

File No. 7-92-514-SA

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Recd?

ADDITIONAL SUBSURFACE INVESTIGATION
OF CONTAMINATED SOIL AND GROUNDWATER
AT THE PROPERTY
LOCATED AT 3609 EAST 14TH STREET
OAKLAND, CALIFORNIA
OCTOBER 9, 1995

PREPARED FOR:
MR. ABOLGHASSEM RAZI
TONY'S EXPRESS AUTO SERVICES
3609 EAST 14TH STREET
OAKLAND, CALIFORNIA 94601

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

SOIL TECH ENGINEERING, INC.

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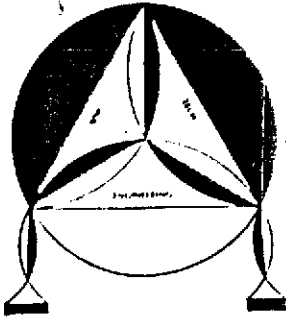
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SOIL TECH ENGINEERING

Soil, Foundation and Geological Engineers

298 BROOKAW ROAD, SAN JUAN CLAY, CA 95050 ■ (408) 496-0265 OR (408) 496-0266

October 9, 1995

File No. 7-92-514-SA

Mr. Abolghassem Razi
Tony's Express Auto Services
3609 East 14th Street
Oakland, California 94601

**SUBJECT: ADDITIONAL SUBSURFACE INVESTIGATION OF CONTAMINATED
SOIL AND GROUNDWATER AT THE PROPERTY**
Located at 3609 East 14th Street, in
Oakland, California

Dear Mr. Razi:

This report presents the results of additional subsurface contaminated soil & groundwater investigation conducted by Soil Tech Engineering, Inc. (STE), at the property located at 3609 East 14th Street, in Oakland, California.

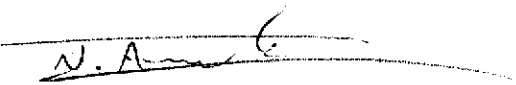
As requested by the Alameda County Health Care Services Agency (ACHCSA), five new monitoring wells (STMW-4 to STMW-8) were installed at the site. The location of the wells are shown on Figure 2. This investigation was conducted in accordance with STE's proposed work plan entitled "Additional Site Assessment for the Property", dated August 5, 1995.

Based on the results of our investigation, the shallow groundwater beneath the site has been impacted due to past inadvertent spillage or leak from the fuel tank system. All on-site wells detected a moderate level of dissolved hydrocarbons. STE believes that you may be required to conduct additional investigation to define the extent of the dissolved hydrocarbons plume by the State and Local agencies. The attached report should be submitted to the Alameda County Health Department and Regional Water Quality Control Board (RWQCB).


If you have any questions or require additional information, please feel free to contact our office at (408) 496-0265.

Sincerely,

SOIL TECH ENGINEERING, INC.



NOORI AMELI
REA #06334



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



FRANK HAMEDI-FARD
GENERAL MANAGER

ADDITIONAL SUBSURFACE INVESTIGATION
OF CONTAMINATED SOIL AND
GROUNDWATER AT THE PROPERTY
LOCATED AT 3609 EAST 14TH STREET
OAKLAND, CALIFORNIA
OCTOBER 9, 1995

INTRODUCTION:

This report presents the results of additional subsurface investigation of contaminated soil and groundwater conducted by Soil Tech Engineering, Inc. (STE) on behalf of Mr. Abolghassem Razi, proprietor of Tony's Express Auto Service located at 3609 East 14th Street, in Oakland, California. The scope of this additional subsurface investigation was described in STE's work plan dated May 25, 1995. The investigation was undertaken in response to several request by Alameda County Health Care Services Agency (ACHCSA) from Mr. Barney Chan, Hazardous Material Specialist, most recent letter dated May 4, 1995, for this phase of work.

PHYSICAL SETTING:

The site is located at the intersection of 36th Avenue and East 14th Street, in Oakland, California (Figure 1). The site is relatively flat, and the surrounding properties are primary commercial businesses and residential housing. Figure 2 shows the locations of the building on-site, the existing underground fuel storage tanks and the dispenser islands.

BACKGROUND:

The subject site is a gasoline service station. On July 18, 1992, Soil Tech Engineering, Inc. (STE) conducted a limited subsurface investigation to determine if soil near the product lines and underground storage tanks at the site had been contaminated due to accidental (inadvertent) release of gasoline from the underground storage tanks system. Six borings were drilled, and one soil sample was collected from each boring from depths of 5 to 15 feet below grade. The samples were analyzed for Total Petroleum Hydro-carbons as gasoline (TPHg), Benzene, Toluene, Ethylbenzene and Total Xylenes (BTEX). Laboratory results showed that TPH as gasoline ranging from 20 to 460 milligrams per kilogram (mg/Kg) and low level of BTEX. These results were presented in STE's preliminary subsurface (soil) investigation dated August 3, 1992.

On July 1, 1993, a 10,000 gallon and a 6,000 gallon underground gasoline storage tank and a 550 gallon waste oil storage tanks were removed from the site and properly disposed. STE was retained to conduct soil sampling in the fuel tank excavations and the associated piping. All soil sampling were conducted under the supervision of Mr. Barney Chan of ACHCSA. Three new underground gasoline storage tanks were installed at the site in July and August 1993.

The soil samples from the tank areas were taken at approximately 12 feet below grade. Waste oil soil samples were taken at approximately 7 feet below grade and the piping area samples ranged

from 2 to 5 feet below grade. The soil analyses from the tank excavation area detected low to moderate levels of Total Petroleum Hydrocarbons as gasoline (TPHg) and ranged from 2.1 to a maximum of 640 mg/Kg. Soil samples from the old piping areas showed elevated TPHg ranging from 75 to a maximum of 4,100 mg/Kg. No hydrocarbons nor Volatile Organic Compounds (VOC's) were detected in the waste oil tank excavation area. The details of the soil sampling are described in STE's report entitled "Soil Sampling Below Removed Underground Tanks at Tony's Express Station...", dated July 27, 1993.

Due to the elevated levels of TPHg detected in the soil, Alameda County Health Department requested a work plan for subsurface investigation in a letter, dated August 6, 1993. STE prepared a preliminary site assessment work plan, dated August 5, 1993. The work plan was submitted to the Alameda County Health Department for review and approval. The county approved the work plan in a letter, dated August 18, 1993.

In August 1993, STE conducted an interim corrective action and preliminary soil & groundwater investigation by drilling thirteen shallow exploratory soil borings and converting three into monitoring wells. Monitoring wells STMW-1, STMW-2 and STMW-3 were drilled in the vicinity of the former underground fuel tanks. Groundwater was first encountered at the depth of 16 feet below grade during drilling operations. Elevated levels of TPHg were detected in four of the soil samples at depths ranging from 500 mg/Kg to 1,800 mg/Kg. Elevated levels of TPHg were also detected

in the water samples ranging from 320 milligram per liter (mg/L). All three wells were impacted with dissolved hydrocarbons. Detail of the preliminary investigation is described in STE's report dated November 8, 1993. STE recommended quarterly monitoring and sampling for at least one year and further assessment for the site to define the extent of contamination as required by Alameda County Health Department.

To allow for future in-situ remediation of difficult to reach impacted soils, four vertical 6-inch diameter soil vapor extraction probes were installed in four soil borings and two horizontal perforated pipes were installed next to the two dispenser islands. These six probes were connected by non-perforated pipes to a vault in front of the southeast corner of the building (Figure 3).

All impacted soils removed during excavation of former tanks and over-excavation of contaminated soil were bio-remediated on-site. When contaminant levels were acceptably low, a letter of request for disposal was sent to Redwood Landfill in Novato, California. A copy of STE's letter to Redwood Landfill requesting the disposal of treated soil along with soil analyses were included in the November 1993 report.

Three quarterly monitoring events were conducted by STE in December 1994, March 1995 and June 1995. The results of these groundwater sampling events are presented in our reports dated December 8, 1994, March 10, 1995, and June 13, 1995. The groundwater surface has risen from approximately 15½ feet below grade

during our initial sampling in October 1993 to approximately 9½ to 10¼ feet below grade during our last quarterly monitoring event in June 1995.

Low to moderate levels of TPHg and BTEX were detected in the groundwater for the last three quarters. Levels of contaminants were lower in March 1995 than in December 1994. Levels of contaminants has decreased significantly than the initial sampling in October 1993 due to the high groundwater elevation and dissolution. Groundwater flow direction has been to the south-southeast only during all three sampling events.

OBJECTIVE:

The main objective of additional subsurface investigation was to define the extent of dissolved hydrocarbons in soil and groundwater in down-gradient and up-gradient from the underground tank system.

SCOPE OF WORK:

The following tasks comprised the scope of work for additional subsurface investigation:

- Prepare a Site Safety Plan.
- Obtain necessary drilling and well installation permits.

- Drill six exploratory soil borings and conversion of five borings to groundwater monitoring wells.
- Develop, sample and survey all the monitoring wells.
- Analyze selected soil and groundwater samples for TPHg and BTEX.
- Data analysis and report preparation including recommendations.

