Harding Lawson Associates

Transmittal/Memorandum

To: Alameda County Environmental Health Service
470 27th Street, Room 324
Oakland, California 94612
Attention: Mr. Storm Goranson, P.E.

From: Daniel Louis/Norman Shopay
Date: October 27, 1987
Subject: City Blue Production Facility
Job No.: 87-1330.04

Remarks: BACKGROUND

This memo presents a summary of our telephone conversation on October 15, 1987 and transmits additional information that you have requested regarding the City Blue Production Facility project at 1700 Jefferson Street. To date, three documents have been forwarded to the Alameda County Environmental Health Service (ACEHS) by Harding Lawson Associates (HLA). These documents are:

1. Underground storage tank unauthorized release (leak)/contamination site report dated April 8, 1987

2. Preliminary hazardous waste assessment report dated June 3, 1987

3. Letter regarding professional services during tank removal dated August 25, 1987.

TELEPHONE CONVERSATION SUMMARY

The major points discussed in the telephone conversation between Dan Louis (DL) and Storm Goranson (SG) are presented below:

1. The discussion began with DL presenting a brief overview of the project and the work that has been performed by HLA to date. Of particular interest during the overview was the fact that SG did not find it particularly unusual for the hydraulic gradient calculated by HLA at the site to be heading away from the bay.

2. SG requested the logs of all other borings and/or wells that HLA has installed at the site and requested information on soil venting equipment and techniques.

cc: Blue Print Service Company
Attention: Mr. Paul J. Koze

HLA Novato
Attention: Ms. Joan Tierman

Needs to
Something in
area of
proposed
building
phone message 11/4

3. During our discussion of the removal of the underground gasoline tanks from the site, SG questioned if we had verified if a waste oil tank or sump existed at the site. DL stated that based on all available information obtained by HLA and the fact that the site is currently being graded, HLA saw no evidence that a waste oil tank or sump existed.

4. DL pointed out that the property owners, Blue Print Service Company, were about to start construction of a one-story production facility on a portion of the property. HLA believes that the building will not interfere with any potential cleanup operations since the contaminated areas are outside the building footprint. However, this premise was based on the fact that soil cleanup would not be required or, if it were required, a vacuum soil venting system could be used, eliminating the need to excavate all contaminated soil down to the water table at a depth of approximately 26 feet. SG did not see a reason to prevent building construction but requested that HLA submit to the ACEHS an outline of potential remediation schemes that could allow building construction.

5. SG requested that DL summarize this telephone conversation and stated that the ACEHS will charge HLA or Blue Print Service Company $53 per hour for his time.

