A Report Prepared for

Scott Company
1919 Market Street
Oakland, California 94604

SOIL AND GROUND-WATER INVESTIGATION
A & J TRUCKING COMPANY, INC., PROPERTY
5600 SHELLMOUND AVENUE
EMERYVILLE, CALIFORNIA

HLA Job No. 19392,001.03

by

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INTRODUCTION

This report provides the results of a soil and ground-water investigation conducted by Harding Lawson Associates (HLA) at 5600 Shellmound Avenue in Emeryville, California (Plate 1) for Scott Company (Scott), an agent for A & J Trucking Company, Inc.. The purpose of our investigation was to assist Scott with evaluating the presence of potentially contaminated soil and ground water in the vicinity of two former underground storage tanks (USTs) on the northwest corner of the property (Plate 2).

BACKGROUND

In April 1989, the Scott Company removed two 1,000-gallon USTs from the site and placed excavated soils in a stockpile on the site (the westernmost of the three stockpiles shown on Plate 2). We understand that gasoline and diesel fuel were stored in these tanks since 1974. Their condition and contents were noted by Scott, who retained Anresco Laboratories (Anresco) to collect three soil samples from the walls of the tank excavation (see Plate 2 for sampling locations). Anresco performed analyses on these samples for total petroleum hydrocarbons (TPH) as gasoline and diesel fuel, and for benzene, toluene, ethylbenzene, and xylenes (BTEX). Results of these analyses indicated concentrations of TPH and BTEX, respectively, of up to 6800 and 920 parts per million (ppm) in soil near the tank (Appendix A).

In June 1989, Scott retained the services of HLA to evaluate the lateral extent of petroleum hydrocarbons in on-site soils and ground water.

On July 1, 1989, Mr. Robert Dias of Scott Company and Mr. Stephen Osborne of HLA met with Mr. Dennis Byrne of the Alameda County Hazardous Materials Division (ACHMD) to discuss the scope of a remedial investigation at this site. It was agreed that the investigation would proceed with the excavation of contaminated soils around the former UST location. Mr. Bryne also stated that a minimum of three ground-water monitoring wells would be required at this site because of the contaminant concentrations detected and the proximity of ground water.

SITE DESCRIPTION

The site elevation is approximately 10 feet above mean sea level (MSL) and covered with a 6-inch-thick cement pad. The site is used as a trucking facility, and contains a small office building, the USTs, and a parking area for trailer trucks. The site is bounded on all sides with a chain-link fence.

FIELD ACTIVITIES

On July 11, 1989, the tank excavation was expanded using a backhoe under the direction of HLA, attempting to reach the limits of soil containing petroleum hydrocarbons. A photo-

ionization detector (PID)* was used to screen the soil as the excavation proceeded.

Observations

Scott removed approximately 200 cubic yards of material consisting of brown-gray clay and debris that had strong hydrocarbon odors and PID readings of up to 175 ppm. Substantial quantities of a material that appeared to be greenish-white paint pigments and other debris, including bottles, tar, lumber, and roofing shingles were uncovered. Also, a wooden utility chase (storm drain) extending east-west along the southern limit of the excavation was found. After removing material for one day, the excavation was expanded by approximately 3 to 4 feet on all sides. Free product (immiscible petroleum hydrocarbons) was observed infiltrating the excavation from its walls and from the wooden chase. It appeared to HLA that not all of the materials containing petroleum products had been removed from the excavation.

Excavated material was segregated and stockpiled on plastic sheeting (Visqueen) as follows: the westernmost stockpile consisted of the tank backfill and soil originally removed by Scott in April 1989; the center stockpile contained material removed from the west, north, and east walls during the excavation expansion; the easternmost stockpile contained material removed

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* HNU Systems Inc., Model PI 101, was used to measure the presence of volatile organic compounds such as petroleum hydrocarbons in the soil excavated.

from the area adjacent to the wooden chase/storm drain. The relative positions of these stockpiles are shown on Plate 2. Each stockpile was immediately covered with Visqueen pending chemical analyses and disposal. Presently, the former UST pit remains open and barricaded.

Soil Sampling and Analyses

Eight soil samples were obtained from the limits of the excavation at locations shown on Plate 2. Bulk quantities of soil were obtained with a backhoe. To collect soil samples, a six-inch long stainless steel sampling tube was driven into the bulk soil. The tubes were subsequently sealed at both ends with aluminum foil, plastic caps, and adhesive tape, and stored in a cooled ice chest. The soil samples were delivered under chain-of-custody procedures to a state-certified chemical laboratory for analyses.

Four soil samples (SP-1 through SP-4) were collected from the stockpiles, using methods described above. All samples were analyzed for BTEX and TPH as gasoline, diesel fuel, kerosene, and waste oil. The results of chemical analyses on soil samples are summarized in Table 1.

On August 14, 1989, one sample, P-1, was taken of the apparent paint pigment material. This material was apparently not a result of the underground tank operations, but was probably placed during landfilling activities in this area. P-1 was analyzed for volatile and semi-volatile organic compounds, using

Table 1. Summary of Chemical Analyses
(Clearance and Stockpile Soil Samples)
A and J Trucking
Emeryville, California
(Concentrations in ppm)

Sample Number	Sampling Date	TPH gasoline	TPH diesel	Benzene	Toluene	Ethyl-benzene	Xylene	Total Lead	17 Heavy Metals	VOA EPA 8240	SOA EPA 8270
Samples from Limits of Excavation											
NW-1	7-11-89	10.1	1,456	.036	.173	.012	.008	-	-	-	-
NW-2	7-11-89	ND	ND	.008	ND	ND	ND	-	-	-	-
EW-3	7-11-89	ND	953	.975	.197	.005	.009	-	-	-	-
SW-4	7-11-89	50.4	140	3.070	1.280	.457	.746	-	-	-	-
B-5	7-11-89	4.6	ND	1.870	.102	.174	.166	-	-	-	-
SW-6	7-11-89	3.3	227	.558	.173	.019	.024	-	-	-	-
B-7	7-11-89	9.3	ND	2.140	.330	.098	.180	-	-	-	-
WW-8	7-11-89	337	118	2.260	.850	.636	.335	-	-	-	-
Samples from Stockpiles											
SP-1	7-11-89	346	685	1.10	.45	.203	1.0	-	-	-	-
	8-14-89	-	-	-	-	-	-	.740	-	-	-
SP-2	7-11-89	719	643	9.45	11.5	6.61	8.03	-	-	-	-
	8-14-89	-	-	-	-	-	-	1.2	-	-	-
SP-3	7-11-89	856	851	4.67	8.4	5.03	10.2	-	-	-	-
	8-14-89	-	-	-	-	-	-	.870	-	-	-
SP-4	7-11-89	9,020	3,150	349.0	363.5	120.4	185.7	-	-	-	-
	8-14-89	-	-	-	-	-	-	.400	-	-	-
P-1	8-14-89	-	-	-	-	-	-	-	As 140* Pb 40	T 28.4* E 34.5 X 45.6	ND*
Detection limits		2.5	5.0	.005	.005	.005	.005	1			

ND = Not Detected
- = Not Tested
As = Arsenic
Pb = Lead
T = Toluene
E = Ethylbenzene
X = Xylenes
VOA = Volatile Organic Analysis
SOA = Semi-Volatile Organic Analysis

*Note: Only detected constituents are listed. The remaining constituents were not detected. See attached laboratory reports for detection limits.

EPA Test Methods 8240 and 8270, and for the 17 heavy metals as defined in Title 22, Section 66699, of the California Administration Code. In addition, four samples were obtained from within the stockpiles for the purpose of evaluating total lead concentrations. Because these samples were obtained from approximately the same locations as the previous stockpile samples, these samples were assigned corresponding sample numbers (SP-1 through SP-4).

Soil Borings and Monitoring Well Installation

On July 31, 1989, HLA's field geologist was on site to designate appropriate locations for the three ground-water monitoring wells required by ACHMD and to obtain clearance of underground utilities prior to drilling. Mr. Dias requested that installation of these wells be delayed until the approval by A & J Trucking.

On September 6, 1989, HLA installed three 8-inch-diameter soil borings to depths of 14 to 15 feet below grade. The borings were advanced using truck-mounted, 8-inch, hollow-stem augers and sampled using a 2-1/2-inch inside diameter, Sprague and Henwood (S&H), split-barrel sampler lined with clean, 6-inch-long stainless steel tubes. Drilling was performed under the direction of an HLA field geologist, who logged the borings (Plates 3 and 4) in accordance with the Unified Soil Classification System (Plate 5).

Soil samples were obtained at 5-foot intervals, and at changes in lithology or areas of obviously contaminated soils. Samples were screened in the field with a PID and measurements recorded in the boring logs.

