James P. Bowers, P.E.
R. William Rudolph, P.E.

LETTER OF TRANSMITTAL

TO: Mr. Larry Seto
Alameda County Hazardous Waste
Environmental Health Department
470 27th Street
Oakland, California 94608

DATE: November 16, 1987
PROJECT: 150th & East 14th Street, San Leandro
SCI JOB NUMBER: 209.005

SUBJECT: Environmental Consultation

WE ARE SENDING YOU:

1 copies
- ☐ of our final report
- ☐ a draft of our report
- ☐ a Service Agreement
- ☐ a proposed scope of services
- ☐ specifications
- ☐ grading/foundation plans
- ☐ soil samples/groundwater samples
- ☐ an executed contract
- ☒ Letter to Mr. Tak Hirahara C&H Development, Lafayette, CA

- ☒ if you have any questions, please call.
- ☐ for your review and comment.
- ☐ Please return an executed copy.
- ☐ for geotechnical services.
- ☐ with our comments.
- ☐ with Chain of Custody documents.
- ☐ for your use.
- ☐ _____
- ☐ _____

REMARKS:

COPIES TO: (1) Mr. Peter Johnson
Regional Water Quality Control Board
Oakland, California

BY: James P. Bowers
James P. Bowers

Subsurface Consultants, Inc.
171 12th Street • Suite 201 • Oakland, California 94607 • Telephone 415-268-0461

REPORT
ENVIRONMENTAL CONSULTATION
re: SOIL CONTAMINATION
CHARACTERIZATION
150th AVENUE & EAST 14th STREET
SAN LEANDRO, CALIFORNIA

[redacted]

James P. Bowers, P.E.
R. William Rudolph, P.E.

November 16, 1987
SCI 209.005

Mr. Tak Hirahara
C&H Development Company
3744 Mt. Diablo Boulevard, #301
Lafayette, California 94549

Environmental Consultation
re. Soil Contamination Characterization
150th Avenue and East 14th Street
San Leandro, California

Dear Mr. Hirahara:

This letter presents the results of our ongoing environmental assessment at a site located near the northeastern corner of the intersection of East 14th Street and 150th Avenue in San Leandro. We performed a preliminary investigation at the site and summarized the results in a letter dated October 26, 1987. In our letter, we concluded that subsurface materials at the site contained elevated concentrations of heavy petroleum hydrocarbons and purgeable organic solvents. Because data regarding the lateral and vertical extent of the solvents were limited, we recommended that additional subsurface investigation and analytical testing be performed. This letter records data generated by the additional studies.

The scope of our most recent services included drilling 9 test borings (Borings 7 thru 15), collecting soil samples and performing qualitative analytical tests using a mobile laboratory. Selected soil samples were subsequently analyzed by a DHS certified laboratory.

Field Exploration

Subsurface conditions were explored by drilling 9 test borings about 10 feet deep. These borings were in addition to the 6 that were drilled for our initial investigation. Boring locations are shown on the Site Plan, Plate 1. The borings were drilled with truck-mounted, solid flight auger drilling equipment.

Our geologist observed drilling operations, obtained undisturbed samples of materials encountered and prepared a log of each test boring. The boring logs are presented on Plates 5 through 9. For completeness, the logs of the borings drilled during our initial investigation have been presented on Plates 2 thru 4. Soils are classified in accordance with the Unified Soil

Classification System, which is explained on Plate 10.

Undisturbed soil samples were obtained with a California Drive Sampler having an outside diameter of 2.5 inches and an inside diameter of 2.0 inches. The sampler was driven with a 140-pound hammer falling 30 inches. The number of blows required to drive the sampler the final 12 inches of each 18-inch penetration was recorded and is presented on the Boring Logs.

The augers, sampling equipment and sample liners were steam-cleaned prior to their initial use. To minimize the likelihood of cross-contamination between samples and/or test borings, the equipment was steam-cleaned again prior to each subsequent use. The soil samples were retained in 2.0-inch-diameter brass liners. The sample ends were covered with teflon sheeting. Plastic caps were placed over the teflon sheeting and sealed with plastic tape. Soil samples were placed in an ice chest following collection and remained under refrigeration until testing and/or delivery to the analytical laboratory. Samples delivered to the laboratory were accompanied by Chain of Custody records.

Subsurface Conditions

The test borings revealed soil conditions consistent with those described in our previous report. Briefly, the area investigated is underlain by interbedded clayey sands and silty clays to the depths explored. The upper 4 to 5 feet of soil consists of black silty clay. Below this surface layer, the soils are gray to gray green in color and consist of clayey sands and sandy clays.

Groundwater was encountered during drilling at depths of about 11 to 12 feet below the groundsurface.

Analytical Testing

A mobile laboratory, provided by Anatec Laboratory, Inc., was used to qualitatively analyze soil samples for the presence of organic compounds in the field, soon after sampling. The mobile laboratory was also used to conduct total light petroleum hydrocarbon (gasoline) analyses on several samples. The mobile laboratory is currently undergoing certification by the California Department of Health Services (DHS); however, it currently is not certified. For this reason, four of the soil samples analyzed by the mobile laboratory were subsequently re-analyzed in a DHS certified laboratory as a check on the work performed. The four samples were analyzed for purgeable organic compounds in accordance with the EPA 8240 test method. Test

results are summarized in the attached Table 1. Laboratory test reports are not yet available; we anticipate that they will be complete within several days. For completeness, we have included analytical test results produced during our previous investigation in Table 2.

Conclusions

Based upon the data to date, we conclude that the soils in the area contain elevated concentrations of heavy petroleum hydrocarbons (oils), purgeable organic chemicals (solvents), as well as gasoline. The test results are graphically summarized on Plate 11. We are currently uncertain of the source of contamination. However, based on the available information, we conclude that it is most likely associated with one or more discharges onto the groundsurface. Research has indicated that the site has been used as a gasoline service station/auto repair facility for many years. The contaminated area has likely received many different types of service station wastes, such as oils, transmission fluids, gasoline and cleaning solvents. For purposes of discussion, we will refer to the heavy petroleum hydrocarbon fractions as "oils". We are also uncertain of the quantity of wastes discharged in the area. However, based on the limited extent of the problem, we judge that quantities were comparatively small.