CONCLUSION

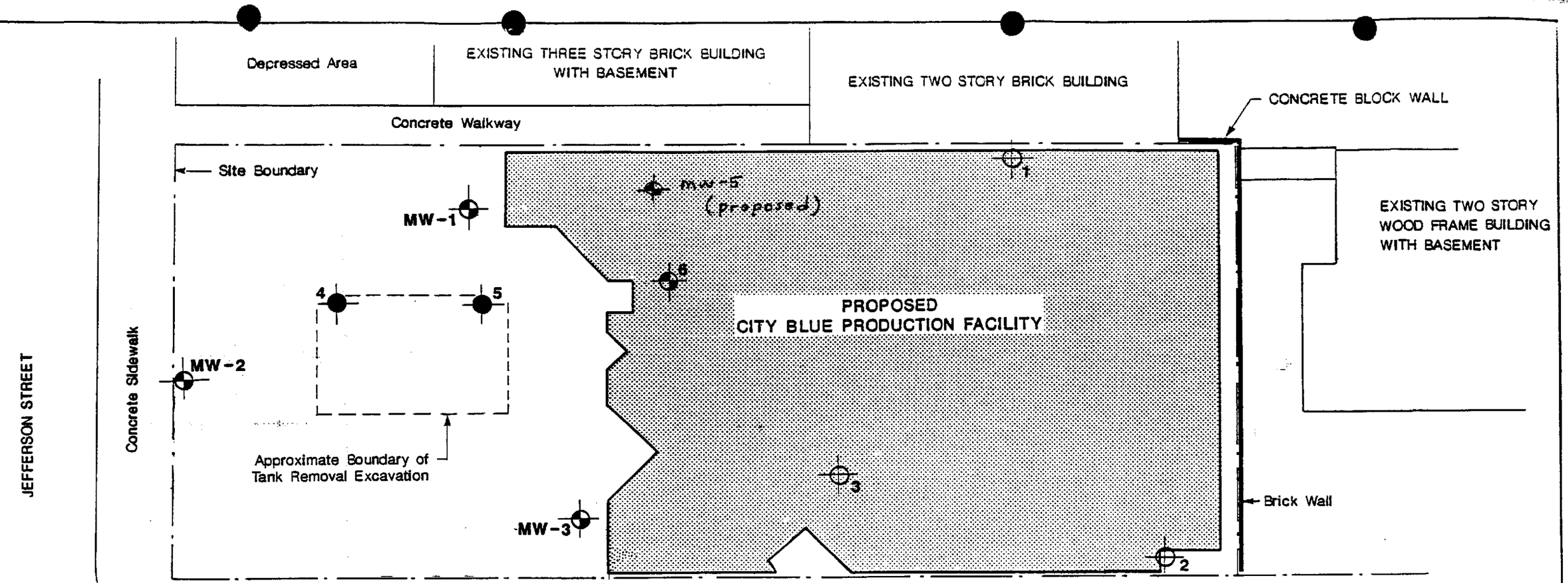
Enclosed with this memo, we are including relevant site plans, boring logs, and other pertinent information from our soil investigation report for the proposed structure and from our ongoing ground-water monitoring studies. An outline of the potential remediation schemes for the project will be transmitted to ACEHS within one week of this memo. Two other reports regarding ground-water monitoring and soil aeration/tank excavation backfilling are in draft and will be transmitted to ACEHS as soon as possible.

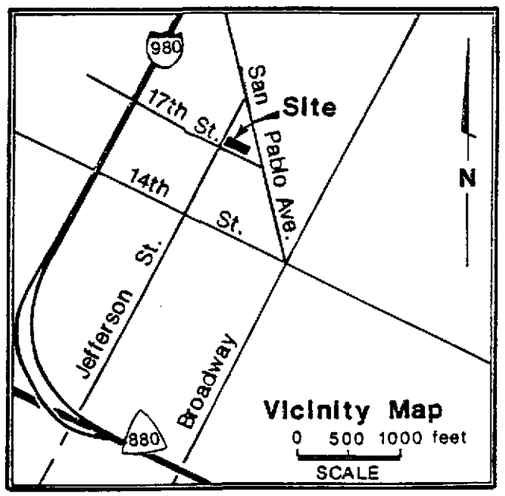
If you have any questions concerning this memo or the attachments, please call Dan Louis or Norman Shopay. Thank you.

Attachments: 1 - Site Plan, Boring Logs, and other Plates from HLA Soil Investigation Report dated May 4, 1987

2 - Draft copies of boring logs, well schematics, and other plates from current HLA ground-water monitoring studies

3 - Brief descriptive text on soil venting techniques from HLA technical manual



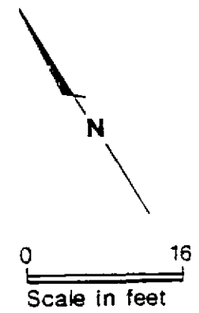


EXPLANATION

- 4 — Boring Location and Number, Preliminary Hazardous Waste Assessment
- 1 — Boring Location and Number, Soil Investigation
- MW-1 — Approximate Monitoring Well or Boring Location, this Investigation

REFERENCES:

1. "Preliminary Site Plan, City Blue Production Facility, 1700 Jefferson Street, Oakland, California," by Garcia/Wagner and Associates, dated Feb. 17, 1987.
2. Untitled Survey (partial print), Seventeenth Street and Jefferson Street, Surveyor unknown.



