File No. 8-90-418-SI

INSTALLATION OF TWO ADDITIONAL MONITORING WELLS FOR SOUTHSHORE CAR WASH PROPERTY LOCATED AT 2351 SHORELINE DRIVE ALAMEDA, CALIFORNIA

MARCH 15, 1993

PREPARED FOR:
KAMUR INDUSTRIES, INC.
2351 SHORELINE DRIVE
ALAMEDA, CALIFORNIA 94501

BY:
SOIL TECH ENGINEERING, INC.
298 BROKAW ROAD
SANTA CLARA, CALIFORNIA 95050

SOIL TECH ENGINEERING, INC.

File No. 8-90-418-SI

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SOIL TECH ENGINEERING
Soil, Foundation and Geological Engineers
298 BROKAW ROAD, SANTA CLARA, CA 95050 ■ (408) 496-0265 OR (408) 496-0266

March 15, 1993

File No. 8-90-418-SI

Kamur Industries, Inc.
2351 Shoreline Drive
Alameda, California 94501

ATTENTION: MR. MURRAY STEVENS

SUBJECT: INSTALLATION OF TWO ADDITIONAL MONITORING WELLS FOR SOUTHSHORE CAR WASH PROPERTY Located at 2351 Shoreline Drive, in Alameda, California

Dear Mr. Stevens:

This report summarizes the additional work conducted by Soil Tech Engineering, Inc. (STE), at 2351 Shoreline Drive in the City of Alameda, California (Figure 1). Additional monitoring wells were installed at the subject site as required by the Alameda County Health Care Services Agency--Hazardous Material Division.

PURPOSE:

Alameda County Health Care Services Agency requested installation of the two additional monitoring wells, in order to define the extent of contaminants in the vicinity of former underground storage tanks.

SCOPE OF WORK:

- Install two additional monitoring wells at the property.
- Soil sampling.
- Well development.
- Water sampling of the newly installed wells and the existing on-site wells STMW-1 and STMW-3.
- Analyze soil and the water samples.
- Review the analytical results and prepare a technical report.

FIELD ACTIVITIES:

Prior to installation of the two additional monitoring wells, STE obtained the necessary permits from the Alameda County Flood Control District Zone 7. A copy of the permit is attached (Appendix "F").

On February 2, 1993, two additional wells STMW-5 and STMW-6 were installed. The locations are shown in Figure 2. All drilling, soil sampling, well installation and development were conducted in accordance with the existing local and state regulations and STE's Standard Operation Procedures (SOP) (Appendix "C").

The soil encountered during the drilling consist of mainly silty sandy materials with some gravel. The shallow groundwater encountered during drilling was approximately eight to nine feet below grade. The borings were terminated at approximately fifteen feet below grade. The logs of the boring and the wells construction details are attached in Appendix "D".

One soil sample was taken from each well boring at approximately 5 feet below grade. The soil samples were logged and visually classified according to American Society of Testing Materials. Soil samples were retained in the brass tubes covered both ends with aluminum foil, capped with plastic lids, sealed with adhesive tape, labeled and placed on dry ice, until delivered to Priority Environmental Labs in Milpitas, California. Proper chain-of-custody procedures were used for the soil sampling. All soil cuttings were placed in plastic pending chemical analytical results. The new wells were developed by a clean Teflon bailer on February 7, 1993.

On February 8, 1993, STE's staff conducted the water sampling of the newly installed wells STMW-5 and STMW-6 and existing wells STMW-1 and STMW-3.

ANALYTICAL RESULTS:

SOIL:

The two soil samples were analyzed for Total Petroleum Hydrocarbons as gasoline (TPHg), Benzene, Toluene, Ethylbenzene, Total

Xylenes (BTEX), and Volatile Organic Compounds (VOC's) per EPA Metals 5030, 8015, 8020 and 8010.

WATER:

The four water samples were analyzed for TPHg, BTEX, and VOC's per EPA Method 5030/602 and 601. In addition, STMW-3 was analyzed for TPHd and Total Oil and Grease (TOG).

The analytical results are summarized in Table 3. No TPHg, BTEX or VOC's were detected in the two soil samples. The two existing on-site wells continued to show elevated concentrations of TPHg, low to moderate levels of BTEX and a very low level of Trichloroethene. No TPHg, BTEX or VOC's were detected in newly installed well STMW-5. Well STMW-6 did detect elevated levels of TPH as gasoline, low levels of BTEX and one Volatile Organic Compound Trichloroethene at 0.011 milligrams per liter (mg/L).

A copy of the laboratory analyses and the appropriate chain-of-custody are attached in Appendix "E".

SUMMARY:

- Soil encountered on the newly installed wells consist of mainly silty sand materials. The groundwater beneath the site during sampling ranged from 5.1 feet to 7.17 feet below the grade.

- Petroleum odors and light petroleum sheen were detected in wells STMW-1 and STMW-3 only.
- Dissolved petroleum hydrocarbons and one VOC's were detected in the newly installed well STE-6. The existing well STMW-1 and STMW-3 continued to detect low to moderate levels of TPHg, BTEX, and one Volatile Organic Compounds.

RECOMMENDATION:

This report should be sent to the Alameda County Health Care Services Agency--Hazardous Material Division. The quarterly monitoring and sampling of all on-site wells should be continued as requested by the County.

LIMITATIONS AND UNIFORMITY OF CONDITIONS:

The monitoring well installation services or soil and water sampling for pollution on this project was a direct request by Soil Tech Engineering, Inc.'s client. These installations were performed to meet the existing requirements for near-surface groundwater monitoring.

This service does not make Soil Tech Engineering, Inc., liable for future maintenance, repairs, damages, injury to a third party or any other elements causing future problems.

The locations of these monitoring wells are approximate and should not be used for any reference point, surveying, or any other uses except studying groundwater.

Any recommendations that were made in this report are based upon the assumption that the soil conditions do not deviate from those disclosed in the borings.

This report is issued with the understanding that it is the responsibility of the owner or his representative to ensure that the information and recommendations contained herein are called to the attention of the Local Environmental Agency.

The findings of this report are based on the results of an independent laboratory and are valid as of the present date. However, changes in the conditions of a property can occur with the passage of time, whether they are due to natural processes or the works of man, on this property or adjacent properties.

If you have any questions or require additional information, please feel free to contact our office at your convenience.

Sincerely,

SOIL TECH ENGINEERING, INC.