FIELD ACTIVITIES:

All necessary permits were obtained from the Alameda County Flood Control and Water Conservation District-Zone 7 prior to drilling and installation of additional wells. A copy of the well permit is included in the report (Appendix "F").

DRILLING, SOIL SAMPLING AND WELL INSTALLATION:

Drilling activities for soil sampling and monitoring well installation were conducted during the period August 30 and 31, 1995. Drilling, sampling and well installation procedures are described in Appendix "C". Well construction details are summarized in Table 1 and presented graphically on the well logs contained in Appendix "D".

A total of six soil borings were drilled to the depths of 15 to 27 feet. Soil samples were collected for chemical analyses from

the vadose (unsaturated) zone portion (depths of less than 11 feet) of each boring. Two samples per boring were submitted to Priority Environmental Labs (PEL) of Milpitas, California to be analyzed for TPHg and BTEX using modified EPA Methods 8015 and 8020. In addition, Total Oil & Grease (TOG) were analyzed for soil samples STMW-6-5 and STMW-6-10 as requested by ACHCS.

Light gasoline odors were detected during drilling the on-site soil borings and are noted on the boring logs (Appendix "D"). Only boring B-14 detected no gasoline odor. Groundwater was encountered between 15 to 21 feet below grade.

Two soil samples were collected from each borings at approximately 4 to 5 feet intervals during field investigation. Soil sampling were conducted in accordance with the state and local regulatory agencies requirements and our Standard Operating Procedures (SOP) (Appendix "C").

INSTALLATION OF MONITORING WELLS:

Five of the six exploratory borings were converted into five monitoring wells (STMW-4 through STMW-8). The location of the wells are shown in Figure 3. The soil encountered in the borings consisted of mainly grey silty clay interbedded with pea gravel.

The new wells were installed in accordance with the existing requirements of the Zone 7 Water Agency.

The new wells were developed on September 5 and 12, 1995. The monitoring, purging and water sampling of the five new wells and three existing wells were conducted on October 2, 1995. Petroleum odor were detected in all on-site wells. In addition, a minor sheen was detected in the purged water of wells STMW-1, STMW-3, STMW-7 and STMW-8. All development, purging and sampling were conducted in accordance with State and Local Agency requirements.

On October 2, 1995, the wells were surveyed and water elevation were measured to determine the direction of the ground-water beneath the site. Data for water elevations from all eight wells are presented in Table 1.

SOIL SAMPLING RESULTS:

Selected soil samples from each borings were analyzed for TPHg and BTEX using EPA Methods 5030, 8015 and 8020. In addition, two soil samples from boring STMW-6 were analyzed for TPHd, TOG, VOC's (per EPA Method 8010) and five metals (Cadmium, Chromium, Lead, Nickel and Zinc). The chemical results are summarized in Table 2. The analytical reports and STE's chain-of-custody documents are included in Appendix "E".

As shown in Table 2, none of the soil samples detected TPHg and BTEX above the detection limits. Nor did the two selected samples (STMW-6-5 and STMW-6-10) detect TPHd or VOC's. Low levels of metals analyzed were detected and appeared to be in the range of background levels.

GROUNDWATER SAMPLING RESULTS:

The groundwater samples were analyzed for TPHg and BTEX, and the chemical results are summarized in Table 3. Elevated levels of TPHg were detected in all on-site wells, ranging from 1.5 mg/L to 150 mg/L. All wells also detected moderate levels of BTEX. Total Oil & Grease (TOG) was also detected in well STMW-6, and the concentration was 0.6 mg/L.

GROUNDWATER FLOW DIRECTION:

On October 2, 1995, the water levels for the all on-site monitoring wells were measured using a fixed datum base line. Table 1 tabulated the water levels and observation made during the survey.

Based on October 2, 1995, measurements, the estimated groundwater flow were to the southeasterly direction. The groundwater flow direction is shown in Figure 2.

SUMMARY:

Based on the assessment of the site and the analytical results, the shallow groundwater beneath the site has been impacted due to past inadvertent spillage or leaks. Elevated dissolved hydrocarbons are present in all on-site monitoring wells both up-gradient and down-gradient. It is possible that the dissolved plume may have migrated off-site.

RECOMMENDATIONS:

STE recommend the followings:

- Further investigation may be required by ACHCS to define the extent of contamination by drilling 3 to 4 off-site exploratory borings (one up-gradient and two to three down-gradient), and converting two to three borings into monitoring wells. The purpose is to obtain additional data needed to more accurately define the limit of dissolved plume, assess appropriate remedial alternatives and to develop an efficient and cost-effective remedial program.
- Continue the quarterly monitoring and sampling program for all on-site wells after approval of proposed additional investigation.
- Conduct a pilot study of soil-vapor extraction for 12-16 hours to assess the feasibility of the full scale soil/vapor extraction treatment.
- Submit this report to the Alameda County Health Department and Regional Water Quality Control Board.

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.

**TABLE 1
GROUNDWATER MONITORING DATA
MEASUREMENT IN FEET**

Date	Well No./ Elevation	Depth-to- Water	Groundwater Elevation	Sheen	Odor
10/05/93	STMW-1 (97.99)	15.39	82.60	Brown	Mild Petroleum
	STMW-2 (98.58)	15.36	83.22	None	None
	STMW-3 (97.78)	15.79	80.99	Sheen	Strong Petroleum
12/02/94	STMW-1 (97.99)	9.32	88.67	Rainbow	Light Petroleum
	STMW-2 (98.58)	8.60	89.98	None	Mild Sewerage
	STMW-3 (97.78)	9.79	87.99	Non- Measurable	Strong Petroleum
3/06/95	STMW-1 (97.99)	8.07	89.92	None	None
	STMW-2 (98.58)	7.68	90.90	None	None
	STMW-3 (97.78)	8.69	89.09	None	None

**TABLE 1 CONT'D
GROUNDWATER MONITORING DATA
MEASUREMENT IN FEET**

Date	Well No./ Elevation	Depth-to- Water	Groundwater Elevation	Sheen	Odor
6/05/95	STMW-1 (97.99)	9.53	88.46	Brown	Mild Petroleum
	STMW-2 (98.58)	9.59	88.99	None	Light Petroleum
	STMW-3 (97.78)	10.25	87.53	Brown	Strong Petroleum
10/02/95	STMW-1 (97.99)	13.29	84.70	Rainbow	Mild Petroleum
	STMW-2 (98.58)	13.42	85.16	None	Very Light Petroleum
	STMW-3 (97.78)	12.91	84.87	Rainbow	Strong Petroleum
	STMW-4 (97.85)	13.34	84.51	None	Very Light Petroleum
	STMW-5 (99.04)	13.57	85.47	None	Very Light Petroleum
	STMW-6 (98.77)	13.94	84.83	None	Light Petroleum
	STMW-7 (97.83)	12.95	84.88	Rainbow Spots	Mild Petroleum
	STMW-8 (97.25)	12.86	84.39	Rainbow Spots	Mild Petroleum

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

A. TPHD, TPHG AND BTEX RESULTS

Date	Sample No.	Depth feet	TPHd	TPHg	B	T	E	X
8/30/95	STMW-4-4	4	NA	ND	ND	ND	ND	ND
	STMW-4-8	8	NA	ND	ND	ND	ND	ND
	STMW-5-5	5	NA	ND	ND	ND	ND	ND
	STMW-5-10	10	NA	ND	ND	ND	ND	ND
	STMW-8-4	4	NA	ND	ND	ND	ND	ND
	STMW-8-8	8	NA	ND	ND	ND	ND	ND
	B-14-5	5	NA	ND	ND	ND	ND	ND
	B-14-10	10	NA	ND	ND	ND	ND	ND
8/31/95	STMW-6-5	5	ND	ND	ND	ND	ND	ND
	STMW-6-10	10	ND	ND	ND	ND	ND	ND
	STMW-7-5	5	NA	ND	ND	ND	ND	ND
	STMW-7-10	10	NA	ND	ND	ND	ND	ND

TABLE 2 CONT'D
 SOIL SAMPLES ANALYTICAL RESULTS
 IN
 MILLIGRAMS PER KILOGRAM (mg/Kg)

B. TOG, VOC'S AND METALS RESULTS

Date	Sample #	Depth feet	TOG	VOC's	Cd	Cr	Pb	Ni	Zn
8/31/95	STMW-6-5	5	ND	ND	2.4	35	6.6	20	120
	STMW-6-10	10	ND	ND	1.5	28	4.0	120	330

- 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 & Grease
- NA - Not Analyzed
- ND - Not Detected (Below Laboratory Detection Limit)

