enviros®

June 24, 1997

Mr. Alex Perez
Shell Oil Products Company
P.O. Box 4023
Concord, California 94524

RE: **Corrective Action Plan**
Former Shell Service Station
15275 Washington Avenue
San Leandro, California
WIC #204-6852-1108

Dear Mr. Perez:

Enviros, Inc. (Enviros) has prepared this Corrective Action Plan (CAP) on behalf of Shell Oil Products Company to describe remedial activities proposed for the above referenced site (Plates 1 and 2).

1.0 SITE HISTORY

In August 1985, Emcon Associates (Emcon) installed four ground water monitoring wells (designated S-1 through S-4). Lithology encountered in the borings was primarily clay (CL), with interbedded discreet stringers of sand (SM and SP), and silt (ML). Ground water was encountered at 6 to 7 feet below grade (fbg). Petroleum hydrocarbons calculated as Gasoline (TPH-G) were identified in soil samples ranging from 3,100 to 3,900 parts per million (ppm). Dissolved TPH-G was detected in ground water in Wells S-1, S-2, and S-4 ranging from 520 parts per billion (ppb) to 32,000 ppb. Floating product (0.5 ft.) was measured in Well S-3.

In August 1986, Emcon drilled four exploratory soil borings (designated S-A through S-D). This investigation was described in the Emcon report dated September 12, 1986. Boring S-A was drilled adjacent to the waste oil tank. Borings S-B through S-D were drilled adjacent to the fuel underground storage tanks (USTs). Boring S-A soils contained 330 ppm TPH, and no waste oil. Borings S-B and S-C contained TPH concentrations ranging from no detection (ND) to 1,700 ppm. Boring S-D was ND at all sample depths. Boring S-B was completed as a monitoring point by installing 3-inch diameter PVC well casing in the borehole. Floating product was discovered in S-B in August 1986. Product thickness was reported on August 28, 1986 to be 0.40 ft. Subsequently, this well was measured and floating product was bailed on a weekly basis.

In December 1986, Well S-5 was installed. TPH-G was detected in well S-5 at a concentration of 7,800 ppb. Benzene was detected at a concentration of 380 ppb. This well installation was described in the Emcon report dated January 28, 1987.

In February 1987, Emcon performed a 1-mile radius water well survey. Based on this survey and a calculated ground water flow direction of southwest-southeast, only three

wells were located within a 1/4-mile of the subject property in the down-gradient direction. All three wells were former irrigation wells. The closest well was perforated from 100-120 fbg (Well #43). Well #56 was abandoned. Well #41 was drilled to a total depth of 130 feet. No information was available on the perforated zone of this well. Well #41 was located approximately 1/8-mile south of the subject property.

In May 1987, Wells S-B, S-2 and S-4 were destroyed during on-site construction activities.

On June 6, 1987, the waste oil tank was replaced with a double-wall tank. This tank removal was documented in the Blaine Tech Services, Inc. (Blaine) report dated June 22, 1987. Soil samples collected beneath the removed tank contained 280 ppm TPH-G and 14 ppm benzene. Analysis for Total Petroleum Hydrocarbons as Diesel (TPH-D) was ND. STLC lead was detected at a concentration of 0.027 mg/L and TTLC lead was detected at a concentration of 22 mg/kg. Organic lead was identified at a concentration of 0.020 mg/kg. Aside from benzene, no VOCs were detected in soil samples from beneath the waste oil tank. As a result, soils were over-excavated to a depth of 13 fbg and approximately 2 to 4 feet beyond the dimensions of the waste oil tank. Soils were stockpiled on-site.

On June 9, 1987, four fuel USTs were removed; 2-5,000 gallon tanks, 1-8,000 gallon tank, and 1-7,500 gallon tank. These tank removals are described in the Kaprealian Engineering, Inc. (KEI) report dated June 24, 1987. A total of four soil samples were collected from the tank pit walls (Samples A through D). Ground water was encountered at 10.5 fbg. Soil sample analyses indicated TPH-G levels of less than 100 ppm in all samples except Sample D (910 ppm). However, due to exposed underground utilities (i.e. sewer line), over-excavation could not be performed. A total of approximately 500 cubic yards of soil were stockpiled on-site for aeration. In July 1987, KEI sampled the stockpiled soils on-site. TPH-G concentrations ranged from 11 to 64 ppm and benzene concentrations ranged from ND to 1.3 ppm. These soils were subsequently transported and disposed of at an appropriate Class III facility.

In December 1987, KEI performed a subsurface investigation at the subject property. Three trenches were excavated away from the former tank pit area. The trenches were dug down to a depth of approximately 8.5 fbg. TPH-G was identified in soil at concentrations ranging from 100 to 730 ppm and benzene was identified from at concentrations ranging from 3.9 to 10 ppm. The trench soils were stockpiled on-site. On December 22, 1987, the stockpiled soils (approximately 200 cubic yards) were sampled. TPH-G was detected in these soils at a concentration of 3.5 ppm. Benzene was ND. These soils were subsequently transported and disposed of at an appropriate Class III facility. The results of this investigation are presented in the KEI report dated December 7, 1987.

Quarterly ground water monitoring of existing wells began in September 1988.

In November 1988, Woodward-Clyde installed monitoring wells S-6 through S-12. Additionally, a soil gas survey was performed. Soil gas from soil samples ranged from 0.63 to 5,800 ppm for TPH-G and 0.070 to 1,000 ppm for benzene. Ground water samples collected from Wells S-1 through S-12 contained detectable concentrations of TPH-G ranging from 50 ppb to 70,000 ppb (Well S-3). Benzene was detected at

concentrations up to 4,600 ppb (Well S-3). These activities are described in the Woodward-Clyde report dated April 14, 1989.

In April 1989, GeoStrategies, Inc. (GSI) installed Wells S-13 through S-17. Field procedures for these well installations are described in the GSI report dated October 12, 1989. Additionally, the installation of recovery well SR-1 is also described in this GSI report.

In March 1990, GSI performed a variable discharge pump test in Well SR-1, and slug tests in Wells S-1, S-3, S-5, S-7, S-9, S-10, S-13, S-14, and S-16. The variable test lasted 52 minutes at a pumping rate of 2 gallons per minute. The results of these tests indicated that the aquifer beneath the subject property demonstrated very low yield. Transmissivity values ranged from 408 to 11,000 gallons per day per foot. Hydraulic conductivity values ranged from 7.3 to 100 feet per day. These data were derived from the slug tests. Based on actual yield during pumping, these values appear to be inflated and are probably more representative of the surrounding sandpack material than actual formation material. Based on the very low yield of the aquifer and the distribution of petroleum hydrocarbons in the subsurface, GSI recommended that the Benzene Transport Model developed by Shell Oil Company be used to track plume attenuation. Quarterly reporting continued throughout 1990.

In 1991, GSI prepared and submitted four quarterly reports to the appropriate regulatory agencies. Additionally, Well S-18 was installed. This well installation is described in the GSI June 24, 1991 Site Update/Well Installation Report.

In 1993, Wells S-11 through S-15 were paved over by the City of San Leandro. These wells were relocated, vault boxes raised to new grade and elevations were re-surveyed.

In April 1995, a CAP was submitted by Enviros, Inc., proposing ground water monitoring and natural attenuation for remediation of residual hydrocarbons in soil and ground water beneath the site. During subsequent discussions the Alameda County Health Care Services Agency (ACHCSA) requested that a Risk Based Corrective Action (RBCA) evaluation be performed, using ASTM Standard E-1739.

A Tier 1 RBCA evaluation dated December 9, 1996 was prepared by Weiss Associates (WA) on behalf of Shell. Levels of petroleum hydrocarbons identified in soil and ground water did not meet conservative Tier 1 risk based screening levels (RBSLs) for several contaminants of concern (COCs) and potentially completed pathways. Therefore, a Tier 2 RBCA evaluation was prepared by WA. Additional data collected by WA included drilling of nine exploratory borings (SG-1 through SG-9) and collection of vapor samples for analysis for petroleum hydrocarbons and methyl-tertiary butyl ether. Results of WA's vadose zone characterization and Tier 2 RBCA evaluation are presented in their report dated June 23, 1997. The Tier 2 evaluation showed that the number of completed pathways was reduced. COC concentrations exceeded site specific target levels (SSTLs) only for benzene for volatilization to indoor air from soil and ground water pathways. The SSTL for benzene is exceeded for on-site ground water ingestion if this is considered to be a completed pathway. As a result, corrective action is proposed to remediate the site to levels below the SSTLs.

2.0 SITE CONDITIONS

2.1 Previous Investigations

Previous investigations at the subject property have been performed to delineate the extent of petroleum hydrocarbons in soil and ground water. Additionally, investigations have been performed to characterize hydraulic properties of the shallow aquifer and to collect sub-surface vapor samples. These investigations have been presented chronologically in section 1.0 and are described in detail in the following sections of this document.

2.2 Site Geology

A total of nineteen monitoring wells have been installed and thirteen exploratory soil borings have been drilled to characterize subsurface conditions beneath the subject site. Based on data collected from these investigations, the subsurface geology consists primarily of a low permeability clay (CL and CH) with interspersed discreet stringers of sand (SC, SM and SP) and silt (ML).

A gravel/fill layer was encountered in borings S-1 through S-5, S-9, S-17, SG-3, and SR-1 at depths of approximately 0.5 - 3 fbg. A silty sand/clayey sand layer was identified in borings S-2 through S-5, SG-7, SG-8, and SR-1 at depths of approximately 4 - 6 fbg. The upper water-bearing zone appears to extend from a depth of approximately 6 feet to 20 fbg. Water in this upper zone is most likely yielded from the discreet sandy interbeds and possibly from silty horizons in the predominantly clay (CL and CH) matrix. A geologic cross-section prepared by Woodward-Clyde Consultants depicting subsurface lithology is presented in Appendix A. Exploratory boring logs for soil borings and well borings are also presented in Appendix A.

2.3 Site Hydrogeology

First encountered ground water occurs at depths ranging from approximately 6 to 20 fbg based on review of exploratory boring logs. Stabilized depths to ground water have ranged from approximately 4.5 to 9 fbg. Historically, ground water flow has been predominantly to the south/southwest. Based on a review of historical ground water elevation data, water level fluctuations appear to be approximately 2 to 4 feet seasonally.

A summary of historical ground water elevation data is presented in Table 1.

2.4 Soil Chemistry

Sampling data from the underground storage tank removals indicated the presence of TPH-G and benzene in soils from the pit walls and pit bottoms. As a result, over-excavation was performed, when possible, and stockpiled soils were aerated on-site and were then properly disposed. Soil samples from the waste oil tank excavation were also analyzed for TPH-D, volatile organic compounds (VOCs), TTLC and STLC lead. No TPH-D or VOCs (except benzene), were present in the soil. TTLC and STLC lead values were low (refer to section 1.0). Waste oil was not detected in soil samples taken from the boring (S-A) adjacent to the waste oil tank.

Soil samples taken from UST complex borings (S-B through S-D) and monitoring well borings S-1 through S-18 were analyzed for Total Petroleum Hydrocarbons calculated as gasoline (TPH-G), and benzene, toluene, ethylbenzene, and xylenes (BTEX). Due to shallow ground water conditions, most of the soil samples analyzed were collected from the capillary fringe or saturated zones and may be representative of ground water conditions. **The distribution of TPH-G and benzene in soils is presented on Plate 3.**

2.5 Ground Water Chemistry

Currently, a total of seventeen monitoring wells exist at the subject site. Of these, there are seven on-site wells (S-1, S-3, S-5, S-6, S-7, S-8 and SR-1), and ten off-site wells (S-9 through S-18). The locations of these wells are shown on Plate 2. Quarterly monitoring at the site began in September 1988. Historical ground water analytical data are presented in Table 1.

Historically, low levels of TPH-G and benzene have been present in Wells S-1, S-6, S-7, S-10, S-11, S-12, S-13, S-15, S-16, S-17 and S-18. Several sampling events indicate levels below method detection limit concentrations in these wells (Table 2). Wells S-1, S-6 and S-7 are on-site wells. Wells S-10, S-11, S-12, S-13, S-15, S-16, S-17, and S-18 are off-site wells.

Wells S-3, S-5, S-8, S-9, S-14, and SR-1 have historically contained the highest concentrations of TPH-G and benzene. Wells S-3, S-5, S-8, and SR-1 are located on-site. Wells S-9 and S-14 are located off-site.

The ground water plume is delineated by Wells S-11 through S-13 and Wells S-10, S-15, S-17, and S-18. Cross-gradient Well S-11 has historically remained ND for TPH-G and benzene. TPH-G and benzene have been detected in cross-gradient Wells S-12, S-13 and S-14, and these wells are suspected to have been impacted by the service station across Lewelling Boulevard to the south of the subject property. The presence of MTBE in vapor samples collected as part of the WA investigation further suggests that migration from a release at the adjacent service station has occurred.

2.6 Hydraulic Testing Results

In March 1990, GSI performed a variable discharge pump test in Well SR-1 and slug tests in selected wells (Wells S-1, S-3, S-5, S-7, S-9, S-10, S-13, S-14, and S-16) .

Variable Discharge Pump Test

The variable discharge pump test performed in Well SR-1 lasted 52 minutes. The well was pumped dry during this time at a discharge rate of 2 gallons per minute (gpm). Because of the short duration of pumping, insufficient data was collected to calculate aquifer parameters. This test indicated that the aquifer was incapable of yielding water at a constant low flow rate (i.e. clays will not yield water easily or for a sustained period of time). This test indicated that very low permeability conditions exist in the subsurface beneath the subject property.

Slug Tests

A total of nine slug tests were performed to characterize aquifer parameters beneath the subject site. Slug test data indicated that transmissivity values ranged from 408 to 11,000 gallons per day per foot. Hydraulic conductivity values ranged from 7.3 to 100 feet per day. These hydraulic parameters appear to be inconsistent with the variable discharge pump test results. Therefore, it is assumed that the slug testing was more indicative of the sandpack material around each well than actual formation conditions.

2.7 Previous Source Removal and Remediation Activities

In 1987, the underground storage tanks were removed from the site as previously described. During the tank removal, approximately 700 cubic yards of soil were excavated. This soil was aerated prior to disposal off-site.

3.0 REMEDIAL ACTION SELECTION

Based on the Tier 2 RBCA Evaluation performed by WA, the SSTLs are not currently met for the following pathways and COCs:

Pathway	COC
Soil volatilization to indoor air	Benzene
Ground water volatilization to indoor air	Benzene
Ground water ingestion	Benzene

Remedial activities are proposed to remediate soil and ground water to levels below these SSTLs to meet these SSTLs. Soil vapor extraction is proposed to meet these objectives in the manner described below.

3.1 Soil Volatilization to Indoor Air Pathway

Concentrations of benzene identified during soil sampling activities exceed the SSTL.

Soil vapor extraction will address this pathway through the following processes:

- Benzene mass present within soils will be subjected to air flow associated with soil vapor extraction. This will promote its volatilization into the airstream. The airstream will be extracted from the subsurface and treated with abatement equipment prior to discharge.

- Air flow associated with soil vapor extraction will increase oxygen levels in the subsurface to stimulate natural biodegradation processes.

3.2 Ground Water Volatilization to Indoor Air Pathway

Concentrations of benzene identified during ground water sampling exceed the SSTL.

Soil vapor extraction will address this pathway through the following processes:

- Air flow associated with soil vapor extraction will promote volatilization of benzene from ground water into the extracted airstream for treatment.

- Air flow associated with soil vapor extraction will increase oxygen levels in the subsurface to stimulate natural biodegradation processes.

- Emissions from volatilization of dissolved benzene in ground water will be collected by the soil vapor extraction system for treatment, intercepting the pathway between ground water and potential receptors.

3.3 Ground Water Ingestion Pathway

Levels of benzene in ground water currently exceed State of California Maximum Contaminant Levels (MCLs) and the SSTL for drinking water.

Soil vapor extraction will address this pathway through the following processes:

- Air flow associated with soil vapor extraction will promote volatilization of benzene from ground water into the extracted airstream for treatment.

- Air flow associated with soil vapor extraction will increase oxygen levels in the subsurface to stimulate natural biodegradation processes.

Upon completion of soil vapor extraction activities, natural biodegradation processes will continue to degrade residual benzene concentrations in ground water.

4.0 SOIL VAPOR EXTRACTION SYSTEM DESCRIPTION

As described in Section 2.2, subsurface soils consist primarily of relatively impermeable clays and silts. However, interspersed stringers of more permeable sands have been identified.

A gravel/fill layer was encountered in borings S-1 through S-5, S-9, S-17, SG-3, and SR-1 at depths of approximately 0.5 - 3 fbg. The inferred lateral extent of this soil layer is depicted on Plate 4. A silty sand/clayey sand layer was identified in borings S-2 through S-5, SR-1, SG-7, and SG-8 at an approximate depth of 4 - 6 fbg. The inferred lateral extent of this soil layer is shown on Plate 5. Soil, ground water, and vapor samples suggest that these layers control the migration of petroleum hydrocarbons in the subsurface. Soil vapor extraction efforts will address maximizing air flow through these zones.

4.1 Soil Vapor Extraction from Shallow Gravel/Fill Soil Layer

The placement of shallow horizontal piping is proposed adjacent to the southernmost existing building as shown on Plate 6. This piping will be placed at a depth of approximately 18 inches below grade, within the shallow gravel/fill zone which has been identified during site investigation activities. This piping is proposed to extract benzene vapors collected beneath the building slab as identified by the WA, and vapors which may accumulate as a result of volatilization from soil and/or ground water.

Vapor extracted through this piping will be routed to the abatement equipment for treatment.

4.2 Soil Vapor Extraction From Sandy Soil Layer at 4 - 6 FBG

Existing ground water monitoring wells S-1, S-5, S-3, S-7, and S-8 are proposed for use as soil vapor extraction wells. Each well has a top-of-screen depth of four fbg (except Well S-5, with top-of-screen at 3.5 fbg), allowing 2 - 3 feet of exposed screen, depending on water level. An additional soil vapor extraction well, SV-1, is proposed. The locations of each well are shown on Plate 6.

4.3 Equipment Enclosure

Soil vapor extraction abatement equipment and controls will be placed within an enclosure located as shown on Plate 6. This location may be adjusted to meet the requirements of the property owner.

All piping from soil vapor extraction wells and horizontal piping will run below grade and will terminate in a manifold within this enclosure.

4.4 Soil Vapor Extraction Test

A one day soil vapor extraction test is proposed prior to final system design to evaluate the soil vapor extraction system design parameters and determine appropriate airstream abatement equipment.

Parameters monitored during the test will include well vacuum, extracted vapor hydrocarbon concentration with a PID, engine RPM, extraction well vapor flow rate, and monitoring well vacuum response. Additionally, Tedlar® bag vapor samples will be collected at the beginning and end of the test for laboratory analysis to confirm the accuracy of the PID.

Hydrocarbon concentration and vapor flow rate data will be used to calculate the total hydrocarbon mass removed during the test.

4.5 Soil Vapor Extraction Airstream Abatement

Appropriate airstream abatement equipment will be chosen based on the results of the soil vapor extraction test. Options considered will include:

- Thermal Oxidation
- Catalytic Oxidation
- Internal Combustion Engine
- Carbon Absorption

4.6 Permitting

Upon approval of this CAP by ACHCSA, appropriate permits for system construction will be obtained. Permits obtained for system installation will include the following:

- Bay Area Air Quality Management District
- City of San Leandro Building Department
- City of San Leandro Fire Department

5.0 VERIFICATION PROGRAM

Remedial activities will continue until hydrocarbon removal rates and concentrations in extracted vapor decline to asymptotic levels. Sampling of soil and ground water will be performed to verify that SSTLs for benzene for the transport pathways of soil volatilization to indoor air and ground water volatilization to indoor air are achieved.

Upon completion of active remediation, natural biodegradation processes will continue to degrade residual petroleum hydrocarbons in soil and ground water.

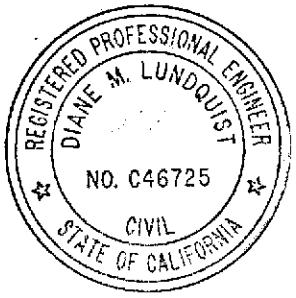
If you have any questions regarding the contents of this document, please call.

Sincerely,

Enviros, Inc.

Matthew E. Donohue
Project Engineer

Diane M. Lundquist, P.E.
Senior Engineer
C46725



Attachments

Table 1: Well Concentrations

Plate 1: Vicinity Map
Plate 2: Site Plan
Plate 3: Soil Quality Map
Plate 4: Lateral Extent of Shallow Gravel/Fill Soil Layer
Plate 5: Lateral Extent of Sandy Soil Layer at 4 - 6 FBG
Plate 6: Soil Vapor Extraction System Layout

Appendix A: Exploratory Boring Logs & Geologic Cross-Section

cc: Mr. Brad Boschetto, Shell Oil Products Company
Mr. Erik Hansen, Shell Oil Products Company
Mr. Scott Seery, Alameda County Health Care Services, Environmental Protection Division
Mr. Kevin Graves, Regional Water Quality Control Board, San Francisco Bay Region
Mr. Mike Bakaldin, San Leandro Fire Department
Mr. John Verber, Larson and Burnham
Mr. Jonathan W. Redding

TABLE 1

WELL CONCENTRATIONS
Shell Oil Products Company
15275 Washington
San Leandro, California
WIC# 204-6852-1008

Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
S-1		**Top casing elevation (ft): 21.55**								
08-Jul-85	NA	NA	NA	520	NA	NA	NA	NA	NA	Well Inaccessible
06-Sep-88	NA	NA	NA	<50	<0.5	<1	<1	<0.3	NA	
16-Nov-88	8.01	13.54	0.00	<50	<0.5	<1	<1	<0.3	NA	
27-Feb-89	NA	NA	NA	<50	0.5	<1	<1	<0.3	NA	
04-May-89	NA	NA	NA	<50	1.0	<1	<1	<0.3	NA	
10-Aug-89	7.93	13.62	0.00	<50	0.7	<1	<1	<0.3	NA	
10-Oct-89	8.09	13.46	0.00	<50	<0.5	<1	<1	<0.3	NA	
25-Jan-90	7.73	13.82	0.00	<50	<0.5	<0.5	<0.5	<1	NA	
18-Apr-90	7.91	13.64	0.00	<50	<0.5	<0.5	<0.5	<1	NA	
23-Jul-90	7.72	13.83	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
18-Oct-90	8.55	13.00	0.00	80	5	<0.5	<0.5	3.0	NA	
28-Jan-91	8.52	13.03	0.00	<50	4.5	<0.5	<0.5	2.0	NA	
25-Apr-91	7.18	14.37	0.00	80*	3.7	<0.5	0.7	2.0	NA	
09-Jul-91	8.22	13.33	0.00	200	16	<0.5	1.3	5.8	NA	
08-Oct-91	8.70	12.85	0.00	<50	2.3	<0.5	<0.5	<0.5	NA	
05-Feb-92	8.14	13.41	0.00	160	8.9	<0.5	2.1	6.0	NA	
28-Apr-92	7.52	14.03	0.00	<50	2.4	<0.5	<0.5	0.9	NA	
27-Jul-92	8.28	13.27	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
26-Oct-92	8.74	12.81	0.00	57	3.0	1.6	1.4	1.7	NA	
14-Jan-93	5.91	15.64	0.00	490	53	1.2	20	33	NA	
16-Apr-93	6.66	14.89	0.00	240	20	<0.5	15	240	NA	
23-Jul-93	7.53	14.02	0.00	<50	0.5	<0.5	<0.5	<0.5	NA	
27-Oct-93	8.20	13.35	0.00	60	5.9	<0.5	2.5	1.7	NA	
27-Jan-94	7.26	14.29	0.00	<50	2.1	<0.5	<0.5	0.63	NA	
		New top casing elevation (ft): 21.27								
05-May-94	7.38	13.89	0.00	57	3.9	<0.5	1.9	1.9	NA	
26-Jul-94	7.86	13.41	0.00	<50	2.2	<0.3	<0.3	<0.6	NA	

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ct-94	7.86	13.41	0.00	<50	0.8	<0.3	<0.3	0.8	NA	
ın-95	6.85	14.42	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
pr-95	6.08	15.19	0.00	NA	NA	NA	NA	NA	NA	
ul-95	6.79	14.48	0.00	60	2.2	<0.5	1.3	1.2	NA	
ct-95	7.04	14.23	0.00	60	2.6	<0.5	1.2	1.3	NA	
ın-96	6.40	14.87	0.00	<50	2.0	<0.5	<0.5	<0.5	<2	
pr-96	5.84	15.43	0.00	NA	NA	NA	NA	NA	NA	
ul-96	6.50	14.77	0.00	NA	NA	NA	NA	NA	NA	
ct-96	7.31	13.96	0.00	NA	NA	NA	NA	NA	NA	
ın-97	5.50	15.77	0.00	<50	<0.50	<0.50	<0.50	<0.50	6.7	
pr-97	7.03	14.24	0.00	NA	NA	NA	NA	NA	NA	
-3		**Top casing elevation (ft): 21.14**								
ep-88	NA	NA	NA	96000	3400	9500	2700	17000	NA	
ov-88	7.76	13.38	0.00	70000	4600	8400	2500	13000	NA	
eb-89	NA	NA	NA	32000	2400	3100	1500	6400	NA	
ay-89	NA	NA	NA	47000	4400	300	2400	15000	NA	
ug-89	7.92	13.22	0.00	110000	5700	5700	3200	19000	NA	
ct-89	8.00	13.14	0.00	52000	4600	3300	2600	15000	NA	
ın-90	7.54	13.60	0.00	420000	5200	4100	6700	34000	NA	
pr-90	7.74	13.40	0.00	58000	3800	1400	2400	12000	NA	
ul-90	7.55	13.59	0.00	49000	3400	1800	2300	12000	NA	
ct-90	8.47	12.67	0.00	44000	3500	650	2400	11000	NA	
ın-91	8.38	12.76	0.00	64000	40900	570	1940	8090	NA	
pr-91	6.91	14.23	0.00	120000	3900	3600	2400	8900	NA	
ul-91	8.07	13.07	0.00	50000	3600	2300	1800	10000	NA	
ct-91	8.61	12.53	0.00	130000	3600	1000	2800	8400	NA	
eb-92	7.80	13.34	0.00	150000	2500	670	2700	10000	NA	