N. Ameli

NOORODDIN AMELI
PROJECT ENGINEER

LAWRENCE KOO, P. E.
C. E. #34928

PROFESSIONAL ENGINEER
STATE OF CALIFORNIA
Exp 7/30/95

FRANK HAMEDI-FARD
GENERAL MANAGER

File No. 8-90-418-SI

A P P E N D I X "A"

SOIL TECH ENGINEERING, INC.

File No. 8-90-418-SI

TABLE 1
WATER ELEVATION AND MONITORING WELLS
OBSERVATION DATA

Date	Well No./ Elevation	Depth-to-Water	Groundwater Elevation	FFP Thickness	Odor
2/08/93	STMW-1 (8.10)	6.23	1.87	Rainbow Sheen	Strong Petroleum
	STMW-2 (7.01)	4.90	2.11	None	None
	STMW-3 (8.33)	5.96	2.37	Brown Non-Measurable	Strong Petroleum
	STMW-4 (7.45)	4.93	2.52	None	None
	STMW-5	8.67	NA	None	None
	STMW-6	7.88	NA	None	Light Sewage

NA - Not Available

File No. 8-90-418-SI

TABLE 2
SOIL ANALYTICAL RESULTS
IN
MILLIGRAMS PER KILOGRAM (mg/Kg)

Date	Well No.	TPHg	B	T	E	X	VOC's
2/02/93	STMW-5-5	ND	ND	ND	ND	ND	ND
	STMW-6-5	ND	ND	ND	ND	ND	ND

VOC's - Volatile Organic Compounds
TPHg - Total Petroleum Hydrocarbons as gasoline
BTEX - Benzene, Toluene, Ethylbenzene, Total Xylenes
ND - Not Detected (Below Laboratory Detection Limit)

File No. 8-90-418-SI

TABLE 3
GROUNDWATER ANALYTICAL RESULTS
IN
MILLIGRAMS PER LITER (mg/L)

A. TPHd, TPHg, BTEX and TOG Results

Date	Well No.	TPHd	TPHg	B	T	E	X	TOG
2/08/93	STMW-1	NA	66	0.21	0.48	0.51	1.2	NA
	STMW-3	ND	330	0.62	1.9	2.2	6.0	3.9
	STMW-5	NA	ND	ND	ND	ND	ND	NA
	STMW-6	NA	33	0.1	0.23	0.27	0.5	NA

B. Volatile Organic Compounds Per EPA Method 601 Results

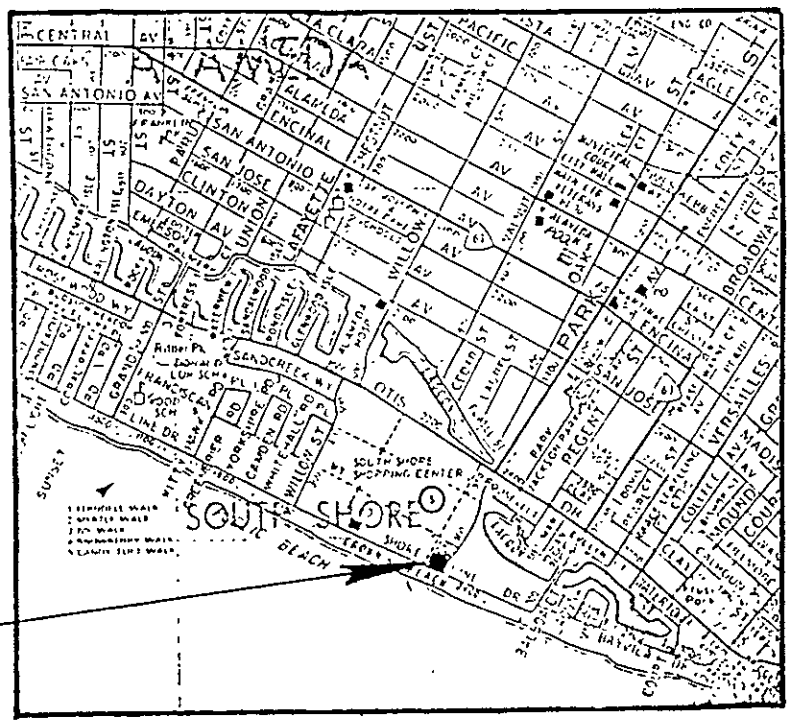
Date	Well No.	VOC's Detected	Concentration	Detection Limit
2/08/93	STMW-1	Trichloroethene	0.0095	0.0005
	STMW-3	Trichloroethene	0.0024	0.0005
	STMW-5	None Detected	None	0.0005
	STMW-6	Trichloroethene	0.011	0.0005

VOC's - Volatile Organic Compounds
TPHd - Total Petroleum Hydrocarbons as diesel
TPHg - Total Petroleum Hydrocarbons as gasoline
BTEX - Benzene, Toluene, Ethylbenzene, Total Xylenes
TOG - Total Oil and Grease
NA - Not Analyzed
ND - Not Detected (Below Laboratory Detection Limit)

File No. 8-90-418-SI

A P P E N D I X "B"

SOIL TECH ENGINEERING, INC.



Site Location

Thomas Brothers Map 1982 Edition
Alameda - Contra Costa Counties

Page 11 D7

Figure 1

SHORELINE DRIVE

N

Approximate Direction of Groundwater Flow as of 2/08/93

2.50

C. EL. 7.01
W. EL. 2.11

2.25

2.00

1.75

SIMW-2

SIMW-4

C. EL. 7.45
W. EL. 2.52

Excavation Area

South Shore Carwash

Building Line

BIG 5
Sporting Goods Store

SIMW-1

SIMW-3

C. EL. 8.33
W. EL. 2.37

C. EL. 8.10
W. EL. 1.87

TPHg (ppm)
B / T
E / X
TCE

330
0.62 / 1.9
2.2 / 6.0
0.0024

66
0.21 / 0.48
0.57 / 1.2
0.0095

33
0.1 / 0.23
0.27 / 0.5
0.011

SIMW-6

Landscaping

SIMW-5

NOTE: New well elvations are tied with the off-site well elevations.

2351 SHORELINE DRIVE, ALAMEDA, CALIFORNIA		
SCALE: 1"=30'	PROJECT NO. 8-90-418-SI	FIGURE - 2
DRAWN BY N.A.		2/08/93
SOIL TECH ENGINEERING, INC. 298 BROKAW ROAD, SANTA CLARA, CALIFORNIA 95050		

M2

File No. 8-90-418-SI

A P P E N D I X "C"

SOIL TECH ENGINEERING, INC.