The studies to date indicate that the contaminated area is very limited with respect to oil, being confined to an area bounded approximately by Borings 2, 3, 4, and 5. Oil concentrations appear to be highest near the PG&E excavation and Test Boring 6. Analysis results from Borings 2, 3, 4 and 5 reveal no detectable concentrations of oil and hence, we estimate that the area of significant oil contamination is relatively small, possibly occurring in an area measuring about 10 by 20 feet in plan. Oil concentrations appear to decrease rapidly with depth and were non-detectable at depths of 8 feet or so. We speculate that significantly elevated concentrations of oil may extend 5 to 6 feet below the groundsurface. A heavy petroleum hydrocarbon concentration of 8000 ppm (mg/kg) was encountered in a sample obtained by SCI from the PG&E excavation. Based upon data reported by the Alameda County Environmental Health Department, we believe that even higher concentrations exist.

Three organic solvents (PCE, TCE, and trans 1,2 DCE) were encountered in a soil sample analyzed from Boring 6 at a depth of 5 feet during our previous study. Concentrations ranged from 6.6 to 15.0 mg/kg. The analytical tests performed on numerous

additional soil samples did not indicate the presence of these or other organic chemicals, with the exception of toluene, at concentrations above detectable limits. On this basis, we conclude that the organic solvent contamination exists in a very limited area near Test Boring 6. The concentrations of PCE, TCE and trans 1,2 DCE encountered are considered sufficiently high to represent a risk to groundwater quality. However, to date, we have not evaluated the potential impact of these chemicals on groundwater.

Toluene, a volatile organic constituent of gasoline, was encountered in soil samples obtained from Borings 8 (at 4 feet) and 10 (at 8 feet) at concentrations of 150 and 51 ug/kg, respectively. The concentrations are relatively low; we believe this compound is associated with the gasoline that is present in the soil at several locations, as discussed subsequently.

Gasoline was encountered at a concentration of 320 mg/kg in Boring 3 at a depth of 8.5 feet, at 72 mg/kg in Boring 1 at a depth of 4 feet, and at 370 mg/kg in Test Boring 9 at a depth of 8 feet. Gasoline concentrations above 10 mg/kg were not detected in the remainder of the soil samples analyzed. Gasoline was encountered at a depth significantly above groundwater only in Boring 1. However, gasoline was not detected at a depth of 8 feet in Boring 1, suggesting that the source of gasoline contamination near the groundsurface in the area was comparatively small. Gasoline was also encountered in Borings 3 and 9 at concentrations of 320 and 370 mg/kg, respectively, at depths several feet above groundwater. Gasoline was not detected in Borings 3 or 9 at shallow depth, which leads us to suspect that the source of this gasoline may be somewhat removed from the area investigated during this study. We speculate that it represents fuel products being transported by groundwater flow. It has likely impacted a relatively narrow zone of soil defined by seasonal variations in groundwater level.

Regarding remediation of the soil contamination problem, we conclude that the heavy petroleum hydrocarbons (oil) and the organic solvent concentrations encountered in Test Boring 6 are sufficiently high to warrant remediation. Given the limited extent of the soil contamination problem, we believe that the most efficient and economical method of remediation will be to remove the contaminated soils by excavation and have them disposed of at a suitable hazardous waste facility. The actual area to be excavated cannot be accurately determined at this time; it should be determined during excavation by performing on-site chemical tests, as discussed subsequently. However, for

purposes of planning, we recommend that it be assumed that an area 10 by 20 feet in plan, and extending to groundwater (i.e. to a depth of about 11 feet) will be excavated. We recommend that the soils be excavated to the extent where non-detectable concentrations of organic solvents are encountered, and petroleum hydrocarbon concentrations are less than 100 mg/kg.

Based on the data available, it appears that the area where gasoline contamination was encountered at shallow depth will be removed as part of remediation of the oil and solvent problem. Remediation details for the gasoline contamination that exists in the soil near or slightly above the groundwater table will depend significantly on local groundwater quality and usage in the area. We recommend that at least one groundwater monitoring well be installed in the immediate area so that a high-quality groundwater sample can be obtained and analyzed to evaluate the impact that the gasoline and solvents have had on groundwater. Data generated from the well analyses will provide a basis to evaluate whether additional study and/or groundwater remediation is appropriate.

We understand that the soil contamination problem is responsible for delaying work to be performed by PG&E, which must be completed prior to occupying your building. In this regard, we see no reason why the soil contamination problem cannot be remediated immediately, independent of the studies necessary to evaluate groundwater impacts. We suggest that the problem and proposed remediation plan be discussed with representatives of the Alameda County Environmental Health Department, the DHS and the RWQCB as soon as practical, to seek their approval. Concurrently, we can begin to pursue groundwater issues.

During soil excavation, we recommend that a mobile laboratory be used on-site to perform analytical tests. This will provide us with a prompt basis to establish the limits of excavation. Upon completion of excavation, we recommend that soil samples be obtained from the perimeter of the excavation and chemically analyzed in a DHS certified laboratory to confirm that soil remediation is complete. The number and scope of analytical tests should be negotiated with the regulatory agencies involved. However, from a preliminary planning standpoint, we suggest that it be planned to analyze four soil samples from the excavation for oil and grease, gasoline and organic compounds (EPA 8240).

The excavation resulting from soil removal should be cleaned of loose materials. The excavation should be backfilled to within two feet of the surface with Class 2 aggregate subbase,

satisfying the criteria specified in the current Caltrans Standard Specifications. The upper two feet of the excavation should be backfilled with soil, containing more than 20 percent fine-grained material, i.e. finer than a #200 sieve. In addition, soil backfill should have a liquid limit less than 40 percent, a plasticity index less than 15 percent, and an R-value (resistance) of at least 20. All fill should be compacted to at least 90 percent relative compaction, in accordance with the ASTM D1557 test procedure. Fill should be placed and compacted in layers not exceeding 8 inches in loose thickness.

During construction, the contractor should take the necessary precautions to limit surface water runoff from flowing into the excavation. If the excavation must remain open during a period of anticipated heavy rainfall, the excavation should be covered. We should review the contractor's proposed runoff control plan prior to excavation.

If you have any questions regarding our conclusions or recommendations, please call.

Yours very truly,
Subsurface Consultants, Inc.