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

A. WATER SAMPLES RESULTS FROM MONITORING WELLS

Date	Sample No.	TPHg	B	T	E	X
10/05/94	STMW-1	320	24	21	2.6	15
	STMW-2	260	17	19	0.57	10
	STMW-3	30,000	190	740	310	1,300
12/02/94	STMW-1	80	3.8	6.6	2.3	11
	STMW-2	42	1.7	2.2	1.2	3.6
	STMW-3	250	19	22	4.4	28
3/06/95	STMW-1	32	0.19	0.16	0.15	0.49
	STMW-2	0.49	0.0032	0.0026	0.0016	0.0059
	STMW-3	21	0.08	0.073	0.035	0.13
6/05/95	STMW-1	21	0.95	0.65	0.57	1.5
	STMW-2	8	0.22	0.33	0.35	0.66
	STMW-3	350	20	42	5.8	36

**TABLE 3 CONT'D
GROUNDWATER ANALYTICAL RESULTS
IN
MILLIGRAMS PER LITER (mg/L)**

A. WATER SAMPLES RESULTS FROM MONITORING WELLS

Date	Sample No.	TPHg	B	T	E	X	TOG
10/02/95	STMW-1	59	0.14	0.13	0.14	0.39	NA
	STMW-2	46	0.16	0.13	0.093	0.24	NA
	STMW-3	150	0.51	0.41	0.21	0.65	NA
	STMW-4	9.3	0.023	0.011	0.0099	0.029	NA
	STMW-5	1.5	0.0011	0.0013	0.0039	0.0053	NA
	STMW-6	120	0.35	0.31	0.2	0.61	0.6
	STMW-7	3.3	0.0089	0.012	0.017	0.045	NA
	STMW-8	94	0.31	0.25	0.18	0.48	NA

B. WATER SAMPLE RESULTS FROM BORING

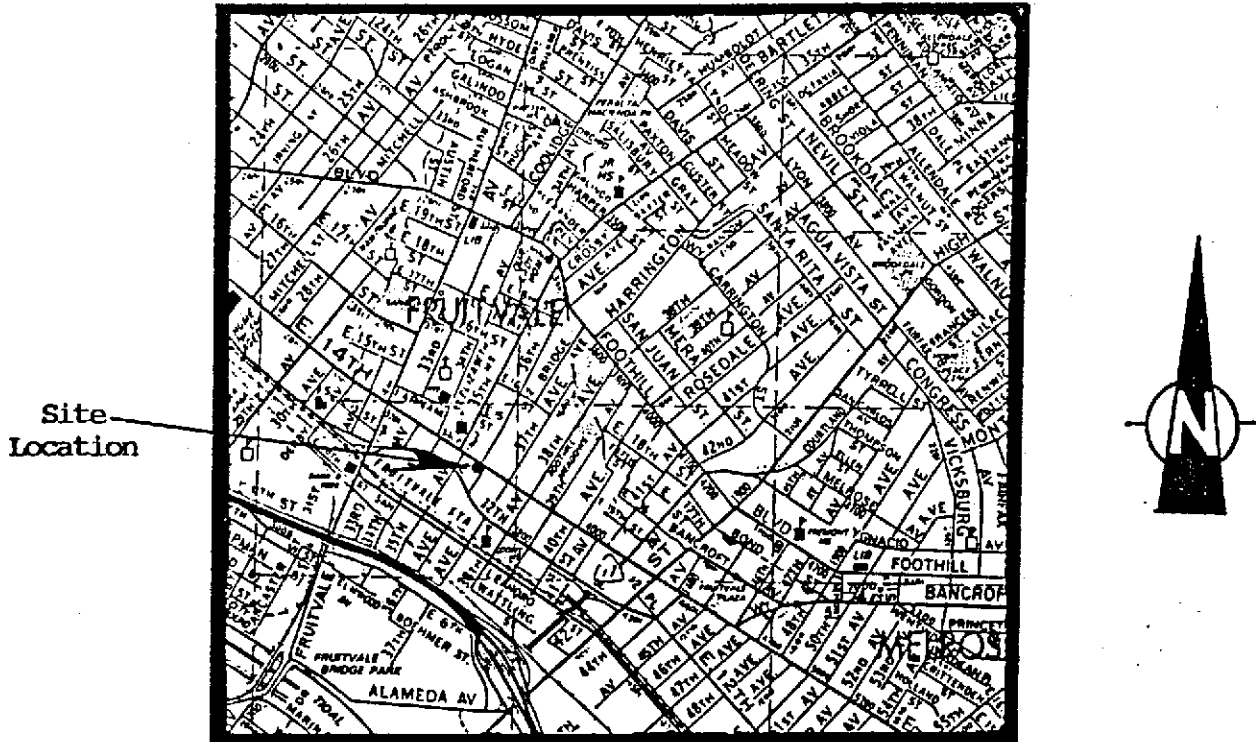
Date	Sample No.	TPHg	B	T	E	X
8/31/95	B-14	ND	ND	ND	ND	ND

TPHg - Total Petroleum Hydrocarbons as gasoline
 BTEX - Benzene, Toluene, Ethylbenzene, Total Xylenes
 TOG - Total Oil & Grease
 NA - Not Analyzed
 ND - Not Detected (Below Laboratory Detection Limit)

File No. 7-92-514-SA

A P P E N D I X "B"

SOIL TECH ENGINEERING, INC.

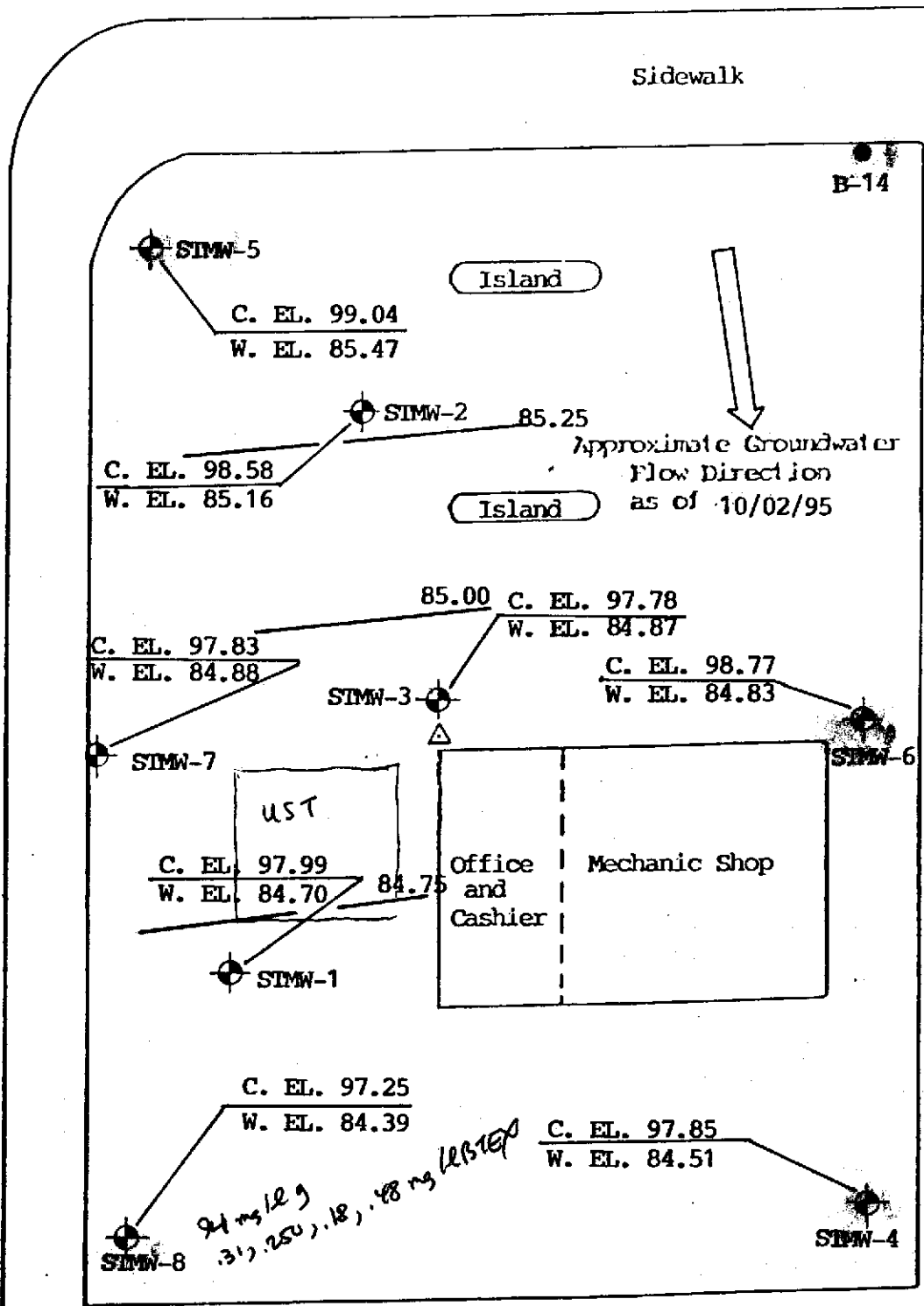


Thomas Brothers Map 1993 Edition
San Francisco, Alameda
and Contra Costa Counties

EAST 14TH STREET



36TH AVENUE



C. EL. Casing Elevation
W. EL. Water Elevation

△ Assumed 100 Elevation

⊕ Monitoring Well

SCALE: 1"=20'

*94 mg/l g
.31, .250, .18, .48 mg/l (STEP)*

*9.3 mg/l g
.023, .011, .0099*

Figure 2

DRILLING AND SOIL SAMPLING PROCEDURE

A Mobile drill rig B-40L, 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.

