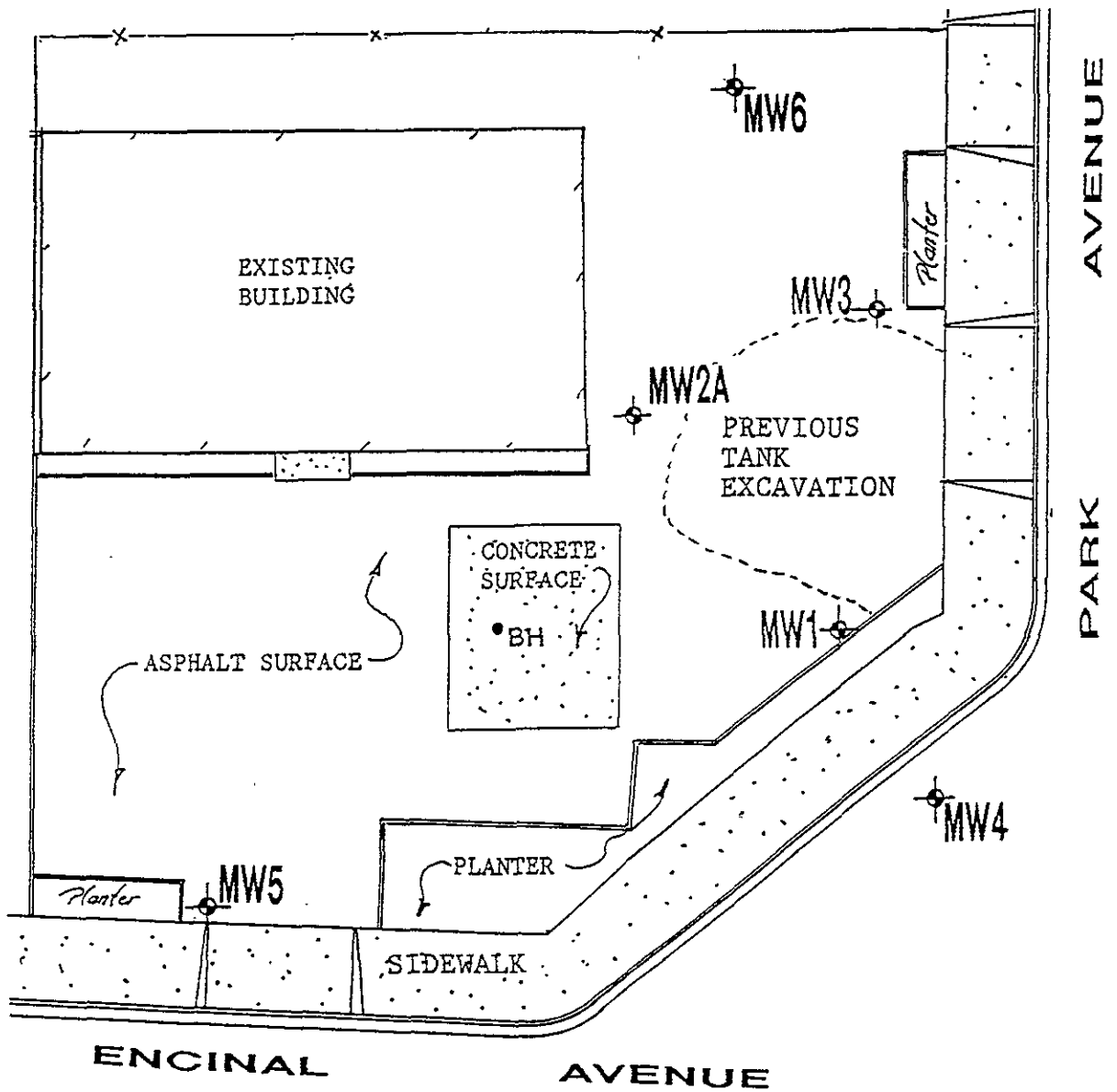
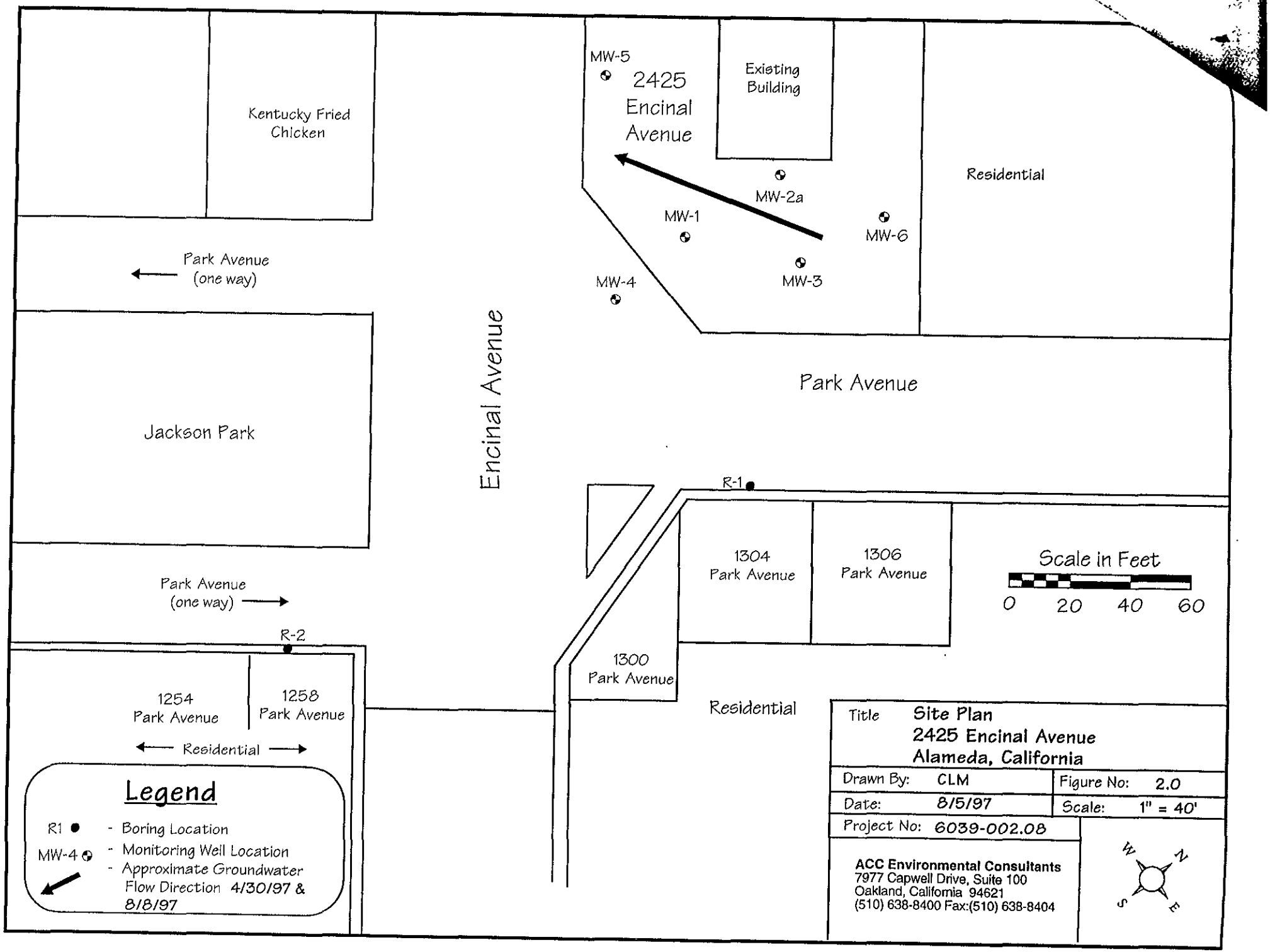


Scale: 1" = 20'

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


MW-5
2425 Encinal Avenue
Existing Building
Residential
MW-2a
MW-1
MW-6
MW-4
MW-3
Kentucky Fried Chicken
Park Avenue (one way)
Encinal Avenue
Park Avenue
Jackson Park
R-1
1304 Park Avenue
1306 Park Avenue
Scale in Feet
0 20 40 60
Park Avenue (one way)
R-2
1300 Park Avenue
1254 Park Avenue
1258 Park Avenue
Residential
Residential
Legend
R1 - Boring Location
MW-4 - Monitoring Well Location
- Approximate Groundwater Flow Direction 4/30/97 & 8/8/97
Title Site Plan
2425 Encinal Avenue
Alameda, California
Drawn By: CLM
Figure No: 2.0
Date: 8/5/97
Scale: 1" = 40'
Project No: 6039-002.08
ACC Environmental Consultants
7977 Capwell Drive, Suite 100
Oakland, California 94621
(510) 638-8400 Fax:(510) 638-8404
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3.3 Groundwater Sampling

Before groundwater sampling, the wells were purged using a new polyethylene disposable bailer and new string. Groundwater samples were collected when temperature, pH, and conductivity of the water stabilized and a minimum of four well-casing volumes of water had been removed. Following purging, each well was allowed to recharge prior to sampling. When recovery to 80 percent of the static water level was observed, a sample was collected for analysis. Groundwater conditions were monitored during purging and sampling. Well monitoring worksheets are included as Appendix 1.