During drilling and sampling, we identified the presence of petroleum hydrocarbons in soil from MW-1 and MW-3, and of paint pigment in soil from MW-1. No petroleum odors were detected nor were petroleum hydrocarbons identified by PID readings in soil samples from MW-2.

Soil samples obtained from these borings were sealed with aluminum foil, plastic end caps, and adhesive tape. One sample from each boring was obtained from approximately one foot above the water table and stored with dry ice in a cooler. Samples were transported under chain-of-custody procedures to a state-certified chemical testing laboratory for analyses. Sampling equipment was washed with a phosphate-free detergent (Alconox) solution and rinsed with deionized water between sampling intervals. Drilling equipment was steam-cleaned before and after each boring. All drill cuttings were added to the on-site stockpiles and covered with Visqueen.

The borings were subsequently converted to 2-inch-diameter ground-water monitoring wells with flush- threaded, 0.020-inch slotted, Schedule 40 PVC casing. The annular space between the casing and the borehole wall was filled with No. 3 Monterey sand to approximately one foot above the top of the screened casing. A 1-foot-thick bentonite seal was placed above the sand pack, and

the remainder of the annulus filled with a cement/bentonite grout to just below the ground surface. The tops of the well casings were placed slightly below the ground surface, capped with locking, water-tight caps to minimize intrusion of surface water, and covered with water-tight traffic boxes, set slightly above the surrounding grade. Well completion details are included as Plates 6, 7, and 8.

Well Development and Sampling

The wells were developed, sampled, and surveyed by our field geologist. Each well was developed by bailing at least 10 well volumes of water with a clean, stainless steel bailer. Temperature, pH, conductivity, and salinity of purged water were monitored until these parameters stabilized. Purged water was placed into Department of Transportation (DOT)-approved drums pending results of analyses and subsequent disposal at a permitted facility.

Ground-water samples were collected from each well with a clean, stainless steel bailer, and decanted into laboratory prepared bottles. These samples were immediately sealed, labeled, and placed into an ice-chilled cooler and transported under chain-of-custody documentation to a state-certified chemical testing laboratory. Samples were analyzed for TPH as gasoline and diesel fuel, BTEX, and total lead. All sampling equipment was washed with an Alconox solution and rinsed with deionized water between wells.

Appropriate quality assurance/quality control (QA/QC) measures are employed during field activities. HLA maintains an internal QA/QC program that includes provisions for avoiding cross-contamination during site investigation and procedures for decontamination, sample handling, preservation, and chain-of-custody documentation.

Well Surveying and Calculation of Ground-water Gradient

On September 12, 1989, the tops of the well casings were surveyed to within 0.01 feet to a common datum with an assumed elevation of 10.00 feet. Water-level measurements were conducted using a chalked, steel tape accurate to 0.01 feet. Well survey and water-level data are presented below:

Table 2. Well-Survey and Water-level Data

Well Number	Date	Top of Casing (feet)	Depth to Ground Water (feet)	Relative Ground-water Elevation (feet)
MW-1	09/12/89	10.00	3.81	6.19
MW-2	09/12/89	10.27	4.08	6.19
MW-3	09/12/89	11.38	6.20	5.18

Using these data, we calculate the ground-water flows northwest with a magnitude of 0.009 feet per foot.

DISCUSSION OF RESULTS

Subsurface Stratigraphy

Shallow stratigraphy at the site generally consists of a sandy, gravelly clay fill approximately 4 feet thick, which overlies a fill that contains a significant quantity of debris including wood and trash, paint pigment, and peat. Interbedded sands and clays occur beneath the debris fill to a depth of 14 feet, the maximum depth explored. Ground-water level is approximately 6 feet below grade.

Analysis of Soil Samples from Excavation

Results of chemical analyses on the eight soil samples from the limits of the excavation indicate the presence of TPH as gasoline and diesel fuel and BTEX. As shown on Table 1, most of the TPH concentrations exceeded 100 ppm. Guidelines of the Regional Water Quality Control Board (RWQCB) limit Class III non-hazardous landfills from accepting material with TPH concentrations exceeding 100 ppm.

The results of chemical analyses on stockpile soil samples SP-1 through SP-4 indicate concentrations of total lead ranging from 400 to 1,200 ppm. Because the Total Threshold Limit Concentration (TTLC)* for lead is 1,000 ppm, the excavated material may be classified as a hazardous waste on the basis of its total lead concentrations. Concentrations of TPH as gasoline

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* TTLC is one of the criteria used by the State of California to classify a waste as hazardous.

and diesel fuel are as high as 9,020 ppm in this deposit (see SP-4). Class II landfills commonly do not accept material with TPH concentrations exceeding 1,000 ppm.

Results of analyses on P-1 indicate that the greenish-white paint pigment sample, contained relatively low concentrations of arsenic (140 ppm) and lead (40 ppm). Except for petroleum fuel constituents, volatile or semi-volatile organic compounds were not detected in P-1.

Analyses of Soil Samples from Well Borings

Results of chemical analyses on soil samples from the borings indicate the presence of TPH as gasoline and diesel fuel, BTEX, and total lead in samples MW-1-1 and MW-3-1. Sample MW-2-1 contained no detectable concentrations of TPH as gasoline or diesel fuel, nor of BTEX. Relatively high concentrations of lead were detected in MW-1-1 and MW-3-1. These results are summarized in Table 3.

Table 3. Summary of Chemical Analyses of Soil Boring Samples
(Concentrations in ppm)

Sample Number	Sampling Date	TPH gasoline	TPH diesel	Benzene	Toluene	Ethyl-benzene	Xylene	Total Lead
MW-1-1 (4.5')*	09/06/89	6.4	387	1.490	.404	.032	.071	480
MW-2-1 (5.0')	09/06/89	ND	ND	ND	ND	ND	ND	5
MW-3-1 (5.0')	09/06/89	420	294	.316	.408	.653	.347	7400
Detection Limit		2.5	.005	.005	.005	.005	.005	1

* = Sample depth in parenthesis
ND = Not detected

Analyses of Ground-water Samples from Monitoring Wells

Results of chemical analyses on ground-water samples from monitoring wells (MW-1 through 3) indicate the presence of TPH as gasoline or diesel fuel and BTEX in samples from MW-1 and 3. MW-2 contained relatively low concentrations of TPH as gasoline and benzene. The ground-water samples did not contain detectable concentrations of total lead. Results of chemical analyses are summarized in Table 4.

Table 4. Summary of Chemical Analyses of Ground-water Samples
(Concentrations in ppm)

Sample Number	Sampling Date	TPH gasoline	TPH diesel	Benzene	Toluene	Ethyl-benzene	Xylene	Total Lead
MW-1	09/11/89	ND	.6	.067	.006	ND	.001	ND
MW-2	09/11/89	1.4	ND	.001	ND	ND	ND	ND
MW-3	09/11/89	18	2.9	9.100	2.400	.500	.730	ND
Detection Limit		0.5	0.5	.001	.001	.001	.001	1

ND = Not detected

Labortory reports are attached as Appendix B.

CONCLUSIONS AND RECOMMENDATIONS

Impact of Petroleum Hydrocarbons

On the basis of our field observations and results of chemical analyses, HLA believes that the former USTs at this site have leaked petroleum products into the adjacent soil and ground water. Not all of the affected soils have been excavated at this

time. The affected soils appear to extend onto adjacent property and westward into Shellmound Drive.

Disposal of Stockpiled Material

Approximately 200 cubic yards of soil were excavated, stockpiled, and covered on site. On the basis of the results of analyses, HLA believes that the stockpiled material will be classified as hazardous waste and that disposal at a Class I landfill will be required if the contaminants remain at the present concentrations.

A & J Trucking Company may choose to evaluate other methods of treatment and remediation for decreasing TPH and total lead concentrations. One alternative would be to aerate volatile constituents from the stockpile, bioremediate the remaining petroleum hydrocarbons and then stabilize the lead-bearing material with a cementing agent such as cement or lime. After such stabilization, the material could be reclassified as non-hazardous and hauled to a Class II facility. However, not all Class II facilities will accept such treated material. Those that will are often slow in granting permission for disposal. The stabilizied and aerated waste could also be relocated on the site, but, such an alternative would require a considerable amount of additional sampling and analysis to demonstrate that the hazardous compounds in the waste would not leach and migrate into the adjacent soil and ground water.

HLA recommends that Scott, as agent for A & J Trucking Company, seek off-site disposal of the stockpiled material at a permitted Class I landfill or incinerator facility. HLA's rationale for disposal is as follows:

- Although the stockpiled soil containing petroleum hydrocarbons could be treated by a combination of aeration and bioremediation, such treatment would not reduce the total and soluble lead concentrations to concentrations acceptable to a Class III landfill.
- The engineering, managerial, operational, and analytical costs of on-site treatment and stabilization would likely exceed hauling and disposal fees at a Class I landfill.