James P. Bowers
Geotechnical Engineer 157 (expires 3/31/91)

Attachments: Table 1 - Summary of Chemical Analyses
Table 2 - Summary of Chemical Analyses - Initial Study
Plate 1 - Site Plan
Plates 2 thru 9 - Logs of Borings 1 thru 15
Plate 10 - Unified Soil Classification System
Plate 11 - Summary of Chemical Data

2 copies submitted

cc: Mr. Larry Seto
Alameda County Environmental Health Department

Mr. Lester Feldman
Regional Water Quality Control Board

Table 1. Summary of Chemical Analyses

Mobile Laboratory

Boring	Depth (Feet)	Total Light Hydrocarbons (mg/kg)[1]	Total Heavy Hydrocarbons (mg/kg)	Purgeable Organics[6] (mg/kg)
7	4.0	NT[2]	NT	<1.0
7	8.0	<10	NT	<1.0
8	4.0	NT	NT	<1.0
8	8.0	<10	NT	<1.0
[redacted]	4.0	NT	NT	<1.0
			NT	<1.0
10	4.0	NT	NT	<1.0
10	8.0	<10	NT	<1.0
11	4.0	NT	NT	<1.0
11	8.0	<10	NT	<1.0
12	4.0	NT	NT	<1.0
12	8.0	<10	NT	<1.0
13	4.0	NT	NT	<1.0
13	8.0	NT	NT	<1.0
14	4.0	NT	NT	<1.0
14	8.0	NT	NT	<1.0
15	4.0	NT	NT	<1.0
15	8.0	NT	NT	<1.0

Certified Laboratory (EPA 8240)[3]

[redacted]	4.0	Toluene, 150 ppb[4]
9	8.0	ND[5]
10	8.0	Toluene, 51 ppb
11	4.0	ND

[1] mg/kg = milligrams per kilogram (ppm)
[2] NT = not tested, analysis was not performed
[3] EPA 8240 includes the 31 purgeable organic chemicals listed on the test reports
[4] ppb = micrograms/kilogram
[5] ND = none detected
[6] EPA 8010, detection limits = 1 ppm

Table 2. Summary of Chemical Analyses - Initial Study

Boring	Depth (Feet)	Total Light Hydrocarbons (mg/kg)[1]	Total Heavy Hydrocarbons (mg/kg)	Purgeable Organics[3] (mg/kg)
1	4.0	72	200	NT[2]
1	8.6	<10	<50	NT
2	2.6	<10	<50	NT
2	7.1	<10	<50	NT
3	5.0	<10	<50	NT
3	8.5	320	<50	NT
4	4.5	<10	<50	NT
4	10.5	<10	<50	NT
5	4.0	<10	<50	NT
5	8.0	<10	<50	NT
6	5.0	<10	<50	NT
6	9.1	<10	<50	NT
PG&E Excavation @ 3'		NT	8000	NT
6	5.0	Tetrachloroethylene (PCE)		6.6
		Trichloroethylene (TCE)		15.0
		Trans 1-2 Dichloroethylene (Trans 1, 2 DCE)		8.0

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[1] mg/kg = milligrams per kilogram

[2] NT = not tested, analysis was not performed

[3] EPA 8240 includes the 31 purgeable organic chemicals listed on the test reports

TEST BORING
PG&E EXCAVATION
TELEPHONE POLE
TRAFFIC SIGN
PROPERTY LINE

VICINITY MAP

150th AVENUE

APPROXIMATE SCALE (feet)

0 20 40

SITE PLAN

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209.005	10/13/87	

PLATE 1

LOG OF TEST BORING 1

EQUIPMENT 4" Flight Auger
DATE DRILLED 9/29/87
ELEVATION *

LABORATORY TESTS	MOISTURE CONTENT %	DRY DENSITY (PCF)	DEPTH (FT)	SAMPLE	BLOWS PER FOOT	
			0			CONCRETE, 6" thick
						BLACK SANDY SILTY CLAY (CL) stiff, moist
					19	GRAY-GREEN CLAYEY SAND (SC)
			5		13	medium dense, moist
						ORANGE-BROWN SILTY CLAY (CL) stiff, moist
					9	GRAY-GREEN CLAYEY SAND (SC) medium dense, moist to saturated
			10			NO GROUNDWATER ENCOUNTERED DURING DRILLING
			15			

* All test borings are situated at about the same elevation.

LOG OF TEST BORING 2

EQUIPMENT 4" Flight Auger
DATE DRILLED 9/29/87
ELEVATION

LABORATORY TESTS	MOISTURE CONTENT %	DRY DENSITY (PCF)	DEPTH (FT)	SAMPLE	BLOWS PER FOOT	
			0			CONCRETE, 6" thick
					17	DARK BROWN TO BLACK SILTY SANDY CLAY (CL) stiff, moist
			5			GRAY-GREEN CLAYEY SILT (ML)
					12	medium stiff, moist
			10		12	MOTTLED GRAY AND GREEN SILTY CLAY (CL) stiff, moist
			15			NO GROUNDWATER ENCOUNTERED DURING DRILLING

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

HAMMER WEIGHT: 140 pounds
HAMMER DROP: 30 inches

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209.005	10/13/87		2

LOG OF TEST BORING 3

EQUIPMENT 4" Flight Auger
DATE DRILLED 9/29/87
ELEVATION

LABORATORY TESTS	MOISTURE CONTENT %	DRY DENSITY (PCF)	DEPTH (FT)	SAMPLE	BLOWS PER FOOT	
			0			CONCRETE, 6" thick
						RED-BROWN SILTY GRAVEL (GM) medium dense, moist (fill)
					8	BLACK SILTY CLAY (CL) stiff, moist
			5		12	GRAY-GREEN SANDY CLAY (CL) stiff, moist
						color change to gray-brown
					12	RED-BROWN SILTY CLAY (CL) stiff, moist
			10		12	
						NO GROUNDWATER ENCOUNTERED DURING DRILLING
			15			

LOG OF TEST BORING 4

EQUIPMENT 4" Flight Auger
DATE DRILLED 9/29/87
ELEVATION

LABORATORY TESTS	MOISTURE CONTENT %	DRY DENSITY (PCF)	DEPTH (FT)	SAMPLE	BLOWS PER FOOT	
			0		16	BROWN GRAVELLY SILTY SAND (SM) loose to medium dense, moist (fill)
						BLACK SILTY CLAY (CL) stiff, moist
			5		17	
					10	GRAY-GREEN CLAYEY SAND (SC) medium dense, moist
						MOTTLED GRAY AND RED-BROWN SILTY CLAY (CL) stiff, moist
			10		13	
						NO GROUNDWATER ENCOUNTERED DURING DRILLING
			15			