Wells were sampled using a disposable polyethylene bailer attached to new string. From the monitoring wells, sample vials were filled to overflowing and sealed so that no air was trapped in the vial. Once filled, sample vials were inverted and tapped to test for air bubbles. Samples were collected in approved, laboratory-supplied vials. Sample containers were labeled with self-adhesive, preprinted tags and stored in a pre-chilled, insulated container pending delivery to a state-certified laboratory for analysis.

Water purged during the development and sampling of the monitoring wells was stored temporarily on site in Department of Transportation approved 55-gallon drums pending laboratory analysis and proper disposal.

4.0 RESULTS OF GROUNDWATER SAMPLING

Groundwater samples collected from the wells were submitted to Chromalab, Inc., following chain of custody protocol. Groundwater samples collected from wells MW-1 through MW-4 were analyzed for TPHg, BTEX, and methyl tertiary butyl ether (MTBE) by EPA Method 8015M/8020. Copies of the chain of custody record and laboratory analytical reports are included in Appendix 2. Dissolved gasoline constituents were detected in groundwater samples collected from wells MW-1, MW-2a, MW-3, and MW-4. A summary of groundwater sample results is presented in Table 4.

TABLE 4 - GROUNDWATER SAMPLE ANALYTICAL RESULTS

Well ID	Date Sampled	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/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	---
	03/18/94	18,000	570.0	180.0	270.0	1,500.0	---
	04/08/94	NT	NT	NT	NT	NT	---
	06/22/94	4,800	160.0	56.0	130.0	310.0	---
	12/07/94	9,100	530.0	200.0	350.0	1,300.0	---

Well ID	Date Sampled	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)
	03/16/95	230	15.0	4.5	9.4	38.0	---
	06/23/95	2,700	170.0	19.0	40.0	180.0	---
	09/14/95	1,700	160.0	12.0	69.0	100.0	---
	12/18/95	2,900	190.0	57.0	130.0	380.0	---
	03/19/96	14,000	910	280	400	2,100	---
	06/27/96	5,300	320	81	280	710	---
	10/14/96	1,000	58	4.2	40	25	---
	04/30/97	4,400	230	64	220	550	<50
	08/08/97	830	37	4.2	14	28	<5.0
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	---
	03/18/94	7,900	370.0	53.0	190.0	530.0	---
	04/08/94	NT	NT	NT	NT	NT	---
	06/22/94	3,800	420.0	37.0	140.0	290.0	---
	12/07/94	6,800	640.0	100.0	370.0	950.0	---
	03/16/95	6,500	590.0	96.0	360.0	1,000.0	---
	06/23/95	4,300	170.0	58.0	33.0	810.0	---
	09/14/95	1,700	270.0	17.0	76.0	160.0	---
	12/18/95	3,900	410.0	52.0	290.0	610.0	---
	03/19/96	9,000	470	70	540	1,400	---
	06/27/96	9,900	350	33	230	580	---
	10/14/96	---	---	---	---	---	---
	04/30/97	4,400	230	64	220	550	<50
	08/08/97	3,500	330	27	100	310	<50
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	---
	03/18/94	450	9.6	11.0	5.5	23.0	---
	04/08/94	NT	NT	NT	NT	NT	---
	06/22/94	2,500	150.0	130.0	81.0	280.0	---
	12/07/94	420	16.0	8.3	26.0	37.0	---
	03/16/95	490	19.0	2.7	24.0	46.0	---
	06/23/95	860	41.0	5.4	32.0	110.0	---
	09/14/95	720	43.0	3.7	50.0	86.0	---

Well ID	Date Sampled	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)
	12/18/95	860	27.0	10.0	38.0	53.0	---
	03/19/96	570	28	2.2	21	30	---
	06/27/96	910	54	4.9	53	79	---
	10/14/96	610	48	3.6	31	37	---
	04/30/97	590	44	4.5	25	39	<5.0
	08/08/97	1,400	150	11	47	33	<5.0
MW-4	12/20/93	580	2.3	<0.5	1.4	1.1	---
OSS-Site	03/18/94	2,100	11.0	1.5	2.3	6.0	---
	04/08/04	NT	NT	NT	NT	NT	---
	06/22/94	1,600	39.0	7.5	13.0	16.0	---
	12/07/94	2,100	82.0	9.6	4.7	14.0	---
	03/16/95	3,400	140.0	12.0	45.0	29.0	---
	06/23/95	1,800	140.0	13.0	13.0	28.0	---
	09/14/95	3,900	250.0	6.1	3.8	11.0	---
	12/18/95	2,400	94.0	14.0	11.0	29.0	---
	03/19/96	1,300	68.0	8.2	25.0	21.0	---
	06/27/96	2,100	96.0	11.0	18.0	20.0	---
	10/14/96	2,300	130	8.4	3.4	5.6	---
	04/30/97	2,500	100	12	46	35	<50
	08/08/97	2,100	92.0	8.1	7.2	20	<5.0
MW-5	12/20/93	<50	<0.5	<0.5	<0.5	<0.5	---
	03/18/94	<50	<0.5	<0.5	<0.5	<0.5	---
	04/08/94	NT	NT	NT	NT	NT	---
	06/22/94	<50	<0.5	<0.5	<0.5	<0.5	---
	12/07/94	<50	<0.5	<0.5	<0.5	<0.5	---
	03/16/95	<50	<0.5	<0.5	<0.5	<0.5	---
	06/12/95	<50	<0.5	<0.5	<0.5	<0.5	---
	09/14/95	<50	<0.5	<0.5	<0.5	<0.5	---
	12/18/95	<50	<0.5	<0.5	<0.5	<0.5	---
	03/19/96	<50	<0.5	<0.5	<0.5	<0.5	---
	06/27/96	<50	<0.5	<0.5	<0.5	<0.5	---
	10/14/96	<50	<0.5	<0.5	<0.5	<0.5	---
	04/30/97	<50	<0.5	<0.5	<0.5	<0.5	<5.0
MW-6	12/20/93	<50	<0.5	<0.5	<0.5	<0.5	---
	03/13/94	NT	NT	NT	NT	NT	---
	04/08/94	<50	<0.5	<0.5	<0.5	<0.5	---
	06/22/94	<50	<0.5	<0.5	<0.5	<0.5	---
	12/13/94	<50	<0.5	<0.5	<0.5	<0.5	---
	03/16/95	<50	<0.5	<0.5	<0.5	<0.5	---

Well ID	Date Sampled	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)
MW-6	06/23/95	<50	<0.5	<0.5	<0.5	<0.5	---
	09/14/95	<50	<0.5	<0.5	<0.5	<0.5	---
	03/19/96	<50	<0.5	<0.5	<0.5	<0.5	---
	06/27/96	<50	<0.5	<0.5	<0.5	<0.5	---
	10/14/96	<50	<0.5	<0.5	<0.5	<0.5	---
	04/30/97	<50	<0.5	<0.5	<0.5	<0.5	<5.0

Notes: µg/L = micrograms per liter (approximately equivalent to ppb)
NT = Not tested

5.0 DISCUSSION

This report documents the groundwater monitoring conducted for all six groundwater wells at Alameda Cellars, 2425 Encinal Avenue, Alameda, California. Groundwater sample results indicate detectable concentrations of gasoline constituents in the groundwater samples collected from wells MW-1, MW-2a, MW-3, and MW-4. The samples collected from wells MW-1, MW-2a and MW-4 indicated a decrease in TPHg compared with the previous sampling events. Concentrations of TPHg reported in well MW-1 have decreased 81 percent since the last sampling event. Concentrations of gasoline constituents in well MW-3 increased approximately 57 percent since the previous sampling event. Groundwater flow direction and gradient are consistent with the previous sampling events.

In addition to petroleum hydrocarbons, the groundwater was evaluated for indicator parameters of bioremediation. The water in each well was monitored before, during, and after purging to evaluate indications of biodegradation.