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.

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.

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. 7-92-514-SA

A P P E N D I X "D"

SOIL TECH ENGINEERING, INC.

Logged By Noori Ameli		Exploratory Boring Log		Boring No. B-14	
Date Drilled 8/30/95		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/6"	Unified Soil Classification	DESCRIPTION
1					6-inch concrete. Very dark grey silty pea gravelly clay, hard. Munsell Soil Color: HUE 10YR 3/1
2					
3					
4					
5	B-14-5			CL	Color gets lighter to dark greyish-brown silty clay, hard. Munsell Soil Color: HUE 10YR 4/2 Dark greyish-brown silty clay, hard. Munsell Color: HUE 10YR 4/2
6					
7					
8					
9					Color gets lighter to brown silty clay, hard. Munsell Soil Color: HUE 10YR 4/3
10	B-14-10			CL	Color changes to olive-grey silty clay, hard. Munsell Soil Color: HUE 5Y 4/2
11					
12					
13					
14					
15					∇ First groundwater encountered at 15 feet. Olive-grey silty clay, stiff, moist, hard. Munsell Soil Color: HUE 5Y 4/2
16					Boring terminated at 15 feet.
Remarks					

Logged By: Noori Ameli	Exploratory Boring Log	Boring No. STMW-4
Date Drilled: 8/30/95	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/6"	Unified Soil Classification	DESCRIPTION
1					2-inch asphalt, 10-inch dark brown baserock. Munsell Soil Color: HUE 10YR 4/3
2					Very dark grey silty pea gravelly clay, stiff. Munsell Soil Color: HUE 10YR 3/1
3					
4					
5					Very dark grey silty clay, hard. Munsell Soil Color: HUE 10YR 3/1
6					Color gets lighter to dark brown silty clay, hard. Munsell Soil Color: HUE 10YR 3/3
7					
8	STMW-4-8			CL	Brown silty clay, hard. Munsell Soil Color: HUE 10YR 4/3
9					
10					
11					
12					
13					
14					
15					Color changes to dark olive-grey silty clay, hard, very light petroleum odor. Munsell Soil Color: HUE 5Y 3/2
16					∇ First groundwater encountered at 16 feet.

Remarks

Logged By Noori Ameli		Exploratory Boring Log			Boring No STMW-4
Date Drilled 8/30/95		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
17					Color changes to dark olive-grey silty clay, hard, very light petroleum odor. Munsell Soil Color: HUE 5Y 3/2
18					
19					
20					Color changes to dark greyish-brown silty clay, hard, light petroleum odor. Munsell Soil Color: HUE 2.5Y 4/2
21					
22					
23					
24					
25					
26					
27					Dark greyish-brown fine sandy clay, moist, light petroleum odor, stiff. Munsell Soil Color: HUE 2.5Y 4/2 Boring terminated at 27 feet.
28					
29					
30					
31					
32					
Remarks					

Logged By: Noori Ameli		Exploratory Boring Log		Boring No. STMW-5	
Date Drilled 8/30/95		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/6"	Unified Soil Classification	DESCRIPTION
1					6-inch concrete. Very dark grey silty clay, hard. Munsell Soil Color: HUE 10YR 3/1
2					
3					
4					
5	STMW-5-5			CL	Color gets lighter to very dark greyish-brown silty clay with minor gravel, hard. Munsell Soil Color: HUE 10YR 3/2
6					
7					Color gets lighter to dark greyish-brown silty clay, hard. Munsell Soil Color: HUE 2.5Y 4/2
8					
9					
10	STMW-5-10			CL	Color changes to dark olive-grey silty clay, hard. Munsell Soil Color: HUE 5Y 3/2
11					
12					Color changes to dark greyish-brown silty clay, hard. Munsell Soil Color: HUE 2.5Y 4/2
13					
14					
15					
16					
Remarks					

Logged By: Noori Ameli		Exploratory Boring Log		Boring No. STMW-5	
Date Drilled: 8/30/95		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
17					Very light petroleum odor.
18					
19					
20					
21					<u>∇</u> First groundwater encountered at 21 feet. Dark greyish-brown silty pea gravelly clay, stiff, moist. Munsell Soil Color: HUE 2.5Y 4/2
22					
23					
24					
25					
26					Boring terminated at 26 feet.
27					
28					
29					
30					
31					
32					
Remarks					

Logged By: Noori Ameli		Exploratory Boring Log		Boring No. STMW-6	
Date Drilled 8/31/95		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/6"	Unified Soil Classification	DESCRIPTION
1					6-inch concrete, 4-inch dark brown baserock. Munsell Soil Color: HUE 10YR 4/3 Very dark grey silty clay, hard.
2					Munsell Soil Color: HUE 10YR 3/1
3					Color changes to dark olive-grey silty clay, hard.
4					Munsell Soil Color: HUE 5Y 3/2
5	STMW-6-5			CL	Dark olive-grey silty clay, hard. Munsell Soil Color: HUE 5Y 3/2
6					
7					
8					Color gets lighter to dark greyish-brown silty clay, hard.
9					Munsell Soil Color: HUE 2.5Y 4/2
10	STMW-6-10			CL	Dark greyish-brown silty clay, hard. Munsell Soil Color: HUE 2.5Y 4/2
11					
12					
13					
14					
15					Very light petroleum odor.
16					
Remarks					

Logged By Noori Ameli		Exploratory Boring Log		Boring No. STMW-6	
Date Drilled: 8/31/95		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
17					∇ First groundwater encountered at 17 feet. Dark greyish-brown fine sandy clay, hard, very light petroleum odor. Munsell Soil Color: HUE 2.5Y 4/2
18					
19					
20					
21					
22					Dark greyish-brown fine sandy gravelly clay, wet, stiff. Munsell Soil Color: HUE 2.5Y 4/2
23					
24					
25					
26					Dark greyish-brown fine sandy gravelly clay, wet, stiff. Munsell Soil Color: HUE 2.5Y 4/2 Boring terminated at 26 feet.
27					
28					
29					
30					
31					
32					
Remarks					

Logged By: Noori Ameli		Exploratory Boring Log		Boring No. STMW-7	
Date Drilled: 8/31/95		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/6"	Unified Soil Classification	DESCRIPTION
1					6-inch concrete, very dark grey silty clay with minor pea gravel, hard. Munsell Soil Color: HUE 10YR 3/1
2					
3					
4					
5	STMW-7-5			CL	Very dark grey silty clay with minor pea gravel, hard. Munsell Soil Color: HUE 10YR 3/1
6					
7					Color changes to dark olive-grey silty clay, hard. Munsell Soil Color: HUE 5/Y 3/2
8					
9					
10	STMW-7-10			CL	Color gets lighter to olive-grey silty clay, hard. Munsell Soil Color: HUE 5Y 4/2
11					
12					
13					
14					
15					
16					∇ First groundwater encountered at 16 feet.
Remarks					

Logged By Noori Ameli		Exploratory Boring Log			Boring No STMW-7
Date Drilled 8/31/95		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
17					Olive-grey fine sandy clay, stiff, very light petroleum odor, moist. Munsell Soil Color: HUE 5Y 4/2
18					
19					Olive-grey sandy pea gravelly clay, stiff, very light petroleum odor, wet. Munsell Soil Color: HUE 5Y 4/2
20					
21					
22					
23					
24					
25					
26					Boring terminated at 26 feet.
27					
28					
29					
30					
31					
32					
Remarks					