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Shell Oil Products Company
15275 Washington
San Leandro, California
WIC# 204-6852-1008

Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
04-May-89	NA	NA	NA	9000	3000	600	630	1700	NA	
10-Aug-89	8.28	13.13	0.00	5100	1100	<50	270	400	NA	
10-Oct-89	8.32	13.09	0.00	15000	3300	160	830	2200	NA	
25-Jan-90	8.20	13.21	0.00	12000	2400	360	570	1400	NA	
18-Apr-90	8.32	13.09	0.00	5200	1100	40	300	460	NA	
23-Jul-90	8.03	13.38	0.00	5500	1300	140	320	730	NA	
18-Oct-90	9.03	12.38	0.00	12000	3200	40	720	900	NA	
28-Jan-91	8.80	12.61	0.00	2550	410	15	110	60	NA	
25-Apr-91	7.40	14.01	0.00	67000	5100	3100	2800	11000	NA	
09-Jul-91	8.52	12.89	0.00	4900	480	36	360	1000	NA	
08-Oct-91	9.00	12.41	0.00	6600	370	7.0	190	380	NA	
05-Feb-92	8.11	13.30	0.00	44000	4800	850	2700	8400	NA	
28-Apr-92	7.70	13.71	0.00	33000	1400	320	1600	5200	NA	
27-Jul-92	8.52	12.89	0.00	20000	2400	<25	1800	2300	NA	
26-Oct-92	9.02	12.39	0.00	21000	1600	140	1500	2800	NA	
14-Jan-93	5.22	16.19	0.00	54000	1900	1000	2700	16000	NA	
16-Apr-93	7.04	14.37	0.00	42000	2000	1300	4300	18000	NA	
23-Jul-93	7.75	13.66	0.00	46000	2500	2200	3400	11000	NA	
27-Oct-93	8.49	12.92	0.00	6500	990	31	1100	1000	NA	
27-Jan-94	7.04	14.37	0.00	34000	1800	580	2900	9700	NA	
		New top casing elevation (ft): 21.03								
05-May-94	7.20	13.83	0.00	24000	670	70	1400	2700	NA	
27-Jul-94	7.72	13.31	0.00	4700	193.6	33.1	332.3	281.2	NA	
28-Oct-94	7.82	13.21	0.00	3200	167.3	18	238.7	104.5	NA	
02-Jan-95	6.65	14.38	0.00	18000	1300	220	3400	10000	NA	
14-Apr-95	5.99	15.04	0.00	NA	NA	NA	NA	NA	NA	
28-Jul-95	6.77	14.26	0.00	25000	440	74	1700	4500	NA	
17-Oct-95	7.00	14.03	0.00	18000	360	24	1300	2200	NA	

TABLE 1

WELL CONCENTRATIONS
Shell Oil Products Company
15275 Washington
San Leandro, California
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Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
11-Jan-96	6.22	14.81	0.00	41000	420	180	1600	9500	<200	
02-Apr-96	5.44	15.59	0.00	NA	NA	NA	NA	NA	NA	
09-Jul-96	6.41	14.62	0.00	NA	NA	NA	NA	NA	NA	
10-Oct-96	7.19	13.84	0.00	NA	NA	NA	NA	NA	NA	
09-Jan-97	5.03	16.00	0.00	38000	130	43	160	6200	<125	
08-Apr-97	7.20	13.83	0.00	NA	NA	NA	NA	NA	NA	
S-5 DUP										
28-Jul-95	NA	NA	NA	25000	450	<50	1700	4600	NA	
09-Jan-97	NA	NA	NA	36000	130	<50	160	5600	<250	
S-6		**Top casing elevation (ft): 22.02**								
16-Nov-88	8.58	13.44	0.00	50	0.7	<1	<1	<3	NA	
27-Feb-89	NA	NA	NA	<50	<0.5	<1	<1	<3	NA	
04-May-89	NA	NA	NA	<50	<0.5	<1	<1	<3	NA	
10-Aug-89	8.54	13.48	0.00	<50	<0.5	<1	<1	<3	NA	
10-Oct-89	8.58	13.44	0.00	<50	<0.5	<1	<1	<3	NA	
25-Jan-90	8.31	13.71	0.00	<50	<0.5	<0.5	<0.5	<1	NA	
18-Apr-90	8.43	13.59	0.00	<50	<0.5	0.6	<0.5	1.0	NA	
23-Jul-90	8.24	13.78	0.00	<50	<0.5	0.9	<0.5	1.8	NA	
18-Oct-90	9.20	12.82	0.00	<50	<0.5	0.7	<0.5	0.8	NA	
28-Jan-91	9.10	12.92	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
25-Apr-91	7.74	14.28	0.00	<50	<0.5	<0.5	<0.5	0.7	NA	
09-Jul-91	8.81	13.21	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
08-Oct-91	9.26	12.76	0.00	<50	0.7	<0.5	<0.5	<0.5	NA	
02-Feb-92	8.47	13.55	0.00	NA	NA	NA	NA	NA	NA	
28-Apr-92	7.91	14.11	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
27-Jul-92	8.83	13.19	0.00	NA	NA	NA	NA	NA	NA	

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Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
26-Oct-92	9.29	12.73	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
13-Jan-94	9.43	12.59	0.00	NA	NA	NA	NA	NA	NA	
16-Apr-93	7.12	14.90	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
23-Jul-93	8.14	13.88	0.00	NA	NA	NA	NA	NA	NA	
27-Oct-93	8.75	13.27	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
27-Jan-94	7.87	14.15	0.00	NA	NA	NA	NA	NA	NA	
		New top casing elevation (ft): 21.40								
05-May-94	7.71	13.69	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
26-Jul-94	8.10	13.30	0.00	NA	NA	NA	NA	NA	NA	
28-Oct-94	8.04	13.36	0.00	<50	<0.3	<0.3	<0.3	<0.6	NA	
02-Jan-95	7.07	14.33	0.00	NA	NA	NA	NA	NA	NA	
14-Apr-95	6.29	15.11	0.00	<50	<0.5	1.3	<0.5	<0.5	NA	
28-Jul-95	6.91	14.49	0.00	NA	NA	NA	NA	NA	NA	
17-Oct-95	7.20	14.20	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
11-Jan-96	6.60	14.80	0.00	NA	NA	NA	NA	NA	NA	
S-7		**Top casing elevation (ft): 21.47**								
16-Nov-88	8.24	13.23	0.00	100	5.1	15	2.0	13	NA	
27-Feb-89	NA	NA	NA	50	0.5	3.0	1.0	11	NA	
04-May-89	NA	NA	NA	<50	<0.5	<1	<1	<3	NA	
10-Aug-89	8.18	13.29	0.00	<50	<0.5	<1	<1	<3	NA	
10-Oct-89	8.35	13.12	0.00	<50	<0.5	<1	<1	<3	NA	
25-Jan-90	7.95	13.52	0.00	<50	<0.5	<0.5	<0.5	<1	NA	
18-Apr-90	8.06	13.41	0.00	<50	<0.5	<0.5	<0.5	<1	NA	
23-Jul-90	7.89	13.58	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
18-Oct-90	8.83	12.64	0.00	<50	<0.5	0.5	0.5	4.1	NA	
28-Jan-91	8.77	12.70	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
25-Apr-91	7.25	14.22	0.00	60	<0.5	<0.5	<0.5	<0.5	NA	

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WELL CONCENTRATIONS
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Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
09-Jul-91	8.41	13.06	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
08-Oct-91	8.95	12.52	0.00	NA	NA	NA	NA	NA	NA	
05-Feb-92	8.04	13.43	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
08-Oct-91	8.95	12.52	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
28-Apr-92	7.45	14.02	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
27-Jul-92	8.48	12.99	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
26-Oct-92	9.95	11.52	0.00	570	<0.5	<0.5	<0.5	<0.5	NA	
14-Jan-93	5.84	15.63	0.00	56	<0.5	<0.5	<0.5	<0.5	NA	
16-Apr-93	6.38	15.09	0.00	110	28	<0.5	<0.5	1.8	NA	
23-Jul-93	7.72	13.75	0.00	80	0.48	<0.5	<0.5	0.8	NA	
27-Oct-93	7.79	13.68	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
27-Jan-94	7.85	13.62	0.00	70**	<0.5	<0.5	<0.5	<0.5	NA	
		New top casing elevation (ft): 20.85								
05-May-94	9.45	11.40	0.00	92	2.1	<0.5	<0.5	<0.5	NA	
26-Jul-94	7.64	13.21	0.00	88	<0.3	<0.3	<0.3	<0.6	NA	
28-Oct-94	7.68	13.17	0.00	60	<0.3	0.5	<0.3	<0.6	NA	
02-Jan-95	6.95	13.90	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
14-Apr-95	5.82	15.03	0.00	NA	NA	NA	NA	NA	NA	
28-Jul-95	6.32	14.53	0.00	170	1.7	<0.5	<0.5	2.2	NA	
17-Oct-95	7.07	13.78	0.00	100	<0.5	0.6	<0.5	<0.5	NA	
11-Jan-96	6.10	14.75	0.00	80	0.6	<0.5	<0.5	<0.5	54	
02-Apr-96	6.14	14.71	0.00	NA	NA	NA	NA	NA	NA	
09-Jul-96	6.40	14.45	0.00	NA	NA	NA	NA	NA	NA	
10-Oct-96	6.70	14.15	0.00	NA	NA	NA	NA	NA	NA	
09-Jan-97	5.25	15.60	0.00	130	1.4	<0.50	<0.50	0.56	70	
08-Apr-97	7.15	13.70	0.00	NA	NA	NA	NA	NA	NA	

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Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
S-8		**Top casing elevation (ft): 20.72**								
16-Nov-88	7.76	12.96	0.00	210	5.0	<1	1.0	5.0	NA	
27-Feb-89	NA	NA	NA	<50	2.4	<1	<1	<3	NA	
04-May-89	NA	NA	NA	<50	7.5	<1	2.0	<3	NA	
10-Aug-89	7.79	12.93	0.00	<50	0.6	<1	<1	<3	NA	
10-Oct-89	7.84	12.88	0.00	<50	<0.5	<1	<1	<3	NA	
25-Jan-90	7.47	13.25	0.00	<50	<0.5	<0.5	<0.5	<1	NA	
18-Apr-90	7.59	13.13	0.00	<50	<0.5	<0.5	<0.5	<1	NA	
23-Jul-90	7.49	13.23	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
18-Oct-90	8.44	12.28	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
28-Jan-91	8.28	12.44	0.00	<50	55	0.5	<0.5	1.4	NA	
25-Apr-91	6.72	14.00	0.00	130*	19	<0.5	1.3	1.1	NA	
09-Jul-91	7.98	12.74	0.00	200	33	<0.5	1.8	2.8	NA	
08-Oct-91	8.55	12.17	0.00	580	95	2.2	4.9	6.5	NA	
05-Feb-92	7.50	13.22	0.00	90*	18	<0.5	6.2	1.8	NA	
28-Apr-92	7.14	13.58	0.00	<50	5.9	<0.5	2.5	<0.5	NA	
27-Jul-92	8.06	12.66	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
26-Oct-92	8.58	12.14	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
14-Jan-93	5.32	15.40	0.00	270	74	0.9	25	5.5	NA	
16-Apr-93	5.76	14.96	0.00	1100	420	<0.5	200	20	NA	
23-Jul-93	7.29	13.43	0.00	160	23	<0.5	1.2	1.5	NA	
27-Oct-93	7.93	12.79	0.00	420	650	0.7	11	1.7	NA	
27-Jan-94	6.31	14.41	0.00	290	65	<1	6.9	2.4	NA	
		New top casing elevation (ft): 20.32								
05-May-94	6.84	13.48	0.00	120	13	<0.5	<0.5	<0.5	NA	
26-Jul-94	7.42	12.90	0.00	115	12.2	1.3	<0.3	2.7	NA	
28-Oct-94	7.56	12.76	0.00	733	75.9	3.2	4.9	4.2	NA	
02-Jan-95	6.19	14.13	0.00	290	54	<0.5	10	<0.5	NA	

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Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
14-Apr-95	5.54	14.78	0.00	230	68	<0.5	10	2.4	NA	
28-Jul-95	6.28	14.04	0.00	290	44	<0.5	8.0	<0.5	NA	
17-Oct-95	6.64	13.68	0.00	190	24	<0.5	1.0	0.9	NA	
11-Jan-96	5.96	14.36	0.00	400	85	1.1	13	3.4	2.3	
02-Apr-96	5.21	15.11	0.00	300	110	0.7	4.9	0.9	<2	
09-Jul-96	6.05	14.27	0.00	<50	5.4	<0.50	0.63	<0.50	<2.5	
10-Oct-96	6.83	13.49	0.00	150	0.53	0.66	2.3	1.0	8.9	
09-Jan-97	4.51	15.81	0.00	240	27	<0.50	2.4	<0.50	5.8	
08-Apr-97	6.50	13.82	0.00	220	27	0.62	1.9	0.71	[redacted]	
S-9		**Top casing elevation (ft): 20.96**								
16-Nov-88	7.78	13.18	0.00	1400	69	3.0	52	180	NA	
27-Feb-89	NA	NA	NA	1600	240	4.0	130	180	NA	
04-May-89	NA	NA	NA	2600	470	10	240	480	NA	
10-Aug-89	7.82	13.14	0.00	520	73	<10	40	<30	NA	
10-Oct-89	7.87	13.09	0.00	380	82	<1	46	13	NA	
25-Jan-90	7.41	13.55	0.00	750	140	1.2	69	75	NA	
18-Apr-90	7.65	13.31	0.00	680	150	1.7	50	37	NA	
23-Jul-90	7.58	13.38	0.00	490	94	1.2	32	24	NA	
18-Oct-90	8.46	12.50	0.00	390	140	0.7	3.3	24	NA	
28-Jan-91	8.29	12.67	0.00	1040	450	4.6	85	97	NA	
25-Apr-91	6.09	14.87	0.00	5800	880	9.0	360	500	NA	
09-Jul-91	7.82	13.14	0.00	1400	220	2.8	82	100	NA	
08-Oct-91	8.55	12.41	0.00	890	960	<2.5	16	29	NA	
05-Feb-92	6.96	14.00	0.00	950	240	<2.5	28	55	NA	
28-Apr-92	6.76	14.20	0.00	1400*	290	3.0	100	81	NA	
27-Jul-92	8.10	12.86	0.00	890	190	<2.5	66	68	NA	
26-Oct-92	8.53	12.43	0.00	650	160	<2.5	63	89	NA	

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WELL CONCENTRATIONS
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Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
13-Jan-93	6.80	14.16	0.00	19000	2400	38	1700	2200	NA	
16-Apr-93	6.28	14.68	0.00	10000	1500	<5	1100	990	NA	
23-Jul-93	7.26	13.70	0.00	1100	400	<5	260	160	NA	
27-Oct-93	8.00	12.96	0.00	2500	400	<5	190	110	NA	
27-Jan-94	5.96	15.00	0.00	4800	990	16	630	490	NA	
		New top casing elevation (ft): 20.68								
05-May-94	6.99	13.69	0.00	3700	480	<5	21	120	NA	
26-Jul-94	7.56	13.12	0.00	1000	124.6	<0.3	35.8	28.6	NA	
28-Oct-94	7.78	12.90	0.00	979	80.3	7.0	21.7	29.2	NA	
02-Jan-95	6.29	14.39	0.00	3900	540	2.4	350	150	NA	
14-Apr-95	5.69	14.99	0.00	5100	1000	<10	380	230	NA	
28-Jul-95	6.61	14.07	0.00	4600	680	<10	120	47	NA	
17-Oct-95	7.00	13.68	0.00	1600	150	<0.5	42	15	NA	
11-Jan-96	6.20	14.48	0.00	6800	1100	12	720	95	24	
02-Apr-96	5.19	15.49	0.00	6000	1300	8.3	430	99	49	
09-Jul-96	6.43	14.25	0.00	3400	680	6.7	54	31	<25	
10-Oct-96	7.08	13.60	0.00	6600	1200	<10	160	<10	70	
09-Jan-97	5.03	15.65	0.00	12000	1400	<25	1000	39	<125	
08-Apr-97	6.78	13.90	0.00	6600	920	10	230	26	150	
S-9 (DUP)										
02-Apr-96	NA	NA	NA	6500	1200	8.3	410	90	<20	
09-Jul-96	NA	NA	NA	3300	730	<5.0	58	28	<25	
10-Oct-96	NA	NA	NA	6100	1000	<10	200	15	65	
S-10		**Top casing elevation (ft): 20.86**								
16-Nov-88	7.91	12.95	0.00	330	0.5	<1	1.0	11	NA	
27-Feb-89	NA	NA	NA	140	<0.5	<3	2.0	6.0	NA	

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Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
03-May-89	NA	NA	NA	220	<0.5	1.0	2.0	7.0	NA	
10-Aug-89	7.94	12.92	0.00	<50	<0.5	<1	<1	<3	NA	
09-Oct-89	7.99	12.87	0.00	170	<0.5	<1	<1	<3	NA	
25-Jan-90	7.56	13.30	0.00	<50	<0.5	<0.5	1.1	4.0	NA	
18-Apr-90	7.71	13.15	0.00	<50	<0.5	0.9	<0.5	2.0	NA	
23-Jul-90	7.64	13.22	0.00	590	<0.5	<0.5	1.9	19	NA	
18-Oct-90	8.58	12.28	0.00	140	<0.5	0.7	<0.5	7.0	NA	
28-Jan-91	8.35	12.51	0.00	<50	<0.5	<0.5	<0.5	0.5	NA	
		New top casing elevation (ft): 20.69								
25-Apr-91	6.91	13.78	0.00	<50	<0.5	<0.5	1.1	0.8	NA	
09-Jul-91	8.14	12.55	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
08-Oct-91	8.70	11.99	0.00	140	<0.5	<0.5	<0.5	<0.5	NA	
05-Feb-92	7.57	13.12	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
28-Apr-92	7.20	13.49	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
27-Jul-92	8.17	12.52	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
26-Oct-92	8.68	12.01	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
13-Jan-93	3.78	16.91	0.00	88	<0.5	0.6	0.6	<0.5	NA	
16-Apr-93	6.46	14.23	0.00	80	<0.5	<0.5	<0.5	<0.5	NA	
23-Jul-93	7.38	13.31	0.00	<50	1.5	<0.5	0.7	2.7	NA	
27-Oct-93	8.09	12.60	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
27-Jan-94	5.81	14.88	0.00	270	1.1	1.3	2.0	7.4	NA	
		New top casing elevation (ft): 20.15								
05-May-94	6.82	13.33	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
26-Jul-94	7.40	12.75	0.00	<50	<0.3	<0.3	<0.3	<0.6	NA	
28-Oct-94	7.62	12.53	0.00	<50	2.4	<0.3	0.5	0.8	NA	
02-Jan-95	6.13	14.02	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
14-Apr-95	5.60	14.55	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
28-Jul-95	6.44	13.71	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	

TABLE 1

WELL CONCENTRATIONS
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San Leandro, California
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Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
17-Oct-95	6.85	13.30	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
11-Jan-96	6.08	14.07	0.00	<50	<0.5	<0.5	<0.5	<0.5	<2	
02-Apr-96	5.21	14.94	0.00	NA	NA	NA	NA	NA	NA	
09-Jul-96	6.20	13.95	0.00	NA	NA	NA	NA	NA	NA	
10-Oct-96	6.92	13.23	0.00	NA	NA	NA	NA	NA	NA	
09-Jan-97	4.64	15.51	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
08-Apr-97	5.82	14.33	0.00	NA	NA	NA	NA	NA	NA	
S-11		**Top casing elevation (ft): 21.26**								
16-Nov-88	8.62	12.64	0.00	<50	<0.5	<1	<1	<3	NA	
27-Feb-89	NA	NA	NA	<50	<0.5	<1	<1	<3	NA	
03-May-89	NA	NA	NA	<50	<0.5	<1	<1	<3	NA	
10-Aug-89	8.65	12.61	0.00	<50	<0.5	<1	<1	<3	NA	
09-Oct-89	8.64	12.62	0.00	<50	<0.5	<1	<1	<3	NA	
25-Jan-90	8.43	12.83	0.00	<50	<0.5	<0.5	<0.5	<1	NA	
18-Apr-90	8.42	12.84	0.00	<50	<0.5	<0.5	<0.5	<1	NA	
23-Jul-90	8.23	13.03	0.00	<50	<0.5	0.6	<0.5	1.1	NA	
18-Oct-90	9.20	12.06	0.00	<50	<0.5	<0.5	<0.5	0.5	NA	
28-Jan-91	9.13	12.13	0.00	63	<0.5	3.3	0.9	7.0	NA	
25-Apr-91	7.53	13.73	0.00	<50	<0.5	<0.5	0.8	<0.5	NA	
09-Jul-91	8.85	12.41	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
08-Oct-91	9.34	11.92	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
05-Feb-91	8.50	12.76	0.00	NA	NA	NA	NA	NA	NA	
28-Apr-92	7.80	13.46	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
27-Jul-92	8.80	12.46	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
26-Oct-92	9.42	11.84	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
13-Jan-93	6.52	14.74	0.00	NA	NA	NA	NA	NA	NA	
16-Apr-93	6.86	14.40	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	

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Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
23-Jul-93	8.07	13.19	0.00	NA	NA	NA	NA	NA	NA	
27-Oct-93	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
27-Jan-94	NA	NA	NA	NA	NA	NA	NA	NA	NA	
		New top casing elevation (ft): 21.24								
05-May-94	7.73	13.51	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
26-Jul-94	8.30	12.94	0.00	NA	NA	NA	NA	NA	NA	
28-Oct-94	8.30	12.94	0.00	<50	<0.3	<0.3	<0.3	<0.6	NA	
02-Jan-95	7.25	13.99	0.00	NA	NA	NA	NA	NA	NA	
14-Apr-95	6.99	14.25	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
28-Jul-95	7.21	14.03	0.00	NA	NA	NA	NA	NA	NA	
17-Oct-95	7.41	13.83	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
11-Jan-96	6.80	14.44	0.00	NA	NA	NA	NA	NA	NA	
S-12		**Top casing elevation (ft): 21.05**								
16-Nov-88	NA	NA	NA	50	3.5	<1	<1	<3	NA	
27-Feb-89	NA	NA	NA	<50	0.8	<1	<1	<3	NA	
03-May-89	NA	NA	NA	<50	<0.5	<1	<1	<3	NA	
10-Aug-89	8.32	12.73	0.00	<50	<0.5	<1	<1	<3	NA	
09-Oct-89	8.32	12.73	0.00	<50	<0.5	<1	<1	<1	NA	
25-Jan-90	8.18	12.87	0.00	<50	<0.5	<0.5	<0.5	<1	NA	
18-Apr-90	8.05	13.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
23-Jul-90	7.92	13.13	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
18-Oct-90	8.90	12.15	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
28-Jan-91	8.54	12.51	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
25-Apr-91	7.08	13.97	0.00	90	5.4	<0.5	1.1	0.7	NA	
09-Jul-91	8.42	12.63	0.00	<50	2.9	<0.5	<0.5	<0.5	NA	
08-Oct-91	8.80	12.25	0.00	50	<0.5	<0.5	<0.5	<0.5	NA	
05-Feb-92	8.07	12.98	0.00	50*	<0.5	<0.5	<0.5	<0.5	NA	

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WELL CONCENTRATIONS
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Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
28-Apr-92	8.33	12.72	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
27-Jul-92	8.55	12.50	0.00	94	<0.5	<0.5	<0.5	<0.5	NA	
26-Oct-92	9.03	12.02	0.00	86	<0.5	<0.5	<0.5	<0.5	NA	
14-Jan-93	6.38	14.67	0.00	120	2.0	<0.5	<0.5	<0.5	NA	
16-Apr-93	6.56	14.49	0.00	60	<0.5	<0.5	<0.5	<0.5	NA	
23-Jul-93	7.76	13.29	0.00	90	<0.5	<0.5	<0.5	<0.5	NA	
27-Oct-93	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
27-Jan-94	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
		New top casing elevation (ft): 20.71								
05-May-94	7.49	13.22	0.00	<50	2.0	<0.5	<0.5	<0.5	NA	
26-Jul-94	7.92	12.79	0.00	128	<0.3	<0.3	<0.3	<0.6	NA	
28-Oct-94	7.78	12.93	0.00	167	<0.3	<0.3	<0.3	<0.6	NA	
02-Jan-95	7.33	13.38	0.00	50	<0.5	<0.5	<0.5	<0.5	NA	
14-Apr-95	6.47	14.24	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
28-Jul-95	6.90	13.81	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
17-Oct-95	7.16	13.55	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
11-Jan-96	6.65	14.06	0.00	<50	<0.5	<0.5	<0.5	<0.5	[illegible]	
S-13		**Top casing elevation (ft): 20.57**								
03-May-89	NA	NA	NA	150	4.9	4.0	2.0	14	NA	
10-Aug-89	8.00	12.57	0.00	110	2.9	<1	<1	<3	NA	
09-Oct-89	7.95	12.62	0.00	77	1.4	<1	<1	<3	NA	
25-Jan-90	7.79	12.78	0.00	51	0.5	<0.5	<0.5	<1	NA	
18-Apr-90	7.73	12.84	0.00	85	8.7	<0.5	<0.5	<1	NA	
23-Jul-90	7.63	12.94	0.00	80	0.8	<0.5	<0.5	<0.5	NA	
18-Oct-90	8.58	11.99	0.00	130	<0.5	<0.5	<0.5	<5	NA	
28-Jan-91	8.39	12.18	0.00	<50	<0.5	0.9	1.2	1.0	NA	
25-Apr-91	7.00	13.57	0.00	440*	3.8	<0.5	<0.5	0.6	NA	