5.1 Dissolved Oxygen

DO concentrations can be used to evaluate the mass of constituents that can be biodegraded by aerobic processes. During aerobic biodegradation, DO levels are reduced and aerobic biodegradation can degrade BTEX components if sufficient DO (>1 to 2 mg/L) is present (Buscheck and O'Reilly, March 1995). Levels of DO varied throughout the site from 4.55 mg/L in well MW-4 to 3.18 mg/L in well MW-2. Water from well MW-3 (in which concentrations doubled compared with the previous event) indicated the low levels of DO. The DO levels increased in well MW-4 (which had a 16 percent decrease in TPHg concentrations from previous event sampling concentrations), indicating that the natural microbes are using the DO to degrade petroleum hydrocarbons.

R-1 was slow to recharge and a groundwater sample was collected at a depth of 15.5 to 16 feet bgs. ACC encountered refusal conditions in boring R-2 at 16.5 feet bgs approximately the soil/groundwater interface. Groundwater was not obtainable due to extremely slow recharge conditions; therefore, ACC primed the boring with 60 to 100 milliliters of deionized water. Once primed, ACC purged approximately 80 milliliters of water from the point before collection of sample R-2. Water collected from the borings using precleaned stainless steel bailers and new string. Upon collection, the water from the bailer was immediately transferred to laboratory supplied, precleaned sample containers, without head space, sealed, labeled, and stored in a prechilled insulated container pending transport to a certified analytical laboratory. Groundwater samples were analyzed for total petroleum hydrocarbons as gasoline (TPHg), benzene, toluene, ethylbenzene, and total xylenes (BTEX), and methyl tertiary butyl ether (MTBE). The boring locations are illustrated on Figure 2. A copy of the analytical results and chain of custody record is attached.

TABLE 1 - GROUNDWATER SAMPLE ANALYTICAL RESULTS

Sample Number	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)
R-1	<50	<0.50	<0.50	<0.50	<0.50	<5.0
R-2	<50	<0.50	<0.50	<0.50	<0.50	<5.0

Notes: µg/L = micrograms per liter

CONCLUSIONS

Based on the current and previous analytical results, ACC concludes that no impacted groundwater is migrating from the subject site toward residences on Park Avenue and Encinal Avenue. Because the offsite impact has not extended to residential areas and the remaining onsite impacted soil and groundwater will not pose a significant risk to onsite workers as determined in ACC's Risk Assessment Report, ACC requests closure of the subject property from further investigation.

If you have any questions regarding this letter report, please call me at (510) 638-8400.

Sincerely,

Misty C. Kaltreider
Senior Project Geologist

/mcr:mck

Attachments

cc: Ms. Juliet Shin, ACHCSA

Alameda and Oakland areas.

Groundwater was encountered between 9 and 14 feet below ground surface (bgs) during drilling. Borings B-1 and B-3 were drilled to approximately 18 feet bgs. Borings B-2, B-4 and MW-2a were drilled to approximately 15 feet bgs. Boring B-5 was drilled to approximately 6 feet bgs until auger refusal.

Monitoring wells MW-1, MW-2, MW-2a, and MW-3 were completed at the drilled depths within borings B-1, B-3, MW-2a, and B-4, respectively.

During drilling and sampling field evidence of volatile organics (i.e. discoloration and odor) were detected from each boring. Table 2 below describes the intervals in each boring of which volatile organics were detected.

TABLE 2
Field Evidence of Volatile Organics

Boring No.	Odor	Discoloration	Depth Observed
B-1 (MW-1)	moderate	yes	8 to 9 feet bgs
B-2	slight to strong	yes	5 to 13 feet bgs
B-3 (MW-2)	slight to strong	yes	2 to 14 feet bgs
B-4 (MW-3)	strong	yes	3 to 13 feet bgs
B-5	slight	yes	4 to 6 feet bgs
MW-2a	strong	yes	2 to 14 feet bgs

4.2 Analytical Results - Soil

Analysis of soil collected from the borings B-1 through B-4 and MW-2a indicated elevated levels of Total Petroleum Hydrocarbons (TPH) as gasoline with BTEX. Analysis of soil from boring B-5 indicated levels of TPH as gasoline with BTEX that were below detectable levels. Laboratory results are presented in Exhibit A, Figure 2 and are summarized below.

TABLE 3
Analytical Results - Soil

Boring	Sample Number	Depth (feet)	TPH-gasoline (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylenes (mg/Kg)
B-1	B1-10.5	10.5	314	4.3	3.8	6.8	11.6
(MW-1)	B1-16	16	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
B-2	B2-10	10	1,365	18.9	37.0	28.4	56.0
	B2-14	14	26	0.6	0.5	1.2	2.3
B-3	B3-5.5	5.5	121	0.8	0.7	4.6	10.2
(MW-2)	B3-10.5	10.5	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
B-4	B4-5.5	5.5	10	0.4	0.4	0.5	0.8
(MW-3)	B4-15.5	15.5	<0.05	<0.0005	<0.0005	<0.0005	<0.0005

TABLE 3 cont.
Analytical Results - Soil

Boring	Sample Number	Depth (feet)	TPH-gasoline (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Xylenes (mg/Kg)
B-5	B5-5	5	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
MW-2a	MW-2A-7	7	24.6	0.8	0.6	0.6	1.1
	MW-2A-15	15	7.9	0.5	0.4	0.2	0.5

Notes: 1. mg/Kg = parts per million (ppm)
2. Samples B2-10, B3-10.5, and B4-5.5 were analyzed for total lead and contained concentrations of 22, <1 and 5 ppm, respectively.

4.3 Analytical Results - Groundwater

After well installation and development, one groundwater sample each from Monitoring Wells MW-1, MW-2a and MW-3 was collected and submitted to Geochem Environmental Laboratories 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 illustrated below and are shown in Figure 3. Copies of the analytical results are provided in Exhibit A.

TABLE 4
Analytical Results - Groundwater

Monitoring Well Number	TPH-gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)
MW-1	5,360	1,560.0	1,026.6	641.0	2,706.2
MW-2a	5,680	801.6	598.6	840.2	~~2,196.1~~ 2,606.2
MW-3	<50	<0.5	<0.5	<0.5	<0.5

Notes:
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. A site map and benchmark description from the surveying engineer is provided in Exhibit C.

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 taken from the wells on January 9, 1993. The gradient was

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 Xylene (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.