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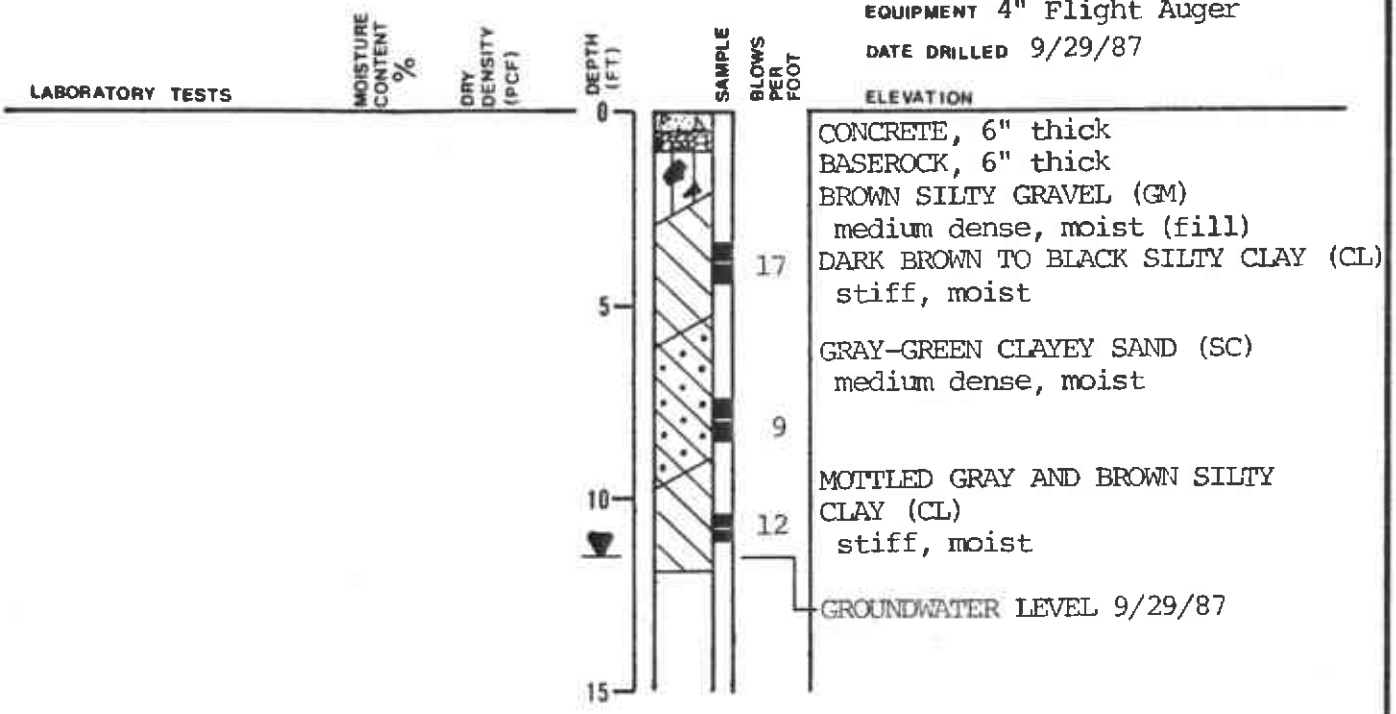
PLATE 3

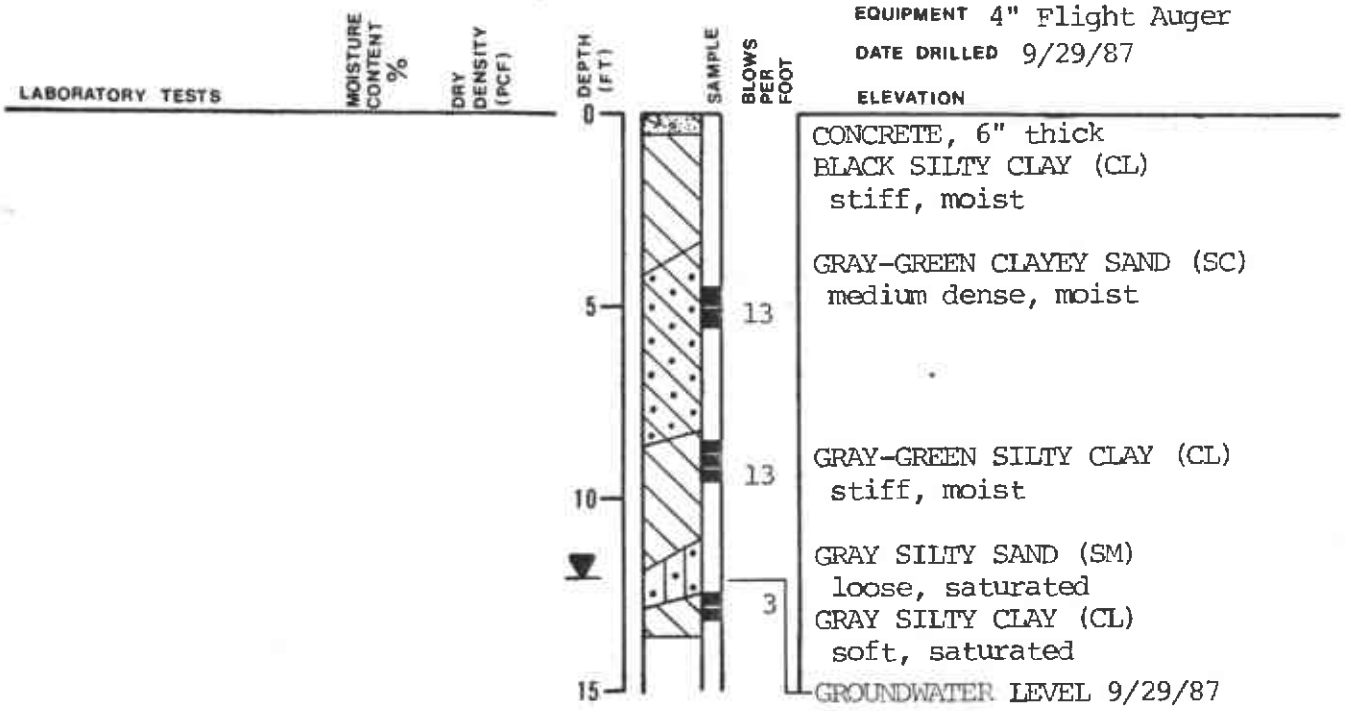
LOG OF TEST BORING 5

EQUIPMENT 4" Flight Auger
DATE DRILLED 9/29/87



LOG OF TEST BORING 6

EQUIPMENT 4" Flight Auger
DATE DRILLED 9/29/87



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	JOB NUMBER 209.005	DATE 10/13/87	APPROVED	