File No. 8-90-418-SI

DRILLING AND SOIL SAMPLING PROCEDURE

A truck-mounted drill rig, using a continuous, solid-flight, hollow stem auger was used in drilling the soil borings to the desired depths.

Prior to drilling, all drilling equipment (auger, pin, drilling head) were thoroughly steam-cleaned to minimize the possibility of cross-contamination and/or vertical migration of possible contaminants.

In addition, prior to obtaining each individual soil sample, all sampling tools, including the split-spoon sampler and brass liners were thoroughly washed in a Trisodium Phosphate (TSP) solution followed by a rinse in distilled water.

During the drilling operation, relatively undisturbed soil samples were taken from the required depth by forcing a 2-inch I.D. split-spoon sampler insert with a brass liner into the ground at various depths by means of a 140-lb. hammer falling 30-inches or by hydraulic forces.

The samplers were contained relatively undisturbed soil. In general, the first section of soil from the sampler (shoe) was used in the field for lithologic inspection and evidence of contamination. The selected brass liner was immediately trimmed, the ends of the brass liner were covered tightly with aluminum foil and

plastic caps, sealed with tape, labelled, placed in a plastic bag and stored in a cold ice chest in order to minimize the escape of any volatiles present in the samples. Soil samples for analysis were then sent to a state-certified hazardous waste laboratory accompanied by a chain-of-custody record.

Soil samples collected at each sampling interval were inspected for possible contamination (odor or peculiar colors). Soil vapor concentrations was measured in the field by using a Photoionization Detector (PID), PhotoVac Tip Air Analyzer. The soil sample was sealed in a Zip-Loc plastic bag and placed in the sun to enhance volatilization of the hydrocarbons from the sample. The purpose of this field analysis is to qualitatively determine the presence or absence of hydrocarbons and to establish which soil samples will be analyzed at the laboratory. The data was recorded on the drilling log at the depth corresponding to the sampling point.

Other soil samples may be collected to document the stratigraphy and estimate relative permeability of the subsurface materials.

Soil tailings that are obtained during drilling are stored at the site, pending the analytical test results to determine proper disposal.

File No. 8-90-418-SI

MONITORING WELL INSTALLATION

The boreholes for the monitoring wells were hand augered with a diameter of at least two inches larger than the casing outside diameter (O.D.).

The monitoring wells were cased with threaded, factory-perforated and blank, schedule 40 P.V.C. The perforated interval consisted of slotted casing, generally 0.010 to 0.040 inch wide by 1.5 inch long slot size, with 42 slots per foot (slots which match formation grain size as determined by field grain-size distribution analysis). A P.V.C. cap was fastened to the bottom of the casing (no solvents, adhesive, or cements were used), the well casing was thoroughly washed and steam-cleaned.

After setting the casing inside the borehole, kiln-dried sand or gravel-filter material was poured into the annular space to fill from the bottom of the boring to two feet above the perforated interval. A one to two feet thick bentonite plug was placed above this filter material to prevent grout from infiltrating down into the filter material. Approximately one to two gallons of distilled water were added to hydrate the bentonite pellets. Then the well was sealed from the top of the bentonite seal to the surface with concrete or neat cement containing about 5% bentonite (see Well Construction Detail).

To protect the well from vandalism and surface water contamination, Christy boxes with a special type of Allen screw were installed around the well head, (for wells in parking lots, driveways and building areas). Steel stove pipes with padlocks were usually set over well-heads in landscaped areas.

In general, groundwater monitoring wells extend to the base of the upper aquifer, as defined by the consistent (less than 5 feet thick) clay layer below the upper aquifer, or at least 10 to 15 feet below the top of the upper aquifer, whichever is shallower. The wells do not extend through the laterally extensive clay layer below the upper aquifer. The wells are terminated one to two feet into such a clay layer.

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WELL DEVELOPMENT

For all newly installed groundwater monitoring wells, the well casing, filter pack and adjacent formations were cleared of disturbed sediment and water.

Well development techniques included pumping, bailing, surging, swabbing, jetting, flushing or air lifting by using a stainless steel or Teflon bailer, a submersible stainless steel pump, or air lift pump. The well development continued until the discharged water appeared to be relatively free of all turbidity.

All water and sediment generated by well development were collected in 55-gallon steel drums (Department of Transportation approved), closed-head (17-H) for temporarily storage, and were then disposed of properly, depending on analytical results.

To assure that cross-contamination did not occur between wells, all well development tools were steam-cleaned or thoroughly washed in a Trisodium Phosphate (TSP) solution followed by a rinse in distilled water before each well development.

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GROUNDWATER SAMPLING

Prior to collection of groundwater samples, all of the sampling equipment (i.e. bailer, cables, bladder pump, discharge lines and etc...) were cleaned by pumping TSP water solution followed by distilled water.

Prior to purging, the well "Water Sampling Field Survey Forms" was filled out (depth to water and total depth of water column were measured and recorded). The well was then bailed or pumped to remove four to ten well volumes or until the discharged water temperature, conductivity and pH stabilized. "Stabilized" is defined as three consecutive readings within 15% of one another.

The groundwater sample was collected when the water level in the well recovered to 80% of its static level.

Forty milliliter (ml.), glass volatile organic analysis (VOA) vials with Teflon septa were used as sample containers. The groundwater sample was decanted into each VOA vial in such a manner that there was a meniscus at the top. The cap was quickly placed over the top of the vial and securely tightened. The VOA vial was then inverted and tapped to see if air bubbles were present. If none were present, the sample was labeled and refrigerated for delivery under chain-of-custody to the laboratory. The label information would include a sample identification number, job identification number, date, time, type of analysis requested, and the sampler's name.

File No. 8-90-418-SI

A P P E N D I X "D"

SOIL TECH ENGINEERING, INC.