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

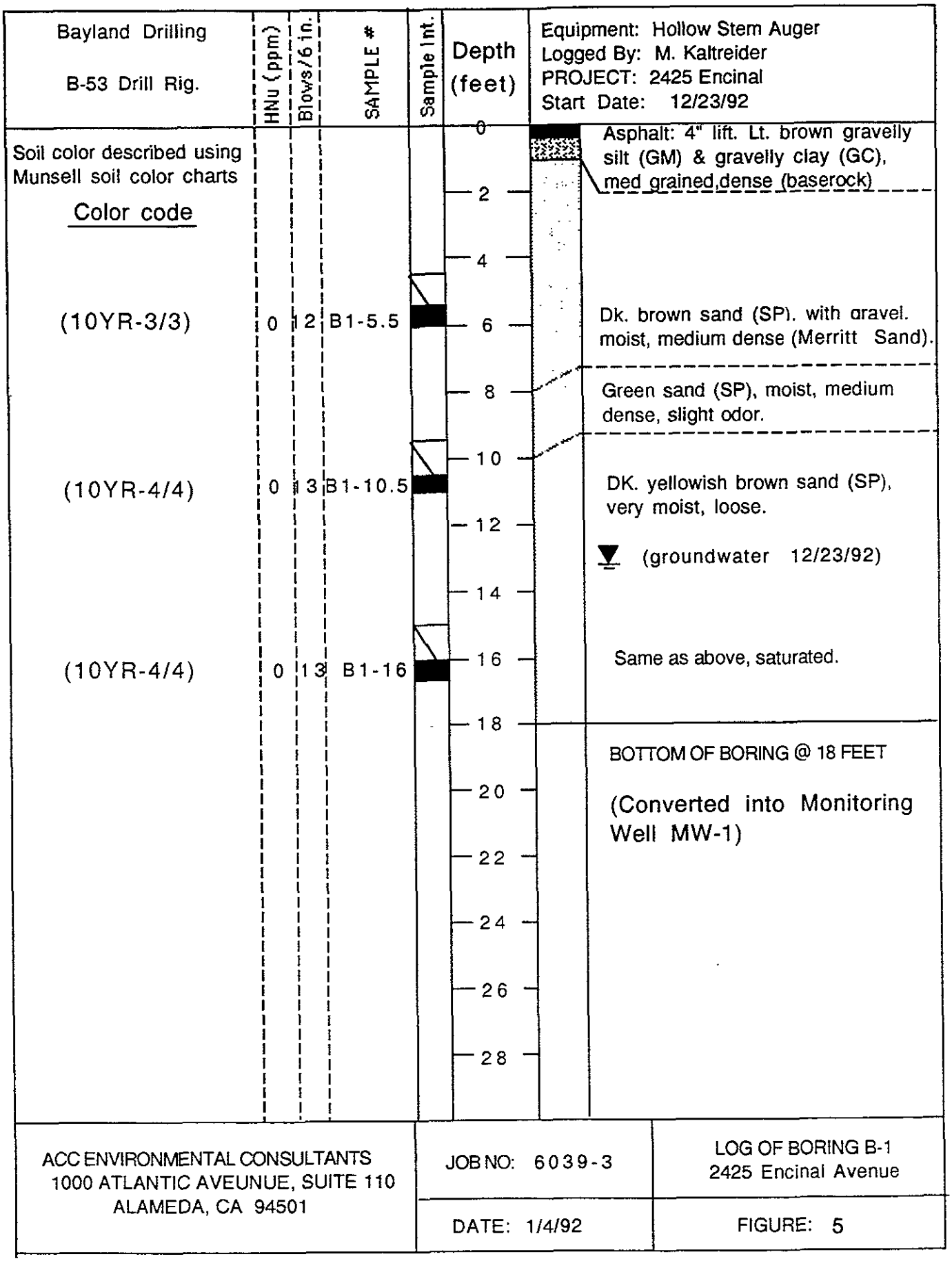
Lab # SAMPLE ID	Gasoline (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl Benzene (ug/Kg)	Total Xylene (ug/Kg
39467 MW-6-6	N.D.	N.D.	N.D.	N.D.	N.D.
39468 MW-6-10 1/2	N.D.	N.D.	N.D.	N.D.	N.D.
DETECTION LIMITS	1.0	5.0	5.0	5.0	5.0
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.
BLANK SPIKE RECOVERY(%)	97	97	100	107	104

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



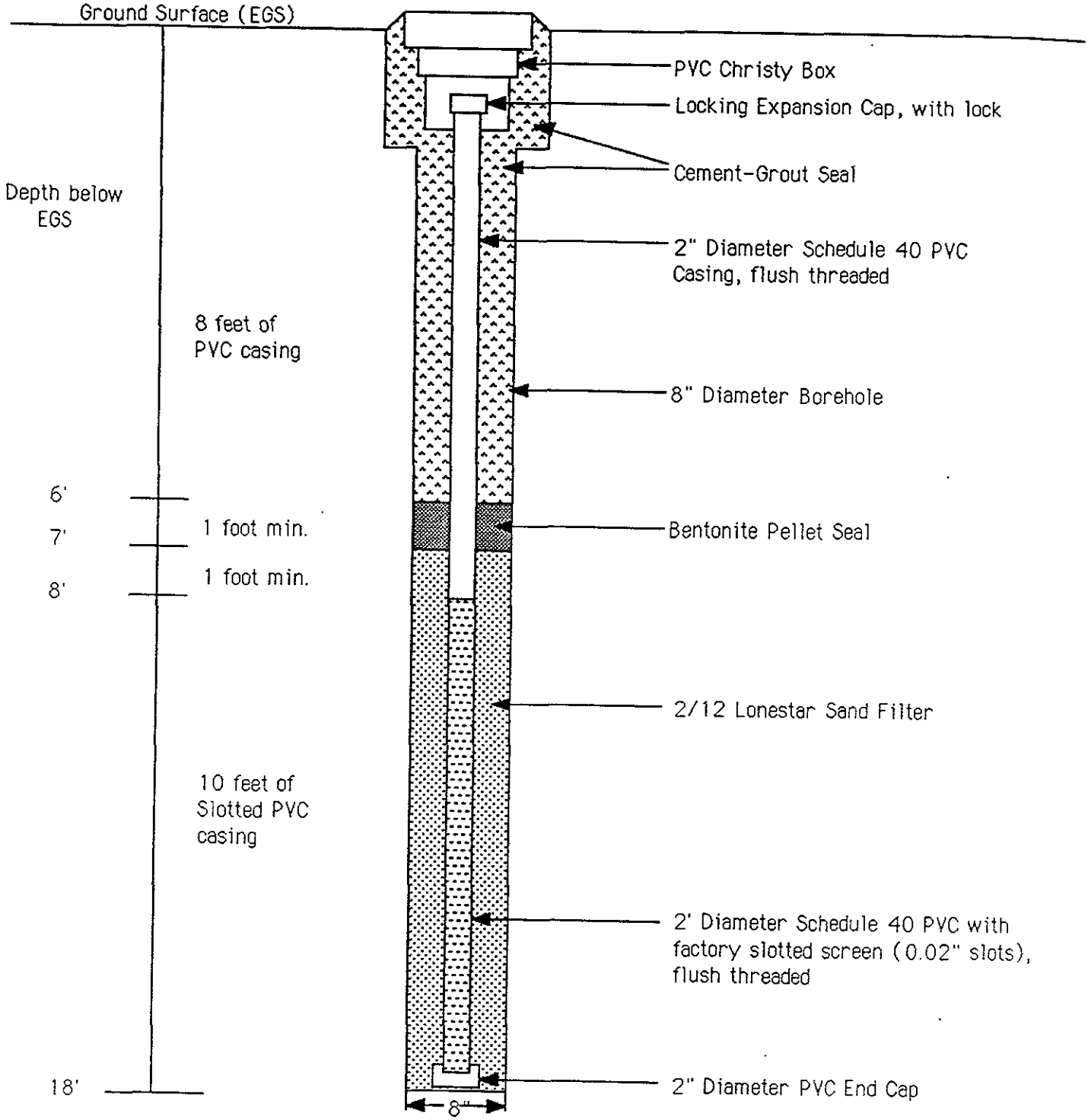
ACC ENVIRONMENTAL CONSULTANTS
1000 ATLANTIC AVEUNUE, SUITE 110
ALAMEDA, CA 94501