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WELL CONCENTRATIONS
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Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
09-Jul-91	8.12	12.45	0.00	320*	0.6	<0.5	<0.5	<0.5	NA	
08-Oct-91	8.69	11.88	0.00	310	<0.5	<0.5	<0.5	<0.5	NA	
05-Feb-92	7.62	12.95	0.00	NA	NA	NA	NA	NA	NA	
28-Apr-92	7.15	13.42	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
27-Jul-92	8.20	12.37	0.00	NA	NA	NA	NA	NA	NA	
26-Oct-92	8.73	11.84	0.00	180	<0.5	<0.5	<0.5	<0.5	NA	
13-Jan-93	5.06	15.51	0.00	NA	NA	NA	NA	NA	NA	
16-Apr-93	6.38	14.19	0.00	240	4.8	<0.5	1.3	<0.5	NA	
23-Jul-93	7.45	13.12	0.00	NA	NA	NA	NA	NA	NA	
27-Oct-93	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
27-Jan-94	NA	NA	NA	NA	NA	NA	NA	NA	NA	
		New top casing elevation (ft): 20.16								
05-May-94	6.91	13.25	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
26-Jul-94	7.52	12.64	0.00	NA	NA	NA	NA	NA	NA	
28-Oct-94	7.68	12.48	0.00	368	<0.3	<0.3	<0.3	<0.6	NA	
02-Jan-95	6.37	13.79	0.00	NA	NA	NA	NA	NA	NA	
14-Apr-95	5.81	14.35	0.00	NA	NA	NA	NA	NA	NA	
28-Jul-95	6.73	13.43	0.00	NA	NA	NA	NA	NA	NA	
17-Oct-95	6.94	13.22	0.00	<50	1.0	<0.5	<0.5	<0.5	NA	
11-Jan-96	6.20	13.96	0.00	NA	NA	NA	NA	NA	NA	
02-Apr-96	5.28	14.88	0.00	<50	<0.5	<0.5	<0.5	<0.5	<2	
09-Jul-96	6.35	13.81	0.00	NA	NA	NA	NA	NA	NA	
10-Oct-96	7.04	13.12	0.00	<50	<0.50	<0.50	<0.50	<0.50	210	MTBE by Method 8260: 160 ppb
09-Jan-97	5.19	14.97	0.00	NA	NA	NA	NA	NA	NA	
08-Apr-97	6.62	13.54	0.00	<50	<0.50	<0.50	<0.50	<0.50	81	

S-14		**Top casing elevation (ft): 20.44**								
03-May-89	NA	NA	NA	5300	750	400	200	800	NA	

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Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
10-Aug-89	7.58	12.86	0.00	1800	540	140	42	50	NA	
09-Oct-89	7.62	12.82	0.00	1000	360	60	20	30	NA	
25-Jan-90	7.82	12.62	0.00	640	160	77	17	39	NA	
18-Apr-90	7.37	13.07	0.00	1200	200	110	30	96	NA	
23-Jul-90	7.28	13.16	0.00	5000	430	340	140	660	NA	
18-Oct-90	8.10	12.34	0.00	1800	770	13	17	120	NA	
28-Jan-91	8.04	12.40	0.00	720	200	36	21	78	NA	
25-Apr-91	6.40	14.04	0.00	14000	930	430	250	970	NA	
09-Jul-91	7.69	12.75	0.00	160	30	5.3	5	16	NA	
08-Oct-91	8.24	12.20	0.00	5400	81	57	95	380	NA	
02-Feb-92	7.20	13.24	0.00	NA	NA	NA	NA	NA	NA	
28-Apr-92	9.75	10.69	0.00	2000	270	140	48	170	NA	
26-Oct-92	8.32	12.12	0.00	920	33	12	25	88	NA	
13-Jan-93	5.07	15.37	0.00	NA	NA	NA	NA	NA	NA	
16-Apr-93	5.86	14.58	0.00	4500	1100	29	91	170	NA	
23-Jul-93	7.06	13.38	0.00	NA	NA	NA	NA	NA	NA	
27-Oct-93	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
27-Jan-94	NA	NA	NA	NA	NA	NA	NA	NA	NA	
		New top casing elevation (ft): 19.99								
05-May-94	6.48	13.51	0.00	810	250	<2.5	9.4	19	NA	
26-Jul-94	7.04	12.95	0.00	NA	NA	NA	NA	NA	NA	
28-Oct-94	7.07	12.92	0.00	5385	290.6	85.8	49.7	186.2	NA	
02-Jan-95	5.95	14.04	0.00	NA	NA	NA	NA	NA	NA	
14-Apr-95	5.22	14.77	0.00	1600	40	4.7	11	20	NA	
28-Jul-95	6.21	13.78	0.00	NA	NA	NA	NA	NA	NA	
17-Oct-95	6.30	13.69	0.00	1200	37	<0.5	7.8	11	NA	
11-Jan-96	5.70	14.29	0.00	NA	NA	NA	NA	NA	NA	

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Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
S-15		**Top casing elevation (ft): 22.22**								
03-May-89	NA	NA	NA	<50	<0.5	<1	<1	<3	NA	
10-Aug-89	8.48	13.74	0.00	<50	<0.5	<1	<1	<3	NA	
09-Oct-89	8.46	13.76	0.00	<50	<0.5	<1	<1	<3	NA	
25-Jan-90	8.34	13.88	0.00	<50	<0.5	<1	<1	<1	NA	
18-Apr-90	8.45	13.77	0.00	<50	<0.5	<0.5	<0.5	<1	NA	
23-Jul-90	8.22	14.00	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
18-Oct-90	9.11	13.11	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
28-Jan-91	9.13	13.09	0.00	<50	<0.5	0.6	<0.5	0.8	NA	
25-Apr-91	7.83	14.39	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
09-Jul-91	8.93	13.29	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
08-Oct-91	9.26	12.96	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
05-Feb-92	8.60	13.62	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
28-Apr-92	8.09	14.13	0.00	50	0.8	0.9	<0.5	1.4	NA	
27-Jul-92	8.83	13.39	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
26-Oct-92	9.31	12.91	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
14-Jan-93	6.64	15.58	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
16-Apr-93	7.14	15.08	0.00	<50	0.6	1.0	<0.5	0.7	NA	
23-Jul-93	8.23	13.99	0.00	<50	1.2	<0.5	<0.5	1.6	NA	
27-Oct-93	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
27-Jan-94	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
		New top casing elevation (ft): 21.42								
05-May-94	7.57	13.85	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
26-Jul-94	8.16	13.26	0.00	<50	<0.3	<0.3	<0.3	<0.6	NA	
28-Oct-94	7.87	13.55	0.00	<50	0.3	<0.3	<0.3	<0.6	NA	
02-Jan-95	7.02	14.40	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
14-Apr-95	6.19	15.23	0.00	NA	NA	NA	NA	NA	NA	
28-Jul-95	6.72	14.70	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	

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Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
17-Oct-95	7.04	14.38	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
11-Jan-96	6.40	15.02	0.00	<50	<0.5	<0.5	<0.5	<0.5	<2	
S-16		**Top casing elevation (ft): 21.82**								
04-May-94	NA	NA	NA	380	44	3.0	2.0	<3	NA	
10-Aug-89	8.36	13.46	0.00	<50	0.6	<1	<1	<3	NA	
10-Oct-89	8.23	13.59	0.00	<5	<0.5	<1	<1	<3	NA	
25-Jan-90	7.88	13.94	0.00	240	160	3.3	0.8	11	NA	
18-Apr-90	8.19	13.63	0.00	<50	1.0	<0.5	<0.5	<1	NA	
23-Jul-90	8.09	13.73	0.00	<50	1.1	<0.5	<0.5	<0.5	NA	
18-Oct-90	8.90	12.92	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
28-Jan-91	8.55	13.27	0.00	<50	<0.5	0.6	<0.5	0.9	NA	
25-Apr-91	7.48	14.34	0.00	60^	21	0.5	3.2	4.8	NA	
09-Jul-91	8.48	13.34	0.00	<50	1.0	<0.5	<0.5	<0.5	NA	
08-Oct-91	8.95	12.87	0.00	50	17	1.4	1.2	5.5	NA	
05-Feb-92	8.20	13.62	0.00	150	65	0.7	<0.5	8.4	NA	
28-Apr-92	7.80	14.02	0.00	<50	13	<0.5	<0.5	<0.5	NA	
27-Jul-92	8.29	13.53	0.00	510	130	<2.5	<0.5	21	NA	
26-Oct-92	9.02	12.80	0.00	<50	<0.5	<0.5	<2.5	<0.5	NA	
13-Jan-93	5.78	16.04	0.00	100	25	1.9	<0.5	8.4	NA	
16-Apr-93	6.80	15.02	0.00	150	56	1.8	4.6	12	NA	
23-Jul-93	7.67	14.15	0.00	<50	0.9	<0.5	<0.5	<0.5	NA	
27-Oct-93	8.52	13.30	0.00	<50	1.5	<0.5	<0.5	<0.5	NA	
27-Jan-94	7.20	14.62	0.00	140	85	<1	<1	13	NA	
		New top casing elevation (ft): 21.24								
05-May-94	7.76	13.48	0.00	71	25	<0.5	<0.5	4.2	NA	
26-Jul-94	7.84	13.40	0.00	<50	<0.3	<0.3	<0.3	<0.6	NA	
28-Oct-94	7.97	13.27	0.00	<50	11.5	<0.3	<0.3	1.8	NA	

TABLE 1

WELL CONCENTRATIONS
Shell Oil Products Company
15275 Washington
San Leandro, California
WIC# 204-6852-1008

Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
02-Jan-95	6.49	14.75	0.00	70	64	<0.5	<0.5	4.0	NA	
14-Apr-95	6.08	15.16	0.00	NA	NA	NA	NA	NA	NA	
28-Jul-95	7.00	14.24	0.00	<50	1.7	<0.5	<0.5	<0.5	NA	
17-Oct-95	7.15	14.09	0.00	<50	4.6	<0.5	<0.5	<0.5	NA	
11-Jan-96	6.30	14.94	0.00	80	17	0.7	<0.5	2.9	<2	
02-Apr-96	5.84	15.40	0.00	NA	NA	NA	NA	NA	NA	
09-Jul-96	6.72	14.52	0.00	NA	NA	NA	NA	NA	NA	
10-Oct-96	7.41	13.83	0.00	NA	NA	NA	NA	NA	NA	
09-Jan-97	5.60	15.64	0.00	80	18	<0.50	1.7	4.8	<2.5	
08-Apr-97	7.34	13.90	0.00	NA	NA	NA	NA	NA	NA	
S-17		**Top casing elevation (ft): 20.95**								
03-May-89	NA	NA	NA	<50	<0.5	<1	<1	<3	NA	
10-Aug-89	8.13	12.82	0.00	<50	<0.5	<1	<1	<3	NA	
09-Oct-89	8.18	12.77	0.00	<50	<0.5	<1	<1	<3	NA	
25-Jan-90	7.60	13.35	0.00	<50	<0.5	<0.5	<0.5	<1	NA	
18-Apr-90	7.95	13.00	0.00	<50	<0.5	<0.5	<0.5	<1	NA	
23-Jul-90	7.87	13.08	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
18-Oct-90	8.71	12.24	0.00	390	10	62	22	110	NA	
28-Jan-91	8.54	12.41	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
25-Apr-91	7.15	13.80	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
09-Jul-91	8.24	12.71	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
08-Oct-91	8.86	12.09	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
05-Feb-92	7.74	13.21	0.00	NA	NA	NA	NA	NA	NA	
28-Apr-92	7.41	13.54	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
27-Jul-92	8.34	12.61	0.00	NA	NA	NA	NA	NA	NA	
26-Oct-92	8.87	12.08	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
13-Jan-93	3.43	17.52	0.00	NA	NA	NA	NA	NA	NA	

TABLE 1

WELL CONCENTRATIONS
Shell Oil Products Company
15275 Washington
San Leandro, California
WIC# 204-6852-1008

Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
16-Apr-93	6.70	14.25	0.00	130	<0.5	<0.5	<0.5	<0.5	NA	
23-Jul-93	7.53	13.42	0.00	NA	NA	NA	NA	NA	NA	
27-Oct-93	8.29	12.66	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
27-Jan-94	5.78	15.17	0.00	NA	NA	NA	NA	NA	NA	
		New top casing elevation (ft): 20.45								
05-May-94	6.99	13.46	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
26-Jul-94	7.62	12.83	0.00	NA	NA	NA	NA	NA	NA	
28-Oct-94	7.91	12.54	0.00	<50	<0.3	<0.3	<0.3	<0.6	NA	
02-Jan-95	6.33	14.12	0.00	NA	NA	NA	NA	NA	NA	
14-Apr-95	5.53	14.92	0.00	NA	NA	NA	NA	NA	NA	
28-Jul-95	6.75	13.70	0.00	NA	NA	NA	NA	NA	NA	
17-Oct-95	7.15	13.30	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
11-Jan-96	6.37	14.08	0.00	NA	NA	NA	NA	NA	NA	
02-Apr-96	5.31	15.14	0.00	<50	<0.5	<0.5	<0.5	<0.5	<2	
09-Jul-96	6.30	14.15	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
10-Oct-96	7.80	12.65	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
09-Jan-97	4.80	15.65	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
08-Apr-97	6.83	13.62	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
S-17 (DUP)										
08-Apr-97	NA	NA	NA	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
S-18		**Top casing elevation (ft): 21.03**								
31-May-91	NA	NA	NA	<50	<0.5	<0.5	<0.5	<0.5	NA	
09-Jul-91	8.23	12.80	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
08-Oct-91	8.84	12.19	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
05-Feb-92	7.67	13.36	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
28-Apr-92	7.40	13.63	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	

TABLE 1

WELL CONCENTRATIONS
Shell Oil Products Company
15275 Washington
San Leandro, California
WIC# 204-6852-1008

Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
27-Jul-92	8.38	12.65	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
26-Oct-92	8.83	12.20	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
13-Jan-93	5.86	15.17	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
16-Apr-93	4.88	16.15	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
23-Jul-93	7.56	13.47	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
27-Oct-93	8.30	12.73	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
27-Jan-94	6.84	14.19	0.00	<50	1.9	<0.5	<0.5	<0.5	NA	
		New top casing elevation (ft): 20.57								
05-May-94	7.05	13.52	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
26-Jul-94	7.62	12.95	0.00	<500	<3	1.1	<0.3	1.8	NA	
28-Oct-94	8.01	12.56	0.00	<50	<0.3	<0.3	<0.3	<0.6	NA	
02-Jan-95	6.26	14.31	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
14-Apr-95	4.85	15.72	0.00	NA	NA	NA	NA	NA	NA	
28-Jul-95	5.80	14.77	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
17-Oct-95	7.22	13.35	0.00	<50	<0.5	<0.5	<0.5	<0.5	NA	
11-Jan-96	6.40	14.17	0.00	<50	<0.5	<0.5	<0.5	<0.5	<2	
02-Apr-96	4.80	15.77	0.00	NA	NA	NA	NA	NA	NA	
09-Jul-96	5.74	14.83	0.00	NA	NA	NA	NA	NA	NA	
10-Oct-96	6.06	14.51	0.00	NA	NA	NA	NA	NA	NA	
09-Jan-97	4.70	15.87	0.00	<50	<0.50	<0.50	<0.50	<0.50	<2.5	
08-Apr-97	6.62	13.95	0.00	NA	NA	NA	NA	NA	NA	
SR-1		**Top casing elevation (ft): 21.45**								
22-Mar-89	NA	NA	NA	5400	1100	230	350	1300	NA	
25-Jan-90	7.53	13.92	0.00	2200	470	120	110	510	NA	
18-Apr-90	8.17	13.28	0.00	1000	130	47	47	220	NA	
23-Jul-90	7.58	13.87	0.00	3200	470	320	170	870	NA	
18-Oct-90	8.81	12.64	0.00	1300	280	6.6	110	130	NA	

TABLE 1

WELL CONCENTRATIONS
Shell Oil Products Company
15275 Washington
San Leandro, California
WIC# 204-6852-1008

Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
28-Jan-91	8.37	13.08	0.00	110	120	12	51	110	NA	
25-Apr-91	6.91	14.54	0.00	NA	NA	NA	NA	NA	NA	
09-Jul-91	8.11	13.34	0.00	1400	200	27	130	340	NA	
08-Oct-91	8.63	12.82	0.00	980	79	1.5	44	52	NA	
05-Feb-91	7.68	13.77	0.00	3800	580	36	320	400	NA	
28-Apr-92	7.27	14.18	0.00	38000	1800	460	1900	750	NA	
27-Jul-92	8.11	13.34	0.01	NA	NA	NA	NA	NA	NA	
26-Oct-92	8.63	12.82	0.00	1800	370	10	130	130	NA	
13-Jan-93	5.46	15.99	0.00	47000	1000	1100	1700	13000	NA	
16-Apr-93	6.28	15.17	0.00	25000	1700	430	2400	8300	NA	
23-Jul-93	7.34	14.11	0.00	33000	2400	2000	3800	14000	NA	
27-Oct-93	8.04	13.41	0.00	2300	340	<12.5	270	440	NA	
27-Jan-94	6.68	14.77	0.00	36000	2000	1700	3000	11000	NA	
		New top casing elevation (ft): 20.57								
05-May-94	6.81	13.76	0.00	43000	1500	130	2900	12000	NA	
26-Jul-94	7.38	13.19	0.00	13600	682.7	39.2	996.6	2516	NA	
28-Oct-94	7.48	13.09	0.00	8462	301.5	29.3	384.7	2019	NA	
02-Jan-95	6.34	14.23	0.00	13000	400	120	2500	10000	NA	
14-Apr-95	5.29	15.28	0.00	43000	690	370	2500	12000	NA	
28-Jul-95	6.36	14.21	0.00	35000	760	120	2300	8100	NA	
17-Oct-95	6.62	13.95	0.00	9700	310	12	610	1200	NA	
11-Jan-96	5.66	14.91	0.00	18000	410	170	1200	4400	42	
02-Apr-96	5.14	15.43	0.00	NA	NA	NA	NA	NA	NA	
09-Jul-96	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
10-Oct-96	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
09-Jan-97	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible
08-Apr-97	NA	NA	NA	NA	NA	NA	NA	NA	NA	Well Inaccessible

TABLE 1

WELL CONCENTRATIONS
Shell Oil Products Company
15275 Washington
San Leandro, California
WIC# 204-6852-1008

Sample Date	Measured GW Depth (ft)	Corrected GW Elev (ft)	SP (ft)	TPPH (ug/L)	B (ug/L)	T (ug/L)	E (ug/L)	X (ug/L)	MTBE (ug/L)	Comments
SR-1 (DUP)										
17-Oct-95	NA	NA	NA	8300	230	9.6	680	840	NA	
11-Jan-96	NA	NA	NA	17000	420	180	1100	4000	42	

Abbreviations:

TPPH = Total Purgeable Petroleum Hydrocarbons carbon range C6 to C12 by EPA Method (Modified)
(previously reported as Total Petroleum Hydrocarbons as Gasoline)

BTEX = benzene, toluene, ethylbenzene, xylenes by EPA Method 8020

MTBE = methyl-tertiary-butyl ether by EPA Method 8020

NA = Not analyzed or not available

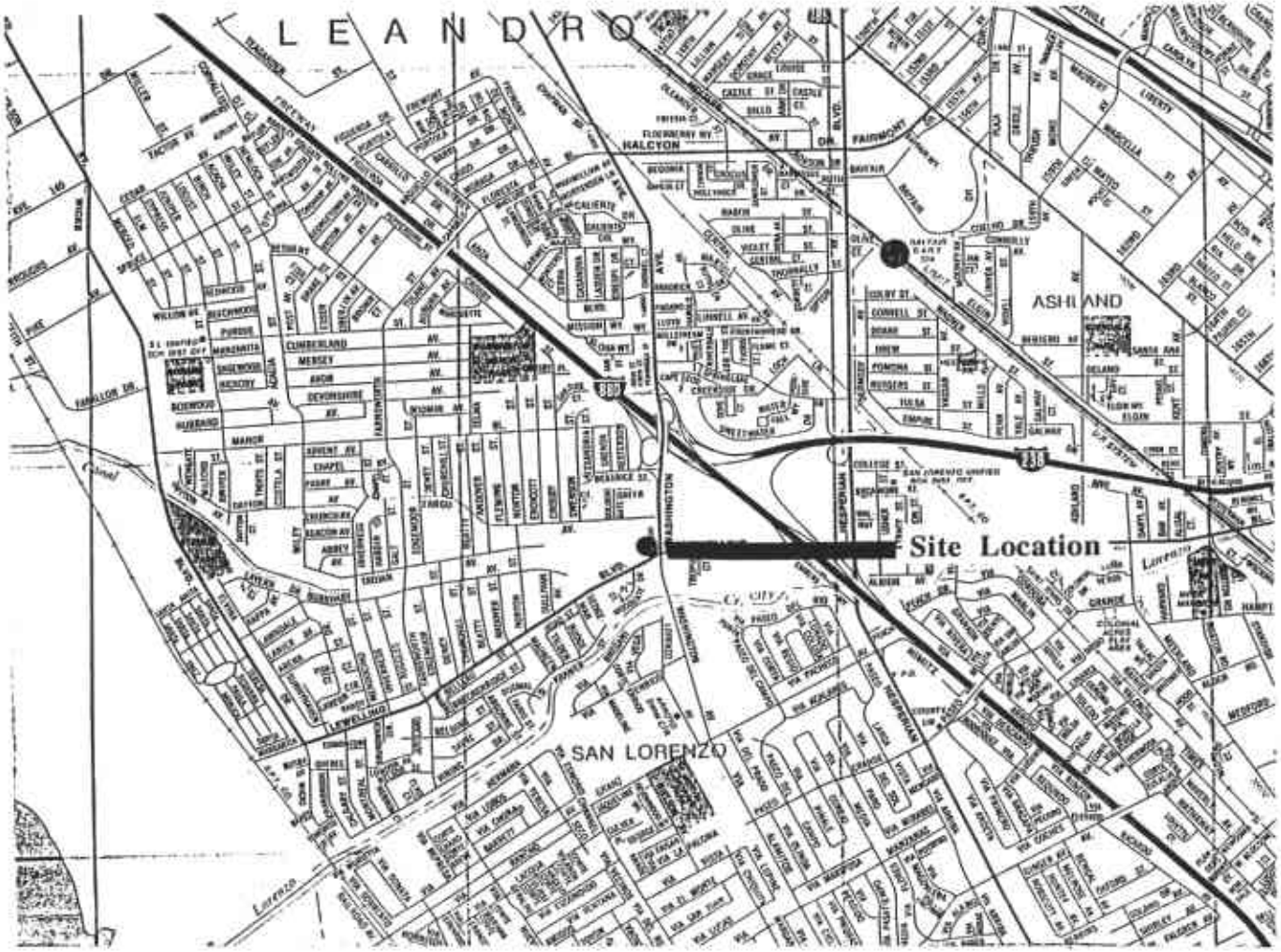
(DUP) = Duplicate

<x = Not detected at detection limit of x

Notes:

* = Compounds detected within the chromatographic range of gasoline but not characteristic of the standard gasoline pattern.

** = The concentration reported as gasoline is primarily due to the presence of a discrete peak not indicative of gasoline.



Note: Vicinity Map taken from California State Automobile Association Map.

PLATE

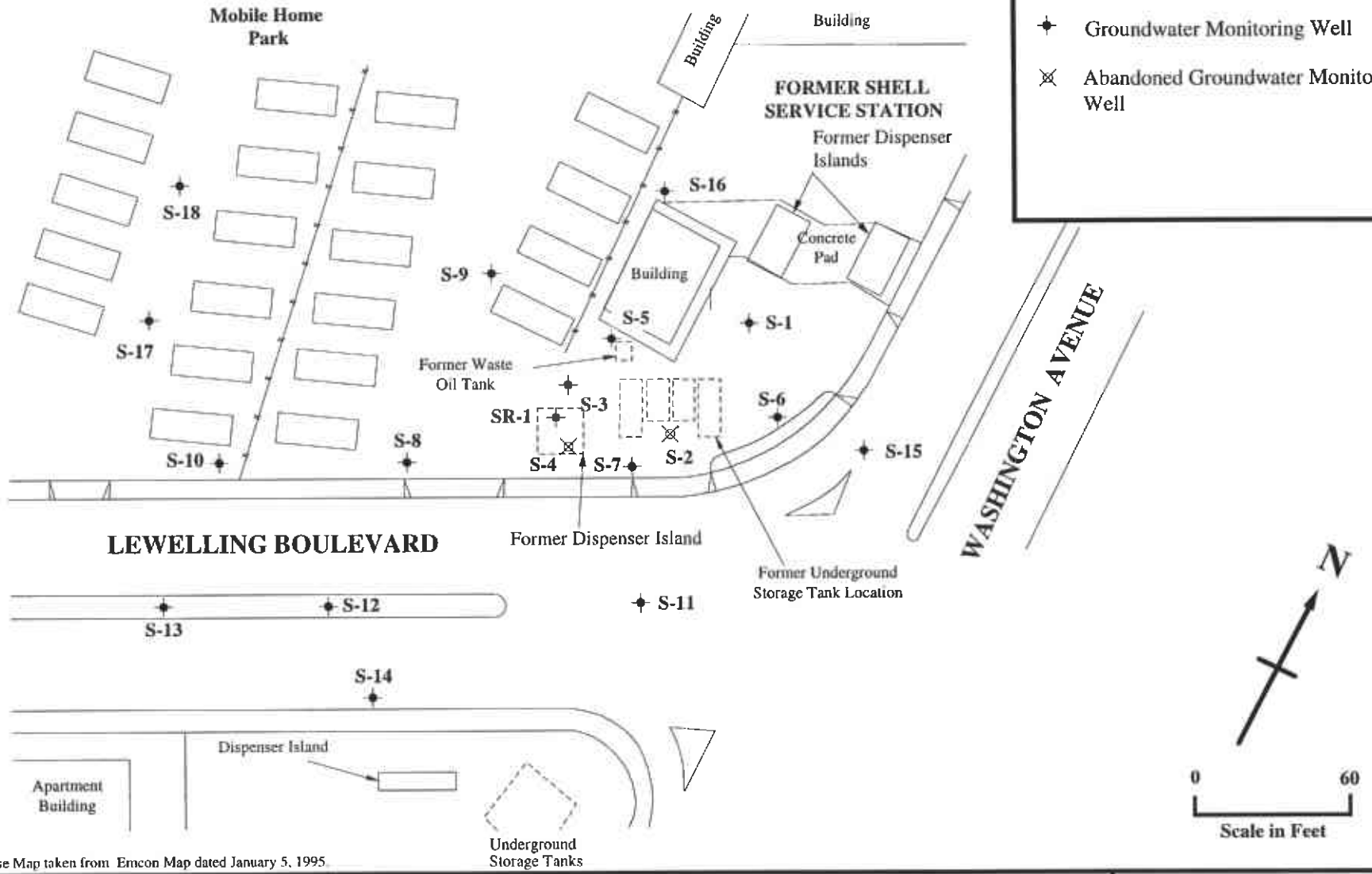
1

SITE VICINITY MAP
Shell Oil Company
15275 Washington Avenue
San Leandro, California

enviros®
95276.01

Drawn By: JLP Date: 3-23-95

Approved By: RA Date: 6-24-97



Base Map taken from Emcon Map dated January 5, 1995

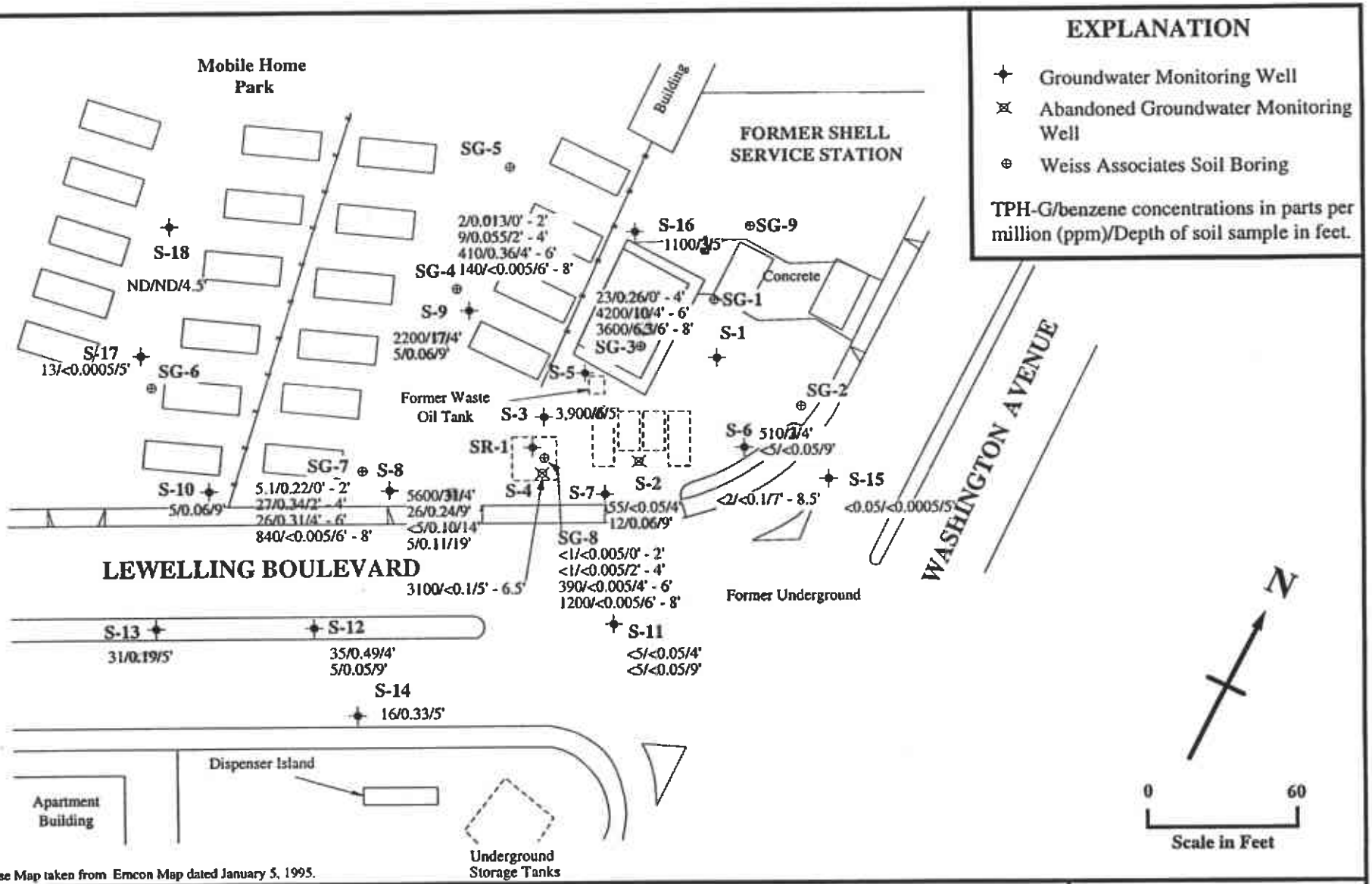
PLATE **2**

SITE PLAN
Shell Oil Products Company
15275 Washington Avenue
San Leandro, California

enviros ®
95276.01

Drawn By: DML Date: 6-19-97

Approved By: _____ Date: 6-20-97



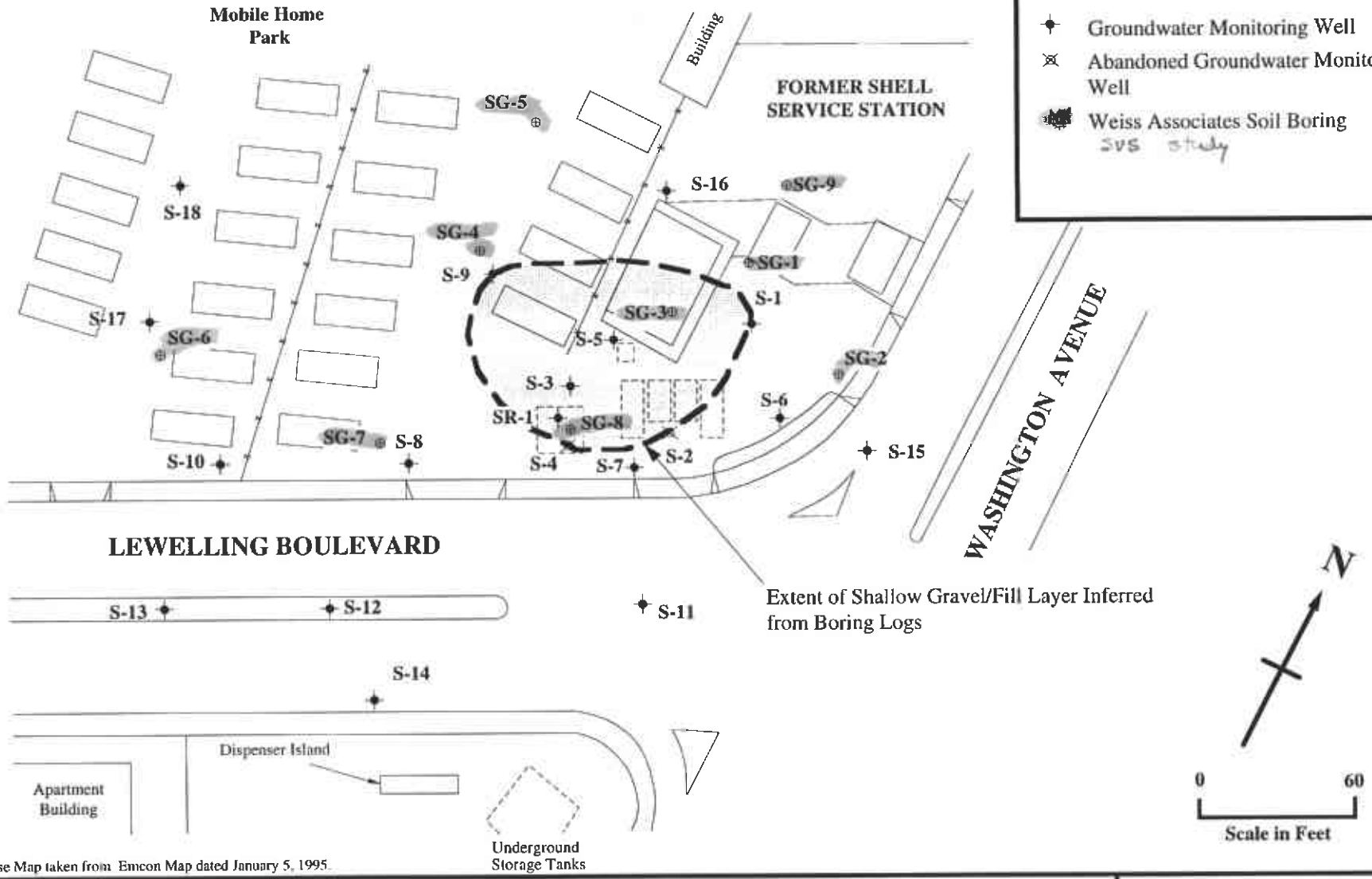
Base Map taken from Emcon Map dated January 5, 1995.

PLATE **3**

SOIL QUALITY MAP
Shell Oil Company
15275 Washington Avenue
San Leandro, California

enviros ®
95276.01

Drawn By: DML | Date: 6-19-97 | Approved By: _____ | Date: 6-24-97



Base Map taken from Emcon Map dated January 5, 1995.

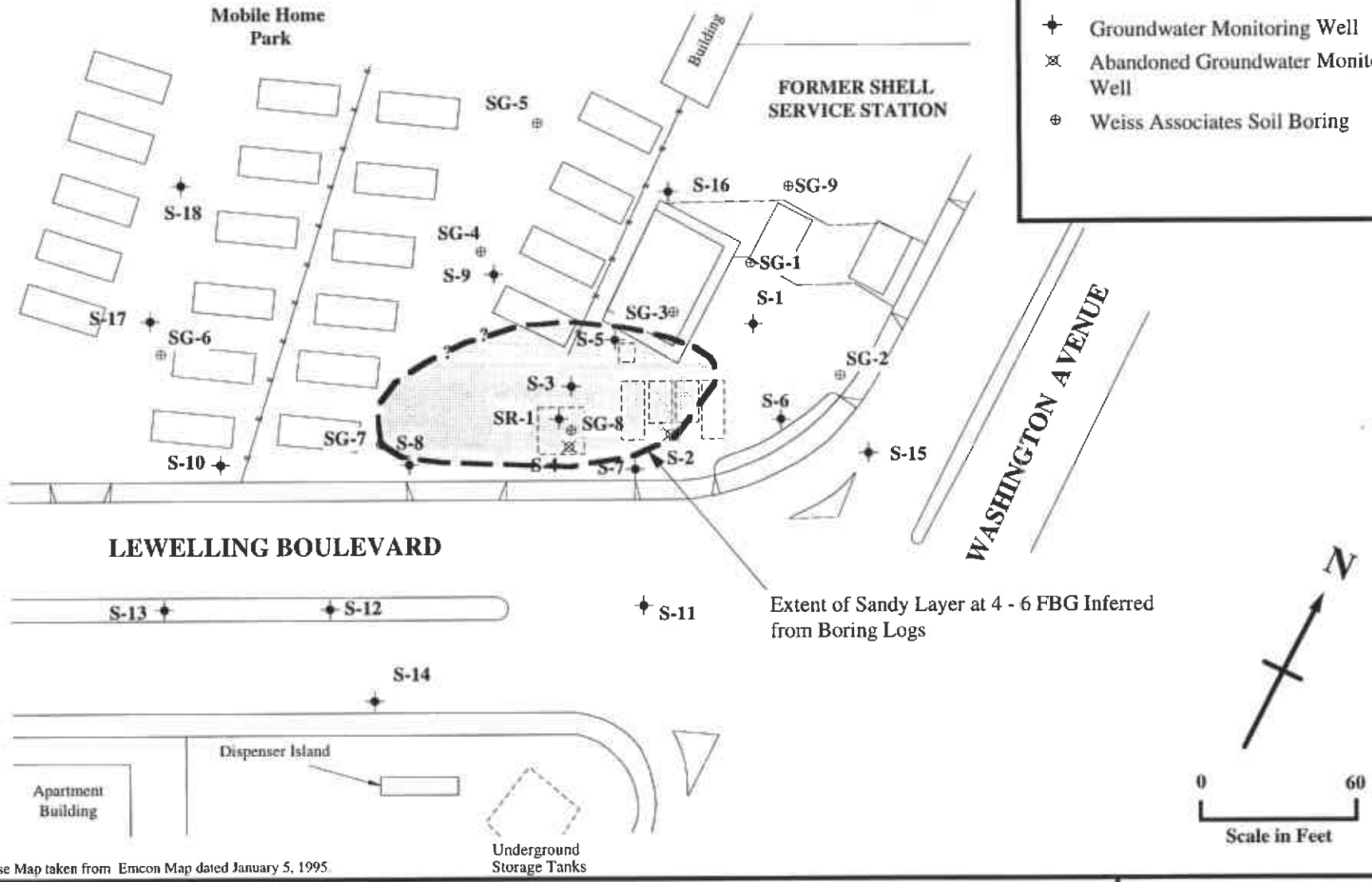
PLATE **4**

LATERAL EXTENT OF SHALLOW GRAVEL/FILL SOIL LAYER AT 0 - 3 FBG
Shell Oil Products Company
15275 Washington Avenue
San Leandro, California

enviros ®
95276.01

Drawn By: DML Date: 6-19-97

Approved By: _____ Date: 6-21-97



Base Map taken from Emcon Map dated January 5, 1995

PLATE **5**

LATERAL EXTENT OF SANDY LAYER AT 4 - 6 FBG
Shell Oil Products Company
15275 Washington Avenue
San Leandro, California

enviros ®
95276.01

Drawn By: DML Date: 6-19-97

Approved By: _____ Date: 6-21-97

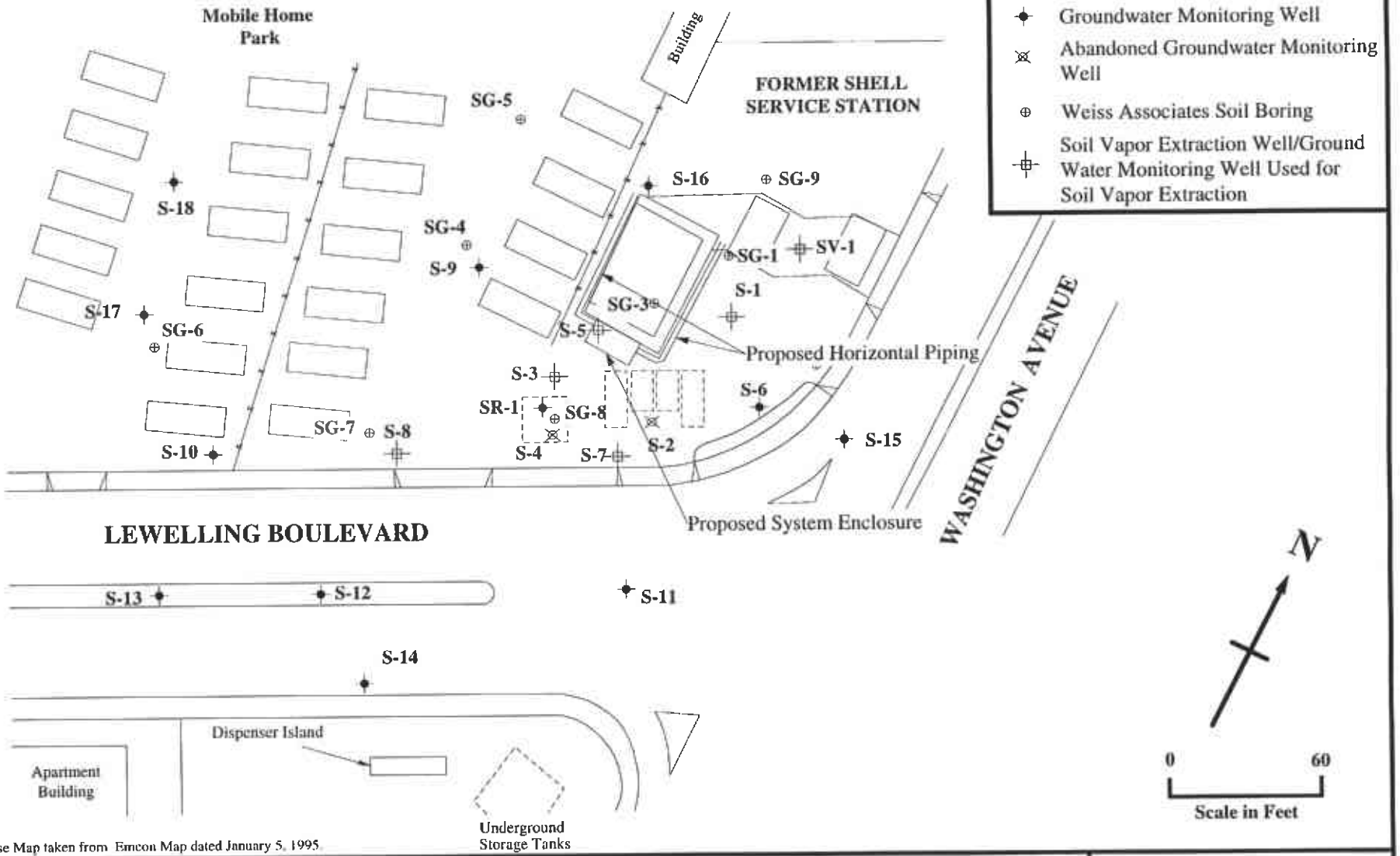


PLATE **6**

SOIL VAPOR EXTRACTION SYSTEM LAYOUT
Shell Oil Products Company
15275 Washington Avenue
San Leandro, California

enviros ®
95276.01

Drawn By: DML | Date: 6-19-97 | Approved By: _____ | Date: 6-24-97

APPENDIX A

Exploratory Boring Logs and Geologic Cross-Section

LOG OF EXPLORATORY BORING

PROJECT NUMBER 738-08.01 BORING NO. S-1

PROJECT NAME Gettler-Ryan, Shell @ Washington & Lewelling , San Leandro PAGE 1 OF 2

BY JB DATE 6/18/85 SURFACE ELEV.

TORVANE (TSF)	POCKET PENETROMETER (TSF)	PENETRATION (Blows/Ft.)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION
				0		GC FILL	ASPHALT CLAYEY GRAVEL; Fill; dark olive gray (5Y, 3/2); fine to coarse gravel; 30-35% fines; damp; no product odor.
				3		CL	CLAY; dark gray (5Y, 4/1); trace fine sand; slightly silty; moist; no product odor.
			▽	5			
	1.25	28		10			@8.5': black (2.5Y, 3/0); no product odor. @10': grayish brown (2.5Y, 5/2); stiff; wet; slight product odor.
	3.0	25		15			
	1.5	12		20			@20': light olive brown (2.5Y, 5/4); very silty; firm; wet; no product odor.

REMARKS Drilled using 8-inch continuous flight hollow-stem auger.
Converted to a 3-inch monitoring well, detailed on Plate C.

EMCON ASSOCIATES

PLATE A

LOG OF EXPLORATORY BORING

PROJECT NUMBER 738-08.01 BORING NO. S-1

PROJECT NAME Gettler-Ryan, Shell @ Washington & Lewelling, PAGE 2 OF 2

BY JB DATE 6/18/85 San Leandro SURFACE ELEV.

TORVANE (TSF)	POCKET PENETROMETER (TSF)	PENETRATION (Blows/Ft.)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION
				20			HOLE TERMINATED AT 21½ FEET.
				25			

REMARKS

EMCON ASSOCIATES

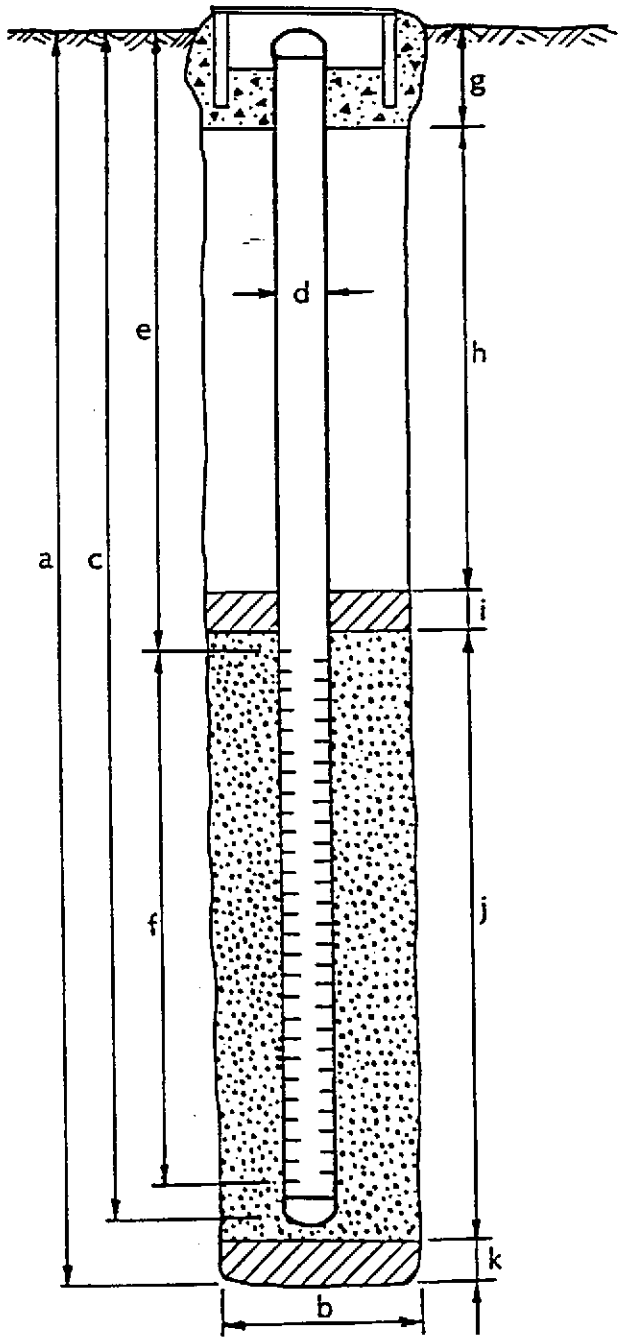
PLATE B

WELL DETAILS

PROJECT NUMBER 738-08.01
PROJECT NAME Gettler-Ryan, Shell @ Washington & Lewelling
COUNTY Alameda
WELL PERMIT NO.

BORING / WELL NO. S-1
TOP OF CASING ELEV.
GROUND SURFACE ELEV.
DATUM

G-5 vault box (Std.)



EXPLORATORY BORING

a. Total depth 21½ ft.
b. Diameter 8 in.
Drilling method Hollow-Stem Auger

WELL CONSTRUCTION

c. Casing length 19 ft.
Material Schedule 40 PVC
d. Diameter 3 in.
e. Depth to top perforations 4 ft.
f. Perforated length 15 ft.
Perforated interval from 4 to 19 ft.
Perforation type Machined Slot
Perforation size 0.020 inch
g. Surface seal 1 ft.
Seal material Cement
h. Backfill 2 ft.
Backfill material Cement
i. Seal ½ ft.
Seal material Bentonite
j. Gravel pack (3½ to 19') 15½ ft.
Pack material 6 x 12 Monterey Sand
k. Bottom seal 2½ ft.
Seal material Bentonite 20-21½
Compacted Clay 19-20

PLATE C

LOG OF EXPLORATORY BORING

PROJECT NUMBER 738-08.01 BORING NO. S-2

PROJECT NAME Gettler-Ryan, Shell @ Washington & Lewelling, San Leandro PAGE 1 OF 1

BY JB DATE 6/18/85 SURFACE ELEV.

TORVANE (TSF)	POCKET PENETROMETER (TSF)	PENETRATION (Blows/Ft.)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION
				0		GC FILL	ASPHALT GRAVEL; Fill; 30% fines
				5		CL	CLAY; dark gray (5Y, 3/1); trace fine sand; slightly silty; moist; slight product odor.
			▽			SM	SILTY SAND; very dark gray (5Y, 3/1); 50% fine sand; 50% silt; loose; wet; strong product odor.
						CL	CLAY; black (2.5Y, 2/0); slightly silty; very stiff; very moist; slight product odor.
	2.0	32		10			
							@13.5': grayish brown (2.5Y, 5/2); stiff; wet; no product odor.
	3.0	28		15			
							@18.5': light brownish gray (2.5Y, 6/2); 40% silt; trace fine sand; stiff; wet; no product odor.
	1.75	15		20			HOLE TERMINATED AT 20 FEET.

REMARKS Drilled using 8-inch continuous flight hollow-stem auger. Converted to 3-inch monitoring well, detailed on Plate E.

EMCON ASSOCIATES

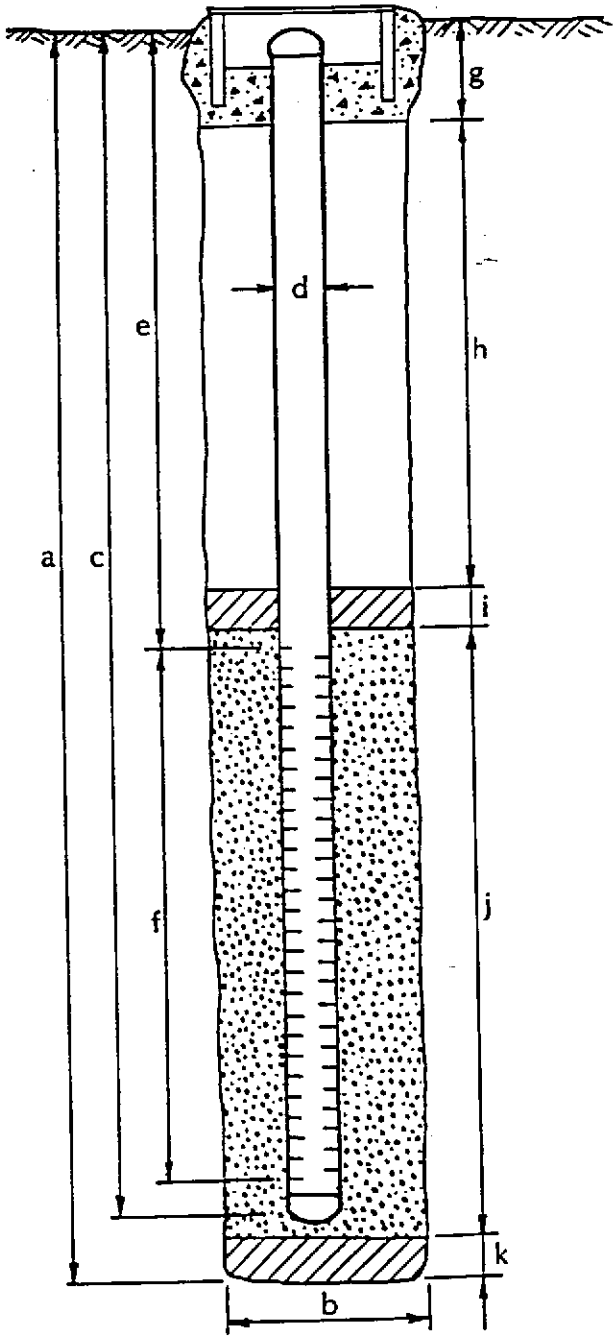
PLATE D

WELL DETAILS

PROJECT NUMBER 738-08.01
PROJECT NAME Gettler-Ryan, Shell @ Washington & Lewelling
COUNTY Alameda
WELL PERMIT NO.

BORING / WELL NO. S-2
TOP OF CASING ELEV.
GROUND SURFACE ELEV.
DATUM

G-5 vault box (Std.)



EXPLORATORY BORING

a. Total depth 20 ft.
b. Diameter 8 in.
Drilling method Hollow-Stem Auger

WELL CONSTRUCTION

c. Casing length 18½ ft.
Material Schedule 40 PVC
d. Diameter 3 in.
e. Depth to top perforations 4 ft.
f. Perforated length 14½ ft.
Perforated interval from 4 to 18½ ft.
Perforation type Machined Slot
Perforation size 0.020 inch
g. Surface seal 1 ft.
Seal material Cement
h. Backfill 2 ft.
Backfill material Cement
i. Seal ½ ft.
Seal material Bentonite
j. Gravel pack (3½ to 18½') 15 ft.
Pack material 6 x 12 Monterey Sand
k. Bottom seal 1½ ft.
Seal material Compacted clay

PLATE E

LOG OF EXPLORATORY BORING

PROJECT NUMBER 738-08.01 BORING NO. S-3

PROJECT NAME Gettler-Ryan, Shell @ Washington & Lewelling, San Leandro PAGE 1 OF 1

BY JB DATE 6/18/85 SURFACE ELEV.

TORVANE (TSF)	POCKET PENETROMETER (TSF)	PENETRATION (Blows/Ft.)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION
				0			ASPHALT
					GP		GRAVEL; Fill
					CL		CLAY; dark gray (5Y, 3/1); slightly silty; trace fine sand; moist; slight product odor.
				5	SM-ML		SILTY SAND TO SANDY SILT; very dark gray (5Y, 3/1); 50% fine sand; 50% silt; loose; wet; strong product odor; saturated with product
		12	▽				
					CL		CLAY; dark gray (5Y, 4/1); silty; firm; very moist; slight product odor.
				10			@ 10': no product odor.
	1.25	11					
				15			@ 15': stiff; wet; no product odor.
	3.0	24					HOLE TERMINATED AT 16½ FEET.
				20			

REMARKS Drilled using 8-inch continuous flight hollow-stem auger. Converted to 3-inch monitoring well, detailed on Plate G .

EMCON ASSOCIATES

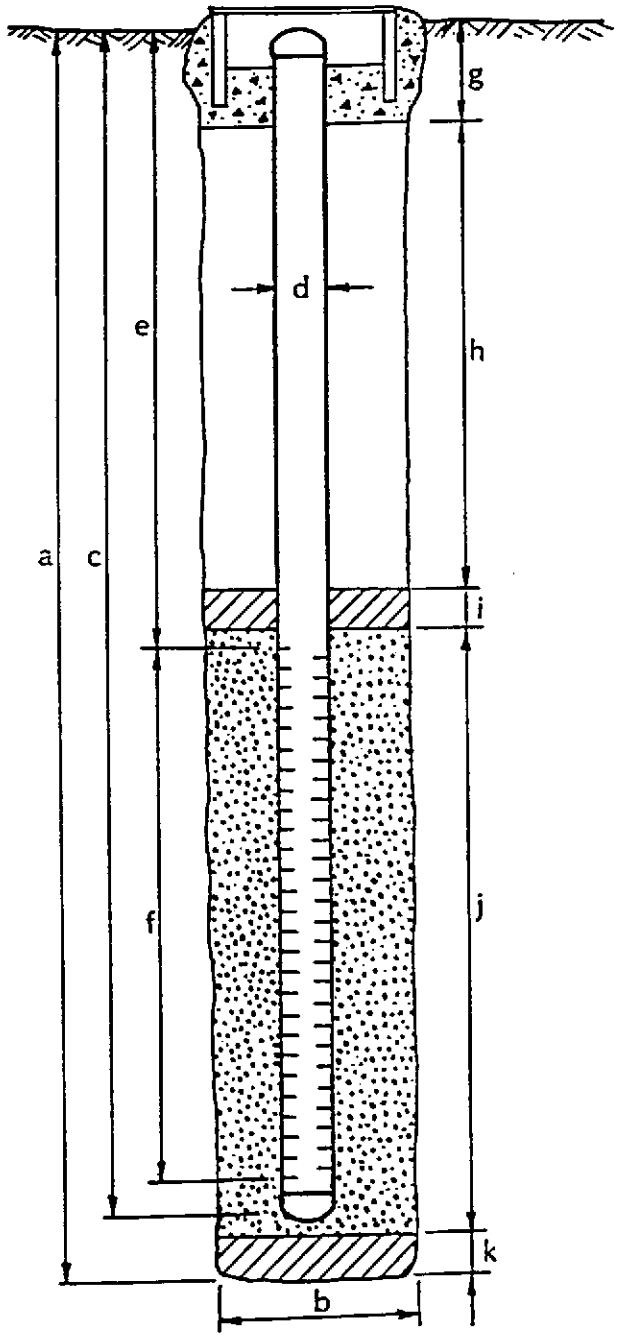
PLATE F

WELL DETAILS

PROJECT NUMBER 738-08.01
PROJECT NAME Gettler-Ryan, Shell @ Washington & Lewelling
COUNTY Alameda
WELL PERMIT NO. _____

BORING / WELL NO. S-3
TOP OF CASING ELEV. _____
GROUND SURFACE ELEV. _____
DATUM _____

G-5 vault box (Std.)



EXPLORATORY BORING

a. Total depth 16½ ft.
b. Diameter 8 in.
Drilling method Hollow-Stem Auger

WELL CONSTRUCTION

c. Casing length 16½ ft.
Material Schedule 40 PVC
d. Diameter 3 in.
e. Depth to top perforations 4 ft.
f. Perforated length 12½ ft.
Perforated interval from 4 to 16½ ft.
Perforation type Machined Slot
Perforation size 0.020 inch
g. Surface seal 1 ft.
Seal material Cement
h. Backfill 1 ft.
Backfill material Cement
i. Seal 1 ft.
Seal material Bentonite
j. Gravel pack (3 to 16½') 13½ ft.
Pack material 6x12 Monterey Sand
k. Bottom seal - ft.
Seal material -

PLATE G

LOG OF EXPLORATORY BORING

PROJECT NUMBER 738-08.01 BORING NO. S-4

PROJECT NAME Gettler-Ryan, Shell @ Washington & Lewelling, San Leandro PAGE 1 OF 1

BY JDB DATE 6/18/85 SURFACE ELEV.

TORVANE (TSF)	POCKET PENETROMETER (TSF)	PENETRATION (Blows/Ft.)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION
				0			CONCRETE.
						GW	GRAVEL FILL.
						CL	CLAY; dark gray (2.5Y, 3/2); slightly silty; moist; slight product odor.
				5		SP-ML	SILTY SAND to SANDY SILT; very dark gray (5Y, 3/1); loose; wet; strong product odor; saturated with product.
		11	▽				
						CL	CLAY; dark gray (5Y, 4/1); very silty; firm; wet; moderate product odor.
				10			
	2.0	9					
				15			@ 15': less silt; stiff; no product odor.
	2.75	24					
							HOLE TERMINATED AT 18 FEET.
				20			

REMARKS Drilled using 8-inch continuous flight hollow-stem auger. converted to 3-inch monitoring well as detailed on Plate I.

EMCON ASSOCIATES

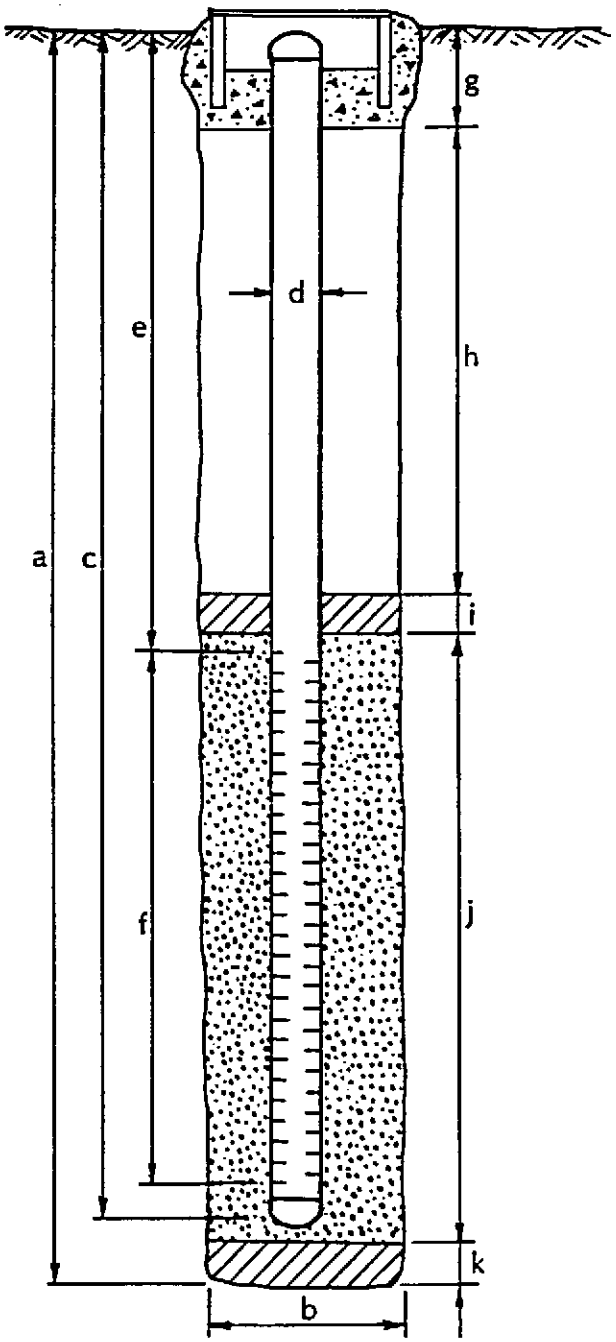
PLATE H

WELL DETAILS

PROJECT NUMBER 738-08.01
PROJECT NAME Gettler-Ryan, Shell @ Washington & Lewelling
COUNTY Alameda
WELL PERMIT NO. _____

BORING / WELL NO. S-4
TOP OF CASING ELEV. _____
GROUND SURFACE ELEV. _____
DATUM _____

G-5 vault box (Std.)



EXPLORATORY BORING

a. Total depth 18 ft.
b. Diameter 8 in.
Drilling method Hollow-Stem Auger

WELL CONSTRUCTION

c. Casing length 18 ft.
Material Schedule 40 PVC
d. Diameter 3 in.
e. Depth to top perforations 4 ft.
f. Perforated length 14 ft.
Perforated interval from 4 to 18 ft.
Perforation type Machined Slot
Perforation size 0.020 inch
g. Surface seal 1 ft.
Seal material Cement
h. Backfill 1 ft.
Backfill material Cement
i. Seal 1 ft.
Seal material Bentonite
j. Gravel pack (3 to 18') 15 ft.
Pack material 6x12 Monterey Sand
k. Bottom seal - ft.
Seal material -

PLATE I

LOG OF EXPLORATORY BORING

PROJECT NUMBER 738-08.02 BORING NO. S-A

PROJECT NAME Gettler-Ryan,Shell,Lewelling Bl. & Washington Av. PAGE 1 OF 1

BY EBL DATE 8/15/86 San Leandro SURFACE ELEV. 22'±

TORVANE (TSF)	POCKET PENETROMETER (TSF)	PENETRATION (Blows/Ft.)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION
							ASPHALT, SAND, AND GRAVEL-FILL.
						ML	SANDY SILT; very dark gray (10YR, 3/1); 30-40% fine sand; soft; wet; strong product odor.
	2.0	10	▽	5	1	CH	CLAY; black (10YR,2/1); 10-20% fine sand; stiff; wet; strong product odor.
				10			BOTTOM OF BORING AT 8 FEET.
				15			
				20			
				25			
				30			
				35			
				40			

REMARKS

Drilled by 8-inch continous-flight, hollow-stem auger; samples collected with 2-inch California modified split-spoon sampler. Boring backfilled with cuttings to 1 foot; concrete to surface.

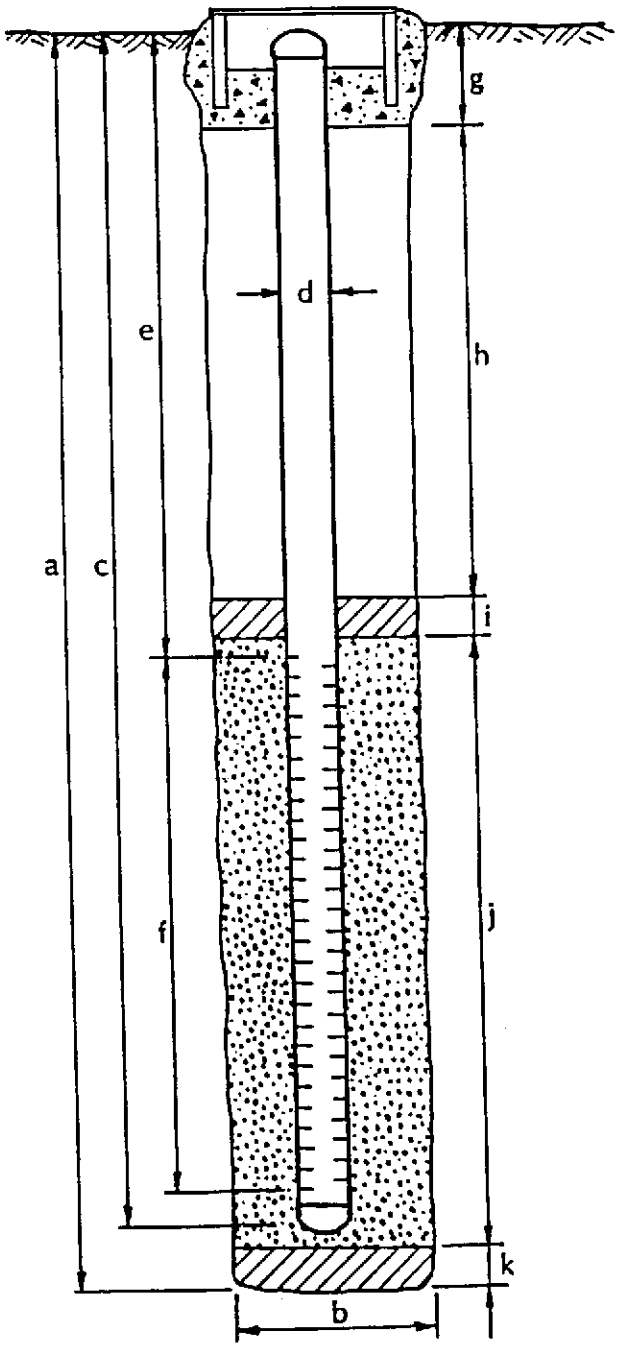
PLATE A

WELL DETAILS

PROJECT NUMBER 738-08.02
PROJECT NAME G-R Shell, San Leandro
COUNTY Alameda
WELL PERMIT NO.

BORING / WELL NO. S-B
TOP OF CASING ELEV.
GROUND SURFACE ELEV. 22' MSL
DATUM USGS

G-5 vault box (Std.)



EXPLORATORY BORING

a. Total depth 15.5 ft.
b. Diameter 8 in.
Drilling method Hollow-Stem Auger

WELL CONSTRUCTION

c. Casing length 15.5 ft.
Material Schedule 40 PVC
d. Diameter 3 in.
e. Depth to top perforations 1 ft.
f. Perforated length 14.5 ft.
Perforated interval from 14.5 to 1 ft.
Perforation type Machined Slot
Perforation size .020 inch
g. Surface seal 0.3 ft.
Seal material Bentonite
h. Backfill 0 ft.
Backfill material
i. Seal 0.7 ft.
Seal material Concrete
j. Gravel pack (13.9 to 1 Ft.) 12.9 ft.
Pack material Coarse Aquarium Sand
k. Bottom seal 0 ft.
Seal material
Note: Borehole caved to 13.9 feet.

PLATE C

LOG OF EXPLORATORY BORING

PROJECT NUMBER 738-08.02 BORING NO. S-C

PROJECT NAME Gettler-Ryan,Shell,Lewelling Bl. & Washington Av. PAGE 1 OF 1

BY EBL DATE 8/15/86 San Leandro SURFACE ELEV. 22'± MSL

TORVANE (TSF)	POCKET PENETROMETER (TSF)	PENETRATION (Blows/Ft.)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION
							CONCRETE, SAND, and GRAVEL- FILL.
						SW	SAND-FILL; dark gray (10YR, 4/1); < 10% fines; fine to coarse sand; loose; damp; strong product odor.
				5	1	CL	CLAY-FILL; very dark gray (2.5Y, N3); 10-20% fine sand; soft; moist; strong product odor.
		4	▽		2	SW	SAND-FILL; dark gray (10YR, 4/1); < 10% fines; fine to coarse sand; loose; wet; strong product odor.
				10			
	1.5	13			3	CH	CLAY; very dark grayish brown (2.5Y, 3/2); 15-25% fine sand; stiff; wet; faint product odor.
	3.0	21		15	4		@ 14': very stiff; faint product odor.
	2.5				5		@ 15-1/2': stiff; moist; no product odor.
				20			BOTTOM OF BORING AT 17 FEET.
				25			
				30			
				35			
				40			

REMARKS

Drilled by 8-inch continous-flight, hollow-stem auger; samples collected with 2-inch California modified split-spoon sampler. Boring backfilled with Bentonite to 12 feet, cuttings to 1 foot, and concrete to surface.

PLATE D

LOG OF EXPLORATORY BORING

PROJECT NUMBER 738-08.02 BORING NO. S-D

PROJECT NAME Gettler-Ryan,Shell,Lewelling Bl. & Washington Av. PAGE 1 OF 1

BY EBL DATE 8/15/86 San Leandro SURFACE ELEV. 22'± MSL

TORVANE (TSF)	POCKET PENETRO-METER (TSF)	PENETRATION (Blows/Ft.)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHO-GRAPHIC COLUMN	DESCRIPTION
				5	1		CONCRETE, SAND, and GRAVEL-FILL.
						SP	SAND; very dark gray (10YR, 3/1); < 10% fines; fine sand; loose; moist; strong product odor.
		2	▽		2		@ 7': moderate product odor.
				10	3		@ 11': wet; strong product odor; product sheen on sampler.
		12				CL	CLAY; very dark grayish brown; (2.5Y, 3/2); 10-20% fine sand; very stiff; moist; no product odor.
	3.0	26		15	4		BOTTOM OF BORING AT 15-1/2 FEET.
				20			
				25			
				30			
				35			
				40			

REMARKS

Drilled by continous-flight, hollow-stem auger; samples collected with 2-inch California modified split-spoon sampler. Boring backfilled with Bentonite to 12 feet, cuttings to 1 foot, and concrete to surface.

PLATE E

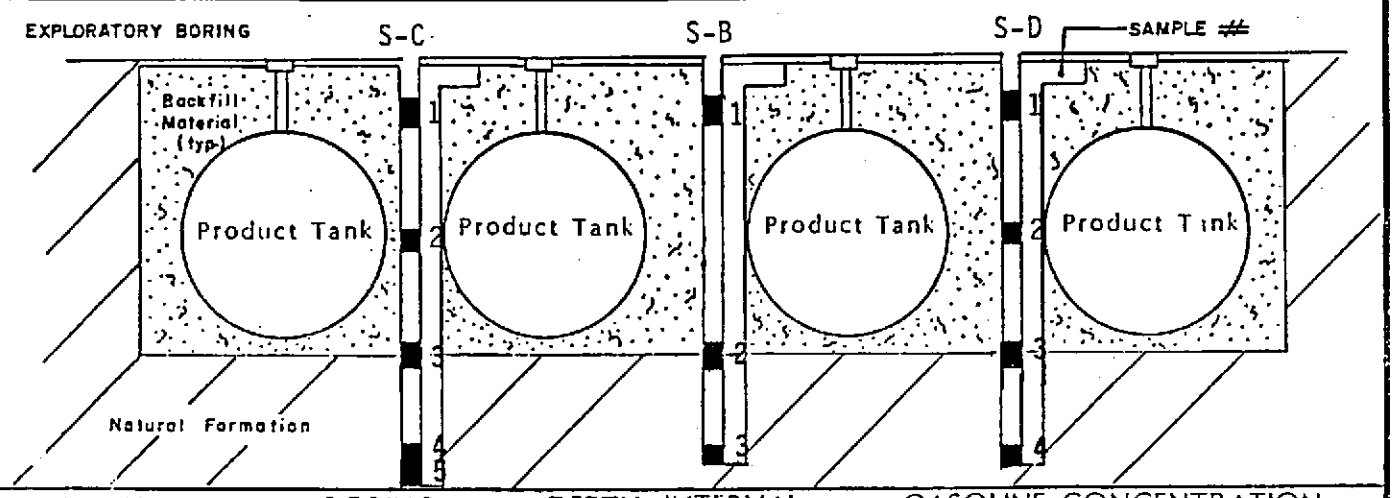
EMCON ASSOCIATES

GETTLER-RYAN, INC.

GENERALIZED PROFILE OF SUBSURFACE TANK COMPLEX AND GASOLINE CONCENTRATIONS WITHIN BACKFILL MATERIAL

PROJECT NUMBER 738-08.02
PROJECT NAME G-R Shell, San Leandro
NUMBER OF TANKS IN COMPLEX 4

MAPVIEW DIMENSIONS 27' x 42'
APPROXIMATE DEPTH 12 feet



SAMPLE #	BORING	DEPTH INTERVAL	GASOLINE CONCENTRATION (parts per million)
1	S-B	3-1/2 to 5	1,700
2	S-B	11 to 12-1/2	1,500
3	S-B	14 to 15-1/2	nd*
1	S-C	3-1/2 to 5	310
2	S-C	7-1/2 to 9	nd[1]
3	S-C	11-1/2 to 13	nd*
4	S-C	14 to 15-1/2	300
5	S-C	15-1/2 to 17	nd*
1	S-D	3-1/2 to 5	nd[2]
2	S-D	7 to 8-1/2	nd*
3	S-D	11 to 12-1/2	nd*
4	S-D	14 to 15-1/2	nd*

nd = no detection.