Harding Lawson Associates
Engineers, Geologists & Geophysicists

Site Plan

City Blue Production Facility
Oakland, California

PLATE **1**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
AG	18106,002.04	DL	2/87		7/87

Equipment: 10-inch Diameter Hollow Stem Auger

Elevation: 31.6 feet* Date: 6/24/87

Field and Laboratory Tests	Blows/foot	Depth (ft)	Sample	Well Completion Schematic	
		0			BROWN AND GRAY SILTY SAND (SM) medium dense, moist, some clay
Field GasTech (GT) reading = 30 ppm	42				BROWN CLAYEY SAND (SC) dense, moist, with silt
		5			
GT = 90 ppm	20				mottled brown and gray with interbedded silty sand below 7 feet
		10			medium dense below 9 feet
GT = 225 ppm	22			Solid	decreased clay and silt with slight orange-brown discoloration below 12 feet
		15			
GT = 500+ ppm	56				GRAY SAND (SP) dense, moist, uniform, fine-grained sand
GT = 500+ ppm Lab Moisure Content = 13% Lab Dry Density = 109 pcf Lab Volatile Hydrocarbons (TVH) = 4500 ppm	33/6"	20			
		25		Slotted	▽ water level measured on 6/25/87
GT = 500+ ppm	47				▽ water level measured during drilling, 6/24/87
		30			
GT = 100 ppm	38				GRAY SILTY CLAY (CH) very stiff, saturated, with trace sand
		35			
		40			

Note: Strong petroleum hydrocarbon odors encountered between 18-30 feet

*City of Oakland datum.

**Equivalent Standard Penetration Test (SPT) blow counts

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Log of Boring MW-1

Underground Tank Investigation
City Blue Production Facility
Oakland, California

PLATE 2

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
AG	18106,002.04		7/87		

Equipment 10-inch Diameter Hollow Stem Auger

Elevation 30.7 feet Date 6/25/87

Field and Laboratory Tests	Blows/foot	Depth (ft)	Sample	Well Completion Schematic	
		0			MOTTLED BROWN AND GRAY SILTY SAND (SM) dense, moist, with clay
GT = 25 ppm	43	5			
		10			medium dense, very moist below 9 feet
GT = 50 ppm	15				
		15		Solid	
GT = 25 ppm	22				
		20			BROWN SAND (SP) dense to very dense, moist to wet, fine-grained sand
GT = 150 ppm	33/6"				
					brown-gray, silty below 22 feet
GT = 280 ppm Lab Moisture Content = 11% Lab Dry Density = 106 pcf Lab TVH < 1 ppm	33/6"	25		Slotted	▽ water level measured during drilling, 6/25/87
GT = 60 ppm	33/6"				saturated with increased silt below 27 feet
		30			GRAY SILTY CLAY (CH) stiff to very stiff, saturated, occasional thin lenses of mottled brown-gray silty sand
GT = 25 ppm	25				
		35			
		40			

Note: Petroleum hydrocarbon odors encountered between 19-27 feet

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Log of Boring MW-2
Underground Tank Investigation
City Blue Production Facility
Oakland, California

PLATE 3

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
AG	18106,002.04		7/87		

Equipment 10-inch Diameter Hollow Stem Auger

Elevation 31.2 feet Date 6/24/87

Field and Laboratory Tests	Blows/foot	Depth (ft)	Sample	Well Completion Schematic
GT = 50 ppm	25/6"	0		Solid
GT = 30 ppm	20	5		
GT = 75 ppm	20	10		
GT = 200 ppm	33/6"	15		
Labor Moisture Content = 11% Lab Dry Density = 122 pcf GT = 500 ppm Lab TVH < 0.8 ppm	32/6"	20		Slotted
GT = 150 ppm	34/6"	25		
GT = 100 ppm		30		
		35		
		40		

BROWN SILTY SAND (SM)
dense, moist, with interbedded clayey sand layers

MOTTLED BROWN AND GRAY CLAYEY SAND (SC)
medium dense, moist, with silt

increased silt, moist to wet below 12 feet

dense below 19 feet

GRAY SILTY SAND (SM)
dense, moist

▽ water level measured on 6/25/87

saturated below 29 feet

BROWNISH GRAY SILTY CLAY (CH)
stiff to very stiff, moist, trace sand

Note: Petroleum hydrocarbon odors encountered between 17-30 feet

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Engineers, Geologists & Geophysicists