LOG OF TEST BORING 7

EQUIPMENT 4" Flight Auger
DATE DRILLED 11/5/87

LABORATORY TESTS	MOISTURE CONTENT %	DRY DENSITY (PCF)	DEPTH (FT)	SAMPLE	BLOWS PER FOOT	ELEVATION
			0			CONCRETE, 9" thick
						BASEROCK, 4" thick
						BROWN SILTY GRAVEL (GM) medium dense, moist
			5		14	DARK BROWN TO BLACK SILTY CLAY (CL) stiff, moist
						GRAY-GREEN CLAYEY SAND (SC) medium dense, moist
			10		9	MOTTLED ORANGE AND GRAY-GREEN SANDY CLAY (CL) medium stiff, moist
			15			NO GROUNDWATER ENCOUNTERED DURING DRILLING

LOG OF TEST BORING 8

EQUIPMENT 4" Flight Auger
DATE DRILLED 11/5/87

LABORATORY TESTS	MOISTURE CONTENT %	DRY DENSITY (PCF)	DEPTH (FT)	SAMPLE	BLOWS PER FOOT	ELEVATION
			0			CONCRETE, 6" thick
						BASEROCK, 2" thick
						DARK BROWN TO BLACK SILTY CLAY (CL) stiff, moist
			5		16	GRAY-GREEN CLAYEY SAND (SC) medium dense, moist
			10		7	MOTTLED ORANGE AND GRAY-GREEN SANDY CLAY (CL) stiff, moist
			15			NO GROUNDWATER ENCOUNTERED DURING DRILLING

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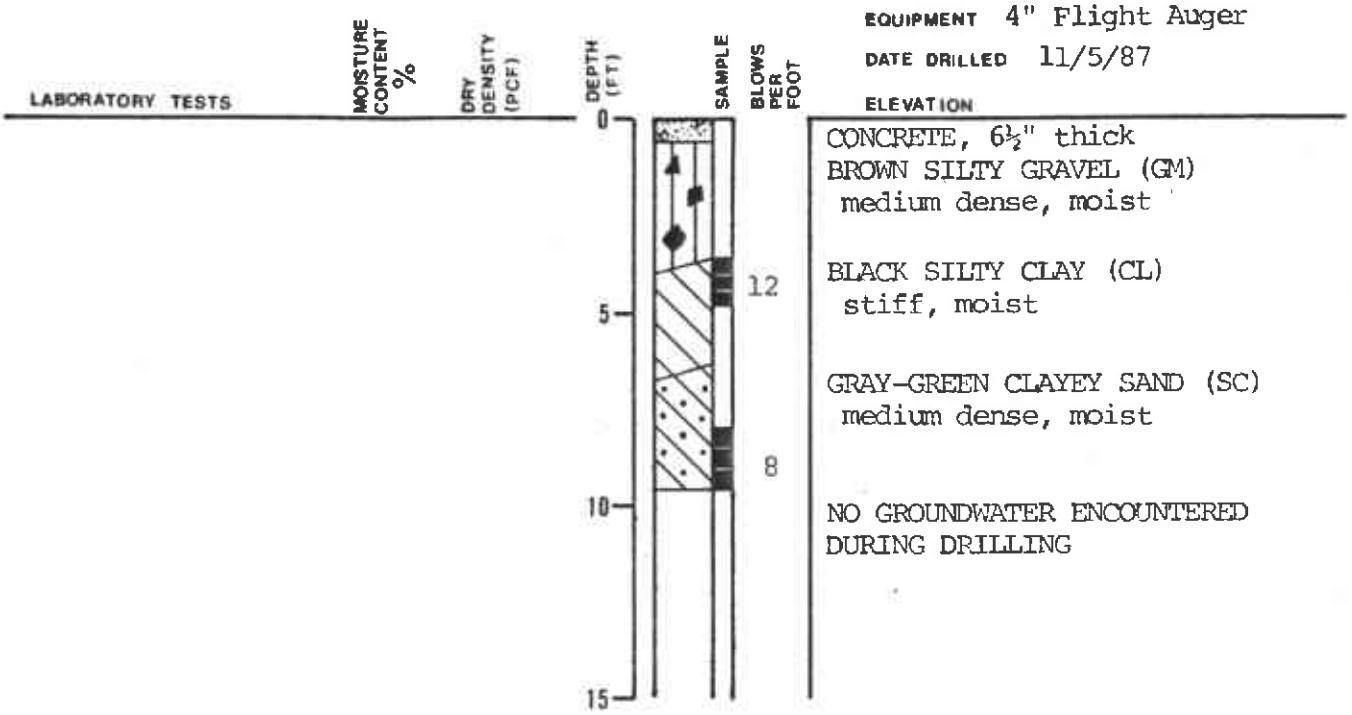
PLATE 5

LOG OF TEST BORING 9

EQUIPMENT 4" Flight Auger
DATE DRILLED 11/5/87
ELEVATION



LOG OF TEST BORING 10

EQUIPMENT 4" Flight Auger
DATE DRILLED 11/5/87
ELEVATION

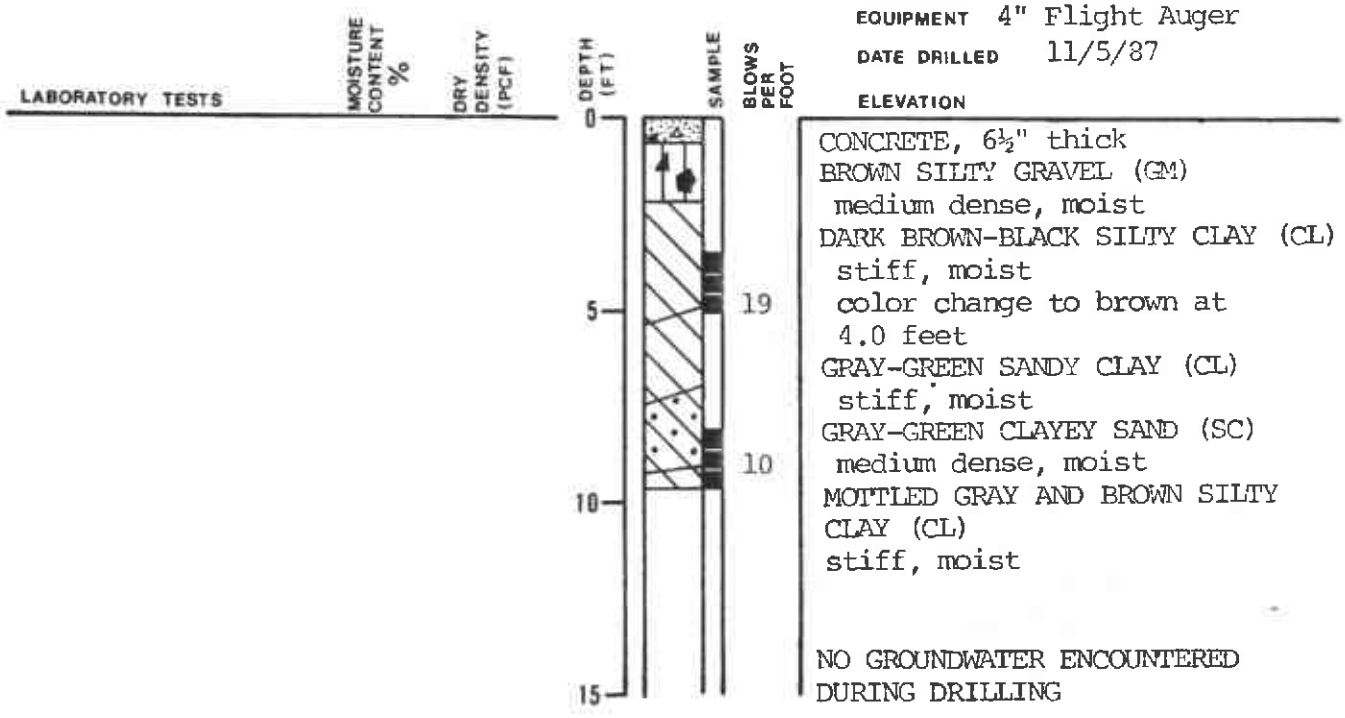


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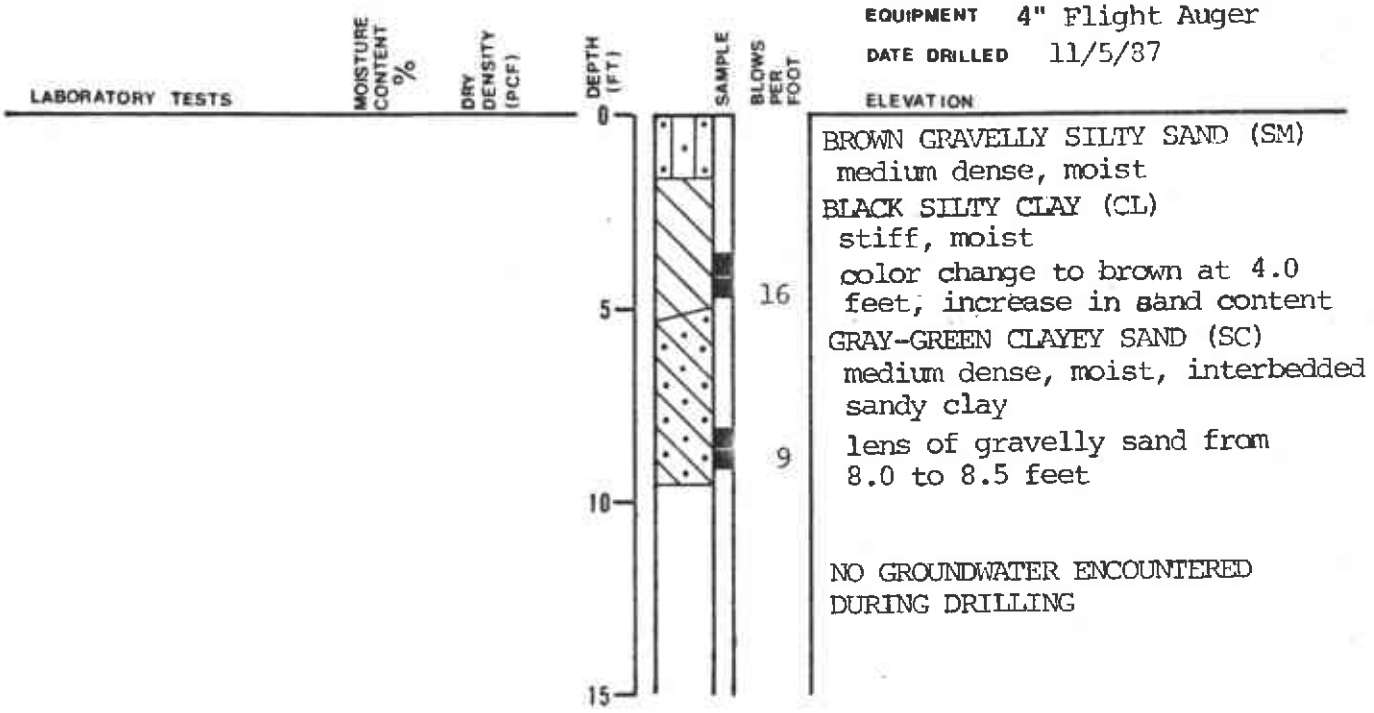
PLATE 6

LOG OF TEST BORING 11

EQUIPMENT 4" Flight Auger
DATE DRILLED 11/5/87
ELEVATION

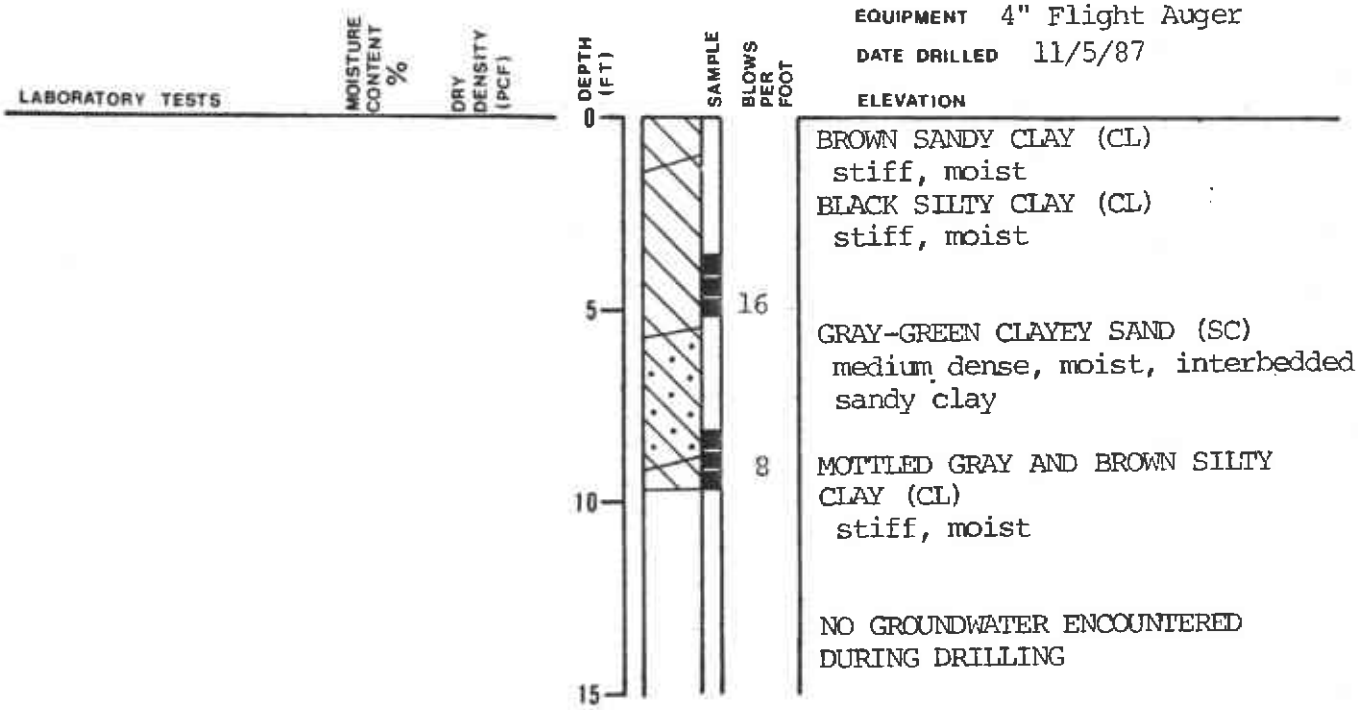


BROWN GRAVELLY SILTY SAND (SM)
medium dense, moist
BLACK SILTY CLAY (CL)
stiff, moist
color change to brown at 4.0 feet, increase in sand content
GRAY-GREEN CLAYEY SAND (SC)
medium dense, moist, interbedded sandy clay
lens of gravelly sand from 8.0 to 8.5 feet

NO GROUNDWATER ENCOUNTERED DURING DRILLING

LOG OF TEST BORING 12

EQUIPMENT 4" Flight Auger
DATE DRILLED 11/5/87
ELEVATION



BROWN SANDY CLAY (CL)
stiff, moist
BLACK SILTY CLAY (CL)
stiff, moist

GRAY-GREEN CLAYEY SAND (SC)
medium dense, moist, interbedded sandy clay

MOTTLED GRAY AND BROWN SILTY CLAY (CL)
stiff, moist

NO GROUNDWATER ENCOUNTERED DURING DRILLING

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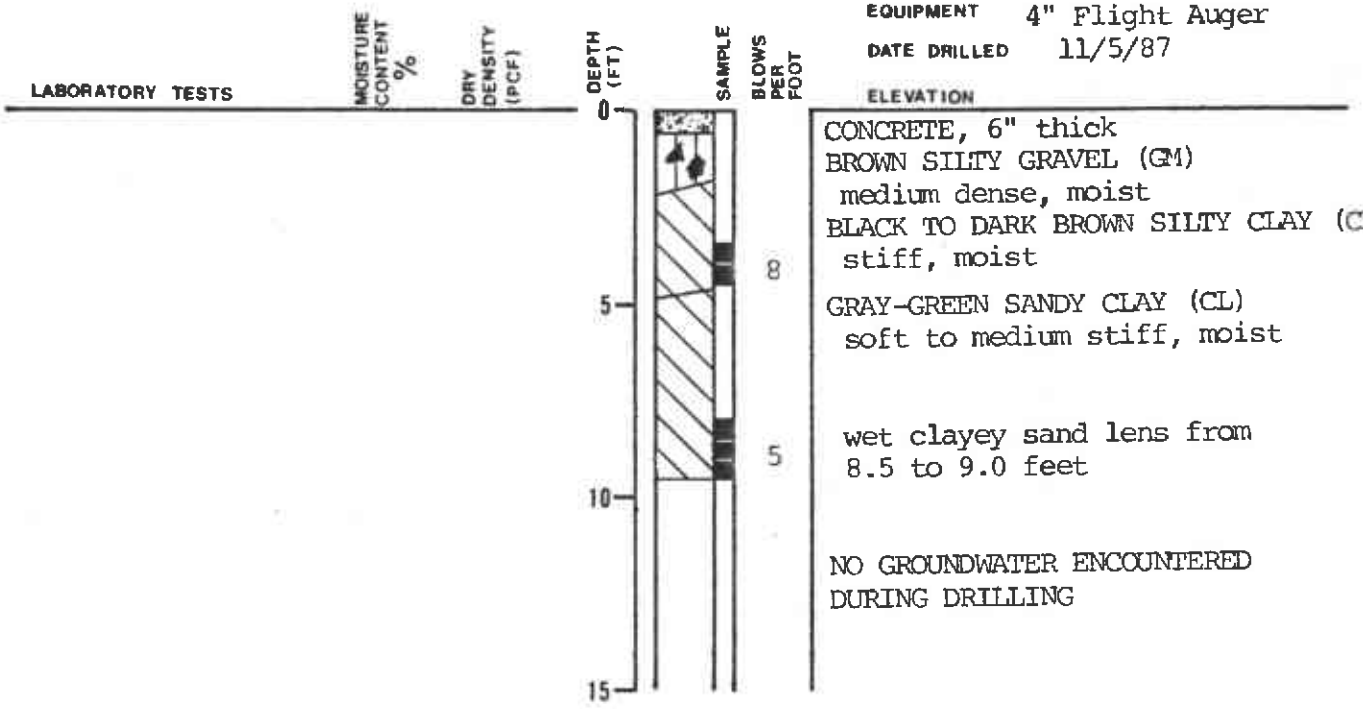
PLATE 7