JOB NO: 6039-3

DATE: 1/4/92

LOG OF BORING B-1
2425 Encinal Avenue

FIGURE: 5

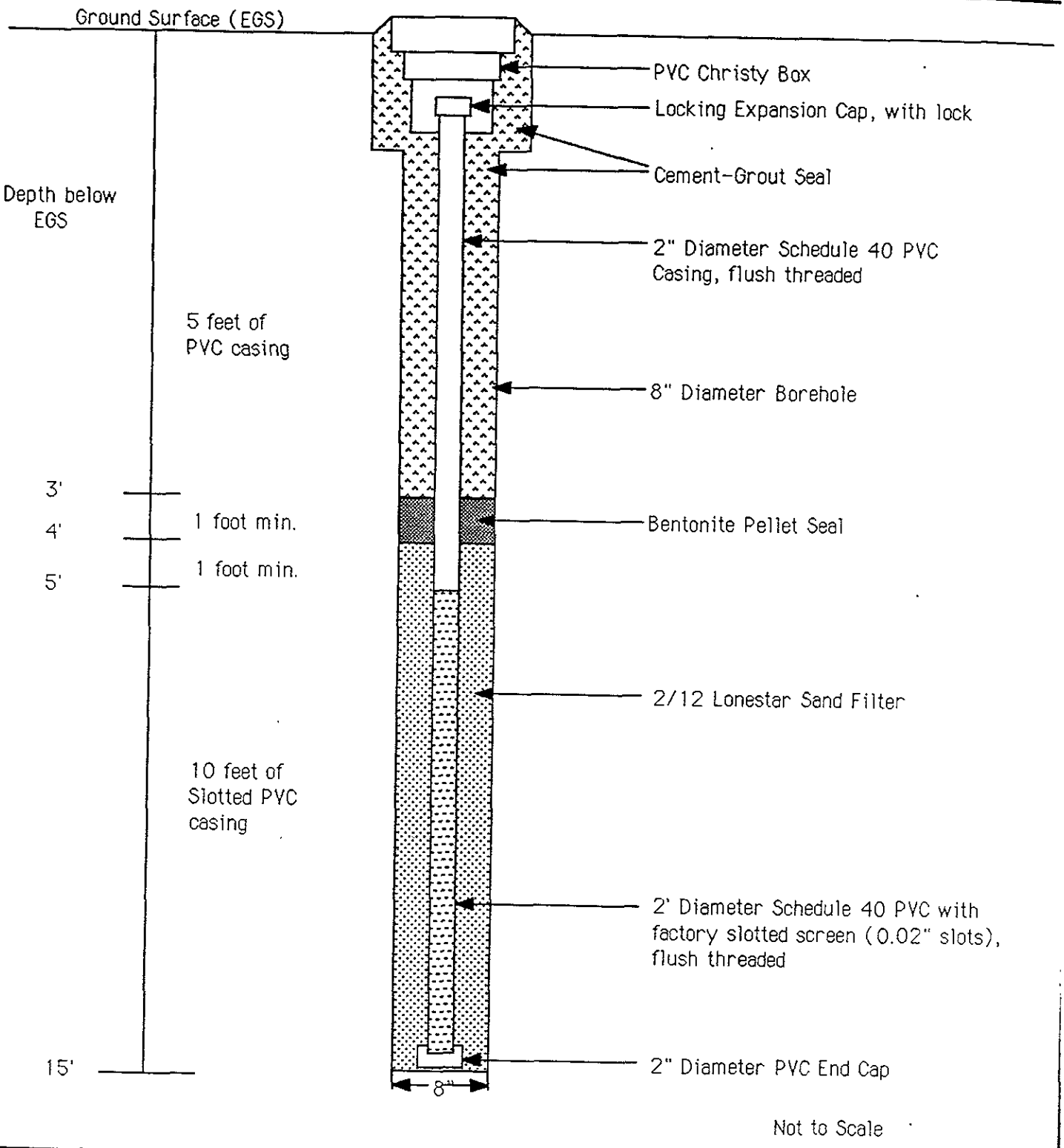


Not to Scale

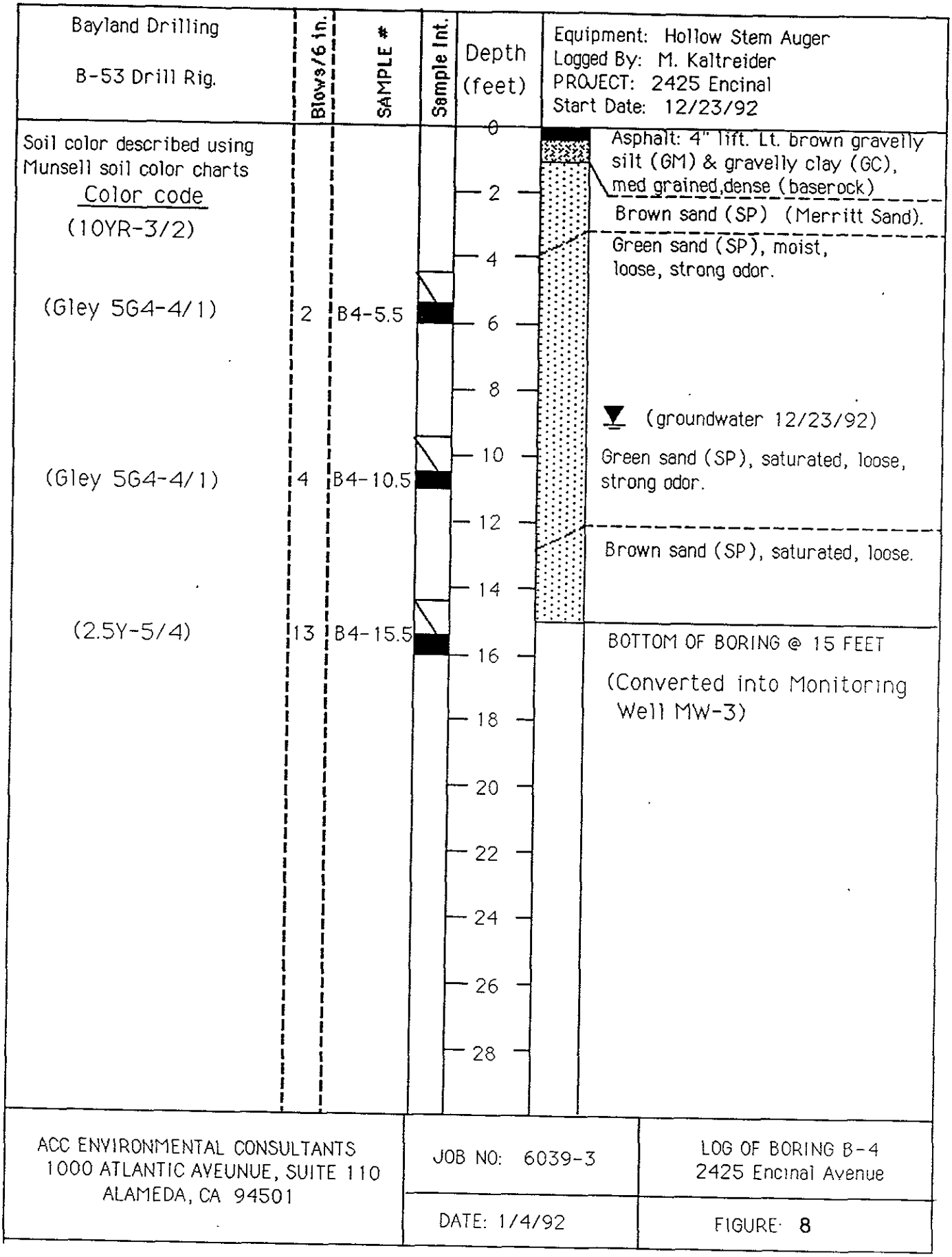
ACC Environmental Consultants 1000 Atlantic Avenue, Suite 110 Alameda, CA 94501	Job No.: 6039-3	Schematic of Monitoring Well No.: MW-1
	Date: 1/7/93	Figure No.: **12**

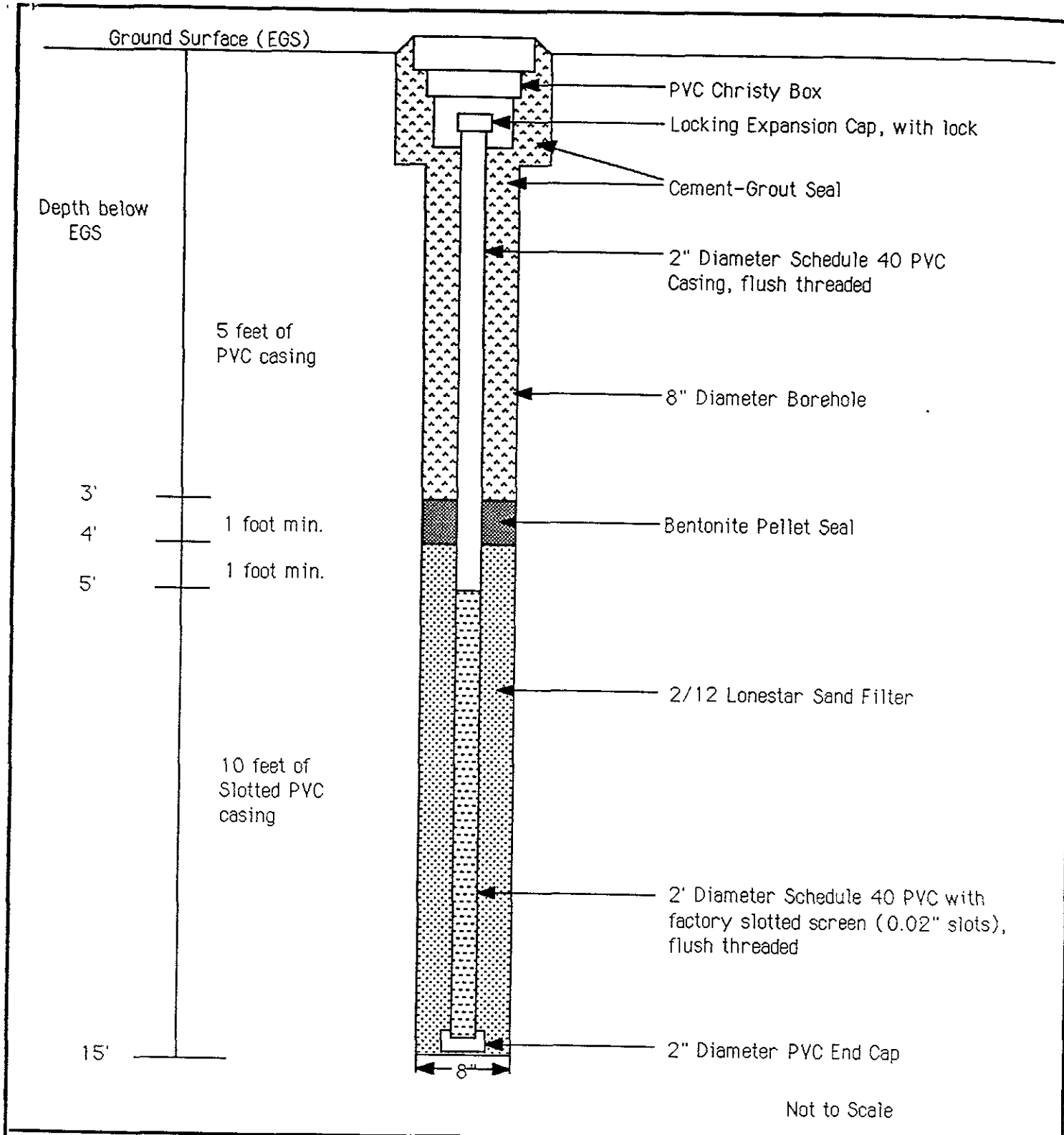
Bayland Drilling B-53 Drill Rig.	Grab SAMPLE #	Sample Int.	Depth (feet)	Equipment: Hollow Stem Auger Logged By: M. Kaltreider PROJECT: 2425 Encinal Start Date: 12/23/92
Soil color described using Munsell soil color charts Color code (10YR-3/2)			0	Asphalt: 4" lift. Lt. brown gravelly silt (GM) & gravelly clay (GC), med grained,dense (baserock)
			2	Brown sand (SP) (Merritt Sand).
			4	Green sand (SP), moist, loose, strong odor.
(Gley 5G4-4/1)	MW-7		6	
			8	Green sand (SP), moist, medium dense, strong odor.
			10	
			12	▼ (groundwater 1/6/93)
(2.5Y-4/2)	MW-15		14	Brown sand (SP), saturated, loose.
			16	BOTTOM OF BORING @ 15 FEET
			18	(Converted into Monitoring Well MW-2a)
			20	
			22	
			24	
			26	
			28	