* Detection limit = 5 parts per million.

1 Detection limit = 200 ppm due to matrix interferences.

2 Detection limit = 100 ppm due to matrix interferences.

LOG OF EXPLORATORY BORING

PROJECT NUMBER 738-08.03 BORING NO. S-5

PROJECT NAME Gettler-Ryan, Shell, Washington & Lewelling PAGE 1 OF 2

BY JDB DATE 12/24/86 SURFACE ELEV. 21.71'

TORVANE (TSF)	POCKET PENETROMETER (TSF)	PENETRATION (Blows/Ft.)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION
				1		GP	ASPHALT GRAVEL-FILL; coarse baserock.
				2		CL	CLAY; dark gray (5Y, 4/1); 98-100% low- to moderate-plasticity fines; <2% fine sand; stiff; damp; no gasoline odor. @4': slight gasoline odor.
				3			
				4			
				5			
	1.25	9			1	SC	CLAYEY SAND; dark gray (5Y, 4/1); 20-40% low-plasticity fines; 60-80% fine sand; loose; moist; slight to moderate gasoline odor.
			▽	7		ML CH- CL	SANDY SILT; dark gray (5Y, 4/1); 70-90% non-plastic fines; 10-30% fine sand; stiff; moderate gasoline odor.
							CLAY; black (5Y, 2.5/1); 100% moderate- to high-plasticity fines; occasionally calcareous; stiff to very stiff; wet in voids; slight gasoline odor to 10 feet.
	1.5	17		10	2		
						CH	
							@14': gray (5Y, 5/1); 100% high-plasticity fines; very stiff; very moist; no gasoline odor. @19': abundant caliche disseminated; no gasoline odor.
	2.25	22		15	3		
	2.0	29		20	4		

REMARKS

Drilled with 8- and 12-inch continuous-flight, hollow-stem auger drilling equipment. Converted to a 4-inch monitoring well as detailed on Plate B.

PLATE A

LOG OF EXPLORATORY BORING

PROJECT NUMBER 738-08.03 BORING NO. S-5

PROJECT NAME Gettler-Ryan, Shell, Washington & Lewelling PAGE 2 OF 2

BY JDB DATE 12/24/86 SURFACE ELEV. 21.71'

TORVANE (TSF)	POCKET PENETROMETER (TSF)	PENETRATION (Blows/Ft.)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHOGRAPHIC COLUMN	DESCRIPTION
				20			BOTTOM OF BORING AT 20.5 FEET
				25			
				30			
				35			
				40			

REMARKS

PLATE B

WELL DETAILS

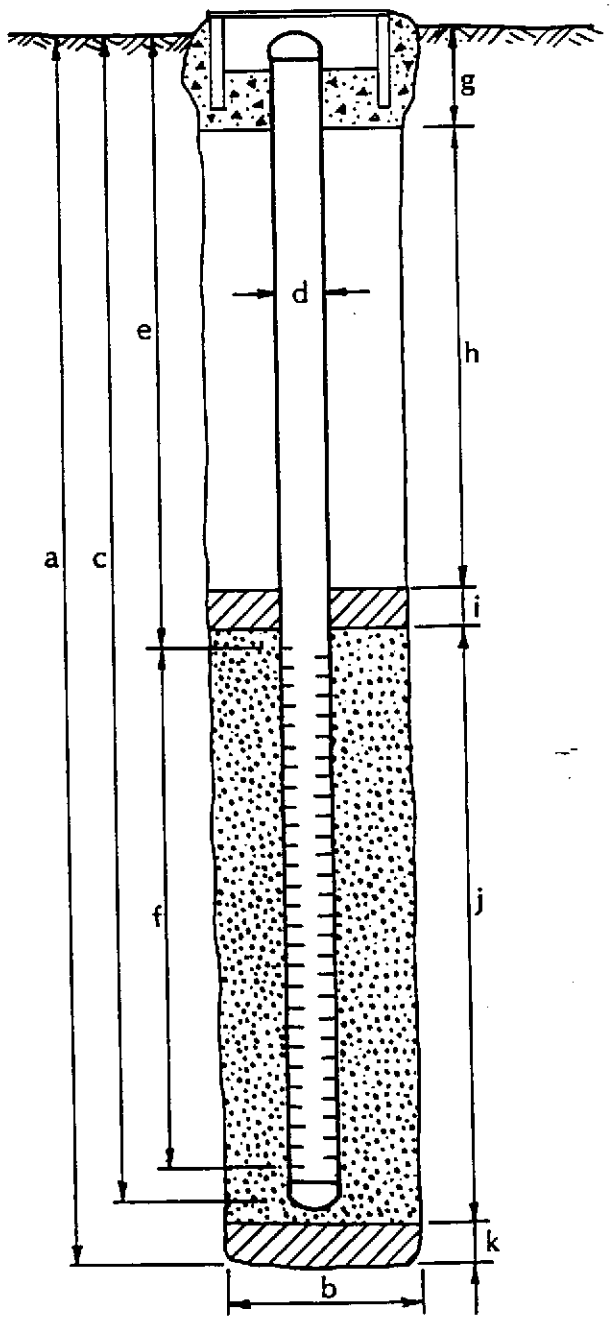
PROJECT NUMBER 738-08.03 BORING / WELL NO. S-5

PROJECT NAME Shell, Washington & Lewelling San Leandro TOP OF CASING ELEV. 21.24'

COUNTY Alameda GROUND SURFACE ELEV. 21.71'

WELL PERMIT NO. DATUM Project

G-5 vault box (Std.)



EXPLORATORY BORING

a. Total depth 20½ ft.

b. Diameter 12 in.

Drilling method Hollow-stem auger

WELL CONSTRUCTION

c. Casing length 18½ ft.

Material schedule 40 PVC

d. Diameter 4 in.

e. Depth to top perforations 3½ ft.

f. Perforated length 15 ft.

Perforated interval from 18½ to 3½ ft.

Perforation type machined slot

Perforation size 0.020 inch

g. Surface seal (1 - 0') 1 ft.

Seal material concrete

h. Backfill (1½ - 1') ½ ft.

Backfill material concrete

i. Seal (2½ - 1½') 1 ft.

Seal material bentonite

j. Gravel pack (18½ - 2½') 16 ft.

Pack material 6x12 Monterey Sand

k. Bottom seal (20½ - 18½') 2 ft.

Seal material compacted clay

PLATE C

Woodward-Clyde Consultants

PROJECT NAME GETTLER-RYAN NO. 8820011A

MONITORING WELL LOCATION	15275 Washington Ave., San Leandro, CA (S-6)	ELEVATION AND DATUM	
DRILLING AGENCY	Bay Land Drilling	DRILLER	Tom/Mack
DATE STARTED / DATE FINISHED	11/3/88		
DRILLING EQUIPMENT	CME - 55	COMPLETION DEPTH	24.5'
SAMPLER	Modified California		
DRILLING METHOD	8" Hollow stem auger	NO. OF SAMPLES	DIST. 5
UNDIST.	5		
DRILL BIT	CME Carbide	WATER LEVEL	FIRST 8'
COMPL.	—	24 HRS.	—
SIZE AND TYPE OF CASING	Sch 40 3" PVC — FROM 24.0 TO 0.5 FT.	LOGGED BY:	R. Siegel
CHECKED BY:	M. Bonkowski		
TYPE OF PERFORATION	0.02" — FROM 24.0 TO 4.0 FT.		
SIZE AND TYPE OF PACK	2/12 Monterey Sand — FROM 24.5 TO 3.0 FT.		
TYPE OF SEAL	NO. 1 1/2" Bentonite Pellets — FROM 3 TO 2.5 FT.		
	NO. 2 Cement grout — FROM 2.5 TO 0.5 FT.		

Depth (feet)	Samples	Blows	MATERIAL DESCRIPTION	USCS	Well Construction
			Asphaltic Concrete		
			FILL black, pebbly clay, moist		
5	1*	pushed @ 150 lbs	SILTY CLAY gray black, low plasticity, moist to dry, moderately cohesive, some vegetative debris with iron - oxide staining — OVM = 482 ppm, Hydrocarbon odor	CL	
10	2*	5, 7, 9	SANDY to SILTY CLAY mottled brown and black, fine to medium sand with 5% pebbles up to 1/4", moist to dry, low cohesiveness - grades in B and A sample tubes to clay, black, dry, very dense and cohesive, 5% silt — OVM = 1.3 ppm	CL	
15	3	5, 9, 14	CLAY mottled black and brown, very stiff, dry, cohesive — OVM = 26.5 ppm	CL	
			B and C tubes - same as sample 3		
20	4	5, 11, 15	SANDY to SILTY CLAY light brown with some black mottling, moderate cohesion, some vegetative debris with iron oxide staining — OVM = 0.8 ppm	CL	
	5	5, 7, 8	CLAY black to mottled brown and black, minor silt (<5%), very stiff, dry, cohesive — OVM = 2.6 ppm	CL	
25			SILTY to SANDY CLAY light brown, fine sand, moist to dry, moderate cohesion, based on drilling resistance, probably a number of alternating clay and sandy clay layers from 15' to bottom of hole		
			Total Depth = 24.5 feet		
30			* = Laboratory Sample		
35					

Woodward-Clyde Consultants

PROJECT NAME GETTLER-RYAN NO. 8820011A

MONITORING WELL LOCATION 15275 Washington Ave., San Leandro, CA (S-7)		ELEVATION AND DATUM	
DRILLING AGENCY Bay Land Drilling	DRILLER Tom/Mack	DATE STARTED / DATE FINISHED	11/3/88
DRILLING EQUIPMENT CME - 55		COMPLETION DEPTH 24.5'	SAMPLER Modified California
DRILLING METHOD 8" Hollow stem auger	DRILL BIT CME Carbide	NO. OF SAMPLES DIST. 5	UNDIST. 5
SIZE AND TYPE OF CASING Sch 40 3" PVC	FROM 24.0 TO 0.5 FT.	WATER LEVEL FIRST -8'	COMPL. — 24 HRS. —
TYPE OF PERFORATION 0.02"	FROM 24.0 TO 4.0 FT.	LOGGED BY: R. Siegel	CHECKED BY: M. Bonkowski
SIZE AND TYPE OF PACK 2/12 Monterey Sand	FROM 24.5 TO 3.0 FT.		
TYPE OF SEAL NO. 1 Bentonite	FROM 3 TO 2.5 FT.		
NO. 2 Cement grout	FROM 2.5 TO 0.5 FT.		

Depth (feet)	Samples	Blows	MATERIAL DESCRIPTION		USCS	Well Construction
			Asphaltic Concrete			
5	1*	pushed @ 200 lbs	FILL - CLAY silty sandy clay with large pebbles to 2" diameter, plastic, moist to wet, cohesive, Note: pipe encountered at ~5', moved auger over slightly	OVM = 9.0 ppm	CL	
10	2*	5 8 10	CLAY black mottled with green, low plastiviey, stiff, dry, moderate cohesion	OVM = 32 ppm	CL	
15	3	6 9 12	SILTY CLAY mottled black and brown, gravelly clay present in top, stiff, dry, moderate cohesion	OVM = 2.2 ppm	CL	
20	4	7 7 9	same as Silty Clay above	OVM = 1.8 ppm	CL	
	5	5 5 4	same as Silty Clay above but some fine sands present	OVM = 0.6 ppm		
25			Total Depth = 24.5 feet			
			* = Laboratory Sample			
30						
35						

Woodward-Clyde Consultants

PROJECT NAME GETTLER-RYAN NO. 8820011A

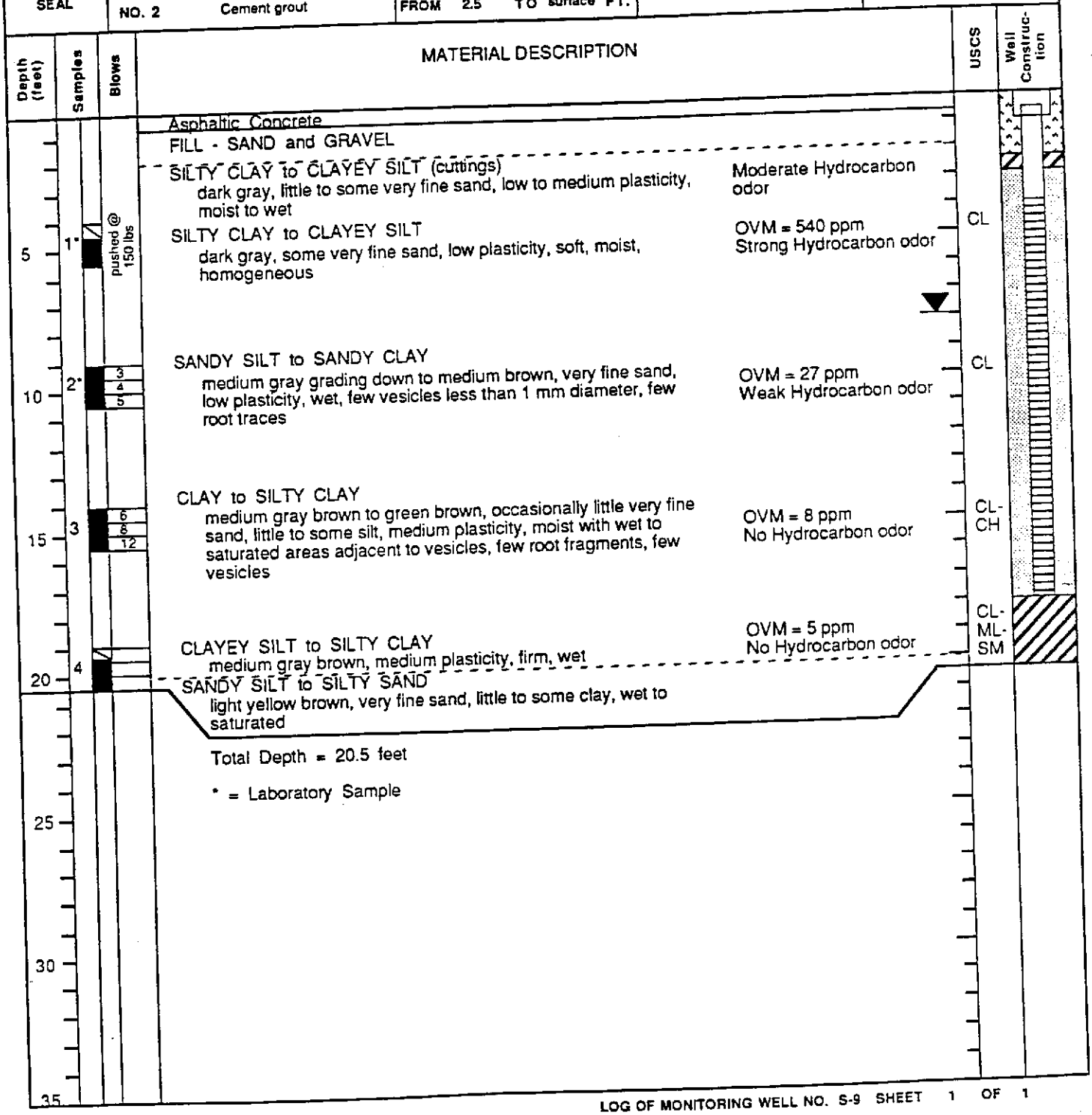
MONITORING WELL LOCATION	15275 Washington Ave., San Leandro, CA (S-8)	ELEVATION AND DATUM	
DRILLING AGENCY	Bay Land Drilling	DRILLER Tom/Mack	DATE STARTED 11/3/88 DATE FINISHED
DRILLING EQUIPMENT	CME - 55	COMPLETION DEPTH 24.5'	SAMPLER Modified California
DRILLING METHOD	8" Hollow stem auger	DRILL BIT CME Carbide	NO. OF SAMPLES DIST. 5 UNDIST. 5
SIZE AND TYPE OF CASING	Sch 40 3" PVC	FROM 24.0 TO 0.5 FT.	WATER LEVEL FIRST ~8' COMPL. — 24 HRS. —
TYPE OF PERFORATION	0.02"	FROM 24.0 TO 4.0 FT.	LOGGED BY: R. Siegel
SIZE AND TYPE OF PACK	2/12 Monterey Sand	FROM 24.5 TO 3.0 FT.	CHECKED BY: M. Bonkowski
TYPE OF SEAL	NO. 1 1/2" Bentonite Pellets	FROM 3 TO 2.5 FT.	
	NO. 2 Cement grout	FROM 2.5 TO 0.5 FT.	

Depth (feet)	Sample	Blows	MATERIAL DESCRIPTION		USCS	Well Construction
			Asphaltic Concrete			
5	1*	5 7 9	FILL - SILTY CLAY some pebbles to 1", low plasticity, moist, low cohesion	OVM = 43 ppm Very strong Hydrocarbon odor	CL	
10	2*	5 7 14	SILTY to SANDY CLAY mottled black and brown, fine to medium sand, a few pebbles to 1/4" diameter, poorly sorted, dry to moist	OVM = 1.4 ppm	CL	
15	3*	5 9 14	as above, poor recovery, resampled from same depth gravels and pebbles present in clay, pebbles to 1/8", increased moisture, decreased cohesion	OVM = 453 ppm	CL	
20	4*	3 5 7	as above then goes to (A tube), Silty to Sandy Clay, light brown, fine sand, moist to dry, moderate cohesion	OVM = 4.8 ppm	CL	
	5*	5 6 10	No recovery after 2 attempts			
25			Total Depth = 24.5 feet			
			* = Laboratory Sample			
30						
35						

Woodward-Clyde Consultants

PROJECT NAME GETTLER-RYAN NO. 8820011A

MONITORING WELL LOCATION	15275 Washington Ave., San Leandro, CA (S-9)	ELEVATION AND DATUM	
DRILLING AGENCY	Bay Land Drilling	DRILLER	Tom/Mack
DATE STARTED / DATE FINISHED	11/4/88		
DRILLING EQUIPMENT	CME - 55	COMPLETION DEPTH	18'
SAMPLER	Modified California		
DRILLING METHOD	8" Hollow stem auger	NO. OF SAMPLES	DIST. 4 / UNDIST. —
DRILL BIT	CME Carbide		
SIZE AND TYPE OF CASING	Sch 40 3" PVC	WATER LEVEL	FIRST 8' +/- / COMPL. 8.2' / 24 HRS. —
TYPE OF PERFORATION	0.02"	FROM 18.0 TO 0.5 FT.	
SIZE AND TYPE OF PACK	2/12 Monterey Sand	FROM 17.5 TO 4.0 FT.	
TYPE OF SEAL	NO. 1 1/2" Bentonite Pellets	FROM 18 TO 3.0 FT.	
	NO. 2 Cement grout	FROM 3 TO 2.5 FT.	
		FROM 2.5 TO surface FT.	
LOGGED BY: G. Heyman		CHECKED BY: M. Bonkowski	



Woodward-Clyde Consultants

PROJECT NAME GETTLER-RYAN NO. 8820011A

MONITORING WELL LOCATION 15275 Washington Ave., San Leandro, CA (S-10)		ELEVATION AND DATUM	
DRILLING AGENCY Bay Land Drilling	DRILLER Tom/Mack	DATE STARTED / DATE FINISHED 11/4/88	
DRILLING EQUIPMENT CME - 55		COMPLETION DEPTH 18'	SAMPLER Modified California
DRILLING METHOD 8" Hollow stem auger	DRILL BIT CME Carbide	NO. OF SAMPLES DIST. 4	UNDIST. —
SIZE AND TYPE OF CASING Sch 40 3" PVC	FROM 18.0 TO 0.5 FT.	WATER LEVEL FIRST 8' +/-	COMPL. 7.1' / 24 HRS. —
TYPE OF PERFORATION 0.02"	FROM 17.5 TO 4.0 FT.	LOGGED BY: G. Heyman	CHECKED BY: M. Bonkowski
SIZE AND TYPE OF PACK 2/12 Monterey Sand	FROM 18 TO 3.0 FT.		
TYPE OF SEAL NO. 1 1/2" Bentonite Pellets	FROM 3 TO 2.5 FT.		
NO. 2 Cement grout	FROM 2.5 TO surface FT.		

Depth (feet)	Samples	Blows	MATERIAL DESCRIPTION		USCS	Well Construction
			Asphaltic Concrete			
5	1*	pushed @ 100 lbs	SILTY to SANDY SILT dark gray, very fine sand, low plasticity, soft, moist, homogeneous	OVM = 0 ppm No Hydrocarbon odor	CL	
10	2*	3 4 7	Interlayered SILTY CLAY and CLAYEY SAND dark greenish gray, little very fine sand in clay, low plasticity, moist, wet with few saturated areas	OVM = 3.7 ppm No Hydrocarbon odor Weak Hydrocarbon odor in 20 minutes	CL-SC	
15	3	5 8 9	CLAY to SILTY CLAY light to medium brown, low to medium plasticity, moist, few off-white brittle veinlets 2 - 3 mm thick	OVM = 0 ppm No Hydrocarbon odor	CL-CH	
20	4	4 5 7	SILTY CLAY medium gray brown, some very fine sand, trace fine gravel, medium plasticity, wet to occasionally saturated	No Hydrocarbon odor	CL-CH	
25			Total Depth = feet * = Laboratory Sample			
30						
35						

LOG OF MONITORING WELL NO. S-10 SHEET 1 OF 1

Woodward-Clyde Consultants

PROJECT NAME GETTLER-RYAN NO. 8820011A

MONITORING WELL LOCATION	15275 Washington Ave., San Leandro, CA (S-11)	ELEVATION AND DATUM	
DRILLING AGENCY	Bay Land Drilling	DRILLER	Tom/Mack
DATE STARTED / DATE FINISHED	11/4/88		
DRILLING EQUIPMENT	CME - 55	COMPLETION DEPTH	24.5'
SAMPLER	Modified California		
DRILLING METHOD	8" Hollow stem auger	NO. OF SAMPLES: DIST.	5
UNDIST.	5		
DRILL BIT	CME Carbide	WATER LEVEL: FIRST	8'
COMPL.	7.8' / 24 HRS.		
SIZE AND TYPE OF CASING	Sch 40 3" PVC — FROM 24.5 TO 0.5 FT.	LOGGED BY:	G. Heyman
CHECKED BY:	M. Bonkowski		
TYPE OF PERFORATION	0.02" — FROM 24.0 TO 4.0 FT.		
SIZE AND TYPE OF PACK	2/12 Monterey Sand — FROM 24.5 TO 3.5 FT.		
TYPE OF SEAL	NO. 1 1/2" Bentonite Pellets — FROM 3.5 TO 3.0 FT.		
	NO. 2 Cement grout — FROM 3.0 TO 0.5 FT.		

Depth (feet)	Samples	Blows	MATERIAL DESCRIPTION		USCS	Well Construction
			Asphaltic Concrete and base rock			
5	1	pushed @ 175 lbs	SILTY to SANDY CLAY greenish gray, silt and very fine grained sand, content varies vertically, low plasticity, firm, moist, numerous vesicles less than 1 mm diameter	OVM = 110 ppm Moderate Hydrocarbon odor	CL	
				Strong Hydrocarbon odor in cuttings at 8'		
10	2	4 7 9	SILTY CLAY to CLAYEY SILT dark brown, little to some very fine sand, low plasticity, moist to wet, few vesicles	OVM = 0 ppm No Hydrocarbon odor	CL-ML	
15	3	5 9 11	SILTY CLAY greenish brown, little to some very fine sand, medium plasticity, wet with saturated areas, gravel layers 1 - 2" thick from 16 - 18' (driller)	OVM = 0 ppm No Hydrocarbon odor	CL	
20	4*	3 4 4	SILTY CLAY with Interbedded CLAYEY SAND to SANDY CLAY Clay is grayish brown, medium plasticity, wet with saturated areas, sand is light yellow brown, very fine grained, loose, wet to saturated, up to 3" thick	OVM = 0.5 ppm No Hydrocarbon odor	CL-SC	
	5	4 7 8	SANDY CLAY to CLAYEY SAND layers are up to 5" thick, as above	No Hydrocarbon odor	CL	
25			Total Depth = 24.5 feet * = Laboratory Sample			
30						
35						

Woodward-Clyde Consultants

PROJECT NAME GETTLER-RYAN NO. 8820011A

MONITORING WELL LOCATION	15275 Washington Ave., San Leandro, CA (S-12)	ELEVATION AND DATUM	
DRILLING AGENCY	Bay Land Drilling	DRILLER	Tom/Mack
DATE STARTED / DATE FINISHED	11/4		
DRILLING EQUIPMENT	CME - 55	COMPLETION DEPTH	24.5'
SAMPLER	Modified California		
DRILLING METHOD	8" Hollow stem auger	NO. OF SAMPLES: DIST.	5
UNDIST.	5		
DRILL BIT	CME Carbide		
SIZE AND TYPE OF CASING	Sch 40 3" PVC	WATER LEVEL: FIRST	8'
COMPL.	—	24 HRS.	—
TYPE OF PERFORATION	0.02"	LOGGED BY:	G. Heyman
CHECKED BY:	M. Bonkowski		
SIZE AND TYPE OF PACK	2/12 Monterey Sand		
TYPE OF SEAL	NO. 1 1/2" Bentonite Pellets		
TYPE OF SEAL	NO. 2 Cement grout		

FROM	TO	
24.0	0.5	FT.
23.5	3.5	FT.
24.0	3.0	FT.
3	2.5	FT.
2.5	surface	FT.

Depth (feet)	Samples	Blows	MATERIAL DESCRIPTION		USCS	Well Construction
			Asphaltic Concrete			
5	1	pushed @ 200 lbs	CLAYEY SAND to SANDY CLAY grading down to SILTY CLAY TO CLAYEY SILT greenish gray at top with gray mottling in middle and bottom of sample, very fine sand, low plasticity, moist, generally homogeneous	OVM jumped to 190 ppm then settled at 120 ppm Weak Hydrocarbon odor	CL	
10	2	4 5 7	SILTY CLAY dark brownish gray, some very fine sand, low plasticity, firm, moist to wet, few beds of clay, sand to 1/4" thick	OVM = 20 ppm Weak Hydrocarbon odor	CL	
15	3	5 8 11	CLAY to SILTY CLAY medium grayish brown, some silt grading to silty clay, medium plasticity, wet homogeneous Driller indiccates drilling through a series of 2 - 4" gravel layers from 16 - 19'	OVM = 0 ppm No Hydrocarbon odor	CL	
20	4	3 4 5	CLAY to SANDY CLAY medium grayish brown, little to some very fine sand occasionally grading to sandy clay, low to medium plasticity, firm, saturated	No Hydrocarbon odor	CL	
			CLAYEY SAND to SANDY CLAY medium yellow brown, very fine sand, saturated	OVM = 1 ppm No Hydrocarbon odor		
	5	4 5 7	SILTY CLAY to CLAYEY SILT medium yellow brown, up to some very fine sand, low to medium plasticity, saturated	OVM = 0 ppm No Hydrocarbon odor	CL	
25			Total Depth = 24.5 feet			
			* = Laboratory Sample			
30						
35						

Field location of boring:

Project No.: 7615	Date: 4/26/89	Boring No: S-13	
Client: Shell			
Location: 15275 Washington Ave/Lewelling			
City: San Leandro		Sheet 1 of 2	
Logged by: DAF	Driller: Bayland		

Casing installation data:

Drilling method: Hollow Stem Auger

Hole diameter: 8 inch

Top of Box Elevation: Datum:

Water Level	8.4'	7.3'		
Time	11:50am			
Date	4/26	5/10		

PID (ppm)	Blows/ft. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
				1				PAVEMENT SECTION - 2 feet.
				2				
				3				CLAY (CL)- dark gray (10YR 4/1); soft; damp; low plasticity; trace gravel; no chemical odor.
				4				
350	150	S&H	S-13-5'					color change to dark olive gray (5Y 3/2); no chemical odor.
		push		5				
				6				
				7				
				8				
				9				▼
50	2	S&H	S-13-					
	3		10'	10				SILTY SAND (SM)- light olive brown (2.5Y 5/4); loose; damp; 20-30% silt; mottled brown; no chemical odor.
	6							
				11				
				12				CLAY (CL)- dark olive gray (5Y 3/2), medium stiff; damp; low plasticity; trace gravel; rootholes; no chemical odor.
				13				
				14				
40	3	S&H	S-13-					color change to very dark gray (5Y 3/1) mottled; organics present; no chemical odor.
	5		15'	15				
	7							
				16				
				17				▽ becoming saturated at 17.5 feet.
				18				
				19				
0	2	S&H	S-13-					SANDY SILT (ML)- light yellowish brown (2.5Y 6/4); medium stiff; saturated;
	3		20'	20				

Remarks:

BORING NO.

GeoStrategies Inc.

S-13

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7615	CEG 1262	5/89		

Field location of boring:

Project No.: 7615	Date: 4/26/89	Boring No: S-13	
Client: Shell			
Location: 15275 Washington Ave/Lewelling			
City: San Leandro		Sheet 2 of 2	
Logged by: DAF	Driller: Bayland		

Casing installation data:

Drilling method: Hollow Stem Auger

Hole diameter: 8 inch

Top of Box Elevation: Datum:

Water Level				
Time				
Date				

PID (ppm)	Blows/ft. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
	4							15% very fine to fine sand; 10% clay;
				21				trace organics; rootholes; mottled
								brown & black; no chemical odor.
				22				
				23				
				24				
25	2	S&H	S-13-					SILTY CLAY (CL-ML)- light olive brown
	3		25'	25				(2.5Y 5/4); medium stiff; moist; trace
	4							organics; mottled brown & black;
								no chemical odor.
								Bottom of boring 24.0 feet,
								Sampled to 25.5 feet
								4/26/89

Remarks:

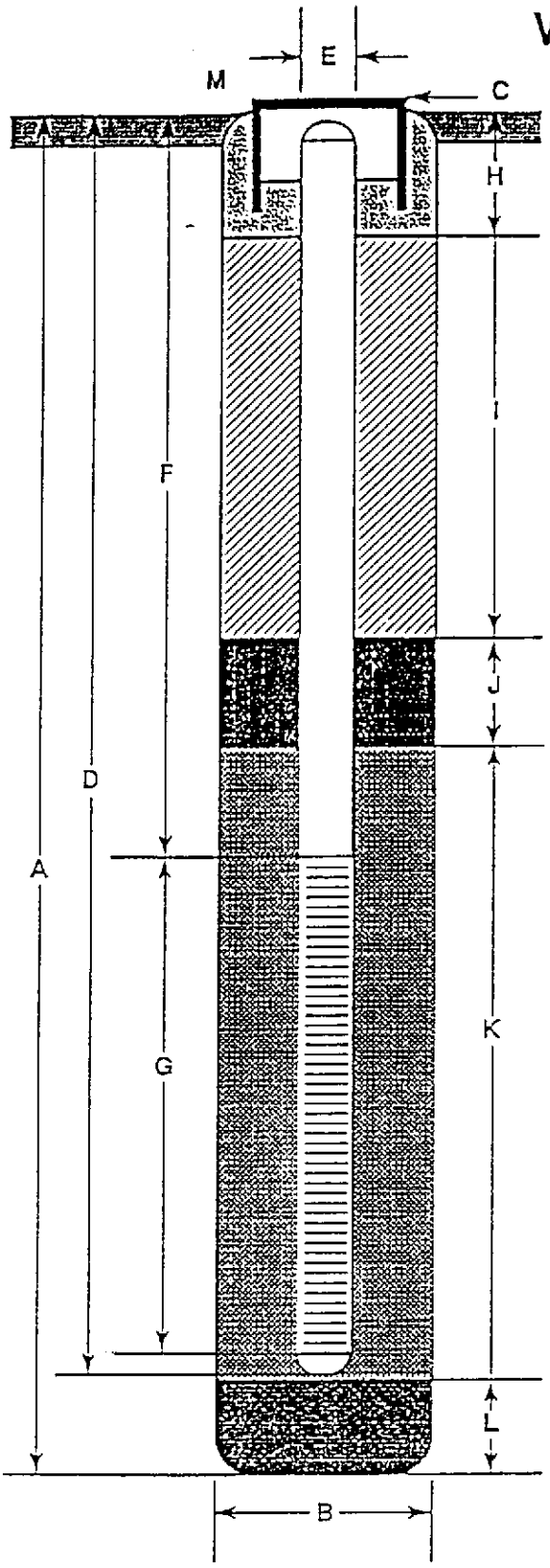
BORING NO.

GeoStrategies Inc.

S-13

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7615		5/89		

WELL CONSTRUCTION DETAIL



A Total Depth of Boring 24 ft.

B Diameter of Boring 8 in.
Drilling Method HOLLOW STEM AUGER

C Top of Box Elevation 20.57 ft.
☐ Referenced to Mean Sea Level
☒ Referenced to Project Datum

D Casing Length 23.5 ft.
Material SCH 40 PVC

E Casing Diameter 3 in.

F Depth to Top Perforations 4 ft.

G Perforated Length 20 ft.
Perforated Interval from 4 to 24 ft.
Perforation Type FACTORY SLOTTED
Perforation Size 0.020

H Surface Seal 2.5 ft.
Seal Material CONCRETE

I Backfill ft.
Backfill Material

J Seal 0.5 ft.
Seal Material BENTONITE

K Gravel Pack 21 ft.
Pack Material LONESTAR 2/12 & #3

L Bottom Seal ft.
Seal Material

M CHRISTY BOX

GSI GeoStrategies Inc.

Well Construction Detail
Former Shell Service Station
15275 Washington Ave.
San Leandro

WELL NO.
S-13

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7615	CMP CEG 1262	5/89		

Field location of boring:

Project No.: 7615 | Date: 4/26/89 | Boring No: S-14

Client: Shell

Location: 15275 Washington Ave/Lewelling

City: San Leandro | Sheet 1 of 2

Logged by: DAF | Driller: Bayland

Casing installation data:

Drilling method: Hollow Stem Auger

Hole diameter: 8 inch

Top of Box Elevation: | Datum:

Water Level: 9' | Time: 10:00am | Date: 4/26/89

PID (ppm)	Blows/ft. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
				1				PAVEMENT SECTION - 2 feet.
				2				
				3				SILTY CLAY (CL-ML)- dark gray (2.5Y N4); soft; damp.
				4				becoming firm at 5 feet; with slight odor.
500	150	S&H	S-14-5'	5				
		push		6				
				7				SILTY SAND (SM)- olive (5Y 4/3); loose; damp; 30% medium sand; 20% very fine to fine sand; trace clay; no chemical odor, comment: drill cuttings.
				8				
				9				▼ CLAY (CL)- dark gray (2.5Y N4); stiff; damp; low plasticity; no chemical odor.
50	2	S&H	S-14-	10				
	3		10'					CLAY WITH SAND (CL)- light yellowish brown (2.5Y 6/4); medium stiff; damp; 10% very fine to fine sand; 5-10% silt; trace caliche nodules; mottled; no chemical odor.
	4			11				
				12				
				13				
				14				CLAY (CL)- dark gray (2.5Y N4); stiff; damp; low plasticity; pockets of silt; trace black & brown organics; no chemical odor.
0	2	S&H	S-14-	15				
	6		15'					
	7			16				color change to grayish brown (2.5Y 5/2) at 15 feet.
				17				
				18				
				19				▽ becoming saturated at 19 feet.
50	2	S&H	S-14-	20				
	6		20'					

Remarks:

GeoStrategies Inc.

BORING NO. S-14

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7615	CEG 1262	5/89		

Field location of boring:

Project No.: 7615 | Date: 4/26/89 | Boring No.: S-14
Client: Shell
Location: 15275 Washington Ave/Lewelling
City: San Leandro | Sheet 2 of 2
Logged by: DAF | Driller: Bayland
Casing installation data:

Drilling method: Hollow Stem Auger
Hole diameter: 8 inch
Top of Box Elevation: | Datum:
Water Level
Time
Date

PID (ppm)	Blows/ft. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
	7							
				21				SANDY SILT (ML)- light yellowish brown (2.5Y 6/4); medium stiff; saturated; 30% very fine to fine sand; 5-10% clay; trace caliche nodules; mottled brown & black; no chemical odor.
				22				
				23				
				24				
	2	SPT						
	2			25				CLAY (CL)- grayish brown (2.5Y 5/2); medium stiff; damp; low plasticity; trace caliche nodules; no chemical odor
	4							
								Bottom of boring 24.0 feet, sampled to 25.5 feet 4/26/89

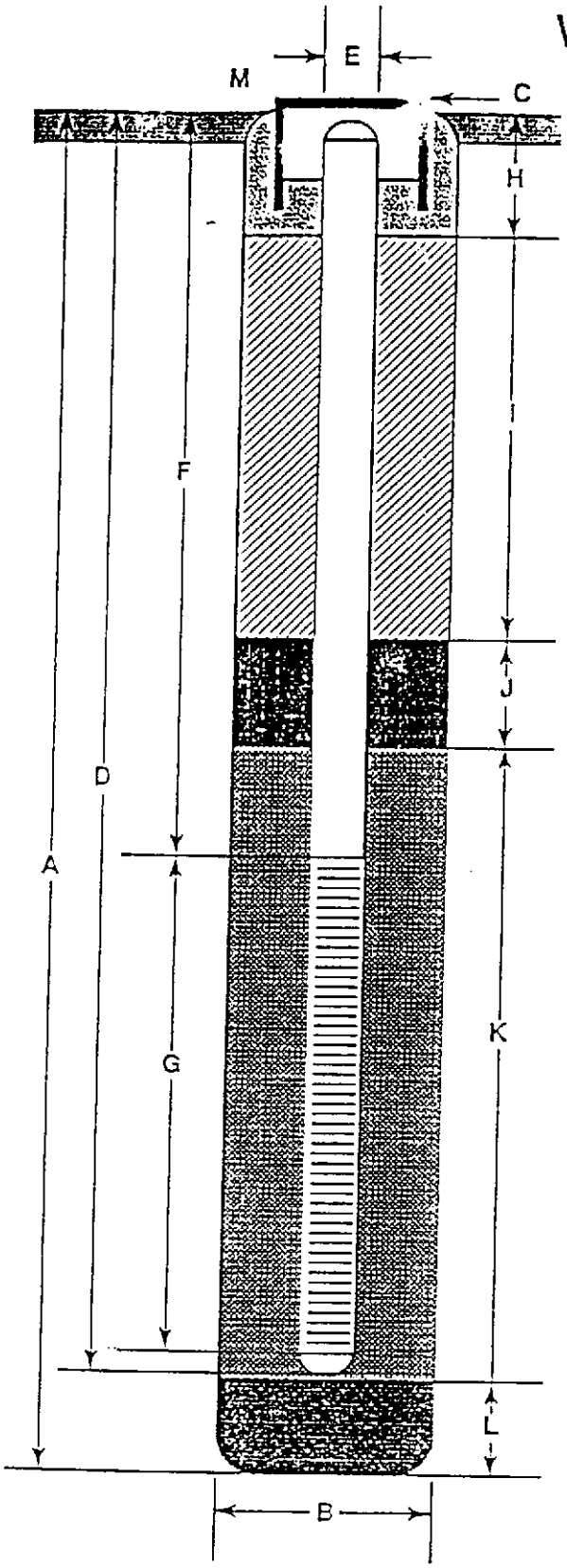
Remarks:

GeoStrategies Inc.

BORING NO. S-14

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7615		5/89		

WELL CONSTRUCTION DETAIL



A Total Depth of Boring 24 ft.

B Diameter of Boring 8 in.
Drilling Method HOLLOW STEM AUGER

C Top of Box Elevation 20.44 ft.
☐ Referenced to Mean Sea Level
☒ Referenced to Project Datum

D Casing Length 23.5 ft.
Material SCH 40 PVC

E Casing Diameter 3 in.

F Depth to Top Perforations 4 ft.

G Perforated Length 20 ft.
Perforated Interval from 4 to 24 ft.
Perforation Type FACTORY SLOTTED
Perforation Size 0.020

H Surface Seal 2.5 ft.
Seal Material CONCRETE

I Backfill ft.
Backfill Material

J Seal 0.5 ft.
Seal Material BENTONITE

K Gravel Pack 21 ft.
Pack Material LONESTAR 2/12 & #3

L Bottom Seal ft.
Seal Material

M CHRISTY BOX

GSI GeoStrategies Inc.

Well Construction Detail
Former Shell Service Station
15275 Washington Ave.
San Leandro

WELL NO.
S-14

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7615	CWP CEG 1262	5/89		

Field location of boring:

Project No.: 7615 | Date: 4/26/89 | Boring No.: S-15

Client: Shell

Location: 15275 Washington Ave/Lewelling

City: San Leandro | Sheet: 1

Logged by: DAF | Driller: Bayland | of 2

Casing installation data:

Drilling method: Hollow Stem Auger

Hole diameter: 8 inch

Top of Box Elevation: | Datum:

Water Level: 8.3' | Time: 2:25pm | Date: 4/26/89

PID (ppm)	Blows/ft. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
				1				PAVEMENT SECTION - 2.5 feet.
				2				
				3				CLAY (CL)- very dark grayish brown (2.5Y 3/2); medium stiff; damp; low plasticity; trace gravel.
				4				
55	150	S&H	S-15-5'	5				SILTY CLAY (CL-ML) -olive (5Y 4/3); soft; damp; low plasticity; mottled brown.
		push		6				
Driller notes change @ 7'				7				SILTY SAND (SM) -olive brown (2.5Y 4/4); loose; moist; poorly graded; trace clay.
				8				
				9				▼
35	2	S&H	S-15-	10				CLAY (CL) -very dark gray (5Y 3/1); stiff; damp; low plasticity; trace gravel; mottled brown; rootholes.
	2		10'					
	4							
				11				
				12				
				13				
				14				becoming soft; 5% silt; trace caliche nodules at 14 feet.
55	1	S&H	S-15-	15				
	4		15'					
	8							CLAY (CL) -olive gray (5Y 4/2); stiff; damp; low plasticity; mottled; trace caliche nodules.
				16				
				17				
				18				becoming saturated at 18.5 feet.
				19				▽ SILTY CLAY (CL-ML) -light olive brown (2.5Y 5/4); medium stiff; saturated; trace organics; trace caliche nodules.
NM	3	SPT		20				
	2							

Remarks:

GeoStrategies Inc.

BORING NO. S-15

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7615	CEG 1262	5/89		

Field location of boring:

Project No.: 7615 | Date: 4/26/89 | Boring No.: S-15

Client: Shell

Location: 15275 Washington Ave/Lewelling

City: San Leandro | Sheet 2 of 2

Logged by: DAF | Driller: Bayland

Casing installation data:

Drilling method: Hollow Stem Auger

Hole diameter: 8 inch

Top of Box Elevation: | Datum:

Water Level				
Time				
Date				

PID (ppm)	Blows/ft. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
	4							
				21				
				22				
				23				CLAY (CL) -very dark gray (5Y 3/1); medium stiff; damp; low plasticity.
				24				
NM	1	SPT						SILTY CLAY (CL-ML) - light olive brown
	3			25				(2.5Y 5/4); medium stiff; damp; some
	5							sandy lenses.
								Bottom of boring 24.0 feet,
								Sampled to 25.5 feet
								4/26/89

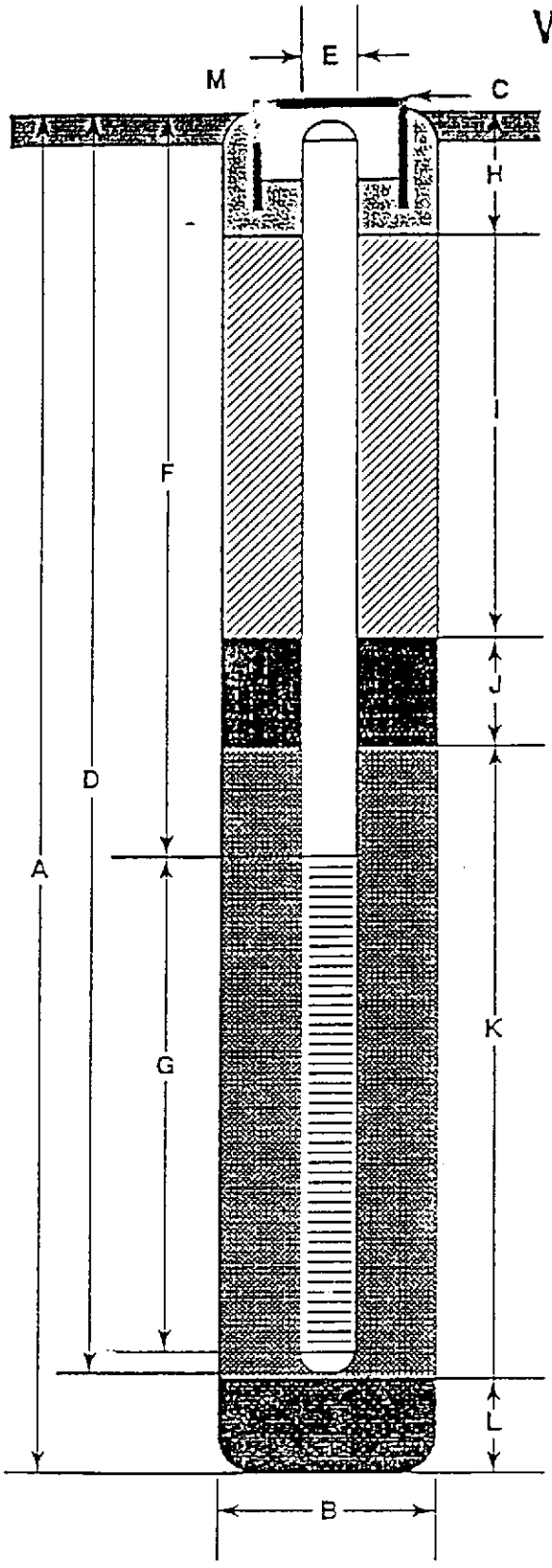
Remarks:

GeoStrategies Inc.

BORING NO. S-15

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7615		5/89		

WELL CONSTRUCTION DETAIL



A Total Depth of Boring 24 ft.

B Diameter of Boring 8 in.
Drilling Method HOLLOW STEM AUGER

C Top of Box Elevation 22.22 ft.
☐ Referenced to Mean Sea Level
☒ Referenced to Project Datum

D Casing Length 23.5 ft.
Material SCH 40 PVC

E Casing Diameter 3 in.

F Depth to Top Perforations 4 ft.

G Perforated Length 20 ft.
Perforated Interval from 4 to 24 ft.
Perforation Type FACTORY SLOTTED
Perforation Size 0.020

H Surface Seal 2.5 ft.
Seal Material CONCRETE

I Backfill ft.
Backfill Material

J Seal 0.5 ft.
Seal Material BENTONITE

K Gravel Pack 21 ft.
Pack Material LONESTAR 2/12 & #3

L Bottom Seal ft.
Seal Material

M CHRISTY BOX

GeoStrategies Inc.

Well Construction Detail
Former Shell Service Station
15275 Washington Ave.
San Leandro

WELL NO.
S-15

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7615	CEG 1262	5/89		

Field location of boring:

Project No.: 7615 | Date: 4/25/89 | Boring No.: S-16
Client: Shell
Location: 15275 Washington Ave/Lewelling
City: San Leandro | Sheet 2 of 2
Logged by: DAF | Driller: Bayland
Casing installation data:

Drilling method: Hollow Stem Auger
Hole diameter: 8 inch
Top of Box Elevation: | Datum:
Water Level
Time
Date

PID (ppm)	Blowsft. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
	5							▽
				21				CLAYEY SAND (SC) -pale brown (10 YR 6/3); loose; saturated.
				22				
				23				
				24				
0	1	S&H	S-16-					SILTY CLAY (CL-ML) -brown (10YR 5/3); soft; damp; 10% silt; <10% fine sand; trace organics; mottled gray & orange.
	1		25'	25				
	1							
								Bottom of boring 24.0 feet, sampled to 25.5 feet. 4/25/89

Remarks:

GeoStrategies Inc.

BORING NO. S-16

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7615		5/89		

Field location of boring:

Project No.: 7615 | Date: 4/25/89 | Boring No: S-16

Client: Shell

Location: 15275 Washington Ave/Lewelling

City: San Leandro | Sheet 2 of 2

Logged by: DAF | Driller: Bayland

Casing installation data:

Drilling method: Hollow Stem Auger

Hole diameter: 8 inch

Top of Box Elevation: | Datum:

Water Level			
Time			
Date			

PID (ppm)	Blows/ft. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
	5							▽
				21				CLAYEY SAND (SC) -pale brown (10 YR 6/3); loose; saturated.
				22				
				23				
				24				
0	1	S&H	S-16-					SILTY CLAY (CL-ML) -brown (10YR 5/3);
	1		25'	25				soft; damp; 10% silt; <10% fine sand;
	1							trace organics; mottled gray & orange.
								Bottom of boring 24.0 feet,
								sampled to 25.5 feet.
								4/25/89

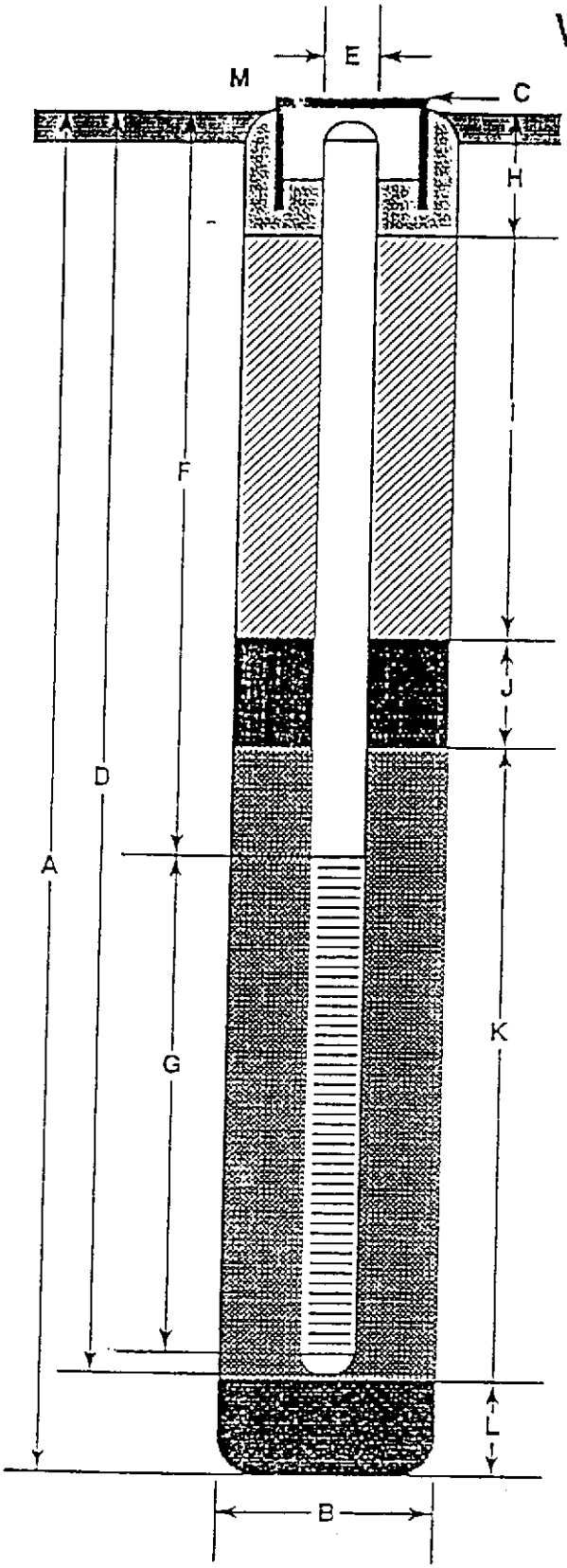
Remarks:

GSI GeoStrategies Inc.

BORING NO. S-16

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7615		5/89		

WELL CONSTRUCTION DETAIL



A Total Depth of Boring 24 ft.

B Diameter of Boring 8 in.
Drilling Method HOLLOW STEM AUGER

C Top of Box Elevation 21.82 ft.
☐ Referenced to Mean Sea Level
☒ Referenced to Project Datum

D Casing Length 23.5 ft.
Material SCH 40 PVC

E Casing Diameter 3 in.

F Depth to Top Perforations 4 ft.

G Perforated Length 20 ft.
Perforated Interval from 4 to 24 ft.
Perforation Type FACTORY SLOTTED
Perforation Size 0.020

H Surface Seal 2.5 ft.
Seal Material CONCRETE

I Backfill ft.
Backfill Material

J Seal 0.5 ft.
Seal Material BENTONITE

K Gravel Pack 21 ft.
Pack Material LONESTAR 2/12 & #3

L Bottom Seal ft.
Seal Material

M CHRISTY BOX

GeoStrategies Inc.

Well Construction Detail

Former Shell Service Station
15275 Washington Ave.
San Leandro

WELL NO.
S-16

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7615	Chip CEG 1262	5/89		

Field location of boring:

Project No.: 7615 | Date: 4/25/89 | Boring No.: S-17

Client: Shell

Location: 15275 Washington Ave/Lewelling

City: San Leandro | Sheet 1 of 2

Logged by: DAF | Driller: Bayland

Casing installation data:

Drilling method: Hollow Stemm Auger

Hole diameter: 8 inch

Top of Box Elevation: | Datum:

Water Level: 7.5'

Time: 12.50 pm

Date: 4/25/89

PID (ppm)	Blow/ft. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
				1				PAVEMENT SECTION - 2 feet.
				2				
				3				SILTY SAND (SM) -very dark gray (5Y 3/1); loose; dry; >50% very fine to fine sand; trace clay.
				4				
12.5	150	S&H	S-17-5'	5				SILTY CLAY (CL-ML) -dark greenish gray (5GY 4/1); medium stiff; damp; 5% very fine to fine sand; slight mottling - olive green & gray; moderate chemical odor.
		push		6				
				7				
				8				▼ SANDY SILT (ML) -dark greenish gray (5GY 4/1); loose; saturated; 40% fine to very fine sand; 10% clay; weak chemical odor.
				9				
0	3	S&H	S-17-	10				
	4		10'					
	7			11				SILTY CLAY WITH SAND (CL-ML) -dark gray (5Y 4/1), stiff; damp; 15-20% very fine to fine sand; trace caliche nodules; trace organics; mottled; rootholes.
				12				
				13				
				14				gravels up to 1 cm at 14 feet.
NM	2	SPT		15				CLAY (CL) -grayish brown (5Y 5/2); stiff; damp; trace caliche nodules up to 1 cm; mottled; occasional sand lens.
	4							
	7			16				
				17				
				18				SANDY SILT (ML) -light yellowish brown (10 YR 6/4); loose; saturated; 30% very fine to fine sand; trace clay; trace caliche nodules; trace medium grain sized sand.
				19				
NM	2	SPT		20				
	2							

Remarks:

GSI GeoStrategies Inc.

BORING NO. S-17

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7615	CEG 1262	5/89		

Field location of boring:

Project No.: 7615 | Date: 4/25/89 | Boring No: S-17

Client: Shell

Location: 15275 Washington Ave/Lewelling

City: San Leandro | Sheet 2 of 2

Logged by: DAF | Driller: Bayland

Casing installation data:

Drilling method: Hollow Stemm Auger

Hole diameter: 8 inch

Top of Box Elevation: | Datum:

Water Level | Time | Date

PID (ppm)	Blows/ft. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
	4							increasing clay at 20.5 feet.
				21				
				22				
				23				
				24				SILTY CLAY (CL-ML) -olive (5Y 5/3); firm; damp; 10% very fine to fine sand; trace caliche nodules; trace medium to coarse grain sized sand; trace organics; trace saturated silt pockets.
NM	NM	SPT						
				25				
								Bottom of boring 24.0 feet. Sampled to 25.5 feet. 4/25/89

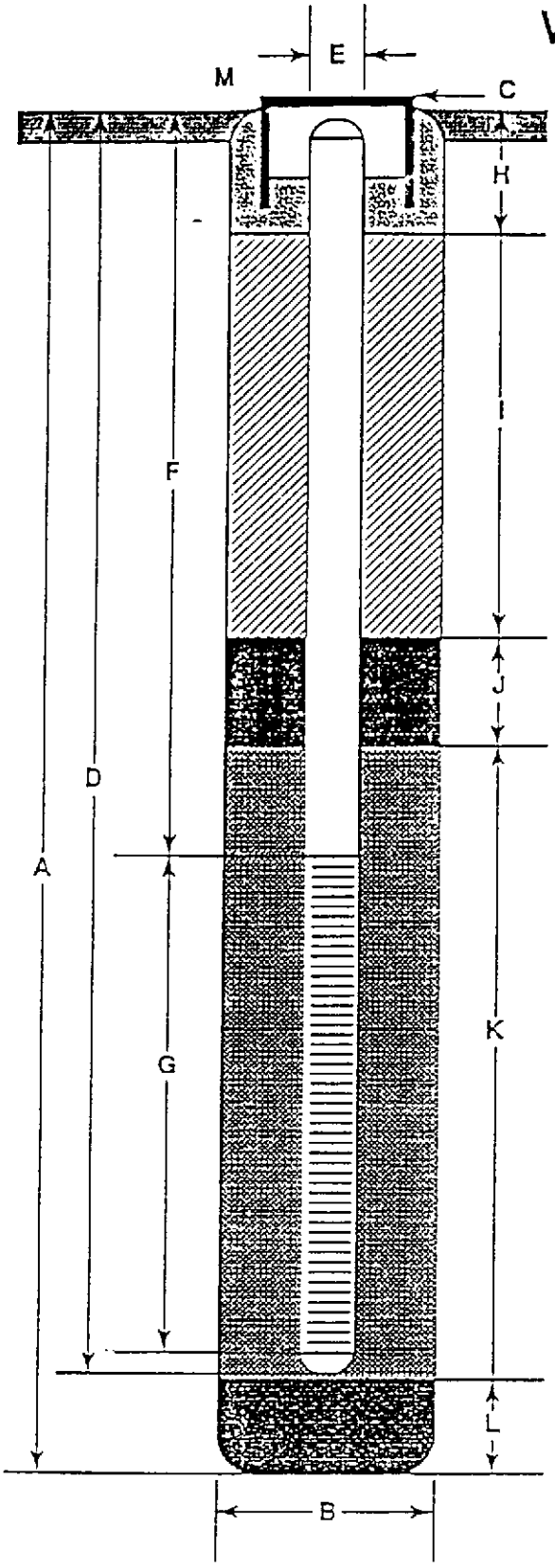
Remarks:

GeoStrategies Inc.

BORING NO. S-17

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7615		5/89		

WELL CONSTRUCTION DETAIL



A Total Depth of Boring 24 ft.

B Diameter of Boring 8 in.
Drilling Method HOLLOW STEM AUGER

C Top of Box Elevation 20.95 ft.
☐ Referenced to Mean Sea Level
☒ Referenced to Project Datum

D Casing Length 23.5 ft.
Material SCH 40 PVC

E Casing Diameter 3 in.

F Depth to Top Perforations 4 ft.

G Perforated Length 20 ft.
Perforated Interval from 4 to 24 ft.
Perforation Type FACTORY SLOTTED
Perforation Size 0.020

H Surface Seal 2.5 ft.
Seal Material CONCRETE

I Backfill ft.
Backfill Material

J Seal 0.5 ft.
Seal Material BENTONITE

K Gravel Pack 21 ft.
Pack Material LONESTAR 2/12 & #3

L Bottom Seal ft.
Seal Material

M CHRISTY BOX

GeoStrategies Inc.

Well Construction Detail
Former Shell Service Station
15275 Washington Ave.
San Leandro

WELL NO.
S-17

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7615	[illegible]	5/89		

Field location of boring:

(See Plate 2)

Project No.:	7615	Date: 10/27/89	Boring No: SR-1
Client:	Shell Oil Company		
Location:	15275 Washington Avenue		
City:	San Leandro, California		Sheet 1 of 3
Logged by:	M.J.J.	Driller: Bayland	

Casing installation data: Pilot Boring

Drilling method: Hollow-Stem Auger

Hole diameter: 8-inches

Top of Box Elevation: Datum:

Water Level	12.5	10.9		
Time				
Date	10/27/89	10/27/89		

PID (ppm)	Blows/ft. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
				0				PAVEMENT SECTION - 4 inches
				1				FILL - Gravel (GW) - dark brown (10YR 3/3), damp, very loose.
				2				FILL - Clay with Silt (CL) - black (5Y 2.5/1), damp, soft, high plasticity; ≤ 5% coarse sand; strong chemical odor.
				3				
				4				
231	2							
	3	S&H	SR1-5	5				CLAY (CL) - black (2.5Y N3/2), damp, soft, medium plasticity; interbeds of clayey sand (SP-SC); sand is very fine to fine; interbeds occur as discrete units 3 to 5 inches thick; contain 10-20% fines; strong chemical odor.
	4							
	3			6				
243	4	S&H	SR1-6.5					
	5			7				
	1							
296	2	S&H	SR1-8	8				
	3							
	2			9				moderate chemical odor.
	4							
373	6	S&H	SR1-10	10				COLOR CHANGE to black (10YR 3.3) at 10.5 feet.
	2							SILTY SAND (SM) - moist, loose, interbedded with clayey silt (ML-CL), medium plasticity; no chemical odor.
108	4	S&H		11		▼		
	6		SR1-					
			11.5	12				
								CLAY (CL) - very dark grayish brown (10YR 3/2), damp, stiff, high plasticity; fractured texture; no chemical odor.
				13				
				14				
	2							
4.3	4	S&H	SR1-15	15				first encountered water at 16.0 feet. Increasing sand at 16 feet. Interbedded clay with sand and clayey sand (observed during drilling with bucket auger, 11/16/89)
	8							
				16		▽		
				17				
				18				
				19				

Remarks:

Log of Boring

BORING NO. SR-1

GeoStrategies Inc.

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7615	CEG 1262	11/89		

Field location of boring:	Project No.: 7615	Date: 10/27/89	Boring No:
(See Plate 2)	Client: Shell Oil Company		SR-1
	Location: 15275 Washington Avenue		
	City: San Leandro, California		Sheet 2
	Logged by: M.J.J.	Driller: Bayland	of 3
Drilling method: Hollow-Stem Auger	Casing installation data: Pilot Boring		
Hole diameter: 8-inches	Top of Box Elevation:	Datum:	

	Water Level			
	Time			
	Date			

PID (ppm)	Blows/ft. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
	2							
80	4	S&H	SR1-20	20				
	6							
				21				CLAYEY SILT (ML-CL) - light olive brown (2.5Y 5/4), saturated, medium plasticity; 30% clay; 5% fine to medium sand; no chemical odor.
				22				
				23				
				24				CLAY with SAND (CL) - olive gray (5Y 4/2), saturated, stiff, high plasticity; 20% very fine to fine sand; no chemical odor.
	3							
66	3	S&H	SR1-30	25				
	6							
				26				SILT with SAND (ML) - light olive brown (2.5Y 5/4), saturated, stiff; 15% fine to medium sand; 20-30% clay; no chemical odor.
				27				
				28				
				29				SAND with SILT (SP-SM) - light olive brown (5Y 4/2), fine sand, saturated, medium dense; well sorted; 10% silt; trace clay; laminae of silt 0.25 inches thick in shoe; iron oxide staining; no chemical odor.
	3							
10	8	S&H	SR1-30	30				
	10							
				31				
				32				
				33				
				34				SILTY SAND (SM) - light olive brown (5Y 4/2), saturated, dense; very fine to medium sand; 15% silt; trace clay; no chemical odor.
	5							
34	7	S&H	SR1-35	35				
	18							
				36				
				37				
				38				SAND (SP) - dark grayish brown (2.5Y 3/2), saturated, dense, very fine to medium sand; interbeds of fine
				39				

Remarks:

GSI GeoStrategies Inc.

Log of Boring

BORING NO. SR-1

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7615	CWP CEG 1262	11/89		

Field location of boring:

(See Plate 2)

Project No.: 7615	Date: 10/27/89	Boring No: SR-1	
Client: Shell Oil Company			
Location: 15275 Washington Avenue			
City: San Leandro, California		Sheet 3	
Logged by: M.J.J.	Drlr. Bayland	of 3	

Casing installation data: Pilot Boring

Drilling method: Hollow-Stem Auger

Hole diameter: 8-inches

Top of Box Elevation: Datum:

Water Level				
Time				
Date				

PID (ppm)	Blows/ft. or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
	9							silty sand 0.5 to 3.0 inches thick; no chemical odor.
8.2	13	S&H	SR1-40	40				
	17							Bottom of boring at 40.5 feet.
				41				Bottom of sample at 40.5 feet.
								10/27/89
				42				
				43				
				44				
				45				
				46				
				47				
				48				
				49				
				50				
				51				
				52				
				53				
				54				
				55				
				56				
				57				
				58				
				59				

Remarks: Boring caved to 30 feet, Bentonite from 19 to 30 feet.

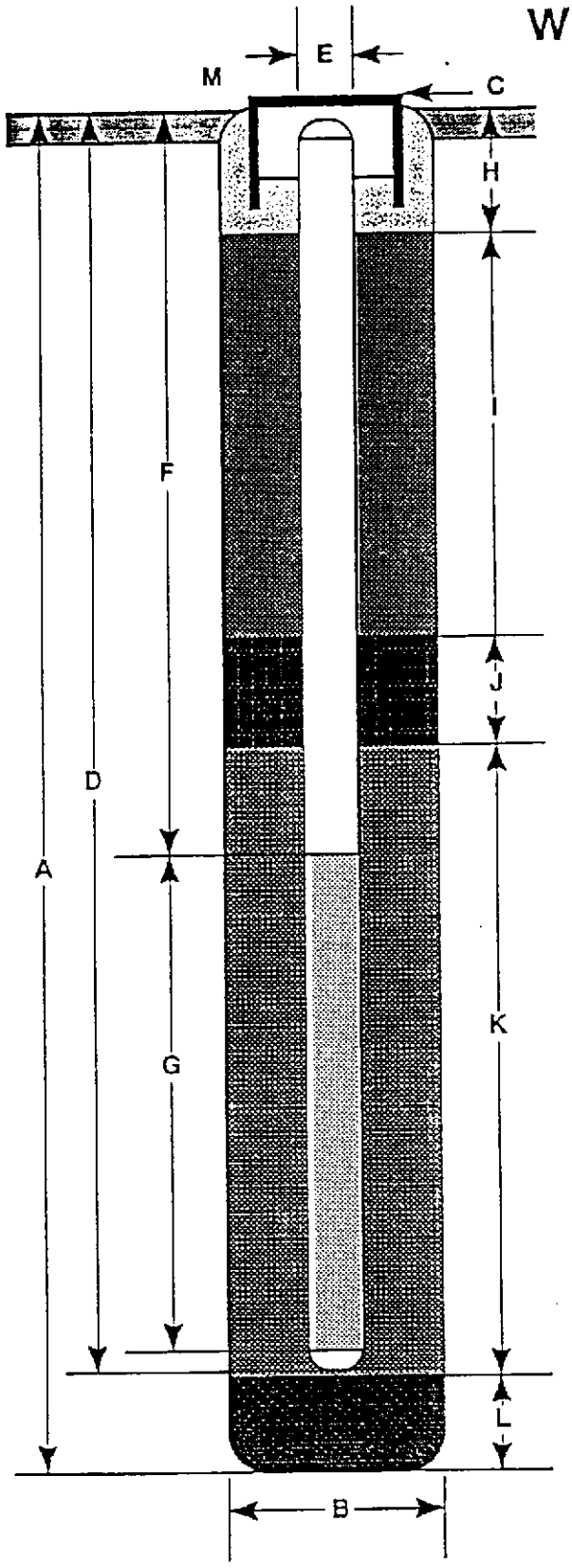
GeoStrategies Inc.

Log of Boring

BORING NO. SR-1

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7615	CWP CEG 1262	11/89		

WELL CONSTRUCTION DETAIL



A Total Depth of Boring 40.5 ft.

B Diameter of Boring 20 in.
Drilling Method Bucket Auger

C Top of Box Elevation ____ ft.
☐ Referenced to Mean Sea Level
☐ Referenced to Project Datum

D Casing Length 21 ft.
Material Schedule 40 PVC

E Casing Diameter 6 in.

F Depth to Top Perforations 6.5 ft.

G Perforated Length 15 ft.
Perforated Interval from 6.5 to 21.5 ft.
Perforation Type Machine Slot
Perforation Size 0.020 in.

H Surface Seal from 0.5 to 1.0 ft.
Seal Material concrete

I Backfill from 1.0 to 4.5 ft.
Backfill Material cement

J Seal from 4.5 to 5.5 ft.
Seal Material Bentonite

K Gravel Pack from 5.5 to 21.5 ft.
Pack Material 2/12 Lonestar sand

L Bottom Seal 21.5-30 ft.
Seal Material Bentonite

M Christy Box

Note: 30 to 40.5 Native Material (slough)

GeoStrategies Inc.

Well Construction Detail

WELL NO. SR-1

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
7615	CEG 1262	10/89		

Field location of boring:

(See Plate 2)

Client: Shell Oil Company
Location: 15275 Washington
City: San Leandro, California
Logged by: E.C.F. | Driller: Bayland

S-18
Sheet 1 of 2

Casing installation data:
(See Well Construction Detail)

Drilling method: Hollow Stem Auger
Hole diameter: 8-Inches

Top of Box Elevation: | Datum:

Water Level	7.5'	7.6'
Time	10:00	12:03
Date	05/16/91	05/16/91

PID (ppm)	Blows/ft. * or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
				0				PAVEMENT SECTION - 0.33 feet
				1				SAND (SP) - yellowish brown (10YR 5/4), medium dense, damp; 80% coarse to medium sand; 15% gravel; 5% fines (FILL).
				2				
				3				SILT with SAND (ML) - very dark gray (7.5YR N3/), stiff, damp; 80% silt; 20% very fine sand (ALLUVIUM).
				4				
	450	S&H		5				
0	450		S18-4.5					
	450			6				
				7				Soft drilling at 7.0 feet.
		S&H						SILTY SAND (SM) - dark grayish brown (10YR 4/2), loose, saturated; 70% sand; 30% silt.
0	4		S18-8	8				
				9				Increasing moisture and silt content with depth.
		S&H						
0	6		S18-10	10				
				11				
				12				
				13				
				14				
		S&H						CLAY (CL) - gray brown (2.5Y 5/2), stiff, moist; trace fine sand with rootholes and vertical dark stains.
0	16		S18-15	15				
				16				
				17				
				18				
				19				

Remarks:
* Converted to equivalent Standard Penetration blows/ft.

BORING NO.

Log of Boring

GeoStrategies Inc.

S-18

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
761502	DHP	05/91		

Field location of boring:

(See Plate 2)

Client:	Shell Oil Company		S-18
Location:	15275 Washington		Sheet 2
City:	San Leandro, California		of 2
Logged by:	E.C.F.	Driller: Bayland	

Casing installation data:

Drilling method: Hollow Stem Auger

Hole diameter: 8-Inches

Top of Box Elevation: Datum:

Water Level									
Time									
Date									

PID (ppm)	Blows/ft. * or Pressure (psi)	Type of Sample	Sample Number	Depth (ft.)	Sample	Well Detail	Soil Group Symbol (USCS)	Description
		S&H		20				
	12							COLOR CHANGE to light yellow brown (2.5YR 6/4), stiff, damp; 80% clay; 20% coarse sand.
			S18-20.5	21				
				22				Bottom of boring at 19.0 feet.
				23				Bottom of sample at 20.5 feet.
				24				
				25				
				26				
				27				
				28				
				29				
				30				
				31				
				32				
				33				
				34				
				35				
				36				
				37				
				38				
				39				

Remarks:

Log of Boring

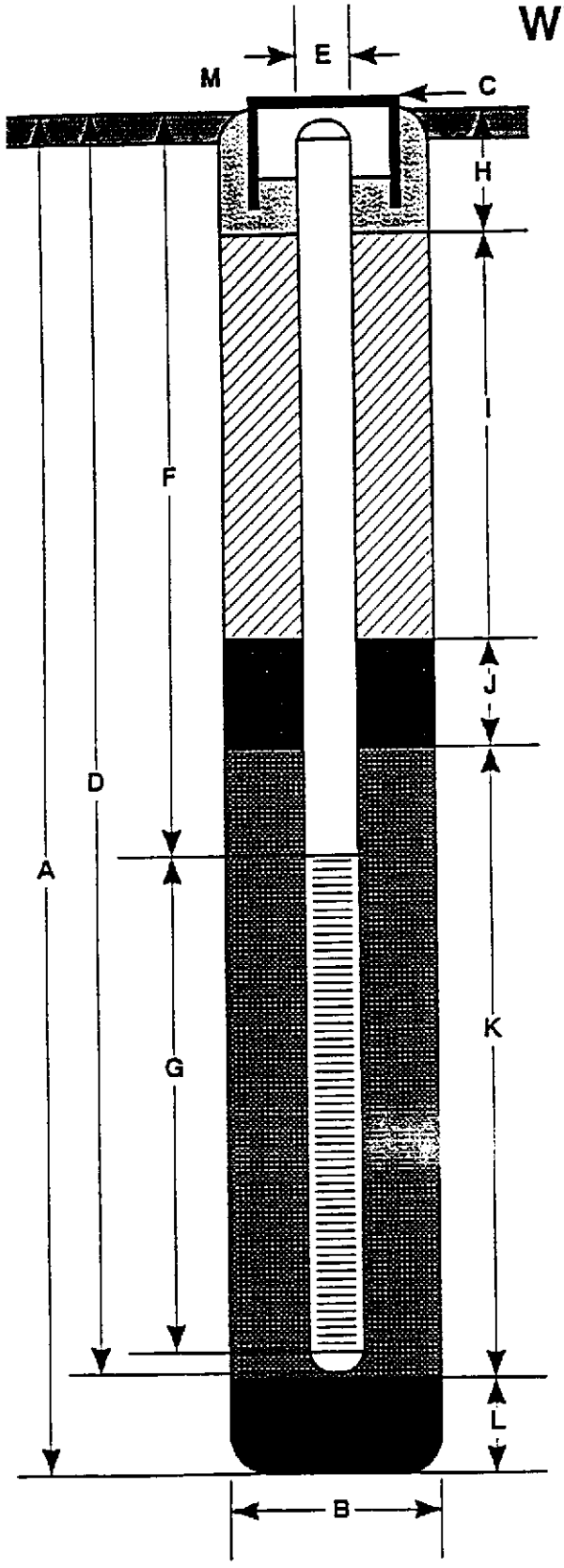
BORING NO.

S-18

GSI GeoStrategies Inc.

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
761502	DHP	05/91		

WELL CONSTRUCTION DETAIL



A Total Depth of Boring 19.0 ft.

B Diameter of Boring 8 in.
Drilling Method Hollow Stem Auger

C Top of Box Elevation _____ ft.
☐ Referenced to Mean Sea Level
☐ Referenced to Project Datum

D Casing Length 18.0 ft.
Material Schedule 40 PVC

E Casing Diameter 3 in.

F Depth to Top Perforations 4 ft.

G Perforated Length 12 ft.
Perforated Interval from 4 to 18 ft.
Perforation Type Machine Slotted
Perforation Size 0.02 in.

H Surface Seal from 0 to 1.5 ft.
Seal Material Concrete

I Backfill from 1.5 to 2 ft.
Backfill Material Concrete

J Seal from 2 to 3 ft.
Seal Material Bentonite

K Gravel Pack from 3 to 18 ft.
Pack Material 2/12 Lonestar Sand

L Bottom Seal 1 ft.
Seal Material Bentonite

M Underground vault with cover, cap and lock.

Note: Depths measured from initial ground surface.

GSI GeoStrategies Inc.

Well Construction Detail

WELL NO. S-18

JOB NUMBER	REVIEWED BY RG/CEG	DATE	REVISED DATE	REVISED DATE
761502	DMP	5/91		

Project No. 8820011A

Woodward-Clyde Consultants

Gettler Ryan

CROSS SECTION
SHELL SERVICE STATION
LEWELLING BLVD. AND WASHINGTON AVE.
SAN LEANDRO, CALIFORNIA

Figure 6