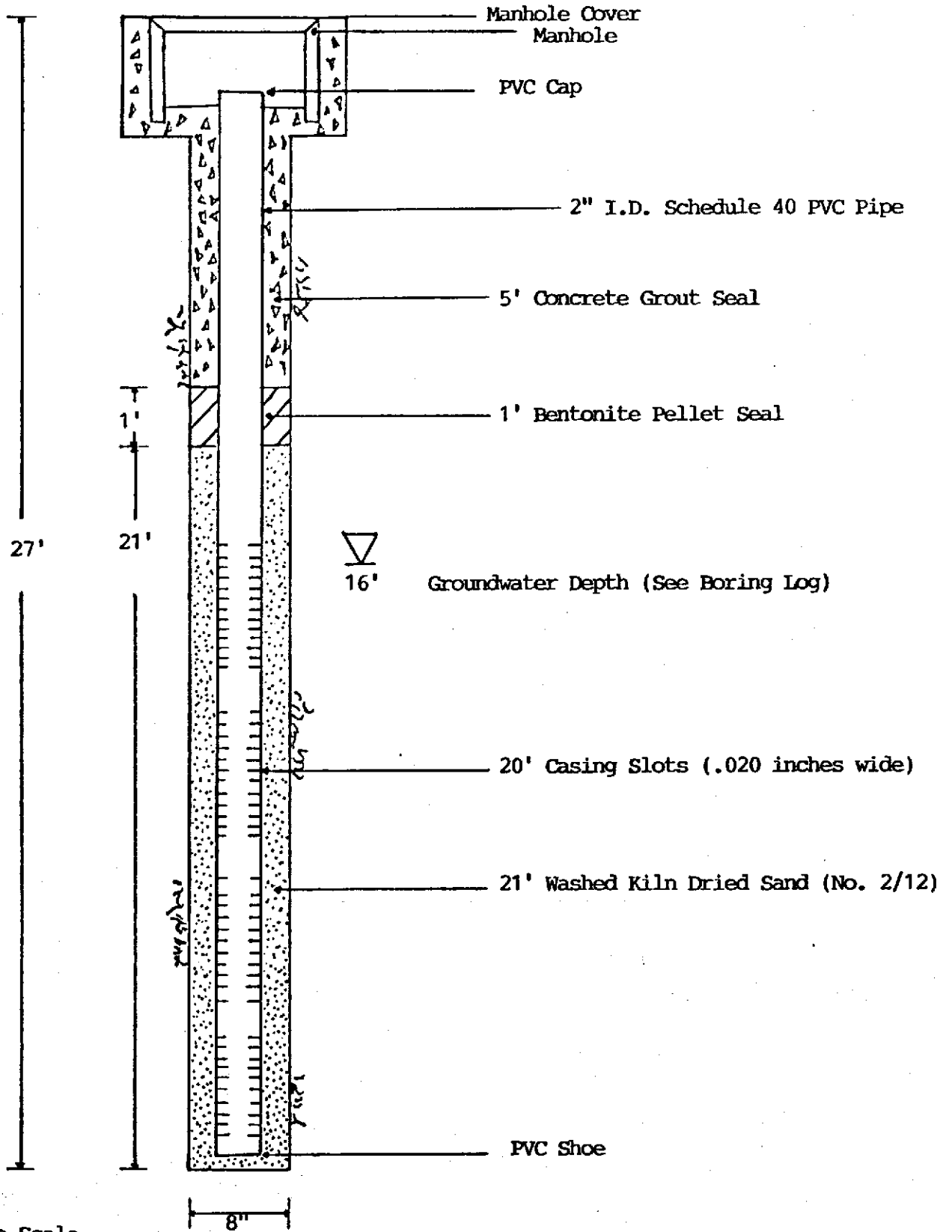
Logged By: Noori Ameli	Exploratory Boring Log	Boring No. STMW-8
Date Drilled: 8/30/95	Approx. Elevation	Boring Diameter 8-inch

Drilling Method Mobile drill rig B-40L	Sampling Method
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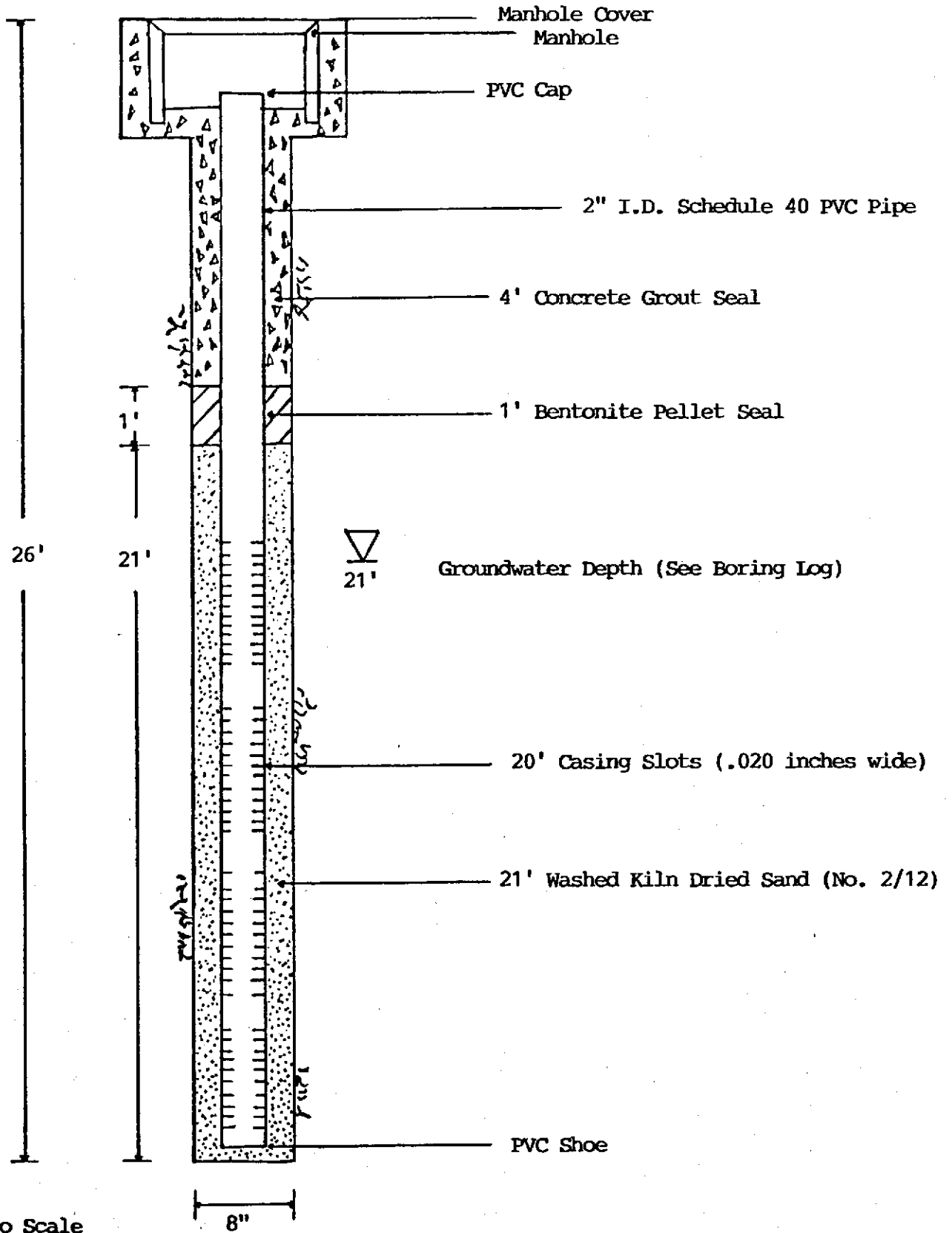
Depth, Ft.	Sample No.	Field Test for Total Ionization	Penetration Resistance Blows/6"	Unified Soil Classification	DESCRIPTION
1					2-inch asphalt, 6-inch dark brown baserock. Munsell Soil Color: HUE 10YR 4/3
2					Very dark grey silty clay with minor pea gravel, hard. Munsell Soil Color: HUE 10YR 3/1
3					
4	STMW-8-4			CL	Color changes to dark olive-grey silty clay, hard. Munsell Soil Color: HUE 5Y 3/2
5					
6					
7					
8	STMW-8-8			CL	Color gets lighter to olive-grey silty clay, hard. Munsell Soil Color: HUE 5Y 4/2
9					
10					
11					
12					
13					
14					
15					<u>∇</u> First groundwater encountered at 15 feet. Olive-grey silty clay, moist, light petroleum odor, hard. Munsell Soil Color: HUE 5Y 4/2
16					

Remarks

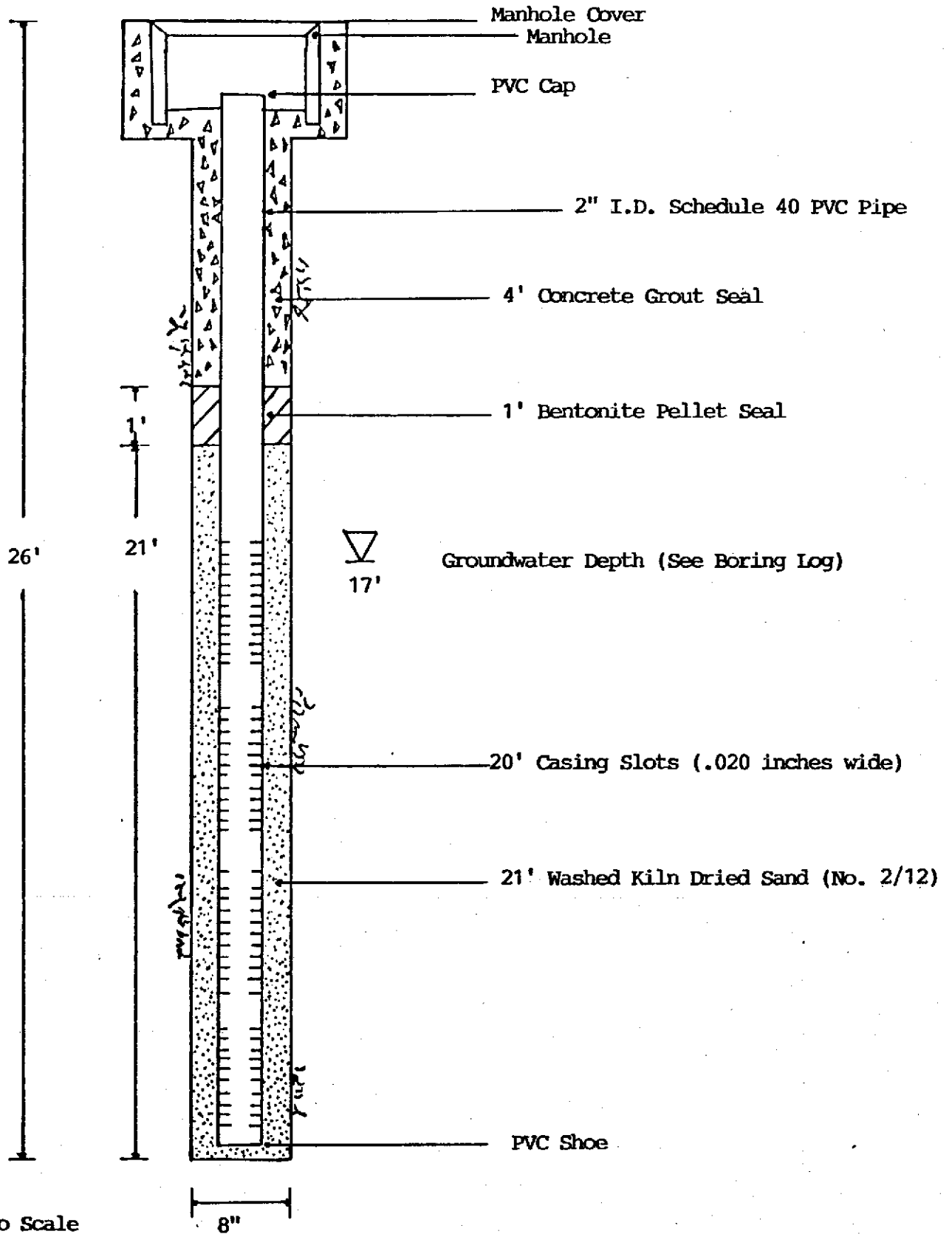
Logged By Noori Ameli		Exploratory Boring Log		Boring No STMW-8	
Date Drilled 8/31/95		Approx. Elevation		Boring Diameter 8-inch	
Drilling Method Mobile drill rig B-40L			Sampling Method		
Depth, Ft.	Sample No.	Field Test for Total Ionization	Penetration Resistance Blows/ft	Unified Soil Classification	DESCRIPTION
17					Olive-grey silty clay, moist, light petroleum odor, hard. Munsell Soil Color: HUE 5Y 4/2
18					
19					
20					
21					Color gets lighter to dark greyish-brown silty fine sandy clay, stiff, wet, light petroleum odor. Munsell Soil Color: HUE 2.5Y 4/2
22					
23					Dark greyish-brown sandy gravelly clay, stiff, wet, Light petroleum odor. Munsell Soil Color: HUE 2.5Y 4/2
24					
25					
26					
27					Boring terminated at 27 feet.
28					
29					
30					
31					
32					
Remarks					



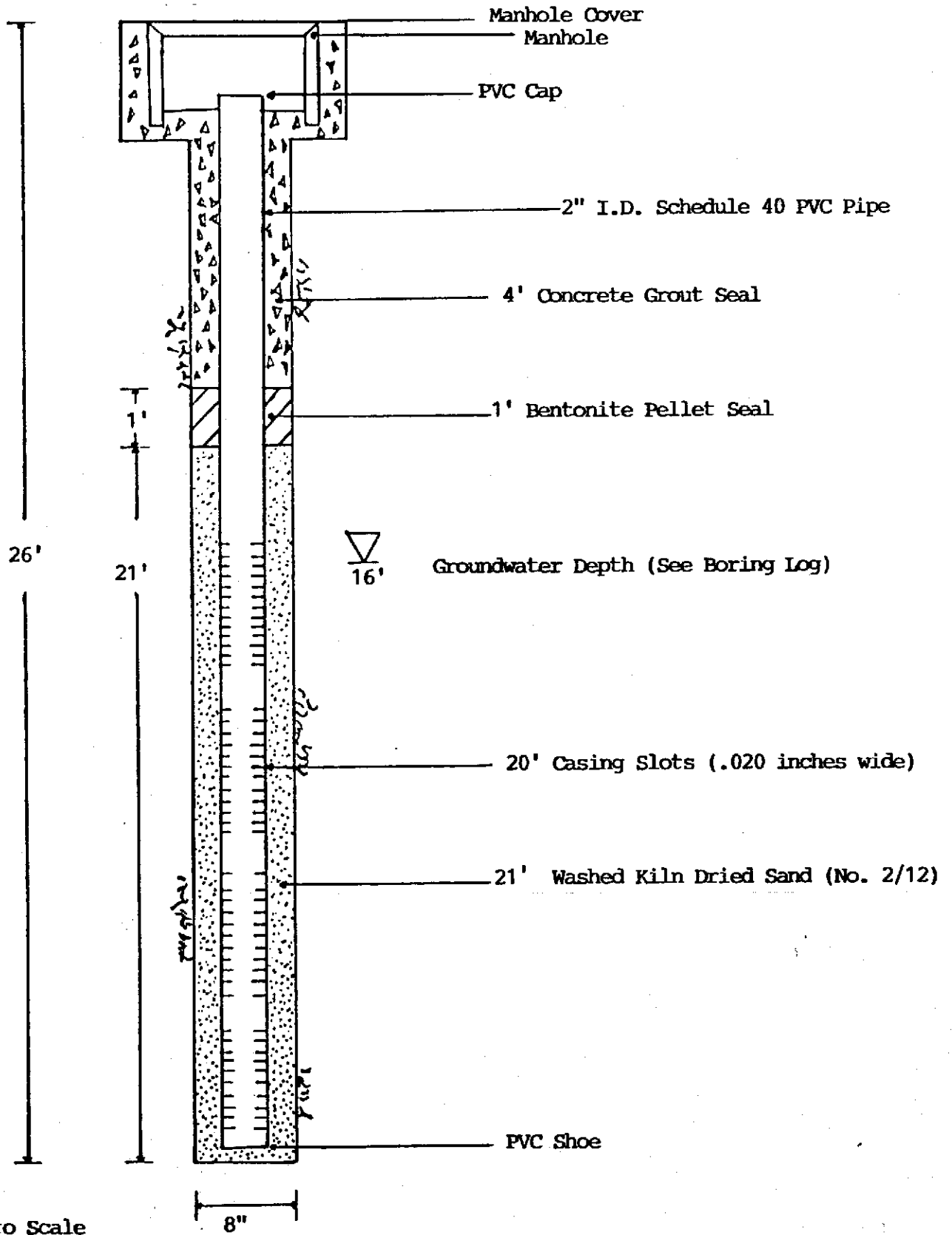
STMW-4



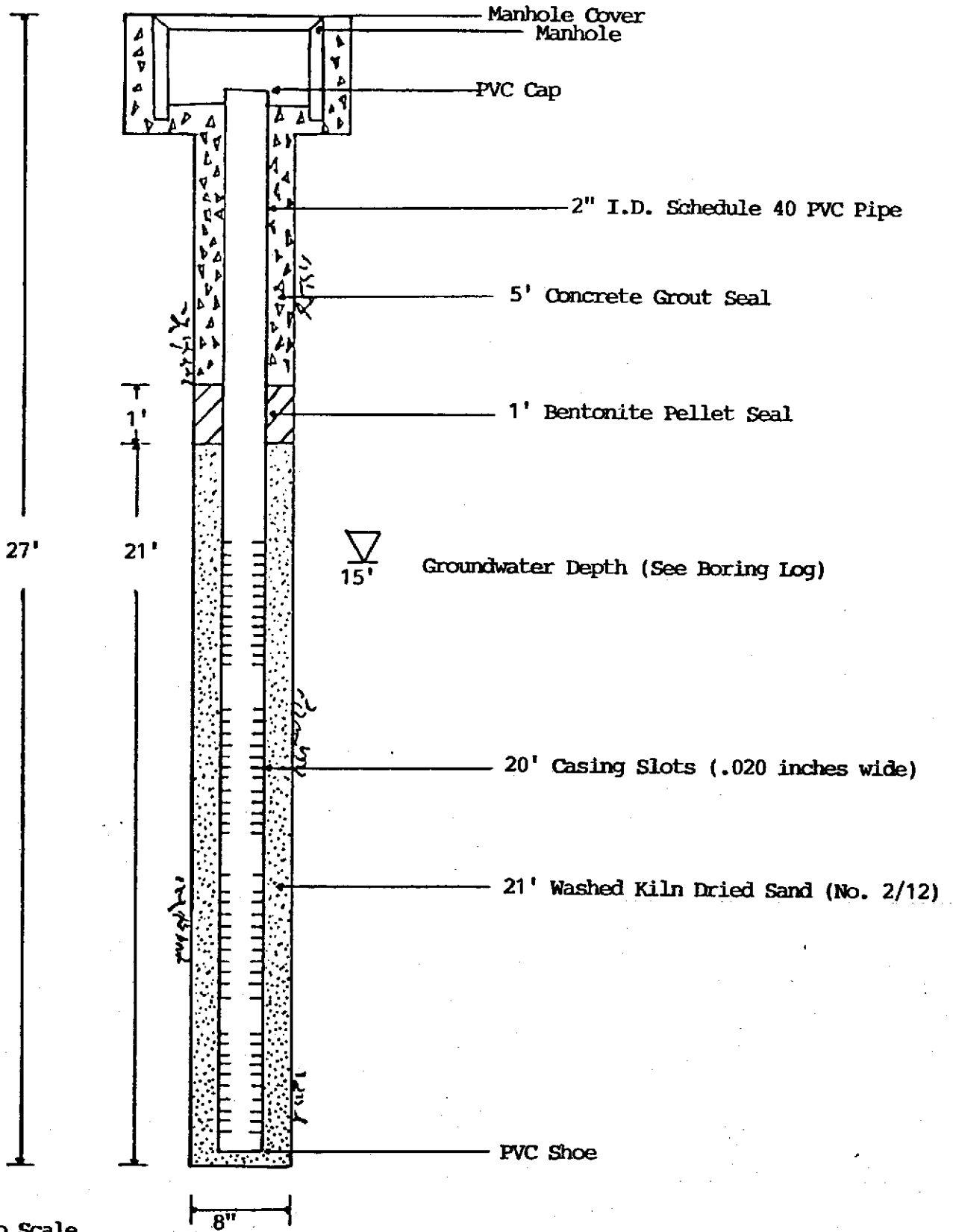
STMW-5



SIMW-6



SIMW-7



SIMW-8



PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

September 05, 1995

PEL # 9509002

SOIL TECH ENGINEERING, INC.

Attn: Noori Ameli

Re: One water and twelve soil samples for Gasoline/BTEX, Diesel, and Oil & Grease analyses.

Project name: 3609 E. 14th St., - Oakland Project number: 7-92-514-SA

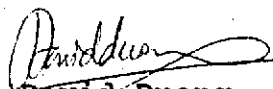
Date sampled: Aug 30-31, 1995
Date extracted: Sept 01-05, 1995

Date submitted: Sept 01, 1995
Date analyzed: Sept 01-05, 1995

RESULTS:

SAMPLE I.D.	Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylene (ug/L)
B-14	N.D.	N.D.	N.D.	N.D.	N.D.
Detection Limit	50	0.5	0.5	0.5	0.5
Method of Analysis	5030 / 8015	602	602	602	602

SAMPLE I.D.	Gasoline (mg/Kg)	Diesel (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl Benzene (ug/Kg)	Total Xylene (ug/Kg)	Oil Grease (mg/Kg)
B-14-5	N.D.	---	N.D.	N.D.	N.D.	N.D.	---
B-14-10	N.D.	---	N.D.	N.D.	N.D.	N.D.	---
STMW-4-4	N.D.	---	N.D.	N.D.	N.D.	N.D.	---
STMW-4-8	N.D.	---	N.D.	N.D.	N.D.	N.D.	---
STMW-5-5	N.D.	---	N.D.	N.D.	N.D.	N.D.	---
STMW-5-10	N.D.	---	N.D.	N.D.	N.D.	N.D.	---
STMW-6-5	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
STMW-6-10	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
STMW-7-5	N.D.	---	N.D.	N.D.	N.D.	N.D.	---
STMW-7-10	N.D.	---	N.D.	N.D.	N.D.	N.D.	---
STMW-8-4	N.D.	---	N.D.	N.D.	N.D.	N.D.	---
STMW-8-8	N.D.	---	N.D.	N.D.	N.D.	N.D.	---
Blank Spiked	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Recovery	90.4%	88.6%	105.7%	97.0%	97.9%	91.1%	---
Detection limit	1.0	1.0	5.0	5.0	5.0	5.0	10
Method of Analysis	5030 / 8015	3550 / 8015	8020	8020	8020	8020	5520 D & F


David Duong
Laboratory Director



PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

September 05, 1995

PEL # 9509002

SOIL TECH ENGINEERING, INC.

Attn: Noori Ameli

Project name: 3609 E. 14th St.-Oakland

Project number: 7-92-514-SA

Sample I.D.: STMW-6-5

Date Sampled: Aug 30, 1995

Date Submitted: Sept 01, 1995

Date Analyzed: Sept 01-05, 1995

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.	80.3
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.	89.4
1,1,1-Trichloroethane	N.D.	-----
Carbon Tetrachloride	N.D.	-----
1,2-Dichloroethane	N.D.	-----
Trichloroethene	N.D.	101.8
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.	87.9
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.	102.4

David Duong
Laboratory Director



PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

September 05, 1995

PEL # 9509002

SOIL TECH ENGINEERING, INC.

Attn: Noori Ameli

Project name: 3609 E. 14th St.-Oakland

Project number: 7-92-514-SA

Sample I.D.: STMW-6-10

Date Sampled: Aug 30, 1995

Date Submitted: Sept 01, 1995


Date Analyzed: Sept 01-05, 1995

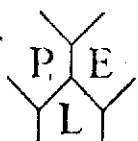
Method of Analysis: EPA 8010

Detection limit: 5.0 ug/Kg

COMPOUND NAME	CONCENTRATION (ug/Kg)	SPIKE RECOVERY (%)
---------------	---------------------------	-----------------------

Chloromethane	N.D.	-----
Vinyl Chloride	N.D.	80.3
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.	89.4
1,1,1-Trichloroethane	N.D.	-----
Carbon Tetrachloride	N.D.	-----
1,2-Dichloroethane	N.D.	-----
Trichloroethene	N.D.	101.8
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.	87.9
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.	102.4


 David Duong
 Laboratory Director



PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

September 05, 1995

PEL # 9509002

SOIL TECH ENGINEERING, INC.

Attn: Noori Ameli

Re: Two soil samples for Cadmium, Chromium, Lead, Nickel, and Zinc analyses.

Project name: 3609 E. 14th St., - Oaklans
Project number: 7-92-514-SA

Date sampled: Aug 30, 1995
Date extracted: Sept 01-05, 1995

Date submitted: Sept 01, 1995
Date analyzed: Sept 01-05, 1995

RESULTS:

SAMPLE I.D.	Cadmium (mg/Kg)	Chromium (mg/Kg)	Lead (mg/Kg)	Nickel (mg/Kg)	Zinc (mg/Kg)
STMW-6-5	2.4	35	6.6	20	120
STMW-6-10	1.5	28	4.0	120	330
Blank	N.D.	N.D.	N.D.	N.D.	N.D.
Detection limit	1.0	1.0	1.0	1.0	1.0
Method of Analysis	7130	7190	7420	7520	7950

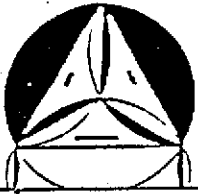

David Duong
Laboratory Director

CHAIN OF CUSTODY RECORD

PEL

PROJ. NO.		NAME				CON-TAINER	ANALYSES REQUESTED						REMARKS
7-92-514-SA		3609 E. 14th. st. OAKLAND					TPHG/BTEXX	TPHD	T.O&G	8010	Cd, Cr, Pb, Zn, Ni		
SAMPLERS: (Signature)													
N. Amundson													
NO.	DATE	TIME	SOIL	WATER	LOCATION								
1	8/30/95	10 ⁵⁰	✓		STMW-4-4	1	✓						
2	8/30/95	11 ¹⁵	✓		STMW-4-8	1	✓						
3	8/30/95	15 ³⁵	✓		STMW-5-5	1	✓						
4	8/30/95	15 ¹⁵	✓		STMW-5-10	1	✓						
5	8/30/95	9 ⁵⁵	✓		STMW-6-5	1	✓	✓	✓	✓	✓		
6	8/30/95	10 ¹⁵	✓		STMW-6-10	1	✓	✓	✓	✓	✓		
7	8/31/95	14 ²⁵	✓		STMW-7-5	1	✓						
8	8/31/95	14 ⁴⁵	✓		STMW-7-10	1	✓						
9	8/30/95	12 ³⁰	✓		STMW-8-4	1	✓						
10	8/30/95	12 ⁴⁰	✓		STMW-8-8	1	✓						
11	8/30/95	13 ³⁰	✓		B-14-5	1	✓						
12	8/30/95	14 ²⁰	✓		B-14-10	1	✓						
13	8/31/95	16 ⁴⁵		✓	B-14	1	✓						

Relinquished by: (Signature) N. Amundson	Date / Time 9/01/95 2:15	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) D. Anderson	Date / Time 09/01/95 2:15	Remarks	