ACC ENVIRONMENTAL CONSULTANTS 1000 ATLANTIC AVEUNUE, SUITE 110 ALAMEDA, CA 94501	JOB NO: 6039-3	LOG OF BORING MW-2a 2425 Encinal Avenue
	DATE: 1/7/92	FIGURE: **10**

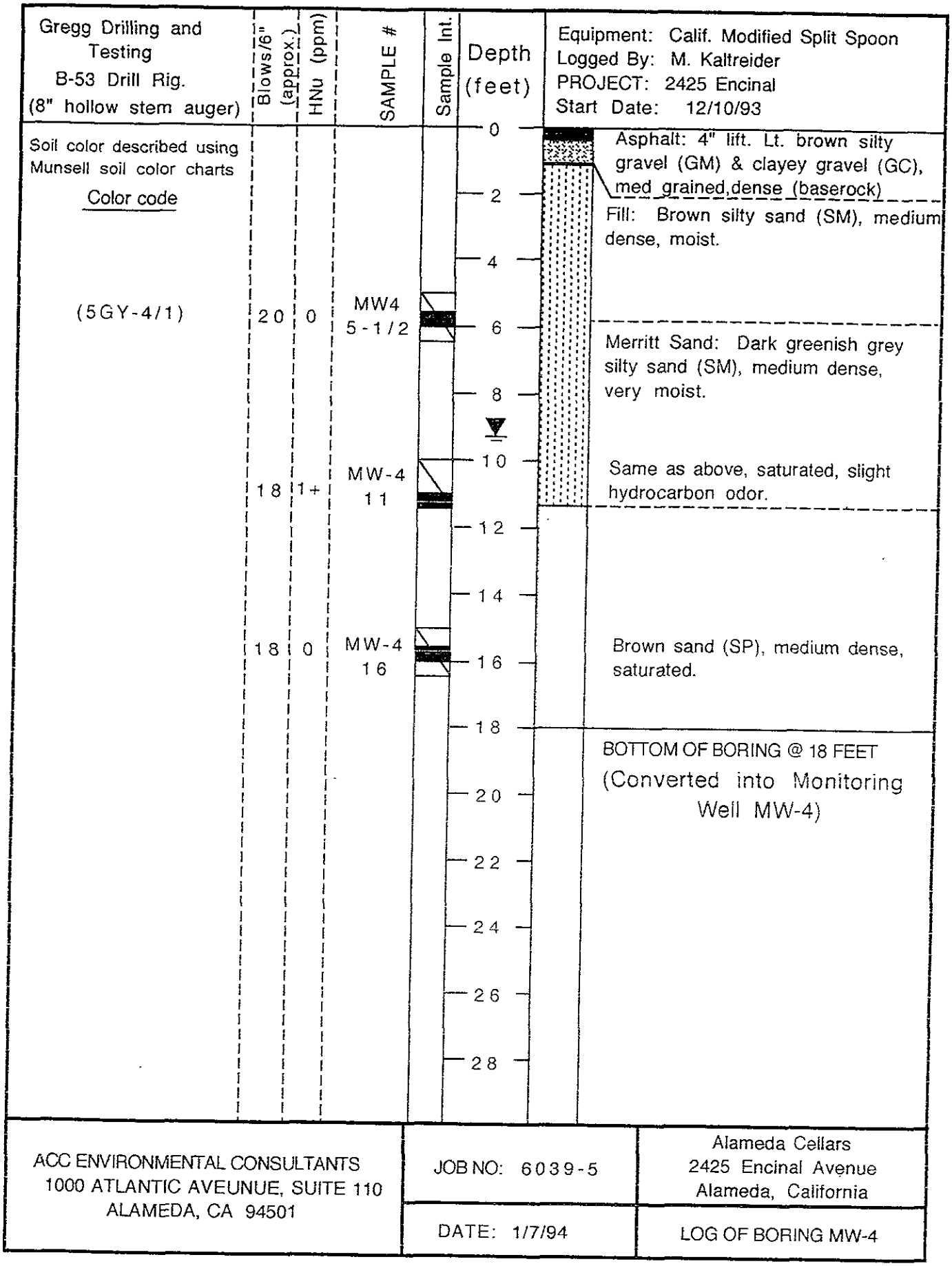


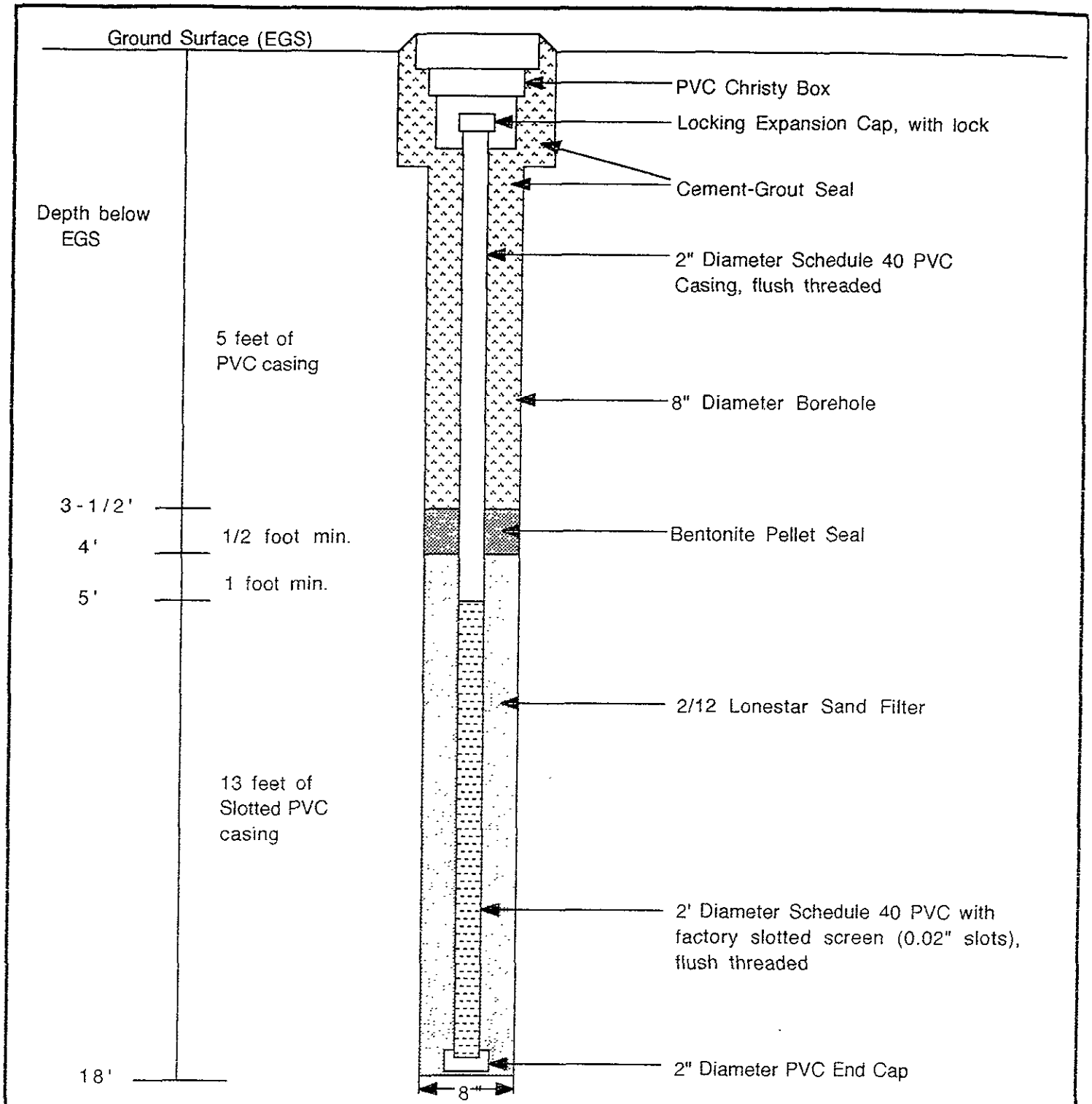
ACC Environmental Consultants 1000 Atlantic Avenue, Suite 110 Alameda, CA 94501	Job No.: 6039-3	Schematic of Monitoring Well No.: MW-2a
	Date: 1/7/93	Figure No.: **15**