Presence of On-Site Sources

On the basis of results of our observations and the analyses, we believe that there is an additional on-site source of petroleum hydrocarbons and lead. This source appears to be the debris fill observed in the excavation and in soil borings. Six of the seven soil samples tested contained elevated total lead concentrations (above 400 ppm). In addition soil and ground-water samples from MW-1, approximately 110 feet southeast from the former underground tanks, contained petroleum hydrocarbons. These compounds and the lead concentrations apparently do not derive from the USTs in the northwest corner of the site.

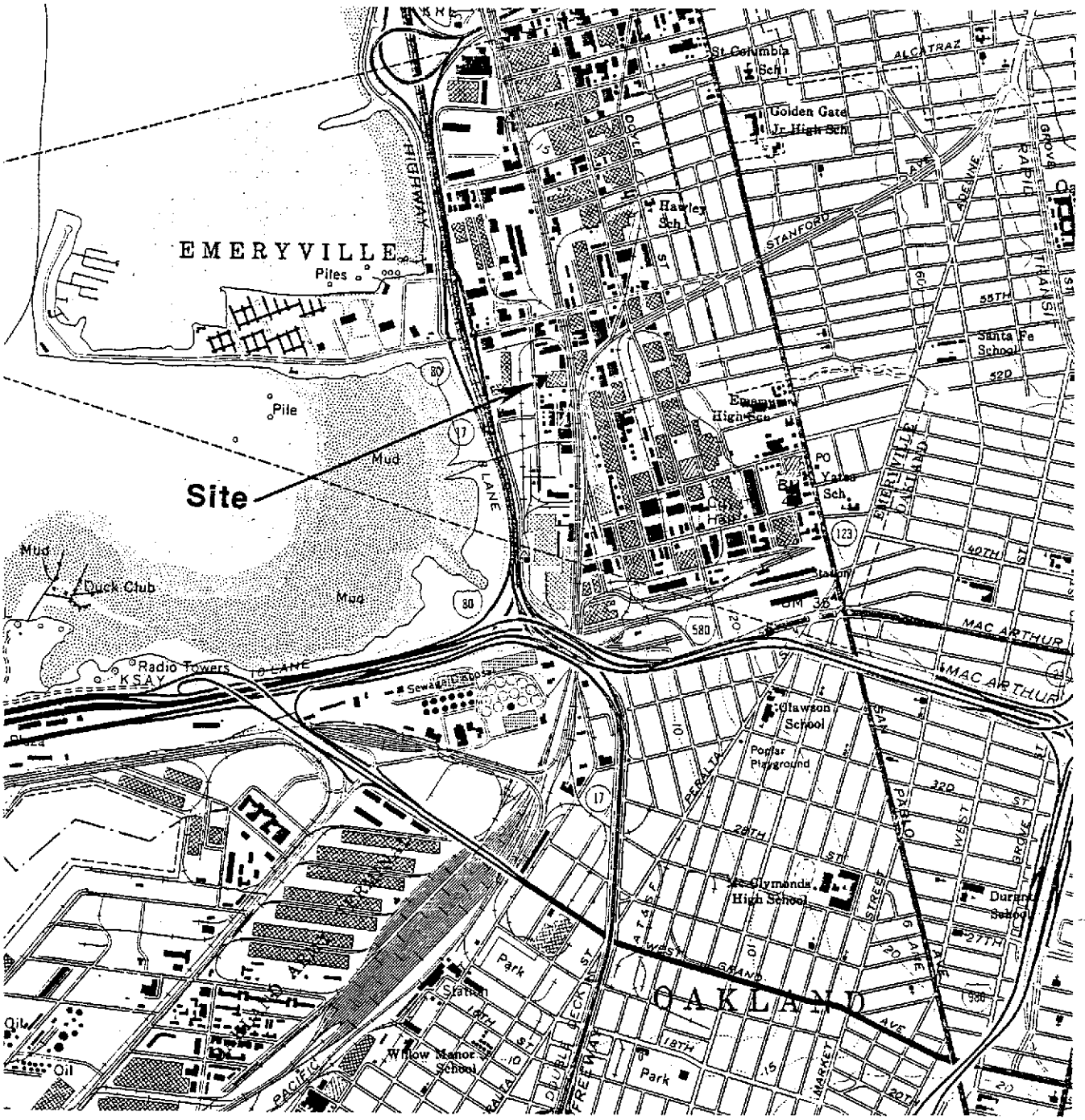
Additional soil borings and monitoring wells would be needed to characterize the debris fill as a possible source of petroleum hydrocarbons and lead. Additionally, HLA recommends that a site assessment (history review) be performed for this location and for the area within a 1/4-mile radius. Such an assessment would

include review of regulatory agency files to identify registered USTs and unauthorized releases of substances in the vicinity. Off-site soil borings and monitoring wells will also be required to properly evaluate the lateral extent of soil and ground-water contamination that may have resulted from leaking petroleum hydrocarbons from the USTs.

At your request we will prepare a proposal to perform a site assessment, including study of the vicinity, and an off-site contamination investigation.

HLA recommends that Scott Company de-water the excavation water and dispose of the water at a permitted treatment facility. Subsequently, the excavation should be backfilled with clean clay, properly compacted to at least 90 percent relative compaction. The low permeability characteristics of compacted clay will minimize the possibility of subsequent contamination of the clean fill by ground-water infiltration.

LIST OF ILLUSTRATIONS

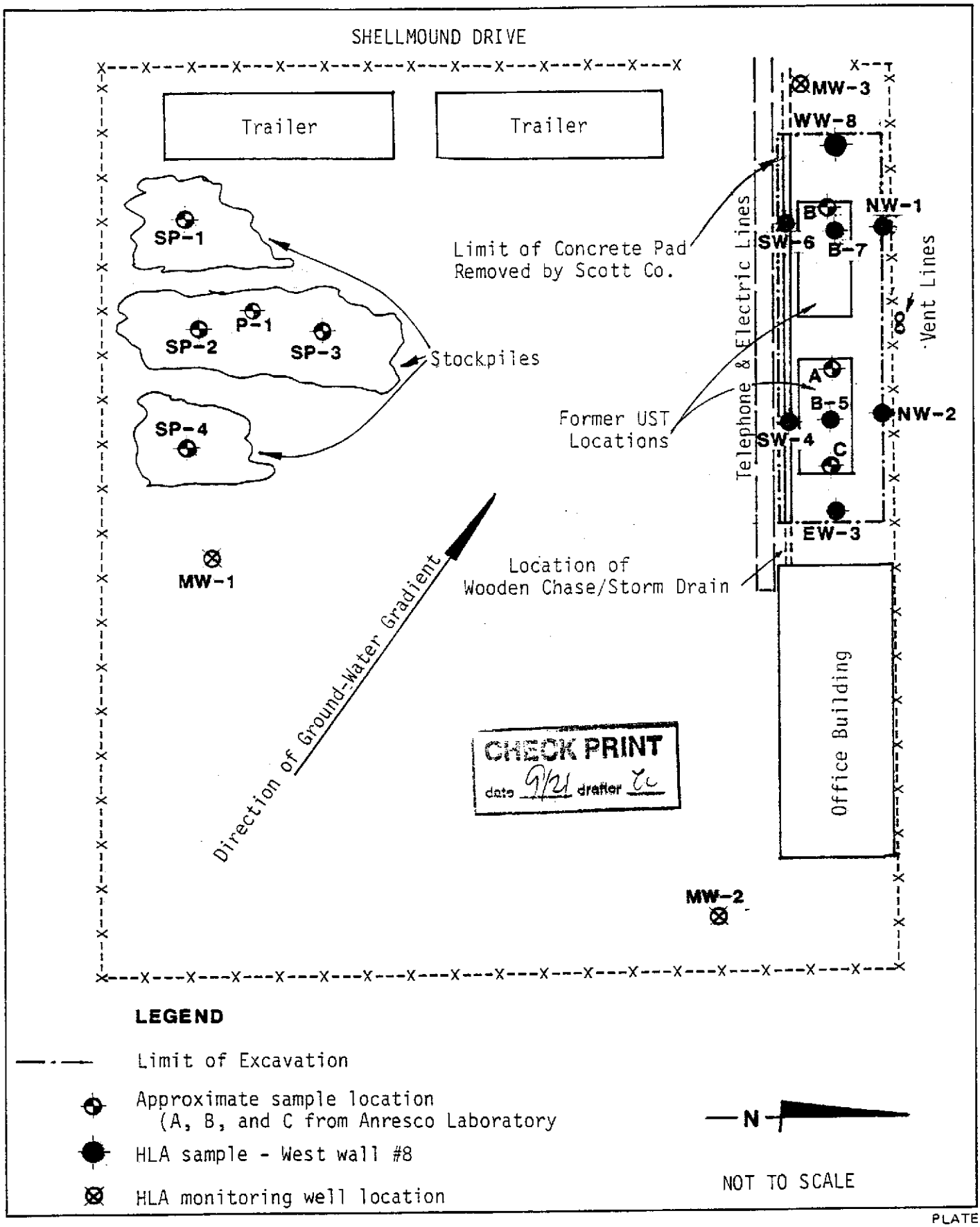


Harding Lawson Associates
Engineering and
Environmental Services

Vicinity Map
A & J Trucking
Emeryville, California

PLATE
1

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
KH	19392,001.03		8/89	



PLATE

Harding Lawson Associates
Engineering and
Environmental Services

Site Plan
A & J Trucking
Emeryville, California

2

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED DATE
YC	19392,001.03		7/89	