File No 8-90-418-SI

Logged By: Noori Ameli	Exploratory Boring Log	Boring No STMW-5
Date Drilled: 2/02/93	Approx Elevation	Boring Diameter 8-inch
Drilling Method: Mobile drill rig B-40L		Sampling Method

Depth, Ft.	Sample No.	Field Test for Total Ionization	Penetration Resistance Blows/Ft.	Unified Soil Classification	DESCRIPTION
1				SW	Very dark greyish-brown silty gravelly sandy clay, damp, stiff. Munsell Color: HUE 2.5Y 3/2
2					
3					Color changes to dark olive-grey silty fine sand with some gravel, damp. Munsell Color: HUE 5Y 3/2
4					
5	STMW-5-5			SM	Dark olive-grey fine sand, damp. Munsell Color: HUE 5Y 3/2
6					
7					
8					
9					▽ First groundwater encountered at 9 feet.
10				SP	Color gets lighter to olive-grey fine sand, moist. Munsell Color: HUE 5Y 4/2
11					
12					
13					
14					
15				CL	Dark greyish-brown silty clay at bottom of aguer, wet, stiff. Munsell Color: HUE 2.5Y 4/2
16					Boring terminated at 15 feet.

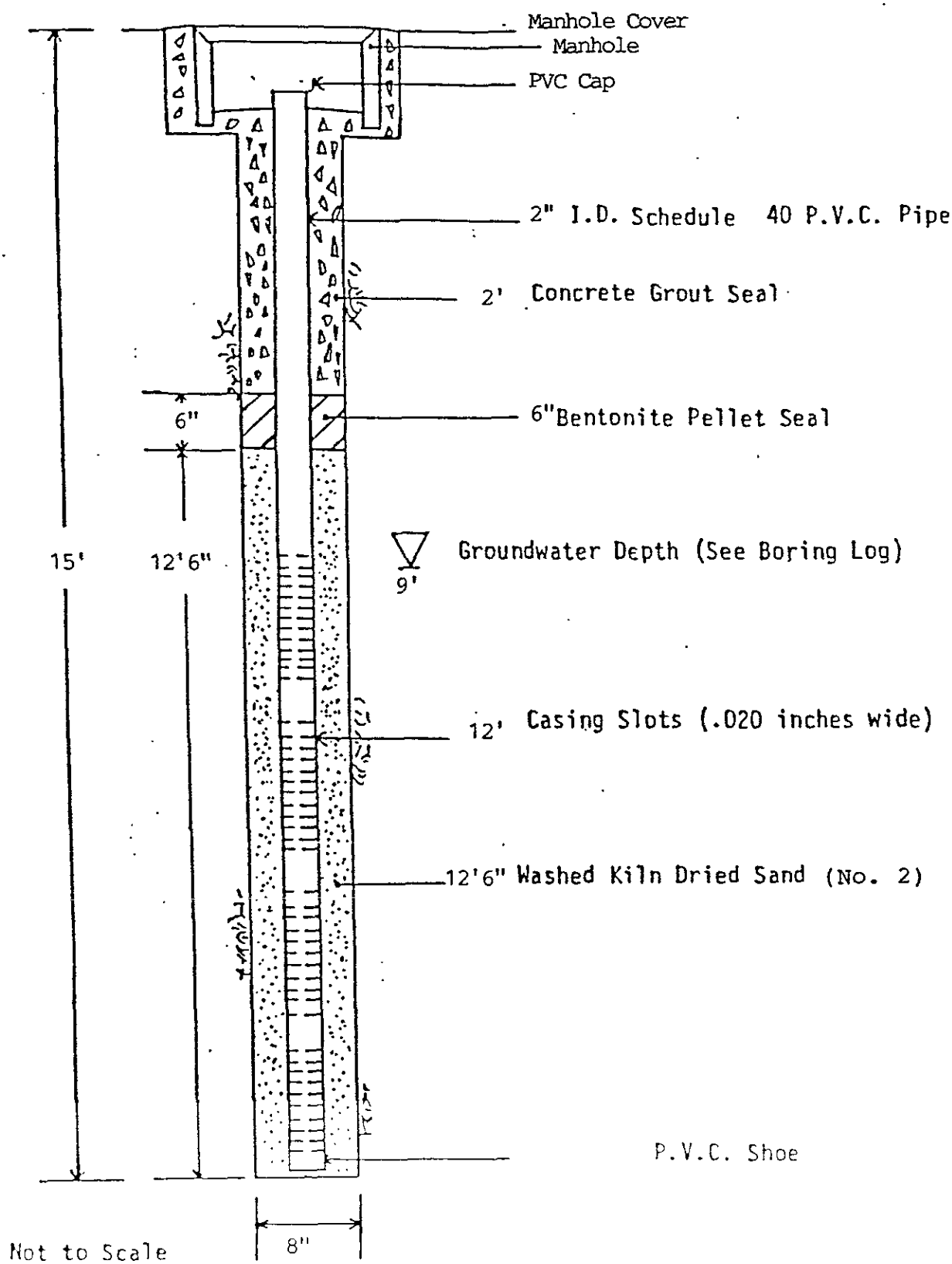
Remarks

File No 8-90-418-SI

Logged By Noori Ameli	Exploratory Boring Log	Boring No. STMW-6
Date Drilled. 2/02/93	Approx. Elevation	Boring Diameter 8-inch
Drilling Method Mobile drill rig B-40L		Sampling Method