Bayland Drilling
B-53 Drill Rig.
Blows/6 in.
SAMPLE #
Sample Int.
Depth (feet)
Equipment: Hollow Stem Auger
Logged By: M. Kaltreider
PROJECT: 2425 Encinal
Start Date: 12/23/92
Soil color described using Munsell soil color charts
Color code
(10YR-3/2)
(Gley 5G4-4/1)
2
B4-5.5
(Gley 5G4-4/1)
4
B4-10.5
(2.5Y-5/4)
13
B4-15.5
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
Asphalt: 4" lift. Lt. brown gravelly silt (GM) & gravelly clay (GC), med grained,dense (baserock)
Brown sand (SP) (Merritt Sand).
Green sand (SP), moist, loose, strong odor.
(groundwater 12/23/92)
Green sand (SP), saturated, loose, strong odor.
Brown sand (SP), saturated, loose.
BOTTOM OF BORING @ 15 FEET
(Converted into Monitoring Well MW-3)
ACC ENVIRONMENTAL CONSULTANTS
1000 ATLANTIC AVEUNUE, SUITE 110
ALAMEDA, CA 94501
JOB NO: 6039-3
DATE: 1/4/92
LOG OF BORING B-4
2425 Encinal Avenue
FIGURE: 8



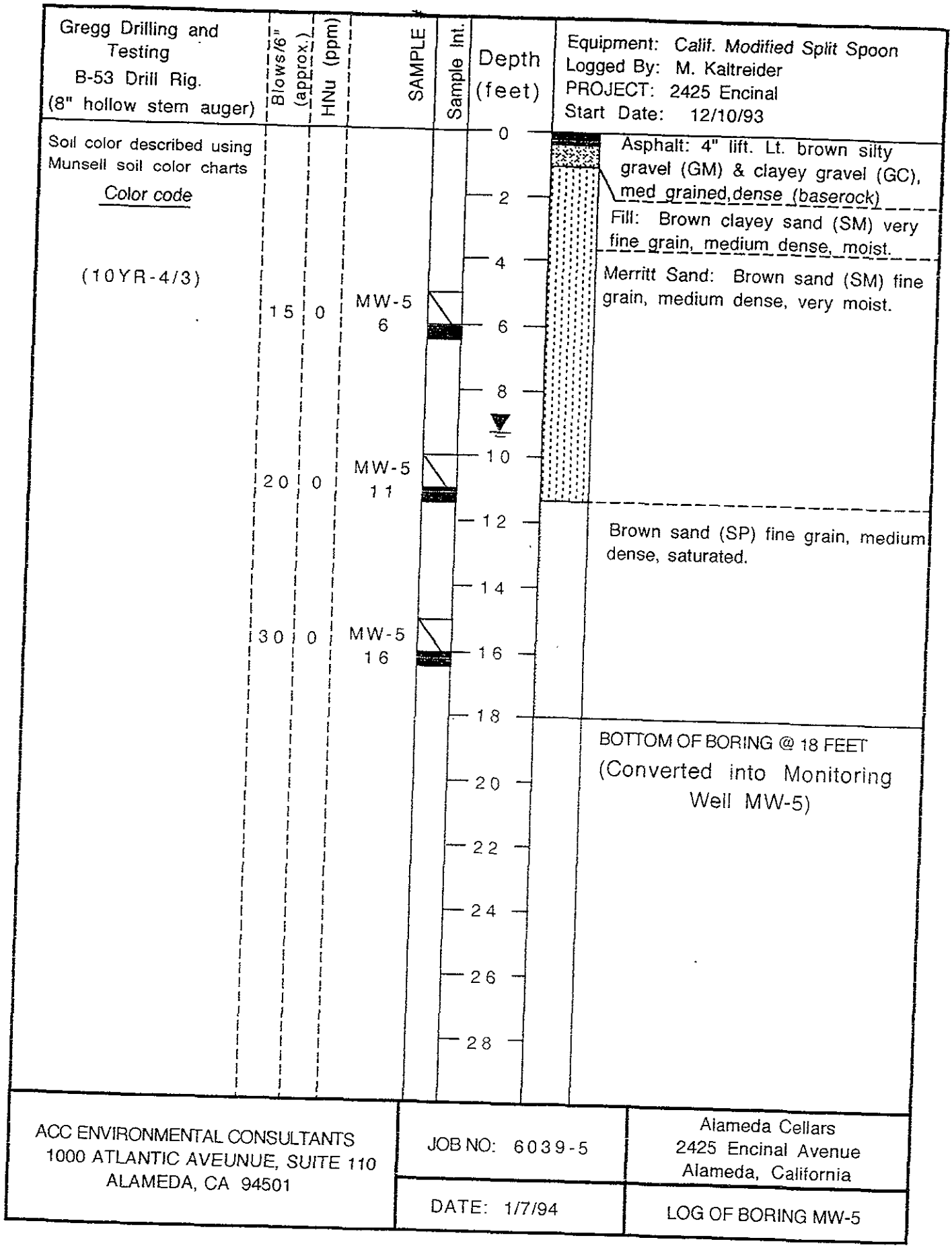
ACC Environmental Consultants 1000 Atlantic Avenue, Suite 110 Alameda, CA 94501	Job No.: 6039-3	Schematic of Monitoring Well No.: MW-3
	Date: 1/7/93	Figure No.: **14**