LOG OF BORING MW-1

Equipment 8" Hollow Stem Auger

Elevation ~10.5 Date 09/06/89

Blows/foot	Photo Ionization Detector (ppm)	Petroleum Hydrocarbon Odor
6	94	Strong
30	10	Strong
26	1.0	0

Concrete

BROWN SANDY LEAN CLAY WITH GRAVEL (CL)

BLACK FAT CLAY (CH), soft, moist

Greenish-white paint pigment

BROWN PEAT WITH FAT CLAY (PT), soft, moist, (Bay Mud odor)

GRAY POORLY-GRADED SAND WITH SILT (SP), medium stiff, saturated, oily film, some plastic debris

BROWN WELL-GRADED SAND WITH GRAVEL (SW), medium dense, saturated

MOTTLED LIGHT BROWN SANDY LEAN CLAY (CL), stiff, moist

Bottom of boring at 14.0 feet

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LOG OF BORING MW-2

Equipment 8" Hollow Stem Auger

Elevation ~10.5 Date 09/06/89

Blows/foot	Photo Ionization Detector (ppm)	Petroleum Hydrocarbon Odor
10	0	0
18	0	0
37	0	0

Concrete

BLACK POORLY-GRADED SAND WITH GRAVEL (SP), (foundry sand with slag)

MOTTLED SANDY LEAN CLAY WITH GRAVEL (CL), medium stiff, moist

BROWN PEAT WITH GRAVEL (PT), soft, moist

BROWN-GRAY LEAN CLAY (CL), medium stiff, moist

LIGHT BROWN POORLY-GRADED GRAVEL WITH SAND (GP), medium dense, saturated, 1/2-inch diameter

LIGHT BROWN SILTY SAND (SM), medium dense, saturated, some gravel

MOTTLED LIGHT BROWN LEAN CLAY (CL), stiff, moist

Bottom of boring at 14.0 feet

Harding Lawson Associates
Engineers, Geologists & Geophysicists

Logs of Borings MW-1 and MW-2
A & J Trucking
Emeryville, California

PLATE 3

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
YC	19392,001.03		9/89		

LOG OF BORING MW-3

Equipment 8" Hollow Stem Auger

Elevation ~10.5 Date 09/06/89

Blows/foot	Photo Ionization Detector (ppm)	Petroleum Hydrocarbon Odor	Depth (ft)	Sample	
			0		Concrete
					BROWN WELL-GRADED SAND WITH GRAVEL (SW), medium dense, moist
16	1260	Strong	5		BLACK POORLY-GRADED SAND (SP), medium dense, moist, some gravel brick debris
20	128	Strong			BLACK FAT CLAY (CH), medium stiff, moist, contains plywood and tar paper debris, some peat, (oily sheen on sampler)
22	51	Strong	10		BLACK POORLY-GRADED SAND WITH GRAVEL (SP), medium dense; saturated, red brick debris, (oily film on sample)
49	3.9	Moderate			MOTTLED LIGHT BROWN WELL-GRADED GRAVEL WITH SAND (GW), medium dense, saturated
			15		Bottom of boring at 15.0 feet

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Engineers, Geologists
& Geophysicists

Log of Boring MW-3
A & J Trucking
Emeryville, California

PLATE 4

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
YC	19392,001.03		9/89		

6196

MAJOR DIVISIONS					TYPICAL NAMES
COARSE-GRAINED SOILS (MORE THAN HALF IS COARSER 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 WITH OR WITHOUT SAND, LITTLE OR NO FINES
			GP		POORLY GRADED GRAVELS WITH OR WITHOUT SAND, LITTLE OR NO FINES
		GRAVELS WITH OVER 12% FINES	GM		SILTY GRAVELS, SILTY GRAVELS WITH SAND
			GC		CLAYEY GRAVELS, CLAYEY GRAVELS WITH SAND
	SANDS (MORE THAN HALF COARSE FRACTION IS SMALLER THAN NO. 4 SIEVE SIZE)	CLEAN SANDS WITH LITTLE OR NO FINES	SW		WELL GRADED SANDS WITH OR WITHOUT GRAVEL, LITTLE OR NO FINES
			SP		POORLY GRADED SANDS WITH OR WITHOUT GRAVEL, LITTLE OR NO FINES
		SANDS WITH OVER 12% FINES	SM		SILTY SANDS WITH OR WITHOUT GRAVEL
			SC		CLAYEY SANDS WITH OR WITHOUT GRAVEL
FINE-GRAINED SOILS (MORE THAN HALF IS FINER THAN NO. 200 SIEVE)	SILTS AND CLAYS LIQUID LIMIT 50% OR LESS		ML		INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTS WITH SANDS AND GRAVELS
			CL		INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, CLAYS WITH SANDS AND GRAVELS, LEAN CLAYS
			OL		ORGANIC SILTS OR CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS LIQUID LIMIT GREATER THAN 50%		MH		INORGANIC SILTS, MICACEOUS OR DIATOMACIOUS, FINE SANDY OR SILTY SOILS, ELASTIC SILTS
			CH		INORGANIC CLAYS OF HIGH PLASTICITY, FAT CLAYS
			OH		ORGANIC SILTS OR CLAYS OF MEDIUM TO HIGH PLASTICITY
HIGHLY ORGANIC SOILS			Pt		PEAT AND OTHER HIGHLY ORGANIC SOILS

UNIFIED SOIL CLASSIFICATION - ASTM D2487-85

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) or (S)	3200	(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

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KEY TO TEST DATA

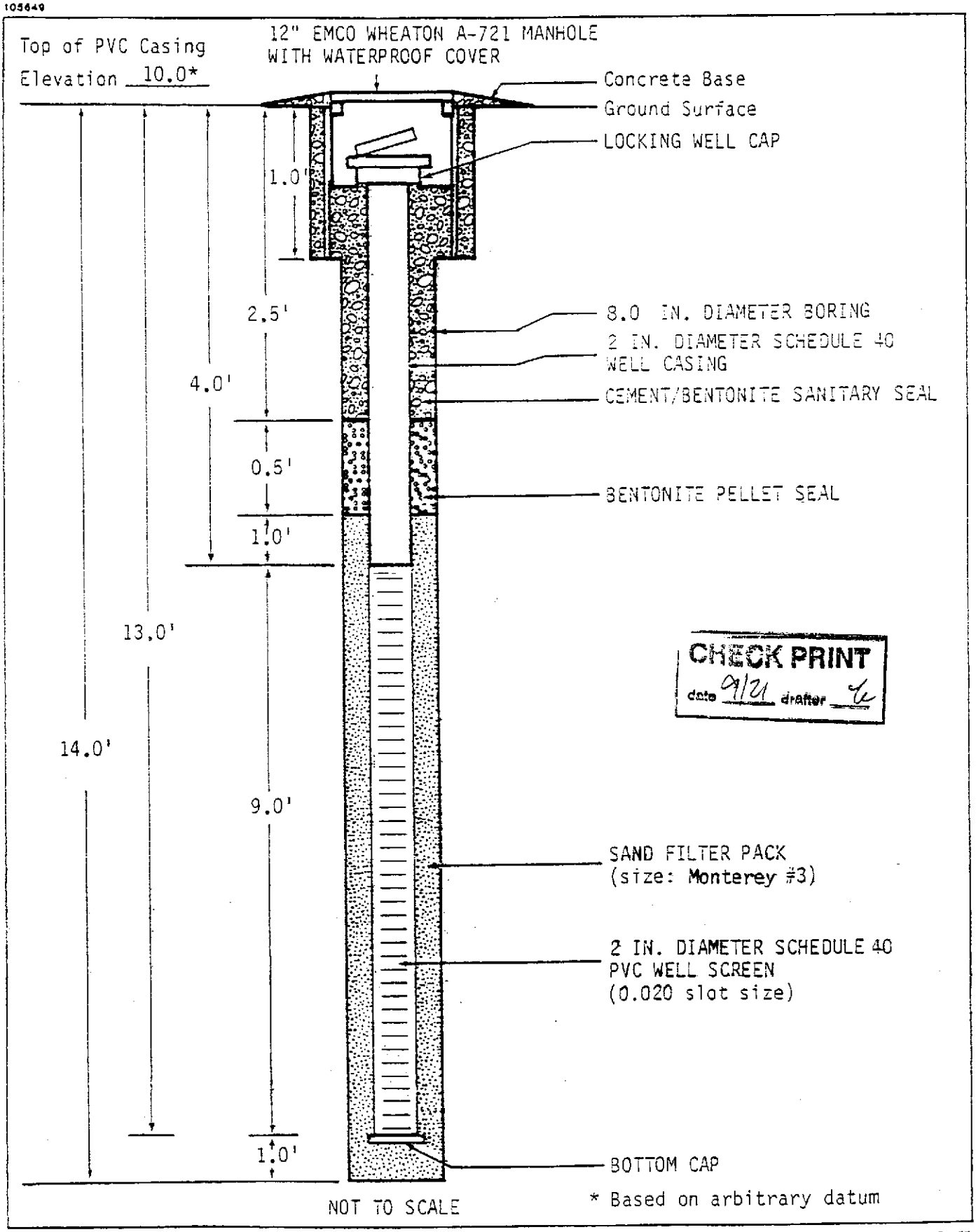
Harding Lawson Associates
Engineers and Geoscientists

Unified Soil Classification and Test Data Key
A & J Trucking
Emeryville, California

PLATE **5**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
YC	19392,001.03		9/89		

105649



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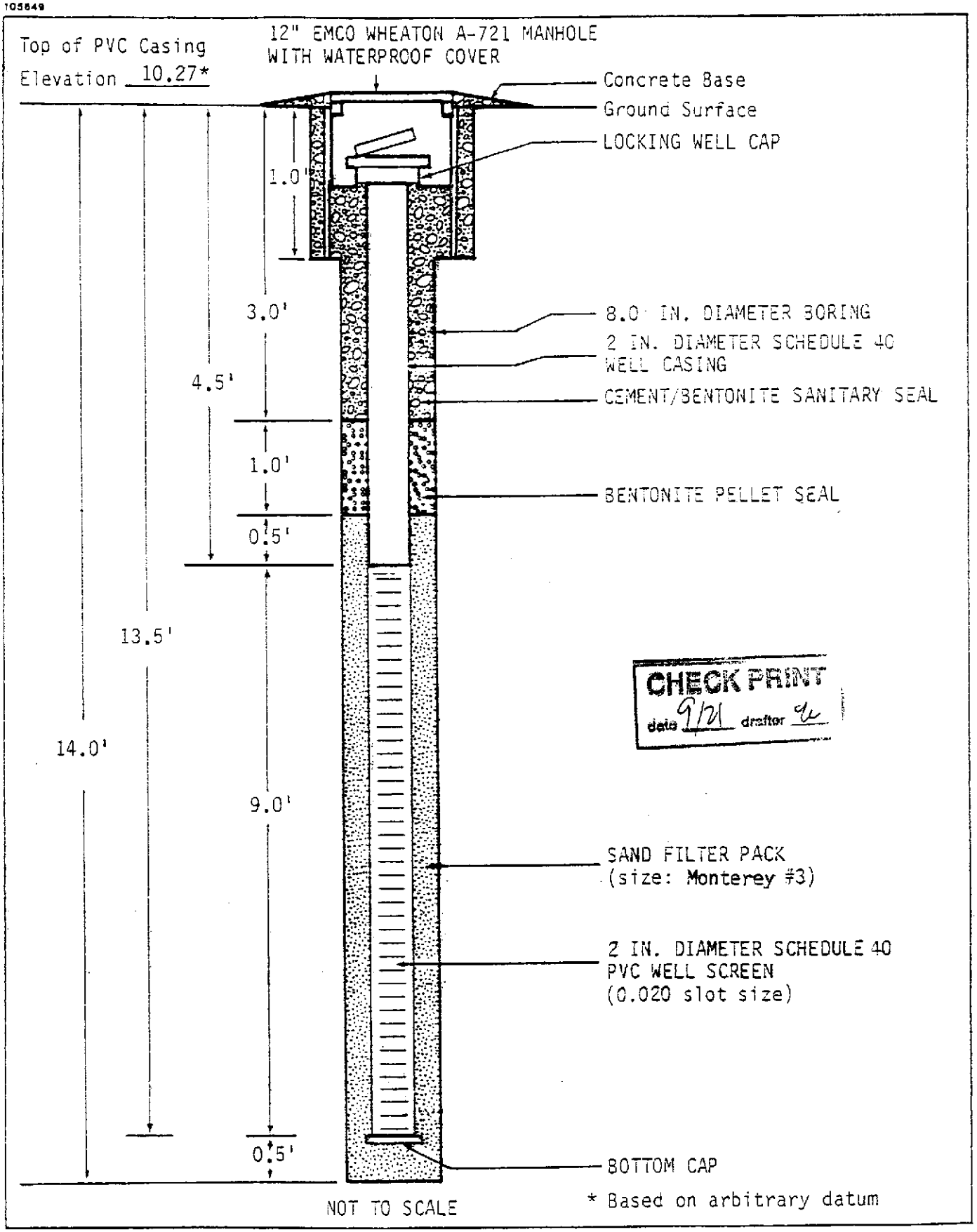
Well Completion Diagram MW-1
A & J Trucking
Emeryville, California

PLATE
6

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
YC	19392,001.03		9/89		

105849



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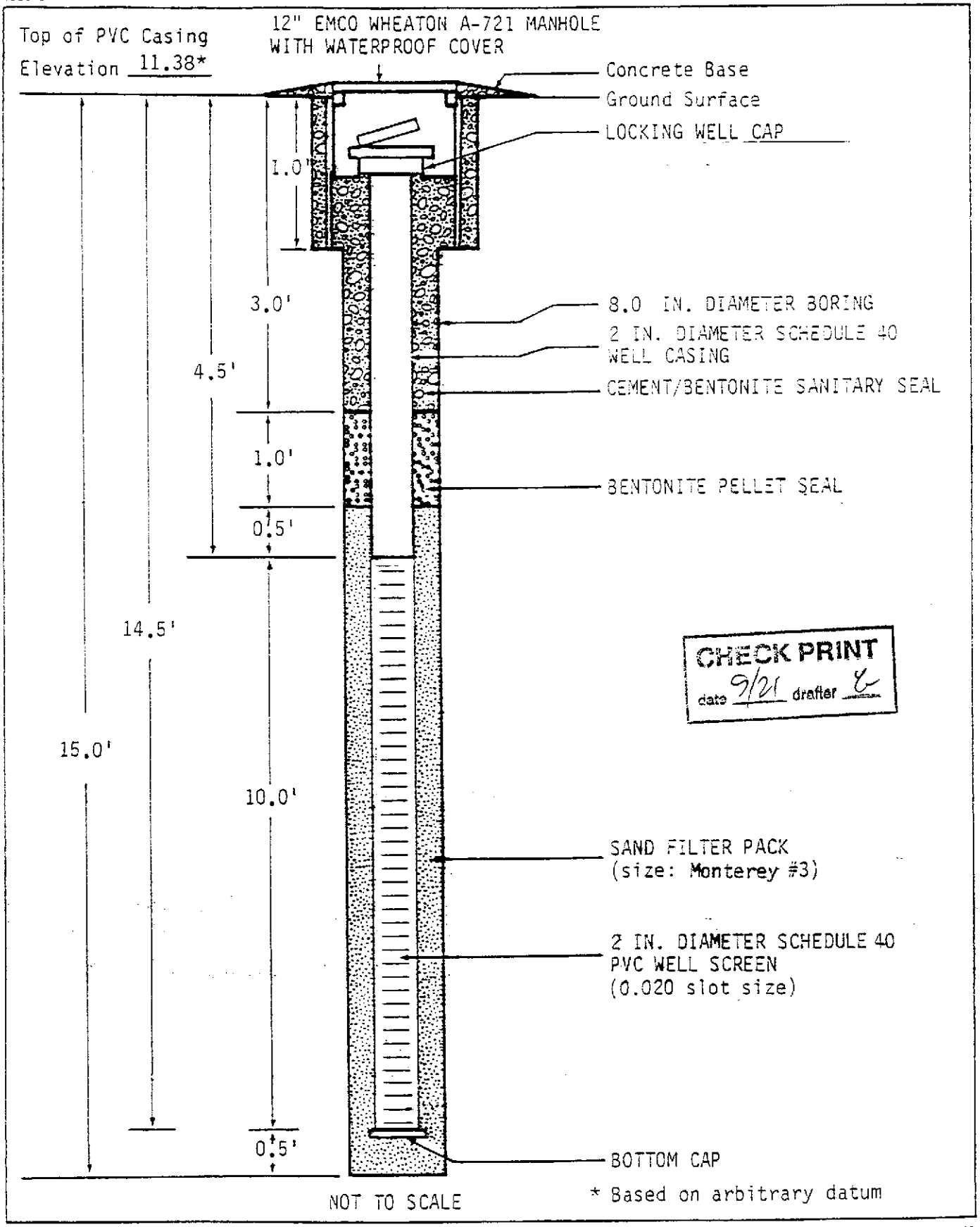
Well Completion Diagram MW-2
A & J Trucking
Emeryville, California

PLATE **7**

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
YC	19392,001.03		9/89		

105649



CHECK PRINT
date 9/21 drafter

Harding Lawson Associates
Engineers and Geoscientists

Well Completion Diagram MW-3
A & J Trucking
Emeryville, California

PLATE
8

DRAWN	JOB NUMBER	APPROVED	DATE	REVISED	DATE
YC	19392,001.03		9/89		

APPENDIX A

ANRESCO
INCORPORATED
ANALYSIS RESEARCH

1370 - VAN DYKE AVENUE
SAN FRANCISCO, CALIFORNIA 94124
(415) 822-1100

18 April 1989

Scott-Broadway
1919 Market Street
Oakland, CA 94607

File No. 489016

Attn: Jay Groh

Ref: Three soil samples received 4/4/89 marked as follows:

B: April 2, 1600 hours, Area located between 2 tanks at trucking 5600 shell mound, Emeryville

B: April 2, 1600 hours, LH side of excavation at trucking 5600 shell mound

C: April 2, 1600 hours, RH side of excavation at trucking 5600 shell mounds.

RESULTS:

I. EPA SW846 8015: TOTAL PETROLEUM HYDROCARBONS

	TPH CONCENTRATION (ppm)		
	A	B	C
TPH as gasoline	7600	82	6800
TPH as diesel (Hydrocarbons in boiling range of C_{16} to C_{22})	1300	1100	ND*
Other TPH (Heavier then C_{22} not quantified)	Oil Present	High Oil Content	--

* ND = None Detected
TPH detection limit = 10 ppm
Gasoline spike recovery = 102.3 %; 2.4 % RPD

II. EPA SW846 8020: BTEX

	BTEX CONCENTRATION (ppb)		
	A	B	C
Benzene	76,000	530	3,700
Toluene	450,000	930	38,000
Ethyl Benzene	200,000	600	23,000
Para Xylene	200,000	360	23,000
Meta Xylene	470,000	320	87,000
Ortho Xylene	250,000	190	290,000
Total Xylenes	920,000	870	400,000

Detection limit = 1 ppb

Reported by:

ANRESCO, INC.

Gretchen Irion/scc

Gretchen Irion
Senior Chemist

Hing-Man Mang
Chemist

GI/HM:rc general lab 489016

APPENDIX B

CHROMALAB, INC.

Analytical Laboratory
Specializing in GC-GC/MS

- Environmental Analysis
- Hazardous Waste
- Drinking Water
- Waste Water
- Research and Method Development
- Consultation

July 18, 1989 ChromaLab File # 0789021

Harding Lawson Associates

Attn: Steve Osborn/ G. S. Young

Re: Eight soil samples for Gasoline/BTEX and Total Extractable Petroleum Hydrocarbons.

Job Number: 19392.001.03
Name/Location: Scott Co/ A&J Trucking

Results:

Sample No.	Gasoline (mg/Kg)	Diesel (mg/Kg)	Benzene (µg/Kg)	Toluene (µg/Kg)	Ethyl Benzene (µg/Kg)	Total Xylenes (µg/Kg)
NW-1	10.1	1456	35.8	17.3	11.7	8.5
NW-2	N.D.	N.D.	8.3	N.D.	N.D.	N.D.
EW-3	N.D.	953	97.5	197	5.3	8.8
SW-4	50.4	140	3070	1280	457	746
B- 5	4.6	N.D.	1870	102	174	166
SW-6	3.3	227	558	173	19.5	24.4
B- 7	9.3	N.D.	2140	330	98	180
WW-8	337	118	2260	850	636	335
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKE RECOVERY	102.8%	87.6%	84.0%	94.2%	95.4%	98.2%
DETECTION LIMIT	2.5	5.0	5.0	5.0	5.0	5.0
METHOD OF ANALYSIS	MOD8015	3550	8020	8020	8020	8020

ChromaLab, Inc.

David Duong
Senior Chemist

Eric Tam
Lab Director

CHROMALAB, INC.

Analytical Laboratory
Specializing in GC-GC/MS

- Environmental Analysis
- Hazardous Waste
- Drinking Water
- Waste Water
- Research and Method Development
- Consultation

July 18, 1989 ChromaLab File # 0789022

Harding Lawson Associates

Attn: Steve Osborn/ G. S. Young

Re: Four soil samples for Gasoline/BTEX and Total Extractable Petroleum Hydrocarbons.

Job Number: 19392.001.03
Name/Location: Scott Co/ A&J Trucking

Results:

Sample No.	Gasoline (mg/Kg)	Diesel (mg/Kg)	Benzene (µg/Kg)	Toluene (µg/Kg)	Ethyl Benzene (µg/Kg)	Total Xylenes (µg/Kg)
SP-1	346	685	1100	445	203	1000
SP-2	719	643	9450	11500	6610	8030
SP-3	856	85.1	4670	8400	5030	10200
SP-4	9020	3150	349000	363500	120400	185700
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKE RECOVERY	102.8%	87.6%	84.0%	94.2%	95.4%	98.2%
DETECTION LIMIT	2.5	5.0	5.0	5.0	5.0	5.0
METHOD OF ANALYSIS	MOD8015	3550	8020	8020	8020	8020

ChromaLab, Inc.

David Duong
Senior Chemist

Eric Tam
Lab Director

Clayton Environmental Consultants, Inc.

P.O. Box 9019 • 1252 Quarry Lane • Pleasanton, CA 94566 • (415) 426-2600

August 24, 1989

Mr. Pierre Monette
CHROMALAB, INC.
2239 Omega Road
San Ramon, CA 94583

Client Ref. No. 0889051
Work Order No. 8908199
Client Code No. 77443

Dear Mr. Monette:

Attached is our analytical laboratory report for the samples received on August 15, 1989. Results were sent to you by facsimile on August 23, 1989. A copy of the Chain of Custody form acknowledging receipt of these samples is attached.

Please note that any unused portion of the samples will be retained at our facility for approximately 30 days after the date of this report, unless you have requested otherwise.

We appreciate the opportunity to be of assistance to you. If you have any questions, please call Maryann Gambino, Client Services Representative, at (415) 426-2657.

Sincerely,

Ronald H. Peters, CIH
Manager, Laboratory Services

RHP/tb
Attachment

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
(TTLC)
METALS

Sample I.D.:	0889051-E	Client:	CHROMALAB
Sample Received:	08/15/89	Client Ref. No.:	0889051
Sample Analyzed:	See below	Lab Client Code:	77443
Sample Matrix:	Soil	Lab No.:	8908199-05

Date Analyzed	Method No.	Analyte	Sample Concentration (mg/kg)	STLC* (mg/L)	TTLC** (mg/kg)	Limit of Detection (mg/kg)
08/23/89	6010	Antimony	<10	15	500	10
08/23/89	6010	Arsenic	140	5.0	500	10
08/23/89	6010	Barium	<10	100	10,000	10
08/23/89	6010	Beryllium	<1	0.75	75	1
08/23/89	6010	Cadmium	<1	1.0	100	1
08/23/89	6010	Chromium	<10	560	2,500	10
08/23/89	6010	Cobalt	<10	80	8,000	10
08/23/89	6010	Copper	<10	25	2,500	10
08/23/89	6010	Lead	40	5.0	1,000	10
08/22/89	7471	Mercury	<0.1	0.2	20	0.1
08/23/89	6010	Molybdenum	<10	350	3,500	10
08/23/89	6010	Nickel	<10	20	2,000	10
08/23/89	6010	Selenium	<30	1.0	100	30
08/23/89	6010	Silver	<5	5	500	5
08/23/89	6010	Thallium	<10	7.0	700	10
08/23/89	6010	Vanadium	<10	24	2,400	10
08/23/89	6010	Zinc	<10	250	5,000	10

* STLC = Soluble Threshold Limit Concentration, 22CAC66693 (CA Title 22).
**TTLC = Total Threshold Limit Concentration, 22CAC66693 (CA Title 22), reported on wet weight basis.
< = less than, below limit of detection

Note: Detection limit raised due to matrix interference

TOTAL THRESHOLD LIMIT CONCENTRATION ANALYSIS
(TTLC)
METALS

Sample I.D.:	Method Blank	Client:	CHROMALAB
Sample Received:		Client Ref. No.:	0889051
Sample Analyzed:	See below	Lab Client Code:	77443
Sample Matrix:	Soil	Lab No.:	8908199-MB

Date Analyzed	Method No.	Analyte	Sample Concentration (mg/kg)	STLC* (mg/L)	TTLC** (mg/kg)	Limit of Detection (mg/kg)
08/23/89	6010	Antimony	<1	15	500	1
08/23/89	6010	Arsenic	<1	5.0	500	1
08/23/89	6010	Barium	<1	100	10,000	1
08/23/89	6010	Beryllium	<0.1	0.75	75	0.1
08/23/89	6010	Cadmium	<0.1	1.0	100	0.1
08/23/89	6010	Chromium	<1	560	2,500	1
08/23/89	6010	Cobalt	<1	80	8,000	1
08/23/89	6010	Copper	<1	25	2,500	1
08/23/89	6010	Lead	<1	5.0	1,000	1
08/22/89	7471	Mercury	<0.1	0.2	20	0.1
08/23/89	6010	Molybdenum	<1	350	3,500	1
08/23/89	6010	Nickel	<1	20	2,000	1
08/23/89	6010	Selenium	<1	1.0	100	1
08/23/89	6010	Silver	<0.5	5	500	0.5
08/23/89	6010	Thallium	<1	7.0	700	1
08/23/89	6010	Vanadium	<1	24	2,400	1
08/23/89	6010	Zinc	<1	250	5,000	1

* STLC = Soluble Threshold Limit Concentration, 22CAC66693 (CA Title 22).
**TTLC = Total Threshold Limit Concentration, 22CAC66693 (CA Title 22), reported on wet weight basis.
< = less than, below limit of detection

INORGANIC LABORATORY ANALYSES

Sample I.D.:	See below	Client:	CHROMALAB
Sample Received:	08/15/89	Client Ref. No.:	0889051
Sample Analyzed:	08/23/89	Lab Client Code:	77443
Sample Matrix:	Soil	Lab No.:	8908199

Batch Sub. No.	Sample Identification	Lead (mg/kg)
-01	0889051-A	740
-02	0889051-B	1200
-03	0889051-C	870
-04	0889051-D	400
-MB	Method Blank	<1

Limit of detection: 1

Method Reference: EPA 6010

< = less than, below limit of detection

CHROMALAB, INC.

Analytical Laboratory
Specializing in G. C.

8908199

- Environmental Analysis
- Hazardous Waste
- Drinking Water
- Research and Method Development
- Consultation
- Training

CHAIN OF CUSTODY RECORD

Project #	Project Name	Samplers: (signature)
	0889051	

Date	Sample I.D.	No of Containers	Analysis: Total Lead	CAM Metals	REMARKS
8/15/89	0889051 - A	1	X		RUSH
8/15/89	0889051 - B	1	X		
8/15/89	0889051 - C	1	X		5 DAYS T-A-T
8/15/89	0889051 - D	1	X		
8/15/89	0889051 - E	1	~~X~~	X	

Relinquished by: (signature)	Date/Time	Received by: (signature)
	8/15/89 1630	
Reliquished by: (signature)	Date/Time	Received by: (signature)
Reliquished by: (signature)	Date/Time	Recieved For Laboratory by:
	8/15 17:15	

Remarks: Delete Total Pb from 0889051-E as per Eric Tam 8/16/89. MP

PLEASE RETURN SAMPLE TUBES

BILLING:

2239 Omega Road • San Ramon, California 94583 • 415/831-1788
• Facsimile 415-831-87-98

CHROMALAB, INC.

Analytical Laboratory
Specializing in GC-GC/MS

- Environmental Analysis
- Hazardous Waste (#238)
- Drinking Water (#955)
- Waste Water
- Consultation

August 22, 1989 — ChromaLab File # 0889051 E

Client: Harding Lawson Asso. — Attn: Glenn Young
Date Submitted: 8/15/89
Date of Analysis: 8/22/89

Job No.: 19392.001.03 — Name: Scott Co / A & J
Sample I.D.: P-1 (soil)
Method of Analysis: EPA 8240 — Detection Limit: 10 µg/Kg

COMPOUND NAME	µg/Kg	Spike Recovery
CHLOROMETHANE	N.D	---
VINYL CHLORIDE	N.D.	---
BROMOMETHANE	N.D.	---
CHLOROETHANE	N.D.	---
TRICHLOROFLUOROMETHANE	N.D.	---
1,1-DICHLOROETHENE	N.D.	---
METHYLENE CHLORIDE	N.D.	---
1,2-DICHLOROETHENE (TOTAL)	N.D.	---
1,1-DICHLOROETHANE	N.D.	---
CHLOROFORM	N.D.	---
1,1,1-TRICHLOROETHANE	N.D.	---
CARBON TETRACHLORIDE	N.D.	99.0%
BENZENE	N.D.	---
1,2-DICHLOROETHANE	N.D.	---
TRICHLOROETHENE	N.D.	81.5%
1,2-DICHLOROPROPANE	N.D.	---
BROMODICHLOROMETHANE	N.D.	---
2-CHLOROETHYLVINYLETHER	N.D.	---
TRANS-1,3-DICHLOROPROPENE	N.D.	---
TOLUENE	28.4	---
CIS-1,3-DICHLOROPROPENE	N.D.	---
1,1,2-TRICHLOROETHANE	N.D.	---
TETRACHLOROETHENE	N.D.	---
DIBROMOCHLOROMETHANE	N.D.	---
CHLOROBENZENE	N.D.	---
ETHYL BENZENE	34.5	95.3%
BROMOFORM	N.D.	---
1,1,2,2-TETRACHLOROETHANE	N.D.	---
1,3-DICHLOROBENZENE	N.D.	---
1,4-DICHLOROBENZENE	N.D.	---
1,2-DICHLOROBENZENE	N.D.	---
TOTAL XYLENES	45.6	95.9%

ChromaLab, Inc.

David Duong
Senior Chemist

Eric Tam
Lab Director

2239 Omega Road, #1 • San Ramon, California 94583
415/831-1788 • Facsimile 415/831-8798

CHROMALAB, INC.

Analytical Laboratory
Specializing in GC-GC/MS

- Environmental Analysis
- Hazardous Waste (#238)
- Drinking Water (#955)
- Waste Water
- Consultation

August 22, 1989

ChromaLab File # 0889051 E

Client: Harding Lawson Asso. Attn: Glenn Young
Date Submitted: 8/15/89
Date of Analysis: 8/22/89

Job No.: 19392.001.03 Name: Scott Co / A & J
Sample I.D.: P-1
Method of Analysis: EPA 8270 Matrix: soil

COMPOUND NAME	Sample mg/Kg	MDL mg/Kg	Spike Recovery
PHENOL	N.D.	0.5	-----
BIS(2-CHLOROETHYL) ETHER	N.D.	0.5	-----
2-CHLOROPHENOL	N.D.	0.5	-----
1,3-DICHLOROBENZENE	N.D.	0.5	98.1%
1,4-DICHLOROBENZENE	N.D.	0.5	-----
BENZYL ALCOHOL	N.D.	1.0	-----
1,2-DICHLOROBENZENE	N.D.	0.5	-----
2-METHYLPHENOL	N.D.	0.5	-----
BIS(2-CHLOROISOPROPYL)ETHER	N.D.	0.5	-----
4-METHYLPHENOL	N.D.	0.5	-----
N-NITROSO-DI-N-PROPYLAMINE	N.D.	0.5	-----
HEXACHLOROETHANE	N.D.	0.5	-----
NITROBENZENE	N.D.	0.5	-----
ISOPHORONE	N.D.	0.5	-----
2-NITROPHENOL	N.D.	0.5	-----
2,4-DIMETHYLPHENOL	N.D.	0.5	-----
BENZOIC ACID	N.D.	2.5	-----
BIS(2-CHLOROETHOXY)METHANE	N.D.	0.5	-----
2,4-DICHLOROPHENOL	N.D.	0.5	95.9%
1,2,4-TRICHLOROBENZENE	N.D.	0.5	-----
NAPHTHALENE	N.D.	0.5	-----
4-CHLOROANILINE	N.D.	1.0	-----
HEXACHLOROBUTADIENE	N.D.	0.5	-----
4-CHLORO-3-METHYLPHENOL	N.D.	1.0	-----
2-METHYLNAPHTHALENE	N.D.	0.5	-----
HEXACHLOROCYCLOPENTADIENE	N.D.	0.5	-----
2,4,6-TRICHLOROPHENOL	N.D.	0.5	111.2%
2,4,5-TRICHLOROPHENOL	N.D.	0.5	-----
2-CHLORONAPHTHALENE	N.D.	0.5	-----
2-NITROANILINE	N.D.	2.5	-----
DIMETHYL PHTHALATE	N.D.	0.5	-----
ACENAPHTHYLENE	N.D.	0.5	-----
3-NITROANILINE	N.D.	2.5	-----
ACENAPHTHENE	N.D.	0.5	-----
2,4-DINITROPHENOL	N.D.	2.5	-----
4-NITROPHENOL	N.D.	2.5	-----
DIBENZOFURAN	N.D.	0.5	-----

(continued on next page)

CHROMALAB, INC.

Analytical Laboratory
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- Environmental Analysis
- Hazardous Waste (#238)
- Drinking Water (#955)
- Waste Water
- Consultation

Harding Lawson Associates

ChromaLab File # 0889051 E

Job No.: 19392.001.03 Name: Scott Co / A & J

Sample I.D.: P-1

Method of Analysis: EPA 8270 Matrix: soil

COMPOUND NAME	Sample mg/Kg	MDL mg/Kg	Spike Recovery
2,4-DINITROTOLUENE	N.D.	0.5	-----
2,6-DINITROTOLUENE	N.D.	0.5	-----
DIETHYL PHTHALATE	N.D.	0.5	88.0%
4-CHLORO-PHENYL PHENYL ETHER	N.D.	0.5	-----
FLUORENE	N.D.	0.5	-----
4-NITROANILINE	N.D.	2.5	-----
4,6-DINITRO-2-METHYL PHENOL	N.D.	2.5	-----
N-NITROSODIPHENYLAMINE	N.D.	0.5	-----
4-BROMOPHENYL PHENYL ETHER	N.D.	0.5	-----
HEXACHLOROBENZENE	N.D.	0.5	-----
PENTACHLOROPHENOL	N.D.	2.5	-----
PHENANTHRENE	N.D.	0.5	-----
ANTHRACENE	N.D.	0.5	-----
DI-N-BUTYL PHTHALATE	N.D.	0.5	89.0%
FLUORANTHENE	N.D.	0.5	-----
PYRENE	N.D.	0.5	-----
BUTYLBENZYLPHTHALATE	N.D.	0.5	-----
3,3'-DICHLOROBENZIDINE	N.D.	1.0	-----
BENZO(A)ANTHRACENE	N.D.	0.5	-----
BIS(2-ETHYLHEXYL)PHTHALATE	N.D.	0.5	-----
CHRYSENE	N.D.	0.5	-----
DI-N-OCTYLPHTHALATE	N.D.	0.5	-----
BENZO(B)FLUORANTHENE	N.D.	0.5	-----
BENZO(K)FLUORANTHENE	N.D.	0.5	-----
BENZO(A)PYRENE	N.D.	0.5	114.3%
INDENO(1,2,3 C,D)PYRENE	N.D.	0.5	-----
DIBENZO(A,H)ANTHRACENE	N.D.	0.5	-----
BENZO(G,H,I)PERYLENE	N.D.	0.5	-----

ChromaLab, Inc.

David Duong
Senior Chemist

Eric Tam
Lab Director

CHROMALAB, INC.

Analytical Laboratory
Specializing in GC-GC/MS

- Environmental Analysis
- Hazardous Waste (#238)
- Drinking Water (#955)
- Waste Water
- Consultation

September 12, 1989 ChromaLab File # 0989016

Harding Lawson Associates

Attn: Glenn Young

Re: Three soil samples for Gasoline/BTEX and Diesel analysis

Job No.: 19392.001.03
Job Location: A & J / Scott Co.
Duration of Analysis: Sept. 9-12, 1989

Results:

Sample No.	Gasoline (mg/Kg)	Diesel (mg/Kg)	Benzene (µg/Kg)	Toluene (µg/Kg)	Ethyl Benzene (µg/Kg)	Total Xylenes (µg/Kg)
MW-1-1	6.4	387	1490	404	32	71
MW-2-1	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
MW-3-1	420	294	316	408	653	347
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKE RECOVERY	97.4%	80.6%	104.6%	88.7%	102.5%	92.4%
DETECTION LIMIT	2.5	5.0	5.0	5.0	5.0	5.0
METHOD OF ANALYSIS	MOD8015	3550	8020	8020	8020	8020

ChromaLab, Inc.

David Duong
Senior Chemist

Eric Tam
Lab Director

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CHROMALAB, INC.

Analytical Laboratory
Specializing in GC-GC/MS

- Environmental Analysis
- Hazardous Waste (#238)
- Drinking Water (#955)
- Waste Water
- Consultation

September 18, 1989 ChromaLab File # 0989022

Harding Lawson Associates

Attn: Glenn Young

Re: Three water samples for Gasoline/BTEX and Diesel analyses

Job No.: 19392.001.03
Job Location: A & J / Scott
Duration of Analysis: Sept. 15-18, 1989

Results:

Sample No.	Diesel (mg/L)	Gasoline (mg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethyl Benzene (µg/L)	Total Xylenes (µg/L)
MW-1	0.6	N.D.	67	6.0	N.D.	1.5
MW-2	N.D.	1.4	1.3	N.D.	N.D.	N.D.
MW-3	2.9	18	9100	2400	500	730
BLANK	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
SPIKE RECOVERY	80.6%	95.3%	106.8%	112.8%	100.1%	109.9%
DETECTION LIMIT	0.5	0.5	1.0	1.0	1.0	1.0
METHOD OF ANALYSIS	3510	MOD8015	602	602	602	602

ChromaLab, Inc.

David Duong
Senior Chemist

Eric Tam
Lab Director

2239 Omega Road, #1 • San Ramon, California 94583
415/831-1788 • Facsimile 415/831-8798

GY

HARDING ASSOC.

OCT 05 1989

MED-TOX ASSOCIATES, INC.

ENVIRONMENTAL & OCCUPATIONAL HEALTH SERVICES

3440 Vincent Road Pleasant Hill, CA 94523 • (415) 930-9090 • FAX# (415) 930-0256

LABORATORY ANALYSIS REPORT

HARDING LAWSON ASSOCIATES
1355 WILLOW WAY, SUITE 109
CONCORD, CA 94520

ATTN: GLEN YOUNG

CLIENT JOB NO: 19392,001.03

REPORT DATE: 10/03/89

DATE SAMPLED: 09/11/89

DATE RECEIVED: 09/11/89

MED-TOX JOB NO: 8909049

ANALYSIS OF: THREE WATER SAMPLES FOR LEAD

Sample Identification Client Id.	Lab No.	Lead (mg/L)
MW-1	01A	ND
MW-2	02A	ND
MW-3	03A	ND
Detection Limit		0.01
Method		7420

Samples were filtered through a 0.45 um filter and preserved with HNO_3 on 09/11/89

ND = Not detected at or below indicated method detection limit

Jack Sheets, Manager
Inorganic Laboratory

Results FAXed to Glen Young 09/25/89

Harding Lawson Associates
1355 Willow Way, Suite 109
Concord, California 94520
415/687-9660
Telecopy: 415/687-9673

CHAIN OF CUSTODY FORM

8908044

Lab: MBDTOX

Samplers: G.S. Young

Job Number: 19392,001,03

Name/Location: A & J / SCOTT

Project Manager: G.S. Young

Recorder: (Signature Required)

CODE	MATRIX: Water	Sediment	Soil	Oil	#CONTAINERS & PRESERV.: Unpres.	H_2SO_4	HNO_3	Ice	SAMPLE NUMBER OR LAB NUMBER: Yr	Wk	Seq	DATE: Yr	Mo	Dy	Time	STATION DESCRIPTION/ NOTES
13	X							X	M	W	-1	89	09	11	1400	X
14	X							X	M	W	-2	89	09	11	1400	UNFILTERED
15	X							X	M	W	-3	89	09	11	1400	TO BE FILTERED AT LAB.

ANALYSIS REQUESTED

EPA 601/8010	EPA 602/8020	EPA 624/8240	EPA 625/8270	Priority Pllmt. Metals	Benzene/Toluene/Xylene	Total Petrol. Hydrocarb.	TOTAL LEAD
							X
							X
							X

LAB NUMBER: Yr	Wk	Seq	DEPTH IN FEET	COL MTD CD	QA CODE	MISCELLANEOUS

Normal TAT

CHAIN OF CUSTODY RECORD

RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
RELINQUISHED BY: (Signature)	RECEIVED BY: (Signature)	DATE/TIME
DISPATCHED BY: (Signature) DATE/TIME	RECEIVED FOR LAB BY: (Signature) Denise Harrington	DATE/TIME 9/11 14:40

METHOD OF SHIPMENT

Laboratory Copy White — Project Office Copy Yellow — Field or Office Copy Pink

6533

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Attention: Ms. Christine K. Noma

GSY/SJO/ly 031166P/R28

QUALITY CONTROL REVIEWER

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David R. Kleesattel
Project Geologist