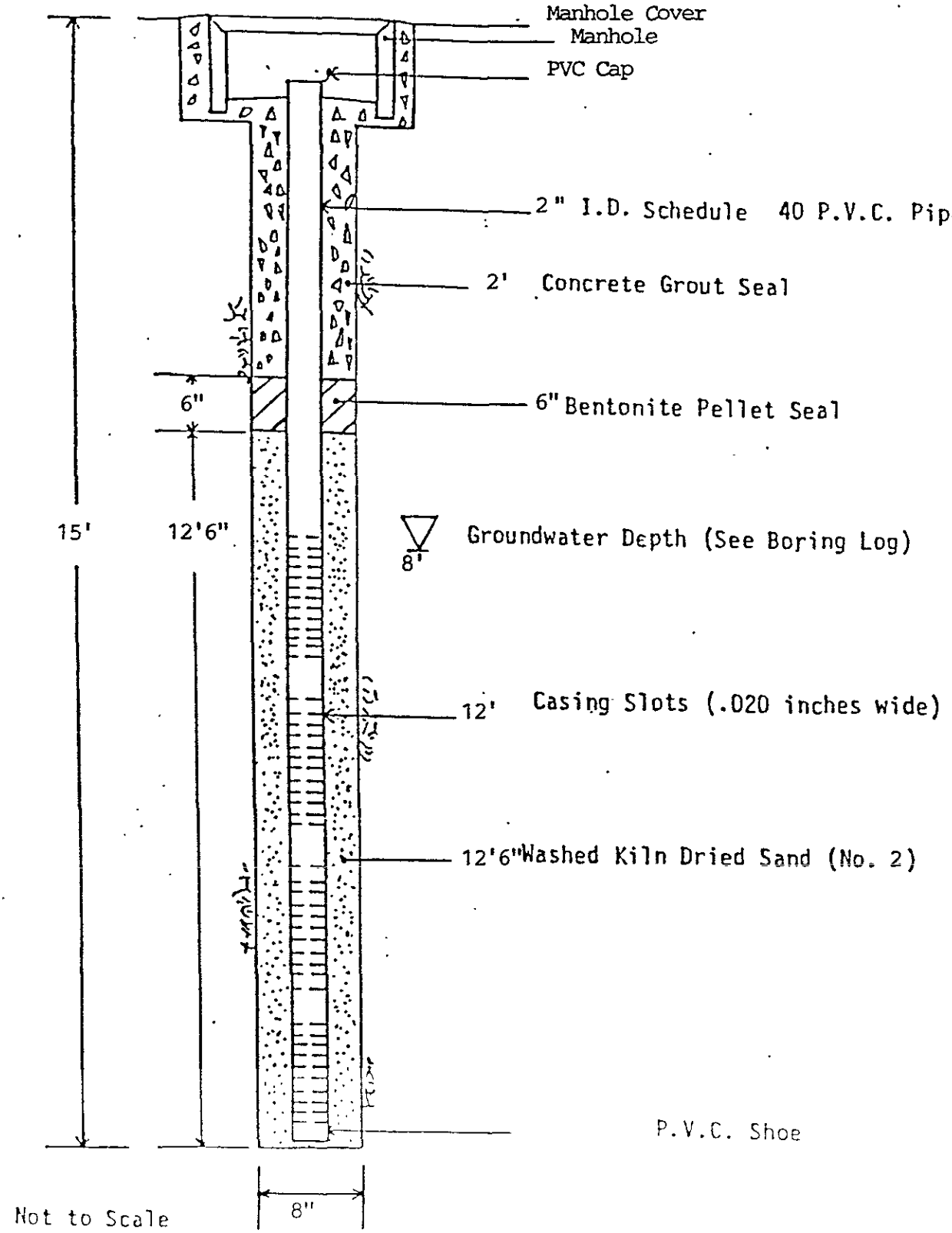
Depth, Ft.	Sample No.	Field Test for Total Ionization	Penetration Resistance Blows/Ft.	Unified Soil Classification	DESCRIPTION
1				SM	Olive fine sand, damp. Munsell Color: HUE 5Y 4/3
2					
3					Color gets darker to dark olive-grey fine sand, damp. Munsell Color: HUE 5Y 3/2
4					
5	STMW-6-5			SM	Dark olive-grey fine sand, damp. Munsell Color: HUE 5Y 3/2
6					
7					
8					▽ First groundwater encountered at 8 feet. Color gets lighter to olive-grey fine sand, damp, moist, very light petroleum odor.
9					
10					
11					
12					
13					
14					
15				CL	Olive silty clay at bottom of the auger, wet, stiff. Munsell Color: HUE 5Y 4/3 Boring terminated at 15 feet.
16					

Remarks



SIMW-5

Piezometer Schematic



SIMW-6

Piezometer Schematic

File No. 8-90-418-SI

A P P E N D I X "E"

SOIL TECH ENGINEERING, INC.

PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

February 04, 1993 PEL # 9302002

SOIL TECH ENGINEERING

Attn: Noori Ameli
Re: Two soil samples for Gasoline/BTEX analysis.

Project name: 2351 Shoreline Dr., - Alameda
Project number: 8-90-418-SI

Date sampled: Feb 02, 1993 Date submitted: Feb 03, 1993
Date extracted: Feb 03, 1993 Date analyzed: Feb 03, 1993

RESULTS:

SAMPLE I.D.	Gasoline (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl Benzene (ug/Kg)	Total Xylenes (ug/Kg)
STMW-5-5	N.D.	N.D.	N.D.	N.D.	N.D.
STMW-6-5	N.D.	N.D.	N.D.	N.D.	N.D.
Blank	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	101.8%	98.3%	103.2%	94.6%	105.7%
Detection limit	1.0	5.0	5.0	5.0	5.0
Method of Analysis	5030 / 8015	8020	8020	8020	8020

David Duong
Laboratory Director

1764 Houret Court Milpitas, CA. 95035 Tel: 408-946-9636 Fax: 408-946-9663

PRIORITY ENVIRONMENTAL LABS

Priority Environmental Analytical Laboratory

February 04,1993 PEL # 9302002

SOIL TECH ENGINEERING Attn: Noori Ameli

Project name: 2351 Shoreline Dr.-Alameda Project number: 8-90-418-SI

Sample I.D.: STMW-5-5

Date Sampled: Feb 02, 1993 Date Submitted: Feb 03, 1993
Date Analyzed: Feb 03-04, 1993

Method of Analysis: EPA 8010 Detection limit: 5.0 ug/Kg

COMPOUND NAME	CONCENTRATION (ug/Kg)	SPIKE RECOVERY (%)
Chloromethane	N.D.	-----
Vinyl Chloride	N.D.	86.4
Bromomethane	N.D.	-----
Chloroethane	N.D.	-----
Trichlorofluoromethane	N.D.	-----
1,1-Dichloroethene	N.D.	-----
Methylene Chloride	N.D.	92.1
1,2-Dichloroethene (TOTAL)	N.D.	-----
1,1-Dichloroethane	N.D.	-----
Chloroform	N.D.	90.3
1,1,1-Trichloroethane	N.D.	-----
Carbon Tetrachloride	N.D.	-----
1,2-Dichloroethane	N.D.	-----
Trichloroethene	N.D.	97.6
1,2-Dichloropropane	N.D.	-----
Bromodichloromethane	N.D.	-----
2-Chloroethylvinylether	N.D.	-----
Trans-1,3-Dichloropropene	N.D.	-----
Cis-1,3-Dichloropropene	N.D.	-----
1,1,2-Trichloroethane	N.D.	-----
Tetrachloroethene	N.D.	92.8
Dibromochloromethane	N.D.	-----
Chlorobenzene	N.D.	-----
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.	-----