Log of Boring MW-3
Underground Tank Investigation
City Blue Production Facility
Oakland, California

PLATE 4

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
AG	18106,002.04		7/87		

Equipment 6-inch Diameter Soild Auger

Elevation 31.4 feet Date 8/12/87

Laboratory Tests	Blows/foot	Moisture Content (%)	Dry Density (pcf)	Depth (ft)	Sample
				0	
					BROWN SILTY SAND (SM) medium dense, moist, with some clay
					BROWN AND GRAYISH BROWN CLAYEY SAND (SC) medium dense to dense, moist, with silt
				5	
				10	
					dense below 11 feet
	38/9"			15	
	41			20	
					BROWNISH GRAY SAND (SP) dense, moist, very fine-grained, uniform, with silt
	47				
	40/10"			25	
					▽ water level observed 8/12/87 saturated below 26 feet
				30	
					BROWNISH GRAY SILTY CLAY (CH) stiff to very stiff, saturated, trace sand
				35	
				40	

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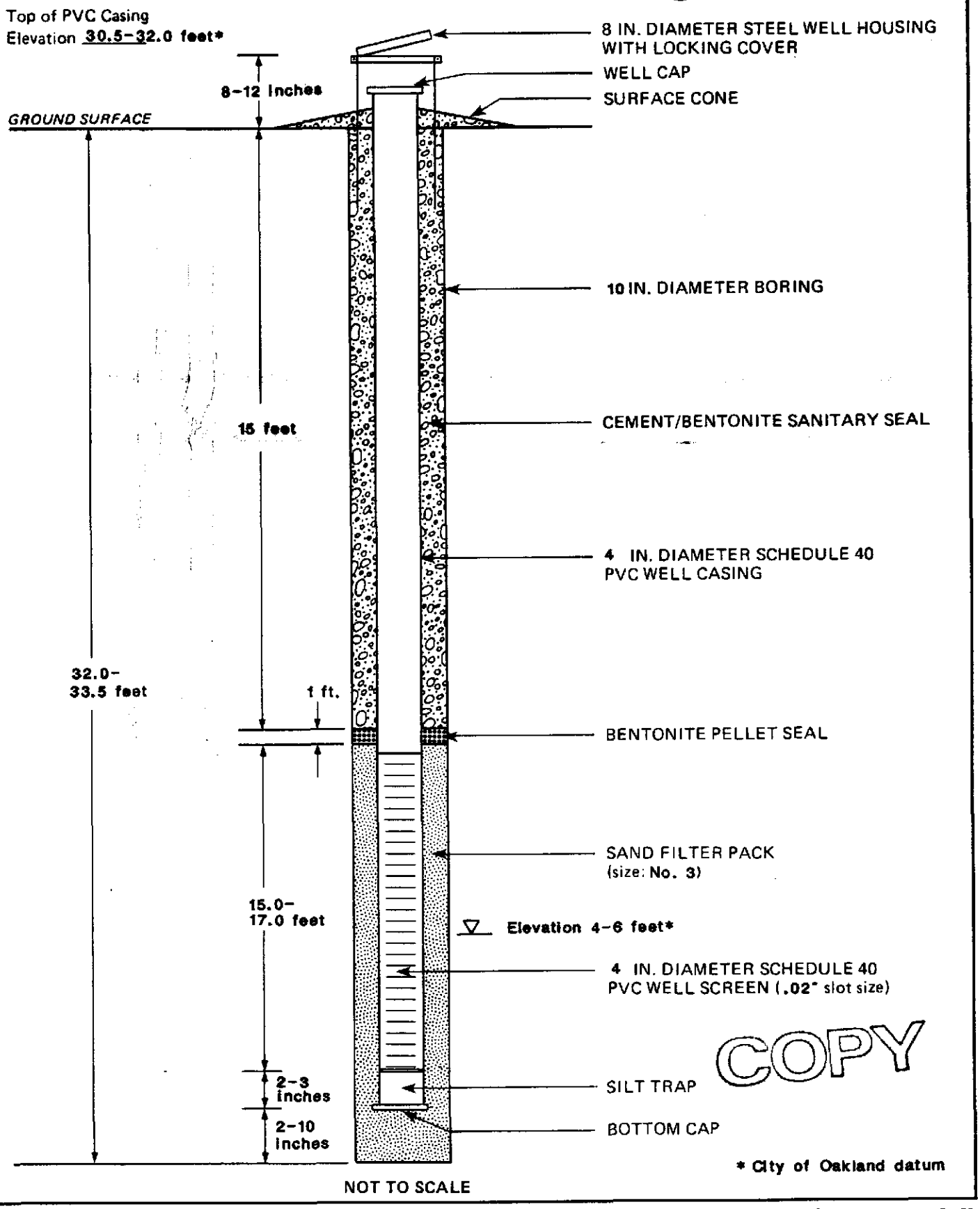
Log of Boring 6

City Blue Production Facility
Oakland, California

PLATE 5

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
RS	18106,002.04		10/87		



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Typical Well Completion Detail

City Blue Production Facility
Oakland, California

PLATE 6

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
AG	18106,002.04		7/87		

FORM GW1

MAJOR DIVISIONS					TYPICAL NAMES
COARSE-GRAINED SOILS (MORE THAN HALF IS LARGER THAN NO. 200 SIEVE)	GRAVELS (MORE THAN HALF COARSE FRACTION IS LARGER THAN No. 4 SIEVE SIZE)	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 SIZE)	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 IS SMALLER THAN NO. 200 SIEVE)	SILTS AND CLAYS (LIQUID LIMIT 50% OR LESS)		ML		INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS, OR CLAYEY SILTS WITH SLIGHT PLASTICITY
			CL		INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			OL		ORGANIC CLAYS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS (LIQUID LIMIT GREATER THAN 50%)		MH		INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS 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

UNIFIED SOIL CLASSIFICATION SYSTEM

Perm	—	Permeability
Consol	—	Consolidation
LL	—	Liquid Limit (%)
PI	—	Plastic Index (%)
G_s	—	Specific Gravity
MA	—	Particle Size Analysis
■	—	"Undisturbed" Sample
⊠	—	Bulk or Classification Sample

Shear Strength (psf) ↓		Confining Pressure ↓		
TxUU (FM)	3200 or (S)	(2600)	—	Unconsolidated Undrained Triaxial Shear (field moisture or saturated)
TxCU (P)	3200	(2600)	—	Consolidated Undrained Triaxial Shear (with or without pore pressure measurement)
TxCD	3200	(2600)	—	Consolidated Drained Triaxial Shear
SSCU (P)	3200	(2600)	—	Simple Shear Consolidated Undrained (with or without pore pressure measurement)
SSCD	3200	(2600)	—	Simple Shear Consolidated Drained
DSCD	2700	(2000)	—	Consolidated Drained Direct Shear
UC	470		—	Unconfined Compression
LVS	700		—	Laboratory Vane Shear

KEY TO TEST DATA

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Soil Classification Chart and Key to Test Data
City Blue Production Facility
Oakland, California

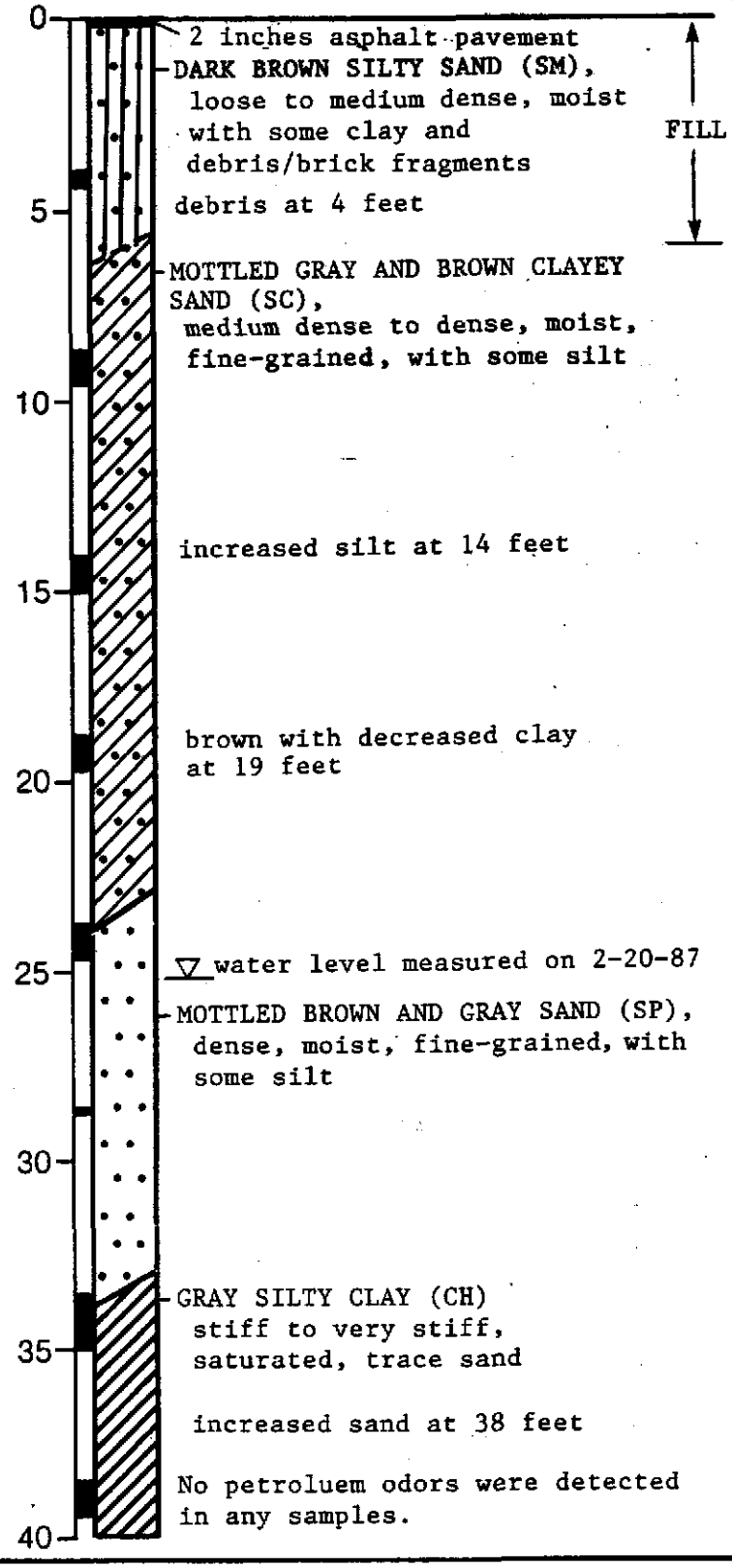
PLATE **7**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
AG	18106,002.04		7/87		

Equipment Hollow Stem Auger

Elevation 33.5 feet * Date 2-20-87

Laboratory Tests	Blows/foot **	Moisture Content (%)	Dry Density (pcf)
	7		
	26	16	110
	41		
	46	10	134
TxUU 4390 (2500)	45	18	105
	45		
	31	29	94
	13	27	95



* City of Oakland Datum

** Equivalent Standard Penetration Test (SPT) Resistance Values

Harding Lawson Associates
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Log of Boring 1

City Blue Production Facility
Oakland, California

PLATE 2

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
Shields	18106,001.04	DJ	2/87		

Equipment: Hollow Stem Auger

Elevation: 32.0 feet Date: 2-20-87

Laboratory Tests	Blows/foot	Moisture Content (%)	Dry Density (pcf)	Depth (ft)	Sample
25% passing #200 sieve	22	10	111	0	
	39			5	
TxUU 1370 (950)	33	14	108	10	
17% passing #200 sieve	36	18	113	15	
	33			20	
12% passing #200 sieve	35	14	96	25	
				30	
				35	
				40	

2 inches asphalt pavement

BROWN SILTY SAND (SM)
medium dense, moist

FILL

ORANGE-BROWN CLAYEY SAND (SC)
dense, moist

decreased clay below 8½ feet

mottled gray-brown at 14 feet

GRAY SAND (SP),
dense, moist, fine-grained,
with silt

mottled brown-gray with
increased silt below 23½ feet

No ground water was encountered during drilling

No petroluem odors were detected in any samples.