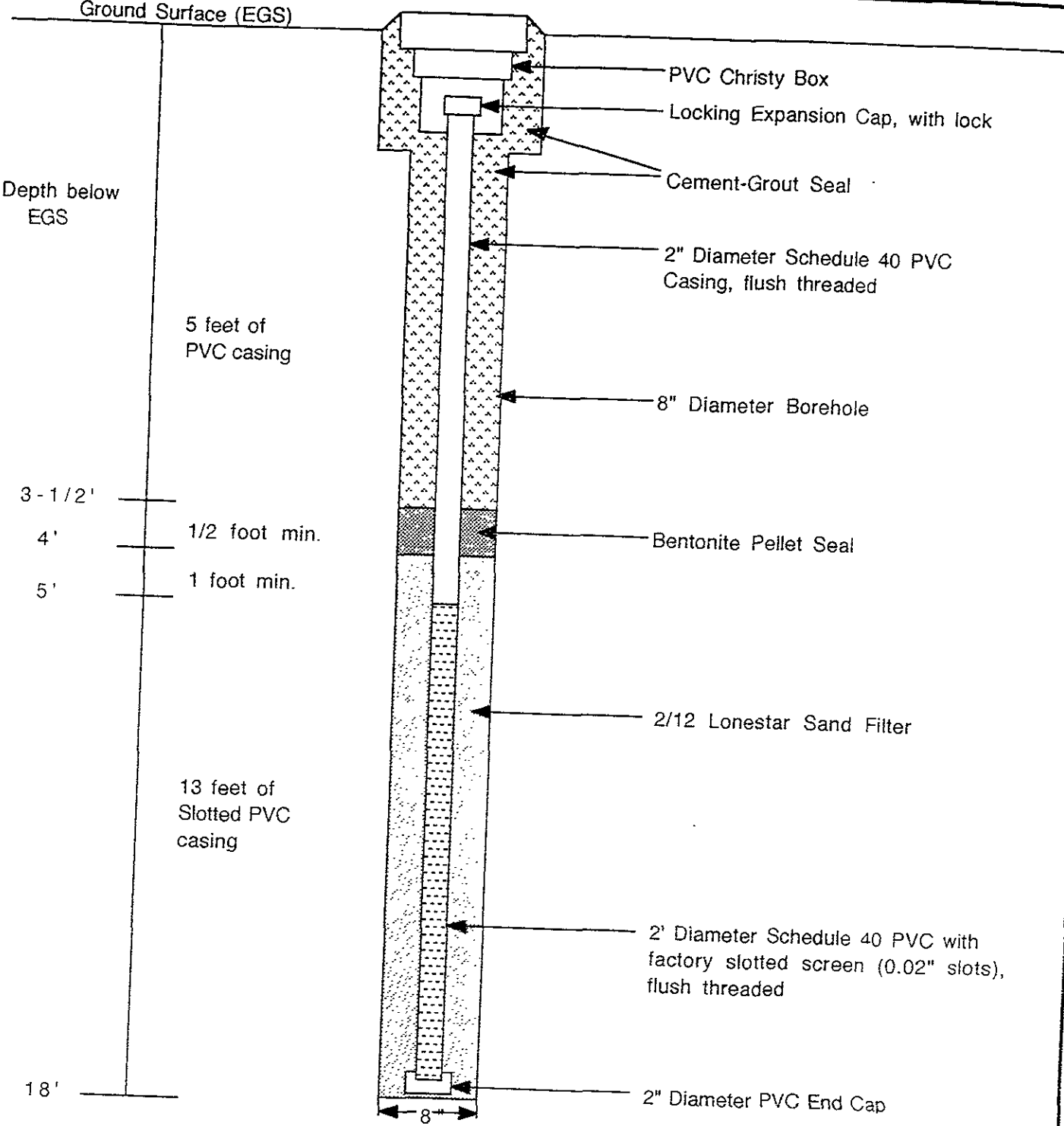

Gregg Drilling and Testing
B-53 Drill Rig.
(8" hollow stem auger)
Blows/6" (approx.)
HNu (ppm)
SAMPLE #
Sample Int.
Depth (feet)
Equipment: Calif. Modified Split Spoon
Logged By: M. Kaltreider
PROJECT: 2425 Encinal
Start Date: 12/10/93
Soil color described using Munsell soil color charts
Color code
(5GY-4/1)
20
0
MW4
5-1/2
18
1+
MW-4
11
18
0
MW-4
16
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
Asphalt: 4" lift. Lt. brown silty gravel (GM) & clayey gravel (GC), med grained,dense (baserock)
Fill: Brown silty sand (SM), medium dense, moist.
Merritt Sand: Dark greenish grey silty sand (SM), medium dense, very moist.
Same as above, saturated, slight hydrocarbon odor.
Brown sand (SP), medium dense, saturated.
BOTTOM OF BORING @ 18 FEET
(Converted into Monitoring Well MW-4)
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



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
B-53 Drill Rig.
(8" hollow stem auger)
Blows/6" (approx.)
HNu (ppm)
SAMPLE
Sample Int.
Depth (feet)
Equipment: Calif. Modified Split Spoon
Logged By: M. Kaltreider
PROJECT: 2425 Encinal
Start Date: 12/10/93
Soil color described using Munsell soil color charts
Color code
(10YR-4/3)
15
0
MW-5
6
20
0
MW-5
11
30
0
MW-5
16
0
2
4
6
8
10
12
14
16
18
20
22
24
26
28
Asphalt: 4" lift. Lt. brown silty gravel (GM) & clayey gravel (GC), med grained, dense (baserock)
Fill: Brown clayey sand (SM) very fine grain, medium dense, moist.
Merritt Sand: Brown sand (SM) fine grain, medium dense, very moist.
Brown sand (SP) fine grain, medium dense, saturated.
BOTTOM OF BORING @ 18 FEET
(Converted into Monitoring Well 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-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-5

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

Soil color described using Munsell soil color charts

Color code

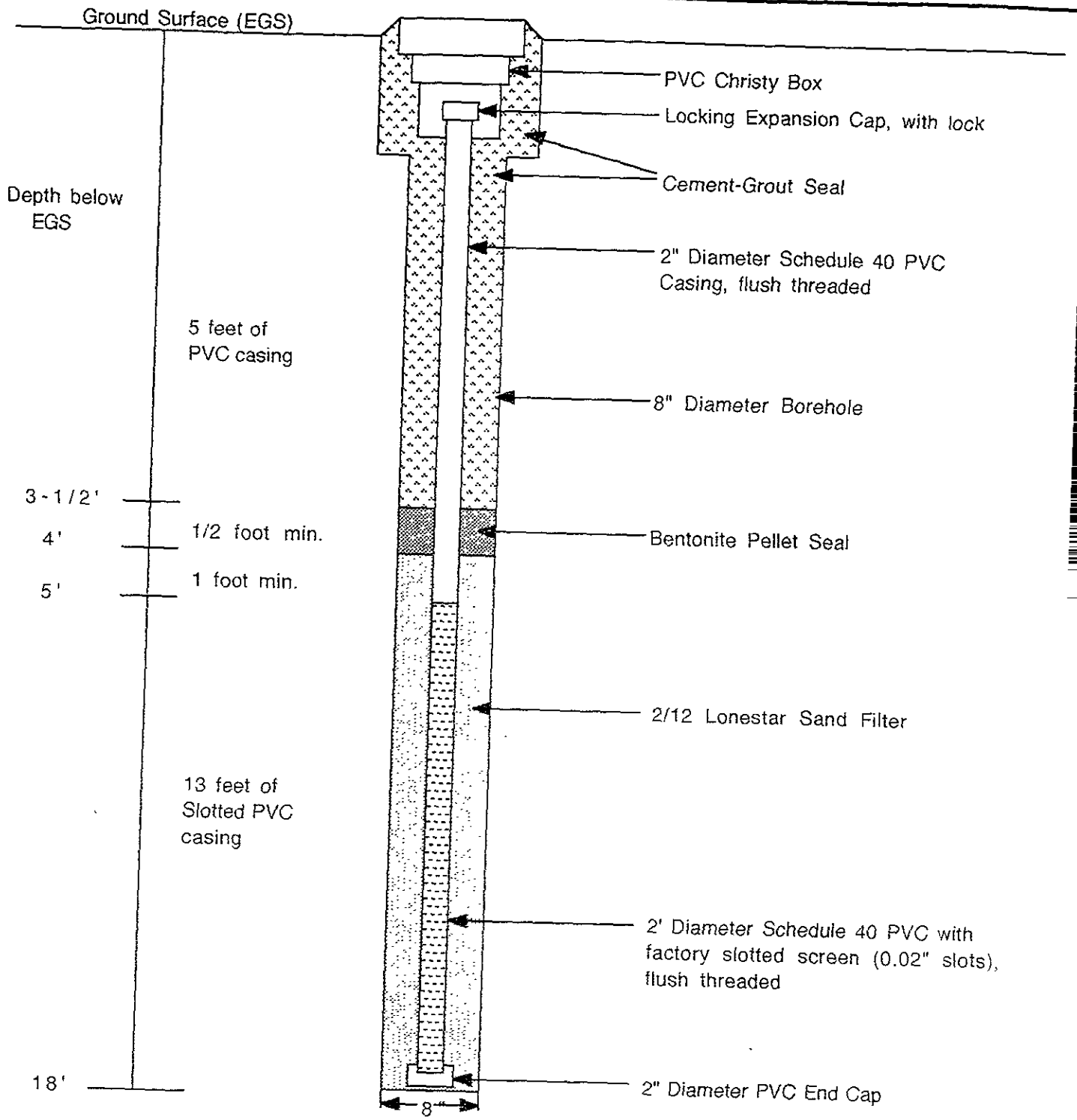
(10YR-3/3)

(10YR-4/4)

*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	

*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



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