David Duong
Laboratory Director

1764 Houret Court Milpitas, CA. 95035 Tel 408-946-9636 Fax: 408-946-9663

PRIORITY ENVIRONMENTAL LABS

February 04,1993 PEL # 9302002

SOIL TECH ENGINEERING Attn: Noori Ameli

Project name: 2351 Shoreline Dr.-Alameda Project number: 8-90-418-SI

Sample I.D.: STMW-6-5

Date Sampled: Feb 02, 1993 Date Submitted: Feb 03, 1993
Date Analyzed: Feb 03-04, 1993

Method of Analysis: EPA 8010 Detection limit: 5.0 ug/Kg

COMPOUND NAME	CONCENTRATION (ug/Kg)	SPIKE RECOVERY (%)
Chloromethane	N.D.	-----
Vinyl Chloride	N.D.	86.4
Bromomethane	N.D.	-----
Chloroethane	N.D.	-----
Trichlorofluoromethane	N.D.	-----
1,1-Dichloroethene	N.D.	-----
Methylene Chloride	N.D.	92.1
1,2-Dichloroethene (TOTAL)	N.D.	-----
1,1-Dichloroethane	N.D.	-----
Chloroform	N.D.	90.3
1,1,1-Trichloroethane	N.D.	-----
Carbon Tetrachloride	N.D.	-----
1,2-Dichloroethane	N.D.	-----
Trichloroethene	N.D.	97.6
1,2-Dichloropropane	N.D.	-----
Bromodichloromethane	N.D.	-----
2-Chloroethylvinylether	N.D.	-----
Trans-1,3-Dichloropropene	N.D.	-----
Cis-1,3-Dichloropropene	N.D.	-----
1,1,2-Trichloroethane	N.D.	-----
Tetrachloroethene	N.D.	92.8
Dibromochloromethane	N.D.	-----
Chlorobenzene	N.D.	-----
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.	-----

David Duong
Laboratory Director

1764 Houret Court Milpitas, CA 95035 Tel 408-946-9636 Fax: 408-946-9663

CHAIN OF CUSTODY RECORD

PROJ. NO.	NAME
8-90-418-SI	2351 Shoreline Dr. ALAMEDA

SAMPLERS: *(Signature)* N. Amedi

NO.	DATE	TIME	SOIL	WATER	LOCATION	CONTAINER	Analyses Requested ② TPHG/BTEX 8010	REMARKS
1	2/2/93	11:15	✓		STMW-5-5	1	✓ ✓	
2	2/2/93	14:35	✓		STMW-6-5	1	✓ ✓	

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
N. Amedi	2/3/93 9:41				
Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
		JOANNA LAM			
Relinquished by: *(Signature)*	Date / Time	Received for Laboratory by: *(Signature)*	Date / Time	Remarks	
	2/3/93 9:41	PEL			

SOIL TECH ENGINEERING
Soil, Foundation and Geological Engineers

[redacted]BRO[redacted]ROA[redacted]ANT[redacted]ARA[redacted] 95[redacted] ([redacted] 49[redacted]265 [redacted]408[redacted]406-0866

CHAIN OF CUSTODY RECORD

PROJ. NO.	NAME
8-90-418-5T	2351 Shoreline Dr. ALAMEDA

SAMPLERS: *(Signature)*

PEL # 9302002

INV # 23347

NO.	DATE	TIME	SOIL	WATER	LOCATION	CONTAINER	Analyses Requested ② TPHG/BTEX 8010						
1	2/2/93	11[15]	✓		STmw-5-5	1	✓	✓					
2	2/2/93	14[35]	✓		STmw-6-5	1	✓	✓					

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Receive by. *(Signature)*
N. Kinsella	2/3/93 941				
Relinquished by. *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by *(Signature)*
		CHANGLAN			
Relinquished by: *(Signature)*	Date / Time	Received for Laboratory by: *(Signature)*	Date / Time	Remarks	
	2/3/93 941	PEL			

SOIL TECH ENGINEERING

Soil, Foundation and Geological Engineers

208 BROWN ROAD SANTA CLARA 95 (408) 496-0265 (408) 496-0266

PRIORITY ENVIRONMENTAL LABS

Priority Environmental Analytical Laboratory

February 12, 1993 PEL # 9302017

SOIL TECH ENGINEERING, INC.

Attn: Noori Ameli
Re: Four water samples for Gasoline/BTEX, Diesel, and Oil & Grease analyses.

Project name: 2351 Shoreline Dr., - Alameda
Project number: 8-90-418-SI

Date sampled: Feb 08, 1993 Date submitted: Feb 09, 1993
Date extracted: Feb 09-11, 1993 Date analyzed: Feb 09-11, 1993

RESULTS:

SAMPLE I.D.	Gasoline (ug/L)	Diesel (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)	Oil & Grease (mg/L)
STMW-1	66000	---	210	480	510	1200	---
STMW-3	330000	N.D.	620	1900	2200	6000	3.9
STMW-5	N.D.	---	N.D.	N.D.	N.D.	N.D.	---
STMW-6	33000	---	100	230	270	500	---
Blank	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	101.8%	91.6%	98.3%	103.2%	94.6%	105.7%	---
Duplicate Spiked Recovery	97.6%	---	90.4%	94.2%	89.5%	97.0%	---
Detection limit	50	50	0.5	0.5	0.5	0.5	0.5
Method of Analysis	5030 / 8015	3510 / 8015	602	602	602	602	5520 C & F

David Duong
Laboratory Director

1764 Houret Court Milpitas, CA. 95035 Tel: 408-946-9636 Fax: 408-946-9663

PRIORITY ENVIRONMENTAL LABS

Environmental Analytical Laboratory

February 12, 1993 PEL #: 9302017

SOIL TECH ENGINEERING, INC. Attn: Noori Ameli
Project name:2351 Shoreline Dr.-Alameda Project number: 8-90-418-SI

Sample I.D.: STMW-1

Date Sampled: Feb 08, 1993 Date Submitted: Feb 09, 1993
Date Analyzed: Feb 09-10, 1993