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Log of Boring 2

City Blue Production Facility
Oakland, California

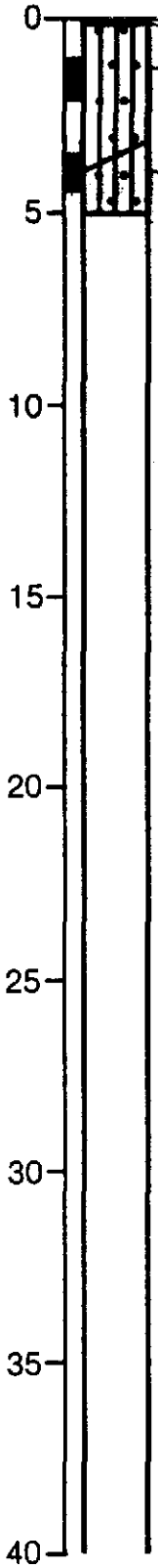
PLATE 3

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
Shields	18106,001.04	DJ	2/87		

Equipment Hollow Stem Auger

Elevation 31.6 feet Date 2-20-87

Laboratory Tests	Blows/foot	Moisture Content (%)	Dry Density (pcf)	Depth (ft)	Sample
	23			0	
TxUU 1000 (350)	34	16	107	5	



2 inches asphalt pavement

DARK BROWN SILTY SAND (SM) medium dense, moist, with some clay and debris — FILL

MOTTLED BROWN AND DARK GRAY CLAYEY SAND (SC) dense, moist

No ground water was encountered

10 15 20 25 30 35 40

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Log of Boring 3

City Blue Production Facility
Oakland, California

PLATE 4

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
Shields	18106,001.04	DT	2/87		

MAJOR DIVISIONS					TYPICAL NAMES
COARSE-GRAINED SOILS (MORE THAN HALF IS LARGER THAN NO. 200 SIEVE)	GRAVELS (MORE THAN HALF COARSE FRACTION IS LARGER THAN No. 4 SIEVE SIZE)	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 SIZE)	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 IS SMALLER THAN NO. 200 SIEVE)	SILTS AND CLAYS (LIQUID LIMIT 50% OR LESS)		ML		INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS, OR CLAYEY SILTS WITH SLIGHT PLASTICITY
			CL		INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
			OL		ORGANIC CLAYS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS (LIQUID LIMIT GREATER THAN 50%)		MH		INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS 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

UNIFIED SOIL CLASSIFICATION SYSTEM / ASTM

Perm	—	Permeability
Consol	—	Consolidation
LL	—	Liquid Limit (%)
PI	—	Plastic Index (%)
G_s	—	Specific Gravity
MA	—	Particle Size Analysis
■	—	"Undisturbed" Sample
☒	—	Bulk or Classification Sample

Shear Strength (psf)		Confining Pressure		
TxUU (FM)	3200 or (S)	(2600)	—	Unconsolidated Undrained Triaxial Shear (field moisture or saturated)
TxCU (P)	3200	(2600)	—	Consolidated Undrained Triaxial Shear (with or without pore pressure measurement)
TxCD	3200	(2600)	—	Consolidated Drained Triaxial Shear
SSCU (P)	3200	(2600)	—	Simple Shear Consolidated Undrained (with or without pore pressure measurement)
SSCD	3200	(2600)	—	Simple Shear Consolidated Drained
DSCD	2700	(2000)	—	Consolidated Drained Direct Shear
UC	470		—	Unconfined Compression
LVS	700		—	Laboratory Vane Shear

KEY TO TEST DATA

Harding Lawson Associates
Engineers, Geologists
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Soil Classification Chart and Key to Test Data
City Blue Production Facility
Oakland, California

PLATE **5**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
Shields	18106,001.04	DL	2/87		