SOIL TECH ENGINEERING

Soil, Foundation and Geological Engineers

298 BROKAW ROAD, SANTA CLARA, CA 95050 ■ (408) 866-0919 ■ (415) 791-6406

CHAIN OF CUSTODY RECORD

PEL

PROJ. NO. 7-92-514-SA NAME 3609 E. 14th. st. OAKLAND

SAMPLERS: (Signature) *N. Am...*

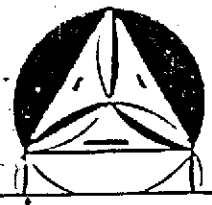
CON-TAINER

ANALYSES REQUESTED @
 TPHG/BTEXX
 TPHD
 TOAG
 8010
 Cd/Cr/Pb/Zn/Ni

PEL # 9509002
 INV # 26311

NO.	DATE	TIME	SOIL	WATER	LOCATION	CON-TAINER	ANALYSES REQUESTED @	ANALYSES REQUESTED @	ANALYSES REQUESTED @	ANALYSES REQUESTED @	ANALYSES REQUESTED @	ANALYSES REQUESTED @	ANALYSES REQUESTED @	ANALYSES REQUESTED @
1	8/3/95	10 ³²	✓		STMW-4-4	1	✓							
2	8/3/95	11 ¹²	✓		STMW-4-8	1	✓							
3	8/3/95	15 ³²	✓		STMW-5-5	1	✓							
4	8/3/95	15 ¹⁵	✓		STMW-5-10	1	✓							
5	8/3/95	9 ³⁵	✓		STMW-6-5	1	✓	✓	✓	✓	✓	✓	✓	✓
6	8/3/95	10 ¹⁵	✓		STMW-6-10	1	✓	✓	✓	✓	✓	✓	✓	✓
7	8/3/95	14 ²²	✓		STMW-7-5	1	✓							
8	8/3/95	14 ⁴²	✓		STMW-7-10	1	✓							
9	8/3/95	12 ³²	✓		STMW-8-4	1	✓							
10	8/3/95	12 ⁴²	✓		STMW-8-8	1	✓							
11	8/3/95	13 ³²	✓		B-14-5	1	✓							
12	8/3/95	14 ²²	✓		B-14-10	1	✓							
13	8/3/95	16 ⁴⁵		✓	B-14	1	✓							

Relinquished by: (Signature) <i>N. Am...</i>	Date / Time 9/01/95 2:15	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Receive by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) <i>[Signature]</i>	Date / Time 09/01/95 2:15 pm	Remarks	



SOIL TECH ENGINEERING
 Soil, Foundation and Geological Engineers

298 BROKAW ROAD, SANTA CLARA, CA 95050 ■ (408) 866-0919 ■ (415) 791-6406



PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

October 06, 1995

PEL # 9510005

SOIL TECH ENGINEERING, INC.

Attn: Noori Ameli

Re: Eight water samples for Gasoline/BTEX and Oil & Grease analyses.

Project name: 3609 E. 14th St., - Oakland

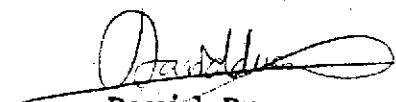
Project number: 7-92-514-SA

Date sampled: Oct 02, 1995
Date extracted: Oct 03-05, 1995

Date submitted: Oct 03, 1995
Date analyzed: Oct 03-05, 1995

RESULTS:

SAMPLE I.D.	Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylene (ug/L)	Oil & Grease (mg/L)
STMW-1	59000	140	130	140	390	---
STMW-2	46000	160	130	93	240	---
STMW-3	150000	510	410	210	650	---
STMW-4	9300	23	11	9.9	29	---
STMW-5	1500	1.1	1.3	3.9	5.3	---
STMW-6	120000	350	310	200	610	0.6
STMW-7	3300	8.9	12	17	45	---
STMW-8	94000	310	250	180	480	---
Blank	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	85.1%	92.2%	94.9%	107.4%	109.9%	---
Detection limit	50	0.5	0.5	0.5	0.5	0.5
Method of Analysis	5030 / 8015	602	602	602	602	5520 C & F


David Duong
Laboratory Director

CHAIN OF CUSTODY RECORD

PEL

PROJ. NO. 7-92-514-SA NAME 3609 E. 14 th. st. OAKLAND

SAMPLERS: (Signature) N. Ameli

CON-TAINER

ANALYSES REQUESTED
TPHG/BTEX
TO&G

REMARKS

NO.	DATE	TIME	SOIL	WATER	LOCATION	CON-TAINER	ANALYSES REQUESTED				REMARKS	
1	10/2/95	14 ⁴²		✓	STMW-1	1	✓					
2	10/2/95	11 ¹⁰		✓	STMW-2	1	✓					
3	10/2/95	15 ⁴²		✓	STMW-3	1	✓					
4	10/2/95	12 ²²		✓	STMW-4	1	✓					
5	10/2/95	10 ²³		✓	STMW-5	1	✓					
6	10/2/95	11 ⁴⁵		✓	STMW-6	5	✓	✓				
7	10/2/95	13 ²³		✓	STMW-7	1	✓					
8	10/2/95	13 ¹⁰		✓	STMW-8	1	✓					

Relinquished by: (Signature) A. A. [Signature]	Date / Time 10/03/95 12 ²⁰	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) David [Signature]	Date / Time 10/03/95 12:20 PM	Remarks	



SOIL TECH ENGINEERING
Soil, Foundation and Geological Engineers

CHAIN OF CUSTODY RECORD

PEL

PROJ. NO. 7-92-514-SA NAME 3609 E. 14 Th. St. OAKLAND

SAMPLERS: (Signature) N. Ameli

CON-TAINER

ANALYSES REQUESTED @ TPHG/BTEX& TO&G

PEL # 9510005

INV # 26390

NO.	DATE	TIME	SOIL	WATER	LOCATION	CON-TAINER	ANALYSES REQUESTED @	TPHG/BTEX&	TO&G
1	15/2/95	14 ⁴²		✓	STMW-1	1	✓		
2	17/2/95	11 ¹⁴		✓	STMW-2	1	✓		
3	14/2/95	15 ⁴²		✓	STMW-3	1	✓		
4	14/2/95	12 ²²		✓	STMW-4	1	✓		
5	14/2/95	10 ²³		✓	STMW-5	1	✓		
6	14/2/95	11 ⁴³		✓	STMW-6	5	✓	✓	
7	14/2/95	13 ²³		✓	STMW-7	1	✓		
8	14/2/95	13 ¹⁴		✓	STMW-8	1	✓		

Relinquished by: (Signature) <i>N. Ameli</i>	Date / Time 10/03/95 12:20	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Relinquished by: (Signature)	Date / Time	Received by: (Signature)
Relinquished by: (Signature)	Date / Time	Received for Laboratory by: (Signature) <i>David...</i>	Date / Time 10/03/95 12:20 PM	Remarks	



SOIL TECH ENGINEERING
Soil, Foundation and Geological Engineers

298 BROKAW ROAD, SANTA CLARA, CA 95050 ■ (408) 866-0919 ■ (415) 791-6406

09-29-1995 12:45PM FROM

TO

15104623914 P.02



ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

5987 PARKSIDE DRIVE PLEASANTON, CALIFORNIA 94566 (415) 484-2600

GROUNDWATER PROTECTION ORDINANCE PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

(1) LOCATION OF PROJECT 3609 E. 14th St. OAKLAND CA 94601

PERMIT NUMBER 95563 LOCATION NUMBER

(2) CLIENT Name: Abalghassera Ravi Address: 3609 E. 14th St. Phone: (910) 261-4444 City: OAKLAND Zip: 94601

PERMIT CONDITIONS

Circled Permit Requirements Apply

(3) APPLICANT Name: Soil Tech Engineering Inc. Address: 298 Brookway Rd. Phone: (408) 495-0265 City: SANTA CLARA Zip: 95050

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.

(4) DESCRIPTION OF PROJECT Water Well Construction Geotechnical Investigation Cathodic Protection General Well Destruction Contamination

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, irrigation, and monitoring wells unless a lesser depth is specially approved.

(5) PROPOSED WATER WELL USE Domestic Industrial Irrigation Municipal Monitoring Other

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.

(6) PROPOSED CONSTRUCTION Drilling Methods: Mud Rotary Air Rotary Auger Cable Other

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

DRILLER'S LICENSE NO. 507520

E. WELL DESTRUCTION. See attached.

WELL PROJECTS Drill Hole Diameter 8 in. Maximum Coating Diameter 2 in. Depth 30 ft. Surface Seal Depth 6 ft. Number 6

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

(7) ESTIMATED STARTING DATE 8/30/95 ESTIMATED COMPLETION DATE 9/5/95

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

Approved: Wyman Hong Date: 1 Sep 95

APPLICANT'S SIGNATURE: [Signature] Date: 9/25/95

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

REMOVED

CONFIDENTIAL

STATE OF CALIFORNIA DWR
WELL COMPLETION REPORT
(WELL LOGS)

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WELL COMPLETION REPORT
(WELL LOGS)

REMOVED