Method of Analysis: EPA 601 Detection limit: 0.5 ug/L

COMPOUND NAME	CONCENTRATION (ug/L)	SPIKE RECOVERY (%)
Chloromethane	N.D.	-----
Vinyl Chloride	N.D.	83.2
Bromomethane	N.D.	-----
Chloroethane	N.D.	-----
Trichlorofluoromethane	N.D.	-----
1,1-Dichloroethene	N.D.	91.4
Methylene Chloride	N.D.	-----
1,2-Dichloroethene (TOTAL)	N.D.	-----
1,1-Dichloroethane	N.D.	-----
Chloroform	N.D.	92.8
1,1,1-Trichloroethane	N.D.	-----
Carbon Tetrachloride	N.D.	-----
1,2-Dichloroethane	N.D.	-----
Trichloroethene	9.5	-----
1,2-Dichloropropane	N.D.	-----
Bromodichloromethane	N.D.	-----
2-Chloroethylvinylether	N.D.	-----
Trans-1,3-Dichloropropene	N.D.	-----
Cis-1,3-Dichloropropene	N.D.	-----
1,1,2-Trichloroethane	N.D.	94.7
Tetrachloroethene	N.D.	-----
Dibromochloromethane	N.D.	-----
Chlorobenzene	N.D.	-----
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.	-----

David Duong
Laboratory Director

1764 Houret Court Milpitas, CA. 95035 Tel 408-946-9636 Fax 408-946-9663

PRIORITY ENVIRONMENTAL LABS

February 12, 1993

PEL #: 9302017

SOIL TECH ENGINEERING, INC.
Project name:2351 Shoreline Dr.-Alameda

Attn: Noori Ameli
Project number: 8-90-418-SI

Sample I.D.: STMW-3

Date Sampled: Feb 08, 1993
Date Analyzed: Feb 09-10, 1993

Date Submitted: Feb 09, 1993

Method of Analysis: EPA 601

Detection limit: 0.5 ug/L

COMPOUND NAME	CONCENTRATION (ug/L)	SPIKE RECOVERY (%)
Chloromethane	N.D.	-----
Vinyl Chloride	N.D.	83.2
Bromomethane	N.D.	-----
Chloroethane	N.D.	-----
Trichlorofluoromethane	N.D.	-----
1,1-Dichloroethene	N.D.	91.4
Methylene Chloride	N.D.	-----
1,2-Dichloroethene (TOTAL)	N.D.	-----
1,1-Dichloroethane	N.D.	-----
Chloroform	N.D.	92.8
1,1,1-Trichloroethane	N.D.	-----
Carbon Tetrachloride	N.D.	-----
1,2-Dichloroethane	N.D.	-----
Trichloroethene	2.4	-----
1,2-Dichloropropane	N.D.	-----
Bromodichloromethane	N.D.	-----
2-Chloroethylvinylether	N.D.	-----
Trans-1,3-Dichloropropene	N.D.	-----
Cis-1,3-Dichloropropene	N.D.	-----
1,1,2-Trichloroethane	N.D.	94.7
Tetrachloroethene	N.D.	-----
Dibromochloromethane	N.D.	-----
Chlorobenzene	N.D.	-----
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.	-----

David Duong
Laboratory Director

1764 Houret Court Milpitas, CA. 95035 Tel 408-946-9636 Fax. 408-946-9663

PRIORITY ENVIRONMENTAL LABS

Priority Environmental Analytical Laboratory

February 12, 1993

PEL #: 9302017

SOIL TECH ENGINEERING, INC.
Attn: Noori Ameli
Project name:2351 Shoreline Dr.-Alameda
Project number: 8-90-418-SI

Sample I.D.: STMW-5

Date Sampled: Feb 08, 1993
Date Submitted: Feb 09, 1993
Date Analyzed: Feb 09-10, 1993

Method of Analysis: EPA 601
Detection limit: 0.5 ug/L

COMPOUND NAME	CONCENTRATION (ug/L)	SPIKE RECOVERY (%)
Chloromethane	N.D.	-----
Vinyl Chloride	N.D.	83.2
Bromomethane	N.D.	-----
Chloroethane	N.D.	-----
Trichlorofluoromethane	N.D.	-----
1,1-Dichloroethene	N.D.	91.4
Methylene Chloride	N.D.	-----
1,2-Dichloroethene (TOTAL)	N.D.	-----
1,1-Dichloroethane	N.D.	-----
Chloroform	N.D.	92.8
1,1,1-Trichloroethane	N.D.	-----
Carbon Tetrachloride	N.D.	-----
1,2-Dichloroethane	N.D.	-----
Trichloroethene	N.D.	-----
1,2-Dichloropropane	N.D.	-----
Bromodichloromethane	N.D.	-----
2-Chloroethylvinylether	N.D.	-----
Trans-1,3-Dichloropropene	N.D.	-----
Cis-1,3-Dichloropropene	N.D.	-----
1,1,2-Trichloroethane	N.D.	94.7
Tetrachloroethene	N.D.	-----
Dibromochloromethane	N.D.	-----
Chlorobenzene	N.D.	-----
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.	-----

David Duong
Laboratory Director

1764 Houret Court Milpitas, CA. 95035 Tel 408-946-9636 Fax: 408-946-9663

PRIORITY ENVIRONMENTAL LABS

Former Environmental Analytical Laboratory

February 12, 1993

PEL #: 9302017

SOIL TECH ENGINEERING, INC.
Attn: Noori Ameli
Project name:2351 Shoreline Dr.-Alameda
Project number: 8-90-418-SI

Sample I.D.: STMW-6

Date Sampled: Feb 08, 1993
Date Submitted: Feb 09, 1993
Date Analyzed: Feb 09-10, 1993

Method of Analysis: EPA 601
Detection limit: 0.5 ug/L

COMPOUND NAME	CONCENTRATION (ug/L)	SPIKE RECOVERY (%)
Chloromethane	N.D.	-----
Vinyl Chloride	N.D.	83.2
Bromomethane	N.D.	-----
Chloroethane	N.D.	-----
Trichlorofluoromethane	N.D.	-----
1,1-Dichloroethene	N.D.	91.4
Methylene Chloride	N.D.	-----
1,2-Dichloroethene (TOTAL)	N.D.	-----
1,1-Dichloroethane	N.D.	-----
Chloroform	N.D.	92.8
1,1,1-Trichloroethane	N.D.	-----
Carbon Tetrachloride	N.D.	-----
1,2-Dichloroethane	N.D.	-----
Trichloroethene	11	-----
1,2-Dichloropropane	N.D.	-----
Bromodichloromethane	N.D.	-----
2-Chloroethylvinylether	N.D.	-----
Trans-1,3-Dichloropropene	N.D.	-----
Cis-1,3-Dichloropropene	N.D.	-----
1,1,2-Trichloroethane	N.D.	94.7
Tetrachloroethene	N.D.	-----
Dibromochloromethane	N.D.	-----
Chlorobenzene	N.D.	-----
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.	-----