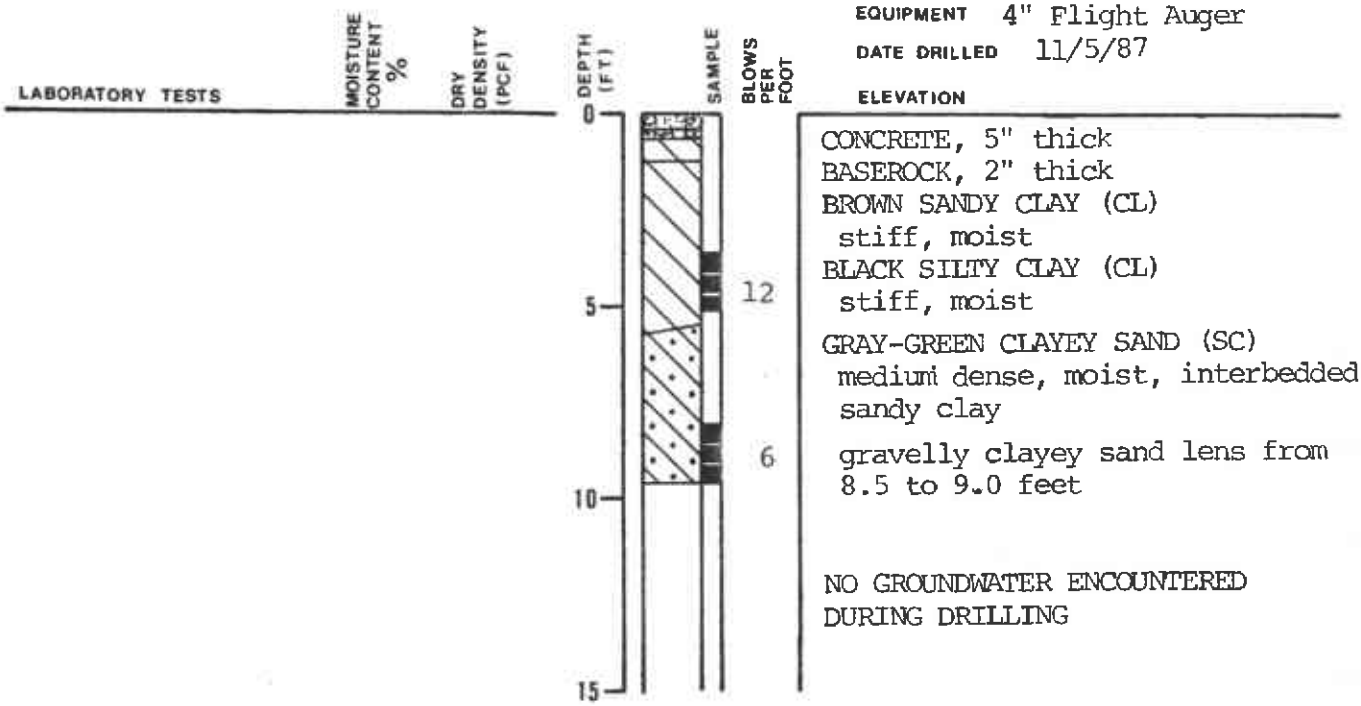
LOG OF TEST BORING 13

EQUIPMENT 4" Flight Auger
DATE DRILLED 11/5/87



LOG OF TEST BORING 14

EQUIPMENT 4" Flight Auger
DATE DRILLED 11/5/87



Subsurface Consultants	150th Ave. & E.14th St.-SAN LEANDRO, CA			PLATE 8
	JOB NUMBER 209.005	DATE 11/11/87	APPROVED	

LOG OF TEST BORING 15

EQUIPMENT 4" Flight Auger

DATE DRILLED 11/5/87

ELEVATION

LABORATORY TESTS	MOISTURE CONTENT %	DRY DENSITY (PCF)	DEPTH (FT)	SAMPLE	BLOWS PER FOOT	
			0			CONCRETE, 6" thick BASEROCK, 2" thick BLACK TO DARK BROWN SILTY CLAY (CL) stiff, moist
			5		16	GRAY-GREEN CLAYEY SAND (SC) medium dense, moist
			10		8	MOTTLED ORANGE-BROWN AND GRAY-GREEN SILTY CLAY (CL) medium stiff, moist
						NO GROUNDWATER ENCOUNTERED DURING DRILLING
			15			
			20			
			25			
			30			
			35			
			40			

Subsurface Consultants

150th Ave. & E.14th St.-SAN LEANDRO, CA

JOB NUMBER 209.005

DATE 11/11/87

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PLATE 9

GENERAL SOIL CATEGORIES			SYMBOLS		TYPICAL SOIL TYPES
COARSE GRAINED SOILS More than half is larger than No. 200 sieve	GRAVEL More than half coarse fraction is larger than No. 4 sieve	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 sieve	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 sieve	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

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150th Ave. & E.14th St.-SAN LEANDRO, CA

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209.005	10/13/87	

PLATE 10

EXISTING BUILDING

GAS 370 ppm (4.0)
- (4.0) — SAMPLE DEPTH (FT)
- 370 ppm — CONCENTRATION
- GAS — COMPOUND DETECTED

PROPERTY LINE

PG&E EXCAVATION

PCE 6.6 ppm
TCE 15.0 ppm
DCE 8.0 ppm
} (5.0)

OIL 8000 ppm (3.0)

GAS 320 ppm (8.5)

GAS 370 ppm (4.0)

TOLUENE 150 ppb (4.0)

GAS 72 ppm (4.0)
OIL 200 ppm (4.0)

TOLUENE 51 ppb (8.0)

TELEPHONE POLE

SIDEWALK

TRAFFIC SIGN

150th AVENUE

APPROXIMATE SCALE (feet)

0 5 10 15

SUMMARY OF SOIL ANALYSIS RESULTS

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PLATE 11