October 29, 1992
STID # 1385

Mr. Dante Sambajon
Plant Engineer
Coulter Steel and Forge Company
1494 67th Street
Emeryville, California 94608

RE: Addendum to Work Plan for Soil and Groundwater Investigation/ Remediation for Coulter Steel Plant 1494 67th Street Emeryville, CA 94608

Dear Mr. Sambajon:

This department has recently reviewed the following reports concerning the soil and groundwater investigation/remediation at the referenced site:

* Hydrocarbon Contamination Assessment (Diesel Fuel Tank Area) dated August 7, 1992
* Quarterly Groundwater Monitoring (Sampling Event - August, 1992) dated October 7, 1992
* Fax Transmittal of Analytical Results of bioremediated stockpiled soil samples

Based on the results of soil samples collected from the bioremediated soil piles, spoilso review , it appears that the stocje The stockpiled soil

off follow-up to our conversation of April 1, 1992 regarding the investigation/ remediation work plan submitted for the referenced site. Our office has reviewed the **" Work Plan Diesel Fuel Tank, Soil / Groundwater Investigation and Soil Remediation"** dated March 5, 1992. Based on this review, the work plan is acceptable provided the following conditions are met:

* Provide this office with more detailed information concerning the bioremediation process that will be implemented in treating the contaminated stockpiled soil (type of compost, literature/results that the bioremediation treatment is effective, etc.).

* All stockpiled soil generated at the site must be properly dispose and fully documented.

* Provide this office with a plan for prevention and

containment of water run off during the bioremediation treatment process of contaminated stockpiled soil.

* All applicable permit requirements from other regulatory agencies must be followed.

* Verification sample for treated stockpiled soil must occur at a rate of one soil sample for every 20 cubic yards if the treated soil will be redispose back into the excavation pit. Reuse of treated soil to backfill the excavation must have prior approval from this office.

* A plan for the proposed extent of overexcavation must be submitted and approved by this office.

* The extent of groundwater contamination at the site must be determined. Groundwater contamination plumes must be defined to **" non- detect"** levels. Verified downgradient flow of groundwater must be established at the site. Monitoring wells must be installed according to RWQCB's guidelines. Please adhere to a monthly groundwater elevation reading and quarterly sampling for total petroleum hydrocarbon as diesel (TPHd) and benzene, toluene, xylene, ethyl benzene (BTXE) as the sampling protocol until further notice fron this office.

* Please submit a time schedule for all the phases involved until completion of this investigation/ remediation project.

A report must be submitted within **30 days** after completion of this investigation. All reports and proposals must be submitted under seal of a California Registered Geologist or Registered Civil Engineer with a statement of qualifications for each lead professional involved with the project. Copies of reports and proposals must also be submitted to:

Rich Hiett
RWQCB, San Francisco Bay Region
2101 Webster Street, Fourth Floor
Oakland, California, 94612

Please be aware that this is a formal request for technical reports pursuant to California Water Code Section 13267 (b). Any extensions of stated deadlines or changes in the workplan must be confirmed in writing and approved by this agency or RWQCB.

Should you have any questions concerning this letter, please

contact me at (510) 271-4530.

Sincerely,

Susan L. Hugo
Senior Hazardous Materials Specialist

cc: Rafat A. Shahid, Asst. Agency Director, Environmental Health
Gil Jensen, Alameda County District Attorney's Office
Rich Hiett, RWQCB, San Francisco Bay Region
Dante Sambajon, Coulter Steel-1494 67th St. Emeryville 94608
Files

TABLE 1.
TEH and BTEX Concentrations in
Excavation Soil Samples

Sample Designation	TEH[1] mg/kg[2]	Benzene ug/kg[3]	Toluene ug/kg	Ethyl Benzene ug/kg	Total Xylenes ug/kg
Sidewall Samples					
1 @ 8.5'	**1,000**	<5.0[4]	<5.0	**18**	<5.0
2 @ 9.5'	**2,400**	<10.0	<10.0	**110**	**210**
3 @ 12.0'	**450**	<5.0	<5.0	<5.0	<5.0
4 @ 8.5'	**7,000**	<40.0	<40.0	**500**	**2,100**
5 @ 10.0'	**12,000**	<10.0	<10.0	**120**	<10.0
6 @ 8.0'	**8,100**	<10.0	<10.0	**490**	<10.0
7 @ 9.0'	**11,000**	<10.0	<10.0	**180**	**340**
8 @ 10.0'	**8,400**	<10.0	<10.0	**560**	**1300**
Bottom Samples					
9 @ 14.5'	**240**	<5.0	<5.0	<5.0	<5.0
10 @ 14.5'	**200**	<5.0	<5.0	<5.0	<5.0
11 @ 15.5'	**910**	<5.0	<5.0	<5.0	<5.0

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1 TEH = Total Extractable Hydrocarbons
2 mg/kg = milligrams per kilogram, parts per million
3 ug/kg = micrograms per kilogram, parts per billion
4 < = Chemical not present at a concentration greater than analytical reporting limit stated

Table 3.
TEH and BTEX Concentrations in Groundwater

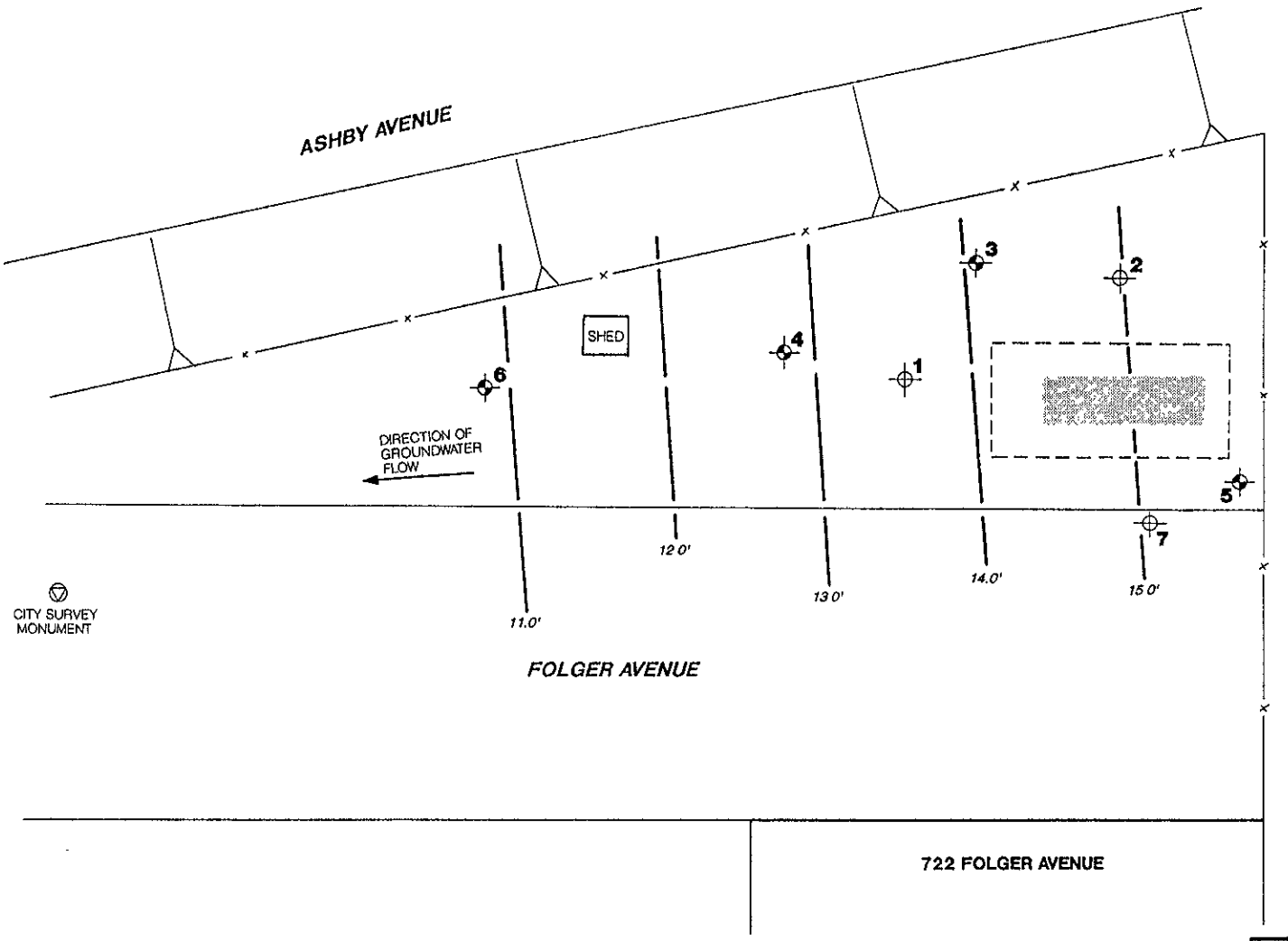
Sample	Date	TEH ug/l[1]	B ug/l	T ug/l	E ug/l	X ug/l
MW-3	5/18/92	**100**	<0.5	<0.5	<0.5	**2.5**
	8/18/92	<50	<0.5	<1.0	<0.5	<0.5
	3/04/93	<50	<0.5	<0.5	<0.5	<0.5
MW-4	5/18/92	**10,000**	<0.5	<0.5	<0.5	**4.0**
	8/18/92	**300**	<0.5	<1.0	<0.5	<0.5
	3/04/93	<50	<0.5	<0.5	<0.5	<0.5
MW-5	5/18/92	**510**	<0.5	<1.0	<0.5	<0.5
	8/18/92	<50	<0.5	<1.0	<0.5	<0.5
	3/05/93	**1,400**	<0.5	<0.5	<0.5	<0.5
MW-6	5/18/92	<50	<0.5	<0.5	<0.5	**2.0**
	8/18/92	<50	<0.5	<1.0	<0.5	<0.5
	3/04/93	<50	<0.5	<0.5	<0.5	<0.5
Water Removed from Pit	2/05/93	**8000**	<0.5	<0.5	<0.5	<0.5
Excavation Pit Water (Recharged)	2/05/93	**13000**	<0.5	<0.5	<0.5	**0.7**

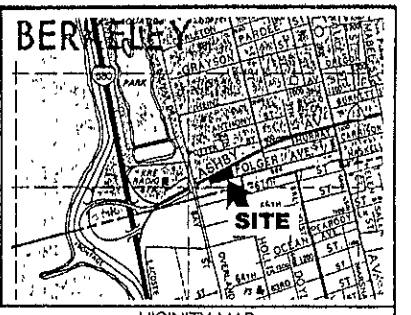
[1] ug/l= micrograms per liter, parts per billion

Table 2.
TEH and BTEX Concentrations in Groundwater

Sample	Date	TEH ug/l[1]	B ug/l	T ug/l	E ug/l	X ug/l
MW-3	5/18/92	**100**	<0.5	<0.5	<0.5	**2.5**
	8/18/92	<50	<0.5	<1.0	<0.5	<0.5
	3/04/93	<50	<0.5	<0.5	<0.5	<0.5
	6/08/93	<50	<0.5	<0.5	<0.5	<0.5
MW-4	5/18/92	**10,000**	<0.5	<0.5	<0.5	**4.0**
	8/18/92	**300**	<0.5	<1.0	<0.5	<0.5
	3/04/93	<50	<0.5	<0.5	<0.5	<0.5
	6/08/93	**190**	<0.5	<0.5	<0.5	<0.5
MW-5	5/18/92	**510**	<0.5	<1.0	<0.5	<0.5
	8/18/92	<50	<0.5	<1.0	<0.5	<0.5
	3/05/93	**1,400**	<0.5	<0.5	<0.5	<0.5
	6/08/93	**1,300**	<0.5	<0.5	<0.5	<0.5
MW-6	5/18/92	<50	<0.5	<0.5	<0.5	**2.0**
	8/18/92	<50	<0.5	<1.0	<0.5	<0.5
	3/04/93	<50	<0.5	<0.5	<0.5	<0.5
	6/08/93	<50	<0.5	<0.5	<0.5	<0.5

[1] ug/l= micrograms per liter, parts per billion





VICINITY MAP

MONITORING WELL
TEST BORING
EXISTING EXCAVATION
FENCE
PREVIOUS TANK LOCATION
GROUNDWATER FLOW CONTOURS (feet)
12.0

APPROXIMATE SCALE (feet)
0 20 40

SITE PLAN

Subsurface Consultants

722 FOLGER AVENUE – BERKELEY, CA

JOB NUMBER	DATE	APPROVED
727.001	6/8/93	

PLATE 1

ASHBY AVENUE

SHED

ND TPHd BTEX

9.0' - 9700 Diesel
#2.5' - ND

ND - TPHd BTEX

ND (8.5') (46 ft)

190 TPHd ND BTEX

11,000
7
6 8100
5 12,000
4
1
9 240
4 7600
8 2400
10 200
940
11
3 430
2 2400
1 1000
5 1307 TPHd ND-BTEX
7
6' - 28 Diesel
11' - ND diesel

BOLLARDS
FIRE HYDRANT

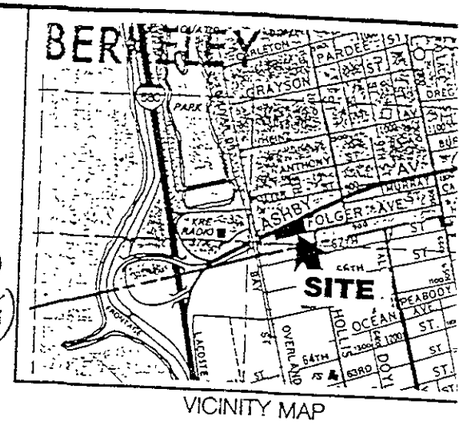
12.0 13.0 14.0 13.0 15.0 16.0

CITY SURVEY MONUMENT

FOLGER AVENUE

1494 67th STREET WAREHOUSE

722 FOLGER AVENUE



VICINITY MAP

TPHd (ppm)

TEST BORING
MONITORING WELL
'92 LIMIT OF EXCAVATION
'93 LIMIT OF EXCAVATION
FENCE
PREVIOUS TANK LOCATION
SCI SIDEWALL SAMPLE
SCI BOTTOM SAMPLE
14.0 GROUNDWATER FLOW CONTOURS (feet) 3/93

N

APPROXIMATE SCALE (feet)
0 20 40

SITE PLAN

Subsurface Consultants

722 FOLGER AVENUE – BERKELEY, CA

PLATE

Table 2. Contaminants in Soil

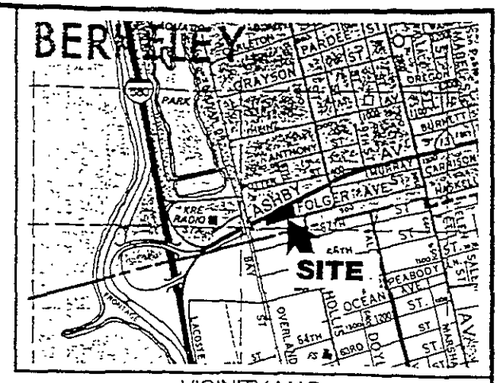
Sample	TVH as Gas mg/kg	TEH as Diesel mg/kg	B mg/kg	T mg/kg	E mg/kg	X mg/kg
Tank Removal						
S1 @ 10.0'	--	**630**	--	--	--	--
S4 @ 10.0'	--	**670**	--	--	--	--
Supplemental Excavation						
CS-1 @ 14.5'	--	**680**	<0.005	<0.005	<0.005	<0.005
CS-2 @ 14.0'	--	**280**	<0.005	<0.005	<0.005	<0.005
CS-3 @ 15.5'	--	**110**	<0.005	<0.005	<0.005	<0.005
CS-4 @ 7.0'	--	**1700**	<0.05	<0.05	<0.05	<0.05
CS-5 @ 7.0'	--	**1500**	<0.05	<0.05	<0.05	<0.05
CS-6 @ 7.0'	--	**2900**	<0.05	<0.05	<0.05	<0.05
CS-7 @ 7.0'	--	**2000**	<0.05	<0.05	<0.05	<0.05
SCI Investigation						
1 @ 9.0'	<0.5	**9700**	<0.005	<0.005	<0.005	<0.005
1 @ 12.5'	<0.5	<0.5	<0.005	<0.005	<0.005	<0.005
2 @ 8.5'	<0.5	<0.5	<0.005	<0.005	<0.005	<0.005
2 @ 16.0'	<0.5	**3.0**	<0.005	<0.005	<0.005	<0.005
3 @ 9.5'	<0.5	**250**	<0.005	<0.005	<0.005	<0.005
3 @ 16.0'	<0.5	**25.0**	<0.005	<0.005	<0.005	<0.005
4 @ 9.5'	<0.5	<0.5	<0.005	<0.005	<0.005	<0.005
4 @ 13.5'	<0.5	<0.5	<0.005	<0.005	<0.005	<0.005
5 @ 9.5'	<0.5	<0.5	<0.005	<0.005	<0.005	<0.005
5 @ 13.0'	<0.5	<0.5	<0.005	<0.005	<0.005	<0.005
6 @ 11.0'	<0.5	<0.5	<0.005	<0.005	<0.005	<0.005
7 @ 6.0'	<0.5	**28**	<0.005	<0.005	<0.005	<0.005
7 @ 11.0'	<0.5	<0.5	<0.005	<0.005	<0.005	<0.005

TVH = total volatile hydrocarbons
TEH = total extractable hydrocarbons
B = Benzene
T = Toluene
E = Ethylbenzene
X = Xylene
-- Test not requested
< = Chemical not present at a concentration greater than analytical reporting limit stated.
mg/kg = milligrams per kilogram, parts per million

Table 3.
Contaminants in Groundwater

Boring/ Well Number	Date	TVH as gas ug/l	TEH as Diesel ug/l	B ug/l	T ug/l	E ug/l	X ug/l
MW3	05/18/92	<50	**100**	<0.5	<0.5	<0.5	**2.5**
MW4	05/18/92	<50	**10000**	<0.5	<0.5	<0.5	**4.0**
MW5	05/18/92	<50	**510**	<0.5	<0.5	<0.5	**2.0**
MW6	05/18/92	<50	<50	<0.5	<0.5	<0.5	**2.0**

ug/l = micrograms per liter, parts per billion



VICINITY MAP

ASHBY AVENUE

SHED

10.0 11.0 12.0 13.0

CITY SURVEY MONUMENT

FOLGER AVENUE

1494 67th STREET WAREHOUSE

722 FOLGER AVENUE

- TEST BORING
- MONITORING WELL
- PROPOSED WELL LOCATION
- EXISTING EXCAVATION
- FENCE
- PREVIOUS TANK LOCATION
- GROUNDWATER FLOW CONTOURS (feet) 7/1/92 (12.0)
- PROPOSED LIMIT OF EXCAVATION

APPROXIMATE SCALE (feet)
0 20 40

SITE PLAN

Subsurface Consultants

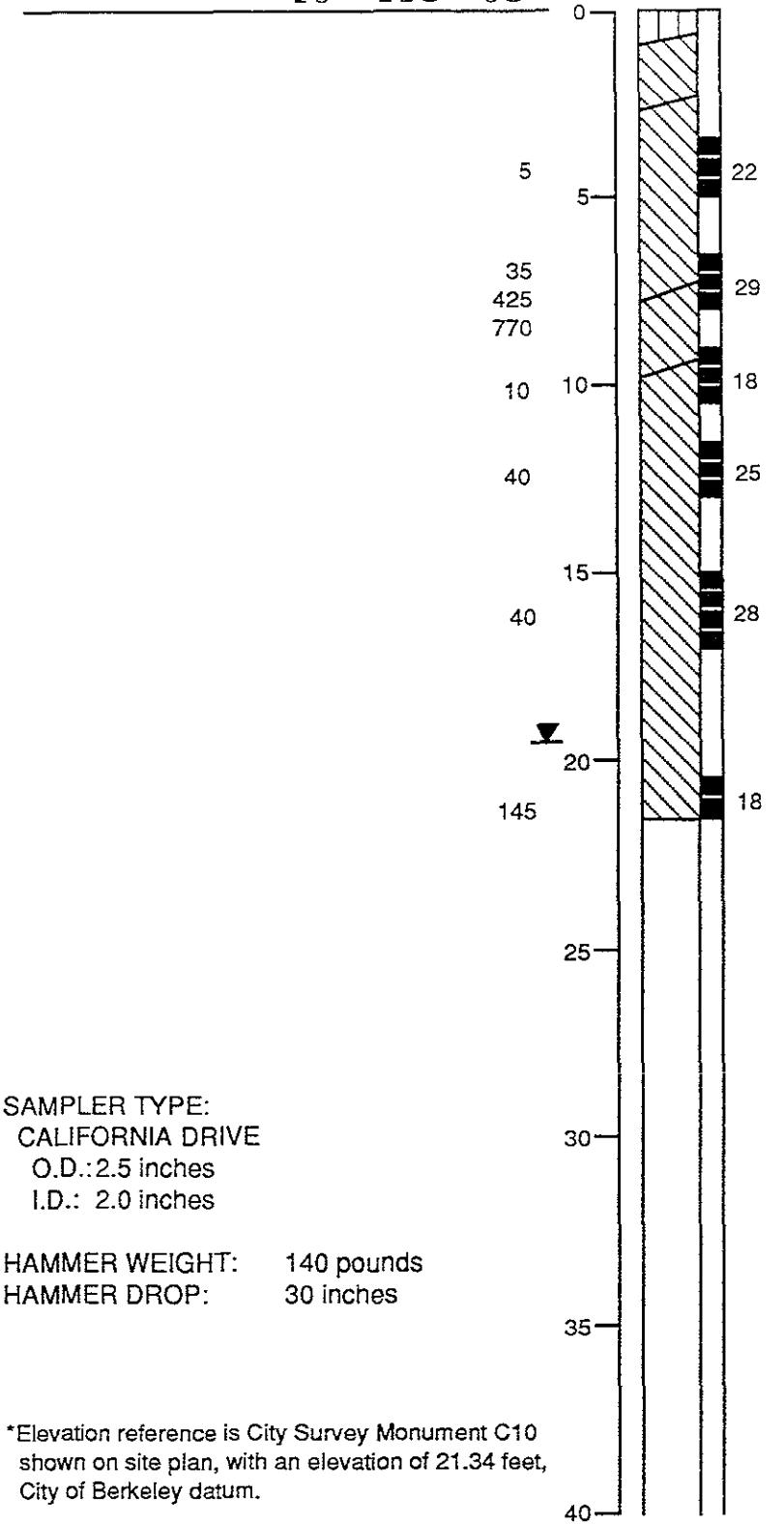
722 FOLGER AVENUE – BERKELEY, CA

JOB NUMBER 727.001 DATE APPROVED

PLATE 1

LOG OF TEST BORING 1

EQUIPMENT 8" Hollow Stem Auger
DATE DRILLED 5/12/92
ELEVATION 24.31 feet*



DARK BROWN CLAYEY SILT (ML)
medium stiff, moist (fill)

DARK BROWN SILTY CLAY (CL)
medium stiff, moist, with glass fragments (fill)

MOTTLED GRAY BROWN SILTY CLAY (CL)
stiff, moist, with occasional sand

GRAY GREEN SANDY CLAY (CL)
stiff, moist, strong hydrocarbon odor

MOTTLED GRAY BROWN SILTY CLAY (CL)
stiff, moist, with occasional sandy clay and clayey sand lenses

GROUNDWATER LEVEL 3 HOURS AFTER DRILLING

Boring backfilled with cement grout before a stabilized groundwater level reading was recorded

SAMPLER TYPE:
CALIFORNIA DRIVE
O.D.: 2.5 inches
I.D.: 2.0 inches

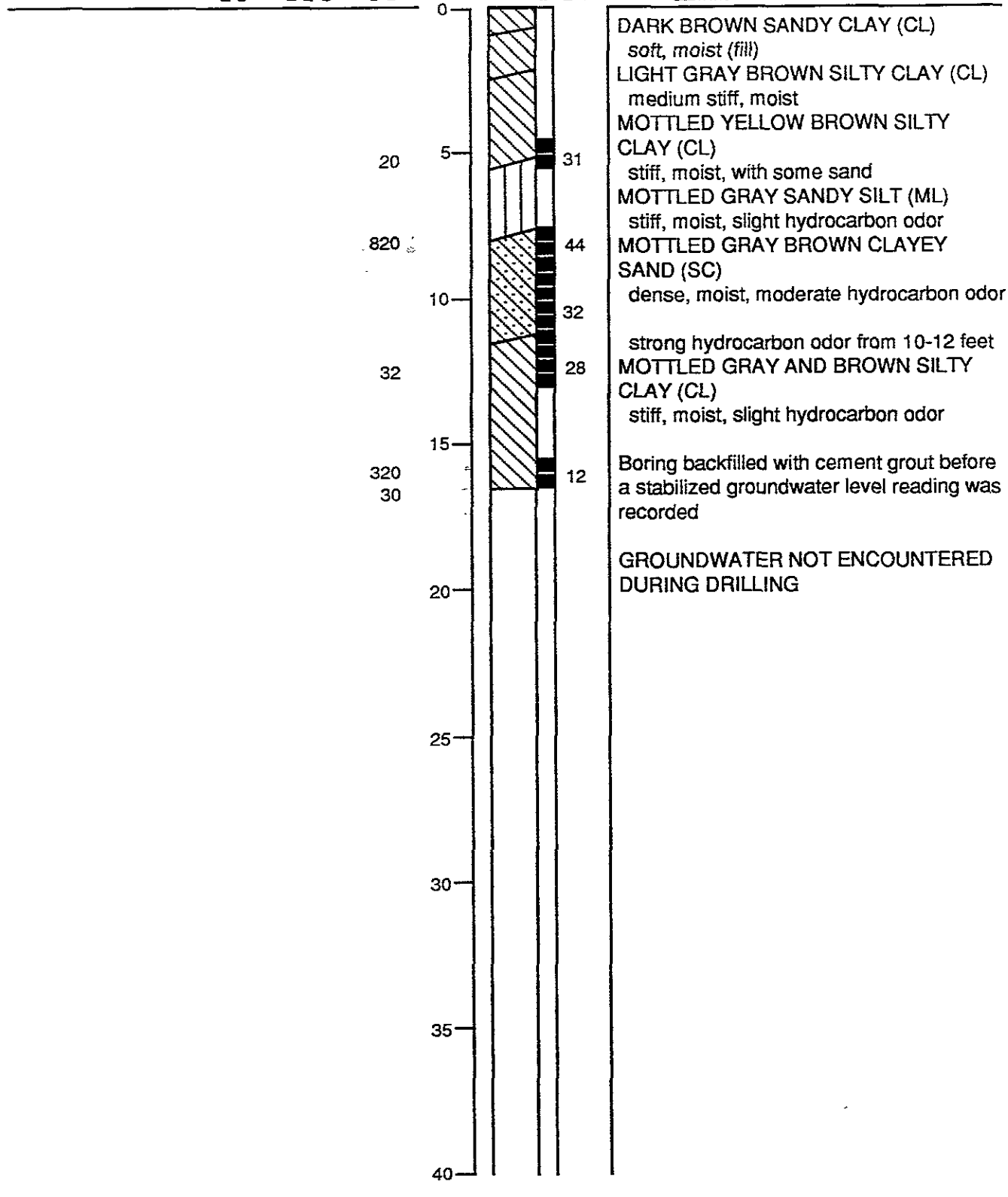
HAMMER WEIGHT: 140 pounds
HAMMER DROP: 30 inches

*Elevation reference is City Survey Monument C10 shown on site plan, with an elevation of 21.34 feet, City of Berkeley datum.

Subsurface Consultants	722 FOLGER AVENUE - BERKELEY, CA			PLATE
	JOB NUMBER	DATE	APPROVED	2
	727.001	6/22/92		

LOG OF TEST BORING 2

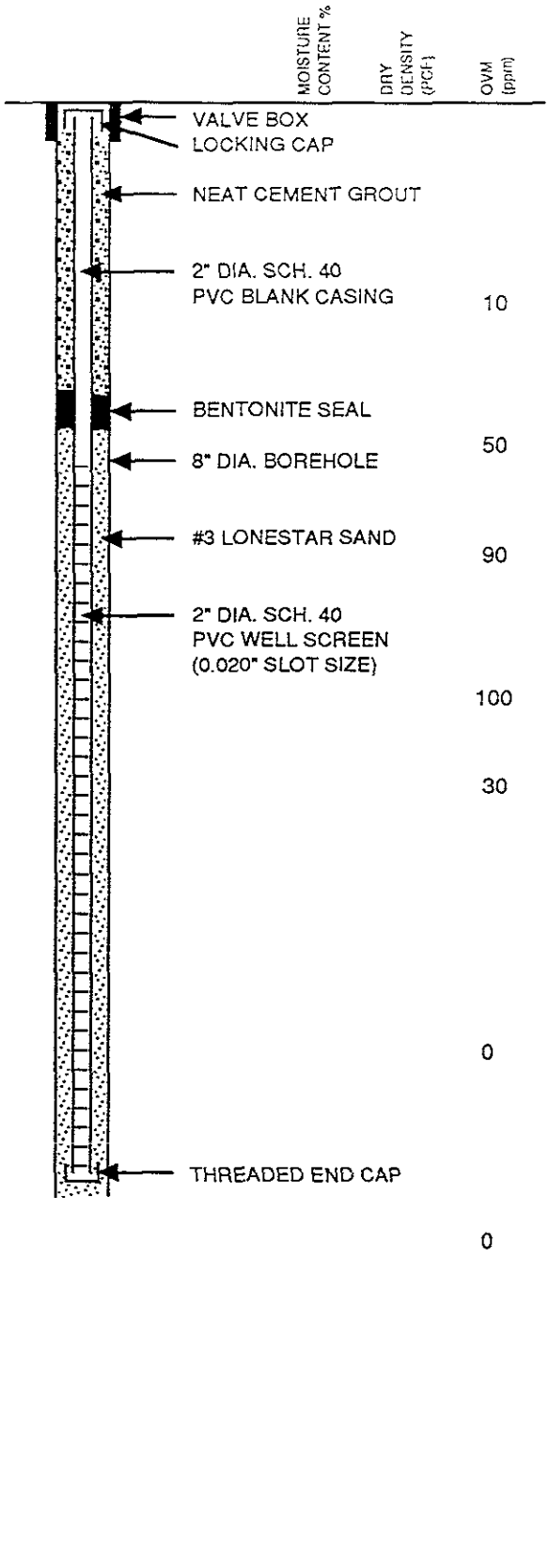
EQUIPMENT 8" Hollow Stem Auger
DATE DRILLED 5/13/92
ELEVATION 25.14 feet



Subsurface Consultants	722 FOLGER AVENUE - BERKELEY, CA			PLATE 3
	JOB NUMBER 727.001	DATE 6/22/92	APPROVED	

LOG OF TEST BORING 3

EQUIPMENT 8" Hollow Stem Auger
DATE DRILLED 5/12/92
TOC ELEVATION 24.70 feet



YELLOW BROWN SANDY GRAVEL (GM)
medium dense, moist (fill)

DARK BROWN SANDY CLAYEY SILT (ML)
medium stiff, moist (fill)

MOTTLED BROWN SILTY CLAY (CL)
medium stiff, moist, with occasional sand

MOTTLED BROWN CLAYEY SAND (SC)
dense, moist, with some gravel
color changes to gray green with hydrocarbon odor at 7.5 - 9.5 feet

MOTTLED BROWN SILTY CLAY (CL)
medium dense, moist

GROUNDWATER LEVEL DURING DRILLING

GROUNDWATER LEVEL 7/1/92

MOTTLED BROWN CLAYEY SILT (ML)
medium dense, moist

MOTTLED GRAY BROWN SILTY CLAY (CL)
medium stiff, moist, hydrocarbon odor

slight hydrocarbon odor, some sand

MOTTLED BROWN SILTY SAND (SM)
medium dense, moist

MOTTLED GRAY BROWN SILTY CLAY (CL)
stiff, moist

Subsurface Consultants

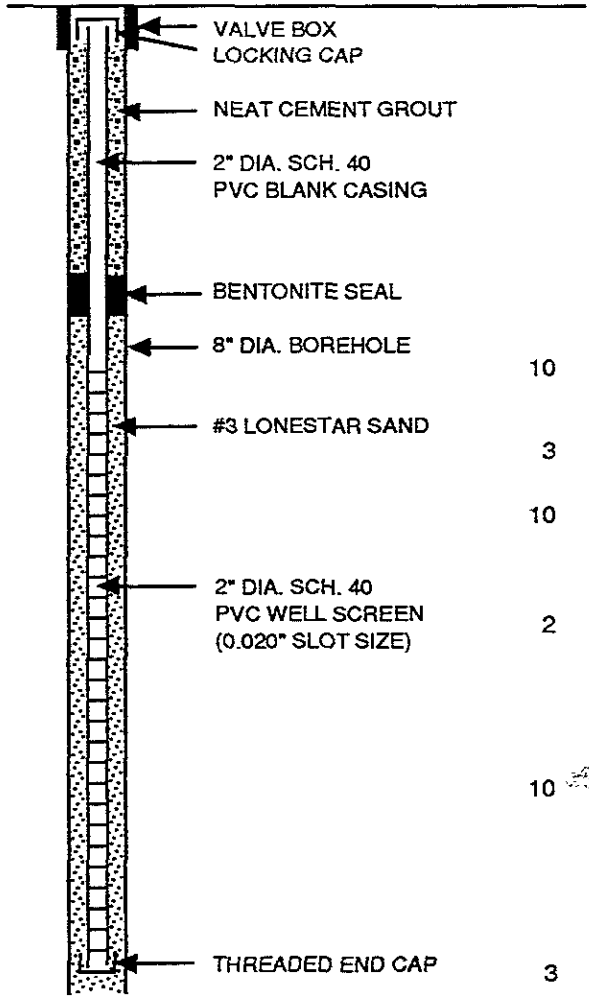
722 FOLGER AVENUE - BERKELEY, CA

JOB NUMBER	DATE	APPROVED
727.001	6/22/92	

PLATE 4

LOG OF TEST BORING 4

EQUIPMENT 8" Hollow Stem Auger
DATE DRILLED 5/12/92
TOC ELEVATION 23.92 feet

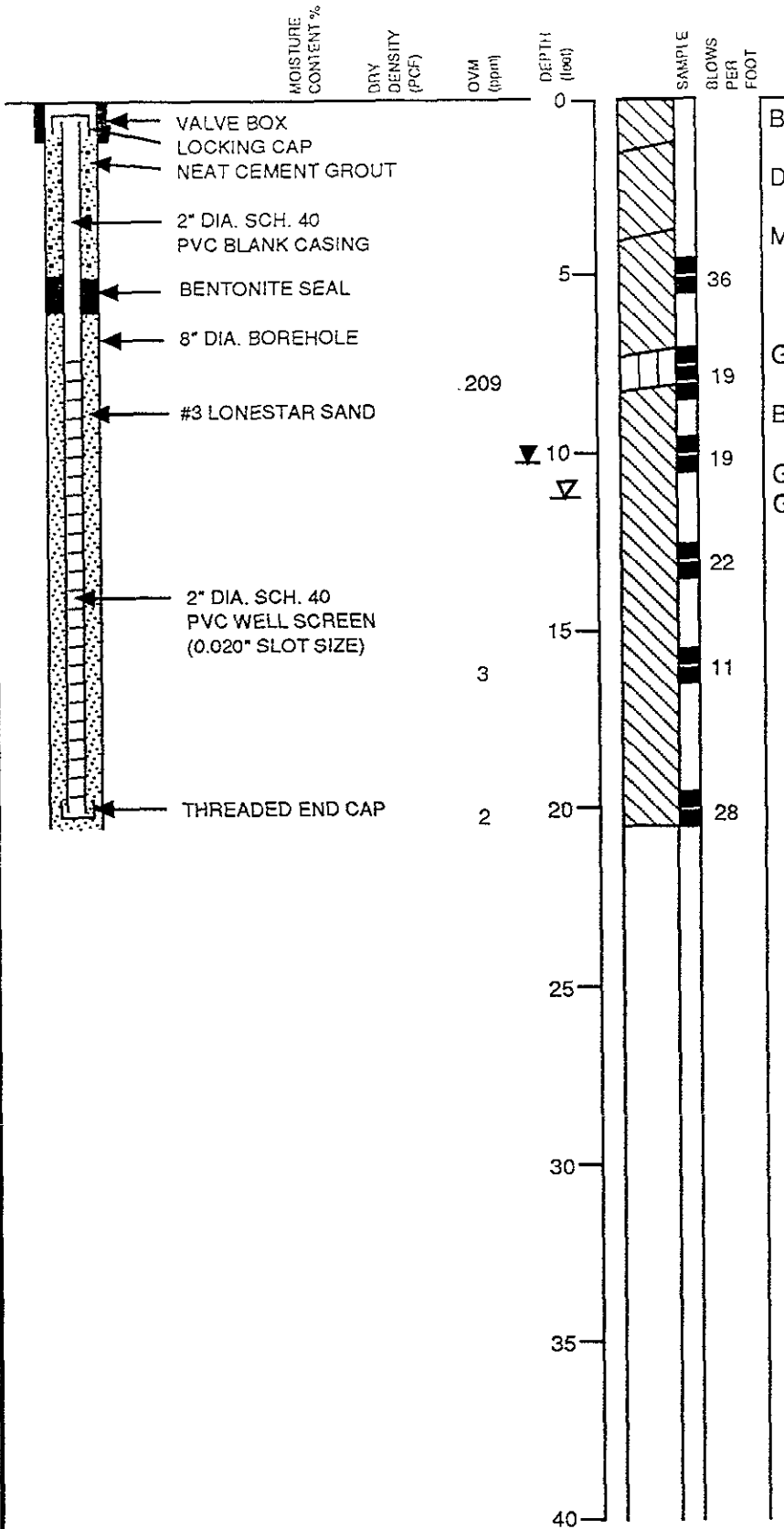


MOISTURE CONTENT %	DRY DENSITY (PCF)	OVM (ppm)	DEPTH (feet)	SAMPLE	BLOWS PER FOOT	
			0			YELLOW BROWN SANDY GRAVEL (GM) medium dense, moist (fill)
						DARK BROWN SILTY CLAY (CL) medium stiff, moist
			5		54	MOTTLED BROWN SILTY CLAY (CL) stiff, moist, with some sand
						BROWN CLAYEY SAND (SC) very dense, moist
						BROWN SILTY CLAY (CL) stiff, moist
		10	10		42	
						GROUNDWATER LEVEL 7/1/92
		3				*color change to mottled gray brown at 11 feet*
		10			21	slight hydrocarbon odor at 13 feet
			15			
		2			27	
						GROUNDWATER LEVEL DURING DRILLING
		10	20		18	
						confined aquifer
		3	25		27	
			30			
			35			
			40			

Subsurface Consultants	722 FOLGER AVENUE - BERKELEY, CA			PLATE
	JOB NUMBER	DATE	APPROVED	5
	727.001	6/22/92		

LOG OF TEST BORING 5

EQUIPMENT 8" Hollow Stem Auger
DATE DRILLED 5/13/92
TOC ELEVATION 23.85 feet



BROWN GRAVELLY CLAY (CL)
medium stiff, dry (fill)
DARK BROWN SILTY CLAY (CL)
medium stiff, moist
MOTTLED BROWN SANDY CLAY (CL)
stiff, moist, with some gravel

GREEN GRAY CLAYEY SILT (ML)
stiff, moist, slight hydrocarbon odor
BROWN SILTY CLAY (CL)
medium stiff, moist
GROUNDWATER LEVEL 7/1/92
GROUNDWATER LEVEL DURING DRILLING

Subsurface Consultants

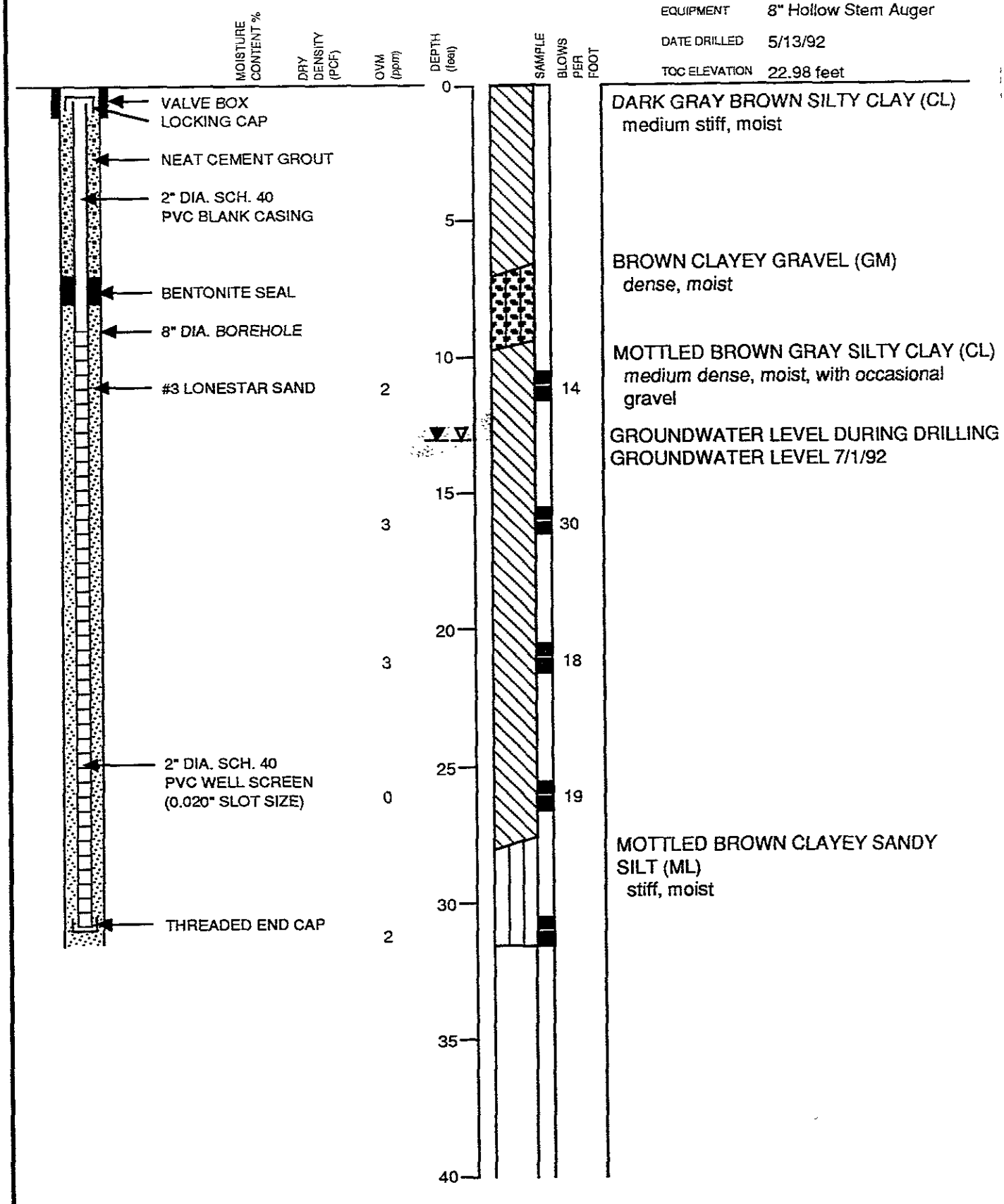
722 FOLGER AVENUE - BERKELEY, CA

JOB NUMBER 727.001
DATE 6/22/92
APPROVED

PLATE 6

LOG OF TEST BORING 6

EQUIPMENT 8" Hollow Stem Auger
DATE DRILLED 5/13/92
TOC ELEVATION 22.98 feet



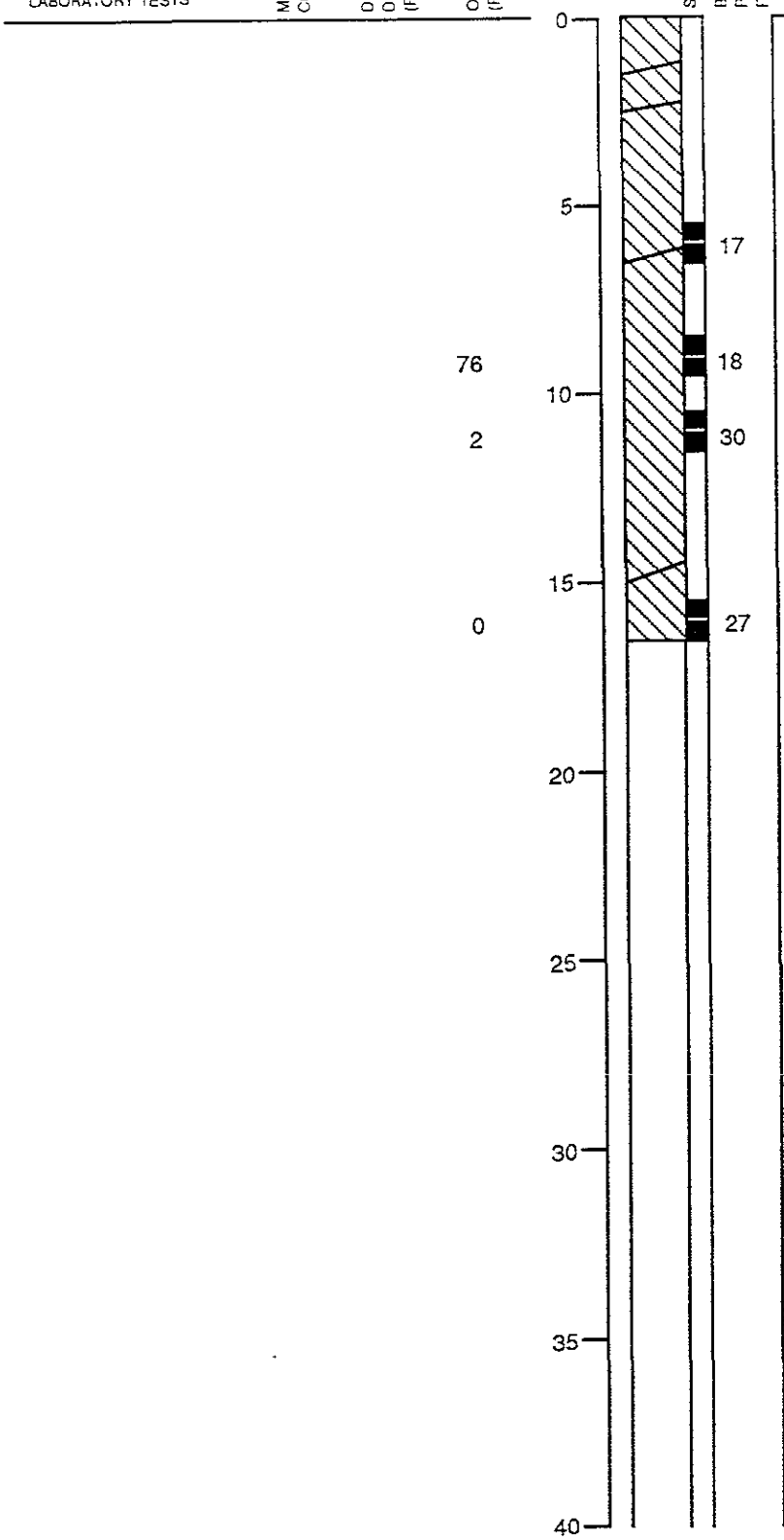
Subsurface Consultants	722 FOLGER AVENUE - BERKELEY, CA			PLATE 7
	JOB NUMBER 727.001	DATE 6/22/92	APPROVED	

LOG OF TEST BORING 7

EQUIPMENT 8" Hollow Stem Auger

DATE DRILLED 5/13/92

ELEVATION - -



BROWN GRAVELLY CLAY (CL)
medium dense, moist (fill)

DARK BROWN SILTY CLAY (CL)
medium stiff, moist (fill)

MOTTLED BROWN GRAY SILTY CLAY (CL)
medium stiff, moist, with minor sand content

BROWN SILTY CLAY (CL)
medium stiff to stiff, moist
moderate hydrocarbon odor at 8 feet

mild hydrocarbon odor

BROWN SANDY CLAY (CL)
stiff, moist
hydrocarbon odor

Boring backfilled with cement grout before a stabilized groundwater level reading was recorded

GROUNDWATER NOT ENCOUNTERED DURING DRILLING

Subsurface Consultants

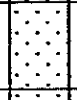
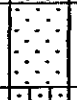
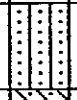
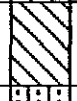
722 FOLGER AVENUE - BERKELEY, CA

JOB NUMBER 727.001

DATE 6/22/92

APPROVED

PLATE 8

GENERAL SOIL CATEGORIES			SYMBOLS		TYPICAL SOIL TYPES
COARSE GRAINED SOILS More than half is larger than No. 200 seive	GRAVEL More than half coarse fraction is larger than No. 4 seive size	Clean Gravel with little or no fines	GW		Well Graded Gravel, Gravel-Sand Mixtures
			GP		Poorly Graded Gravel, Gravel-Sand Mixtures
		Gravel with more than 12% fines	GM		Silty Gravel, Poorly Graded Gravel-Sand-Silt Mixtures
			GC		Clayey Gravel, Poorly Graded Gravel-Sand-Clay Mixtures
	SAND More than half coarse fraction is smaller than No. 4 seive size	Clean Sand with little or no fines	SW		Well Graded Sand, Gravelly Sand
			SP		Poorly Graded Sand, Gravelly Sand
		Sand with more than 12% fines	SM		Silty Sand, Poorly Graded Sand-Silt Mixtures
			SC		Clayey Sand, Poorly Graded Sand-Clay Mixtures
FINE GRAINED SOILS More than half is smaller than No. 200 seive	SILT AND CLAY Liquid Limit Less than 50%		ML		Inorganic Silt and Very Fine Sand, Rock Flour, Silty or Clayey Fine Sand, or Clayey Silt with Slight Plasticity
			CL		Inorganic Clay of Low to Medium Plasticity, Gravelly Clay, Sandy Clay, Silty Clay, Lean Clay
			OL		Organic Clay and Organic Silty Clay of Low Plasticity
	SILT AND CLAY Liquid Limit Greater than 50%		MH		Inorganic Silt, Micaceous or Diatomaceous Fine Sandy or Silty Soils, Elastic Silt
			CH		Inorganic Clay of High Plasticity, Fat Clay
			OH		Organic Clay of Medium to High Plasticity, Organic Silt
HIGHLY ORGANIC SOILS			PT		Peat and Other Highly Organic Soils

UNIFIED SOIL CLASSIFICATION SYSTEM

Subsurface Consultants

722 FOLGER AVENUE - BERKELEY, CA

JOB NUMBER	DATE	APPROVED
727.001	6/22/92	

PLATE 9