David Duong
Laboratory Director

1764 Houret Court Milpitas, CA. 95035 Tel: 408-946-9636 Fax: 408-946-9663

PEL

CHAIN OF CUSTODY RECORD

PROJ. NO.	NAME
8-90-418-5I	2351 Shoreline Dr. ALAMEDA

SAMPLERS: *(Signature)* A. Amini

NO.	DATE	TIME	SOIL	WATER	LOCATION	CONTAINER	Analyses Requested ② TPHG/BTE&X	601	TPHD	TO&G	REMARKS
1	2/8/93	13^{52}		✓	STMW-1	2	✓	✓			
2	2/8/93	16^{19}		✓	STMW-3	4	✓	✓	✓	✓	
3	2/8/93	13^{14}		✓	STMW-5	2	✓	✓			
4	2/8/93	12^{25}		✓	STMW-6	2	✓	✓			

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Receive by: *(Signature)*
A. Amini	2/9/93 10^{20}				
Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)* THANH LAM	Relinquished by: *(Signature)*	Date / Time	Received by *(Signature)*
Relinquished by: *(Signature)*	Date / Time 2/9/93 10^{20}	Received for Laboratory by: *(Signature)* PEL	Date / Time	Remarks	

SOIL TECH ENGINEERING
Soil, Foundation and Geological Engineers
[redacted] (408) 496-0265 (408) 496-0266

CHAIN OF CUSTODY RECORD

PEL # 9302017

INV # 23362

PROJ. NO.	NAME
8-90-418-5I	2351 Shoreline Dr. ALAMEDA

SAMPLERS: *(Signature)* N. Amlie

NO.	DATE	TIME	SOIL	WATER	LOCATION	CONTAINER	Analyses Requested (2) TPHG/BTEX	601	TPHD	TOG	REMARKS
1	2/8/93	13[52]		✓	STMW-1	2	✓	✓			
2	2/8/93	16[12]		✓	STMW-3	4	✓	✓	✓	✓	
3	2/8/93	13[14]		✓	STMW-5	2	✓	✓			
4	2/8/93	12[25]		✓	STMW-6	2	✓	✓			

Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)*
N. Amlie	2/9/93 10[20]				
Relinquished by: *(Signature)*	Date / Time	Received by: *(Signature)* THANH LAM	Relinquished by: *(Signature)*	Date / Time	Received by *(Signature)*
Relinquished by: *(Signature)*	Date / Time 2/9/93 10[20]	Received for Laboratory by: *(Signature)* PEL	Date / Time	Remarks	

SOIL TECH ENGINEERING
Soil, Foundation and Geological Engineers
[redacted] BRUSH ROAD, SANTA CLARA, CA 95050 [redacted] (408) [redacted] 0265 [redacted] (4[redacted]496-[redacted]6 [redacted]

File No. 8-90-418-SI

A P P E N D I X "F"

SOIL TECH ENGINEERING, INC.

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT
5997 PARKSIDE DRIVE ♦ PLEASANTON, CALIFORNIA 94588 ♦ (510) 484-2600

26 January 1993

Soil Tech Engineering, Inc.
298 Brokaw Road
Santa Clara, CA 95050

Gentlemen:

Enclosed is drilling permit 93024 for a monitoring well construction project at 2351 Shoreline Drive in Alameda for Kamur Industries.

Please note that permit condition A-2 requires that a well construction report be submitted after completion of the work. The report should include drilling and completion logs, location sketch and permit number.

If you have any questions, please contact Wyman Hong or me at 484-2600.

Very truly yours,

Craig A. Mayfield

Craig A. Mayfield
Water Resources Engineer III

WH:mm
Enc.

ZONE 7 WATER AGENCY

5997 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94588 VOICE (510) 484-2600
FAX (510) 462-3914

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

LOCATION OF PROJECT 2351 Shoreline Dr.
Alameda CA 94501

CLIENT
Name KAMUR INDUSTRIES
Address 2351 Shoreline Dr. Phone (510) 523-7866
City Alameda CA Zip 94501

APPLICANT
Name SOIL TECH ENGINEERING INC.
Address 298 Brokaw Rd. Phone (408) 496-0265
City SANTA CLARA Zip 95050

TYPE OF PROJECT

Well Construction		Geotechnical Investigation	
Cathodic Protection	___	General	___
Water Supply	___	Contamination	___
Monitoring	✓	Well Destruction	___

PROPOSED WATER SUPPLY WELL USE
Domestic ___ Industrial ___ Other ___
Municipal ___ Irrigation ___

DRILLING METHOD:
Mud Rotary ___ Air Rotary ___ Auger ✓
Cable ___ Other ___

DRILLER'S LICENSE NO. C57 507520

WELL PROJECTS
Drill Hole Diameter 8 in. Maximum
Casing Diameter 2 in. Depth 15 ft.
Surface Seal Depth ___ ft. Number 3

GEOTECHNICAL PROJECTS
Number of Borings ___ Maximum
Hole Diameter ___ in. Depth ___ ft

ESTIMATED STARTING DATE 1/27/93
ESTIMATED COMPLETION DATE 1/29/93

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No 73-68.

APPLICANTS SIGNATURE N. Amoli Date 1/20/93

FOR OFFICE USE

PERMIT NUMBER 93024
LOCATION NUMBER ___

PERMIT CONDITIONS

Circled Permit Requirements Apply

(A) GENERAL
1. A permit application should be submitted so as to arrive at the Zone 7 office five days prior to proposed starting date.
2. Submit to Zone 7 within 60 days after completion of permitted work the original Department of Water Resources Water Well Drillers Report or equivalent for well Projects, or drilling logs and location sketch for geotechnical projects.
3. Permit is void if project not begun within 90 days of approval date.

(B) WATER WELLS, INCLUDING PIEZOMETERS
1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.

C. GEOTECHNICAL. Backfill bore hole with compacted cuttings or heavy bentonite and upper two feet with compacted material. In areas of known or suspected contamination, tremied cement grout shall be used in place of compacted cuttings.

D. CATHODIC. Fill hole above anode zone with concrete placed by tremie.

E. WELL DESTRUCTION. See attached.

Approved Wyman Hong Date 21 Jan 93
Wyman Hong

31992

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED