

76 Broadway Sacramento, California 95818

October 16, 2009

Barbara Jakub Alameda County Health Agency 1131 Harbor Bay parkway, Suite250 Alameda, California 94502-577

Re: Soil and Groundwater Investigation Report

76 Service Station # 0746 RO # 0203

3943 Broadway Street Oakland, CA

Dear Ms. Jakub:

I declare under penalty of perjury that to the best of my knowledge the information and/or recommendations contained in the attached report is/are true and correct.

If you have any questions or need additional information, please call me at (916) 558-7666.

Sincerely,

Terry L. Grayson Site Manager

Risk Management & Remediation

October 12, 2009

Ms. Barbara Jakub Alameda County Environmental Health Services 1131 Harbor Bay Parkway, Suite 250 Alameda, California 94502-6577

RE: Soil and Groundwater Investigation Report

76 Service Station No. 0746 3943 Broadway Oakland, California 94612 Case No. RO0000203

Dear Ms. Jakub:

On behalf of ConocoPhillips Company (ConocoPhillips), Delta Consultants (Delta) submits this report to document a recent site investigation to further define the vertical extent of petroleum hydrocarbons in the source area of 76 Station No. 0746 (the Site), located at 3943 Broadway, Oakland, California (Figure 1). Work was conducted in accordance with Delta's "Work Plan for Source Area Vertical Delineation, dated October 18, 2008, which was subsequently approved in a letter from the Alameda County Environmental Health (ACEH) dated December 5, 2008 (Attachment A). Due to construction activity that occurred at the Site during the first half of 2009, this investigation was delayed until the construction was complete. ACDEH allowed an extension of the original deadline (February 5, 2009) to October 16, 2009.

PROJECT OBJECTIVES

Two soil borings (B-1 and B-2 were advanced (**Figure 2**) to investigate the vertical extent of petroleum hydrocarbons in soil and groundwater within the onsite area of highest concentrations. Additionally, as requested by ACEH, Delta was to conduct a utility survey to determine the locations of subsurface utilities (**Figure 2a**) and whether they may be acting as potential conduits for the transport of petroleum hydrocarbons from the Site.



Delineation assessment was conducted using Cone Penetrometer Test (CPT) methodology to advance borings B-1 and B-2. Soil samples were collected continuously to initial groundwater after which soil samples were collected every five feet to a total depth of approximately 35 feet bgs. Discrete grab groundwater samples were collected from three depths to evaluate the vertical distribution of petroleum hydrocarbon constituents in the groundwater.

SITE DESCRIPTION

The Site is currently an active service station located on the west corner of Broadway and 40th Street in Oakland, California. Station facilities include two 12,000-gallon double-wall glasteel gasoline underground storage tanks (USTs) in a common pit, one 520-gallon double-wall glasteel waste oil UST, two dispenser islands, one station building, and a car wash building.

GEOLOGY AND HYDROLOGY

The Site is underlain by fill material that ranges from 2 to 4 feet in thickness. Beneath the fill, the Site is primarily by interlayered clayey/silty deposits and silty and clayey sand. Geologic cross sections are provided as **Figures 3 and 4**. a continuous sand layer extends from approximately 6 to twelve feet bgs. A deeper saturated sand layer is found at a depth of 14-16 feet bgs in the site area. Monitoring wells are typically screened into both the 6-12 bgs and 14-16 foot bgs sand layers. The most recent monitoring and sampling event was conducted at the Site on December 30, 2008. The measured depth to groundwater ranged from 7.47 feet (onsite well MW-6) to 13.56 feet (offsite well MW-10) below top of casing (TOC). The groundwater flow direction was southwest at a gradient of approximately 0.05 feet per foot (ft/ft).

SITE HISTORY

<u>August 1989</u> Two 10,000 gallon steel gasoline USTs and one 280-gallon steel waste oil UST were removed and replaced with current USTs. A total of approximately 350 cubic yards of soil was removed from the Site during UST removal activities, primarily to enlarge the tank pit for larger tanks. The confirmatory soil sample was reported as non-detect for all constituents. The product piping was also removed. Confirmation soil sampling beneath piping and the waste oil tank contained low concentrations of petroleum hydrocarbons. During the tank removal activities, approximately 6,500 gallons of groundwater was

pumped from the UST cavity. Concentrations of total petroleum hydrocarbons as gasoline (TPH-G) and benzene were reported as 1,200 micrograms per liter (μ g/I), and 12 μ g/I, respectively.

October 1989 Three monitoring wells (MW-1, MW-2, and MW-3) were drilled at the Site to depths ranging from 20 to 25 feet below ground surface (bgs).

<u>January 1990</u> Two additional monitoring wells (MW-4 and MW-5) were drilled at the Site to a depths of 20 feet bgs.

October 1990 Four additional monitoring wells (MW-6 through MW-9) were drilled at and in the vicinity of the Site to depths ranging from 20 to 22 feet bgs. Groundwater recovery tests were conducted on four wells to determine potential locations for placement of recovery wells.

<u>January 1992</u> Two offsite monitoring wells (MW-10 and MW-11) were drilled in the vicinity of the Site to depths ranging from 19 to 22 feet bgs.

<u>June 1992</u> One recovery well (RW-1) was drilled onsite to 17.0 feet bgs, and one additional offsite monitoring well (MW-12) was drilled to 17.5 feet bgs.

<u>February 1998</u> The product piping and associated dispenser islands were replaced at the Site. Four soil samples were collected from beneath the dispenser islands. Petroleum hydrocarbons were reported present in the soil samples. A total of 30.2 tons of stockpiled soil was transported form the Site to the Forward Inc. Landfill in Stockton, California.

October 2003 Site environmental consulting responsibilities were transferred to TRC.

October 2007 Site environmental consulting responsibilities were transferred to Delta.

Groundwater has been monitored at the Site since November 1989. Sampling of the eight onsite and five offsite monitoring wells is currently conducted semi-annually during the second and fourth quarters. During the Fourth Quarter 2008 monitoring and sampling event TPH-G, benzene and methyl tertiary butyl ether (MTBE) were detected at maximum concentrations of 5,800 μ g/l, 130 μ g/l, and 22 μ g/l, respectively, each in the sample from recovery well RW-1.

SENSITIVE RECEPTORS

In 2007, TRC conducted a sensitive receptor survey. From the survey, it was determined that the only surface water within a one-half mile radius of the Site is Glen Echo Creek,

which is approximately 1,630 feet southeast of the Site. According to TRC's Sensitive Receptor Survey, dated February 8, 2007, the Site is within a one-half mile of three water supply wells: two irrigation wells, and one domestic well. The three wells are located upgradient or crossgradient of the Site. In correspondence dated December 5, 2008, ACEH stated that TRC had submitted an incorrect map with the 2007 Sensitive Receptor Survey, and requested that the correct map be presented in addition to the Department of Water Resources (DWR) well logs. In Delta's Sensitive Receptor Survey Addendum, dated April 24, 2009, delta submitted the DWR logs for all wells within a ½-mile radius of the site.

During the current investigation, Delta compared the DWR logs with wells reported by TRC as potential receptors. Delta was unable to verify the existence of the three wells with the DWR logs provided by the DWR. The correct map, for TRCs receptor survey, which was omitted from TRC's original report and the DWR logs for all wells within a one-half mile radius of the Site are included as **Attachment B**.

CONDUIT SURVEY

During this site assessment, Delta conducted an underground conduit survey to determine if there are any preferential migration pathways for petroleum-hydrocarbons within, and in the vicinity of the Site. This was completed by requesting utility location information from companies owning subsurface utilities in the site vicinity, the City of Oakland and Pacific Gas and Electric (PG&E). Delta also contracted a private utility locator to locate additional private subsurface utilities on the site.

Public utility companies were unwilling to provide detailed information regarding their subsurface utilities aside from the location at the surface. No information regarding depth or diameter of utilities was provided, due to potential liability and issues of homeland security. Using a private utility locator, Delta was able to determine the depths of utilities located onsite, and on the adjacent sidewalk. Subsurface utility locations and known depths are shown in the attached site plan with underground utilities (**Figure 2a**).

Onsite electrical, water, and communication lines are between one and two feet below grade. The onsite sewer line ranges from three-feet seven inches (3' 7") bgs to five feet (5') bgs between the site building and the sidewalk. Delta was unable to determine the depth of the sewer line in the street, however based on the depth of the sewer line at the sidewalk; it is estimated that the sewer in the street is less than eight feet bgs.

The communication line running beneath the sidewalk to the east of the site ranges between 20 and 24 inches bgs. The parallel electrical line is three-feet four inches (3' 4") bgs.

Delta was unable to determine the depth of the gas lines or storm drain lines in the site vicinity. Gas lines are typically between three and five feet bgs.

Groundwater was first encountered at approximately 10-14 feet below grade during this investigation. During monitoring, depth to groundwater (DTW) typically fluctuates from approximately 7 feet below TOC to 10 feet below TOC, with historic maximum and minimum depths of 15.72 (MW-11, December 2007) and 5.91 feet (MW-8, July 2006) feet below TOC, respectively. Only in one monitoring event has depth to water been measured at a depth of less than 6.26 feet below TOC.

Delta believes that there is minimal risk of these utilities acting as conduits for shallow groundwater in the vicinity of this site. Although utility trenches with permeable fill material may act as conduits for the migration of petroleum hydrocarbon vapors from groundwater, groundwater is overlain by low permeability silts and clays which inhibit vapor transport.

REMEDIATION STATUS

1989 Approximately 350 cubic yards of soil was removed from the Site during UST removal activities, primarily to make room in the tank pit for larger tanks. During the tank removal activities, a total of approximately 6,500 gallons of groundwater were pumped from the UST cavity.

1990 Groundwater tests were conducted on four wells to determine potential locations for placement of recovery wells.

<u>1993</u> A soil vapor extraction (SVE) pilot test was conducted at the Site on well RW-1. A maximum concentration of $8.6~\mu g/l$ TPH-G was reported in the influent vapor stream. The calculated maximum hydrocarbon extraction rate during the test was 0.00049~lbs/hour. Based on the low extraction rate, high groundwater levels, and fine-grained soil beneath the Site, vapor extraction was determined to not be a feasible remedial option. Well RW-1 was initially installed to conduct a groundwater recovery test; however, due to lack of groundwater recharge the test was not conducted.

<u>March 1998</u> Product piping and associated dispenser islands were replaced at the Site. Denbeste Transportation, Inc. of Windsor, California transported a total of 30.2 tons of stockpiled soil from the Site to the Forward Inc. Landfill in Stockton, California for disposal.

<u>April 2005</u> A 68-hour dual phase extraction (DPE) test was conducted. During this event a mobile treatment system was used to remove vapors and liquids from wells RW-1, MW-3, and MW-5. During the event 39.03 pounds of hydrocarbons were recovered with 6,500 gallons of water.

SITE ASSESSMENT ACTIVITIES

On August 27, 2009, Delta advanced CPT borings B-1 and B-2 on the Site to investigate the vertical extent of petroleum hydrocarbons in the onsite areas adjacent to monitoring wells MW-3, MW-4, and MW-5, and extraction well RW-1. Subsurface conditions are shown on geologic cross sections presented as **Figures 3 and 4**.

The results of previous Site investigations show that the highest petroleum hydrocarbon concentrations in soil are from the vicinity of well borings MW-3, MW-4, and MW-5. The following table shows the analytical results of soil samples collected from well borings MW-3, MW-4, and MW-5; no soil samples were collected from boring RW-1.

Sample	Depth (feet)	DTW ¹	TPH-G	Benzene	Toluene	Xylenes	Ethylbenzene
MW3(5)	5	11.75	3.1	0.068	ND	ND	ND
MW3(10)	10	11.75	69	0.89	2.6	7.9	2.0
MW3(11)	11	11.75	1,100	16	85	150	35
MW4(5)	5	11.50	22	0.059	ND	ND	ND
MW4(7)	7	11.50	2.5	ND	ND	ND	ND
MW4(10)	10	11.50	250	1.2	0.66	20	1.4
MW4(11)	11	11.50	280	1.0	4.0	36	7.6
MW5(5)	5	12.25	25	0.21	ND	ND	ND
MW5(7.5)	7.5	12.25	46	0.25	0.28	0.20	0.46
MW5(10)	10	12.25	140	1.5	1.7	10	4.0
MW5(11.5)	11.5	12.25	370	1.8	14	51	11

¹DTW – depth to water during drilling as depicted on boring logs

Initial depth to groundwater in the borings was 11.50-12.25 feet bgs during drilling. The highest petroleum hydrocarbon concentrations in soil samples from each boring were from the depth just above the groundwater surface, i.e., the capillary fringe.

PRE-FIELD ACTIVITIES

Prior to commencing drilling activities, the necessary drilling permits were obtained (Attachment C). Underground Service Alert (USA) was notified prior to field activities to mark underground utilities at the Site. In addition, a private utility locator will be used to confirm the absence of buried utilities at each proposed boring location. Prior to advancing each CPT boring, a pilot hole was cleared with a hand auger to approximately five feet bgs to verify the absence of buried utilities.

Delta prepared a health and safety plan (HASP) specific to the Site and to the work being conducted. Prior to beginning the field activities, a safety meeting was conducted with onsite workers to discuss applicable health and safety issues and concerns related to the specific work.

CPT SOIL PROFILING

CPT borings B-1 and B-2 were advanced on August 27, 2009, in accordance with Delta's *Work Plan for Source Area Vertical Delineation*, dated June 27, 2008. The CPT boring locations (B-1 and B-2) consisted of three separate boreholes — one for stratigraphic profiling, one for collecting depth discreet soil samples, and a third for collecting discreet groundwater samples. Stratigraphic profiling boreholes were advanced in each location prior to advancement of soil and groundwater collection boreholes. Boreholes used to gather stratigraphic data were advanced to approximately 35 feet bgs in B-1 and B-2 as outlined in Delta's work plan. CPT soil classifications are based on the cone penetration resistance, sleeve friction, pore pressure, and friction ratio. A soil classification graph was generated during the advancement of each CPT borehole. CPT equipment was provided by Gregg Drilling and Testing, Inc. (License C57-485165). Soil profile graphs and pore pressure dissipation test graphs are included in the report prepared by Gregg Drilling and Testing, Inc. (Attachment D). Grout was pumped into all completed boreholes behind a disposable cone tip using a grout collar (retraction grouting).

The soil behavioral profile graphs of B-1 and B-2 illustrate the sediments encountered during boring advancement (**Attachment D**). According to the soil behavior graphs, soil beneath the Site generally consists of interbedded silt and clay, and combinations of silt and clay. A narrow bed of sand approximately one foot thick was detected in each boring at approximately 23 feet bgs. Also, over consolidated or cemented fine grained soil was

encountered in narrow beds between 30 and 34 feet bgs. Subsurface conditions are illustrated by the geologic cross sections shown on **Figures 3 and 4**.

SOIL SAMPLING

Each CPT boring was advanced to approximately 35 feet bgs. Soil samples were collected continuously to five feet past the depth of initial groundwater, initially encountered at 14 feet bgs in B-1 and 13 feet bgs in B-2. The soil samples were logged using the Unified Soil Classification System (ASTM D2487-00). Soil samples were continuously logged to characterize the depth interval of the capillary fringe. Based on the boring logs of wells MW-3 through MW-5, a unit of clayey sand, clayey gravel, or well graded gravel with sand and clay was anticipated to be encountered between 12.5 and 15.5 feet bgs. This unit has been recognized in MW-9, and it is possible that this unit is the primary path for shallow downgradient water flow at the Site.

During the advancement of the soil sampling borehole of B-1, lean clay, sandy lean clay, and lean clay with sand were encountered to a depth of 14 feet bgs, continuously logged. Silty sand was encountered between 14 and 15 feet bgs, and there was no recovery in the sample from 15 feet. Depth to groundwater was measured at 10.2 feet bgs in the soil profiling borehole, so the boring was sampled every five feet after 16 feet, as proposed in the work plan. Sandy silt, clays, and clays with sand were encountered between 20 feet bgs and 36 feet bgs, where the boring was terminated.

Similar soils were encountered in boring B-2, with lean clay, sandy lean clay, and lean clay with sand to a depth of 14 feet bgs. Clayey sand was encountered between 14 and 16 feet bgs, and there was no sample recovery between 16 and 18 feet bgs. Lean clay with sand and sandy lean clay were encountered to 36 feet bgs, where the boring was terminated.

In the CPT profile, additional sandy (permeable) layers were identified in both borings between 22 and 25 feet and between 30 and 32 feet, as well as between 32 and 35 feet bgs in boring B-2. These layers were not detected in the hand samples (drive samples) collected for lithology confirmation, as the lithologic confirmation samples were collected at five-foot intervals.

The layer of silty sand and clayey sand encountered in borings B-1 and B-2 is likely the anticipated layer seen in MW-3 through MW-5 between 12.5-15.5 feet bgs. The first wet soil sample from borings B-1 and B-2 were both collected from this zone. Although

saturated soil was first encountered at 14 feet bgs and 13 feet bgs in borings B-1 and B-2, groundwater was measured at 10.2 and 8.2 feet bgs in the open boreholes, respectively. Groundwater rose approximately 4-5 feet above the first saturated soil.

A photo-ionization detector (PID) was used to measure concentrations of volatile organic compounds in soil samples collected from the boreholes. To obtain a PID reading, a soil sample from each sampling interval was placed in a sealed plastic bag. After approximately five minutes, the PID probe was inserted into the plastic bag and soil gas allowed to pass through the PID until readings stabilized. The resulting concentration reading was recorded in the geologist's field log. Soil Boring Logs with PID readings are presented as **Attachment E**. Selected soil samples were capped with Teflon® and plastic end caps, then immediately placed on ice. The samples were then logged on to chains-of-custody forms, and submitted to BC Laboratories, Inc. Bakersfield, California for analysis. Soil samples were analyzed for TPH-G by EPA Method 8015M, and benzene toluene ethylbenzene and total xylenes (BTEX compounds), MTBE, tertiary butyl alcohol (TBA), ethyl tertiary butyl ether (ETBE), tertiary amyl methyl ether (TAME), di-isopropyl ether (DIPE), 1,2-dichloroethane (1,2-DCA), ethylene dibromide (EDB), and ethanol by EPA Method 8260B.

GROUNDWATER SAMPLING

A Delta field geologist interpreted CPT soil behavior type graphs generated in the field and soil characteristics encountered in the soil sampling borehole and selected permeable zones from which to collect groundwater discrete samples. Groundwater samples were collected from boring B-1 at depth intervals of 12.5-15.5 feet bgs, 22-24 feet bgs, and 33-35 feet bgs, while groundwater samples were collected from boring B-2 at depth intervals of 12-15 feet bgs, 23-25 feet bgs, and 32-34.5 feet bgs.

To collect depth-discrete groundwater samples, a sealed stainless steel 1 ¾-inch hollow push rod was advanced to the desired sampling depth. The push rod was then retracted, exposing the inlet screen which allowed groundwater to hydrostatically flow into the sampler. A small diameter stainless steel bailer was lowered through the hollow push rod and into the screened section for sample collection. The groundwater samples were decanted into 40-milliliter glass VOA bottles preserved with hydrochloric acid (HCl) and 1-liter amber bottles with no preservative, and placed on ice for transportation to the laboratory. The soil and groundwater samples were then logged into chain-of-custody

forms, and submitted to BC Laboratories in Bakersfield. Groundwater samples were analyzed for TPH-G by EPA Method 8015M, and BTEX, MTBE, TBA, ETBE, TAME, DIPE, 1,2-DCA, EDB, and ethanol by EPA Method 8260B. One sample (B-2 @ 10 feet) was analyzed additionally for lead for the purpose of waste profiling.

Immediately following sample collection, Portland cement grout was pumped into the initial borehole behind the cone by using a grout collar (retraction grouting) to approximately 0.5 feet below grade. Each CPT boring was then capped flush with concrete and dyed black to match the surrounding asphalt.

SOIL ANALYTICAL RESULTS

In soil boring B-1, TPH-G was detected at maximum concentrations of 120 mg/kg (10 feet bgs) and 110 mg/kg (13 feet bgs). TPH-G was also detected at 6 feet bgs (1.3 mg/kg) and 35 feet bgs (6.1 mg/kg). MTBE was detected at 0.0055 mg/kg at 6 feet bgs. The deepest soil sample contained only TPH-G at a concentration of 6.1 mg/kg. Lead was detected in soil sample B-2 at 10 feet at a concentration of 11 mg/kg, which is consistent with regional background concentrations. There were no other detections of any analytes in soil samples collected from this soil boring.

In soil boring B-2, TPH-G was detected at maximum concentrations of 760 mg/kg (12 feet bgs) and 790 mg/kg (13 feet bgs). TPH-G was also detected at 6.6 (6 feet bgs) mg/kg and 250 mg/kg (10 feet bgs). Benzene was detected in soil samples between 10 and 13 feet bgs, with concentrations ranging between 1.9 mg/kg (10 feet bgs) and 0.22 mg/kg (13 feet bgs). MTBE was detected at six feet bgs at a concentration of 0.0085 mg/kg. Xylene and ethylbenzene were also detected in soil samples collected between six and 13 feet bgs, with ethylbenzene concentrations ranging between 0.0093 mg/kg (six feet bgs) and 42 mg/kg (12 feet bgs), and xylene concentrations ranging between 0.015 mg/kg (six feet bgs) and 130 mg/kg (12 feet bgs).

In boring B-1, no analytes were detected above the reporting limit at 35 feet bgs, which was the deepest sample collected.

A summary of soil analytical data is included in **Table 1**, and the certified laboratory analytical report is included in **Attachment F**.

GROUNDWATER ANALYTICAL RESULTS

In boring B-1 TPH-G, MTBE, and TBA were detected in groundwater samples at maximum concentrations of 1,700 μ g/l, 9.2 μ g/l, and 47 μ g/l, respectively, in the sample collected from 12.5-15.5 feet bgs. As shown in the table below, the maximum detections in groundwater collected from boring B-2 also occurred in the similar depth range of 12-15 feet bgs.

	Dissolved Phase Hydrocarbon Concentrations (μg/l)										
					Total						
Sample Name	TPH-G	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	TBA				
B-1@12.5-15.5	1700	ND<0.50	ND<0.50	ND<0.50	ND<1.0	9.2	47				
B-1@22-24	1100	ND<1.0	ND<1.0	ND<1.0	ND<2.0	1.0	ND<20				
B-1@33-35	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<10				
B-2@12-15	3200	8.9	ND<5.0	26	74	59	ND<100				
B-2@23-25	770	39	ND<0.50	83	240	2.3	ND<10				
B-2@32-34.5	370	11	ND<0.50	11	22	ND<0.50	ND<10				
ESL	100	1.0	40	30	20	5.0	12				

ESL – California Regional Quality Control Board, San Francisco Bay Region Environmental Screening Level for potential drinking water

Although maximum concentrations of TPH-G and MTBE occur in the depth interval of approximately 12-15.5 feet bgs, the maximum concentrations of benzene, ethylbenzene and xylenes occur in groundwater in the 23-25 feet bgs depth interval.

As shown in the table above, MTBE was detected above the California Regional Quality Control Board, San Francisco Bay Region (RWQCB) Environmental Screening Level (ESL) of $5.0~\mu g/l$ in both borings in the 12-15.5 feet bgs depth interval, but was below the ESL (in both borings) in samples collected from deeper than 15.5 feet. The maximum concentration of benzene detected was a concentration of $39~\mu g/l$ in the 23-25 feet bgs sample. The benzene concentration was $11~\mu g/l$ in the deepest sampling interval of 32-34.5.

The TPH-G concentration in boring B-2 at the 32-34.5 feet bgs interval is also above the ESL for potential drinking water, which is 100 μ g/l.

A complete groundwater analytical data table is included in **Table 2**, and the laboratory analytical report is included in **Attachment F**.

WASTE DISPOSAL

Waste generated during assessment activities is being temporarily stored onsite in a Department of Transportation (DOT)-approved 55-gallon drum pending disposal to an approved disposal/recycling facility. Mainly construction debris was generated (concrete and asphalt), with only a minor amount of soil.

CONCLUSIONS AND RECOMENDATIONS

Depths to utilities at the Site and in the Site vicinity were found to be between approximately 20-inches and 5-feet bgs, where they could be measured. Typical utility depths are approximately six feet bgs or less.

Groundwater was first encountered at approximately 10-14 feet below grade during this investigation. During monitoring, depth to groundwater (DTW) typically fluctuates from approximately 7 feet below TOC to 10 feet below TOC, with historic maximum and minimum depths of 15.72 feet below TOC and 5.91 feet feet below TOC (MW-8, July 2006), respectively. Only in one monitoring event has depth to water been measured at a depth of less than 6.26 feet below TOC. Since groundwater is typically encountered at depths between 10 and 14 feet bgs while drilling, and static groundwater is measured at shallower depths, it appears that groundwater at the Site and in the site vicinity may be at least partially confined.

Delta believes that there is minimal risk of utilities acting as conduits for shallow groundwater in the vicinity of this site. Although utility trenches with permeable fill material may act as conduits for the migration of petroleum hydrocarbon vapors from groundwater, groundwater is overlain by low permeability silts and clays which inhibit vapor transport.

Maximum concentrations of TPH-G in soil were detected between 10-13 feet bgs, which appears to act as a smear zone in the capillary fringe. This is also the depth interval in which benzene was encountered in soil, at concentrations ranging between 0.22 mg/kg and 1.9 mg/kg.

In the deepest soil sample (35 feet bgs) collected from B-1, TPH-G was detected at a concentration of 6.1 mg/kg, which is below the ESL of 83 mg/kg. There were no other detections of any analytes in samples collected from 35 feet bgs.

MTBE was detected in two soil samples collected during this investigation; B-1 at six feet bgs (0.0055 mg/kg), and B-2 at six feet bgs (0.0085 mg/kg). Both of these detections are below the ESL of 0.023 mg/kg.

With the exception of benzene, ethylbenzene, and xylenes detected in the 23-25 feet bgs water sample from B-2, concentrations appear to decrease overall as depth increases in both borings. Maximum TPH-G and MTBE concentrations in groundwater from both borings were encountered in the 12-15.5 feet bgs depth interval, while, maximum benzene, ethylbenzene, and xylenes concentrations in groundwater were encountered in the 23-25 feet bgs depth interval in B-2 only.

BTEX compounds were not detected in groundwater from B-1. In the groundwater sample collected from the deepest interval of boring B-1 (33-35 feet bgs), no analytes were detected above the reporting limit.

In the deepest groundwater sample collected from boring B-2, TPH-G and benzene were detected at respective concentrations of 370 μ g/l and 11 μ g/l. Although both of these concentrations are above their respective ESLs for potential drinking water, these concentrations are relatively low, at levels expected to degrade over time, and do not warrant additional investigation or active remediation.

REMARKS

The descriptions, conclusions, and recommendations contained in this document represent Delta's professional opinions based upon the currently available information and are arrived at in accordance with currently acceptable professional standards. This document is based upon a specific scope of work requested by the client. The Contract between Delta and its client outlines the scope of work, and only those tasks specifically authorized by that contract or outlined in this work plan will be performed. This document is intended only for the use of Delta's Client and anyone else specifically listed on this document. Delta will not and cannot be liable for unauthorized reliance by any other third party. Other than as contained in this paragraph, Delta makes no express or implied warranty as to the contents of this document.

If you have any questions regarding this report or need any additional information about the Site, please do not hesitate to contact the undersigned at (408) 826-1863.

Sincerely,

Delta Consultants

Evan Chantikian Senior Staff Geologist

Lia Holden, PG #8584 Geologist – Project Manager



Figures

Figure 1: Site Vicinity Map

Figure 2: Site Plan

Figure 2a: Site Plan with Underground Utilities

Figure 3: Geologic Cross Section A-A' Figure 4: Geologic Cross Section B-B'

Tables

Table 1: Soil Analytical Data Table

Table 2: Groundwater Analytical Data Table

Attachments

Attachment A: Agency Correspondence

Attachment B: Well Location Map and DWR Well Logs

Attachment C: Soil Boring Permit

Attachment D: Gregg Drilling and Testing CPT Report

Attachment E: Soil Boring Logs

Attachment F: Certified Laboratory Analytical Report

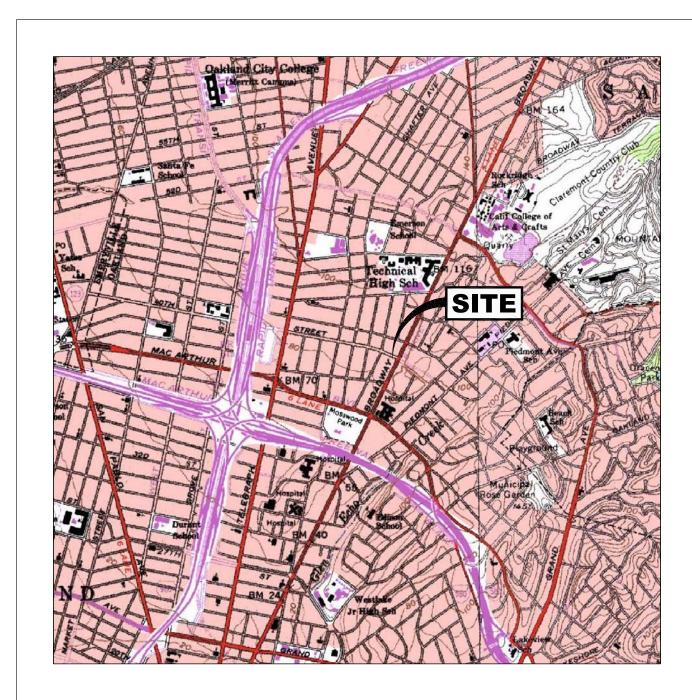
cc: Mr. Terry Grayson, ConocoPhillips (electronic upload)

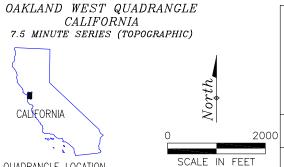
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 - California Regional Quality Control Board, San Francisco Bay Region. *Screening For Environmental Concerns at Site with Contaminated Soil and Groundwater*, May 2008.
 - Delta Consultants, *Work Plan for Source Area Vertical Delineation*, 76 Station No. 0746, 3943 Broadway Street, Oakland, California, June 19, 2008
 - TRC, Semi-Annual Monitoring Report July through December 2008, 76 Station 0746, 3943 Broadway Street, Oakland, California, January 19, 2009
 - Delta Consultants, *Sensitive Receptor Survey, Addendum*, 76 Service Station No. 0746, 3943 Broadway Street, Oakland, California, April 24, 2009

Figures

LATITUDE: N 37° 49' 47.7" LONGITUDE: W 122° 15' 32.9" TOWNSHIP 15 RANGE 4W UTM COORDINATES: ZONE 10 565197 E 4187203 N SECTION 24





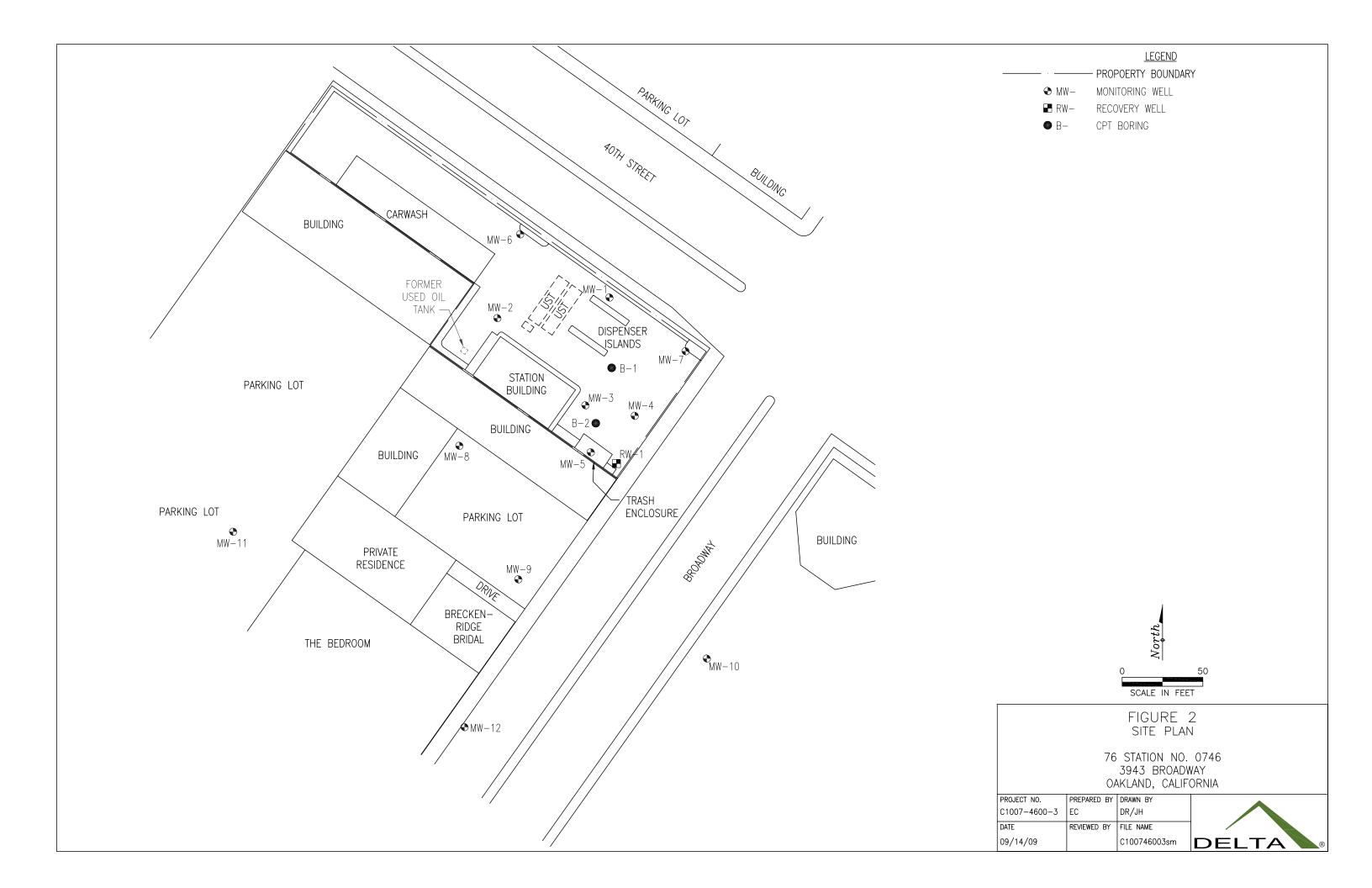
QUADRANGLE LOCATION

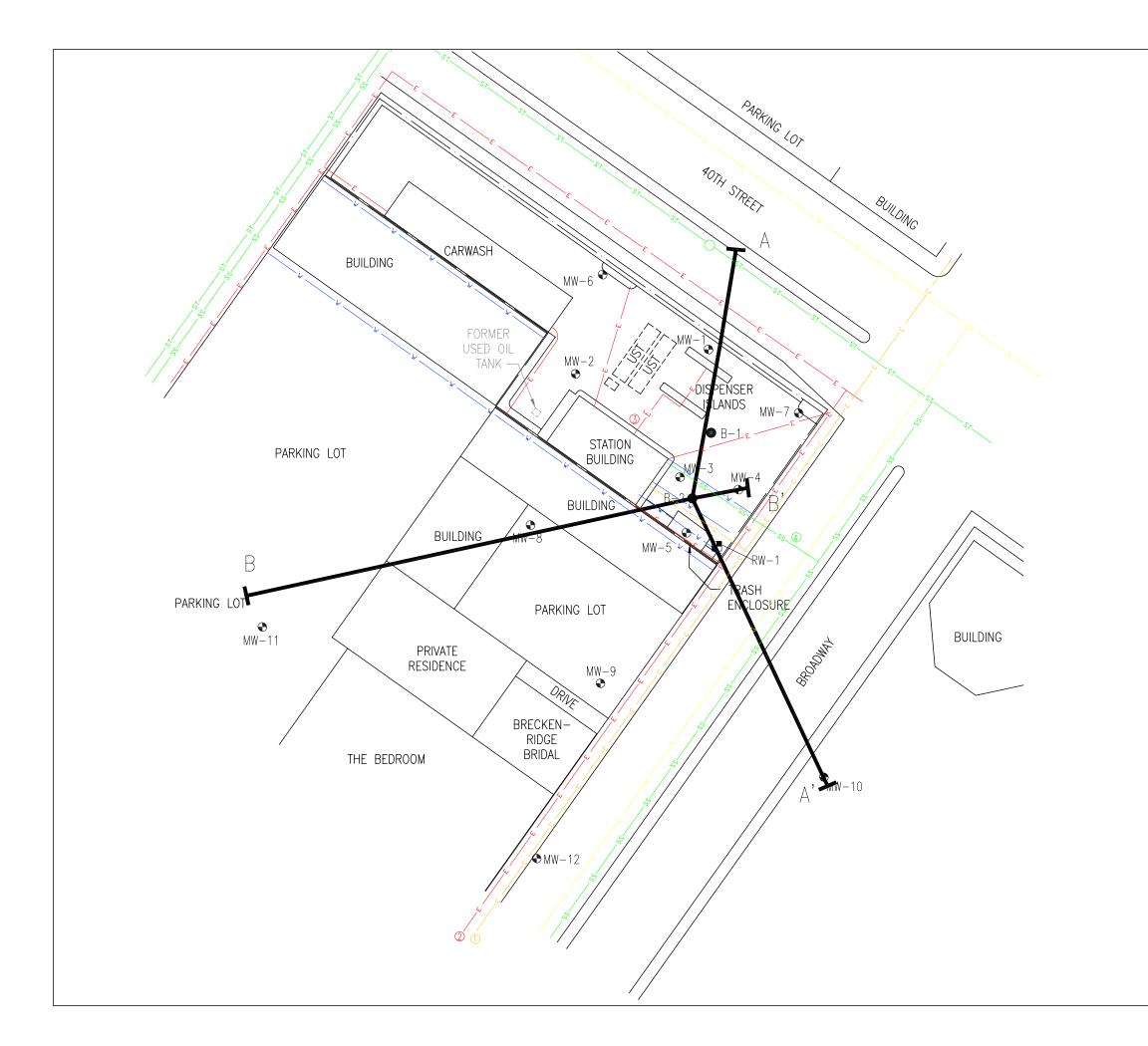
FIGURE 1 SITE VICINITY MAP

76 STATION NO. 0746 3943 BROADWAY OAKLAND, CALIFORNIA

PROJECT NO.	PREPARED BY	DRAWN BY
C1007-4600-3	СМ	DR
DATE	REVIEWED BY	FILE NAME
6/25/08		C100746003sm







<u>LEGEND</u>

◆ MW- MONITORING WELL

RW− RECOVERY WELLB− CPT BORING

UNDERGROUND ELECTRIC LINE
UNDERGROUND GAS LINE

UNDERGROUND SANITARY SEWER LINE

ST UNDERGOUND STORM SEWER LINE

UNDERGROUND WATER LINE

UTILITY NOTES;

- 1 COMMUNICATIONS LINE IS 20-24" BELOW GROUND SURFACE (BGS).
- 2 ELECTRIC LINE IS 3' 4" BGS.
- 3 ON-SITE ELECTRIC LINES IS 1-2' BGS.
- 4 ONSITE SEWER IS 3' 7" BGS ON-SITE AND 5' BGS AT SIDEWALK.
- DEPTH/DIAMETERS OF GAS, SANITARY SEWER, AND STORM SEWER LINES COULD NOT BE OBTIANED FROM THE CITY OF OAKLAND AND PG&F
- UTILITIES SHOWN ARE ONLY DELINEATED ON THE RIGHT OF WAY, ON-SITE AND THE IMMEDIATE PERIMETER.

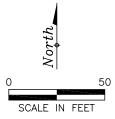
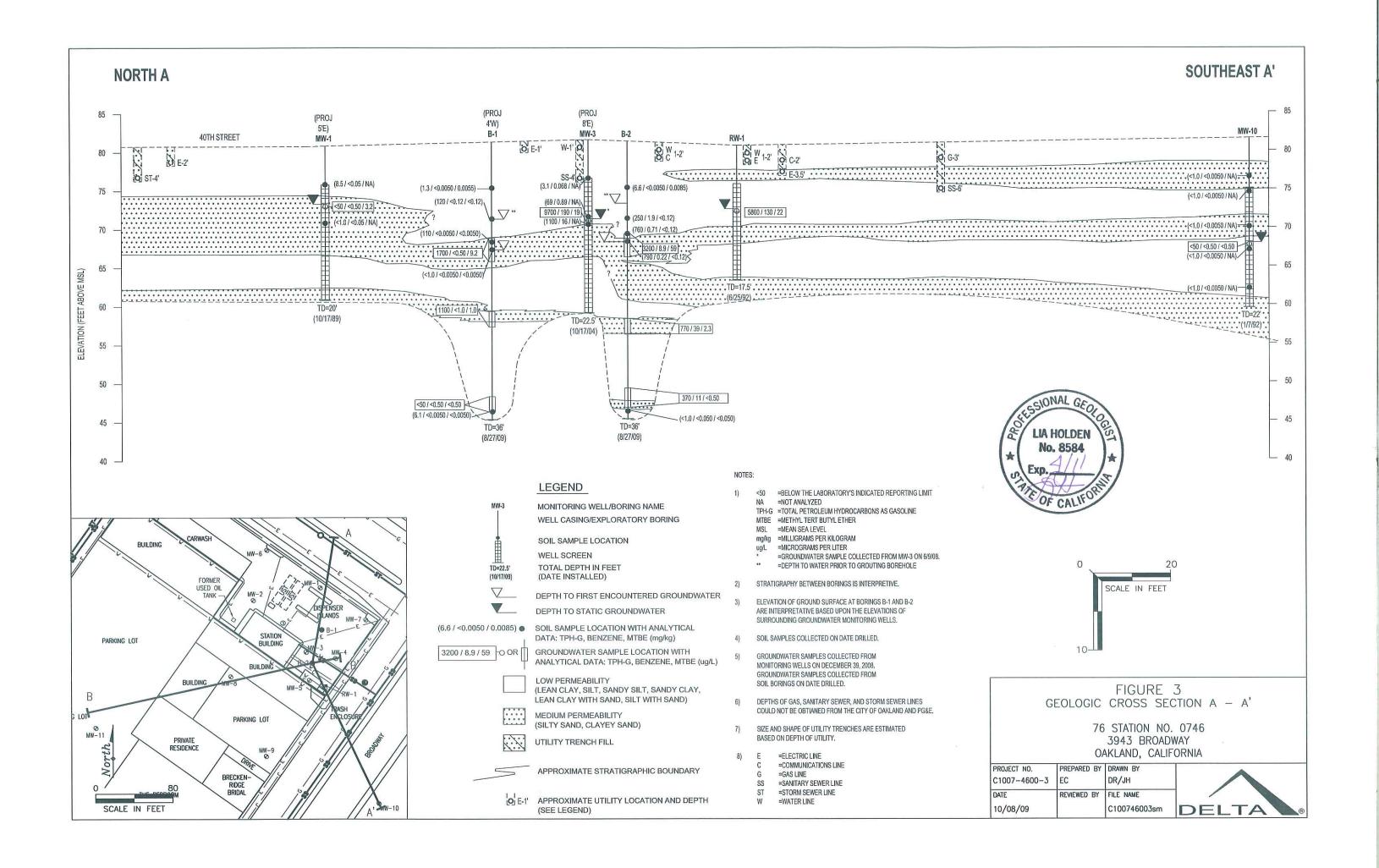
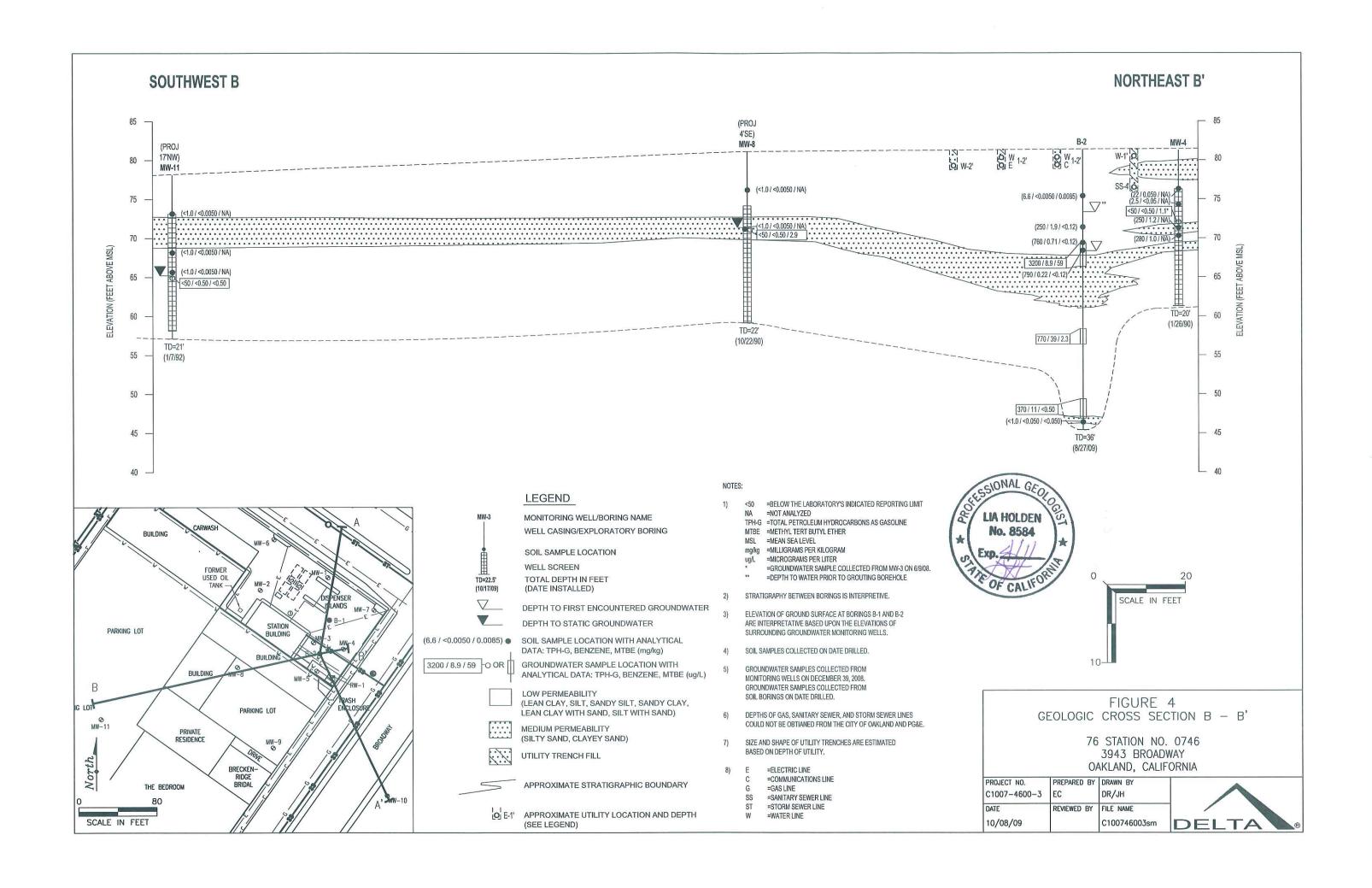


FIGURE 2a SITE PLAN WITH UNDERGROUND UTILITIES 76 STATION NO. 0746 3943 BROADWAY OAKLAND, CALIFORNIA

PROJECT NO.	PREPARED BY	DRAWN BY
C1007-4600-3	EC	DR/JH
DATE	REVIEWED BY	FILE NAME
10/08/09		C100746003sm







Tables

Table 1 Soil Boring Analytical Data (Soil Samples)

76 Service Station No. 0746 3943 Broadway, Oakland, CA

				Sorbed Phase Hydrocarbon Concentrations (mg/kg)												
Sample Name	Date	Sample Depth (feet)	TPH-G	Benzene	Toluene	Ethylbenzene	Xylene	MTBE	TBA	DIPE	ETBE	TAME	1,2-DCA	EDB	Ethanol	Lead
B-1@6	8/27/2009	6	1.3	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.010	0.0055	ND<0.050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<1.0	NA
B-1@10	8/27/2009	10	120	ND<0.12	ND<0.12	ND<0.12	ND<0.25	ND<0.12	ND<1.2	ND<0.12	ND<0.12	ND<0.12	ND<0.12	ND<0.12	ND<25	NA
B-1@13	8/27/2009	13	110	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.010	ND<0.0050	ND<0.050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<1.0	NA
B-1@14	8/27/2009	14	ND<1.0	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.010	ND<0.0050	ND<0.050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<1.0	NA
B-1@35	8/27/2009	35	6.1	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.010	ND<0.0050	ND<0.050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<1.0	NA
B-2@6	8/27/2009	6	6.6	ND<0.0050	ND<0.0050	0.0093	0.015	0.0085	ND<0.050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<0.0050	ND<1.0	NA
B-2@10	8/27/2009	10	250	1.9	ND<0.12	10	24	ND<0.12	ND<1.2	ND<0.12	ND<0.12	ND<0.12	ND<0.12	ND<0.12	ND<25	11
B-2@12	8/27/2009	12	760	0.71	ND<0.12	42	130	ND<0.12	ND<1.2	ND<0.12	ND<0.12	ND<0.12	ND<0.12	ND<0.12	ND<25	NA
B-2@13	8/27/2009	13	790	0.22	ND<0.12	6.3	12	ND<0.12	ND<1.2	ND<0.12	ND<0.12	ND<0.12	ND<0.12	ND<0.12	ND<25	NA
B-2@35	8/27/2009	35	ND<1.0	ND<0.050	ND<0.050	ND<0.050	ND<0.10	ND<0.050	ND<0.50	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<0.050	ND<10	NA
ESL			83	0.044	2.9	2.3	2.3	0.023	0.075				0.0045	0.00033		200

Notes:

mg/kg - milligrams per kilogram

ND - Not detected above laboratory detection limits TPH-G - Total Petroleum Hydrocarbons - Gasoline

MTBE - Methyl tert-butyl ether TBA - Tert-butyl alcohol DIPE - Diisopropyl ether ETBE - Ethyl t-butyl ether TAME - T-amyl methyl ether 1,2-DCA - 1,2-Dichloroethane EDB - 1,2-Dibromoethane

ESL - California Regional Water Quality Control Board Environmental Screening Level for residential land with a potential drinking water source

Table 2 Soil Boring Analytical Data (Ground Water Samples)

76 Service Station No. 0746 3943 Broadway, Oakland, CA

Sample Name			Dissolved Phase Hydrocarbon Concentrations (μg/I)											
(depth interval indicated)	Date	TPH-G	Benzene	Toluene	Ethylbenzene	Xylene	MTBE	TBA	DIPE	ETBE	TAME	1,2-DCA	EDB	Ethanol
B-1@12.5-15.5	8/27/2009	1700	ND<0.50	ND<0.50	ND<0.50	ND<1.0	9.2	47	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<250
B-1@22-24	8/27/2009	1100	ND<1.0	ND<1.0	ND<1.0	ND<2.0	1.0	ND<20	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<1.0	ND<500
B-1@33-35	8/27/2009	ND<50	ND<0.50	ND<0.50	ND<0.50	ND<1.0	ND<0.50	ND<10	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<250
B-2@12-15	8/27/2009	3200	8.9	ND<5.0	26	74	59	ND<100	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<5.0	ND<2500
B-2@23-25	8/27/2009	770	39	ND<0.50	83	240	2.3	ND<10	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<250
B-2@32-34.5	8/27/2009	370	11	ND<0.50	11	22	ND<0.50	ND<10	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<0.50	ND<250
ESL		100	1.0	40	30	20	5.0	12		-		0.50	0.050	

Definitions	•

Micrograms per liter
Not detected above that laboratory reporting limit
Methyl tert-butyl ether by EPA Method 8260B
Tert-butyl alcohol by EPA Method 8260B
Total petroleum hydrocarbons as gasoline (reported as GRO (C4-C12) by Method 8015) μg/l ND< MTBE

TPH-G

Diisopropyl ether Ethyl t-butyl ether T-amyl methyl ether 1,2-Dichloroethane DIPE ETBE TAME 1,2-DCA EDB 1,2-Dibromoethane

ESL Environmental Screening Level for groundwater that is a potential source of drinking water

Attachment A

Agency Correspondence

ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY



DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES ENVIRONMENTAL PROTECTION 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502-6577 (510) 567-6700 FAX (510) 337-9335

December 5, 2008

Mr. Terry Grayson Conoco Phillips 76 Broadway Sacramento, CA 95818 Clement K Leung CJS Leung, LLC. 3943 Broadway Oakland, CA94611-5615

Subject: Fuel Leak Case No. RO0000203 and Geotracker Global ID T0 600101471, Unocal #0746, 3943 Broadway, Oakland, CA

Dear Messrs. Grayson and Leung:

Alameda County Environmental Health (ACEH) staff has reviewed the case file for the above-referenced site including the June 27, 2008 Work Plan for Source Area Vertical Delineation that was submitted by Delta and received by ACEH on October 17, 2008. This work plan proposes vertical definition of soil and groundwater contamination at the site. ACEH concurs with the proposed work and requests that the previously requested preferential pathway study with utility survey are included in your soil and water investigation report as described in the technical comments below.

TECHNICAL COMMENTS

1. Preferential Pathway Study. As discussed in the May 2, 2008 ACEH letter, the well survey map that is included as Figure 1 in the February 8, 2007 Sensitive Receptor Report prepared by TRC is for a site in San Ramon. Another copy of the same report was uploaded to our ftp site on October 17, 2008. Also neither report included the DWR well logs. Please submit a complete well survey including the correct map and a copy of the DWR well logs by January 5, 2008. Also, the requested utility survey was not performed and submitted with the work plan. Please submit the utility survey including a discussion of your analysis and interpretation of the results and report your results in the report requested below. The results of your study shall contain all information required by California Code of Regulations, Title 23, Division 3, Chapter 16, §2654(b).

a. Utility Survey

An evaluation of all utility lines and trenches (including sewers, storm drains, pipelines, trench backfill, etc.) within and near the site and plume area(s) is required as part of your study. Please include maps and cross-sections illustrating the location and depth of all

Messrs. Grayson and Leung RO0000203 December 5, 2008, Page 2

utility lines and trenches within and near the site and plume areas(s) as part of your study.

- 2. Landowner Notification. As also requested in our May 2, 2008 letter, please provide a landowner notification to the ACEH ftp site by the date requested below.
- 3. Groundwater Monitoring Reports. ACEH has not received any groundwater monitoring reports for this site since July 30, 2007 nor has any report been uploaded to the Geotracker website since the Fourth Quarter 2007. It appears that submittals for the site may be out of compliance. Please submit the reports through the third quarter 2008 to both the ACEH ftp site and Geotracker by January 5, 2008.

TECHNICAL REPORT REQUEST

Please submit technical reports to Alameda County Environmental Health (Attention: Barbara Jakub), according to the following schedule:

- January 5, 2009 Landowner Notification
- January 5, 2009 Missing groundwater monitoring reports and other reports
- February 5, 2008 Soil and Water Investigation Report (SWI) including utility survey

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of reports in electronic form. The electronic copy replaces paper copies and is expected to be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program FTP site are provided on the attached "Electronic Report Upload Instructions." Submission of reports to the Alameda County FTP site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) Geotracker website. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for all groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitoring wells, and other data to the Geotracker database over the Internet. Beginning July 1, 2005, these same reporting requirements were added to Spills, Leaks, Investigations, and Cleanup (SLIC) sites. Beginning July 1, 2005, electronic submittal of a complete copy of all reports for all sites is required in Geotracker (in PDF format). Please visit the SWRCB website for more information on these requirements (http://www.swrcb.ca.gov/ust/electronic_submittal/report_rgmts.shtml.

Messrs. Grayson and Leung RO0000203 December 5, 2008, Page 3

PERJURY STATEMENT

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

UNDERGROUND STORAGE TANK CLEANUP FUND

Please note that delays in investigation, later reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

AGENCY OVERSIGHT

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to \$10,000 per day for each day of violation.

Messrs. Grayson and Leung RO0000203 December 5, 2008, Page 4

If you have any questions, please call me at (510) 639-1287 or send me an electronic mail message at barbara.jakub@acgov.org.

Sincerely,

Barbara J. Jakub, P.G.

Hazardous Materials Specialist

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Mr. John Reay, Delta Environmental Consultants, Inc., 11050 White Rock Road, Rancho Cordova, CA 95670

Leroy Griffin, Oakland Fire Department, 250 Frank H. Ogawa Plaza, Ste. 3341, Oakland,

CA 94612-2032

Donna Drogos, ACEH

Barbara Jakub, ACEH

File

Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC)

ISSUE DATE: July 5, 2005

REVISION DATE: December 16, 2005

PREVIOUS REVISIONS: October 31, 2005

SECTION: Miscellaneous Administrative Topics & Procedures

SUBJECT: Electronic Report Upload (ftp) Instructions

Effective January 31, 2006, the Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's ftp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities.

REQUIREMENTS

Entire report including cover letter must be submitted to the ftp site as a single portable document format (PDF) with no password protection. (Please do not submit reports as attachments to electronic mail.)

It is preferable that reports be converted to PDF format from their original format, (e.g., Microsoft Word) rather than scanned.

Signature pages and perjury statements must be included and have either original or electronic signature.

Do not password protect the document. Once indexed and inserted into the correct electronic case file, the document will be secured in compliance with the County's current security standards and a password. Documents with password protection will not be accepted.

Each page in the PDF document should be rotated in the direction that will make it easiest to read on a computer

monitor.

Reports must be named and saved using the following naming convention:

RO#_Report Name_Year-Month-Date (e.g., RO#5555_WorkPlan_2005-06-14)

Additional Recommendations

A separate copy of the tables in the document should be submitted by e-mail to your Caseworker in Excel format.
 These are for use by assigned Caseworker only.

Submission Instructions

1) Obtain User Name and Password:

- a) Contact the Alameda County Environmental Health Department to obtain a User Name and Password to upload files to the ftp site.
 - I) Send an e-mall to dehloptoxic@acgov.org

or

ii) Send a fax on company letterhead to (510) 337-9335, to the attention of Alicla Lam-Finneke.

- b) In the subject line of your request, be sure to include "ftp PASSWORD REQUEST" and in the body of your request, include the Contact Information, Site Addresses, and the Case Numbers (RO# available in Geotracker) you will be posting for.
- 2) Upload Files to the ftp Site

a) Using Internet Explorer (IE4+), go to ftp://alcoftp1.acgov.org

(i) Note: Netscape and Firefox browsers will not open the FTP site.

b) Click on File, then on Login As.

c) Enter your User Name and Password. (Note: Both are Case Sensitive.)

d) Open "My Computer" on your computer and navigate to the file(s) you wish to upload to the fip site.

- e) With both "My Computer" and the ftp site open in separate windows, drag and drop the file(s) from "My Computer" to the ftp window.
- 3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs

a) Send email to dehloptoxic@acgov.org notify us that you have placed a report on our ftp site.

b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name at acgov.org. (e.g., firstname.lastname@acgov.org)

c) The subject line of the e-mail must start with the RO# followed by Report Upload. (e.g., Subject: RO1234 Report Upload)

From: <u>Yvette Pico</u>
To: <u>Yvette Pico;</u>

Subject: FW: 250746 RO 0203 status

Date: Wednesday, October 07, 2009 10:37:17 AM

From: Jakub, Barbara, Env. Health [mailto:barbara.jakub@acgov.org]

Sent: Wednesday, August 19, 2009 3:29 PM

To: Grayson, Terry L (DXT Services) **Subject:** RE: 250746 RO 0203 status

The Soil and Water Investigation Report due date has been extended to October 19, 2009 so you do not need to place a rush on the analytical. Regards,

Barb Jakub

From: Grayson, Terry L (DXT Services) [mailto:Terry.L.Grayson@contractor.

conocophillips.com]

Sent: Wednesday, August 19, 2009 3:06 PM

To: Jakub, Barbara, Env. Health Subject: 250746 RO 0203 status

Hi Barbara,

Per our several discussion on our site located at 3943 Broadway in Oakland RO 0203 we have indicated that the dealer was in the midst of having a major construction project going on there and that as soon as the work was complete we would set up the planned work per your approval granted12/05/08 (see attached). Per our verbal discussions and review on 06/25/09 the site is now ready for the work to be completed prior to the end of this month. Therefore as discussed we would like one month from August 28th to submit the requested reports a date of NLT September 30, 2009.

As always thank you for your understanding and patience with us with regard to the construction on this project and the availability to install the requested wells.

Respectfully,

Terry L. Grayson

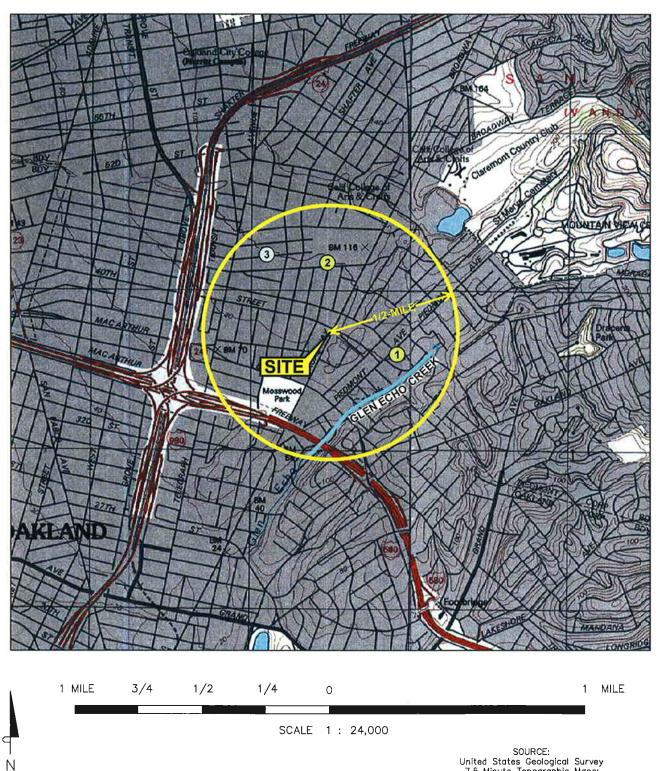
"Safety--Never Compromise"

DXT SERVICES INC. Approved Services Provider of ConocoPhillips

Client Services Contact Information 76 Broadway Street Sacramento, CA 95818 916-558-7666 o 916-558-7639 f

Attachment B

Well Location Map and DWR Well Logs



LEGEND

1 2 Irrigation Wells

3 Domestic Well



SOURCE: United States Geological Survey 7.5 Minute Topographic Maps: Oakland East and Oakland West Quadrangles, California

SENSITIVE RECEPTORS WITHIN ONE-HALF MILE RADIUS OF SITE

76 Service Station #0746 3943 Broadway Oakland, California

TRC

FIGURE

DEPARTMENT OF WATER RESOURCES

CENTRAL DISTRICT 901 P STREET, 3RD FLOOR SACRAMENTO, CA 95814-6424



RECEIVED

FEB 0 4 2000

January 30, 2009

Mr. Alan Buehler Delta Consultants 11050 White Rock Road Suite 10 Rancho Cordova, California 95670

To Mr. Buehler:

In response to your request, enclosed is a compact disk containing the information you requested for the following areas:

½ mile radius of 3943 Broadway, Oakland

Township 01 South, Range 04 West, Sections 23 and 24

The charge to burn the disk is \$25. Your remittance should be made payable to the Department of Water Resources, Cash Receipts Office, Post Office Box 942836, Sacramento, California 94236-0001. Please show "January 30-2" on your remittance and return it with the enclosed copy of this letter to the Cash Receipts Office.

If you need additional information or have any questions, please contact Anne Roth at (916) 376-9612 or fax (916) 376-9676.

Sincerely,

Juan M. Escobar, Chief Groundwater Supply Assessment and

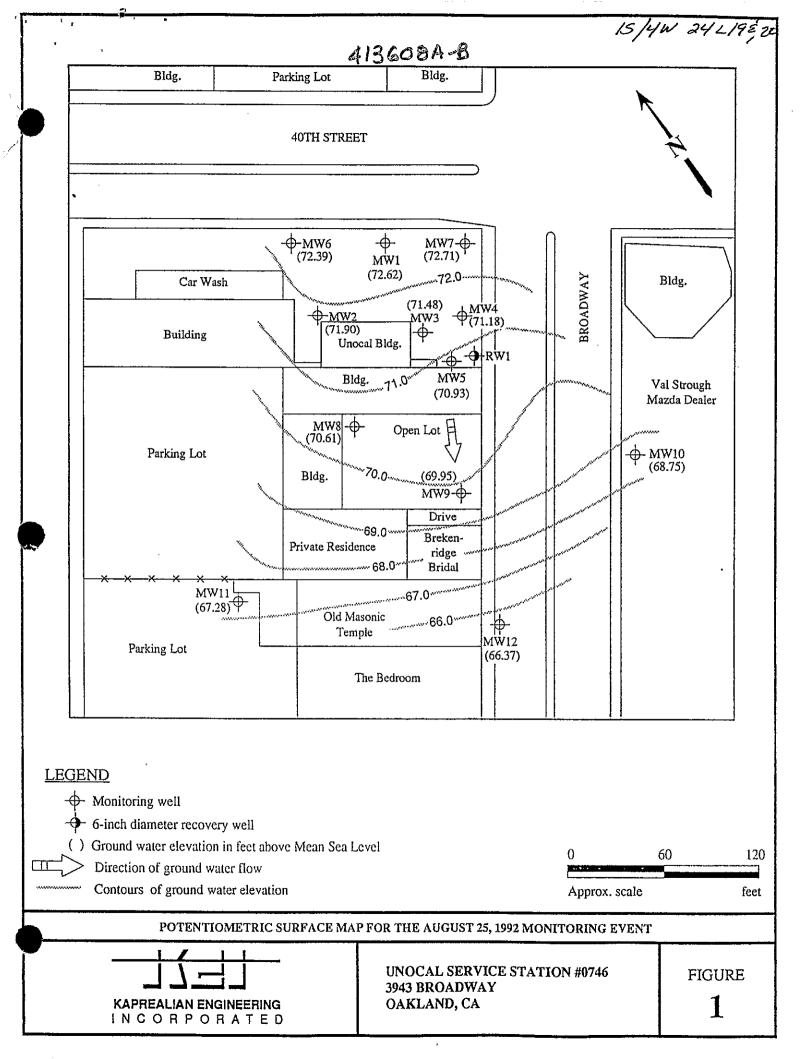
Special Studies Section

Enclosure

CONFIDENTIAL

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

REMOVED



413608A

(G LOG						
Project No. KEI-P89-0805			Boring &	& Casing	g Diameter 2'	-Logged By \(\mathcal{T} GG\) D.L. \(\chi \in G \) /633					
Project Name Ur 3943 Broadway, C	nocal S/S # Dakland	1 0746	Well Co	ver Elev	ation	Date Drilled 6/26/92					
Boring No. MW12			Drilling Method		ollow-stem ager	Drilling Company Woodward Drilling					
Penetration blows/6"	, · · · <i>p</i> · · · ·				Description						
					Concrete pavement.						
				h.	Clayey sand and grave	el and disturbed soil (fill).					
			SC		Clayey sand with trac- greenish gray.	e silt, medium dense, moist, dark					
2/3/5	2/3/5				Clayey silt, trace fine grained sand, firm, very moist, black.						
			CL/SC		Sandy clay, firm, moi clayey sand.	st, dark greenish gray, lensed with					
<i>4/</i> 7/10			CH			15% gravel to 1/2 inch in diameter, y stiff, moist, black with root holes.					
11/22/19		10				nd, angular to rounded gravel to 1-1/2 nse, moist, very dark grayish brown.					
6/9/13			₫ GC		Clayey gravel with san and olive brown, mott	nd as above, except dark grayish brownled.					
	=		_		Sandy clay, trace grav moist, dark yellowish	el to 1/4 inch in diameter, very stiff, brown and olive brown, mottled.					
5/7/12		15	CL		Clay, trace gravel to 3 moist, olive and light	/8 inch in diameter, stiff to very stiff, olive brown, mottled.					
9/14/20					Clay, as above, stiff to	o very stiff, friable.					
	<u> </u>			TOT	AL DEPTH 17.5'						
		20									
						-					

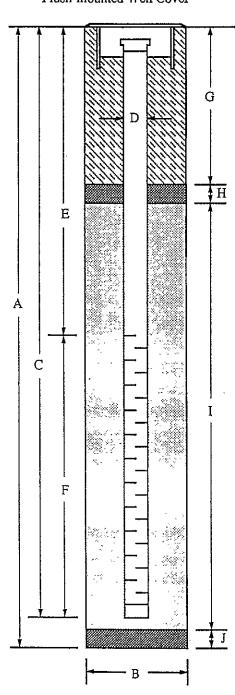
WEIT	COMPI	ETION	DIAGR	À M
YYELL	COMPL	ルコ コスノバ	DIAGK	AIVI

PROJECT NAME: Unocal S/S #0746, 3943 Broadway, Oakland WELL NO. MW12

PROJECT NUMBER: KEI-P89-0805

WELL PERMIT NO.:

Flush-mounted Well Cover



- A. Total Depth: 17.5'
- B. Boring Diameter: 8"

 Drilling Method: Hollow Stem Auger
- C. Casing Length: 17.5'

 Material: Schedule 40 PVC
- D. Casing Diameter: OD = 2.375"
 - ID = 2.067"
- E. Depth to Perforations: 5'
- F. Perforated Length: 12.5'

 Perforation Type: Machined Slot
 - Perforation Size: 0.010"
- G. Surface Seal: 2'
- H. Seal: 1.5'
 - Seal Material: Bentonite

Seal Material: Neat Cement

I. Filter Pack: 14'

Pack Material: RMC Lonestar Sand

Size: #2/12

J. Bottom Seal: None

Seal Material: N/A

	·			BORING	<u>4 (3608 D</u> G LOG	•				
Project No. KEI-P89-0805			Boring		g Diameter 6'	Logged By <i>JGG</i> D.L. <i>CEG 1633</i>				
Project Name Un 3943 Broadway, O		0746	Well (Cover Elev	ation	Date Drilled 6/25/92				
Boring No. RW1	,		Drillin Metho		ollow-stem ager	Drilling Company Woodward Drilling				
Penetration blows/6"	G. W. level	Depth (feet) Samples	gra	rati- aphy SCS	Desc	cription				
			_		A.C. pavement over sand and gravel base. Clayey sand and gravel with cobbles to 10 inches in diameter very stiff, moist (fill).					
					Sandy clay, stiff, moist, dark greenish gray.					
					Clayey sand with trac	race silt, medium dense, moist, dark				
No blow count data - samples continuously		5 -	МН		Clayey silt, trace fine with organic matter.	e grained sand, very stiff, moist, black,				
cored			СН			-15% gravels to 4 inches in diameter, y stiff, moist, dark olive gray and very nottled.				
		10 -		:9:9:9:9:		ny with sand, gravels to 1 inch in noist, dark olive gray and very dark d.				
No recovery from 11.25 to 12.5 feet.			SC GC	19:9:9:9:9: 19:10:10:10:10:10:10:10:10:10:10:10:10:10:		ed at 10-15% gravel to 1 inch in nee, moist, dark greenish gray and dark				
		<u>.</u>			Clayey gravel with sa medium dense, moist	nd, gravels to 3-1/2 inches in diameter, , dark greenish gray.				
			CL		Clay, estimated at 10 and dark greenish gra	-15% gravel, stiff, moist, olive brown my, mottled, fissured.				
		15 -			Silty clay, trace fine- and dark greenish gra	grained sand, stiff, moist, olive brown ay mottled, fissured.				
		SC	555 5	Clayey sand, minor s and dark greenish gra	ilt, medium dense, moist, olive brown y, mottled.					
	, – -					CAL DEPTH 17.5'				
					No groun	d water encountered.				
:	20									
	<u> </u>			<u> </u>						

413608B

WELL COMPLETION DIAGRAM

Unocal S/S #0746, 3943 Broadway, Oakland PROJECT NAME: _

RW1 ___WELL NO.

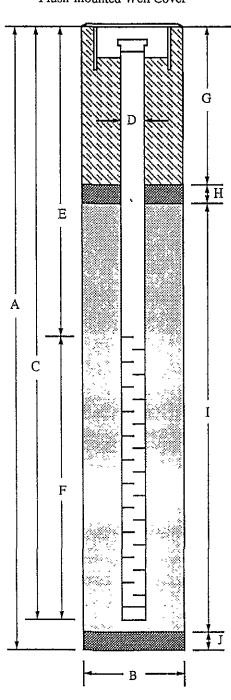
PROJECT NUMBER: __

KEI-P89-0805

WELL PERMIT NO.: __

ACFC & WCD 92270

Flush-mounted Well Cover



- 17.5 Total Depth:_____
- B. Boring Diameter*: 13.5"

Drilling Method: Hollow Stem Auger

C. Casing Length:

Material: Schedule 40 PVC

D. Casing Diameter: OD = 6.625"

ID = 6.065"

- E. Depth to Perforations:
- 10' (2' Blank on bottom) F. Perforated Length:

Perforation Type: Machined Slot

Perforation Size: 0.010"

G. Surface Seal:

Seal Material: Neat Cement

H. Seal:

Seal Material: Bentonite

13' Filter Pack:

Pack Material: RMC Lonestar Sand

#2/12 Size:

J. Bottom Seal: 6"

Seal Material: Bentonite

CONFIDENTIAL

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

REMOVED

,									10/10/21				
						во	RIN	IG LOG	308393A				
)	Project KEI-P89-				Во	ring 9"	& Cas	sing Diameter 2"	Logged By Property 30 D. L.				
	Project Oakland			1	We	:11 He	ead El	levation	Date Drilled 1-26-90				
	Boring N MW4	No.				illir thod		Hollow-stem Drilling Company Auger EGI					
	Penetra- tion blows/6"	level Samples graphy					phy	Description					
				U —				A.C. Pavement. Sand and gravel Clay	l: Fill				
				-		sw- sc			nd with clay and silt moist, dark greenish				
	6/5/11			5 —		мн		Clayey elastic silt, 5-10% sand, stiff, moist, black.					
	16/21/24			_		СН		to 1/4", very	vel, 10-15% sand gravel stiff, moist, very dark and black, mottled with				
	8/10/11	—	1	o —		GC		Clayey gravel of gravel to 3/4' dark greenish	with sand, 15-20% clay, ", medium dense, moist, gray.				
	8/7/14			-		CH GC	. ∨0%° 15. ×10×2.	gray, mottled Clayey gravel t	own and dark greenish with with sand, olive k greenish gray.				
	10/16/21		1	5 —		СН		Clay high plast	ticity, with silt, 5-10% iff, moist, dark wn and light olive				
	10/10/14			_				Silty clay, high plasticity, 5-10% sand stiff, moist, light olive brown					
)			_ 2	0				ТО	TOTAL DEPTH: 20'				

\mathbf{W}	E	L	L	C	0	M	\mathbf{P}	L	\mathbf{E}	T	I	0	N	D	Τ	Α	G	R	Α	М
--------------	---	---	---	---	---	---	--------------	---	--------------	---	---	---	---	---	---	---	---	---	---	---

PROJECT NAME: <u>Unocal - Oakland - Broadway</u> BORING/WELL NO. MW4 PROJECT NUMBER: KEI-P89-0805 WELL PERMIT NO.: Total Depth: 20' Flush-mounted Well Cover Α. В. Boring Diameter*: 9" Drilling Method: Hollow Stem _Auger____ c. Casing Length: 20' Material: Schedule 40 PVC Casing Diameter: OD = 2.375" Н ID = 2.067"Depth to Perforations: 5! Ε. F. Perforated Length: 15' Machined Perforation Type: Slot Perforation Size: 0.020" G. Surface Seal: 2' Seal Material: Neat Cement Seal:_____2' H. Seal Material: Bentonite Gravel Pack: 16' RMC Lonestar

Seal Material: N/A

Pack Material: Sand

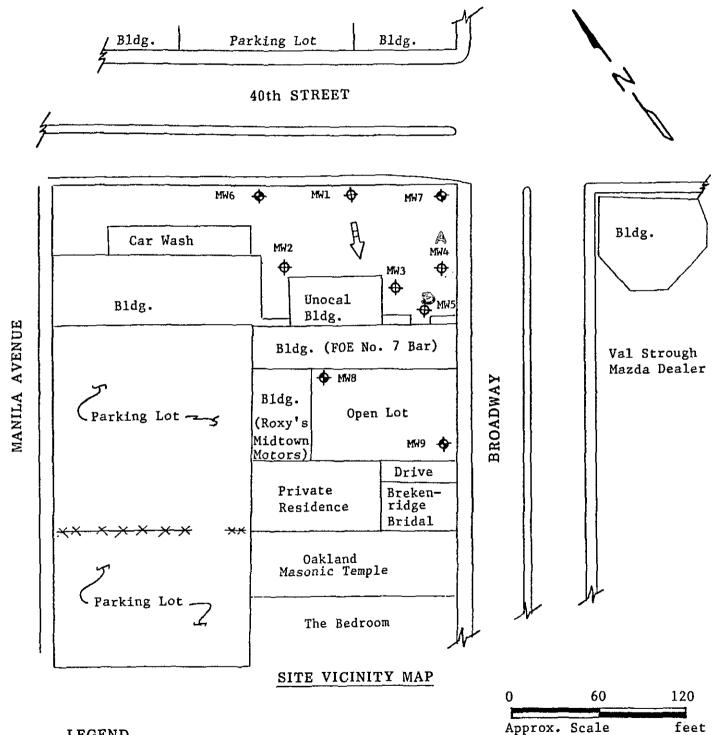
J. Bottom Seal: None

Size:<u>#3</u>



Consulting Engineers

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LEGEND



Monitoring Well (existing)



Monitoring Well (proposed)



Direction of Ground Water Flow

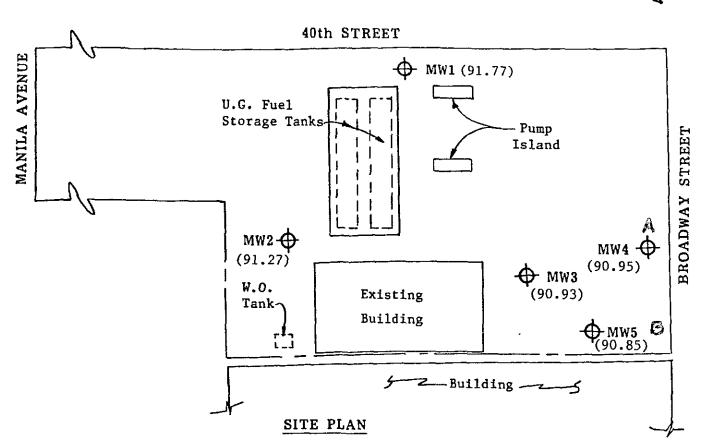
Unocal S/S #0746 3943 Broadway Oakland, California



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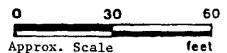


LEGEND

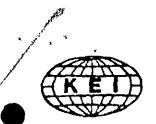
Monitoring Well (Existing)

Ground water surface elevation on 2/15/90. Top of MWl well cover assumed 100.00 feet as datum.

Direction of ground water flow

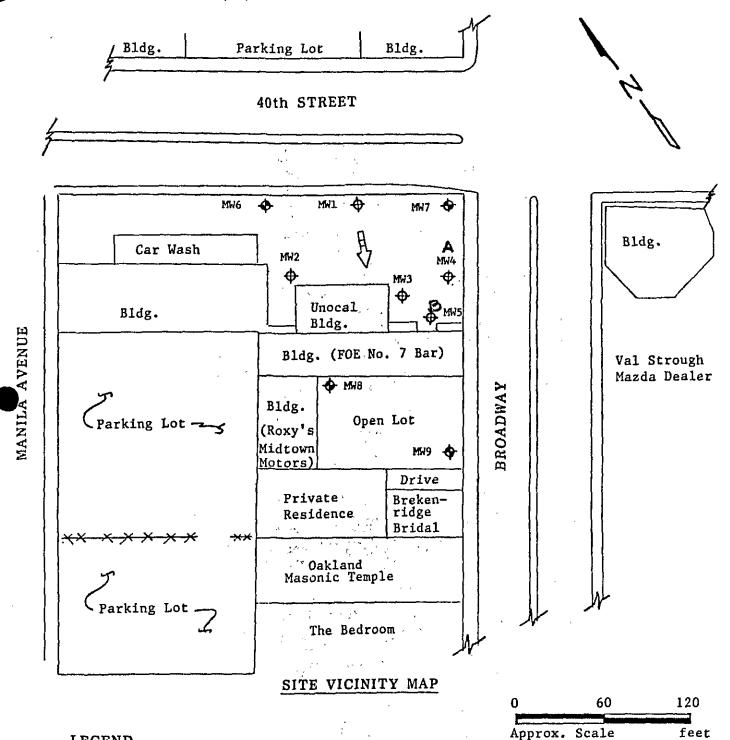


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LEGEND



Monitoring Well (existing)



Monitoring Well (proposed)



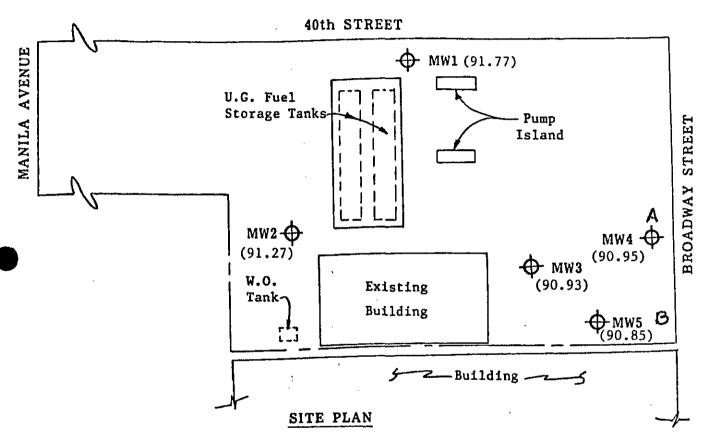
Direction of Ground Water Flow

Unocal S/S #0746 3943 Broadway Oakland, California

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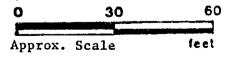


LEGEND

Monitoring Well (Existing)

Ground water surface elevation on 2/15/90. Top of MWl well cover assumed 100.00 feet as datum.

Direction of ground water flow



Unocal Service Station #0746 3943 Broadway Street Oakland, California

CONFIDENTIAL

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

REMOVED

	``						· · · · · · · · · · · · · · · · · · ·	13/4W 27L2					
	•				во	RI	NG LOG	308393B					
	Project KEI-P89-			В	oring 9"	& Cas	sing Diameter 2"	Logged By Jan 130					
	Project Oakland			We	eļl Ho	ead El N/A	Levation	Date Drilled 1-26-90					
	Boring 1 MW5	No.			rilli ethod		Hollow-stem Auger	Drilling Company EGI					
	Penetra- tion blows/6"		Depth Sample		Stra graj USC		Desc	cription					
							A.C. Pavement. Sand and gravel	to 9": Fill					
					СН			gh plasticity, 5-15% bist, dark greenish gray					
	5/4/5		 5 		МН		very moist bla						
)					CH			ilty clay, high plasticity 10-15% sand stiff, moist, dark olive gray.					
	8/17/24						15-30% gravel	sticity, with gravel, to 1/2", trace silt, pist, dark brown and					
	8/15/23		 10 				black, mottled	d, with root holes. feet, olive gray grades					
	7/10/12		_					0-15% silt, dense, moist					
	6/10/18	<u>Ā</u>			sc			, dark greenish gray and ottled with gravel below					
	6/10/11		 15		GW- GC		medium dense,	evel with clay and sand, wet, dark greenish to >2" diameter.					
	8/15/18	1			СН		stiff, moist, light olive br greenish gray Silty clay, hig	sticity, trace silt, dark greenish gray and cown, mottled, dark in voids/fissures. gh plasticity, stiff, light olive brown and					
)	-,,		 20				dark greenish greenish	gray, mottled, olive below 19.5 feet. OTAL DEPTH: 20					

308393B

W	Е	L	\mathbf{L}	: (0	M	Р	L	\mathbf{E}	\mathbf{T}	T	0	N	D	T	Α	G	R	Α	М

PROJECT NAME: <u>Unocal - Oakland - I</u> PROJECT NUMBER: <u>KEI-P89-0805</u> WELL PERMIT NO.:	Broadway	BORING/WELL NO. MW5
Flush-mounted Well Cover	Α.	Total Depth: 20'
	В.	Boring Diameter*: 9"
		Drilling Method: Hollow Stem
		Auger
D G	c.	Casing Length: 20!

Η

- Material: Schedule 40 PVC

 D. Casing Diameter: OD = 2.375"

 ID = 2.067"
- E. Depth to Perforations: 5'
- F. Perforated Length: 15'

 Machined
 Perforation Type: Slot

 Perforation Size: 0.020"
- G. Surface Seal: 2'
 Seal Material: Neat Cement
- H. Seal: 2'
 - Seal Material: Bentonite
- I. Gravel Pack: 16'

 RMC Lonestar
 Pack Material: Sand

 Size: #3
- J. Bottom Seal: None

 Seal Material: N/A
- *Boring diameter can vary from 8-1/4" to 9" depending on bit wear.

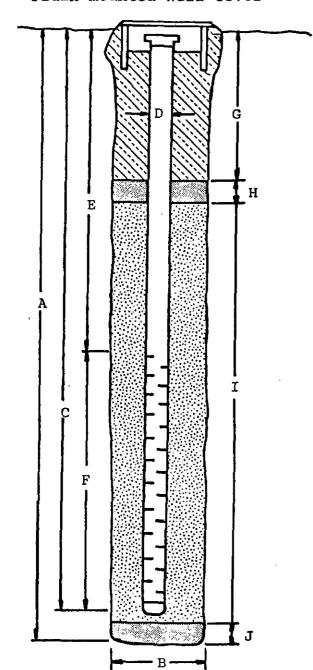
				вов	RIN	G)	r o e	01-4493
Project No KEI-P89-08				ing 8	Cas	ing D	iameter	Logged By D.L.
Project Na Oakland -			Wel	l Hea	ad Elo N/A	evatio	on	Date Drilled 10/17/89
Boring No.	•			lling hod	J	Holld Auger	ow-stem r	Drilling Company EGI
Penetra- tion blows/6"	G. W. level		oth (oples		Stra graj USC			Description
·			J				Silty cl	ement nd and gravel: fill. ay, high plasticity, iff, moist, black, trace
5/7/15	- 5 - CI						trace grant moist, construction	ay, high plasticity, ravel, very stiff, dark olive gray. and, 30-40% clay, medium very moist, grayish mottled.
7/10/16	Ž.		10		GC -		Clayey g	ravel with sand, medium very moist, olive brown ong brown, mottled.
10/15/12			*		GP/ GC		and san	raded gravel with clay d, medium dense, wet, llowish brown.
		 	15				stiff, olive b	
11/17/23	.1/17/23				CH		dense gray,	gravel with sand, very , moist, dark greenish gravel to 1".
10/16/19	<u>_</u> _	20		GC MH			silt, very stiff, moist, reenish gray. TOTAL DEPTH 20'	

TJ	TO T	L ·	0 0	N N	ъ	Ŧ	10	m	T	\mathbf{a}	M	T)	т	TA.	\boldsymbol{c}	ď	74	м
W	E L	ъ.	UU	m	Ľ	ப	Ŀ	1	Т	v	И	ע	1	41	U	ĸ	A	m

PROJECT	NAME:	<u> Unocal -</u>	<u>Oakland</u>	- Broadway		BORING/WELL	NO.	MW1
PROJECT	NUMBER:	KET-P8	19-0805	ī				

WELL PERMIT NO.: 89456

The	h-mour	5040	17011	COTTOY
FILES	n-mour	ıtea	well	Cover



- A. Total Depth: 20'
- B. Boring Diameter*: 9"

 Drilling Method: Hollow Stem

 Auger
- C. Casing Length: 20'

 Material: Schedule 40 PVC
- E. Depth to Perforations: 5'
- F. Perforated Length: 15'

 Machined
 Perforation Type: Slot

 Perforation Size: 0.020"
- G. Surface Seal: 2'
 Seal Material: Concrete
- H. Seal: 2'
 Seal Material: Bentonite
- I. Gravel Pack: 16'

 RMC Lonestar
 Pack Material: Sand

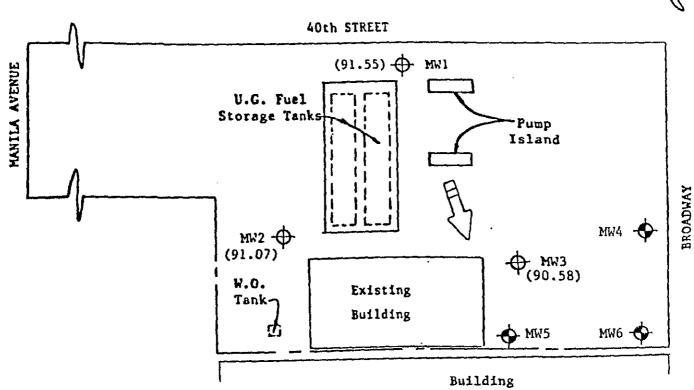
 Size: #3
- J. Bottom Seal: None

 Seal Material: N/A



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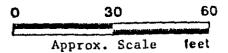
SITE PLAN

LEGEND

Monitoring Well (Proposed)
Monitoring Well (Existing)

on 11/1/89. MW1 well cover assumed 100.00° as datum.

Direction of ground water flow on 11/1/89.



Unocal Service Station #0746 3943 Broadway Street Oakland, California

			H	3 O E	RIN	G I	OG	01-449K		
Project No KEI-P89-08			Boring & Casing Diameter 9" 2"					Logged By D.L.		
Project Na Oakland -			Wel]	l Hea	ad Ele N/A	evatio	on	Date Drilled 10/17/89		
Boring No.	,		Dri] Meti	lling]	Holla Auge	ow-stem	Drilling Company EGI		
Penetra- tion blows/6"	G. W. level		pth (ft) Strati mples graphy USCS			phy]	Description		
			— 0 -				A.C. Pave Clay, sa	ement nd and gravel: fill.		
6/9/15			5		СН		stiff, odor, t 3.5 fee Sandy cl	ay, high plasticity, moist, black, organic race - 15% gravel below t. ay, 5-10% gravel, very moist, dark olive gray.		
7/8/11			10		CL/ CH		5/8", s	clay, 15-30% gravel to tiff to very stiff, dark brown.		
6/7/10					sc		to very	and, medium dense, moist moist, olive brown and brown, mottled.		
12/22/28	<u> </u>				GW/ GC			ded gravel with clay and ravel to 2 1/2", dense dense.		
			— 15 — · — — —		15		CL/			ry stiff to hard, olive o yellowish brown,
9/20/18			20					above, yellowish brown, t, trace - 15% sand. TOTAL DEPTH 20'		

WELL COMPLET	ION	DIAGRAM
PROJECT NAME: Unocal - Oakland - Broa	dway	BORING/WELL NO. MW2
PROJECT NUMBER: KEI-P89-0805	 -	
WELL PERMIT NO.: 89456	<u></u>	AND THE RESIDENCE OF THE PARTY
Flush-mounted Well Cover	A.	Total Depth: 20'
	В.	Boring Diameter*: 9"
		Drilling Method: Hollow Stem
		_Auger
D G	c.	Casing Length: 20'
		Material: Schedule 40 PVC
н	D.	Casing Diameter: OD = 2.375"
		ID = 2.067"
	E.	Depth to Perforations: 5'
	F.	Perforated Length: 15'
		Machined Perforation Type: Slot
		Perforation Size: 0.020"
I	G.	Surface Seal: 2'
		Seal Material: Concrete
	н.	Seal:2'
		Seal Material: Bentonite
	т	Craval Packs 161

J. Bottom Seal: None

Seal Material: N/A

Pack Material: Sand

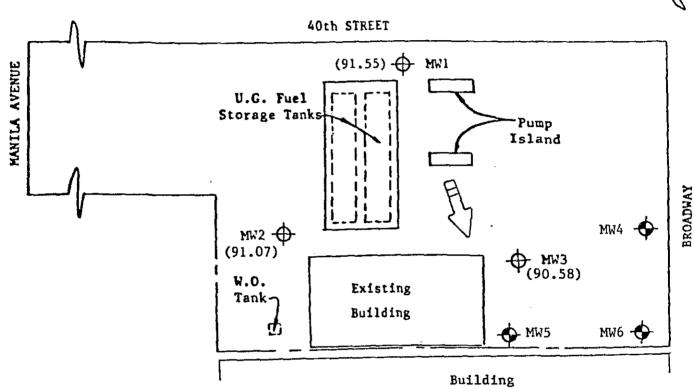
Size: #3

RMC Lonestar



Consulting Engineers
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BENICIA, CA 94510
(707) 746 - 6915





SITE PLAN

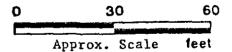
LEGEND

Monitoring Well (Proposed)

Monitoring Well (Existing)

() Ground water surface elevation on 11/1/89. MWl well cover assumed 100.00' as datum.

Direction of ground water flow on 11/1/89.



Unocal Service Station #0746 3943 Broadway Street Oakland, California

				1	ВОЕ	RIN	G]	LOG	01-449L
	Project No KEI-P89-08	Boring & Casing Diameter 9" 2"					Logged By D.L.		
	Project Na Oakland -			Well	l Hea	d Ele N/A	evatio	on .	Date Drilled 10/17/89
	Boring No.	•		Dri. Metl	lling hod	J	Hollo Auge	ow-stem Drilling Company	
				oth (1	£t)	grap	Strati- graphy USCS		Description
				U -				A.C. Pave Clay, sar	ement nd and gravel: fill.
	5/5/11		— — — —	5		СН		gravel, and blac disturbe Silty cla	ay, high plasticity with firm, moist, olive gray ck, mottled with debris, ed. ay, high plasticity, 5-d, firm, moist, black.
	5/7/12			10		CL/		1/2", f: grayish	clay, 30% gravel to irm, moist, very dark brown, gray root holes.
	3/9/11	-							ay, stiff, moist, olive nd gray, mottled.
	6/17/16		 			sc		moist,	and, medium dense, very 40% clay, olive gray and rown, mottled.
	7/9/13			15				dense, Clay, ve green a	and w/gravel, 15% clay, very moist. ry stiff, moist, grayish nd olive brown, mottled. mottled.
						CL/ CH	Management of the control of the con		
)	9/11/14		<u> </u>	20					above, greenish gray ht olive brown.

15/4W 24L6

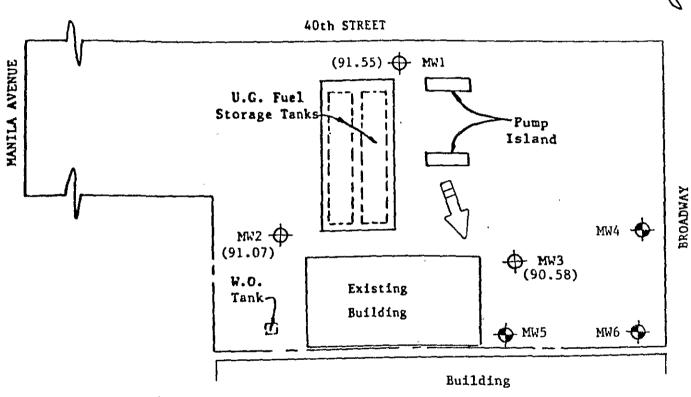
	воз	RING	.]	OG	01-4492
Project No. KEI-P89-0805	Boring 8	& Casin	g Di 2'		Logged By D.L.
Project Name Unoc Oakland - Broadwa	Well Hea	ad Elev	atio	on	Date Drilled 10/17/89
Boring No.	Drilling Method	_	ollo	ow-stem	Drilling Company EGI
Penetra- tion level blows/6"	oth (ft) nples	Strat graph USCS		1	Description
9/12/15	30	CL/ CH		very st brown. Clay with	TOTAL DEPTH 22.5'

		 							
WELL COMPLETION DIAGRAM									
PROJECT NAME: Unocal - Oakland - Broadway BORING/WELL NO. MW3									
PROJECT NUMBER: KEI-P89-0805									
WELL PERMIT NO.: 89456									
Flush-mounted Well Cover	Α.	Total Depth: 22.5'							
TIMES	В.	Boring Diameter*: 9"							
		Drilling Method: Hollow Stem							
		<u>Auger</u>							
D G	c.	Casing Length: 22.5'							
		Material: Schedule 40 PVC							
H	D.	Casing Diameter: OD = 2.375"							
		ID = 2.067"							
	Ε.	Depth to Perforations: 51							
	F.	Perforated Length: 17.5'							
A		Machined Perforation Type: Slot							
		Perforation Size: 0.020"							
	G.	Surface Seal: 2'							
c -]	٠.	Seal Material: Concrete							
	н.	Seal: 2'							
F	11.	Seal Material: Bentonite							
	т	Gravel Pack: 18.5'							
		RMC Lonestar Pack Material: Sand							
		Size: #3							
	~								
LJ₃	. ل	Bottom Seal: None							
В——В		Seal Material: N/A							



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SITE PLAN

LEGEND

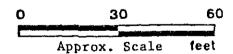
Monitoring Well (Proposed)

Monitoring Well (Existing)

Ground water surface elevation on 11/1/89. MW1 well cover assumed 100.00' as datum.



Direction of ground water flow on 11/1/89.



Unocal Service Station #0746 3943 Broadway Street Oakland, California

CONFIDENTIAL

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

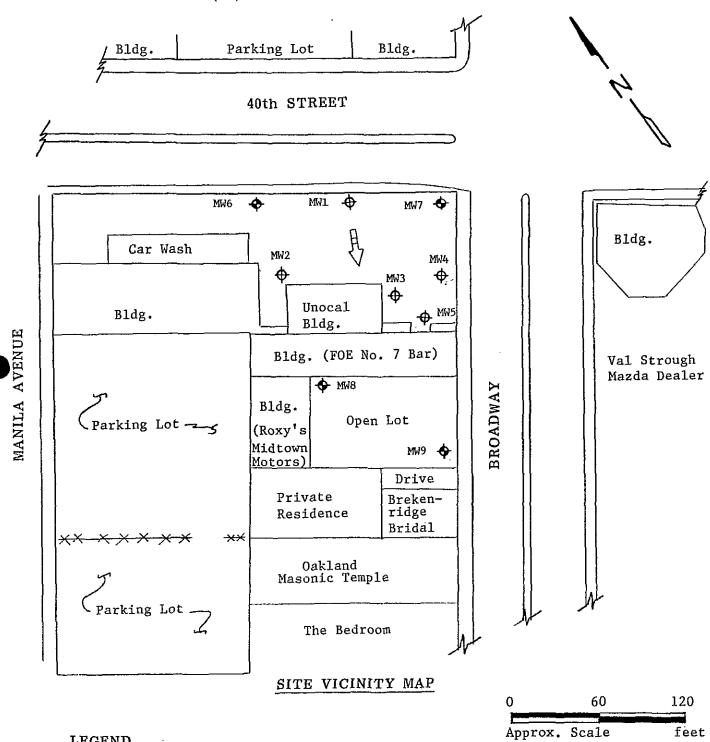
REMOVED



Consulting Engineers

15/4W 24/L7-10

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LEGEND



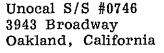
Monitoring Well (existing)



Monitoring Well (proposed)



Direction of Ground Water Flow



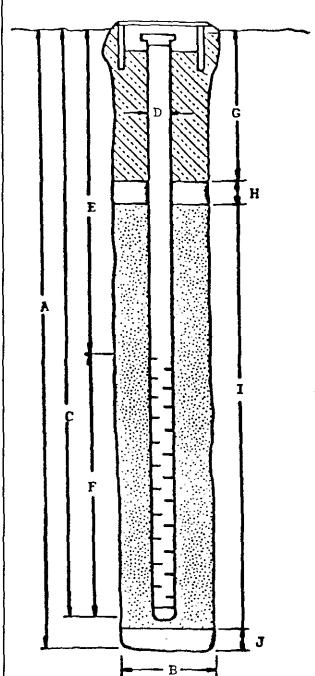
364640 A

		····					364640 A	
				во	RII	1 G L O G	15/4W 2417	
	Project No. KEI-P89-0805					sing Diameter 2"	Logged By W.W.	
Project Nar 3943 Broady			We	ell He	ead El	levation	Date Drilled 10/22/90	
Boring No.				cillir ethod		Hollow-stem Auger	Drilling Company EGI	
Penetration blows/6"	G. W. level		t) graphy			Description		
				CL/ CH		Silty clay, tra stiff, orange	and and gravel base. ace fine sand, moist, brown. f Fill Materials	
				СН		Silty clay, tra moist, firm, h	ace fine sand, moist, black.	
4/9/13		5 		CL/ CH			trace rootlets, moist, ark grayish brown, trace diameter.	
8/10/15				GC		gravel to 1-1,	trace sand, subangular /8" diameter, moist, ark grayish brown, orown.	
5/6/12				CL/		trace very fine matter, moist	avel to 3/8" diameter, ne sand, trace organic to very moist, very yellowish brown with ive mottling.	
4/7/11		— — 15 —				trace caliche	trace organic matter, , slightly moist, very tiff, light yellowish	
5/8/14				ML/ MH		very stiff, li light yellowis orange brown a	race sand, saturated, ight yellowish brown sh brown mottled with and light greenish gray. TAL DEPTH: 20	

<u>Auger</u>

W	\mathbf{E}^{\prime} T	. т.	C	O M	РT.	F T	ION	_ n _	F A (~ R	A M
	ے نہ		~	~ r.	- I						27 T.7

PROJECT NAME: Unocal - 3943 Broadway	St., Oakland BORING/WELL NO. MW6
PROJECT NUMBER: <u>KEI-P89-0805</u>	
WELL PERMIT NO.:	
Flush-mounted Well Cover	A. Total Depth: 20'



- B. Boring Diameter*: 9"

 Drilling Method: Hollow Stem
- C. Casing Length: 20'

 Material: Schedule 40 PVC
- D. Casing Diameter: OD = 2.375" ID = 2.067"
- E. Depth to Perforations: 5'
- F. Perforated Length: 15'

 Machined
 Perforation Type: Slot

Perforation Size: 0.020"

- G. Surface Seal: 21
- H. Seal: 2'
 - Seal Material: Bentonite

Seal Material: Neat Cement

- I. Gravel Pack: 16'
 RMC Lonestar
 Pack Material: Sand
 Size: #3
- J. Bottom Seal: None

 Seal Material: N/A

BORING LOG	
Project No. KEI-P89-0805 Boring & Casing Diameter Logged By W.W.	
Project Name Unocal 3943 Broadway, Oaklnd N/A Date Drilled 10/22/90	
Boring No. Drilling Hollow-stem Drilling Compa	ny
Penetration G. W. Depth Strati- graphy Description Samples USCS	
Asphalt over sand and gravel by with cobbles to 6" diameter.	ase
CL/ Silty clay with gravel, trace gravel to 1-1/4" diameter, mo firm, brown. Clay, 5-10% fine sand, trace s moist, stiff, dark yellowish	ist,
3/4/5 Silty clay, highly organic, true subangular gravel to 1" diamed moist, firm to stiff, moist,	ter,
5/10/12 CL/ Clay, trace rootlets, trace si trace sand, moist, very stiff brown.	
Clayey sand, trace gravel to 3 dia., fine to medium grained, moist, medium dense, bluish g Sandy gravel, 5% clay, trace r gravel to 1" diameter, satura	very ray. ootlets,
6/9/15 GC medium dense, yellowish brown clayey gravel with sand, sligh gravel to 1" diameter, satura medium dense, bluish gray.	t odor,
- ML/ - MH Clayey silt, 5% very fine sand organic matter, stiff to very very moist to saturated, pale mottled with light olive brow	stiff, olive
4/7/9 — 20 — TOTAL DEPTH: 20'=	

WELL COMPLET	ION DIAGRAM								
PROJECT NAME: Unocal - 3943 Broadway	St, Oakland BORING/WELL NO. MW7								
PROJECT NUMBER: KEI-P89-0805									
WELL PERMIT NO.:	<u> </u>								
Flush-mounted Well Cover	A. Total Depth: 20'								
	B. Boring Diameter*: 9"								
	Drilling Method: Hollow Stem								
	Auger								
D G	C. Casing Length: 20'								
	Material: Schedule 40 PVC								
H SSS SSS H	D. Casing Diameter: OD = 2.375"								
E	ID = 2.067"								
	E. Depth to Perforations: 5'								
	F. Perforated Length: 15!								
	Machined Perforation Type: Slot								
	Perforation Size: 0.020"								
	G. Surface Seal: 2'								
c [-]	Seal Material: Neat Cement								
	H. Seal:2'								
F -	Seal Material: Bentonite								
	I. Gravel Pack: 16' RMC Lonestar								
	RMC Lonestar Pack Material: Sand								
	Size: #3								
	J. Bottom Seal: None								
	Seal Material: N/A								
<u> </u>									

364640C

							364640C		
				во	RII	G LOG	15/4W ZAL9		
Project No. KEI-P89-080		Вс	oring 9"	& Cas	sing Diameter 2"	Logged By W.W./J.E.			
Project Nam 3943 Broads			We	ell Ho	ead El N/A	Levation	Date Drilled 10/22/90		
Boring No.				rilli: ethod		Hollow-stem Auger	Drilling Company EGI - Dave Yager		
Penetration blows/6"	G. W. level	_	-)	gra		Desc	Description		
						6" concrete sla	ab over sand and gravel.		
						moist, reddish	with concrete cobbles, brown. fill materials.		
3/3/5				CL/ CH		Silty clay, tra	ace organic matter, stiff, very dark brown		
12/13/15		10 		GC		stone, trace s	highly weathered sand- sand, medium dense, brown to dark brown, wet.		
5/10/13				CL/ CH		to rounded, ve	gravel is subrounded ery stiff, trace sand, brown, grading to bist.		
5/9/14						Sandy clay, tra light brown, m	ace gravel, very stiff		

	•			вс	RII	NG LOG	20-10-10C	
Project No.			В		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	sing Diameter	IS/YW 24L9 Logged By W.W./J.E.	
	Project Name Unocal 3943 Broadway, Oaklnd					levation	Date Drilled 10/22/90	
Boring No. MW8						Hollow-stem Auger	Drilling Company EGI - Dave Yager	
Penetration blows/6"	G. W. level	Depth (feet Samp]	t) graphy			Description		
				CL/ CH		Sandy clay, tra moist, light h	ace gravel, very stiff, prown.	
		_						
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	-							
		 _ _ 40				TO	TAL DEPTH: 22	

WELL COMPLETI	O N	DIAGRAM 15/4W 24L9
PROJECT NAME: Unocal, 3943 Broadway St.	<u>, 0</u>	akland BORING/WELL NO. MW8
PROJECT NUMBER: KEI-P89-0805		
WELL PERMIT NO.:		
Flush-mounted Well Cover	Α.	Total Depth: 22'
	в.	Boring Diameter*: 9"
		Drilling Method: Hollow Stem
		_Auger
D G	c.	Casing Length: 22'
	•	Material: Schedule 40 PVC
H AND H	D.	Casing Diameter: OD = 2.375"
E		ID = 2.067"
	Ε.	Depth to Perforations: 5'
	F.	Perforated Length: 17'
1		Machined Perforation Type: Slot
		Perforation Size: 0.020"
	G.	Surface Seal: 2'
F -]		Seal Material: Neat Cement
	н.	Seal:2'
F -		Seal Material: Bentonite
]]]]	ı.	Gravel Pack: 18'
		RMC Lonestar Pack Material: Sand
		Size: #3
	J .	Bottom Seal: None
		Seal Material: N/A
В		

							3B4640 D	
				во	RII	NG LOG	15/4W 24L10	
Project No. Boring & 9"					& Cas	sing Diameter	Logged By W.W.	
Project Name Unocal Wel 3943 Broadway, Oaklnd			ell Head Elevation N/A			Date Drilled 10/23/90		
Boring No. MW9			Drilling Method			Hollow-stem Auger		
Penetration blows/6"	netration G. W. Depth ows/6" level (feet Sampl			gra		Description		
						Asphalt over sa	and and gravel baserock.	
				GC			with asphalt and con- moist, brown.	
3/4/6		5		МН		coarse sand, v	fine sand, trace very moist, stiff, pale of fill material.	
				CL/ CH		gravel to 3/8" stiff, very da	dce fine sand, trace diameter, moist, ark brown to black, aron oxide staining.	
5/9/14		_ _ _ 10 _				organic matter slight odor, d	t and sand, trace , moist, very stiff, lark grayish brown lark yellowish brown.	
5/9/12				GC		3/4" diameter, trace organic	with sand, gravel to some highly weathered, matter, strong odor, saturated, greenish sh gray.	
				CL/ CH		to 3/8" diamet	ace silt, trace gravel cer, very moist, very live to pale yellow.	
6/9/15		20						

BORING LOG Project No. Boring & Casing Diameter Logged By KEI-P89-0805 911 W.W. Project Name Unocal Well Head Elevation Date Drilled 3943 Broadway, Oaklnd N/A 10/23/90 Boring No. Drilling Hollow-stem Drilling Company MW9 Method Auger EGI Penetration G. W. Depth Stratiblows/6" (feet) level Description graphy Samples USCS Sandy clay, trace silt, trace gravel CL/ to 3/8" diameter, very moist, very stiff, pale olive to pale yellow. ĆН 35

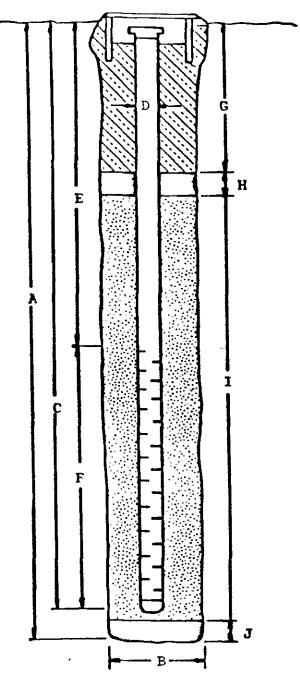
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TOTAL DEPTH:

W	\mathbf{E}	L	L	C	0	M	P	L	\mathbf{E}	T	Ι	0	N	D	Τ	Α	G	R	Α	М

PROJECT NAME: <u>Unocal, 3943 Broadway</u>	St., Oakland BORING/WELL NO. MW9
PROJECT NUMBER: KEI-P89-0805	
WELL PERMIT NO.:	
Flush-mounted Well Cover	A. Total Depth: 22'



- B. Boring Diameter*: 9"

 Drilling Method: Hollow Stem

 _Auger
- C. Casing Length: 22'

 Material: Schedule 40 PVC
- E. Depth to Perforations: 5'
- F. Perforated Length: 17'

 Machined
 Perforation Type: Slot

 Perforation Size: 0.020"
- G. Surface Seal: 2'
 Seal Material: Neat Cement
- H. Seal: 2'
 Seal Material: Bentonite
- I. Gravel Pack: 18'

 RMC Lonestar
 Pack Material: Sand

 Size: #3
- J. Bottom Seal: None
 Seal Material: N/A

*Boring diameter can vary from 8-1/4" to 9" depending on bit wear.

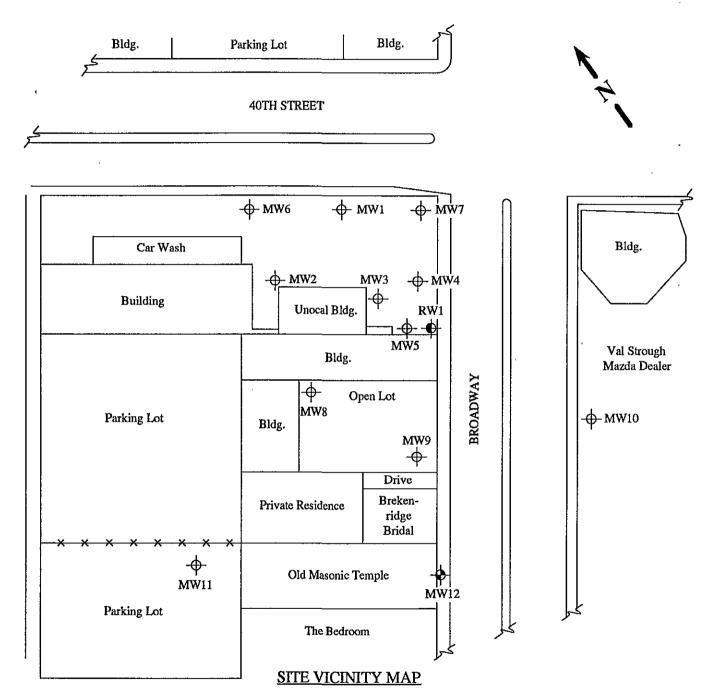
STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)



KAPREALIAN ENGINEERING, INC.

Consulting Engineers

P.O. BOX 996 • BENICIA, CA 94510 (707) 746-6915 • (707) 746-6916 • FAX (707) 746-5581



LEGEND

- Monitoring well (existing)
- 2-inch diameter Monitoring well (proposed)
- 6-inch diameter Recovery well (proposed)



Unocal Service Station #0746 3943 Broadway Oakland, CA

				I	BORING	G LOG			
Project No. KEI-P89-0805				Boring 9"	& Casing	Diameter 2"	Logged By D.L.		
Project Name U Oakland, Broadw				Well Co	over Eleva	ation	Date Drilled 1/7/92		
Boring No. MW10				Drilling Method		Hollow-stem Auger	Drilling Company Woodward Drilling		
Penetration blows/6"	G. W. level	Depth (feet) Sampl		Stra graf US	ohy	Desc	ription		
					J	Asphalt pavement of	over sand and gravel.		
		E					or sand, stiff, moist,dark greenish gray a		
						black mottled (fill). Clayey sand with given with silty clay as ab	ravel, very stiff, moist, brown, pocketed pove (fill).		
8/11/14 11/12/14		5		SM			vel, estimated at 5 to 10% clay content, rounded, to 3/4" diameter, medium 1.		
6/11/19				СН			e clay content estimated at 15 to 30%, 9', very stiff, moist, olive brown,		
7/16/24		10 - -		GC			sand, gravel to 1" diameter, some ed, medium dense to dense, moist, wn.		
						Gravelly clay with moist, brown.	sand, gravel to 3/4" diameter, hard,		
11/17/32		15		CL		Clay with silt and tr hard, moist, olive.	race sand, clay is slickensided,		
	;		_			Sandy clay with tra	ace gravel, very stiff, moist, pale olive.		
13/20/20							nic matter, very stiff to hard, moist, trades to clayey silt.		
5/11/55	\searrow	<u> </u>		ML		Sandy silt, stiff, mo	ist, olive brown.		
7/11/17	=	20		SC			15 to 20% clay, med. dense, moist, sofwell graded sand, gravel at 20'.		

WELL COMPLETION DIAGRAM

PROJECT NAME: Unocal - Oakland, Broadway WELL NO. MW10

PROJECT NUMBER: KEI-P89-0805

WELL PERMIT NO.: ACFD&WCD 91219

Flush-mounted Well Cover

G H H I I I I I I I I I I I I I I I I I	A C I

- A. Total Depth: 22'
- B. Boring Diameter*: 9"

 Drilling Method: Hollow Stem Auger

C. Casing Length: 22'

Material: Schedule 40 PVC

D. Casing Diameter: $\underline{OD} = 2.375"$

 $_{\rm ID} = 2.067"$

- E. Depth to Perforations: 6'
- F. Perforated Length: 16'

 Perforation Type: Machined Slot

Perforation Size: 0.010"

G. Surface Seal: 2'

Seal Material: Neat Cement

H. Seal: <u>2'</u>

Seal Material: Bentonite

I. Filter Pack: 18'

Pack Material: RMC Lonestar Sand

Size: #2/16

J. Bottom Seal: none

Seal Material: N/A

^{*} Boring diameter can vary from 8-1/4" to 9" depending on bit wear.

422134B 01504W 24L15

					ODIN	4221	3 72
Desired No.			.		BORING		
Project No. KEI-P89-0805				9"	& Casing	g Diameter 2"	Logged By D.L.
Project Name U Oakland, Broadwa				Well Co	ver Elev	ation	Date Drilled 1/7/92
Boring No. MW11				Drilling Method		Hollow-stem Auger	Drilling Company Woodward Drilling
Penetration blows/6"				Stra grap USC	hy	Descr	ríption
		 - '	_	-		Asphalt pavement of	over sand and gravel.
		 - - -				Silty gravel with sar very moist, black (fi	nd, bricks and concrete, dense, moist to ill).
				СН			ed at 5 to 10% gravel to 1-1/4" very moist, very dark gravish brown.
9/14/19		5		SC		Clayey sand with gr sand is coarse- to fi	ravel, estimated at 15 to 20% clay, ne-grained, dense, moist, very dark dark brown, mottled.
5/11/14	\Box	10		GC	00000 00000 00000 00000		sand, angular gravel to 1-1/2" dense, moist to very moist, dark blive brown.
4/8/14	,						y, trace silt and sand, stiff to very stiff, and dark yellowish brown.
6/13/29				СН		Silty clay with trace moist, olive and oliv	e organic matter, very stiff to hard, we brown mottled.
13/16/21		- - - - - -					ganic matter, slickensided, very stiff to and olive brown mottled.
9/17/28		20		SW/ SM		20% gravel to 1/4"	with silt and gravel, estimated at 15 to diameter, medium dense to dense, brown. TOTAL DEPTH: 21'

015 04W 24L15

WELL COMPLETION DIAGRAM

PROJECT NAME: Unocal - Oakland, Broadway WELL NO. MW11

PROJECT NUMBER: KEI-P89-0805

WELL PERMIT NO.: __ACFD&WCD 91219

Flush-mounted Well Cover

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- A. Total Depth: 21'
- B. Boring Diameter*: ______9"

 Drilling Method: _____Hollow Stem Auger

C. Casing Length: 19'

Material: Schedule 40 PVC

D. Casing Diameter: OD = 2.375"

<u>ID</u> = 2.067"

E. Depth to Perforations: 5'

F. Perforated Length: 14'

Perforation Type: Machined Slot

Perforation Size: 0.010"

G. Surface Seal: 2'

Seal Material: Neat Cement

H. Seal: 2'

Seal Material: Bentonite

I. Filter Pack: 15'

Pack Material: RMC Lonestar Sand

Size: #2/16

J. Bottom Seal: 2'

Seal Material: Bentonite

* Boring diameter can vary from 8-1/4" to 9" depending on bit wear.

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

343408 15/4W 24N12 PROJECT: KAISER Log of Well No. MW-5 Oakland, California **ELEVATION AND DATUM:** BORING LOCATION: Linen room, nearest west wall 72.19 feet City of Oakland DATE STARTED: DATE FINISHED: DRILLING CONTRACTOR: HEW/Schick 1/26/91 1/27/91 TOTAL DEPTH: SCREEN INTERVAL: DRILLING METHOD: 8" Hollow stem auger 18 feet 12 - 16CASING: **DEPTH TO WATER ATD:** DRILLING EQUIPMENT: Portable Holester 2" diameter SCH 40 PVC 12 feet LOGGED BY: SAMPLING METHOD: 2" Modified California (2"), standard pen (p) D. Wuthrich RESPONSIBLE PROFESSIONAL: REG. NO. HAMMER WEIGHT: Manual: ~35 lbs. DROP: Manual: ~24 inches **CEG 1335** J.D. Gallinatti ANALYTICAL RESULTS (ppm) DESCRIPTION SAMPLES WELL DEPTH (feet) NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, CONSTRUCTION comentation, react. wHCl, geo, inter. ġ **DETAILS** Surface Elevation: **GRAVEL with SAND (FILL) (GP)** 4" concrete over coarse, subangular to subrounded Locking well cap gravel clasts to 1 1/2", ~10% medium to coarse sand Traffic rated **Christy Box** Cement/ 2 bentanite SILTY SAND (SM) 2" Pale brown (10 YR 6/3), moist, very fine sand, PID=2.7 ~25% silt. ~5% clav 3 5-1 2" diameter PVC NA SILT with SAND (ML) 4 Brownish yellow (10 YR 6/6) (with black mottling), moist, weakly laminated silt, ~10% very fine sand and ~10% clay Cement/ 5 bentonite 2" PID=2.3 6 Mineral 5-2 spirits <10 SILTY CLAY (CL) 7 Yellowish brown (10 YR 5/4) (with black mottling), moist, clay and silt, ~5% very fine sand 8 PID=1.9 Bentonite 2" pellets, Mineral 9 1/4" diameter spirits 5-3 <10 10 2" ~50% silt 11 Lonestar PID=1.4 #3 sand Mineral spirits 12 <10 2" CLAYEY SILT (ML) NA Dark yellowish brown (10 YR 4/6), moist, weakly 5-5 2" dlameter PVC, 13 screened, flush laminated silt, ~20% clay, ~5% very fine sand threaded, 0.020" slot 14 W-1-89/Modified **Geomatrix Consultants** Project No. 1459.05 Figure #

and the state of the property of the state of

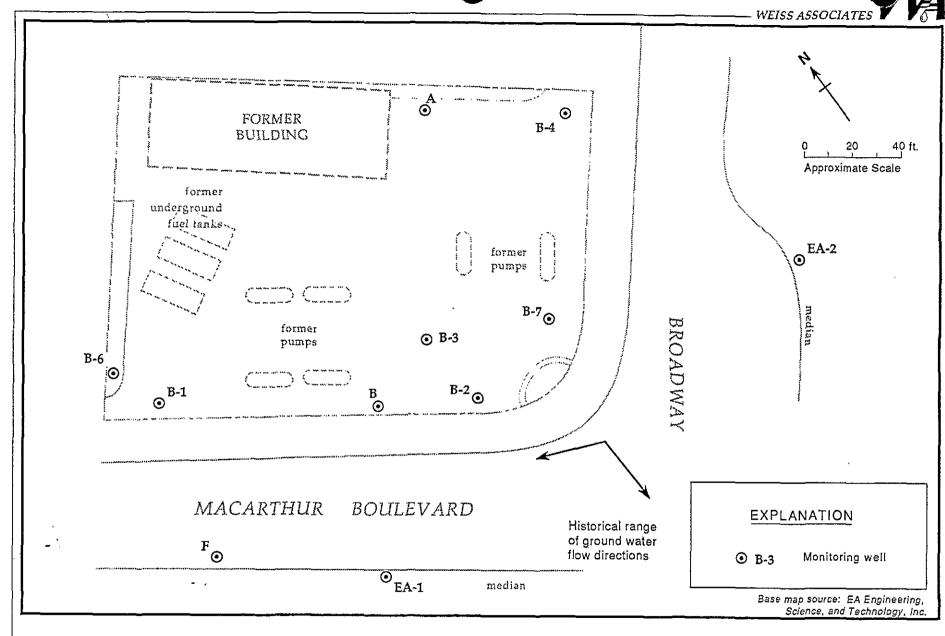
343408 B/4W 24N12 PROJECT: KAISER Log of Well No. MW-5 (cont'd.) Oakland, California **WELL** DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter. CONSTRUCTION **DETAILS** Lonestar #3 sand 15 2" diameter PVC, ~10% clay screened, flush threaded. 16 NA 0.020" slot 5-6 SILTY CLAY (CL) Slough Brownish yellow (10 YR 6/6), moist, clay and silt 17 Native material SAND with SILT (SM) 18 Brownish yellow (10 YR 6/6), moist, very fine to fine sand, ~10% silt Bottom of hole at 18 feet 19 20 21 22 23 24 25 26 27 28 29 30 31 W-2-89/Modified Project No. 1459.05 Figure # **Geomatrix Consultants**

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

343409 ISIUW24NI3

PROJECT: KAISE Oaklar	R nd, California	Log of W	ell No. MW-6
	: Linen room, nearest east door	ELEVATION AND DATUM: 72.19 feet City of Oakla	
DRILLING CONTRAC	OTOR: HEW/Schick	DATE STARTED: 1/27/91	DATE FINISHED: 1/27/91
DRILLING METHOD:	8" Hollow stem auger	TOTAL DEPTH: 10.5 feet	SCREEN INTERVAL: 4 - 9
DRILLING EQUIPME	NT: Portable Holester	DEPTH TO WATER ATD: NA	CASING: 2" diameter SCH 40 PVC
SAMPLING METHOD	p:2" Modified California (2"), standard pen (p)	LOGGED BY: D. Wuthrich	
HAMMER WEIGHT:	Manual; ~35 lbs. DROP: Manual; ~24 inches	RESPONSIBLE PROFESS J.D. Gallinatti	IONAL: REG. NO. CEG 1335
CEPTH (feet) Sample No. Sample Blows, Sample	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. wHCl, goo. inter.	ANALYTICAL RESULTS (ppm)	WELL CONSTRUCTION DETAILS
C 8 2 8 8 E	Surface Elevation: GRAVEL with SAND (FILL) (GP)	A A	
1 - 2 - 3 - 4 - 2" 6 - 6 - 1 7 - 2" 8 - 6 - 2 P 9 - 2" 6 - 3 10 - 11 - 12 - 12 - 12 - 12 - 12 - 12 -	4" concrete over dry, coarse, subangular to subrounded gravel, clasts to 1 1/2", ~10% medium to coarse sand SILTY CLAY (CH) Brownish yellow (10 YR 5/6), moist, clay and silt SILT with SAND (ML) Brownish yellow (10 YR 6/6) (with black mottling) moist silt, ~15% very fine, subangular sand, ~15% clay Clay and silt, no sand Silty CLAY (CL) Yellowish brown (10 YR 5/6) (with black mottling) moist, clay and silt, blocky Bottom of hole at 10.5 feet	- PID=1.5 - Mineral spirits - <10 - NA	Traffic rated Christy Box Cement/ bentonite Bentonite pellets, 1/4" diameter 2" diameter PVC, screened, flush threaded, 0.020" slot Lonestar #3 sand
13 -			
14	Geomatrix Consultants	Project No. 1459	W-1-89/Modified

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)



Monitoring Well Locations - Former Chevron Service Station #9-1026, 3701 Broadway, Oakland, California

(S/4W 24N1-2,14 — WEISS ASSOCIATES

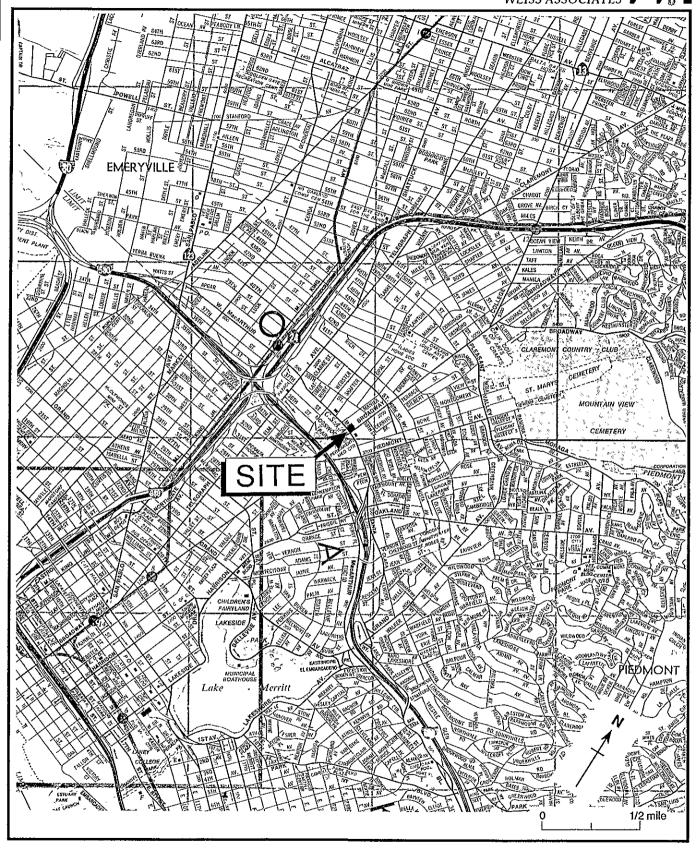
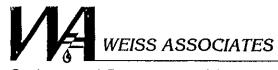


Figure 1. Site Location Map - Former Chevron Service Station #9-1026, 3701 Broadway, Oakland, California



Fax: 415-547-5043

Dhana, 415 547 5400

15/4W 24 N (1 = 2?)

Phone: 415-547-5420

Geologic and Environmental Services

5500 Shellmound Street, Emeryville, CA 94608

PERMIT 9/289

June 25, 1991

Ms. Nancy Vukelich Chevron USA P.O. Box 5004 San Ramon, CA 94583-0804

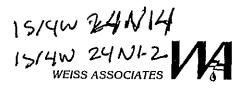
> Re: Former Chevron Service Station #9-1570 3701 Broadway Oakland, California WA Job #4-418-01

Dear Ms. Vukelich:

This letter documents Weiss Associates' (WA) destruction of monitoring wells B-6 and B-7, and the reconstruction of monitoring well B at the site referenced above. The well destruction and reconstruction activities were performed by Soils Exploration Services of Vacaville, California (license No. C-57 582696) under the direction of WA Staff Geologist Robert E. Kitay and the supervision of James W. Carmody, Certified Engineering Geologist No. 1576.

Monitoring wells B-6 and B-7, constructed of corrugated steel casing, were destroyed by pressure grouting Portland Type I, II cement mixed with 3 to 5% bentonite powder by volume into the wells. The upper portions of the corrugated steel casings could not be removed and were left in place. Therefore, we extended the grout to the ground surface and completely sealed the existing concrete vaults with neat cement.

Monitoring well B was reconstructed by installing a smaller diameter casing inside the existing 12-inch diameter well. The new well was screened with 4-inch diameter 0.02-inch slotted schedule 40 PVC casing from 15 to 35 ft depth. The upper 15 ft of well consists of 4-inch diameter blank PVC casing. The annular space between the existing and the new well was filled with #3 Lonestar Monterey sand from 13 to 35 ft depth, a hydrated bentonite layer from 11 to 13 ft depth, and a sanitary seal consisting of Portland Type I, II cement mixed with 3 to 5% bentonite powder by volume from 11 ft to the ground surface. The existing concrete vault was not changed since this well may be used for ground water extraction and the wellhead and vault may be modified in the future.



Ms. Nancy Vukelich June 25, 1991

2

We are pleased to provide hydrogeologic consulting services to Chevron and trust that this letter meets your needs. If you have any questions, please feel free to call.

Sincerely,

Weiss Associates,

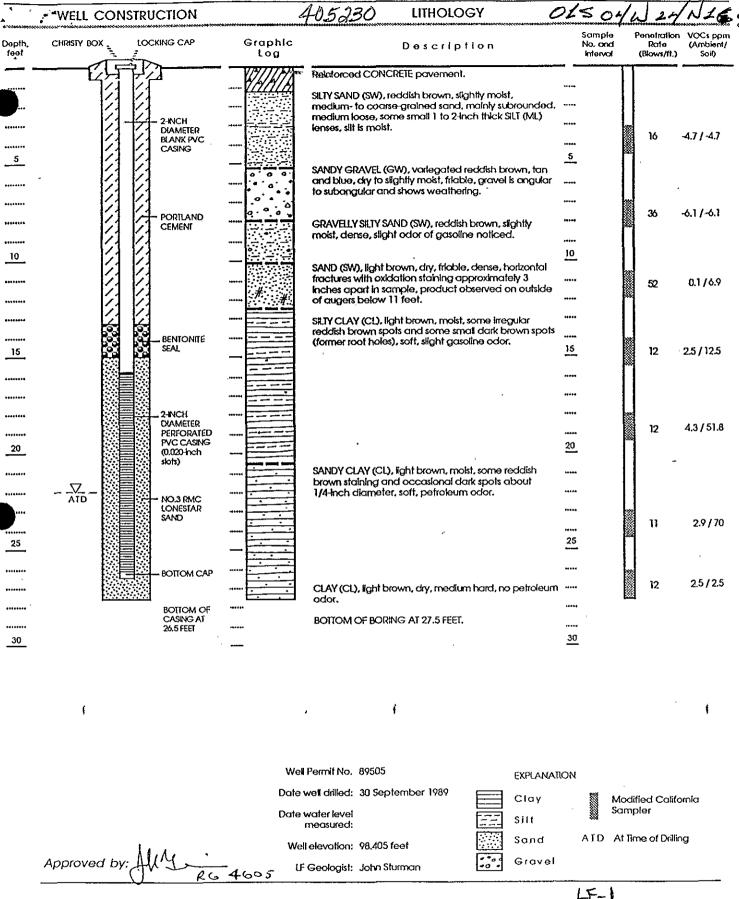
Robert E. Kitay Staff Geologist

James W. Carmody, C.E.G.
Senior Project Hydrogeologist

C:\WP51\REK\CHEVRON\LETTERS\418L1JN1,WP

cc: Mr. Wyman Hong, Alameda County Flood Control and Water Conservation District - Zone 7, 5997 Parkside Drive, Pleasanton, CA 94588

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)



Figure

: WELL CONSTRUCTION AND LITHOLOGY FOR WELL MW-1

Project No. 1547

LEVINE-FRICKE CONSULTING ENGINEERS AND IMPORTOCEOLOGISTS

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

EXPLANATION Clay

Silt

Sand

Gravel

Date well drilled: Well elevation: Hammer welght: LF Geologists:

December 16, 1990 18.46 feet 140 lbs/30-inch John Sturman & Ron Goloubow

1

Modified California Sampler

ATD Water level at time of drilling

Approved:

105

RG #4605

Figure

: WELL CONSTRUCTION AND LITHOLOGY FOR WELL LF-5

Project No. 1547

LEVINE • FRICKE
CONSULTING ENGINEERS AND HYDROGEOLOGISTS

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

EINDE MD/SI

Drilling Log

GROUNDWATER

Monitoring Well B−1

Project <u>CHV/3701 Broadway</u> Owner <u>Chevron U.S.A. P.</u> Location <u>Oakland, California</u> Project No. <u>02320 2782</u> Da	
Surface Elev. <u>72.67 ft.</u> Total Hole Depth <u>35.5 ft.</u> Diameter <u>8.5 inc.</u> Top of Casing <u>72.30 ft.</u> Water Level Initial <u>15 ft.</u> Static <u>14.30 ft.</u>	COMMENTS:
Screen: Dia 4 in. Length 25 ft. Type/Size 0.02 Casing: Dia 4 in. Length 10 ft. Type SCH 40 F Filter Pack Material Clementia #3 sand Rig/Core Type Mobile E Drilling Company Kvilhaug Well Drilling Method Hollow Stem Auger	below grade. No soil samples were were collected from 0 to 20 feet.
Oriller Rod Furlow Log By Jason Fedota Checked By David Kleesattel License No. RG# 5136	-1 Florates
tlon tlon and wery very very very very	Description

Checked	By <i>David</i>	Kleesatt	el	_ Licer	ise N	10. RG# 5136 Varl Klaratio
Depth (ft.)	Well Completion	OId (mdd)	Sample ID Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
-2- -0-2- -0-2- -10-12- -16- -18- -20-					CL	Pulled 20-feet of casing from B-1. No grout in hole. Dark gray to black CLAY Brown silty CLAY Very strong odors, measured 175 parts per million (ppm) with photo-ionization detector (PID) in work area, put on respirators. Gray green silty CLAY (grades brown)

403108

15/4W 24N 17

Drilling Log



Monitoring Well B-1

i	Oakland, o				Class.	02320 2782 Date drilled 10/28/92
Depth (ft.)	Well	PID (ppm)	Sample ID Blow Count/ % Recovery	Graphic Log		Description (Color, Texture, Structure)
۵	ပ္မ		S Biov	ō	nscs	Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50
24				///	CL	(thin gravel interbed at 24.5 to 25 feet)
26 –			15 25 25 30			
-0			30 [Light brown CLAY (saturated, firm, trace black organic clasts)
28 –						Work area readings with PID to 12 ppm, respirators removed. Light brown silty, sandy CLAY (saturated, firm)
30 -					C	, , , , , , , , , , , , , , , , , , , ,
30 -			30 50 54		CL	
32 –						
34 –						
J# T			_		SM	<u>.</u>
36 –			35		<u></u>	Brown silty fine sand (saturated)
7						End of baring, Constructed manitaring well.
38 -				!		
40 -						
	į					
42 –						•
44 –						
_ T						
46 -						
- 48 →						
-	į					
50 –						
52 –						
					} 	
54 –	:					

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

P. 27 403110 12/28/92 FIGURE: |⊙|EA-2 020202782 REV. NO.: 0 MEDIAN SITE PLAN PROJECT NO.: 3701 BROADWAY OAKLAND, CALIFORNIA YAWGAOAB SP1292 40 FORMER () GROUNDWATER 4057 PORT CHICAGO HWY CONCORD, CA 94520 TECIINOLOGY (510) 671-2387 LOCATION: ACAD FILE: OEA-1 FORMER UNDERGROUND STORAGE TANKS CLIENT:
CHEVRON U.S.A. PRODUCTS CO.
SERVICE STATION No. 9-1026 DETAILED CSY MacARTHUR BLVD. OI B! FORMER STATION BUILDING DESIGNED OF FORMER PUMPS ₹ MEDIAN 七七 B-10 <u>0-5-0</u> [C] 9−8 MONITORING WELL ABANDONED WELL 1 EGEND 0 2

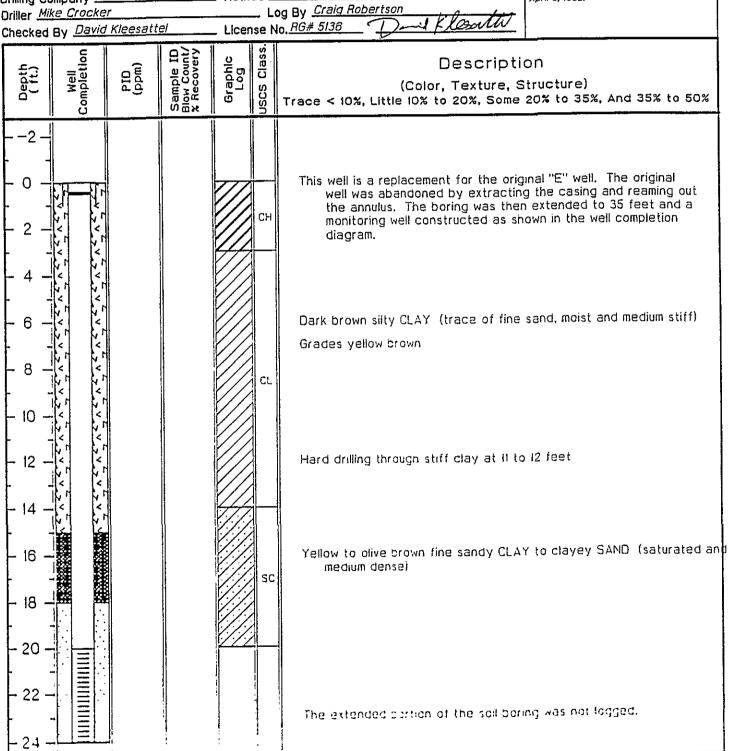
15/4W 24N 18

Drilling Log

Monitoring Well MW-E

n e las inno-maris

TECHNOLOGY	
Project <u>CHV/3701 Broadway</u> Owner <u>Chevron U.S.A. Products Co.</u> Location <u>Oakland. California</u> Project No. <u>02320 2782</u> Date drilled <u>10/14/92</u>	See Site Map For Boring Location
Surface Elev. 70.53 ft. Total Hole Depth 35 ft. Diameter 8.5 inches	COMMENTS:
Top of Casing 70.07 ft. Water Level Initial NA Static 12.2 ft. Screen: Dia 2 in. Length 15 ft. Type/Size 0.020 in. Casing: Dia 2 in. Length 20 ft. Type SCH 40 PVC Filter Pack Material Clementia #3 sand Rig/Core Type Mobile 8-51 Drilling Company Kvilhauq Well Drilling Method Hollow Stem Auger Permit # 92285 Driller Mike Crocker Log By Craig Robertson Checked By David Kleesattel License No. RG# 5136	Orginal well was 20-feet deep. Lithology is from orginal boring by Kleintelder & Associates, Groundwater Monitoring Well Installation Report, Candie's Chevron Station, Oakland, California April 6, 1982.
Descripti Color Texture S Color Texture S	



15/4W 24 N 18

Drilling Log

GROUNDWATER
TECHNOLOGY

Monitoring Well MW-E

Project £	CHV/370I Oakland,	Broadway California	<u>/</u>	Projec	0 t No.	wner <u>Chevron U.S.A. Products Co.</u> 02320 2782 Date drilled <u>10/14/92</u>
Depth (ft.)	Well Completion	PID (ppm)	Sample ID Blow Count/ % Recovery	Graphic Log	USCS Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%
- 24						End of boring. Constructed manitoring well.

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

18/ AM 24 N 19

Drilling Log

į	
1	GROUNDWATER
	TECHNOLOGY

Monitoring Well MW-F

Project <u>CHV/3701 Broadway</u> Owner <u>Chevron U.S.A. Products Co.</u> Location <u>Oakland. California</u> Project No. <u>02320 2782</u> Date drilled <u>10/14/92</u>	See Site Map For Boring Location
Surface Elev. <u>72.45 ft.</u> Total Hole Depth <u>30 ft.</u> Dlameter <u>8.5 inches</u> Top of Casing <u>71.72 ft.</u> Water Level Initial <u>NA</u> Static <u>14.85 ft.</u>	COMMENTS:
Screen: Dia 2 in. Length 15 ft. Type/Size 0.020 in. Casing: Dia 2 in. Length 15 ft. Type SCH 40 PVC Filter Pack Material Clementia #3 sand Rig/Core Type Mobile 8-51 Drilling Company Kvilhaug Well Drilling Method Hollow Stem Auger Permit # 92285 Driller Mike Crocker Log By Craig Robertson Checked By Dave Kleesattel License No. 86# 5136	Orginal well was 20 feet deep. Lithology is from orginal boring by Kleinfelder & Associates, Groundwater Monitoring Well Installation Report, Candie's Chevron Station, Oakland, California April 6, 1982.
Descripti	on

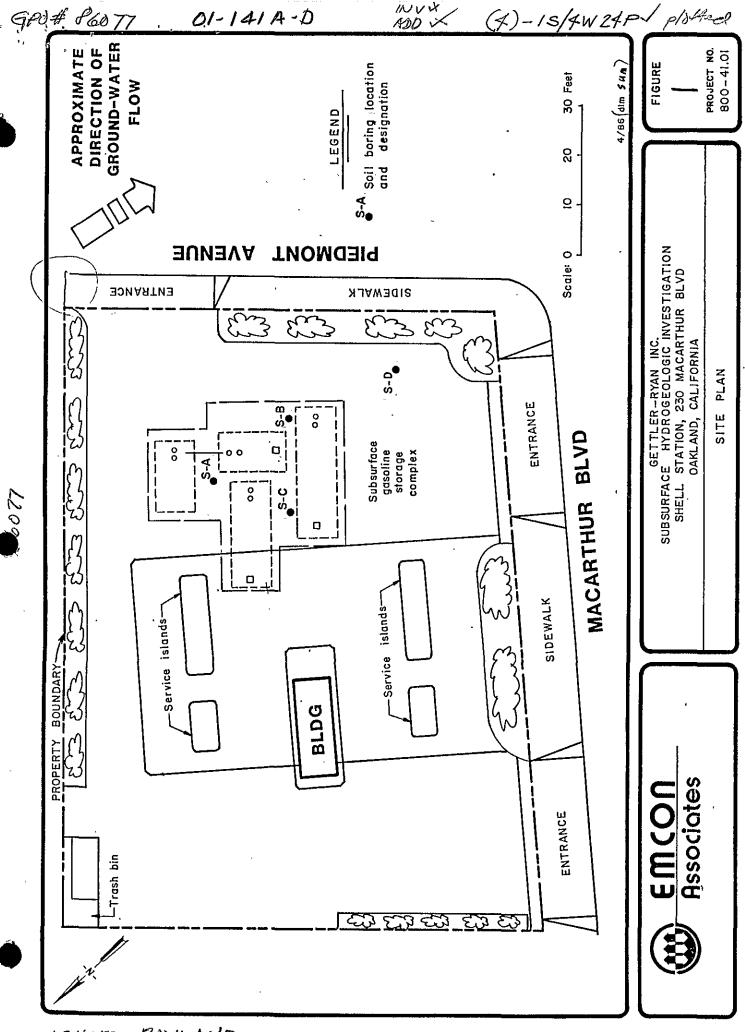
Driller <u>Mike Crocker</u> Checked By <u>Dave Kleesattel</u> Licens						e No. RG# 5136 Dail Klosattal		
Depth (ft.)	Well Completion	PID (ppm)	Sample ID Blow Count/ % Recovery	Graphic Log	uscs Class.	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%		
2- -0- -2- -4- -6-	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\				СL	This well is a replacement for the original well identified as MW-F on the site map. The original well was abandoned by extracting the casing and reaming out the annulus. The boring was then extended to 30 feet and a monitoring well constructed as shown in the well completion diagram. Dark brown silty CLAY (trace of fine sand, moist and stiff)		
- 10 - - 12 - - 14 - - 16 -					C	Light brown silty CLAY (fine sand, moist and stiff)		
- 18 - - 20 - - 22 - - 24 -					sc	Yellow brown sandy CLAY to clayey SAND (very moist to saturated) The extended portion of the soil boring was not logged.		

Drilling Log

GROUNDWATER TECHNOLOGY

Monitoring Well MW-F

Project <u>CHV/3701 Broadway</u> Owner <u>Chevron U.S.A. Products Co.</u> Location <u>Oakland, California</u> Project No. <u>02320 2782</u> Date drilled <u>10/14/92</u>								
Depth (ft.)	Well	OIA)	Sample ID Blow Count/ * Recovery	Graphic Log	က်	Description (Color, Texture, Structure) Trace < 10%, Little 10% to 20%, Some 20% to 35%, And 35% to 50%		
-24 - -26 - -28 - -30 - -32 - -34 - -36 - -40 - -44 - -46 - -48 - -50 - -51 - -5						End of soil boring, Constructed monitoring well,		



DRILLER, BAYLAND

LOG OF EXPLORATORY BORING

PROJECT NUMBER 800-41.01

BORING NO. S-A

Gettler-Ryan, Shell, 230 MacArthur Blvd, Oakland PAGE 1 OF 1 PROJECT NAME

BY	MF	DA	TE	4/14/8	36	SURFACE ELEV. 75±
TORVANE (TSF)	POCKET PENETRO- METER (TSF)	PENETRA- TION (Blows/ Ft.)	GROUND WATER LEVELS	DEPTH IN FT.	LITHO- GRAPHIC COLUMN	DESCRIPTION
	2.5	3 29 51		10 -	SW-	ASPHALT and GRAVEL - Fill. GRAVEL - Fill; dark olive gray (5Y, 3/2); pea gravel; trace fine sand; trace fines; loose; moist to wet; moderate product odor. SAND - Fill; dark olive gray (5Y, 3/2); fine grained; trace coarse sand; trace gravel; loose; moist; strong product odor. SILT; gray (5Y, 5/1); slightly clayey; very stiff; wet; strong product odor. SANDY SIŁT and GRAVELLY SAND to SANDY GRAVEL - Interbedded; moist to wet; moderate product odor; SILT: dark brown (10YR, 4/3); 10-20% medium to coarse sand; hard; GRAVELLY SAND to SANDY GRAVEL olive (5Y,4/4); fine to coarse grained; 30-60% fine to medium gravel; very dense. @13½': moderate product odor. CLAY to SILT: pale brown (10YR, 6/3); very clayey; hard; moist to wet; no product odor. BOTTOM OF BORING AT 20½ FEET.

REMARKS Drilled by 5-inch continuous-flight, solid-stem auger to 3 feet. 8-inch hollow-stem auger to total depth: samples collected with 2-inch California modified split-spoon sampler. Borehole backfilled with bentonit to 16 feet, soil cuttings to ½ foot, concrete to surface.

01-141B

LOG OF EXPLORATORY BORING

PROJECT NUMBER 800-41.01

BORING NO. S-B

PROJECT NAME Gettler-Ryan, Shell, 230 MacArthur Blvd., Oakland

PAGE 1 OF 1

DATE 4/14/86

SURFACE ELEV. 75±

BY	MF	DA	TE 4	/14/	86		SURFACE ELEV. 75±
TORVANE (TSF)	POCKET PENETRO- METER (TSF)	PENETRA- TION (Blows/ Ft.)	GROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHO- GRAPHIC COLUMN	DESCRIPTION
	1.5	6 9 74		0 - • • 5 15		SP ML / SP CL-ML	ASPHALT and GRAVEL-FILL. SAND-FILL; dark olive gray (5Y, 3/2) with greenish hue; fine to medium grained; loose; moist to wet; strong product odor. @8': 5-10% coarse grained sand; strong product odor. @10': visible product in auger returns. SILT; gray (5Y, 5/1); slightly clayey; stiff; moist; faint product odor. SILT and SAND-Interbedded; olive (5Y, 4/4); wet; strong product odor; SILT: as above; SAND: fine to medium grained; 5-15% gravel; very dense. @17': gravel layer. CLAY to SILT; pale brown (10YR, 6/3); very clayey; hard; wet; no product odor.
1	3 2	100 _		- 20			BOTTOM OF BORING AT 20 FEET.

REMARKS Drilled by 5-inch continuous-flight, solid-stem auger to 4 feet, 8-inch hollow-stem auger to total depth; samples collected with 2-inch California modified split-spoon sampler. Borehole backfilled with bent-onite to 18 feet, soil cuttings; to ½ foot, concrete to surface.



LOG OF EXPLORATORY BORING

PROJECT NUMBER 800-41.01 BORING NO. S-C
PROJECT NAME Gettler-Ryan, Shell, 230 MacArthur Blvd., Oakland PAGE 1 OF 1
BY MF DATE 4-14-86 SURFACE ELEV. 75±

BA	(*1)=	DA	ile 4	-14-00		SURFACE ELEV. /5±
TORVANE (TSF)	POCKET PENETRO- METER (TSF)		GROUND WATER LEVELS	DEPTH IN FT.	LITHO- GRAPHIC COLUMN	DESCRIPTION
	3.5	60 50		5	SP ML	ASPHALT and GRAVEL-FILL. SAND-FILL; yellowish brown (10YR, 5/6); fine grained; 5% medium grained; loose; moist; no product odor. SANDY SILT; dark brown (10YR, 4/3); 10-20% medium to coarse sand; very stiff; moist; slight product odor. @7': 5-15% sand; very stiff; faint product odor.
	2.1	62 54		15	ML/ SW-GW	SANDY SILT and GRAVELLY SAND to SANDY GRAVEL-Interbedded; olive (5Y, 4/4); moist; moderate product odor. SANDY SILT: as above; GRAVELLY SAND to SANDY GRAVEL: fine to coarse grained; 30 to 60% fine to medium gravel; very dense. @13½:wet; moderate product odor. @16': augers covered with product film. CLAY to SILT; grayish brown (10YR, 5/2); very silty; hard; very stiff; no product odor. BOTTOM OF BORING AT 20 FEET.

REMARKS Drilled by 5-inch continuous-flight, solid-stem auger to 4 feet, 8-inch hollow-stem auger to total depth; samples collected with 2-inch California modified split-spoon sampler. Borehole backfilled with bentonite to 12 feet, soil cuttings to ½ foot, concrete to surface.



01-4455

Page 1 of 2



PROJECT NAME: Shell Oil Company

230 MacArthur Blvd.

Oakland, CA

BORING NO.

MW-4

DATE DRILLED: 1/9/90

PROJECT NUMBER: 1847-2G

LOGGED BY:

J.M.

		_	1 =		,	_
DEPTH (ft.)	SAMPLE No	BLOWS/FOOT	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	¥ ATER LEVEL	OVA READING PPM
- 1			CL	SANDY CLAY, light olive brown (2.5Y 5/6), 30-40% rounded to subangular fine to medium grained sand, ~ 10% coarse gravel to 2", iron stain, black mottling, hard, very low plasticity, dry to damp		
- 6 - 7 -	MW-4-1	64				0
- 9 r		:	sw	SAND, light olive brown (2.5Y 5/6), fine to medium grained sand, 30% clay, rounded to subangular, poorly sorted, medium dense		
-11- -11- -12-	MW-4-2	40	CL	SANDY CLAY, light olive brown (2.5Y 5/6), 35-45% sand, rounded to subangular, fine to medium grained, iron stain, very stiff, low plasticity, damp		0
-13- -14-				Silty lenses	$\overline{\nabla}$	
-15 - -16-	MW-4-3	27	SP	SAND, olive gray (5Y 4/2), fine to medium grained sand, well sorted, rounded to subrounded, some iron stain, clay 10-20%, silt 10-20%, loose, moist	÷	0
-17- -18- -19-			CL	SILTY CLAY, brown (10YR 5/3), silt ~ 40%, black and gray mottling, iron stain, root holes and organic matter, very stiff, low plasticity, moist to damp		
-20 -21-	MW-4-4	33				0

01-445J Page 2 of 2

BORING NO. MW-4



PROJECT NAME: Shell Oil Company 230 MacArthur Blvd.

Oakland, CA

DATE DRILLED:1/9/90

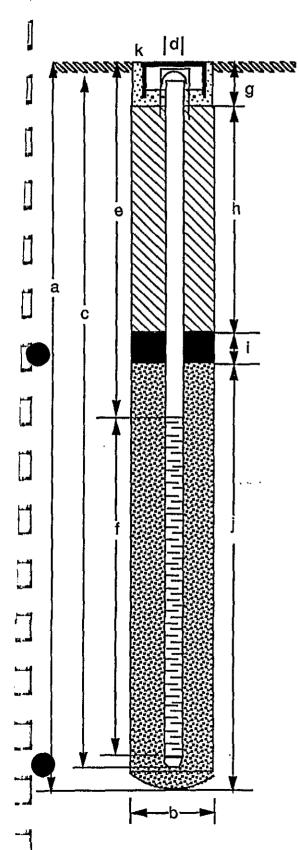
PROJECT NUMBER: 1847-2G

LOGGED BY: J.M.

DEPTH (ff.)	SAMPLE No	BLOWS/FOOT	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OVM READING ppm
-22- -23- -23- -24- -25	MW-4-5	33	CL	same as above		0
-26- -27- -28- -29-				Bottom of Boring = 25.5 feet		
-30- -31- -32- -33- -33-						
35- -35- -36- -37- -38-						
-39- -40- -41- -42-						

Monitoring Well Detail

PROJECT NUMBER 1847-2G	BORING / WELL NO. MW-4
PROJECT NAME Shell -Oakland	TOP OF CASING ELEV. 73.83
COUNTYAlameda	GROUND SURFACE ELEV. 74.46
WELL PERMIT NO. 90116	DATUM



EXPLORATORY BORING

a.	Total depth	<u>25,5</u> ft.
b.	Diameter	<u>12</u> in.
	Drilling method Hollow stem auger	
	WELL CONSTRUCTIO	N
c.	Casing length	25_ft.
	Material schedule 40 PVC	
d.	Diameter	4_in
e.	Depth to top perforations	<u>15_</u> ft
f.	Perforated length	10_ft
	Perforated interval from 15 to	<u>25</u> ft.
	Perforation type slotted screen	
	Perforation size 0.020	in.
g.	Surface seal _	<u>1_</u> ft.
	Seal material concrete	
h.	Backfill	<u>12</u> ft.
	Backfill material neat cement grout	
i.	Seal _	1_ft.
	Seal material <u>bentonite</u>	
j.	Gravel pack	1 <u>1</u> ft.
	Pack material clean sand	
k.		



OAKLAND, CALIFORNIA

services, inc.

DRAWING 4: FIG: 1 A-1847G-1

DATE: 9-16-88

01-445K 15/4W 24P



PROJECT NAME: Shell Oil Company

230 MacArthur, Oakland

BORING NO. SB1

DATE DRILLED: 8/16/89

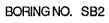
PROJECT NUMBER: 1847-2G

8" dism

LOGGED BY: K.P.

DEPTH (ft.)	SAMPLE No	BLOWS/FOOT	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	W ATER LEVEL	OVA READING PPM
				6 inches concrete		
-1-				1 foot baserock		
			GC	CLAYEY GRAVEL		
		1				
- 3 -						
- 4 -						
- "	SB1-1	64	CL	SILTY CLAY, mottled reddish yellow (7.5YR 7/6) and light gray (7.5YR 7/0), iron oxide discoloration, minor organics, dry to damp,		7
- 6 -				very dense		
- 7 -						
- 8 -						
L 9 [·		
-10	SB1-2	57	CL	CH TV OLAV makket (7 CVD 0/0) til 1 1 (7 CVD 7/4)		79
-11-	0.51 2	0,		SILTY CLAY, mottled gray (7.5YR 6/0) with pink (7.5YR 7/4), very dense		79
-12-		į				
-13-			:			
14						
- H						i
I 1	SB1-3	41	SM	SILTY SAND, gray (5Y 5/1), fine to medium grained, minor gravel,		80
-16-				minor clay, dense, moist	٠	
-17-				Bottom of boring = 15.5 feet		
- -18-	1					
- ' -						
-19-	i					
-20-						j
 -21-	ĺ	ĺ	1			
- -						1

01-445L 15/4W 24P





PROJECT NAME: Shell Oil Company

230 MacArthur, Oakland

DATE DRILLED: 8/16/89

PROJECT NUMBER: 1847-2G

8" dizm

LOGGED BY: K.P.

	· · · · · · · · · · · · · · · · · · ·				السناسي	
DEPTH (ft.)	SAMPLE No	BLOWS/FOOT	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OVA READING PPM
				4 inches Concrete		
				1 foot baserock	İ	
- 2 -			GC	CLAYEY GRAVEL, dark gray (7.5YR 4/0), angular to subangular, up to 2 inches in length		
- 4 -						
- 5 - - 6	SB2-1	57	G C- CL	CLAYEY GRAVEL to CLAY, mottled dark gray (7.5YR 4/0) with iron oxide stains, very dense, minor organics in clay		2.3
- 7 - - 8 -						
- 9 -						
-10 - -11	SB2-2	40	CL	CLAY, mottled gray (2.5Y 6/0) and pale yellow (2.5Y 7/4), minor organics, dense		9.2
-12- -13-						
-14- -15-						
-16	SB2-3	79	GM	GRAVEL, poorly graded, angular to subangular, up to 1.5 inches in		278
-17-	:			length, very dense	1	
- -				Bottom of boring = 16.0 feet		
-18- 						
-19-						
-20-				,		
- -						
21-						
			<u></u>		1	

01-445M 15/4W 24P:

BORING NO. SB3



PROJECT NAME: Shell Oil Company

230 MacArthur, Oakland

DATE DRILLED: 8/16/89

PROJECT NUMBER: 1847-2G

8" diam

LOGGED BY: K.P.

				O Olland.		
рертн (ң.)	SAMPLE No	BLOWS/FOOT	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OVA READING ppm
				4 inches Asphalt		
1 -		!		1 foot baserock		
- 2 - - 2 - - 3 - - 4 F						
- 5 - 5	SB3-1	60	CL	SILTY CLAY, yellowish brown (10YR 5/4), minor grained, minor organics, very dense, dry to damp		6.8
- 7 - - 8 - - 9 -			/	Gravel lens at 6-7 feet		
-10 -11-	SB3-2	62	CL.	CLAY with minor sand, mottled pale yellow (2.5YR 7/4) and gray (2.5Y 6/0), dry to damp, very dense		0.9
-12- -13- -14-						
-15 -16-	SB3-3	44	s M	SILTY SAND, mottled pale yellow (2.5Y 7/4) and gray (2.5Y 6/0), fine to medium grained, minor fine gravel, moist, dense		8.0
-17- -18-				Bottom of boring = 15.5 feet		
-20 -21 -						



A-1847G-1

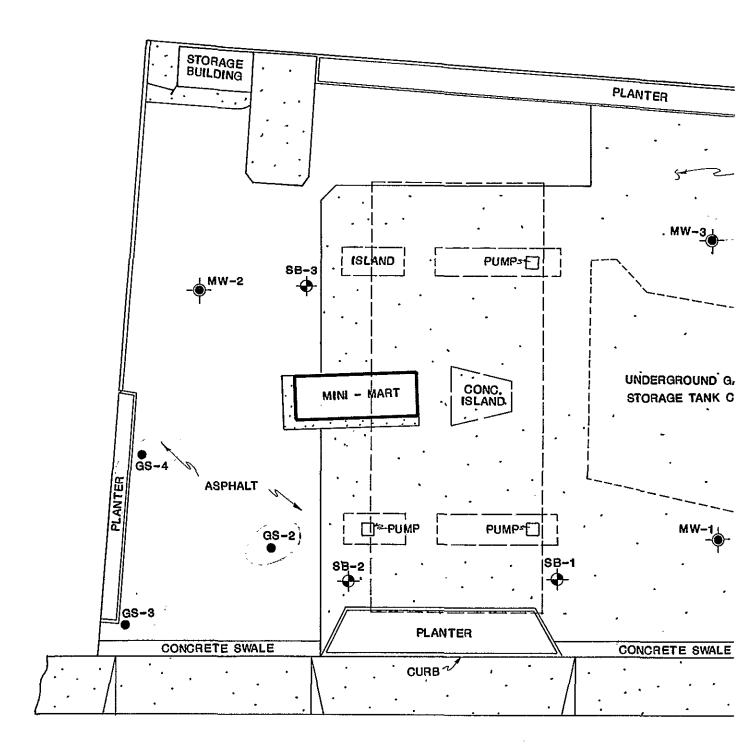
3	WELL CON	ISTRUCTION		LITHOLOGY	National Specification (Section 2)	00000000000000000000000000000000000000	**********
Depth, feet	CHRISTY BOX	LOCKING CAP	Graphic Log	Description		Penetration Rate (8lows/ft.)	PID
		10-INCH		SANDY SILTY CLAY (CL), yellow-brown, stiff, damp, moderate plasticity, trace amount of gravels (<10%).			
5		DIAMETER BOREHOLE		CLAYEY SLTY SAND (SM), yellow motified orange and dead with black organic streaks, moderately dense, adamp, fractures infilled with black organics (horizontal and vertical), medium-grained sand, trace amount of gravel.	 5		33
10		2-INCH DIAMETER BLANK PVC CASING			•••		22
***************************************		CEMENT		Grades Into CLAYEY SAND (SC), tan-yellow-brown, loose, damp, fine-grained sand, minor amount of black organics. "			33
15		1/4-INCH BENTONITE PELLETS		••	5		15
20		2-INCH DIAMETER PERFORATED PVC CASING (20-SLOI)		SICTY CLAY (CL), tan with black organics, no pattern or orientation of organics, medium stiff, damp, low plasticity.			9
25	V _	NO. 3 MONTEREY		Owner: Kaiser Permanen (mr. Chuck Harris) 3505 Broadway Oakland	25		22
30		SAND PACK		SANDY CLAY (CL), tan, medium stiff, wet, low plasticity, poory sorted.	30		38
35		24NCH THREADED BOTTOM CAF		8-Inch hollow stem augers. BOTTOM OF BORING AT 35 FEET. BOTTOM OF SAMPLE BORING AT 35.8 FEET.	35		14
		BOTTOM OF CASING AT 35 FEET	Well Permit No.	90117 Clay	encou 1	id-water lev intered whil poon Samp	e drillin
Appro	oved by:		Date well drilled: Hammer weight: 5 LF Geologist:	140 lbs. Sand Don Bradshaw 6000 Gravet	Samp	poon samp le retained : lcal analysis	for

Figure

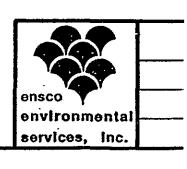
: WELL CONSTRUCTION AND LITHOLOGY FOR WELL MW-4

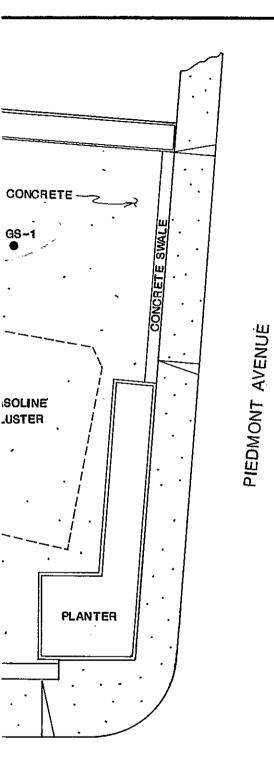
Project No. 1547

16/4H24N6



MAC ARTHUR BOULEVARD





LEGEND

- MW-1 GROUNDWATER MONITORING WELL

SB-1 EXPLORATORY SOIL BORING

● GS-1 GROUNDWATER SAMPLE POINT



SITE PLAN	`	reviewed by:	APPROVED 8Y:
SHELL SERVICE STATION			
230 Mac ARTHUR BOULEVARD		JOB #: 18 47 G	DRAWN BY: J.C.
OAKLAND, CALIFORNIA		DATE 10-18-89	PRAWING #:

01-4544

BORING No.:



PHOJECT NAME: SHELL Service Station

230 MacArthur Blvd. Oakland, California

DATE DRILLED: 7-12-88

PROJECT No.: 1847 G

EXPLORATORY BORING LOG

LOGGED BY: SC

	ينوي والنظ			LAF CONTONT DONNA LOG			***************************************
DEPTH (A.)	SAMPLE No	BLOWS/FOOT	UNIFIED SOIL	SOIL DESCRIPTION	WATER LEVEL	OVA READING ppm	
-				8" concrete			
1 - 2 - 3 - - 4 -				FILL, pea gravel			
- 5 - - 6 - - 7 - - 8 -						0	
9 - -10 X	3-1	12	SC	CLAYEY SAND, olive grey mottled with orangish brown, 50 to 60% fine sand, trace medium to coarse sand, slight petroleum odor, medium dense, damp		120	
13 -			sw	SAND, orangish brown, fine to coarse grained with fine angular chert gravels, medium dense, damp			
-15 -16	3-2	13		SAND, greenish gray, well graded, fine to coarse grained 10 to 15% fine gravels (angular to subangular white, yellow, and red cherts, graywacke), very faint petroleum odor, medium dense, saturated	立	2	
-17 - -18 - -19 -			a.	SILTY CLAY, tannish brown, trace organic staining, 10% fine sand, rare root holes, low plasticity, stiff, moist		•	
-20 -			SC				

Page 1 of 2

P.7 15/4W

ensco environmental services, inc. PHONEUT NAME: SHELL Service Station

230 MacArthur Blvd.

Oakland, CA

BUHING NO .: IVIVV-J 24P

DATE DRILLED: 7-12-88

PROJECT No.: 1847 G

	Y	36141	ces, i	EXPLORATORY BORING LOG LO	GGE	DBY:	SC
рертн (п.)	SAMPLE No	BLOWS/F00T 140 ft/lbs.	UNIFIED SOIL	SOIL DESCRIPTION	WATER LEVEL	OVA READING ppm	
-20 -21 -22 -	3-3	31	8 8	CLAYEY SAND, brown, 70% fine sand, medium dense, moist to wet SILTY CLAY, tannish brown, 10% fine sand, trace organic staining, no rootholes, low plasticity, very stiff, wet		0	
-24 - -25 - -26 X	3-4	72	а 8	CLAYEY SAND, olive with minor orange staining, 60% fine sand, 10% medium to coarse sand, shell fragment, very dense, moist to wet SANDY CLAY to SILTY CLAY, olive, 25% fine sand (locally sand <10%), low plasticity, hard, moist		0	
-28 - -29 X	3-5	44	SP	CLAYEY SAND, olive with minor orange oxide staining, 60 to 70% fine sand, locally clay to 50%, (becomes very sandy at 30', olive to bluish gray), dense, moist			
-31 - -32 - -33 -				BOTTOM OF BORING 30'		0	
-34 - -35 - -36 - -37 -				•			
-38 - -39 -							

REVIEWED BY R.G./C.E.G.

Page 2 of 2

ensco

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services, inc.

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PHOJECT NAME: SHELL Service Station 230 MacArthur Blvd.

Oakland, California

01-454M P.2 14W BORING No.: MW-1 241

DATE DRILLED: 7-11-88
PROJECT No.: 1847 G

LOGGED BY: SC

EXPLORATORY BORING LOG

						بالتاريخ النك	
DEPTH (ft.)	SAMPLE NO	BLOYS/FOOT 140 ft/10s.	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OVA READING ppm	
-				8° concrete over 6° pea gravel			
1 7 2 7 3 7			SP	CLAYEY SAND, greenish gray, predominantly fine sand 20% fine gravel, damp			
- 4 - 4 - 5				SAND, greenish gray, predominantly fine to medium sand, 5-10% coarse sand, 10-15% fine gravel, <5% fines, very dense, damp			
- 6 - 7 - 8 - 9	1-1	72	SP /	SAND, olive brown, fine to medium grained trace silt, very dense, damp		o	
-10 -11	1 • 2	30	sc	CLAYEY SAND, orangish brown, fine to medium grained organic staining, 4* lens of fine to medium sand (poorly sorted, greenish gray), dense, damp		1	
-13 ~ -14 -15 [1-3	37	SW	SAND, bluish gray, fine to coarse grained <5% fines, color to brown at 15.5 feet, wet, dense	立	2	
-17 - -18 - -19 - -20 -			SC SP	SANDY CLAY, yellowish brown, 30% fine sand, very moist CLAYEY SAND, tannish brown, predominantly fine sand, trace medium sand, 15-20% fines, rare rootholes, moist, dense SAND, brown, predominantly fine sand, becomes silty at 20.5', dense, very moist to wet			

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services, inc.

01-454M P.3

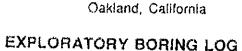
BORING No.:

DATE DRILLED: 7-11-88

PROJECT No.: 1847 G

LOGGED BY: SC

230 MacArthur Blvd.



PHCGECT NAME: SHELL Service Station

german.	-	-	HACL,		EXPLOHATORY BORING LOG		FD BA:	SC
DEPTH (A.)	SAMPLE No	BLOWS/FOOT	140 ft/lbs.	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OVA READING	
-20 -21 22 -	1-4	30		SP CL	SAND cont. SILTY CLAY, brown, 5-10% fine sand locally to 20% disseminated, hard, very moist		0	
-24 - -25 - -26 X -27 - -28 -	1-5	48	3	SP-SC SC	SAND, light olive, fine to medium grained <10% clay fines, rare oxidation stains, dense, very moist to wet CLAYEY SAND, light olive, predominantly fine to medium sand, 40% clay, rare organics, dense, very moist to wet		1	
-32 -32 -33	1-6	36	9	SP-SC	SAND, light olive, predominantly fine to medium grained, 15% coarse sand, <10% clay fines, dense, saturated 80TTOM OF BORING 31.5'			
-35 - -36 - -37 - -38 - -39 - 40 -								

01-454N F.4 15/4W



PHOJECT NAME. SHELL Service Station

230 MacArthur Blvd. Oakland, California BORING No.: MW-2 24P

DATE DRILLED: 7-11-88

PROJECT No.: 1847 G

LOGGED BY: SC

EXPLORATORY BORING LOG

ОЕРТН (П.)	SAMPLE NO	BLOYS/F00T 140 ft/1bs.	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OVA READING PPM	
		ω .	ರ	4" Asphalt pavement over 9" baserock			
- 1 -			SC	CLAYEY SAND, orangish brown, fine to medium sand, 20% fines, damp			
4 - 5 -				as above; color to dark olive gray, locally 40% fine to coarse gravel composed of angular chert fragments, rare coarse sand, dense, damp			,
- 6 X	2-1	44	sc			2	
9 - - 9 - - 10 -			sc	-as above, color to yellowish brown with minor olive gray staining, ~40% fines, trace organic black staining, rare rootholes, dense, damp			
-12 - -13 -	2-2	34	CL	SANDY TO SILTY CLAY, olive beige with slight orange staining, 10 to 20% fine sand, orange staining low plasticity, hard, damp		1	
-14 -					豆		
-15 -16 -17 -	2-3	34	SP- SM	SAND, brown, predominantly line sand, 5 to 10% silt, trace organic staining, dense, wet, fine to medium sand		0.5	
-18 - -19 -				•			
-20 -							

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services, inc.

MIGGEOT NAME. SHELL Service Station

230 MacArthur Blvd. Oakland, California

BOHING NO.

DATE DRILLED: 7-11-88

PROJECT No.: 1847 G

EXPLORATORY BORING LOG

LOGGED BY:

01-454N

SC

_	-		-				SC
DEPTH (A.)	SAMPLE No	BLOWS/F00T	UNIFIED SOIL	SOIL DESCRIPTION	WATER LEVEL	OV A RE AD ING	
-20 -21 -22	2-4	28	CL.	SILTY CLAY, tannish brown, trace of organic staining, 10% very fine sand, low plasticity, very stiff, wet, color changes to tan in shoe		0	
24 - 25 26 27 - 28 -	2-5	64		SILTY CLAY, light olive gray and orangish brown, organic staining common, low to moderate plasticity, hard, moist, (4" lens of sandy silt with clay, damp to moist)		0	
-29 X -30	2-6	26	4400 mm ja 24 mars.	as above: becomes sandy and orangish brown, 30% line sand, abundant silt, very stiff		o	
-31 -32 -33 -35 -36 -37 -38 -39				BOTTOM OF BORING 30,0'			-

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01-454\$

15.5/4W 24 P MW-3

ensco environmental services, inc. PHUNCUI NAME: SHELL Service Station

230 MacArthur Blvd. Oakland, California

BORING No.:

DATE DRILLED: 7-12-88

PROJECT No.: LOCGED BY

1847 G 90

	Y			EXPLORATORY BORING LOG LO	GGE	DBY:	SC
DEPTH (ft.)	SAMPLE No	BLOWS/FOOT	UNIFIED SOIL CLASSIFICATION	SOIL DESCRIPTION	WATER LEVEL	OVA READING ppm	
	-			8" concrete			
3 - 4 - 5 - 6 - 7				FiLL, pea gravel		0	
[
8 -							
- 9 -							
10 11X	3-1	12	sc	CLAYEY SAND, olive grey mottled with orangish brown, 50 to 50% fine sand, trace medium to coarse sand, slight petroleum odor, medium dense, damp		120	
-12 - -13 -			SW	SAND, orangish brown, fine to coarse grained with fine angular chert gravels, medium dense, damp			
-15 -16	3-2	13		SAND, greenish gray, well graded, fine to coarse grained 10 to 15% fine gravels (angular to subangular white, yellow, and red cherts, graywacke), very faint petroleum odor, medium dense, saturated	쪼	2	
-17 - -18 - -19 -		-	CL.	SILTY CLAY, tannish brown, trace organic staining, 10% fine sand, rare root holes, low plasticity, stiff, moist			are.
			sc				
-20							
<u>. </u>			i				

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FRINLY HAME. STIELL SERVICE STATION

230 MacArthur Blvd.

Oakland, CA

01-4540 1 P.T /4/W 24P

DATE DRILLED: 7-12-88

PROJECT No.: 1847 G

LOGGED BY: SC

EXPLORATORY BORING LOG

WHEAT WATER				EXPLORATOR FORMING LOG			
рертн (α.)	SAMPLE No	BLOYS/F00T 140 ft/lbs.	UNIFIED SOIL	SOIL DESCRIPTION	WATER LEVEL	OV A READ ING PPM	
-20 -21 -22 -	3-3	31	&C CL	CLAYEY SAND, brown, 70% tine sand, medium dense, moist to wet SILTY CLAY, tannish brown, 10% line sand, trace organic staining, no rootholes, low plasticity, very stiff, wet		0	
-23 - -24 -			sc	CLAYEY SAND, olive with minor orange staining, 60% fine sand, 10% medium to coarse sand, shell fragment,			
25 26 X	3-4	72	CL	SANDY CLAY to SILTY CLAY, olive, 25% ine sand (locally sand <10%), low plasticity, hard, moist		O.	
-28 -29 X	3-5	44	SP	CLAYEY SAND, olive with minor orange oxide staining, 60 to 70% fine sand, locally clay to 50%, (becomes very sandy at 30', olive to bluish gray), dense, moist			
-31 - -32 -				BOTTOM OF BORING 30'		0	
33 -					J	,	
36							ı
38							
40 -							

gettler - ryan inc. general contractors #P7064

pluffydd 20

15/7WZ4F1-3

Shell Service Station 230 MacArthur Boulevard Oakland, California

The work performed at this site under permit #87064 involved the installation of three vadose wells in approximately the same locations as borings S-A, S-B, and S-C shown on the attached site sketch. The vadose wells were constructed of four inch PVC well casing to a depth of fifteen feet. As the vadose wells were installed in approximately the same locations as the previously drilled borings, S-A, S-B, and S-C, in primarily the same tank hole backfill, these boring logs should be consistent with conditions encountered while drilling the three vadose wells. The vadose wells had a surface seal consisting of one foot of bentonite and three feet of cement.

NOTE: TAME AS SCO77. WELL DOS. ARE IS/AW24

VAPOR

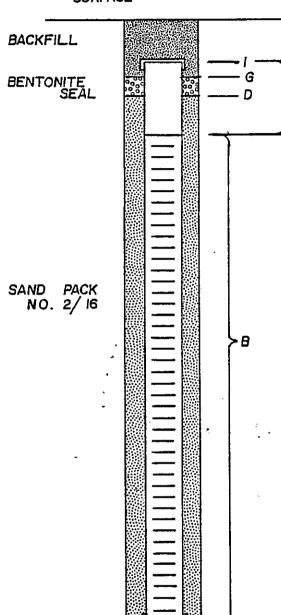
AP7064

RECOVERY

WELL

15/7W27P1-3

GROUND SURFACE



Total depth drilled	13 IL.
	10 ft.
	2 ft.
	2 ft.
	11 ft.
	24 -
-	1.5 ft.
	.5 ft.
•	l ft.
Denth of hackfill (G-Ø)	1.5 ft.
	Depth to top of bentonite seal Thickness of bentonite seal (D-G) Depth to top of casing

Type of casing

4" Schedule 40 PVC, .020 slotting

Shell Station
McArthur/Piedmont, Oakland

PROJECT

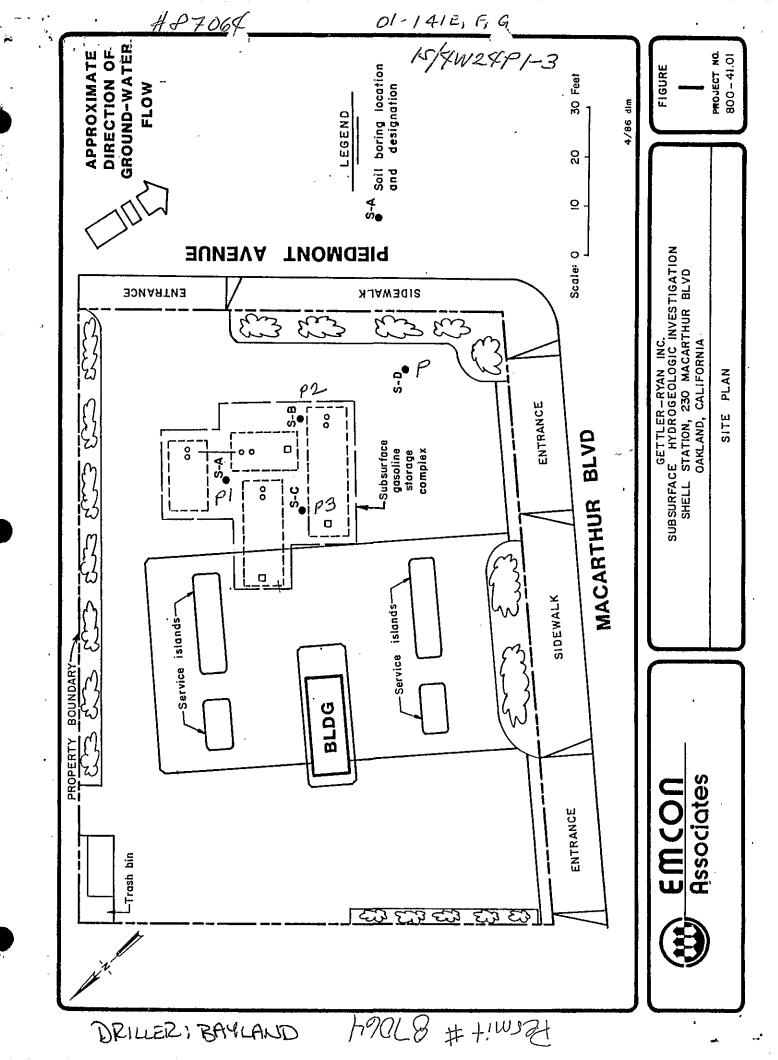
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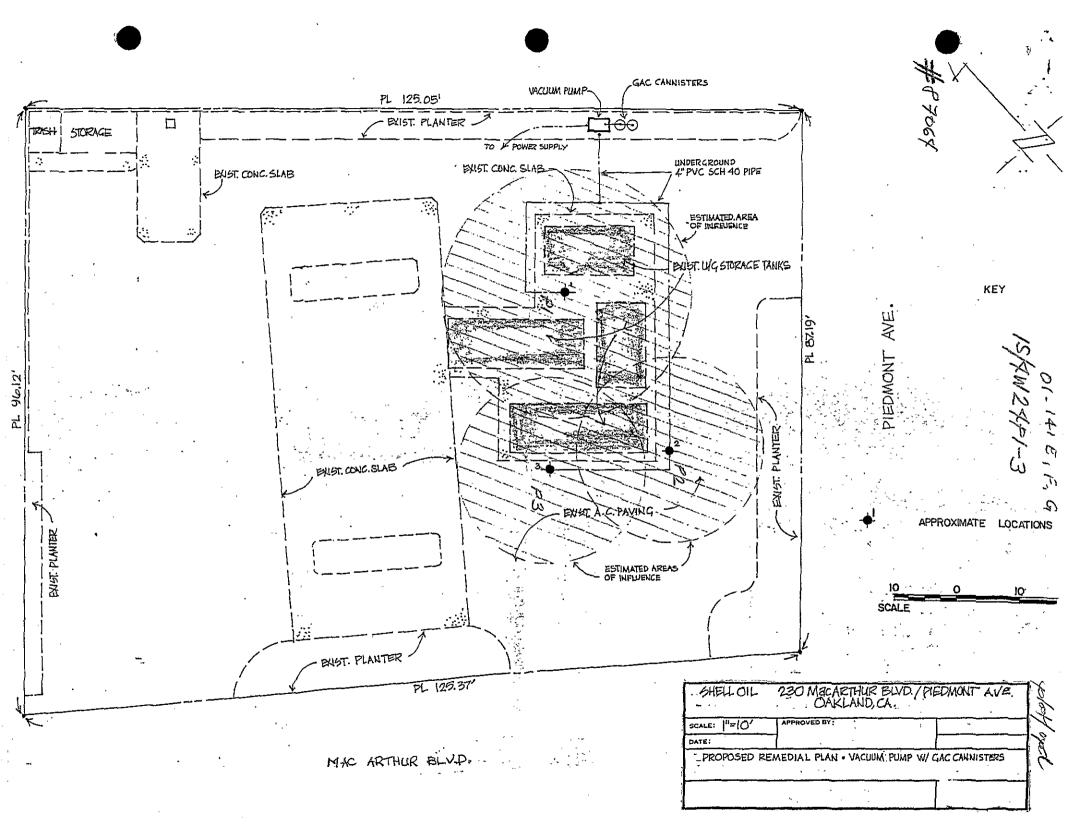
FIGURE

NO.

86.255

5





LOG UF EXPLORATORY BORING

PROJECT NUMBER 800-41.01

BORING NO. S-A

PROJECT NAME Gettler-Ryan, Shell, 230 MacArthur Blvd, Oakland PAGE 1 OF 1

BY MF DATE 4/14/86

SURFACE ELEV. 75±

ВТ	ML	UA	116	4/ 1.	1/ 01	J	SUNFACE ELEV. 702
TORVANE (TSF)	POCKET PENETRO- METER (TSF)	PENETRA- TION (Blows/ Ft.)	CROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHO- GRAPHIC COLUMN	DESCRIPTION
	2.5	3 29 51		5	3	GP SP ML ML/- GW CLL	ASPHALT and GRAVEL - Fill. GRAVEL - Fill; dark olive gray (5Y, 3/2); pea gravel; trace fine sand; trace fines: loose; moist to wet; moderate product odor. SAND - Fill; dark olive gray (5Y, 3/2); fine grained; trace coarse sand; trace gravel; loose; moist; strong product odor. SILT; gray (5Y, 5/1); slightly clayey; very stiff; moist; strong product odor. SANDY SILT and GRAVELLY SAND to SANDY GRAVEL - Interbedded; wet; moderate product odor; SILT; dark brown (10YR, 4/3); 10-20% medium to coarse sand; hard; GRAVELLY SAND to SANDY GRAVEL olive (5Y, 4/4); fine to coarse grained sand; 30-60% fine to medium gravel; very dense. @13½': moderate product odor. CLAY to SILT: pale brown (10YR, 6/3); very clayey; hard; moist; no product odor.
	2.7	48		-20	اللي ر		BOTTOM OF BORING AT 2013 FEET.

REMARKS Drilled by 5-inch continuous-flight, solid-stem auger to 3 feet, 8-inch hollow-stem auger to total depth; samples collected with 2-inch California modified split-spoon sampler. Borehole backfilled with bentonit to 16 feet, soil cuttings to ½ foot, concrete to surface.

	······································	•			OG OF BO		15/4h	12×P1				
Drill R	lig: Bu	cket R	Lg	Bori	ng Diameter: 24 inch	Boring Elevation:		Boring Number				
Date	Drilled:	3/12/8′	7	This lo	This log is a representation of subsurface conditions at the time and place of drilling, With the passage of time or at any other location there may be consequential changes in conditions, B-1							
Sam	ple	Depth	Soil/	Soil/								
Tube	Bulk	Feet	Rock Symbol	Rock	De:	scription and Remark	:5					
-		- 			AC AB							
		5 -		SM	trace of clay; 10 to 11 feet;		layer of eet; color	silty clay from				
						111		ALLUVIUM				
Note	2.	No gr	oundwat	er en	at 13 feet. countered. to 13 feet.							
	Shell Station McArthur/Piedmont, Oakland											
1						Project No.: 86.2!	55	Figure No.: 2				

15/4W2442

LOG OF EXPLORATORY BORING

PROJECT NUMBER 800-41.01

BORING NO. S-B

PROJECT NAME Gettler-Ryan, Shell, 230 MacArthur Blvd., Oakland

PAGE 1 OF 1

BY MF

DATE 4/14/86

SURFACE ELEV. 75±

BY	MF	DA	116 4,	/ 14/	מטי		SURFACE ELEV. 75±
TORVANE (TSF)	POCKET PENETRA- REVEIES (Hows/ (LSE) (Hows/		LITHO- GRAPHIC COLUMN	DESCRIPTION			
				0 -		B 14	ASPHALT and GRAVEL-FILL.
			- - - - -	· -		SP	SAND-FILL; dark olive gray (5Y, 3/2) with greenish hue; fine to medium grained; loose; moist to wet; strong product odor
		6					
		9	•	10	2		08': 5-10% coarse grained sand; strong product odor.
				10		ML	<pre>@10': visible product in auger returns. SILT; gray (5Y, 5/1); slightly clayey; stiff; moist; faint product odor.</pre>
	1.5	74	- □		- 3		012½': wet.
				15		ML/	SILT and SAND-Interbedded; olive (5Y, 4/4) wet; strong product odor; SILT: as above; SAND: fine to medium grained; 5-15% gravel; very dense.
						CL-	@17': gravel layer.
		72 6	<u>.</u>		7	ML	CLAY to SILT; pale brown (10YR, 6/3); very clayey; hard; moist; no product odor.
	13.2	73 fo 10"	r <u>t</u>	_ 20			BOTTOM OF BORING AT 20 FEET.

REMARKS Drilled by 5-inch continuous-flight, solid-stem auger to 4 feet, 8-inch hollow-stem auger to total depth; samples collected with 2-inch California modified split-spoon sampler. Borehole backfilled with bent-onite to 18 feet, soil cuttings; to ½ foot, concrete to surface.



		•		L(0	G OF	BO	DR	RING	15,	KW2	2412
Drill R	Ri g∶ Bu	cket R	ig	Bor	Boring Diameter: Boring Elevation:							ring Number
Date	Drilled:	3/12/	87		This log is a representation of subsurface conditions at the time and place of passage of time or at any other location there may be consequential chee							в-2
Sam	ple	Depth	Soil/	Soil/			D	escri	ption and	Remarks		
Tube	Bulk	Feet	Rock Symbol	Rock Type								
				SM		AC		<u> </u>	······			
		5 -				dense; si	lightl	y mo	ottled; a	n-grained, gre abundant grave moist below l	1; occ	asional
	 	E		ML							ALI	UVIUM
				SM	11		_			moist, stiffing organics.	; slig	htly
		15 -			//	\	occas) TO110	ar decay1	ing Organics.	ALI	UVIUM
		- - -	1							green gray, m		dense;
		20			1	some grav	ver an	ia cc	opries be	elow 12 feet.		MUIVU.
		<u> </u>	_				•		<i>\lambda</i>			
		-25-	 	ž								
		- -30-										,
		_ _35_	-									
			1									
		40	<u>,</u>									
		E	‡									
		-45 -	‡									
		-50-	 									
		E	<u>†</u>									
		-	<u> </u>						·			
Note	2.	No gr		er en	cou	13 feet. untered. et.						
									Shell Sta McArthur/	ntion Piedmont, Oak		
								Pro	oject No.:	86.255	Figu	re No.: 3

LOG OF EXPLORATORY BORING

PROJECT NUMBER 800-41.01

PROJECT NAME Gettler-Ryan, Shell, 230 MacArthur Blvd., Oakland PAGE 1 OF 1

BY MF DATE 4-14-86

SURFACE ELEV. 75±

וט		U/	(E. '	- `	-		SONTAGE LEEV. 752
TORVANE (TSF)	POCKET PENETRO- METER (TSF)	PENETRA- TION (Blows/ Ft.)	CROUND WATER LEVELS	DEPTH IN FT.	SAMPLES	LITHO- GRAPHIC COLUMN	DESCRIPTION
				0-		1°, 5 6 4 4 SP	ASPHALT and GRAVEL-FILL. SAND-FILL; yellowish brown (10YR, 5/6); fine grained; 5% medium grained; loose;
			-			ML	moist; no product odor. SANDY SILT; dark brown (10YR, 4/3); 10-20% medium to coarse sand; very stiff; moist;
	3.5	60	- - -	5			slight product odor. @7': 5-15% sand;very stiff; faint product odor.
	2.5	50	[- -		_ 2		product odor.
	0.1	60	- - -	10		ML/ SW-GW	SANDY SILT and GRAVELLY SAND to SANDY GRAVEL-Interbedded; olive (5Y, 4/4);moist;
	2.1	62	<u> </u>				moderate product odor. SANDY SILT: as above; GRAVELLY SAND to SANDY GRAVEL: fine to coarse grained; 30 to 60% fine to medium gravel; very dense.
	2.5	54	-	15			@12½:wet; moderate product odor. @16': augers covered with product film.
			- - -				CLAY to SILT; grayish brown (10YR, 5/2); very silty; hard; very stiff; moist; no
	2.3	65		_ 20		CL-	product odor. BOTTOM OF BORING AT 20 FEET.

REMARKS Drilled by 5-inch continuous-flight, solid-stem auger to 4 feet, 8-inch hollow-stem auger to total depth; samples collected with 2-inch California modified split-spoon sampler. Borehole backfilled with bentonite to 12 feet, soil cuttings to ½ foot, concrete to surface.



	,	\$		L(ЭG	OF	E	30	RII	NG		15/	XW2XP3	
Drill R	Bori	Boring Diameter: 24 inch					ring Ele	evation:	Boring Number					
Date		This log is a representation of subsurface conditions at the time and place of drilling. With the passage of time or at any other location there may be consequential changes in conditions. B-3								в-3				
	Sample Depth		Soil/ Rock	Soil/ Rock		Description and Remarks								
Tube	Bulk	, 661	Symbol		AC									
				SM	AC									
		- 5 - - 5 - 		SM	\ der	Silty SAND: fine-to medium-grained, yellow brown, damp, dense; slightly mottled; abundant gravel; occasional cobbles. ALLUVIUM								
		10-			gra	ained	sand	l; mo	ottle	d; occ	asional v	ery th	trace of fine- in layers of een black.	
		- 15 -	 		$\left \right $	•	_			۔ م		-	ALLUVIUM	
		20-			-:					V				
-		- -25		<u>.</u>	-			·.						
		-30					•							
		35	-								•			
		40-												
		-45-	Ī											
			1								•			
		-50-												
Note	2.	Botton No gre Casine	oundwat	ter en	count		• .							
)		· · · · · ·								ll Sta rthur/	ntion Piedmont,	Oakl <i>a</i>	and	
			Project No.: 86.255 Figure No.: 4											

CONFIDENTIAL

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

REMOVED

CONFIDENTIAL

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

REMOVED

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STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

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ORIGINAL
File with DWR

THE RESOURCES AGENCY DEPARTMENT OF WATER RESOURCES WATER WELL DRILLERS REPORT

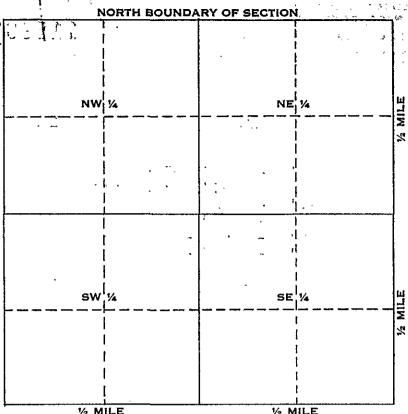
N_0	1	1	5	9	66	5	
itate Well No	1		: , 	2	40	Ş	1

Other Well No ._

(1) OWNER:							(11) WELL LOG:										
Name	a ይ æ	LECTRIC O	30.	Total depth	12	O ft.	Depth of completed well	120	ft.								
Address	EMOTETO CIAD & TANDON CO.								Formation: Describe by color, character, size of material, and structure								
	0ak	land, (A 946	01				- 1	ft. to		ft.						
(2) LOC						0'	_	30 ' -	. Clay								
County		meda		Owner's number, if	any	30 '	-		. Sand & grave	∍l	· ·········						
Township, Rang			kland			41			- Clay & rock								
Distance from c	ities, road	s, railroads, et	. Mout	ell Stree	et 75'	681	-		- Sand								
	Ro	bley To	errace			741	_		Clay & rock		,						
(3) TYPI	E OF	WORK	(check):		1081	-		- Sand & clay								
New Well 🗶	-	epening 🗌		ditioning 🔲	Destroyin												
				ire in Item 11.				•									
(4) PRO	POSEI	USE (check).	; (:	() EQUI			, ,									
Domestic					Rotary	□ X											
Irrigation			-		Cable					- 43 1							
		IC PRO		N (Other .					P. # 1/1							
(6) CASI	NG I	NSTALI	ED:	**			ļ			<u> </u>							
STEE	L:	отне	R:	li g	gravel pac	kea					- 						
SINGLE 🗌	DOU	BLE 🗌 —										······································					
1		1	Gage	Diameter		i											
From	To	D!	or Wall	of Bore	From ft.	To ft.	 										
ft.	ft.	Diam.	Wall	Bore	11.	10.				<u> </u>							
			ļ <u> </u>							· · ·	<u> </u>						
					•												
			<u> </u>	65-61		<u> </u>				·····							
Size of shoe or s	well ring:			Size of gravet:													
(7) PERI	7OD 4	TIONE A	OP SCI	PERI.			-				-						
` '			OK SCI	CEEN:					•								
Type of periora	tion or na	me or screen		1							•••						
From		Го	Perf.	Rows		Size			Ct. 11	THE NOTE OF							
ft.		ft.	per row	ft.		x in.		· ··· ·	Water	······································	-/ 3752						
									1,00,0073.	V(161.5 1.61,1	, <u></u>						
	1									.,,,							
	- -						-										
(8) CON	STRU	CTION															
Was a surface s.			•	√o [] To	what depth	120 ft.											
Were any strata				No 🔲	If yes, note	depth of strata											
trom (íτ.																
From	ft,		ft.			Work started	6/2	5 1974	, Completed 6/26	19 74							
Method of seali	ng		Concr	ete			WELL DRIL	LER'S S	STATEMEN	T:							
(9) WA'	'ER I	EVELS:								jurisdiction and this r	eport is true	to the best					
(9) WATER LEVELS: Depth at which water was first found, if known ft.							of my knowled		· ·								
Standing level	hefore pe	rforating, if	known		ft.		NAME I	110	де ч ()	RILLING C	<u>O.</u>						
Standing level	after peri	iorating and e			ft.]			or sarporation) el Typed o	r printed)						
(10) WE	LL T	ESTS:	1				Address	Daly	City, C	alitornia 94014							
Was pump test	made? Y	es 🗍 No		f yes, by whom?				_(\frac{\gamma}{2}	nite	M. Peto	Let.						
ield:,	Ĕ	al./min. with		ft. drawdown	after	hes.	[SIGNED]			(Well Driller)							
Temperature of	Temperature of water Was a chemical analysis made? Yes 🗋 No 🗍								alifornic	(west Dimer)		1.					
Was electric los	g made of	well? Yes] No □	If yes, att	ach copy		License No	State.	Cachroning	Dated7	/ 5	_, 19 <u>74</u>					

All of DECT

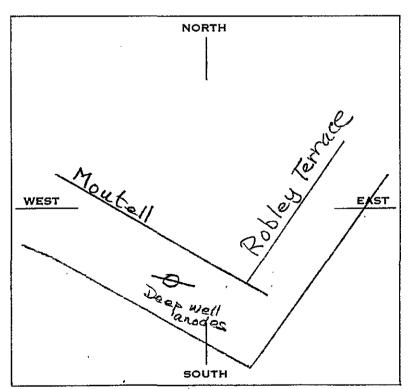
N/S



½ MILE ½ MILE

A. Location of well in sectionized areas.

Sketch roads, railroads, streams, or other features as necessary.



B. Location of well in areas not sectionized.

Sketch roads, railroads, streams, or other features as necessary.

Indicate distances.

Section No.

Township

1974 JUL 12 AM 11 01

BEPT OF WATER

ORIGINAL File with DWR

STATE OF CALIFORNIA THE RESOURCES AGENCY

DEPARTMENT OF WATER RESOURCES WATER WELL DRILLERS REPORT

Do	Not	Fill	In
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\mathbf{N}^{o} 1	<u>L</u> 4	17	10	ļ
No State Well No S	4W	24	080	_
Other Well No				

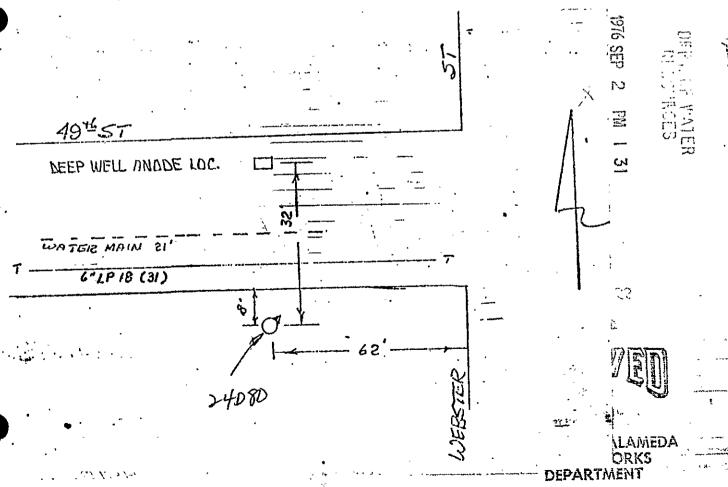
(1) OW	NER:						(11) WEL	L LOG:					
Name	PACII	TC G	as & ele	CTRIC C	co.		Total depth	120	ft. Depth o	f completed we	ii -	20	ft.
			ort Stre		· · · · · · · · · · · · · · · · · · ·	•	Formacion: De.	scribe by color, charact	er, size of mate	erial, and struc	ure		
	Oakla	ınd, (Ca 94601						ft. to				ft.
(2) LOC	ATIO	N OF	WELL:			•	01	- 81	Brown	clav			
County		Lameda		wner's number	if any 5	-1688	81			sand &	large ,	rave	1
Township, Ran			Oakland	1			251			brown c			
Distance from	cities, road	s, railroad	s, etc.	49th &	Webster				layers				
							1151	<u>- 120 </u>	_Sand &	_gravel			
(3) TYP	E OF	WOR	K (check)):							~ (A,) E		
New Well				ditioning 🗌		ıg 🗖					<u> </u>	155	
			al and procedu			ON CENT		:		100	and the contract of	3222	
			(check):		(5) EQU				 		Q.;	177.17	
			Munici		Rotary	X.	<u> </u>			- 17	D.P.V.		-
Irrigation			_	ther 🔲	Cable Other		 -			- 1	*****	-	
			Protecti	on	Other		 				E.H.		+
(6) CAS				I f	gravel pac	ked	 			<u> </u>	A.C.M.	P. Co. Van Alexandrian	
STEE		OT BLE []	HER:		814702 P40	*****					lo se		_
augre []	500,											T. Charles Statement	_
From	То	Į	Gage	Diameter of	From	То			-		San a compa	-	-
ft.	fc.	Diam	or Wall	Bore	ft.	ft.				li	1. 781	, ra:	
										i i	A seems	-	-4
											1		
										Ĭį	19.		
Size of shoe or	well ring:			Size of grave	:1:	# F							1
Describe joint			- <u>-</u>			*				-	Jakan al' a		1,
(7) PER	FORA'	TIONS	S OR SCE	REEN:		ı		·	1		1 7. 5.		<u>;</u>
Type of perfor	ation or na	me of scree	en			<u> </u>			1		A THE STREET, SHAPE OF	****	<u>r</u>
	-	ŀ	Perf.	Rows							/*** G		<u></u>
From	1	Го	per	per		Size					P.O.R.		1
ft.		ft.	row	ft,	in	x in.				,	FIS.	Market State of State	
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						13 21				-	0.F.S. 1		
·———				 		·					FILE -		
	- 	-		 	-		5			_			
(11) (20)	TOTOT		NY.	<u> </u>		•			<u></u>				. * 1
(8) CON			· · · · · · · · · · · · · · · · · · ·	т □ о	To what depth	120 ft.					* 1		'
			tion? YesXI.	No 🗆		depth of strata							
From	n ft,		95 fc.									m	
From	ft.		ft.				Work started	2/17 19 76	, Completes	2/19	19 76		_
Method of seal			Concre	+ o			WELL DRI	LLER'S STATEM			. · ·		\$
	TER I	EVEL				ļ		was drilled under	my jurisdiet	ion and this	report is tr	ue to th	e best
			und, if known	-	ft.	'	' '	ledge and belief.	٠.,				1
Standing level					ft.		NAME P.	ITCHER D	PHILLI	NG CO	o		•
Standing level	after peri	orating an	nd developing	4	ft.	!		6825ers9011	issioh ossi	tion) (Typed	or printed)		
(10) WE	LL T	ESTS:			•		_Address	Daly City, C	alifornia	94014			
<u> </u>	made? Y		No [] I	f yes, by whom	?	₹ 		1. S.		1		P	
) <u> </u>	Ŕ	al,/min. w	ith	ft. drawdo	wn after	brs.	[SIGNED]	muta M	telc	un	• • -		
Temperature o	f water		Was a chemic	al analysis mad	le? Yes 🔲 I	No 🗆]`	California	{Well	Driller)			
Was electric lo	g made of	well? Yes	No 🗆	If yes, a	ittach copy		License No.		Dated	,	<u> 2/25/76</u>	<u>)</u> , 19	
								ជាជា ការប្រទេស	A145				

SKETCH LOCATION OF WELL ON REVERSES DE 15

CONFIDENTIAL LOG Water Code Sec. 13752

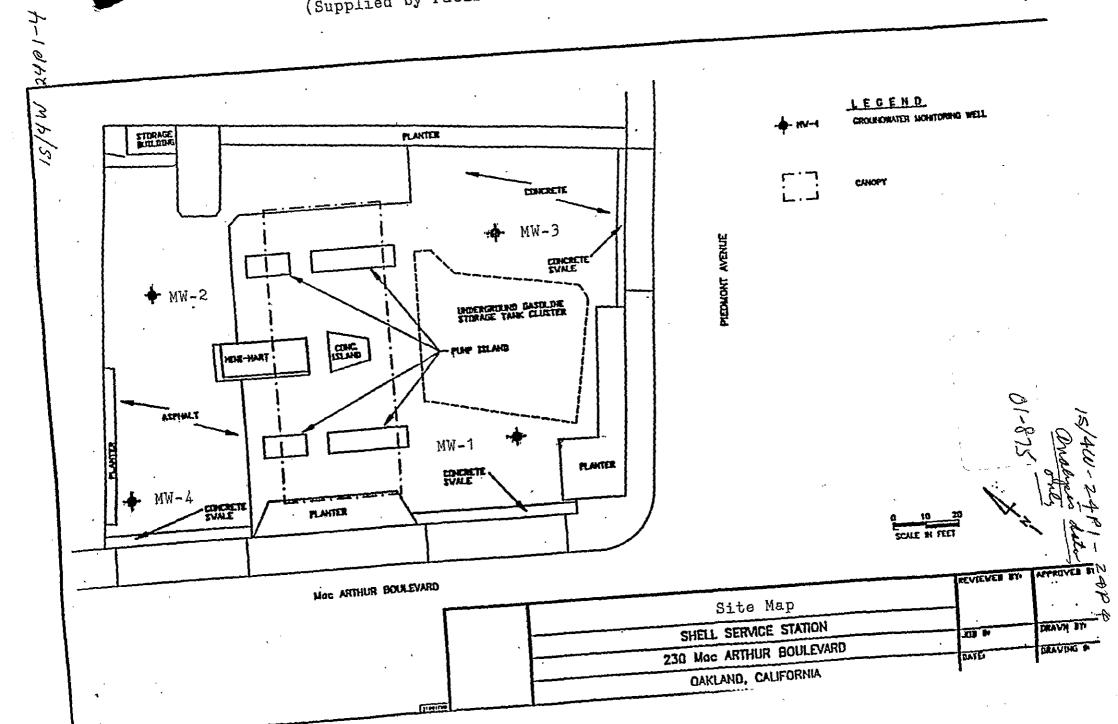
N	ORTH BOUNDA	RY OF SECTION	CP CALIFORNIA	evate.	*75442
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NW	1/4	NE	1/4	M OD OTHER HER	gradient of the state of the st
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	l same error	- 1 ^m	1 2	Township	N(S)
L var grand	mo mas!	132 -	50 12 <u>3</u>	Range <u>Sees</u>	4 E/W
	1995 1995 1995 1 			Section No.	
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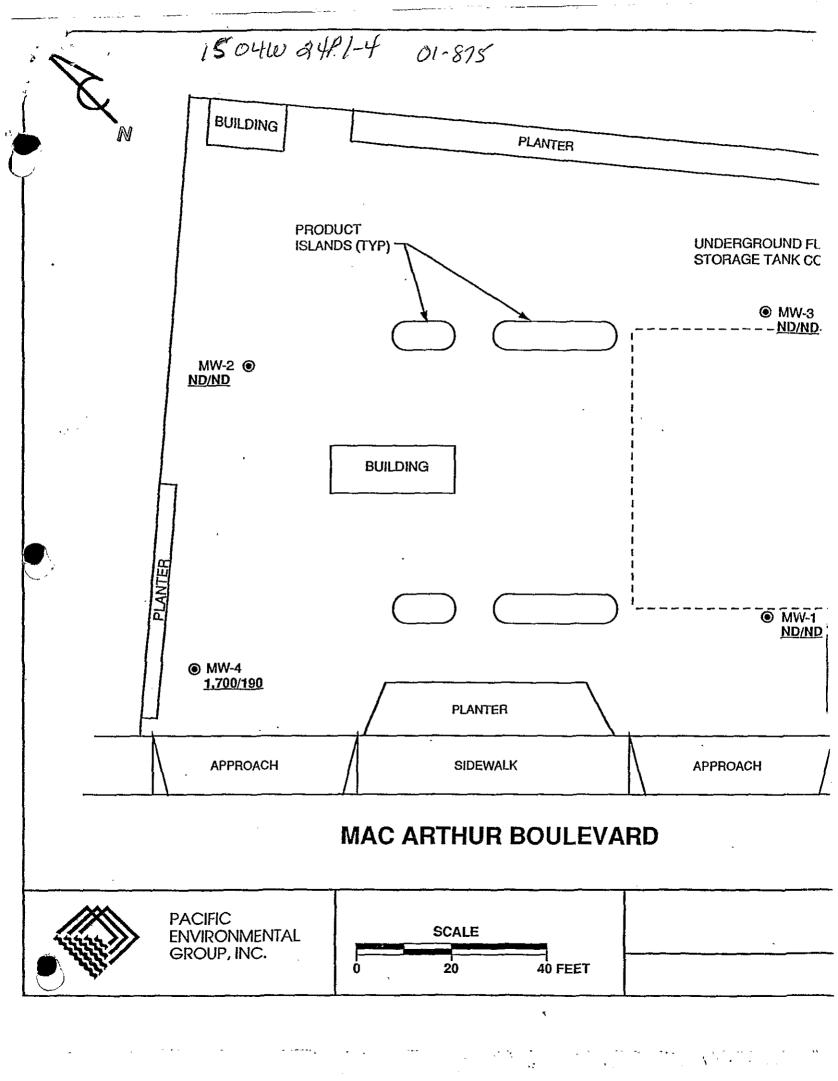
A. Location of well in sectionized areas. Sketch roads, railroads, streams, or other features as necessary.

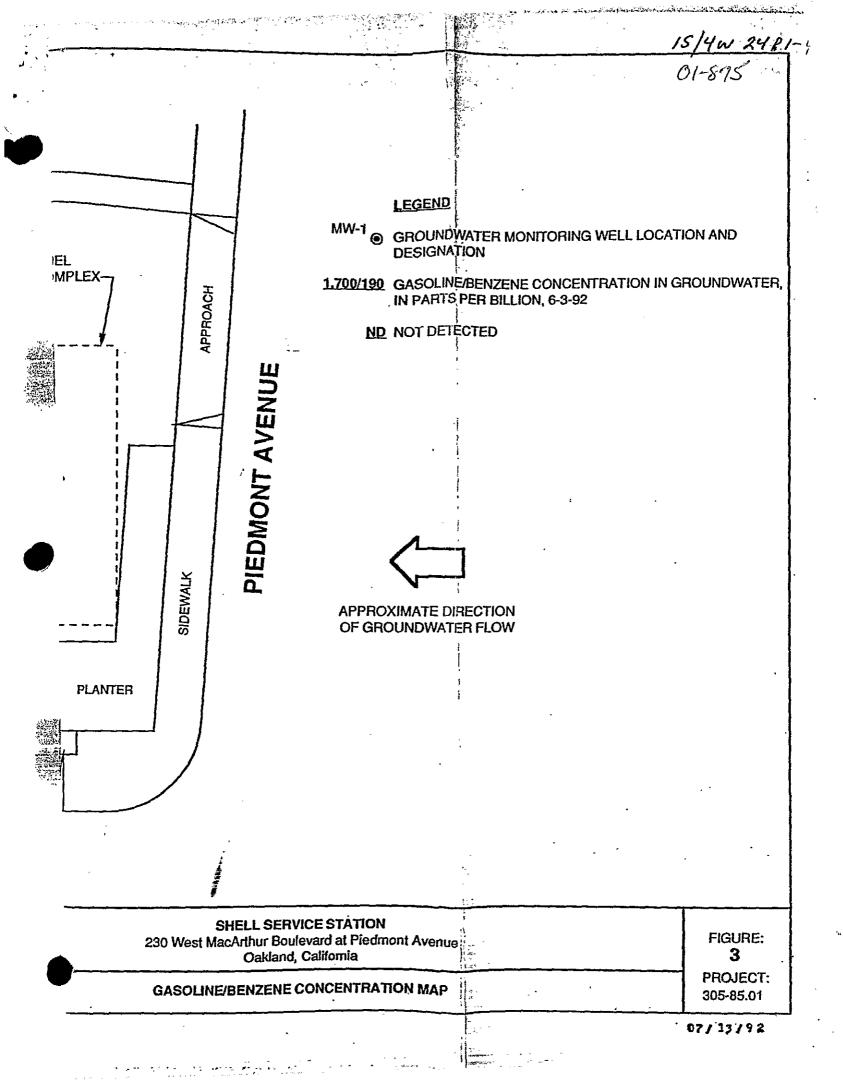


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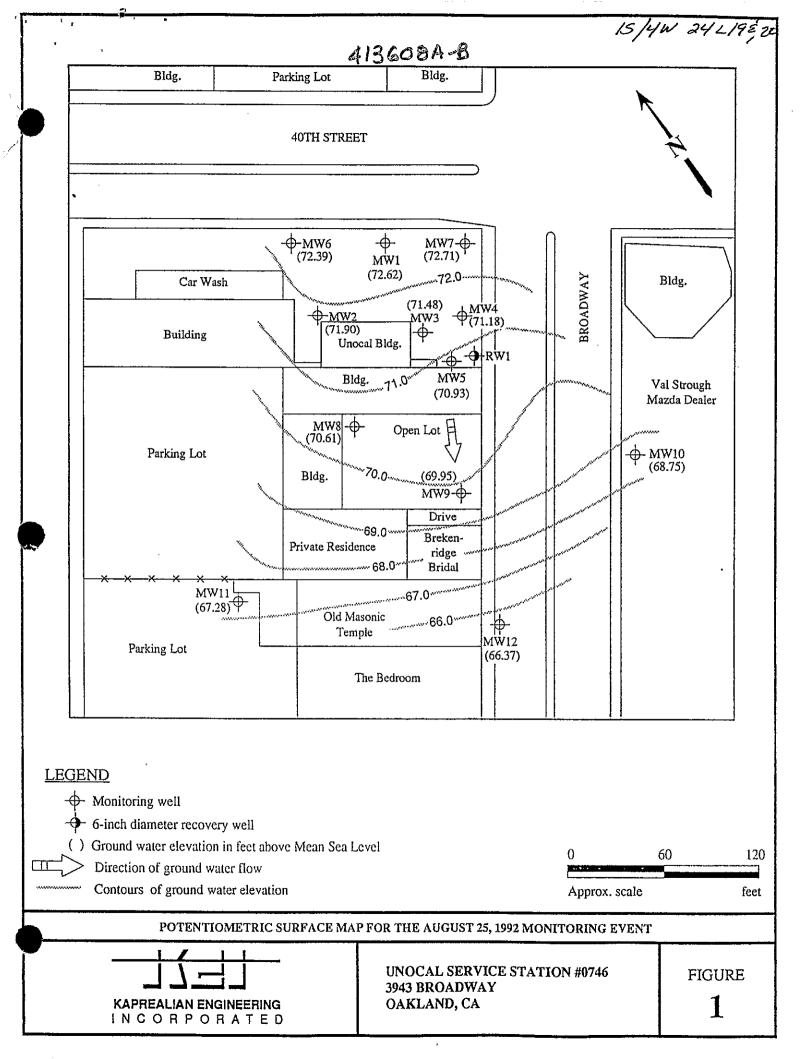




CONFIDENTIAL

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

REMOVED



413608A

(G LOG		
Project No. KEI-P89-0805			Boring &	& Casing	g Diameter 2'	-Logged By \(\mathcal{T} GG\) D.L. \(\chi \in G \) /633	
Project Name Ur 3943 Broadway, C	Project Name Unocal S/S #0746 3943 Broadway, Oakland				ation	Date Drilled 6/26/92	
Boring No. MW12	•				ollow-stem ager	Drilling Company Woodward Drilling	
Penetration blows/6" G. W. Depth (feet) Samples			Strat grap USC	hy	Desc	ription	
					Concrete pavement.		
				h.	Clayey sand and grave	el and disturbed soil (fill).	
			SC		Clayey sand with trac- greenish gray.	e silt, medium dense, moist, dark	
2/3/5		5 -	MH		Clayey silt, trace fine grained sand, firm, very moist, b		
			CL/SC		Sandy clay, firm, moi clayey sand.	st, dark greenish gray, lensed with	
<i>4/</i> 7/10			CH			15% gravel to 1/2 inch in diameter, y stiff, moist, black with root holes.	
11/22/19		10				nd, angular to rounded gravel to 1-1/2 nse, moist, very dark grayish brown.	
6/9/13			₫ GC		Clayey gravel with san and olive brown, mott	nd as above, except dark grayish brownled.	
	=		_		Sandy clay, trace grav moist, dark yellowish	el to 1/4 inch in diameter, very stiff, brown and olive brown, mottled.	
5/7/12		15	CL		Clay, trace gravel to 3 moist, olive and light	/8 inch in diameter, stiff to very stiff, olive brown, mottled.	
9/14/20					Clay, as above, stiff to	o very stiff, friable.	
					TOT	AL DEPTH 17.5'	
		20					
						-	

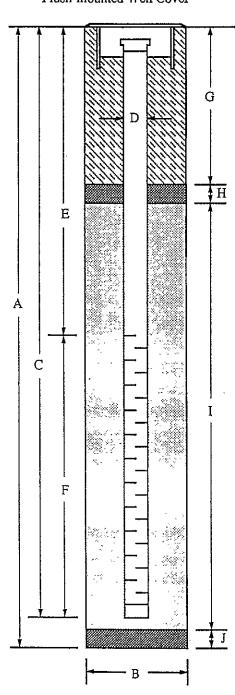
WEIT	COMPI	ETION	DIAGR	À M
YYELL	COMPL	ルコ コスノバ	DIAGK	AIVI

PROJECT NAME: Unocal S/S #0746, 3943 Broadway, Oakland WELL NO. MW12

PROJECT NUMBER: KEI-P89-0805

WELL PERMIT NO.:

Flush-mounted Well Cover



- A. Total Depth: 17.5'
- B. Boring Diameter: 8"

 Drilling Method: Hollow Stem Auger
- C. Casing Length: 17.5'

 Material: Schedule 40 PVC
- D. Casing Diameter: OD = 2.375"
 - ID = 2.067"
- E. Depth to Perforations: 5'
- F. Perforated Length: 12.5'

 Perforation Type: Machined Slot
 - Perforation Size: 0.010"
- G. Surface Seal: 2'
- H. Seal: 1.5'
 - Seal Material: Bentonite

Seal Material: Neat Cement

I. Filter Pack: 14'

Pack Material: RMC Lonestar Sand

Size: #2/12

J. Bottom Seal: None

Seal Material: N/A

	·			BORING	<u>4 (3608 D</u> G LOG	•		
Project No. KEI-P89-0805			Boring		g Diameter 6'	Logged By <i>JGG</i> D.L. <i>CEG 1633</i>		
Project Name Un 3943 Broadway, O		0746	Well (Cover Elev	ation	Date Drilled 6/25/92		
Boring No. RW1	,		Drillin Metho		ollow-stem ager	Drilling Company Woodward Drilling		
Penetration blows/6"				rati- aphy SCS	Desc	ription		
			_		A.C. pavement over s	and and gravel base.		
					Clayey sand and grav very stiff, moist (fill).	el with cobbles to 10 inches in diameter.		
			СН		Sandy clay, stiff, moi	st, dark greenish gray.		
	- samples inuously		sc	37-37-37-37 37-37-37-37	Clayey sand with trac	Clayey sand with trace silt, medium dense, moist, dark reenish gray.		
No blow count data - samples continuously			МН		Clayey silt, trace fine grained sand, very stiff, moist, black, with organic matter.			
cored	cored					-15% gravels to 4 inches in diameter, y stiff, moist, dark olive gray and very nottled.		
		10 -		:9:9:9:9:		y with sand, gravels to 1 inch in noist, dark olive gray and very dark d.		
No recovery from 11.25 to 12.5 feet.			SC GC	19:9:9:9:9: 19:10:10:10:10:10:10:10:10:10:10:10:10:10:		ed at 10-15% gravel to 1 inch in nee, moist, dark greenish gray and dark		
		<u>.</u>			Clayey gravel with sa medium dense, moist	nd, gravels to 3-1/2 inches in diameter, , dark greenish gray.		
			CL		Clay, estimated at 10 and dark greenish gra	-15% gravel, stiff, moist, olive brown my, mottled, fissured.		
		15 -			Silty clay, trace fine- and dark greenish gra	grained sand, stiff, moist, olive brown ay mottled, fissured.		
		-	SC	555 5	Clayey sand, minor s and dark greenish gra	ilt, medium dense, moist, olive brown y, mottled.		
						CAL DEPTH 17.5'		
					No groun	d water encountered.		
:		20						
		<u> </u>			<u> </u>			

413608B

WELL COMPLETION DIAGRAM

Unocal S/S #0746, 3943 Broadway, Oakland PROJECT NAME: _

RW1 ___WELL NO.

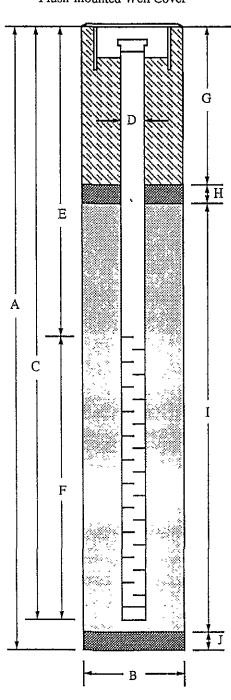
PROJECT NUMBER: __

KEI-P89-0805

WELL PERMIT NO.: __

ACFC & WCD 92270

Flush-mounted Well Cover



- 17.5 Total Depth:_____
- B. Boring Diameter*: 13.5"

Drilling Method: Hollow Stem Auger

C. Casing Length:

Material: Schedule 40 PVC

D. Casing Diameter: OD = 6.625"

ID = 6.065"

- E. Depth to Perforations:
- 10' (2' Blank on bottom) F. Perforated Length:

Perforation Type: Machined Slot

Perforation Size: 0.010"

G. Surface Seal:

Seal Material: Neat Cement

H. Seal:

Seal Material: Bentonite

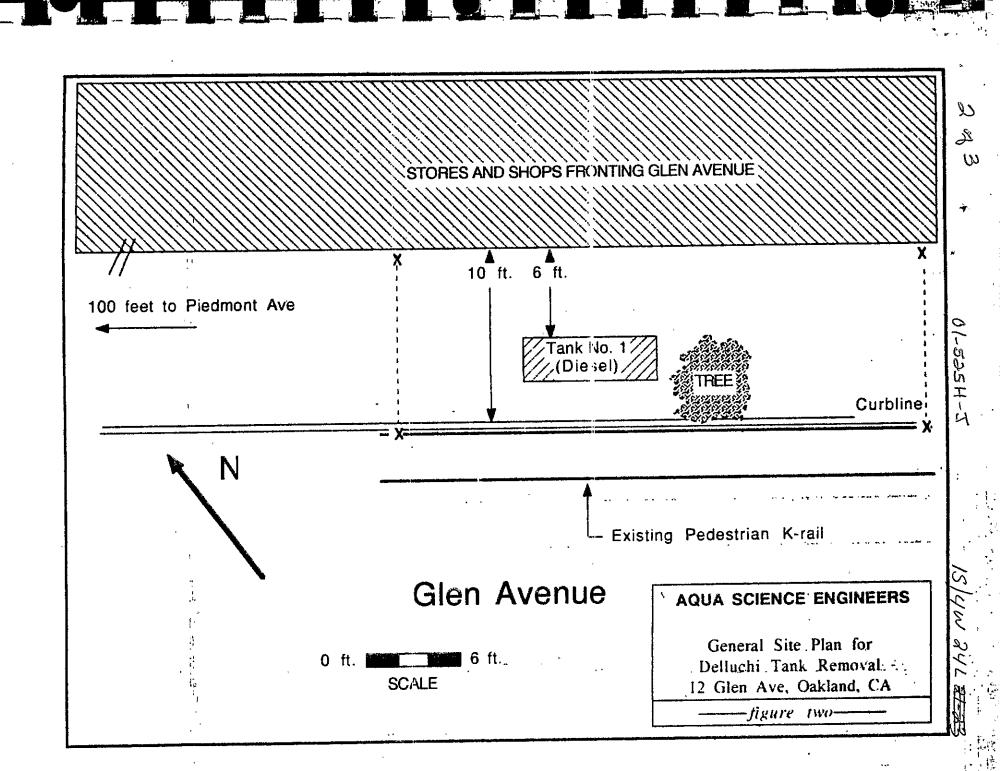
13' Filter Pack:

Pack Material: RMC Lonestar Sand

#2/12 Size:

J. Bottom Seal: 6"

Seal Material: Bentonite



THE REPORT OF THE PARTY OF THE

PHO	JECT: 14 GLEN AVENUE, OAKLAND, CA	,	LUG OF BO	ORING# SB-1A
DEPTH . FEET	SOILS/ROCK DESCRIPTION	GRAPHIC LOG	BACKFILL DETAILS	REMARKS
0- 1- 2- 3- 4- 5- 6- 7- 8- 9- 11- 12- 13- 14- 15- 17- 18- 21- 21- 21- 21- 21- 21- 21- 21- 21- 21	3" asphalt, 8" baserock, sand well graded 40% Clayey gravels, poorly graded gravel - sand Clay Mixtures Slight odor No discoloration of soil It brown Clayey Silt, poorly graded sand, very fine 40%, clayey silts with slight plasticity ML Strong odor brown Silt and Clay, cmf sand well graded 40%, ML Slight odor Inorganic Clays of medium plasiticity, sandy and silty clays with moderate plasticity CL No odor Sealed off saturation zone No odor CH Total Depth 25'		Cap	0- 1- 2- 3- 4- 5- 6- 7- 8- 9- 10- soil sample 10-11.1 11- 7/10/14 12- 13- 14- 15- soil sample 15-16. 16- 21/20/23 17- 18- 19- 20- soil sample 20-21. 21- 21- 21- 21- 21- 21- 21- 21- 25- soil sample 25-26. 1-2/T6/31

01-525I

15/4W. 241#

PRO	DJECT: 14 GLEN AVENUE, OAKLAND, CA		LOG OF BO	ORING# SB-2B
DEPTH FEET	SOILS/ROCK-DESCRIPTION -	GRAPHIC LOG	BACKFILL DETAILS	REMARKS -
0- 1- 2- 3- 4- 5- 6- 7- 8- 9-	3" asphalt, 8" baserock, sand well graded 40% Clayey gravels, poorly graded gravel - sand Clay Mixtures ML No odor No discoloration of soil	estate.	Bent. Portland / Bent. seal	0- 1- 2- 3- 4- 5- soil sample 5-6.5' 6- 12/15/31 7- 8-
10- 11- 12- 13- 14- 15-	It brown Clayey Silt, poorly graded sand, very fine 40%, clayey silts with slight plasticity ML No odor			9- 10- soil sample 10-11.5' 11- ^{16/22/14} 12- 13-
16- 17- 18- 19- 20-	brown Silt and Clay, cmf sand well graded 40%, ML No odor		1	15- soil sample 15-16.5' 16- 12/14/11 17- 18-
21- 22- 23- 24- 25-	Inorganic Clays of medium plasiticity, sandy and silty clays with moderate plasticity CL. No odor		2 2 2 2 2 2	20- soil sample 20-21.5° 21- 12/14/22 22- 23-
	Total Depth 20'		2	25-

Logged by: C. Hertz Date Logged: 7/7/92 Rig/Driller: S. M. 50, McCully - WESTHAZMAT AQUA SCIENCE engineers, INC.

PROJE	CT: 14 GLEN AVENUE, OAKLAND, CA		LOG OF WELL# MW-3C			
DEPTH FEET	SOILS/ROCK DESCRIPTION	GRAPHIC LOG	BACKFILL DETAILS	REMARKS		
15	3" asphalt, 8" baserock, sand well graded 40% Clayey gravels, poorly graded gravel - sand Clay Mixtures No odor No discoloration of soil Lt brown clayey silt, poorly graded sand, very fine 40%, clayey silts with slight plasticity ML no Odor Brown Clayey silt, cmf sand well graded 40% ML Slight odor EOB 20' Inorganic clays of medium plasticity, sandy and silty clays with moderate plasticity CL No Odor Groundwater - Saturation Zone			0- 1- 2- 3- 4- 5- soil sample 5-6.5 6- 12/12/13 7- 8- 9- 10- soil sample 10-11.5' 11- 8/11/11 12- 13- 14- 15-		
35-			,	35-		

Logged by: C. Hertz Date Logged: 7/7/92 Rig/Driller: S. M. 50, McCully- West Hazmat

AQUA

SCIENCE

engineers,

INC.

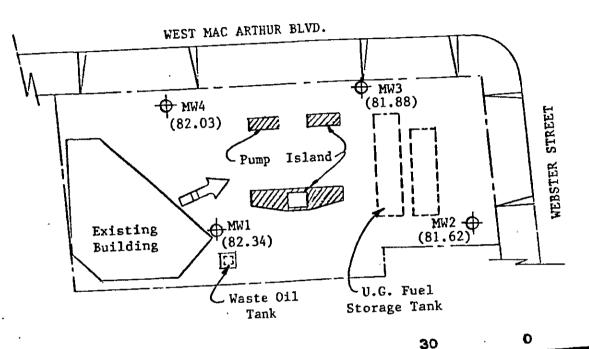


KAPREALIAN ENGINEERING, INC.

Consulting Engineers
P. O. BOX 913
BENICIA CA 94510
(707) 746 - 6915

15/4W 24M1-4;





SITE PLAN

Monitoring Well

() Ground water elevation in feet on 9/15/89. Surface elevation at top of MW2 assumed 100' as datum.

Ground water flow direction

Unocal S/S #3538 411 W. MacArthur Blvd. Oakland, California

scale

30

1		,		J	BOR	IN	G I	0 G	01-4420
	Project No KEI-P89-07		Bori 9		Casi	ing Di 2"	ameter	Logged By D.L.	
	Project Na Oakland/Ma		al,	Well Head Elevation N/A					Date Drilled 9/7/89
<u> </u>	Boring No.		Dri Metl	lling hod		Hollo Auger	ow-stem :	Drilling Company EGI Bute McColl	
				th (Stra graj USC		I	Description
	11/17/22			= 0 = 5				moist, v	
	32/17/20 13/17/19			10		СН		stiff, n grayel. Clay, hid stiff, n greenish holes.	moist, olive, trace gh plasticity, very moist, pale olive, with n gray stained root ay, moderate to high
	10/17/20	▼	——————————————————————————————————————	20		sc		plastic to light	ity, stiff, moist, olive t yellowish brown. and, dense, very moist yellowish brown.

-		,		ВО	BORING LOG 0-442 U				
1	Project No KEI-P89-07		Boring & Casing Diameter 9" 2"					Logged By D.L.	
	Project Na Oakland/Ma	al,	Well Head Elevation N/A			vatio	n	Date Drilled 9/7/89	
	Boring No.		Drilli Method			Hollo Auger	w-stem	Drilling Company EGI Bruce McCall	
				pth (ft) Strati- mples graphy USCS			hy		Description
				25 — 30 —		SP CH		Poorly of brown.	graded sand, yellowish igh plasticity, very moist, yellowish brown.

WELL COMPLETI	ON DIAGRAM
PROJECT NAME: Unocal - Oakland, MacA	rthur BORING/WELL NO. MW1
PROJECT NUMBER: KEI-P89-0703	
WELL PERMIT NO.:	
Flush-mounted Well Cover	A. Total Depth: 29'
TITAL	B. Boring Diameter*: 9"
	Drilling Method: Hollow Stem
	Auger
D G	C. Casing Length: 29'
	Material: Schedule 40 PVC
H	D. Casing Diameter: OD = 2.375"
	$ID = 2.067^{11}$
	E. Depth to Perforations: 5'
	F. Perforated Length: 24'
A	Machined Perforation Type: Slot
	Perforation Size: 0.020"
	G. Surface Seal: 3'
	Seal Material: <u>Concrete</u>
	H. Seal: 1'
F - 1	Seal Material: Bentonite
	I. Gravel Pack: 25'
	RMC Lonestar Pack Material: <u>Sand</u>
	Size: <u>#3</u>
	J. Bottom Seal: None
	Seal Material: N/A

*Boring diameter can vary from 8-1/4" to 9" depending on bit wear.

... INV

1				BOR	IN	G I	0 G	01-442V
Project No EI-P89-07	Boring & Casing Diameter 9" 2"					Logged By D.L.		
Project Na Oakland/Ma		cal,	Wel:		d Ele N/A	evatio	n	Date Drilled 9/6/89
Boring No.	,		Dri: Metl	lling hod	ſ	Hollo Auger	w-stem	Drilling Company EGI Bruce McCell
Penetra- tion blows/6"	G. W. level		pth (:		stra graj USC]	Description
9/14/21 13/15/28 9/15/19 10/15/23 8/10/15 9/12/16			0 =		CH CH		Clay, hisilt, for dark of to 4 fer clayey gray, moist, to 3/4" Sandy clayey san yellowing gray, more clayey clayey sand clayey sand clayey sand sish gray.	ravel with sand, dense, yellowish brown, gravel ay, high plasticity, 15- d, stiff, moist, light sh brown and greenish ottled, lensed with sand. and, dense to very moist, olive and green-
3/37/46	<u></u>		20		sw			ded sand with gravel, wet, brown, silty from

Page 1 of 2

Project No. KET-R89-0703 Boring & Casing Diameter 2" Logged By D.L.	,,	•	воя	RINGI	OG	01-4421
Boring No. Drilling Hollow-stem Drilling Company EGI Green Method Auger Drilling Company EGI Green Method EGI Green Method EGI Green Method Graphy Uscs Description						
Penetration blows/6" Column		Well Hea		on	1	
tion blows/6" level Samples graphy USCS GP— GP— GM Poorly graded gravel with silt and sand, very dense, wet, dark yellowish brown. 25/37/45 25 — GP Poorly graded gravel with sand, very dense, wet, dark, yellowish brown. CH Clay, high plasticity, trace sand, very stiff, moist, yellowish brown.		,				
and sand, very dense, wet, dark yellowish brown. 25/37/45 25	tion			graphy]	Description
TOTAL DEPTH 30.5	25/37/45		30	GP- GM	Poorly govery design brownish	d, very dense, wet, llowish brown. raded gravel with sand, nse, wet, dark, yellow-wn. gh plasticity, trace ery stiff, moist, sh brown.

WELL COMPLETION DIAGRAM

DOTECH NAME. Upon 1 . Oakland Macamban DODING/MELT NO. 100								
PROJECT NAME: Unocal - Oakland, MacArthur BORING/WELL NO. MW2 PROJECT NUMBER: KEI-P89-0703								
, — — — — — — — — — — — — — — — — — — —								
WELL PERMIT NO.:								
Flush-mounted Well Cover	A. Total Depth: 30'							
TIMES	B. Boring Diameter*: 9"							
	Drilling Method: Hollow Stem							
	Auger							
	C. Casing Length: 28.51							
	Material: Schedule 40 PVC							
H	D. Casing Diameter: OD = 2.375"							
	ID = 2.067"							
	E. Depth to Perforations: 3.51							
	F. Perforated Length: 25'							
	Machined Perforation Type: Slot							
	Perforation Size: 0.020"							
	G. Surface Seal: 2'							
	Seal Material: Concrete							
	H. Seal: 1'							
	Seal Material: <u>Bentonite</u>							
	I. Gravel Pack: 27' RMC Lonestar							
	Pack Material: Sand							
	Size: <u>#3</u>							
J	J. Bottom Seal: None							
В-	Seal Material: N/A							

*Boring diameter can vary from 8-1/4" to 9" depending on bit wear.

L		ВО	RING	L O G	01-442 WW
Project No KEI-P89-07		Boring 9"	& Casing	Diameter 2"	Logged By D.L.
Project Na Oakland/Ma	ame Unocal acArthur	, Well He	ad Elevat N/A	ion	Date Drilled 9/7/89
Boring No.	•	Drillin Method		llow-stem ger	Drilling Company EGI Bruce Mc Call
Penetra- tion blows/6"		Depth (ft) Samples	Strati- graphy USCS	-	Description
9/15/21 14/17/23 15/23/33	▼	10	CH	clay, he silt, gray, above clay, he stiff, dark gray holes. Sandy c plastimoist, mottle sand. Sandy c	igh plasticity, with stiff, moist, dark olive very dark grayish brown 4'. igh plasticity, very moist, pale olive, with reenish gray stained root lay, low to moderate city, 25-40% sand, stiff, olive and greenish gray, d, lensed with clayey lay, moderate to high city, stiff, moist,

Page 1 of 2

<i>j</i>	во	RING	1	r o e	01-442W
Project No. KEI-P89-0703	oring & Casing Diameter Logged By 9" 2" D.L.				
Project Name Un Oakland/MacArthu	ad Eleva N/A	atio	on	Date Drilled 9/7/89	
Boring No. MW3	 Drillin Method	_	ollo	ow-stem	Drilling Company EGI Bree McCall
Penetra- G. W. tion level blows/6"	pth (ft) mples	Strat. graphy USCS		I	Description
37/50- 5-1/2"	30	GP-CC GC		Poorly grand sand yellowis Clayey granoist, y	TOTAL DEPTH 29

WELL COMPLET	ION	DIAGRAM
PROJECT NAME: Unocal - Oakland, Mac	Arthui	BORING/WELL NO. MW3
PROJECT NUMBER: KEI-P89-0703		
WELL PERMIT NO.:		
Flush-mounted Well Cover	Α.	Total Depth: 29'
	в.	Boring Diameter*: 9"
		Drilling Method: Hollow Stem
		Auger
D G	c.	Casing Length: 29'
		Material: Schedule 40 PVC
	D.	Casing Diameter: OD = 2.375"
I E		ID = 2.067"
	E.	Depth to Perforations: 5'
	F.	Perforated Length: 24'
A		Machined Perforation Type: Slot
		Perforation Size: 0.020"
I I I I I	G.	Surface Seal: 3'
		Seal Material: Concrete
	н.	Seal: <u>1'</u>
		Seal Material: Bentonite
	I.	Gravel Pack: 25'
		RMC Lonestar Pack Material: Sand
		Size: #3
	J.	Bottom Seal: None
J		Seal Material: N/A
*Boring diameter can vary from 8	-1/4"	to 9" depending on bit wear.

BORING LOG 01-442							
			01-442×				
Project No KEI-P89-07	Boring & Casing Diameter 9" 2"				Logged By D.L.		
Project Na Oakland/Ma		cal,	Well He	ad Ele N/A	evatio	on	Date Drilled 9/6/89
Boring No.	•		Drillin Method	ıg	Hollo Auge	ow-stem	Drilling Company EGI Brue McCall
Penetra- tion blows/6"	G. W. level		oth (ft) mples	Str gra USC		,	Description
			30	GP- GC		Poorly g and san yellowi increas Gravelly 5-10% s dark ye	graded gravel with clay od, dense, wet, dark sh brown, clay content, sing with depth. Clay, high plasticity, and, very stiff, moist, ellowish brown.
		_	40 —			r	TOTAL DEPTH 29

01-442x

WELL COMPLETION DIAGRAM

WELL COMPLET	ION DIAGRAM
PROJECT NAME: Unocal - Oakland, Ma	carthur BORING/WELL NO. MW4
PROJECT NUMBER: KEI-P89-0703	
WELL PERMIT NO.:	
. Flush-mounted Well Cover	A. Total Depth: 29'
	B. Boring Diameter*: 9"
	Drilling Method: Hollow Stem
	Auger
	C. Casing Length: 29'
	Material: Schedule 40 PVC
H	D. Casing Diameter: OD = 2.375"
	ID = 2.067"
	E. Depth to Perforations: 5'
	F. Perforated Length: 24'
A	Machined Perforation Type: Slot
	Perforation Size: 0.020"
	G. Surface Seal: 3'
	Seal Material: Concrete
	H. Seal: 1'
	Seal Material: <u>Bentonite</u>
	I. Gravel Pack: 25'
	RMC Lonestar Pack Material: Sand
	Size: <u>#3</u>
	J. Bottom Seal: None
В——В	Seal Material: N/A

*Boring diameter can vary from 8-1/4" to 9" depending on bit wear.

CONFIDENTIAL

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

REMOVED

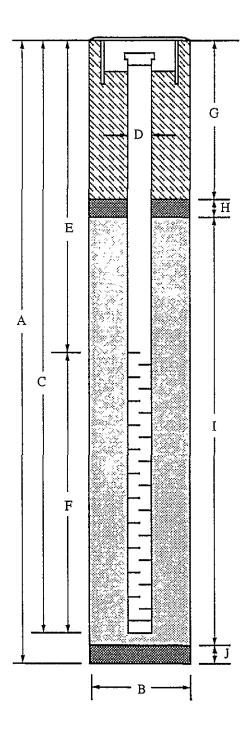
CONFIDENTIAL

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

REMOVED

WELL COMPLETION DIAGRAM (SCHEMATIC)

Flush-mounted Well Cover



WELL DETAILS*

- Well will be terminated 10 to 15 feet into the first encountered ground water, unless an aquitard five feet or greater in thickness is encountered below the water table, in which case the bottom of the boring will be backfilled with bentonite pellets and the well terminated at the top of this aquitard [A].
- 2. Boring diameter [B] is 8 inches for 2 inch wells, 10 inches for 4 inch wells, and 12 inches for 6 inch wells.
- 3. Perforated interval [F] will extend from bottom of casing to five feet above the first encountered ground water table (unless water <5 feet deep).
- 4. Schedule 40 PVC casing, 2 inch in diameter [D], will be used. Screen is 0.020 or 0.010 inch factory machined slots, depending on filter pack grain size.
- 5. Filter pack will be placed from bottom of casing to two feet above perforated interval [I]. (Bottom seal [J] is not installed unless required.) One to two feet of bentonite [H] will be placed above the filter pack. Concrete grout [G] will be placed from top of bentonite seal to the surface (unless modified due to shallow water). Blank casing [E] will extend from the top of the perforated casing to the top of the hole.
- 6. The well will be installed with a waterproof cap, padlock and a flush-mounted well cover.
- * See text for additional information.

413649A 01304W24M0						
:				BOR	ING LOG	
Project No.	,			ing Diam		Logged By JGG
KEI-P89-0703	· · · · · · · · · · · · · · · · · · ·		Casi	ing Diam	eter 2"	W.W. CEG 1633
Project Name 411 West Mac			Wel	l Cover E	devation	Date Drilled 11/18/92
Boring No. MW5			Dril Met		Hollow-stem Auger	Drilling Company Woodward Drilling Co.
Penetration blows/6"	G. W. level	Depth (feet) Samples	Stra grap USO	hy	De	escription
	·				Six inches of concrete pa	avement over sand and gravel base.
					Silty clay, estimated at 3: staining in pores.	5% silt, moist, black, strong brown
8/13/17		5	CL		3/8 inch in diameter, hard	5% silt, 5% sand, and trace gravel to d, moist, yellowish brown (10YR 5/4) (10YR 6/2) mottled, trace pores.
8/11/16		10	<u> </u>			15-20% clay and 5% fine-grained ale yellow (2.5Y 7/3), trace pores.
6/10/17		15	ML		pale yellow (2.5Y 7/3) w mottling, trace sand and particle. Silt, trace clay, hard, very	y moist, very pale brown (10YR 7/3)
10/20/24		20	CL			R 5/6) mottled, slightly micaceous. 5-40% silt, hard, moist, very pale
8/13/25	•		ML		· · · · · · · · · · · · · · · · · · ·	15% clay and 5-10% sand, hard, very

413649A

		BOR	<u>4/3649A</u> ING LOG	
Project No. KEI-P89-0703	•	Boring Diam	- <u> </u>	Logged By JG6 W.W. CEG 1633
Project Name Unocal S/S #3538 Well Cover E 411 West MacArthur Blvd., Oakland			Elevation	Date Drilled 11/18/92
Boring No. MW5		Drilling Method	Hollow-stem Auger	Drilling Company Woodward Drilling Co.
Penetration blows/6" G. lev	W. Depth rel (feet) Samples	Strati- graphy USCS		Description
9/20/36	25	ML	moist, pale yellow (2.5Y	20-25% clay and 5% sand, hard, moist
13/19/28		CL	hard, moist, very pale bro	5-20% fine-grained silt and 5% sand. bwn (10YR 7/3), trace organic matter. 5% silt, 5-10% sand, and trace gravel,
	30		hard, moist, very pale bro	TAL DEPTH: 30'

WELL COMPLETION DIAGRAM

PROJECT NAME: Unocal S/S #3538, 411 West MacArthur Blvd., Oakland

WELL NO. MW5

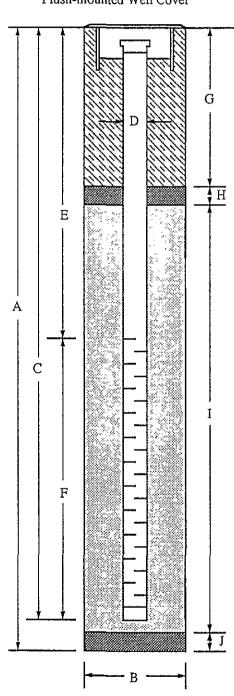
PROJECT NUMBER: __

KEI-P89-0703

WELL PERMIT NO .: .

91185

Flush-mounted Well Cover



4	Total Depth	30'
۹.	10030 128000	~ ~

B. Boring Diameter: _____9"

Drilling Method: Hollow Stem Auger

C. Casing Length: ______30'

Material: Schedule 40 PVC

D. Casing Diameter: OD = 2.375"

ID = 2.067"

E. Depth to Perforations: 13'

F. Perforated Length: 17'

Perforation Type: _____ Machined Slot

Perforation Size: 0.010"

G. Surface Seal: 9'

Seal Material: Neat Cement

H. Seal: _____2

Seal Material: Bentonite

I. Filter Pack: 19'

Pack Material: RMC Lonestar Sand

Size: ______2/12

J. Bottom Seal: None

Seal Material: N/A

				BOR	ING LOG	0130700 29711
Project No. KEI-P89-0703			ing Diam		Logged By JGG W.W. CEG/633	
Project Name Unocal S/S #3538 411 West MacArthur Blvd., Oakland			Wel	l Cover F	Elevation	Date Drilled 11/18/92
Boring No. MW6		Dril Met		Hollow-stem Auger	Drilling Company Woodward Drilling Co.	
Penetration blows/6"	1 1 1			ti- ohy CS	Description	
					Fifteen inches of asphalt Silty clay, estimated at 20 gray.	pavement. 0% silt and trace sand, moist, very dark
18/30/34		5 -			greenish gray (5GY 5/1). Silty clay with sand and gravel to 2 inches in diam	0-25% silt and 5% sand, hard, moist, gravel, estimated at 15-20% silt, 15% neter, and 10-15% sand, hard, moist, with strong brown (7.5YR 4/6)
19/23/35		10	CL			5% silt and trace sand, hard, moist, with slight light yellowish brown
13/22/27		15				0% silt, hard, moist, light yellowish light light gray (5Y 7/1) staining in er.
12/18/20		20	ML			15% clay and 5-10% very fine-grained ght yellowish brown (10YR 6/4).

413649B

				BOR	<u>413649B</u> ING LOG	
Project No.			Powin			I Tourism Tour
Project No. KEI-P89-070		}	g Diam g Diam		Logged By ブ66 W.W. <i>Cを</i> 6/633	
Project Name 411 West Ma	S/S #3538 Blvd., Oakland			levation	Date Drilled 11/18/92	
Boring No. MW6		Drillir Metho		Hollow-stem Auger	Drilling Company Woodward Drilling Co.	
Penetration blows/6"				,	Description	
7/10/13		25	ML		Clayey silt, estimated at very moist, light yellowi	15% clay and trace sand, very stiff, sh brown.
7,10,13			CL		Silty clay, estimated at 2 moist, very pale brown.	20-30% slightly elastic silt, very stiff.
8/15/21		30			Silty clay, estimated at 20-25% silt and trace gravel, hard, moist, light yellowish brown (10YR 6/4).	
		35 —			TC	OTAL DEPTH: 30'

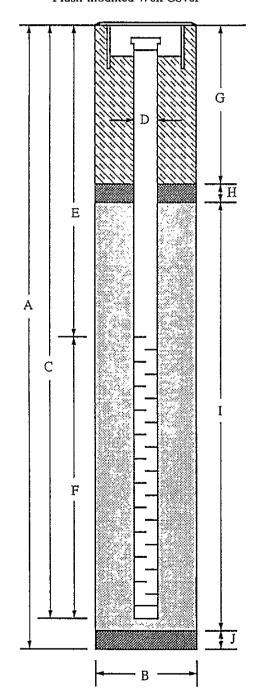
WELL COMPLETION DIAGRAM

PROJECT NAME: Unocal S/S #3538, 411 West MacArthur Blvd., Oakland WELL NO. MW6

PROJECT NUMBER: KEI-P89-0703

WELL PERMIT NO.: 91185

Flush-mounted Well Cover



A.	Total Depth:	30'	
----	--------------	-----	--

B. Boring Diameter: 9"

Drilling Method: Hollow Stem Auger

Drilling Method: Hollow Stem Auge

Cosing Length: 30'

C. Casing Length: 30'

Material: Schedule 40 PVC

D. Casing Diameter: OD = 2.375"

ID = 2.067"

Machined Slot

E. Depth to Perforations: 13'

F. Perforated Length: 17'

Perforation Type: _____

0.0101

Perforation Size: 0.010"

G. Surface Seal:

Seal Material: Neat Cement

H. Seal: 2

Seal Material: Bentonite

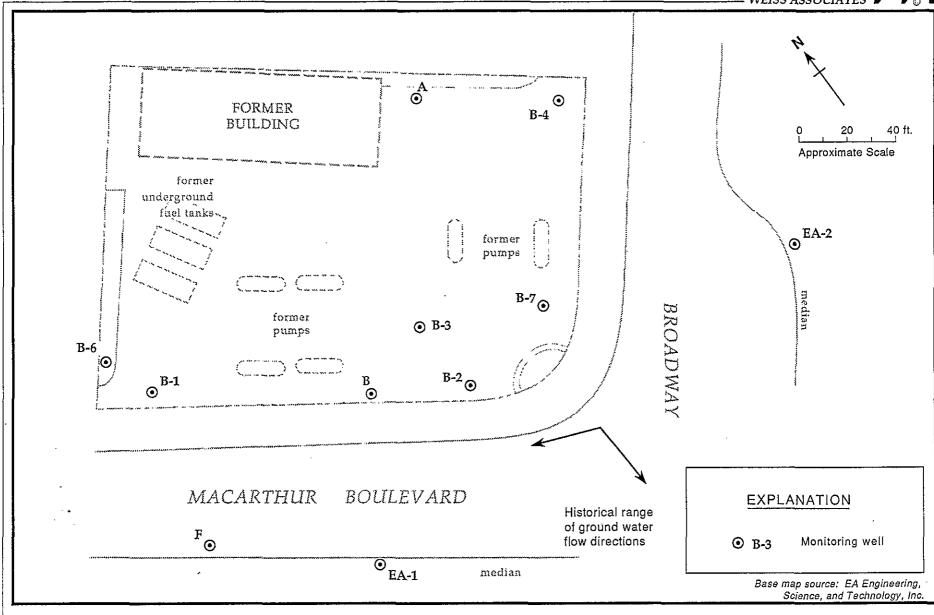
Pack Material: _____ RMC Lonestar Sand

Size: ______2/12

J. Bottom Seal: None

Seal Material: _____ N/A

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)



Monitoring Well Locations - Former Chevron Service Station #9-1026, 3701 Broadway, Oakland, California

Fax: 415-547-5043

15/4W24 N (1923)

Phone: 415-547-5420

Geologic and Environmental Services

5500 Shellmound Street, Emeryville, CA 94608

PERMIT 9/289

June 25, 1991

Ms. Nancy Vukelich Chevron USA P.O. Box 5004 San Ramon, CA 94583-0804

> Re: Former Chevron Service Station #9-1570 3701 Broadway Oakland, California WA Job #4-418-01

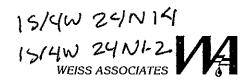
Dear Ms. Vukelich:

A-

This letter documents Weiss Associates' (WA) destruction of monitoring wells B-6 and B-7, and the reconstruction of monitoring well B at the site referenced above. The well destruction and reconstruction activities were performed by Soils Exploration Services of Vacaville, California (license No. C-57 582696) under the direction of WA Staff Geologist Robert E. Kitay and the supervision of James W. Carmody, Certified Engineering Geologist No. 1576.

Monitoring wells B-6 and B-7, constructed of corrugated steel casing, were destroyed by pressure grouting Portland Type I,II cement mixed with 3 to 5% bentonite powder by volume into the wells. The upper portions of the corrugated steel casings could not be removed and were left in place. Therefore, we extended the grout to the ground surface and completely sealed the existing concrete vaults with neat cement.

Monitoring well B was reconstructed by installing a smaller diameter casing inside the existing 12-inch diameter well. The new well was screened with 4-inch diameter 0.02-inch slotted schedule 40 PVC casing from 15 to 35 ft depth. The upper 15 ft of well consists of 4-inch diameter blank PVC casing. The annular space between the existing and the new well was filled with #3 Lonestar Monterey sand from 13 to 35 ft depth, a hydrated bentonite layer from 11 to 13 ft depth, and a sanitary seal consisting of Portland Type I, II cement mixed with 3 to 5% bentonite powder by volume from 11 ft to the ground surface. The existing concrete vault was not changed since this well may be used for ground water extraction and the wellhead and vault may be modified in the future.



Ms. Nancy Vukelich June 25, 1991 2

We are pleased to provide hydrogeologic consulting services to Chevron and trust that this letter meets your needs. If you have any questions, please feel free to call.

Sincerely,

Weiss Associates,

Robert E. Kitay Staff Geologist

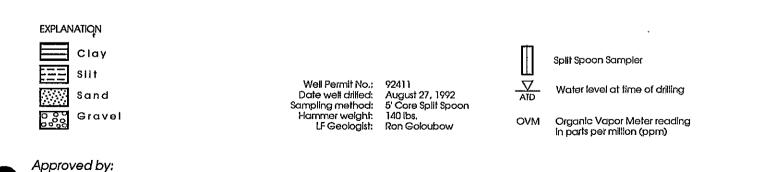
James W. Carmody, C.E.G.

Senior Project Hydrogeologist

C:\WP51\REK\CHEVRON\LETTER\$\418L1JN1.WP

cc: Mr. Wyman Hong, Alameda County Flood Control and Water Conservation District - Zone 7, 5997 Parkside Drive, Pleasanton, CA 94588

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)



GRAVELLY CLAY (CG), yellowish brown wet.

BOTTOM OF BORING AT 30 FEET.

Figure : WELL CONSTRUCTION AND LITHOLOGY FOR WELL LF5-R

Project No. 1547,04

LEVINE•FRICKE ENGINEERS, HYDROGEOLOGISTS & APPLIED SCIENTISTS

45

12

30

....

REGIONOV92JWLF5-R

1-510-6524500

6-INCH

LONG END

BOTTOM OF

29 FEET

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

Kriser Foundation Health Plan 01-4502 15/4W 241

	, MEIT CON	STRUCTION		LITHOLOGY	***************************************		
Depth, feet	CHRISTY BOX	LOCKING CAP	Graphic Log	Description	Sample No. and Interval	Penetration Rate (Blows/ft.)	
	C/F	7/2	10/1/1/	Reinforced CONCRETE pavement.	•		
		2-INCH DIAMETER BLANK PVC CASING		SILTY SAND (SW), reddish brown, slightly molst, medium-to coarse-grained sand, mainly subrounded, medium loose, some small 1 to 2-inch thick SILT (ML) lenses, silt is moist.		16	-4.7 / -4.7
5	[2]				5	4	
.			0,00	SANDY GRAVEL (GW), variegated reddish brown, tan and blue, dry to slightly most, friable, gravel is angular to subangular and shows weathering.	(1746		
	1/1			is tabaligual and the team of the			
******	斜	PORTLAND		GRAVELLY SILTY SAND (SW), reddish brown, slightly molst, dense, slight odor of gasoline noticed.		35	-6.1 / -6.1
10	[3]	[8]			10		
				SAND (SW), light brown, dry, friable, dense, horizontal fractures with oxidation staining approximately 3 inches apart in sample, product observed on outside		52	0.1 / 6.9
******	121	[2]	<i>!!</i>	of augers below 11 feet.		٩	
	싦	<u>6-1</u>	""" =	SILTY CLAY (CL), light brown, moist, some irregular			
15		BENTONITE SEAL	_ ====	reddish brown spots and some small dark brown spots (former roof holes), soft, slight gasoline odor.	<u>15</u>	12	2.5 / 12.5
*****						*	
*****			""" =		****		
144141		2-INCH DIAMETER	""" = = = =		"""	10	4.3 / 51.8
20		PERFORATED PVC CASING			20	12	4.0701.0
		(0.020-inch slots)		SANDY CLAY (CL), light brown, moist, some reddish	****		
	- X - X	NO.3 RMC		brown staining and occasional dark spots about 1/4-inch diameter, soft, petroleum odor.			
****		LONESTAR SAND					
*****						11	2.9 / 70
25			-		25	1	
		BOTTOM CAP					
*****				CLAY (CL), light brown, dry, medium hard, no petroleum		12	2.5 / 2.5
•••••	£	BOTTOM OF	·*****	odor.	19091	113	
•••••		CASING AT 26.5 FEET	*****	BOTTOM OF BORING AT 27.5 FEET.	10400		
30					30		

Well Permit No. 89505

EXPLANATION

Date well drilled: 30 September 1989

Date water level measured:

Well elevation: 98.405 feet

LF Geologist: John Sturman

EXPLANATION

Clay Modified California Sampler

Sand ATD At Time of Drilling

Figure

: WELL CONSTRUCTION AND LITHOLOGY FOR WELL MW-1

Project No. 1547

Driller: HEW

LEVINE-FRICKE

Foundation Health Pa 01-450B 15/4W 24N4 WELL CONSTRUCTION Sample Penetration VOCs ppm (Amblent/ LOCKING CAP CHRISTY BOX Graphic Depth. No. and Description feet Log Interval (Blows/ft.) Soil) CONCRETE Pavement. CLAYEY SILTY SAND (SC) Fill, light reddish brown, moist, moderately dense, with reddish brown motiling, no 2-INCH DIAMETER BLANK PVC MW2-25 45.2 / 47.8 1/4 CASING 5 41044000 CLAYEY SANDY GRAVEL (GC), light reddish brown, PORTLAND most, coarse- to fine-grained sand with angular CEMENT ,,,,, gravel to 3/4-inch diameter (chert), dense, with dark MW2reddish brown and brown mottling, moderate 43.5 / 46.5 52 2/9 petroleum odor. 10 10 SILTY CLAY (CL), tan, most, low plasticity, very stiff, BENTONITE ,4416 with minor very fine sand. Minor orange-rust staining, SEAL 14166 no petroleum odor. MW2-21 44.5 / 45 ******* 3/14 15 15 2-INCH DIAMETER PERFORATED ****** SANDY SILTY CLAY (CL), tan, very moist, low plasticity. very stiff, sand is very fine-grained. No petroleum odor, with bluish green mottled staining. (Very silty, PVC CASING MW2-(0.020-inch 21 47.2 / 47.6 **** 4/18 slots) slightly sandy) ∇ 11140 20 20 GROUND-WATER SANDY SILTY CLAY (CL), tan, saturated, low plasticity, MW2-NO.3 RMC 21 4.5 / 45 LONESTAR very stiff, sand is very fine-grained. No petroleum 5/22 SAND odor (although PID measured something). (Very slity. slightly sandy) BOTTOM CAP SANDY SILTY CLAY (CL), light to medium grayish brown, 25 25 saturated, low plasticity, very stiff to hard. No petroleum odor, sand is very fine-grained. BOTTOM OF 36 7.5 / 12.7 MW2 (Moderately silty and sandy) 41011040 CASING AT 6/26 24 FEET BOTTOM OF BORING AT 25 FEET. BOTTOM OF SAMPLE BORING AT 26.5 FEET. ******* ***** 30 30

Well Permit No. 89505

EXPLANATION

Date well drilled: 6 November 1989

Date water level measured:

Well elevation: 96.875 feet

LF Geologist: Julie Sharp

EXPLANATION

CJay

Modified California Sampler

Sample retained for analysis

Gravel

Figure

R.G. 4605

: WELL CONSTRUCTION AND LITHOLOGY FOR WELL MW-2

Project No. 1547 Driller: HEW

LEVINE-FRICKE CONSULTING ENGINEERS AND HYDROGEOLOGISTS

Approved by: M

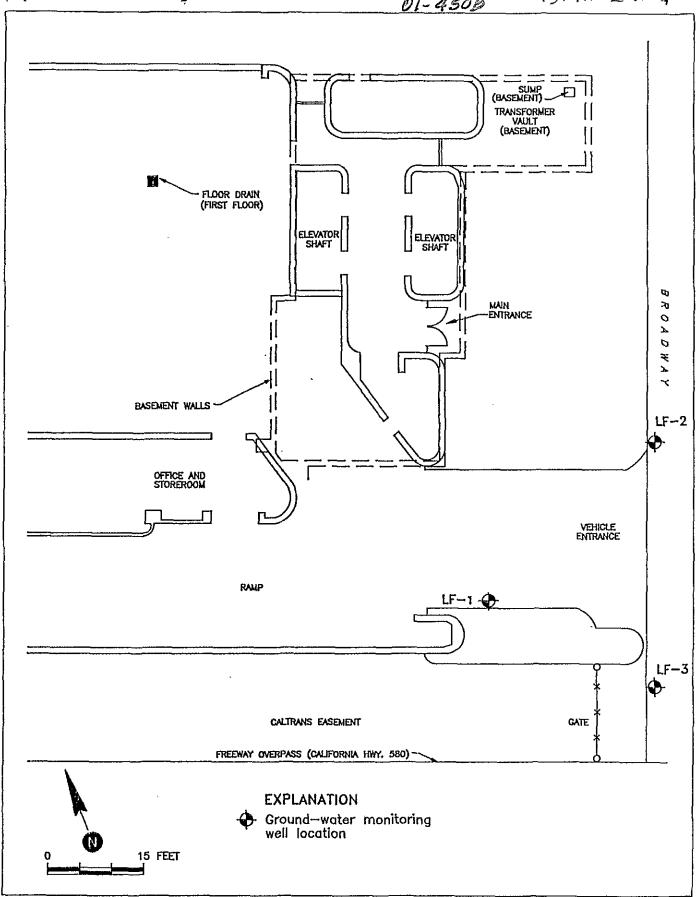


Figure 2: SITE PLAN AND MONITORING WELL LOCATIONS

··· Kaiser Trandation Health Plan 01-450C LITHOLOGY WELL CONSTRUCTION Sample No. and Penetration VOCs ppm LOCKING CAP CHRISTY BOX Depth, Graphic (Amblent/ Rate Description (Blows/ft.) feet Log Interval Soil CLAYEY SANDY GRAVEL (GC) Fill, reddish brown, molst. very dense, subangular to subrounded gravel to 1-1/2 -Inch diameter. **** 2-INCH 10440 DIAMETER MW3-PID BLANK PVC 1/4 CASING Instrument 5 CLAYEY SAND (SC), medium graysh brown, moist, very dense, sand is fine-grained, subangular with minor maifunctioning measurements amount of medium-grained. PORTLAND avaliable CEMENT CLAYEY GRAVELLY SAND (SC-GC), medium greenish MW3-27 brown, moist, moderately dense, sand is medium-2/8 grained, subangular with some coarse and minor fine subangular. 10 10 BENTONITE SANDY SILTY CLAY (CL), medium bluish green, moist, SEAL, low plasticity, stiff to very stiff, sand is fine- to very MW3fine-grained. 25 3/12 10000 2-INCH DIAMETER ****** PERFORATED PVC CASING 15 15 (0,020-inch MW3-SILTY CLAY (CL), tan and greenish tan, moist to very 19 skots) moist, low plasticity, stiff to very stiff. 4/16 GROUND-WATER **** NO.3 RMC ****** LONESTAR SILTY CLAY (CL) with minor amount of sand, tan with MW3-26 SAND orange-rust and some green mottling, moist to very moist, low plasticity, very stiff, sand is subangular. 20 20 5/20 fine-gralned. ****** BOTTOM CAP SILTY CLAY (CL) with trace sand, buff, moist to very MW3-28 moist, low to moderate plasticity, very stiff, sand is 6/24 very fine-grained, BENTONITE 25 25 PELLETS SILTY CLAY (CL) with trace sand, buff, moist to very BOTTOM OF moist, low to moderate plasticity, very stiff, sand is MW3-CASING AT 25 fine- to very fine-grained. 22 FEET BOTTOM OF BORING AT 25 FEET. BOTTOM OF SAMPLE BORING AT 27.5 FEET. 30 30 Well Permit No., 89505 **EXPLANATION** Date well drilled: 6 November 1989 Clay Modified California Sampler Date water level

measured:

Well elevation: 95,980 feet

LF Geologist: Julie Sharp

RG 4605

Figure

: WELL CONSTRUCTION AND LITHOLOGY FOR WELL MW-3

SIIt

Sand

Gravel

Project No. 1547 Driller: HEW

LEVINE-FRICKE

Sample retained

for analysis

Approved by:

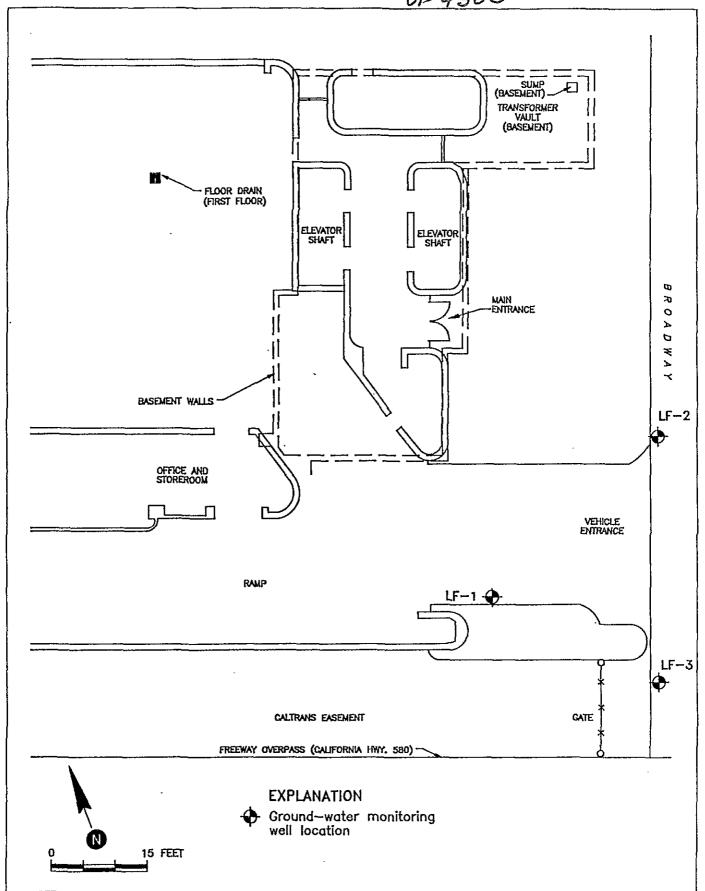


Figure 2: SITE PLAN AND MONITORING WELL LOCATIONS

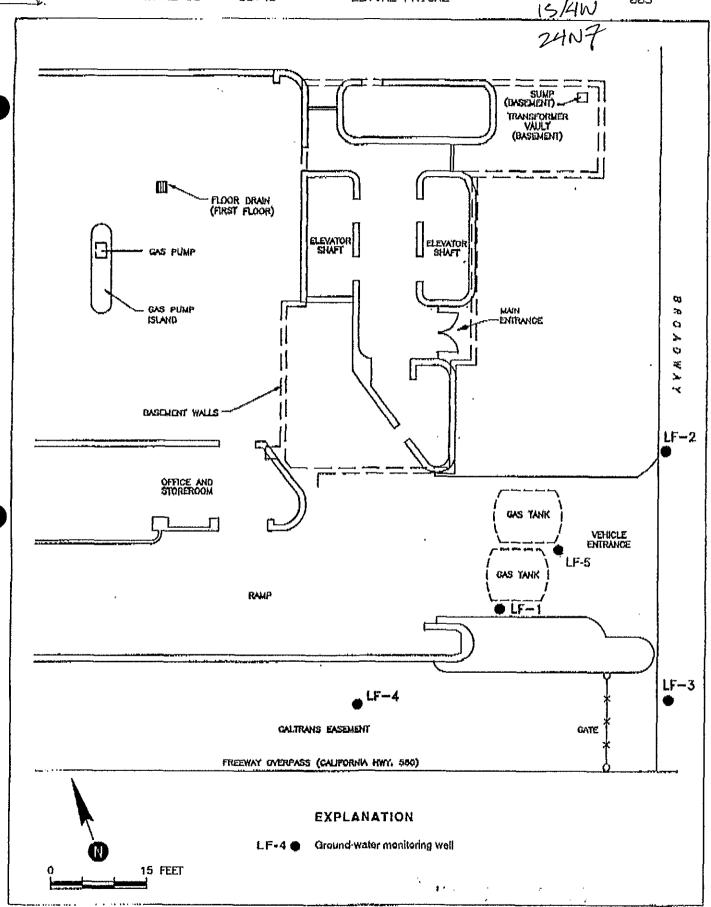


Figure 2: SITE LOCATION MAP

WELL CONSTRUCTION	nemal adele recurrence de constante qua	LITHOLOGY	SAMPLE DATE		
TIT. CHREITY BOX LOCKING CAP	Graphic Log	Description	Sample No. and Interval	Penetiction thate (Blows/ft.)	
10-INCH DIAMETER BOREHOLL	92.00	REINFORCED AGGREGATE CONCRETE. SANDY GRAVEL (GW), grayIsh brown, dry, dense, apgregate base - gravel is 1/2- to 1-Inch diameter. White packing foom, approximately 1-Inch thick. SAND (SP), vorlegated yellowen brown, most, dense, medium- to coarse-grained - odor of pasoline first	1111		
DIAMETER BLANK PVC CASING		noticed at approximately 2 feet. About 3-3/4 feet, a 3-inch diameter pipe encountered but not broken - dilling moved a few inches toward building.	5		
CEMENT		Coby change to viive/gray, increase in petroloum adar.			
		Sand is most but hole remains dry.	 10	35	
		GRAVELLY CLAYEY SAND (SW), variegated light brown, reddish brown and yellowish brown, slightly moist, dense, some gravet as large as 1.5-Inch diameter.			
		SiLTY CLAY (CH), light alive-brown, slightly moist, medium stiff, some dark brown packets (some darkon arganic matter?) approximately 1/8-inch alameter, spaced 1/2 inch apart, gospline ador,	15	13	
4-INCH DAMETER DAMETER PERSORATED PVC CASING (0 020-Inch		SILTY CLAY (CH), light ton-brown to alive-brown, slightly maist, soft, gosoline oder.	****	11	
NO 3 WONTEREY SAND PACK		SANDY SILTY CLAY (CL-CH), light brown ton, slightly moist, moderately stiff and plastic, sand is fine-grained.		9	
		Silty SANDy CLAY (CL-ML), light brown, wet at 24 feet. soft, increase in sand content. — Silty CLAY (CL), light graytsh brown, dry, medium stiff.	25	15	
	nne	BOTTOM OF AUGER BORING AT 24 FEET. BOTTOM OF SAMPLE BORING AT 25.6 FEET.	***		
	44110				

•			1505		
 5			 35		
EXPLANATION					
Sill Sand	Date well dri Well elevation Hammer we Li Geologisti	nn: 18.46 féat Mó ight: 140 lbs/30-inch ;: John Sturmon & Ron Goloubow	dified Californ		
Open Grovel	Approved: "	All 1 RG +4605	ter level at tim	a oradiling	

Figure

: WELL CONSTRUCTION AND LITHOLOGY FOR WELL LF-5

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

343406 15/4W 24N8 Log of Well No. MW-3 PROJECT: KAISER Oakland, California **ELEVATION AND DATUM:** BORING LOCATION: Picnic area at top of slope 102.04 feet City of Oakland DATE STARTED: DATE FINISHED: DRILLING CONTRACTOR: Weeks 11/15/90 11/15/90 TOTAL DEPTH: SCREEN INTERVAL: DRILLING METHOD: 8" Hollow stem auger 43.5 feet 38 - 41 DEPTH TO WATER ATD: CASING: DRILLING EQUIPMENT: Mobil NA 2" diameter SCH 40 PVC LOGGED BY: SAMPLING METHOD: 2 1/2" California D. Wuthrich RESPONSIBLE PROFESSIONAL: REG. NO. HAMMER WEIGHT: 140 lbs. DROP: 30 inches J.D. Gallinatti **CEG 1335** DESCRIPTION **SAMPLES** WELL DEPTH (feet) NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, CONSTRUCTION No. Sample Blows/ Foat cementation, react, wHCl, geo, inter-**DETAILS** Surface Elevation: CLAYEY SAND (FILL) (SW-SC) 8" monument Fine to medium sand with clay with ~18" stick-up SILTY CLAY (CH) Dark brown (7.5 YR 3/2), moist, clay and silt 2 3 2" diameter PVC Cement/ 5 bentonite PID=0.6 3-1 NA 6 SAND with CLAY (SW-SC) 7 Strong brown (7.5 YR 5/6), moist, fine to medium sand, ~10% clay and silt 8 9 10 PID=0.3 40 11 NA 3-2 12 13 GRAVELLY CLAY (CL) Light brown (7.5 YR 6/4), moist, clay and silt, ~20% fine to medium gravel to 1/2" 14 W-1-89/Modified Project No. 1459.05 **Geomatrix Consultants** Figure #

W-2-89/Modified

Figure #

Project No. 1459,05

343406 ISHW 24N8 Log of Well No. MW-3 (cont'd.) PROJECT: KÁISER Oakland, California SAMPLES **WELL** DESCRIPTION CONSTRUCTION NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, cementation, react. w/HCl, geo. inter. **DETAILS** 15 50 PID=0 16 2" diameter PVC NA 3-3 Gradational over 1 foot SANDY CLAY (CL) 17 Light brown (7.5 YR 6/4), moist, clay and silt, ~20% fine to medium sand, no gravel 18 19 Gradational over 1 foot 20 65 SILTY CLAY (CL) Light brown (7.5 YR 6/4), moist, clay and silt 21 PID=0 Cement grout NA 3-4 22 56 23 24 45 25 ~25% fine sand 95 for 26 Mineral spirits 3-5 SAND (SP) <10 27 Light brown (7.5 YR 6/4), moist, fine to medium sand, ~5% silt and clay 70 28 29 55 30 **CLAYEY SAND (SC)** Light brown (7.5 YR 6/4), moist, fine, subrounded sand, ~25% to 50% silt and clay

Geomatrix Consultants

31

343406 15/4W 24NB

PROJECT: KAISER Log of Well No. MW-3 (cont'd.) Oakland, California SAMPLES ANALYTICAL RESULTS (ppm) DESCRIPTION WELL NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, CONSTRUCTION comentation, react. w/HCl, geo. inter. **DETAILS** PID=0,3 Mineral Cement 3-6 spirits grout SILTY CLAY (CL) 32 <10 Brownish yellow (10 YR 6/6), moist, clay and silt 43 33 2" dlameter PVC 34 40 35 **Bentonite** 75 pellets, 36 1/4" diameter PID=0 37 40 38 3-7 SANDY SILT (ML) Mineral spirits Brownish yellow (10 YR 6/6), silt, ~50% fine to very Lonestar <10 #3 sand fine sand, ~5% clay 39 50 2" diameter PVC. screened, flush 40 threaded. 0.020" slot SILTY CLAY (CL) 90 41 Brownish yellow (10 YR 6/6), moist, clay and silt Bentonite 42 pellets, . 1/4° 30 diameter, hydrated 43 Mineral 3-8 spirits Bottom of hole at 43.5 feet <10 44 45 46 47 48 W-2-89/Modified Project No. 1459.05 Figure # **Geomatrix Consultants**

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STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

343407 ISHW 24N9 PROJECT: KAISER Log of Well No. MW-4 Oakland, California **ELEVATION AND DATUM:** BORING LOCATION: At northeast end of new building 82.57 feet City of Oakland DATE STARTED: DATE FINISHED: RILLING CONTRACTOR: Weeks 11/16/90 11/16/90 TOTAL DEPTH: SCREEN INTERVAL: DRILLING METHOD: 8" Hollow stem auger 22 feet 10.5 - 20.5 DEPTH TO WATER ATD: CASING: DRILLING EQUIPMENT: Mobil 2" diameter SCH 40 PVC N/A LOGGED BY: SAMPLING METHOD: 2 1/2" California D. Wuthrich RESPONSIBLE PROFESSIONAL: REG. NO. HAMMER WEIGHT: 140 lbs. DROP: 30 inches J.D. Gallinatti **CEG 1335** ANALYTICAL RESULTS (PPm) DESCRIPTION SAMPLES WELL DEPTH (feet) NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, comentation, react, w/HCl, goo. inter. CONSTRUCTION Blows/ Foot 훈 **DETAILS** Surface Elevation: **GRAVELLY SAND (FILL) (SW)** Brown (7.5 YR 4/2), moist, fine to coarse sand, ~25% ocking well cap fine gravel to 1/4", ~5% clay and silt Traffic rated 1 Christy Box (F-8) Cement/ 2 bentonite 3 SAND with GRAVEL (SW) 2" diameter PVC Yellowish brown (10 YR 5/6), moist, subangular to subrounded, fine to coarse sand, ~10% gravel to 1/2" Cement/ bentonite PID=0.9 80 6 NA 8 Bentonite pellets. 9 Becoming coarser sand 1/4" diameter 10 **GRAVELLY SAND (SW)** Yellowish brown (10 YR 5/6), moist, medium to 88 coarse subangular to subrounded sand, ~25% fine 11 PID=0.8 gravel 2 diameter PVC. screened, flush NA threaded, 4-2 12 -0.020" slot 60 Lonestar #3 sand 14 W-1-89/Modified Geomatrix Consultants Project No. 1459.05 Figure #

343407 1514W 24N9

PROJECT: KAISER Log of Well No. MW-4 (cont'd.) Oakland, California ANALYTICAL RESULTS (ppm) SAMPLES DESCRIPTION WELL NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, CONSTRUCTION comentation, react, w/HCl, geo. inter. **DETAILS** Mineral 65 Subangular gravel to 1/4", ~30% coarse sand spirits Lonestar 4.3 #3 sand <10 15 90 Very fine sand, no gravel, ~50% silt 16 2" diameter PVC. screened, flush threaded. 0.020" slot 17 40 SILTY SAND (SW-SM) Light yellowish brown (10 YR 6/4), moist, very fine to 18 fine subrounded sand, ~10 - 25% silt, ~5% clay 48 19 Formation Mineral sand spirits 20 <10 SILTY CLAY (CL) Pale brown (10 YR 6/3), moist, clay and silt, no sand 73 Bentonite 21 pellets. 1/4" diameter Mineral 4-5 spirits 22 <10 Bottom of hole at 22 feet 23 24 25 26 27 28 29 30 W-2-89/Modified Figure # Project No. 1459.05 **Geomatrix Consultants**

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

TRESPONDENCE TO THE HELL TO A TO A SECOND OF THE 343404 13/4W24N10 PROJECT: KAISER Log of Well No. MW-1 Oakland, California ELEVATION AND DATUM: BORING LOCATION: End of corridor, boiler room 71.78 feet City of Oakland DATE STARTED: DATE FINISHED: DRILLING CONTRACTOR: Clearheart 11/7/90 11/8/90 TOTAL DEPTH: SCREEN INTERVAL: DRILLING METHOD: 6" Hollow stem auger 30 feet 3.5 - 7.5CASING: **DEPTH TO WATER ATD:** DRILLING EQUIPMENT: Giddings Probe 6 1/2 feet 2" diameter SCH 40 PVC LOGGED BY: SAMPLING METHOD: 2 1/2" California (CA), 2" split-spoon (2"), standard pen (p) D. Wuthrich RESPONSIBLE PROFESSIONAL: REG. NO. DROP: 30 inches HAMMER WEIGHT: 140 lbs. J.D. Gallinatti **CEG 1335** ANALYTICAL RESULTS (ppm) DESCRIPTION **SAMPLES** WELL DEPTH (feet) NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, CONSTRUCTION Blows/ Foot comentation, react, w/HCl, geo. inter. **DETAILS** Surface Elevation: 6" concrete ocking well cap SAND with CLAY (SW-SC) Traffic rated Brown (7.5 YR 5/4), moist, fine to coarse subangular Christy Box sand, ~10% clay and silt, ~5% gravel (G-5) CA 4 Neat cement 2 Bentonite peliets, . 1/4" diameter 2" 6 3 Mineral 2" diameter PVC spirits <10 7 Lonestar SANDY GRAVEL with CLAY (GC) #3 sand 5 -Light brown (7.5 YR 6/4), moist, angular medium gravel, (chert, lithic fragments) to 1/2" - 3/4", 33 CA ~25% medium to coarse sand, ~10% silt and clay 2 diameter PVC, screened, flush 6 threaded, ∇ 0.020" slot 2" 39 Mineral 1-2 SILTY CLAY (CL) spirits <10 Yellowish brown (10 YR 5/4), dry, no sand 9 24 р Neat cement 10 Black mottling 33 CA 11 12 34 2"

Geomatrix Consultants

NA

Project No. 1459,05

W-1-89/Modified

Figure #

13

14

343404 IS/4W24N10

,						3	43404 15/4W 24		
PRO	JECŤ:		AISE Dakla	R nd, California	Log of Well No. MW-1 (cont'd.)				
DEPTH (feet)			Blows/ Foot	DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast. cementation, react, w/HCl, geo. inte		ANALYTICAL RESULTS (ppm)	WELL CONSTRUCTION DETAILS		
15 -	P		14	Mottled gray color	-				
16 -	CA	\setminus	41	SILTY SAND (SM) Yellowish brown (10 YR 5/4) with bla moist, very fine to fine subrounded sa ~5% clay	ck mottling, dry to and, ~25% silt,	-			
17 - - 18 -	2"	\	29	,	- -	Mineral spirits <10			
19 - -	P		20						
20 - - 21 -	CA		41	SILTY CLAY (CL)	-				
22 -	2* 1-5		47	Brown (10 YR 5/3), dry to moist, clay	and silt, no sand	NA	Neat cement		
23 -	р	/	28	5 - 10% angular gravel to 1/4"					
25 - 26 -	0.1	\ \							
27 - 27 - 28 -	2* 1-5		49 95 for 11"	CLAYEY GRAVEL with SAND (GC) Reddish brown (2.5 YR 5/4), moist, m gravel, ~20% clay and 10% medium s	nedium to fine sand	NA			
29 - -	p	$\left\langle \right\rangle$	68						
30 -				Bottom of hole at 30 feet			₩ ₩₩		
							W-2-89/Modified		
<u></u>				Geomatrix Consultants	Pro	ject No. 14	59.05 Figure #		

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

343405 15/4W24NI!

PROJECT: KAISER Log of Well No. MW-2 Oakland, California **ELEVATION AND DATUM:** BORING LOCATION: Top of stairs, at 2 cooling towers 82.10 feet City of Oakland DATE STARTED: DATE FINISHED: DRILLING CONTRACTOR: Clearheart 11/8/90 11/8/90 SCREEN INTERVAL: TOTAL DEPTH: DRILLING METHOD: 6" Hollow stem auger 22 feet 11 - 21CASING: DEPTH TO WATER ATD: DRILLING EQUIPMENT: Giddings Probe 2" diameter SCH 40 PVC 19.7 feet LOGGED BY: SAMPLING METHOD: 2 1/2" California (CA), 2" split-spoon (2"), standard pen (p) D. Wuthrich RESPONSIBLE PROFESSIONAL: REG. NO. HAMMER WEIGHT: 140 lbs. DROP: 30 inches **CEG 1335** J.D. Gallinatti WELL DESCRIPTION **SAMPLES** DEPTH (feet) NAME (USCS Symbol): color, moist, % by wt., plast., density, structure, CONSTRUCTION Sample comentation, react, w/HCl, geo. inter. **DETAILS** ġ Surface Elevation: SAND (FILL) (SW) Yellowish brown (10 YR 5/4), moist, fine to coarse, ocking well cap subangular to subrounded sand, 5% silt and clay, Traffic rated 1 Christy Box ~5% gravel (G-5)Cement/ 2 bentonite **GRAVELLY SAND (SW)** Yellowish brown (10 YR 5/6), moist, fine to coarse angular sand, 20% angular gravel to 1/2" (clasts 3 2" diameter PVC include chert and limestone), less than 10% silt and 34 PID=0 2" clay 2-1 NA 4 bentonite 27 6 8 38 PID=1.1 Increased silt and clay 2-2 Bentonite 9 NA pellets, 1/4" diameter 10 SANDY SILT (ML) Yellowish brown (10 YR 5/6), moist, silt, ~25% fine sand, ~5% clay 11 2" diameter PVC. screened, flush threaded. 0.020" slot 12 (SW)
ish yellow (10 YR 6/6), moist, fine to medium occasional 2 to 4" thick gravel lenses, gravel to 1/2"

Geomatrix Consultants

PID=0.8

Mineral spirits <10

W-1-89/Modified

Project No. 1459.05

Figure # SAND (SW) 13 Brownish yellow (10 YR 6/6), moist, fine to medium 37 sand, occasional 2 to 4" thick gravel lenses, gravel clasts to 1/2" 14

343405 15/4W24NN

PROJECT: KAISER

Log of Well No. MW-2 (cont'd.) Oakland, California

f					Geomatrix Consultants		oject No. 14	159.05 F	igure #		
	31 —								W-2-89/Modified		
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	25 -					-					
1	24 - -										
	-					-					
	23 -				-	-			ļ		
	22 -				Bottom of hole at 22 feet			*****	2 3		
						-			Lonestar #3 sand Slough		
	- 21 -	CA	$ \setminus $	31	Light yellowish brown 910 yr 6/4), mois no sand	t, clay and silt,					
	20 -		H		SILTY CLAY (CL)						
	19 - -	р	$ \setminus $	19	angular sand, ~5% silt and clay, ~5% o]_					
	10 -	}			SAND (SW) Brownish Yellow (10 YR 6/6), moist, fir	ne to medium					
	- 18 -	2-4	H		~30% fine to coarse sand	-	spirits <10				
	17 -	2"	 	42	SANDY GRAVEL Yellowish brown (10 YR 5/4), moist, gr	avel to 1/2",	Mineral		threaded, 0.020" slot		
	16 -	CA	$ \setminus$	44		-			2" diameter PVC, screened, flush		
	15 - -		lacksquare			- -					
	-					-					
	(feet)	Samp	Sampl	Foot	NAME (USCS Symbol): color, moist, % by wt., plast., do comentation, react. w/HCl, geo. inter.	ansily, structure,	ANALYTICAL RESULTS (ppm)		RUCTION TAILS		
	SAMPLES DESCRIPTION NAME (USCS Symbol): color, moist, % by wt., plast., de comentation, react. wHCl, geo. infer.						TICAL (m) WETT				
	Canana, Canomia										

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

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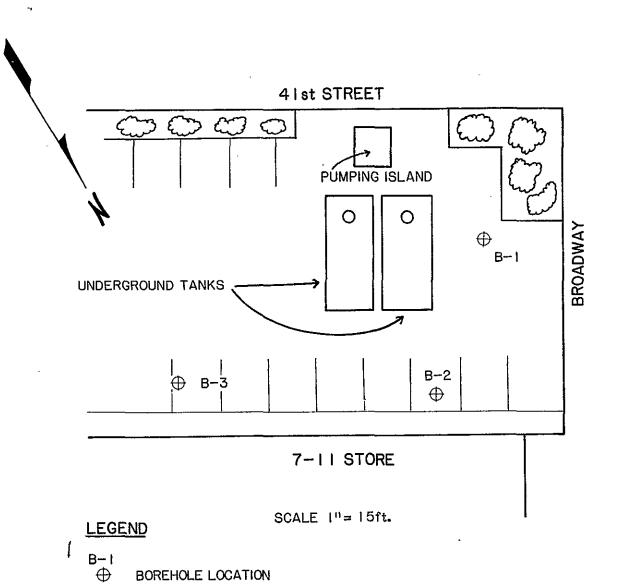
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STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

REMOVED



#86244

J.H. KLEINFELDER & ASSOCIATES

GEOTECHNICAL CONSULTANTS . MATERIALS TESTING LAND AND WATER RESOURCES

PROJECT NO. B-1628-1

SOUTHLAND CORPORATION 7-11 4100 BROADWAY, OAKLAND

GENERAL SITE PLAN

PLATE

0	Blow/ Ft.	\$ample No.	USCS	DESCRIPTION	WELL CONST
٦ '				Asphalt - 6 inches	1
2 - 4 -			CL	CLAY - black to green, moist, medium plasticity, firm, NOSC	
6 -		S-5-1		•	
8 -			SC	CLAYEY SAND - reddish-brown, moist, medium to coarse sand, some clay, medium dense, NOSC	•
12 -		S-10-1		SILTY SAND - greenish-brown, becoming wet, loose to medium dense, fine to medium sand, few subrounded gravels to 1/2-inch diameter, NOSC	-
14 –		į	SM		
16 -		S-15-1			
18 -					
20 -				GRAVELLY SAND - vari-colored, poorly sorted,	
22 -			SW/ GW	wet, medium sand, gravels sub-rounded to 1/2-inch diameter, NOSC	
24 -					
26 -			- ML	CLAYEY SILT - light brown, moist, stiff, minor fine sand, NOSC	
28 -				•	
30 -				Total Depth of Borehole = 30 feet	

J.H. KLEINFELDER & ASSOCIATES GEOTECHNICAL CONSULTANTS • MATERIALS TESTING

LAND AND WATER RESOURCES

PROJECT NO. B-1628-1

SOUTHLAND CORPORATION 7-11 4100 BROADWAY, OAKLAND LOG OF BORING NO. B-1 PLATE

15/4W24L 01-204B

	Blow/ Ft.	Sample No.	USCS	DESCRIPTION	WEL!
,	0			Asphalt - Concrete 1.5 feet	
	2-			SILTY CLAY - dark grey to green, moist, medium plasticity, firm, NOSC.	
	6	S-5-2	CL CL	,	
	8-				
1	0-	S-10-2	ML	SILT - light brown, minor fine sand, moist, firm, NOSC	<u></u>
1	.2-	-			
1 1	4-		SM	SILTY SAND - reddish-brown, very moist to wet, fine sand, medium dense, few sub-rounded gravel to 1/4-inch diameter, NOSC.	,
Depth in Feet	.6-	S-15-2	-		
_	.8-				
2	20-		SW	SAND - wet; no sample recovery	
2	22-				
7	24-				
2	26		· CL	CLAY - light brown, moist, medium plasticity,	
2	28			stiff, NOSC	
3	30-			Total Depth of Borehole - 27 feet Drilled by Steve Fox 9/17/86	

J.H. KLEINFELDER & ASSOCIATES GEOTECHNICAL CONSULTANTS . MATERIALS TESTING GEOTECHNICAL CONSULTANTS . MATERIALS TESTING LAND AND WATER RESOURCES

SOUTHLAND CORPORATION 7-11 4100 BROADWAY, OAKLAND LOG OF BORING NO. B-2 PLATE

Blow/ Ft.	Sample No.	USCS	DESCRIPTION	WELT CONS
0			Asphalt - 6 inches	
2 -			FILL - brown, coarse gravel	
4 -		ML	SANDY SILT - brown, moist, coarse sand, NOSC	
6	S-5-3	CL	SILTY CLAY - grey to brown, moist, firm, medium plasticity, NOSC	
8 -	ĺ			
10	S-10-3		SILTY SAND - light brown to grey, becoming more wet, fine to medium sand, NOSC	<u></u>
12	5-10-3	SM	- becoming more dense	
14				
16	S-15-3		GRAVELLY SAND - light brown, wet, medium sand, gravel sub-rounded to 1/4-inch, NOSC	
18		SP		
20 -	}		- becoming more loose, less gravel	
22		CI	CLAY - light brown, stiff, medium plasticity,	
24		CL	NOSC NOSC	
26			Total Depth of Borehole - 23 feet Drilled by Steve Fox 9/17/86	
28				
30 -				

J.H. KLEINFELDER & ASSOCIATES

GEOTECHNICAL CONSULTANTS . MATERIALS TESTING LAND AND WATER RESOURCES

PROJECT NO. B-1628-1

SOUTHLAND CORPORATION
7-11
4100 BROADWAY, OAKLAND
LOG OF BORING NO. B-3

PLATE

CONFIDENTIAL

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

REMOVED

,									10/10/21				
						во	RIN	IG LOG	308393A				
)	Project KEI-P89-				Во	ring 9"	& Cas	sing Diameter 2"	Logged By Property 30 D. L.				
	Project Oakland			1	We	:11 He	ead El	levation	Date Drilled 1-26-90				
	Boring N MW4	No.				illir thod		Hollow-stem Auger	Drilling Company EGI				
	Penetra- tion blows/6"	G. W. level			-)	Stra grap USCS		Description					
				U —				A.C. Pavement. Sand and gravel: Fill Clay					
				-		sw- sc			nd with clay and silt moist, dark greenish				
	6/5/11			5 —		мн		Clayey elastic stiff, moist,	silt, 5-10% sand, black.				
	16/21/24			_		СН		to 1/4", very	vel, 10-15% sand gravel stiff, moist, very dark and black, mottled with				
	8/10/11	—	1	o —		GC		Clayey gravel of gravel to 3/4' dark greenish	with sand, 15-20% clay, ", medium dense, moist, gray.				
	8/7/14			-		CH GC	. ∨0%° 15. ×10×2.	gray, mottled Clayey gravel t	with with sand, olive				
	10/16/21		1	5 —		СН		brown and dark greenish gray. Clay high plasticity, with silt, 5-1 sand, very stiff, moist, dark yellowish brown and light olive brown, mottled. Silty clay, high plasticity, 5-10% sand stiff, moist, light olive brown					
	10/10/14			_									
			_ 2	0				ТО	TOTAL DEPTH: 20'				

\mathbf{W}	E	L	L	C	0	M	\mathbf{P}	L	\mathbf{E}	T	I	0	N	D	Τ	Α	G	R	Α	М
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PROJECT NAME: <u>Unocal - Oakland - Broadway</u> BORING/WELL NO. MW4 PROJECT NUMBER: KEI-P89-0805 WELL PERMIT NO.: Total Depth: 20' Flush-mounted Well Cover Α. в. Boring Diameter*: 9" Drilling Method: Hollow Stem _Auger____ c. Casing Length: 20' Material: Schedule 40 PVC Casing Diameter: OD = 2.375" Н ID = 2.067"Depth to Perforations: 5! Ε. F. Perforated Length: 15' Machined Perforation Type: Slot Perforation Size: 0.020" G. Surface Seal: 2' Seal Material: Neat Cement Seal:_____2' H. Seal Material: Bentonite Gravel Pack: 16' RMC Lonestar

Seal Material: N/A

Pack Material: Sand

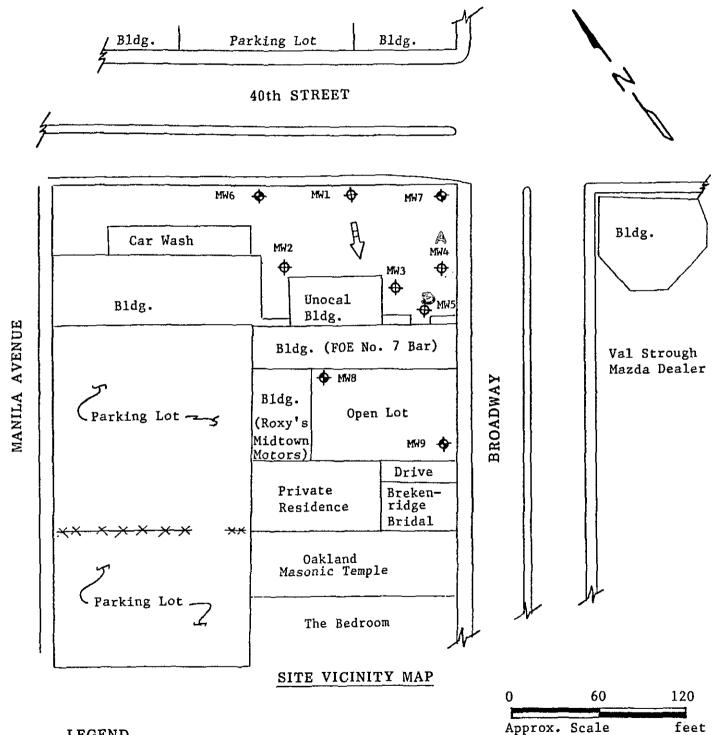
J. Bottom Seal: None

Size:<u>#3</u>



Consulting Engineers

P.O. BOX 996 • BENICIA, CA 94510 (707) 746-6915 • (707) 746-6916 • FAX: (707) 746-5581 308393 AB



LEGEND



Monitoring Well (existing)



Monitoring Well (proposed)



Direction of Ground Water Flow

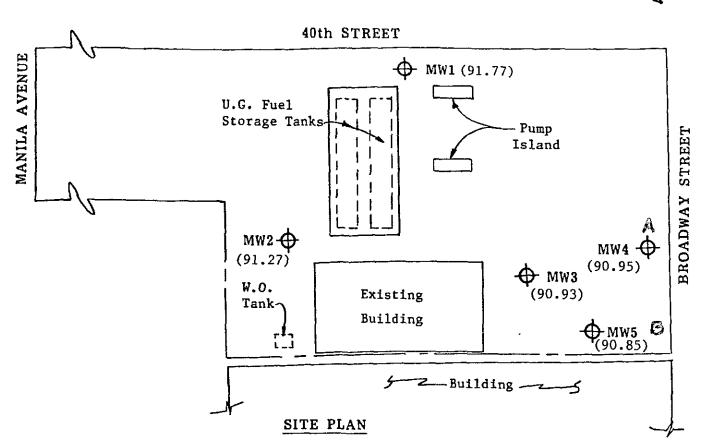
Unocal S/S #0746 3943 Broadway Oakland, California



Consulting Engineers

P.O. BOX 996 • BENICIA, CA 94510 (707) 746-6915 • (707) 746-6916 • FAX: (707) 746-5581 308393A1B



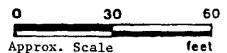


LEGEND

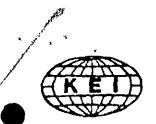
Monitoring Well (Existing)

Ground water surface elevation on 2/15/90. Top of MWl well cover assumed 100.00 feet as datum.

Direction of ground water flow

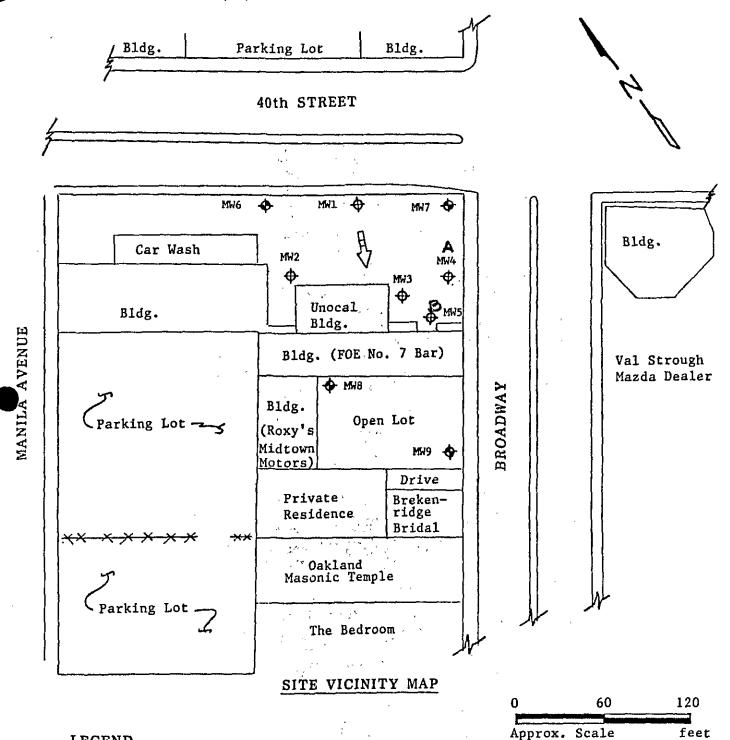


Unocal Service Station #0746 3943 Broadway Street Oakland, California



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LEGEND



Monitoring Well (existing)



Monitoring Well (proposed)



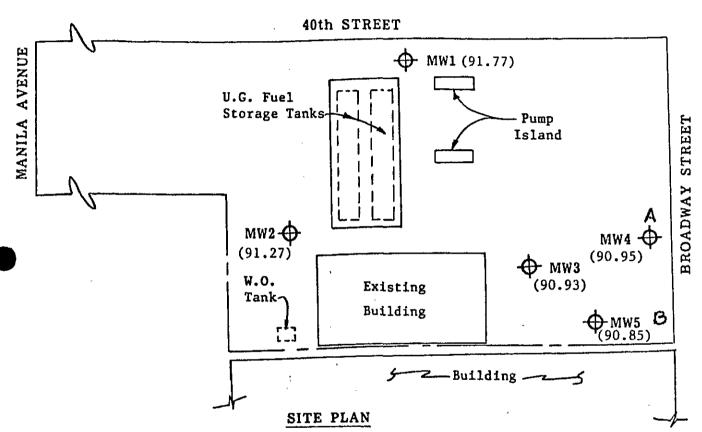
Direction of Ground Water Flow

Unocal S/S #0746 3943 Broadway Oakland, California

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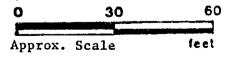


LEGEND

Monitoring Well (Existing)

Ground water surface elevation on 2/15/90. Top of MWl well cover assumed 100.00 feet as datum.

Direction of ground water flow



Unocal Service Station #0746 3943 Broadway Street Oakland, California

CONFIDENTIAL

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

REMOVED

	``						· · · · · · · · · · · · · · · · · · ·	13/4W 27L2				
	•				во	RI	NG LOG	308393B				
	Project KEI-P89-			В	oring 9"	& Cas	sing Diameter 2"	Logged By Jan 130				
	Project Oakland			We	eļl Ho	ead El N/A	Levation	Date Drilled 1-26-90				
	Boring 1 MW5	No.			rilli ethod		Hollow-stem Auger	Drilling Company EGI				
	Penetra- tion blows/6"		Depth Sample		Stra graj USC		Description					
							A.C. Pavement. Sand and gravel	to 9": Fill				
					СН			gh plasticity, 5-15% bist, dark greenish gray				
	5/4/5		 5 		МН		very moist bla					
)					CH		Silty clay, high plasticity 10-15% sand stiff, moist, dark olive gray					
	8/17/24						15-30% gravel	sticity, with gravel, to 1/2", trace silt, pist. dark brown and				
	8/15/23		 10 				very stiff, moist, dark brown and black, mottled, with root holes. Sandy below 10 feet, olive gray grade to clayey sand.					
	7/10/12		_					0-15% silt, dense, moist				
	6/10/18	<u>Ā</u>			sc			, dark greenish gray and ottled with gravel below				
	6/10/11		 15		GW- GC		medium dense,	evel with clay and sand, wet, dark greenish to >2" diameter.				
	8/15/18	1			СН		stiff, moist, light olive br greenish gray Silty clay, hig	sticity, trace silt, dark greenish gray and cown, mottled, dark in voids/fissures. gh plasticity, stiff, light olive brown and				
)	-,,		 20				dark greenish greenish	gray, mottled, olive below 19.5 feet. OTAL DEPTH: 20				

308393B

W	Е	L	\mathbf{L}	: (0	M	Р	L	\mathbf{E}	\mathbf{T}	T	0	N	D	T	Α	G	R	Α	М

PROJECT NAME: <u>Unocal - Oakland - I</u> PROJECT NUMBER: <u>KEI-P89-0805</u> WELL PERMIT NO.:	Broadway	BORING/WELL NO. MW5
Flush-mounted Well Cover	Α.	Total Depth: 20'
	В.	Boring Diameter*: 9"
		Drilling Method: Hollow Stem
		Auger
D G	c.	Casing Length: 20!

Η

- Material: Schedule 40 PVC

 D. Casing Diameter: OD = 2.375"

 ID = 2.067"
- E. Depth to Perforations: 5'
- F. Perforated Length: 15'

 Machined
 Perforation Type: Slot

 Perforation Size: 0.020"
- G. Surface Seal: 2'
 Seal Material: Neat Cement
- H. Seal: 2'
 - Seal Material: Bentonite
- I. Gravel Pack: 16'

 RMC Lonestar
 Pack Material: Sand

 Size: #3
- J. Bottom Seal: None

 Seal Material: N/A
- *Boring diameter can vary from 8-1/4" to 9" depending on bit wear.

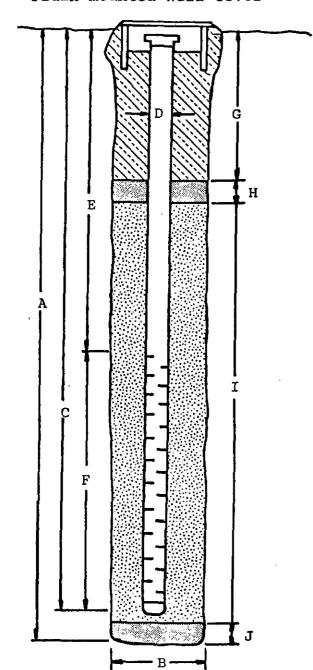
				вог	RIN	G)	r o e	01-4493					
Project No KEI-P89-08				ing 8	Cas	ing D	iameter	Logged By D.L.					
Project Na Oakland -			Wel	l Hea	ad Elo N/A	evatio	on	Date Drilled 10/17/89					
Boring No.	•			lling hod	J	Holld Auger	ow-stem r	Drilling Company EGI					
Penetra- tion blows/6"	G. W. level		oth (oples		Strati- graphy USCS			Description					
·			J				Silty cl	ement nd and gravel: fill. ay, high plasticity, iff, moist, black, trace					
5/7/15		5		CH -~- SC		trace grant moist, construction	ay, high plasticity, ravel, very stiff, dark olive gray. and, 30-40% clay, medium very moist, grayish mottled.						
7/10/16	Ž.		10		GC -		Clayey g	ravel with sand, medium very moist, olive brown ong brown, mottled.					
10/15/12						,		-		GP/ GC		and san	raded gravel with clay d, medium dense, wet, llowish brown.
		15				stiff, olive b							
11/17/23					CH		dense gray,	gravel with sand, very , moist, dark greenish gravel to 1".					
10/16/19					GC MH			silt, very stiff, moist, reenish gray. TOTAL DEPTH 20'					

TJ	TO T	L ·	0 0	N N	ъ	Ŧ	10	m	T	\mathbf{a}	M	T)	т	TA.	\boldsymbol{c}	ď	74	м
W	E L	ъ.	UU	m	Ľ	ப	Ŀ	1	Т	v	И	ע	1	41	U	ĸ	A	m

PROJECT	NAME:	<u> Unocal -</u>	<u>Oakland</u>	- Broadway		BORING/WELL	NO.	MW1
PROJECT	NUMBER:	KET-P8	19-0805	ī				

WELL PERMIT NO.: 89456

The	h-mour	5040	17011	COTTOY
FILES	n-mour	ıtea	well	Cover



- A. Total Depth: 20'
- B. Boring Diameter*: 9"

 Drilling Method: Hollow Stem

 Auger
- C. Casing Length: 20'

 Material: Schedule 40 PVC
- E. Depth to Perforations: 5'
- F. Perforated Length: 15'

 Machined
 Perforation Type: Slot

 Perforation Size: 0.020"
- G. Surface Seal: 2'
 Seal Material: Concrete
- H. Seal: 2'
 Seal Material: Bentonite
- I. Gravel Pack: 16'

 RMC Lonestar
 Pack Material: Sand

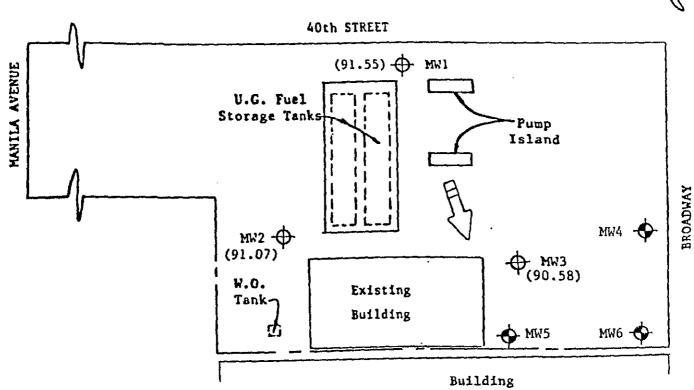
 Size: #3
- J. Bottom Seal: None

 Seal Material: N/A



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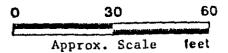
SITE PLAN

LEGEND

Monitoring Well (Proposed)
Monitoring Well (Existing)

on 11/1/89. MW1 well cover assumed 100.00° as datum.

Direction of ground water flow on 11/1/89.



Unocal Service Station #0746 3943 Broadway Street Oakland, California

			H	3 O E	RIN	G I	OG	01-449K		
Project No KEI-P89-08			Boring & Casing Diameter 9" 2"					Logged By D.L.		
Project Na Oakland -			Wel]	l Hea	ad Ele N/A	evatio	on	Date Drilled 10/17/89		
Boring No.	,		Dri] Meti	lling]	Holla Auge	ow-stem	Drilling Company EGI		
Penetra- tion blows/6"	G. W. level		pth (ft) Strati mples graphy USCS			phy]	Description		
			— 0 -				A.C. Pave Clay, sa	ement nd and gravel: fill.		
6/9/15			5		СН		stiff, odor, t 3.5 fee Sandy cl	ay, high plasticity, moist, black, organic race - 15% gravel below t. ay, 5-10% gravel, very moist, dark olive gray.		
7/8/11			10		CL/ CH		5/8", s	clay, 15-30% gravel to tiff to very stiff, dark brown.		
6/7/10					sc		to very	and, medium dense, moist moist, olive brown and brown, mottled.		
12/22/28	<u> </u>				GW/ GC			ded gravel with clay and ravel to 2 1/2", dense dense.		
			— 15 — · — — —		15		CL/			ry stiff to hard, olive o yellowish brown,
9/20/18			20					above, yellowish brown, t, trace - 15% sand. TOTAL DEPTH 20'		

WELL COMPLET	ION	DIAGRAM
PROJECT NAME: Unocal - Oakland - Broa	dway	BORING/WELL NO. MW2
PROJECT NUMBER: KEI-P89-0805	 -	
WELL PERMIT NO.: 89456	<u></u>	AND THE RESIDENCE OF THE PARTY
Flush-mounted Well Cover	A.	Total Depth: 20'
	в.	Boring Diameter*: 9"
		Drilling Method: Hollow Stem
		_Auger
D G	c.	Casing Length: 20'
		Material: Schedule 40 PVC
н	D.	Casing Diameter: OD = 2.375"
		ID = 2.067"
	E.	Depth to Perforations: 5'
	F.	Perforated Length: 15'
		Machined Perforation Type: Slot
		Perforation Size: 0.020"
I	G.	Surface Seal: 2'
		Seal Material: Concrete
	н.	Seal:2'
		Seal Material: Bentonite
	т	Craval Packs 161

J. Bottom Seal: None

Seal Material: N/A

Pack Material: Sand

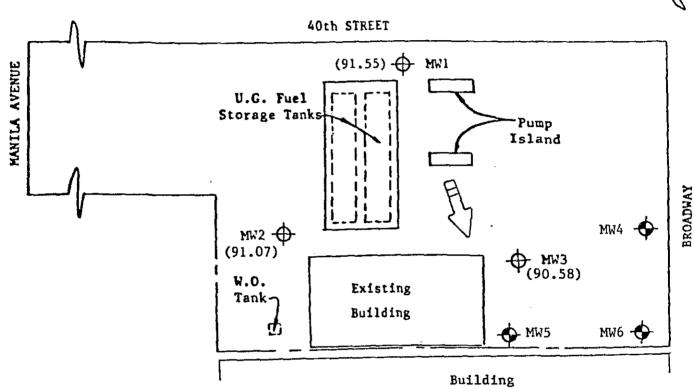
Size: #3

RMC Lonestar



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SITE PLAN

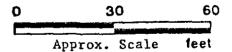
LEGEND

Monitoring Well (Proposed)

Monitoring Well (Existing)

() Ground water surface elevation on 11/1/89. MWl well cover assumed 100.00' as datum.

Direction of ground water flow on 11/1/89.



Unocal Service Station #0746 3943 Broadway Street Oakland, California

				1	ВОЕ	RIN	G]	LOG	01-449L
	Project No KEI-P89-08	Boring & Casing Diameter 9" 2"					Logged By D.L.		
	Project Na Oakland -			Well	l Hea	d Ele N/A	evatio	on .	Date Drilled 10/17/89
	Boring No.	•		Dri. Metl	lling hod	J	Hollo Auge	ow-stem Drilling Company	
				oth (1	£t)	grap	Strati- graphy USCS		Description
				U -				A.C. Pave Clay, sar	ement nd and gravel: fill.
	5/5/11		— — — —	5		СН		gravel, and blac disturbe Silty cla	ay, high plasticity with firm, moist, olive gray ck, mottled with debris, ed. ay, high plasticity, 5-d, firm, moist, black.
	5/7/12			10		CL/		1/2", f: grayish	clay, 30% gravel to irm, moist, very dark brown, gray root holes.
	3/9/11	-							ay, stiff, moist, olive nd gray, mottled.
	6/17/16		 			sc		moist,	and, medium dense, very 40% clay, olive gray and rown, mottled.
	7/9/13			15				dense, Clay, ve green a	and w/gravel, 15% clay, very moist. ry stiff, moist, grayish nd olive brown, mottled. mottled.
						CL/ CH	Management of the control of the con		
)	9/11/14		<u> </u>	20					above, greenish gray ht olive brown.

15/4W 24L6

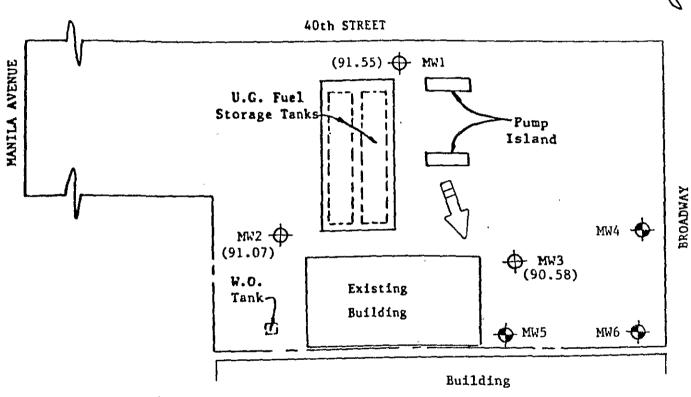
	воз	RING	.]	OG	01-4492
Project No. KEI-P89-0805	Boring 8	& Casin	g Di 2'		Logged By D.L.
Project Name Unoc Oakland - Broadwa	Well Hea	ad Elev	atio	on	Date Drilled 10/17/89
Boring No.	Drilling Method	_	ollo	ow-stem	Drilling Company EGI
Penetra- tion level blows/6"	oth (ft) nples	Strat graph USCS		1	Description
9/12/15	30	CL/ CH		very st brown. Clay with	TOTAL DEPTH 22.5'

		 							
WELL COMPLETION DIAGRAM									
PROJECT NAME: Unocal - Oakland - Broadway BORING/WELL NO. MW3									
PROJECT NUMBER: KEI-P89-0805									
WELL PERMIT NO.: 89456									
Flush-mounted Well Cover	Α.	Total Depth: 22.5'							
TIMES	В.	Boring Diameter*: 9"							
		Drilling Method: Hollow Stem							
		<u>Auger</u>							
D G	c.	Casing Length: 22.5'							
		Material: Schedule 40 PVC							
H	D.	Casing Diameter: OD = 2.375"							
		ID = 2.067"							
	Ε.	Depth to Perforations: 51							
	F.	Perforated Length: 17.5'							
A		Machined Perforation Type: Slot							
		Perforation Size: 0.020"							
	G.	Surface Seal: 2'							
c -]	٠.	Seal Material: Concrete							
	н.	Seal: 2'							
F	11.	Seal Material: Bentonite							
	т	Gravel Pack: 18.5'							
		RMC Lonestar Pack Material: Sand							
		Size: #3							
	~								
LJ₃	. ل	Bottom Seal: None							
В——В		Seal Material: N/A							



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SITE PLAN

LEGEND

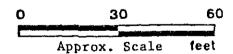
Monitoring Well (Proposed)

Monitoring Well (Existing)

Ground water surface elevation on 11/1/89. MW1 well cover assumed 100.00' as datum.



Direction of ground water flow on 11/1/89.



Unocal Service Station #0746 3943 Broadway Street Oakland, California

CONFIDENTIAL

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

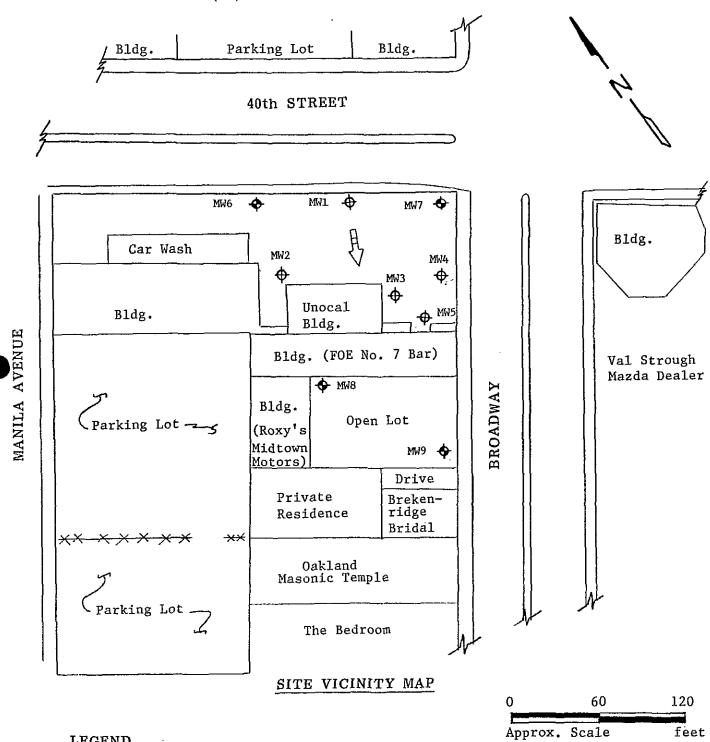
REMOVED



Consulting Engineers

15/4W 24/L7-10

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LEGEND



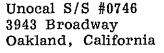
Monitoring Well (existing)



Monitoring Well (proposed)



Direction of Ground Water Flow



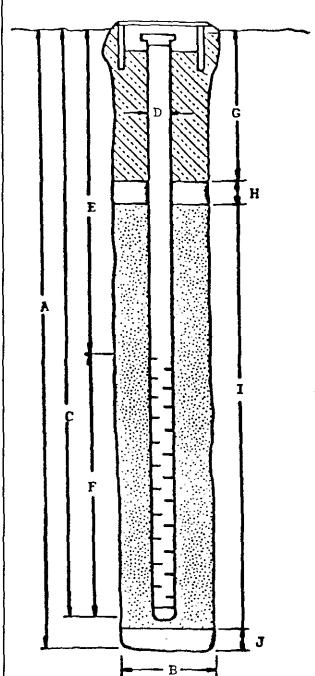
364640 A

		····					364640 A	
				во	RII	1 G L O G	15/4W 2417	
	Project No. KEI-P89-0805					sing Diameter 2"	Logged By W.W.	
Project Nar 3943 Broady			We	ell He	ead El	levation	Date Drilled 10/22/90	
Boring No. MW6				cillir ethod		Hollow-stem Auger	Drilling Company EGI	
Penetration blows/6"	G. W. level		t) graphy			Description		
				CL/ CH		Silty clay, tra stiff, orange	and and gravel base. ace fine sand, moist, brown. f Fill Materials	
				СН		Silty clay, tra moist, firm, h	ace fine sand, moist, black.	
4/9/13		5 		CL/ CH			trace rootlets, moist, ark grayish brown, trace diameter.	
8/10/15				GC		gravel to 1-1,	trace sand, subangular /8" diameter, moist, ark grayish brown, orown.	
5/6/12				CL/		trace very fine matter, moist	avel to 3/8" diameter, ne sand, trace organic to very moist, very yellowish brown with ive mottling.	
4/7/11		— — 15 —				trace caliche	trace organic matter, , slightly moist, very tiff, light yellowish	
5/8/14				ML/ MH		very stiff, li light yellowis orange brown a	race sand, saturated, ight yellowish brown sh brown mottled with and light greenish gray. TAL DEPTH: 20	

<u>Auger</u>

W	\mathbf{E}^{\prime} T	. т.	C	O M	РT.	F T	ION	_ n _	F A (2 R	A M
	ے نہ		~	~ r.	- L						27 T.7

PROJECT NAME: Unocal - 3943 Broadway	St., Oakland BORING/WELL NO. MW6
PROJECT NUMBER: <u>KEI-P89-0805</u>	
WELL PERMIT NO.:	
Flush-mounted Well Cover	A. Total Depth: 20'



- B. Boring Diameter*: 9"

 Drilling Method: Hollow Stem
- C. Casing Length: 20'

 Material: Schedule 40 PVC
- D. Casing Diameter: OD = 2.375" ID = 2.067"
- E. Depth to Perforations: 5'
- F. Perforated Length: 15'

 Machined
 Perforation Type: Slot

Perforation Size: 0.020"

- G. Surface Seal: 21
- H. Seal: 2'
 - Seal Material: Bentonite

Seal Material: Neat Cement

- I. Gravel Pack: 16'
 RMC Lonestar
 Pack Material: Sand
 Size: #3
- J. Bottom Seal: None

 Seal Material: N/A

BORING LOG	
Project No. KEI-P89-0805 Boring & Casing Diameter Logged By W.W.	
Project Name Unocal 3943 Broadway, Oaklnd N/A Date Drilled 10/22/90	
Boring No. Drilling Hollow-stem Drilling Compa	ny
Penetration G. W. Depth Strati- graphy Description Samples USCS	
Asphalt over sand and gravel by with cobbles to 6" diameter.	ase
CL/ Silty clay with gravel, trace gravel to 1-1/4" diameter, mo firm, brown. Clay, 5-10% fine sand, trace s moist, stiff, dark yellowish	ist,
3/4/5 Silty clay, highly organic, true subangular gravel to 1" diamed moist, firm to stiff, moist,	ter,
5/10/12 CL/ Clay, trace rootlets, trace si trace sand, moist, very stiff brown.	
Clayey sand, trace gravel to 3 dia., fine to medium grained, moist, medium dense, bluish g Sandy gravel, 5% clay, trace r gravel to 1" diameter, satura	very ray. ootlets,
6/9/15 GC medium dense, yellowish brown clayey gravel with sand, sligh gravel to 1" diameter, satura medium dense, bluish gray.	t odor,
- ML/ - MH Clayey silt, 5% very fine sand organic matter, stiff to very very moist to saturated, pale mottled with light olive brow	stiff, olive
4/7/9 — 20 — TOTAL DEPTH: 20'=	

WELL COMPLET	ION DIAGRAM								
PROJECT NAME: Unocal - 3943 Broadway	St, Oakland BORING/WELL NO. MW7								
PROJECT NUMBER: KEI-P89-0805									
WELL PERMIT NO.:	<u> </u>								
Flush-mounted Well Cover	A. Total Depth: 20'								
	B. Boring Diameter*: 9"								
	Drilling Method: Hollow Stem								
	Auger								
D G	C. Casing Length: 20'								
	Material: Schedule 40 PVC								
H SSS SSS H	D. Casing Diameter: OD = 2.375"								
E	ID = 2.067"								
	E. Depth to Perforations: 5'								
	F. Perforated Length: 15!								
	Machined Perforation Type: Slot								
	Perforation Size: 0.020"								
	G. Surface Seal: 2'								
c -1	Seal Material: Neat Cement								
	H. Seal:2'								
F -	Seal Material: Bentonite								
	I. Gravel Pack: 16' RMC Lonestar								
	RMC Lonestar Pack Material: Sand								
	Size: #3								
	J. Bottom Seal: None								
	Seal Material: N/A								
<u> </u>									

364640C

							364640C		
				во	RII	G LOG	15/4W ZAL9		
Project No. KEI-P89-080		Вс	oring 9"	& Cas	sing Diameter 2"	Logged By W.W./J.E.			
Project Nam 3943 Broads			We	ell Ho	ead El N/A	Levation	Date Drilled 10/22/90		
Boring No.				rilli: ethod		Hollow-stem Auger	Drilling Company EGI - Dave Yager		
Penetration blows/6"	G. W. level	_	-)	gra		Desc	Description		
						6" concrete sla	ab over sand and gravel.		
						moist, reddish	with concrete cobbles, brown. fill materials.		
3/3/5				CL/ CH		Silty clay, tra	ace organic matter, stiff, very dark brown		
12/13/15		10 		GC		stone, trace s	highly weathered sand- sand, medium dense, brown to dark brown, wet.		
5/10/13				CL/ CH		to rounded, ve	gravel is subrounded ery stiff, trace sand, brown, grading to bist.		
5/9/14						Sandy clay, tra light brown, m	ace gravel, very stiff		

	•			вс	RII	NG LOG	20-10-10-	
Project No.			В		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	sing Diameter	IS/YW 24L9 Logged By W.W./J.E.	
	Project Name Unocal 3943 Broadway, Oaklnd					levation	Date Drilled 10/22/90	
Boring No. MW8						Hollow-stem Auger	Drilling Company EGI - Dave Yager	
Penetration blows/6"	G. W. level	Depth (feet Samp]	t) graphy			Description		
				CL/ CH		Sandy clay, tra moist, light h	ace gravel, very stiff, prown.	
		_						
		_ _ _ 25						
		_				·	-	
						,		
		30						
		_ _ _						
							!	
			_	£				
	-							
		 _ _ 40				TO	TAL DEPTH: 22	

WELL COMPLETI	O N	DIAGRAM 15/4W 24L9
PROJECT NAME: Unocal, 3943 Broadway St.	<u>, 0</u>	akland BORING/WELL NO. MW8
PROJECT NUMBER: KEI-P89-0805		
WELL PERMIT NO.:		
Flush-mounted Well Cover	Α.	Total Depth: 22'
	в.	Boring Diameter*: 9"
		Drilling Method: Hollow Stem
		_Auger
D G	c.	Casing Length: 22'
	•	Material: Schedule 40 PVC
H AND H	D.	Casing Diameter: OD = 2.375"
E		ID = 2.067"
	Ε.	Depth to Perforations: 5'
	F.	Perforated Length: 17'
^		Machined Perforation Type: Slot
		Perforation Size: 0.020"
	G.	Surface Seal: 2'
F -]		Seal Material: Neat Cement
	н.	Seal:2'
F -		Seal Material: Bentonite
]]]]	ı.	Gravel Pack: 18'
		RMC Lonestar Pack Material: Sand
		Size: #3
	J .	Bottom Seal: None
		Seal Material: N/A
В		

							3B4640 D	
				во	RII	NG LOG	15/4W 24L10	
Project No. Boring & 9"					& Cas	sing Diameter	Logged By W.W.	
Project Name Unocal Wel 3943 Broadway, Oaklnd			ell Head Elevation N/A			Date Drilled 10/23/90		
Boring No. MW9			Drilling Method			Hollow-stem Auger		
Penetration blows/6"	netration G. W. Depth ows/6" level (feet Sampl			gra		Description		
						Asphalt over sa	and and gravel baserock.	
				GC			with asphalt and con- moist, brown.	
3/4/6		5		МН		coarse sand, v	fine sand, trace very moist, stiff, pale of fill material.	
				CL/ CH		gravel to 3/8" stiff, very da	dce fine sand, trace diameter, moist, ark brown to black, aron oxide staining.	
5/9/14		_ _ _ 10 _				organic matter slight odor, d	t and sand, trace , moist, very stiff, lark grayish brown lark yellowish brown.	
5/9/12				GC		3/4" diameter, trace organic	with sand, gravel to some highly weathered, matter, strong odor, saturated, greenish sh gray.	
				CL/ CH		to 3/8" diamet	ace silt, trace gravel cer, very moist, very live to pale yellow.	
6/9/15		20						

BORING LOG Project No. Boring & Casing Diameter Logged By KEI-P89-0805 911 W.W. Project Name Unocal Well Head Elevation Date Drilled 3943 Broadway, Oaklnd N/A 10/23/90 Boring No. Drilling Hollow-stem Drilling Company MW9 Method Auger EGI Penetration G. W. Depth Stratiblows/6" (feet) level Description graphy Samples USCS Sandy clay, trace silt, trace gravel CL/ to 3/8" diameter, very moist, very stiff, pale olive to pale yellow. ĆН 35

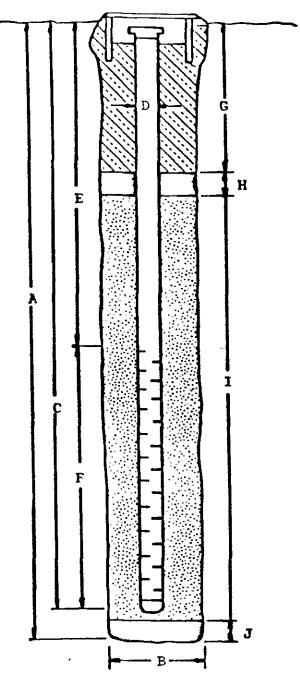
40

221

TOTAL DEPTH:

W	\mathbf{E}	L	L	C	0	M	P	L	\mathbf{E}	T	Ι	0	N	D	Τ	Α	G	R	A	М

PROJECT NAME: <u>Unocal, 3943 Broadway</u>	St., Oakland BORING/WELL NO. MW9
PROJECT NUMBER: KEI-P89-0805	
WELL PERMIT NO.:	
Flush-mounted Well Cover	A. Total Depth: 22'



- B. Boring Diameter*: 9"

 Drilling Method: Hollow Stem

 _Auger
- C. Casing Length: 22'

 Material: Schedule 40 PVC
- E. Depth to Perforations: 5'
- F. Perforated Length: 17'

 Machined
 Perforation Type: Slot

 Perforation Size: 0.020"
- G. Surface Seal: 2'
 Seal Material: Neat Cement
- H. Seal: 2'
 Seal Material: Bentonite
- I. Gravel Pack: 18'

 RMC Lonestar
 Pack Material: Sand

 Size: #3
- J. Bottom Seal: None
 Seal Material: N/A

*Boring diameter can vary from 8-1/4" to 9" depending on bit wear.

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

427920 013 0/2 2/213

MW-2

NO

February 1992

DRILL RIG SURFACE ELEVATION CME 55 HSA LOGGED BY MJ DEPTH TO GROUNDWATER 31.0 FEET **BORING DIAMETER** DATE DRILLED 2-inch 1/28/92 CONSTRUCTION **DESCRIPTION AND CLASSIFICATION** DEPTH (FEET) REMARKS DESCRIPTION AND REMARKS 3" Asphalt 3" GRAVEL (GW), gray, sandy, fill material Well Construction Details CLAY (CL), tan-red, damp, very stiff, silty, with some sand (fine-grained), light Cement grout surface se al gray silt mottling, moderate to high with steel, traffic rated cover plasticity, no odor 18 2-inch PVC, Schedule 40 solid casing Same as above, with black rootlets, red flecks, very stiff 26 10 Silty Clay turning gray with tan-red mottling, black oxidation flecks 0 26 15 Same as above, becoming moist, with sand (fine-grained) **EXPLORATORY BORING LOG Kaldveer Associates 3810 BROADWAY** Geoscience Consultants Oakland, California A California Corporation PROJECT NO. DATE BORING

KE1355-1A-1140

427920 01504W24L/3

DRILL RIG CME 55 HSA	SUR	FACE ELEVA	TIOI	۷		i. Li	OGGED BY	М	J		
DEPTH TO GROUNDWATER 31.0 FEE	T BOR	ING DIAMET	ER		2-inc	h D	ATE DRILLED	1/28	/92		
DESCRIPTION AND CLASSIFICATION		TE DEPTH (FEET)	SAMPLER	STANCE WS/FT)	PID READING		REMARKS		MELL		
DESCRIPTION AND REMARKS	SOIL		SA	PENE REST (BLO	REF				M 1		
Tan-red Silty clay turning tan-brown, slight smell	\	25 -		30	0		te pellet plug ashed sand filte	r pack			
Same as above, grading sandy (fine-grained), red mottling, moist, black oxidation specks, no odor		30 -		22	5		VC, Schedule (0.010-inch) cas				
SAND (SM/SC), tan-brown, fine-grained, with clay and silt, wet Bottom of Boring = 35 feet. Notes: 1. The stratification lines represent the approximate boundaries between soil		35 -		N.C.	0						
types and the transition may be gradual. 2. For an explanation of penetration resistance values marked with an asterist (*), see first page Appendix A. 3. Ground water level was measured at 31 feet at time of drilling. After 24 hours, ground water level was measured at 22.5 feet.	k								man man et el mente de la man antique de principa de la man de la man de la man de la man de la man de la man de		
		EXPLORATORY BORING LOG									
Kaldveer Associance Consideration A California Corpor	ultants			3810 BROADWAY Oakland, California							
A California Corpor	auvii	PROJE			BONING MW				V-2		
		KE1355-	1A-	1140	Febr	uary 199	NO NO	254 4	, - 4 .		

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

15/4w 24L11 427903

DOUL DIG	LL RIG CME 55 HSA SURFACE ELEVATION At Grade LOGGED BY MJ													
					,									
DEPTH TO GROUNDWAT	TER 31.0	BORIN	G DIAMETI	ER		2-inc	h DATE	DRILLED	10/17					
DESCRIPTION	AND CLASSIFICATION		DEPTH (FEET)	SAMPLER	RATION STANCE US/FT)	PID READING	1	REMARKS		WELL				
DESCRIPTION	N AND REMARKS	SOIL	90	SA	PENET REST (BLO	REF				33	CONSTRUCTION			
GRAVEL (GW), red- sandy,	gray, dry, loose, FILL						Well Constr	ut surface :	seal					
GRAVEL (GP), tan, o subround gravel, no	dry, loose, pea-size		5 -				with steel, tr							
Gravel and sampler depth, perched wate tank excavation	er at the bottom of				•		2-inch PVC, casing	Schedule	40 solid					
CLAY (CL), tan, with very stiff, silty, plastic		¥ //	- 10 -		20						~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~			
Black oxidation mot sample, very stiff Grading some sand			- 15 -		31			•			**			
L /A	Kaldveer Associa				EXP	38	TORY BOI	ΆΥ	3					
	A California Corporation				Oakland, California									
		\vdash	PROJEC				DATE	BORING NO	MW	W-1				
			KE1355	-1-1	009	Nove	mber 1991	NO		-				

15/4w 24L11 427903

DRILL RIG	CME 5	5 HSA	SURFA	CE ELEVA	TION	۱ ,	At Gra	de LOGG	ED BY	MJ	
DEPTH TO GROUN	IDWATER	31.0	BORIN	G DIAMET	ER		2-inc	h DATE	DRILLED	10/17	/91
DESCRIP	TION AND C	LASSIFICATION		DEPTH (FEET)	SAMPLER	TRATION ESTANCE DUS/FT)	PID READING	1	REMARKS		WELL
DESCRIP	PTION AND I	REMARKS	SOIL		SA	PENE RESI (BL(RE		<u> </u>		1 2
Sand lens (fine- sample, very st	grained) thro iff, dry	oughout				29	4	Bentonite p	ellet plug		
Clay grades to	brown, moisi	t, very stiff		- 25 - 		21		2/12 washe	d sand filter	r pack	
Very stiff Sandy silty/Silt	y sand lens (fine-grained)		30 -		27		2-inch PVC, slotted (0.02			
Grading some s very stiff Notes: 1. The stratifica approximate bo types and the tr	ition lines rep oundaries bef ransition may er was measu	resent the tween soil be gradual. red at 31 feet		35 -		30					
at time of drillin water was mea: 3. N.S. = Not Si	sured at 11.8		<u> </u> 			EXP	LORA	TORY BO	RING LOC		
	Geosc	/eer Associa ience Consulta alifornia Corporatio	ints					10 BROADW kland, Califo			
		amerina corporatio	" [PROJE	CT N	NO. DATE BORING					
			1	KE1355	-1-1	1009	Nove	mber 1991	NO	441 44	- 1

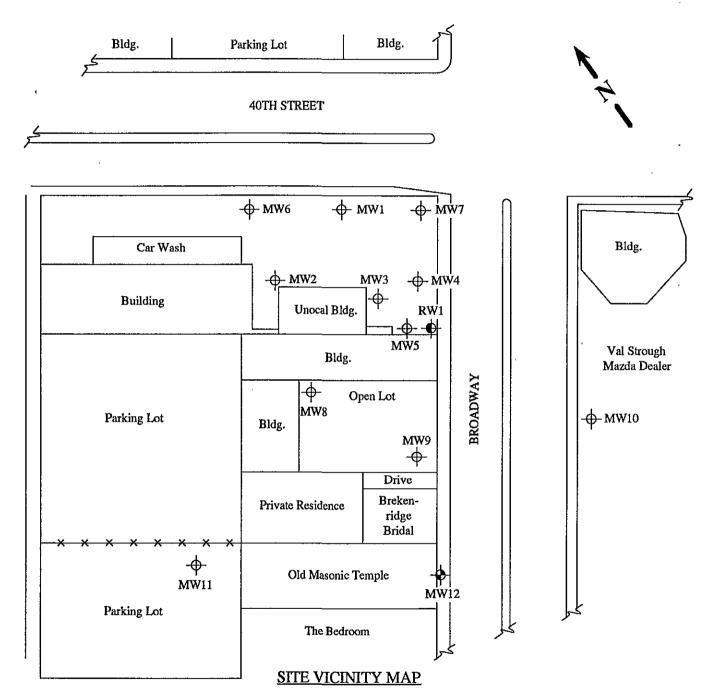
STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)



KAPREALIAN ENGINEERING, INC.

Consulting Engineers

P.O. BOX 996 • BENICIA, CA 94510 (707) 746-6915 • (707) 746-6916 • FAX (707) 746-5581



LEGEND

- Monitoring well (existing)
- 2-inch diameter Monitoring well (proposed)
- 6-inch diameter Recovery well (proposed)



Unocal Service Station #0746 3943 Broadway Oakland, CA

				I	BORING	G LOG						
Project No. KEI-P89-0805				Boring 9"	& Casing	Diameter 2"	Logged By D.L.					
Project Name U Oakland, Broadw				Well Co	over Eleva	ation	Date Drilled 1/7/92					
Boring No. MW10				Drilling Method		Hollow-stem Auger	Drilling Company Woodward Drilling					
Penetration blows/6"	G. W. level	Depth (feet) Sampl		Stra graf US	ohy	Desc	ription					
					J	Asphalt pavement of	over sand and gravel.					
		E					or sand, stiff, moist,dark greenish gray a					
						black mottled (fill). Clayey sand with gravel, very stiff, moist, brown, pool with silty clay as above (fill).						
8/11/14 11/12/14		5		SM			alty sand with gravel, estimated at 5 to 10% clay conteravel is angular to rounded, to 3/4" diameter, medium ense, moist, brown.					
6/11/19				СН			e clay content estimated at 15 to 30%, 9', very stiff, moist, olive brown,					
7/16/24		10 - -		GC			sand, gravel to 1" diameter, some ed, medium dense to dense, moist, wn.					
						Gravelly clay with moist, brown.	sand, gravel to 3/4" diameter, hard,					
11/17/32		15		CL		Clay with silt and tr hard, moist, olive.	race sand, clay is slickensided,					
	;		_			Sandy clay with tra	ace gravel, very stiff, moist, pale olive.					
13/20/20							nic matter, very stiff to hard, moist, trades to clayey silt.					
5/11/55	\searrow	<u> </u>		ML		Sandy silt, stiff, mo	ist, olive brown.					
7/11/17	=	20		SC			15 to 20% clay, med. dense, moist, sofwell graded sand, gravel at 20'.					

WELL COMPLETION DIAGRAM

PROJECT NAME: Unocal - Oakland, Broadway WELL NO. MW10

PROJECT NUMBER: KEI-P89-0805

WELL PERMIT NO.: ACFD&WCD 91219

Flush-mounted Well Cover

G H H I I I I I I I I I I I I I I I I I	A C I

- A. Total Depth: 22'
- B. Boring Diameter*: 9"

 Drilling Method: Hollow Stem Auger

C. Casing Length: 22'

Material: Schedule 40 PVC

D. Casing Diameter: $\underline{OD} = 2.375"$

 $_{\rm ID} = 2.067"$

- E. Depth to Perforations: 6'
- F. Perforated Length: 16'

 Perforation Type: Machined Slot

Perforation Size: 0.010"

G. Surface Seal: 2'

Seal Material: Neat Cement

H. Seal: <u>2'</u>

Seal Material: Bentonite

I. Filter Pack: 18'

Pack Material: RMC Lonestar Sand

Size: #2/16

J. Bottom Seal: none

Seal Material: N/A

^{*} Boring diameter can vary from 8-1/4" to 9" depending on bit wear.

422134B 01504W 24L15

					ODIN	4221	3 72
Desired No.			.		BORING		
Project No. KEI-P89-0805				9"	& Casing	g Diameter 2"	Logged By D.L.
Project Name U Oakland, Broadwa				Well Co	ver Elev	ation	Date Drilled 1/7/92
Boring No. MW11				Drilling Method		Hollow-stem Auger	Drilling Company Woodward Drilling
Penetration blows/6"	G. W. level	Depth (feet) Sampl		Stra grap USC	hy	Descr	ríption
		 - '	_	-		Asphalt pavement of	over sand and gravel.
		- - -				Silty gravel with sar very moist, black (fi	nd, bricks and concrete, dense, moist to ill).
				СН			ed at 5 to 10% gravel to 1-1/4" very moist, very dark gravish brown.
9/14/19		- 5 		SC		Clayey sand with gr sand is coarse- to fi	ravel, estimated at 15 to 20% clay, ne-grained, dense, moist, very dark dark brown, mottled.
5/11/14	\Box	10		GC	00000 00000 00000 00000		sand, angular gravel to 1-1/2" dense, moist to very moist, dark blive brown.
4/8/14	,						y, trace silt and sand, stiff to very stiff, and dark yellowish brown.
6/13/29				СН		Silty clay with trace moist, olive and oliv	e organic matter, very stiff to hard, we brown mottled.
13/16/21		- - - - - -					ganic matter, slickensided, very stiff to and olive brown mottled.
9/17/28		20		SW/ SM		20% gravel to 1/4"	with silt and gravel, estimated at 15 to diameter, medium dense to dense, brown. TOTAL DEPTH: 21'

015 04W 24L15

WELL COMPLETION DIAGRAM

PROJECT NAME: Unocal - Oakland, Broadway WELL NO. MW11

PROJECT NUMBER: KEI-P89-0805

WELL PERMIT NO.: __ACFD&WCD 91219

Flush-mounted Well Cover

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- A. Total Depth: 21'
- B. Boring Diameter*: ______9"

 Drilling Method: _____Hollow Stem Auger

C. Casing Length: 19'

Material: Schedule 40 PVC

D. Casing Diameter: OD = 2.375"

<u>ID</u> = 2.067"

E. Depth to Perforations: 5'

F. Perforated Length: 14'

Perforation Type: Machined Slot

Perforation Size: 0.010"

G. Surface Seal: 2'

Seal Material: Neat Cement

H. Seal: 2'

Seal Material: Bentonite

I. Filter Pack: 15'

Pack Material: RMC Lonestar Sand

Size: #2/16

J. Bottom Seal: 2'

Seal Material: Bentonite

* Boring diameter can vary from 8-1/4" to 9" depending on bit wear.

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

154W -23 M 01-751 /5/4W/

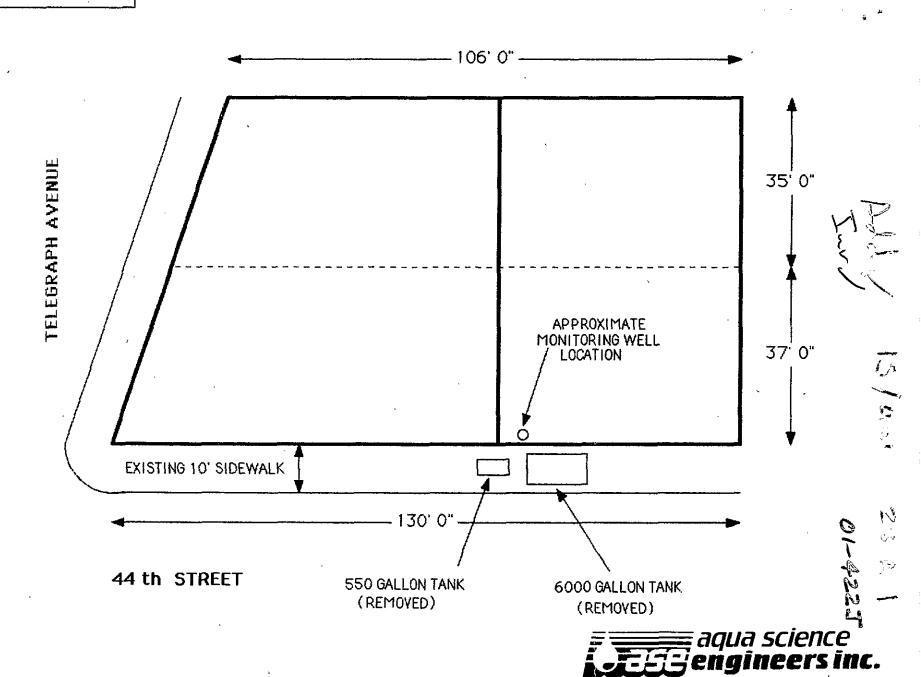
Job #795. Yosemite Laundry Compa Drilling Well Emeryvill

LOG OF WELL.

Surface soil			4	feet
Sandy yellow clay	4	to	20	77
Dry Gravel	20		26	IT
Sandy olay	26		50	11
Cement gravel	50		60	1f
Yellow clay	60		115	
Cement gravel	115		120	
Yellow clay	120		160	
Sandy yellow clay	160		225	
Biuemoday i wowanie	225		235	
Decomposed sandstone	235		270	
Sandy clay	270		285	
Sandstone .	285		300	
Blue clay	300		310	
Sandy clay	310		330	31
Blue shale	330		335	17
Yellow cementy clay	335		385	
Blue sand & clay	285	11	398	17
Water gravel	398	Tf	400	11
Yellow sandy clay	400	Ħ	470	17
Yellow sand	470		490	11

12° cm tomand 200

J.17. Cugh. 1201 E 12th St. SCALE: 1" = 20"



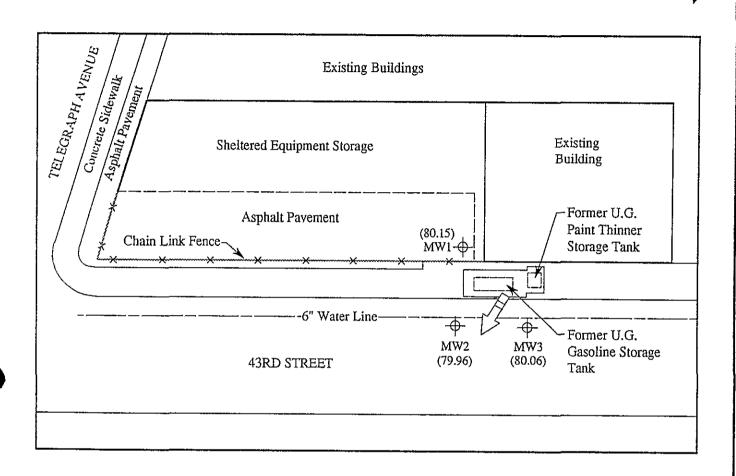
PRO	JECT: Kelly Auto Parts, Caklan	d, Ca	ra	6 0	F MONIT	TOR!	G WE	LL 4	- 1
de of	SOILS DESCRIPTION		MO		RING Y	ÆLL.	Hamm Blow Coun	r	REMARKS
0			Street Box	Į		0-		C.	
1-	Asphalt approx. 4"		## .			<u>a</u> -		Counts Taken	
2-	Dark-Brown Silty Clay (CL)					ing Cap		Coun	-
3-			- Te - S			Locking		No Blow	
4-		00000000000000000000000000000000000000						ž	
5-	Gray-Green Angular Gravel 🗸		Neat Cement			5-		'	Sample 5'
6-	Gray-Green Stity Clay (CL)		2			_			
7			4 _	X		_			•
8-	•		2" Blank PVC			 -			
9-	Pale-Brown Silty Clay (CL)		1 6 6			-			
10-	Take El Vill Oling Oling (oliy		1 ~	Ż		10-			Sample 10'
11-			1 💈				Н		
12-			Bentonite Seal						
13-			1 1 1 1 1 1 1 1 1 1						Water Table
14			ت ا						at 14'
15-			2" Perforated (0.02) PVC						=
	Gray-Green Sandy , GrayeTly Silty Clay (CL)					15]		Sample 15'
16-									
17	***************************************							:	
18-	Brown Silty Clay (CL)	\//////	7 °						
19-	Some Fine Gravel		1 2	-					•
20-			3 Sand			20	1		
21-	•		Number				1 11		
22-	•		∄ Ž				1		
AQU	A SCIENCE ENGINEERS Logged B	ky: W.F. Rusk	4_	<u> : : </u>	Logged:	11-28	-88 -88	FI	gure * Z

PRO.	JECT: Kelly Auto Parts,	Oakland, Ca	FOG	OF MONITORII	IG WELL	a [
depth #	SOILS DESCR	IPTION		ORING WELL DETAILS	Hammer Blow Count	REMARKS
23-			1	23-		,
24-	,				,	
25-			Sand			
26-	Brown Silty Clay (CL) Some Gravel		Number 3			
27						
28-				28-		
29-			ş			
3 0-				3=		
31-	-	<i>\(((((((((((((((((((((((((((((((((</i>	2" Perforated (0.01) PVC			
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AQUA	OCIENCE ENSINEERS	Logged by : W.F. Kusk	Da Da	te Logged: 11-28	i-88 i	figure * Z

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

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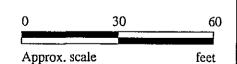


LEGEND

Monitoring well

() Ground water elevation in feet above Mean Sea Level

Direction of ground water flow



GROUND WATER FLOW DIRECTION MAP FOR THE APRIL 29, 1993 MONITORING EVENT



WELLS FARGO BANK (WALTER BLUMERT CO, INC.) 490 43RD STREET OAKLAND, CALIFORNIA

FIGURE

1

					BORING LOG	01307W 23H02	
Project No. KEI-P91-1201				Boring Diameter 8" Casing Diameter 2"		Logged By <i>JGG</i> D.L. (EG/633	
Project Name 490 43rd. Stre			We	ell Cove	r Elevation	Date Drilled April 12, 1993	
Boring No. MW1				rilling ethod	Hollow-stem Auger	Drilling Company Great Sierra Exploration	
blows/6" level (feet) Samples			Strati graph USC	ay	Description		
		0=			Asphalt pavement over sand and	i gravei base.	
			ML		Clayey silt, trace fine-grained sa	Clayey silt, trace fine-grained sand, stiff, moist, black.	
			CL	CL Silty clay, estimated at 10-15% sand and trace gravel, ve dark brown with iron oxide staining.			
6/11/13	14/23/35		ML	Silt with sand, estimated at 10-15% clay and trace grave		5% clay and trace gravel, very stiff,	
14/23/35			GC		Clayey gravel with sand, gravel dense, moist, dark greenish gray	to 2 inches in diameter, dense to very	
		10	GM	0000 0000	Silty gravel with sand, trace clay, gravel to 5/8 inch in diameter, very dense, very moist, olive gray.		
15/28/42	=		M			5% sand, gravel to 1 inch in diameter, st, dark greenish gray and olive brown.	
16/33/41			ML,		Gravelly silt as above, except o	live brown only. gravel to 1 inch in diameter, hard,	
7/11/14			.—.—. GM		moist, olive gray and dark green Silty gravel with sand, estimated		
7/11/14			ML		Sandy silt, estimated at 10-15% fine-grained, very stiff, wet, oliv		
11/					Silty sand, estimated at 10-15% olive brown.	gravel, medium dense, wet, cohesive,	

495481A 01504W23A02

, 1					495481A		0/504W23A02
				E	BORING LOG		
Project No. KEI-P91-1201				Boring Diameter 8" Casing Diameter 2"			Logged By <i>JGG</i> D.L. <i>CEG [G33</i>]
Project Name 490 43rd. Stre			Well	Cover	Elevation		Date Drilled April 12, 1993
Boring No. MW1	-		Drilli Meth		Hollow-stem Auger	_	Drilling Company Great Sierra Exploration
Penetration blows/6"	G. W. level	Depth (feet) Samples	Strati- graphy USCS				ription
		- +	SM 🖁		Silt with fine-grain	ed sand, trace	e gravel to 3/8 inch in diameter, very k yellowish brown, mottled.
17/23	Ì			3233	Sim, moist, onve b		L DEPTH: 23'
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WELL CONSTRUCTION DIAGRAM

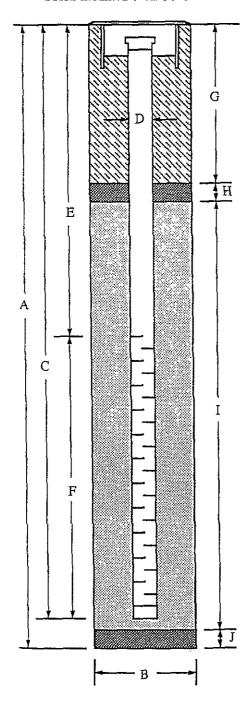
PROJECT NAME: Wells Fargo Bank, 490 43rd. Street, Oakland

WELL NO.: MW1

PROJECT NUMBER: KEI-P91-1201

WELL PERMIT NO.: ACFC&WCD #53077

Flush-mounted Well Cover



A.	Total Depth:	23'
В.	Boring Diameter:	8"
	Drilling Method:	Hollow Stem Auger
C.	Casing Length:	23'

Material:	Schedule 40 PVC

D.	Casing Diameter:	OD = 2.375"
	•	TTD 2.047
		ID = 2.067"

E.	Depth to Perforations:	6'
L.	Depui to Ferroradona.	

F.	Perforated Length:	17'		
	Perforation Type:	Machined Slot		
	Perforation Size:	0.010"		

G.	Surface Seal:_	2'
----	----------------	----

	Seal Material:	Neat Cement
н.	Seal:	2'

I.	Filter Pack:	19'	
	Pack Material:	RMC Lonestar Sand	
	Size:	#2/12	

Seal Material: Bentonite

J.	Bottom Seal:	None
	Seal Material	N/A

4954818

01504W23A03

	BORING LOG						
	1 *			oring Dia	meter 8"	Logged By 766 D.L. CEG 1633	
-	ŒI-P91-120	<u> </u>			Casing Diameter 2"		
	roject Name 90 43rd. Stree			V	Vell Cove	r Elevation	Date Drilled April 12, 1993
	oring No. AW2				Drilling Method	Hollow-stem Auger	Drilling Company Great Sierra Exploration
	blows/6" level (feet) Samples			ati- phy ICS	Descr	ription	
						Asphalt pavement over sand and	l gravel base.
				ML		Clayey silt, trace sand and grave	l, very stiff, moist, black.
				CL		Silty clay, estimated at 10-15% s dark brown, with iron oxide stain	and, trace gravel, very stiff, moist, ning.
	7/8/11		5	ML		Clayey silt, esimtated at 10-15% with iron oxide staining.	sand, very stiff, moist, dark brown,
			CL		Silty clay, very stiff, moist, dark brown, mottled, dark gray.		
				ML	=====	Silt with fine-grained sand, stiff,	moist, olive gray.
	7/9/11			GC		Clayey gravel with sand, estimated at 5-10% silt, gravel to 1-1/2 inches in diameter, medium dense, moist, dark olive gray.	
	14/9/15		10-	:		Clayey gravel as above, except v	very moist to wet.
	7/12/13	_		GM		Silty gravel with sand, medium of	dense, very moist, dark olive gray.
		=		SM		Silty sand, estimated at 15-20% silt and trace gravel to 1/2 inch in diameter, medium dense, moist, dark greenish gray.	
	12/14/13		15	GM		Silty gravel with sand, trace clay olive to olive gray.	, medium dense, very moist to wet,
	10/10/10		ML		Silt with clay, estimated at 10-13 yellowish brown.	5% fine-grained sand, very stiff, moist,	
GM SSS Silty gravel with sand, medium dense, wet, dark							
			<u> </u>			Silt with sand, estimated at 5-10 brown.	% clay, very stiff, moist, yellowish
	8/10/12		20 —	MI		Silt with clay, estimated at 10-1: yellowish brown.	5% fine-grained sand, very stiff, moist

WELL CONSTRUCTION DIAGRAM

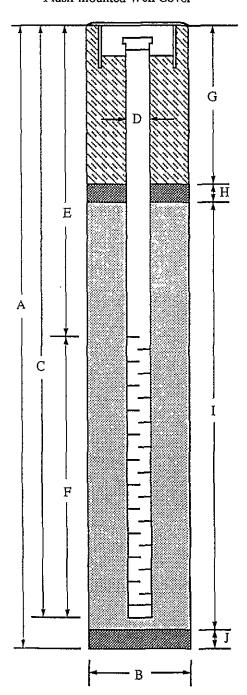
PROJECT NAME: Wells Fargo Bank, 490 43rd. Street, Oakland

WELL NO.: MW2

PROJECT NUMBER: KEI-P91-1201

WELL PERMIT NO.: ACFC&WCD #53077

Flush-mounted Well Cover



A.	Total Depth:	22'					
В.	Boring Diameter:	8"					
	Drilling Method:	Hollow Stem Auger					
C.	Casing Length:	22'					
	Material:	Schedule 40 PVC					
D.	Casing Diameter:						
٠.		ID = 2.067"					
E.	Depth to Perforations:	6'					
F.	Perforated Length:	16'					
	Perforation Type:	Machined Slot					
	Perforation Size:	0.010"					
G.	Surface Seal:	3'					
		Neat Cement					
ч	Seal:	2'					
11.	Jcai						
	Seal Material:	Bentonite					
I.	Filter Pack:	17'					
	Pack Material:	RMC Lonestar Sand					
	Size:	#2/12					
J.	Bottom Seal:	None					
•	Seal Material:	N/A					

61504W23A04 JGG **Boring Diameter** Project No. Logged By CEG 1633 KEI-P91-1201 D.L. 2ⁿ **Casing Diameter** Project Name Wells Fargo Bank Well Cover Elevation Date Drilled 490 43rd. Street, Oakland April 12, 1993 Boring No. Drilling **Drilling Company** Hollow-stem Method MW3 Auger Great Sierra Exploration Penetration G. W. Depth Strati-Description blows/6" level (feet) graphy USCS Samples 0: Asphalt payement over sand and gravel base. Clayey silt, trace sand and gravel, very stiff, moist, very dark grayish brown and black, mottled (fill). Silty clay, estimated at 10-15% sand and trace gravel, very stiff, moist, CL dark brown with iron oxide staining, disturbed soil. 6/7/8 Clayey sand, estimated at 10-15% silt and trace gravel, medium dense. moist, dark brown with iron oxide staining, poor recovery. SC Silty sand with gravel, trace clay, medium dense, moist to wet, SM cohesive, dark greenish gray. 9/11/14 Gravelly silt, estimated at 10-15% fine-grained sand, very stiff, moist, olive gray and deep greenish gray, mottled. ML Sandy silt, very stiff, moist, dark greenish gray and olive, mottled, 6/11/14 sand is fine-grained. Silty sand with gravel, estimated at 15-25% silt, gravel to 1-1/2 inch in SM 9/14/26 diameter, olive brown, trace clay below 15.5 feet. Silt with sand, trace gravel, stiff, moist, light yellowish brown. 8/8/8 Clayey silt, trace fine-grained sand, stiff, moist, light yellowish brown.

ML.

14/36/30

Silt with fine-grained sand, trace gravel to 3/8 inch in diameter, very

TOTAL DEPTH: 22'

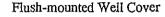
WELL CONSTRUCTION DIAGRAM

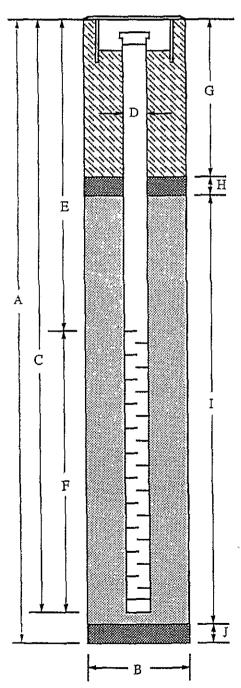
PROJECT NAME: Wells Fargo Bank, 490 43rd. Street, Oakland

WELL NO.: MW3

PROJECT NUMBER: KEI-P91-1201

WELL PERMIT NO.: ACFC&WCD #53077





Δ	Total Depth:_	22'
4 4.	Total Dopar	

IJ.	Dotting Diameter.	
	Drilling Method:	Hollow Stem Auger

C.	Casing Length:	2.2
	Material:	Schedule 40 PVC

ID = 2.067"	

F.	Perforated Length:	16'				
	Perforation Type:	Machined Slot				
	Perforation Size:	0.010"				

G.	Surface Seal:	3'
	Seal Material:	Neat Cement

H.	Seal:	2'
	Seal Material:	Bentonite

I.	Filter Pack:	17'	
	Pack Material:	RMC Lonestar Sand	

	Size:	#2/12	····
J.	Bottom Seal:	None	
	Seal Material:	N/A	·

#2/12

STATE OF CALIFORNIA THE RESOURCES AGENCY

ORIGINAL FILE WITH DWR ONFIDENTIAL LOGEPARTMENT OF WATER RESOURCES

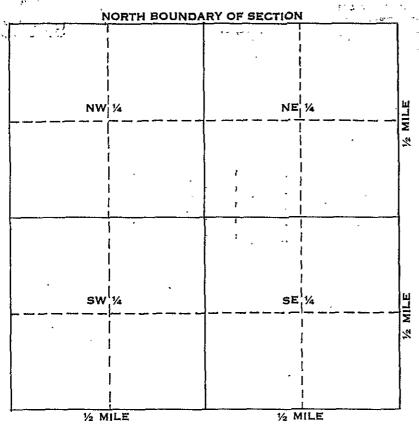
91502

	Wa	ter Co	do Se	c. 1.W.	ÀF]	ER W	ELL D	RILLE	R.S	REPO	RT 	State Well No Other Well No	5/4W-23D
(1) OWNER:					(11) W	ELL	LOG:						
, ,		C GAS	& ELEC	TRIC C	OMP.	ANY		Total depth	1		ft. Dept	h of completed well	ft.
Address 4801 Oakport Street								be by color, e		naterial, and structure			
Oakland, CA. 94601									ft. to		ft.		
	(2) LOCATION OF WELL:					0_		_35 ¹	Clay &	gravel			
County F	lamed)wner's numbe	r, if an	ıy #1	<u>-Job892</u>		-	<u>70¹</u>	Clay		
Township, Range, and Section Oakland					70_		841	Gravel					
Distance from	Distance from cities, roads, railroads, etc. 44th St. 41' so.east Adelin						_	1021	Clay &	gravei	····-		
(3) TYPE OF WORK (check):					_102		120.	- Clay					
New Well		epening [•	,• ditioning [t	Destroyin	z FI						
				ire in Item 1									
(4) PRC	POSEI	USE ((check):	:	(5)	EQUI	PMENT:						
Domestic						otary							
Irrigation				ther 🔲		ble		ļ					
		thodic		ction	<u> </u>	ther	<u>_</u>						
(6) CAS	SING I	NSTALI	LED:	т	far	vel pacl	rad	ļ					
STE		отн	ER:		ı gız	rver paci	rea	ļ	•		-46.		
SINGLE [, 6001	BLE [] —						ļ					
From	То		Gage	Diameter of		From	То				···		
ft.	ft.	Diam.	Wall	Bore		ft.	ft.						
					╡.			ļ					
			<u> </u>				L						
Size of shoe or				Size of gray	rels			}					
Describe joint		TIONE	OD SCI	DEENI.									
(7) PER			OK SCI	(PEI/):				ļ	•			· · · · · · · · · · · · · · · · · · ·	
Type or person			Df	P		"			•				
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				 				<u> </u>				3,000	
(8) COI	VSTRTI	CTION	•	<u> </u>		<u> </u>	······································	<u> </u>					
Was a surface				ło 🔲	To wh	at depth	120 ft.						
Were any stra				No 🗆			depth of strata				· -		
From	ft.	to	ft.										
From	ft.	to	ft.					Work start	ed	5/15	19 73 , Comp	leted 5/16 197	3
Method of sea	ling	Concre	te					- f			TEMENT:		
` '		EVELS:								is drilled u ge and belie		liction and this report	is true to the best
Depth at whi		*****	<u></u>		_	ft.				_		_	
Standing leve						ft. ,		NAME	Pit		milling erson, firm, or cor		ted)
Standing leve			developing	· 		ft.		Address	002	_		et	
(10) W		_	m ·	f yes, by whor	n >			AMUFESS	Dal	y City	, CA. 9	40 <u>L</u> 4	
eld:		al./min. with		ft, drawde		ter	hrs.	[SIGNED]] [wit	1 Vit	chen	
	Temperature of water Was a chemical analysis made? Yes \(\) No \(\)						(Well Driller)						

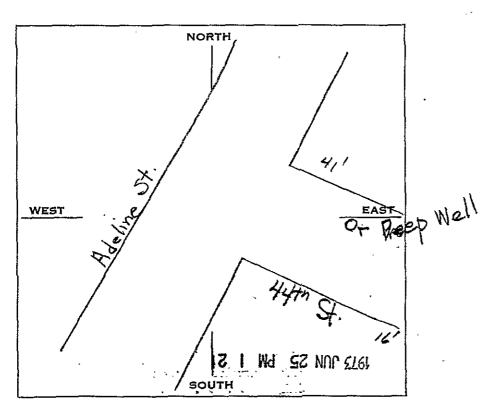
If yes, attach copy

License No. 263085 ____Dated_

Was electric log made of well? Yes No 1



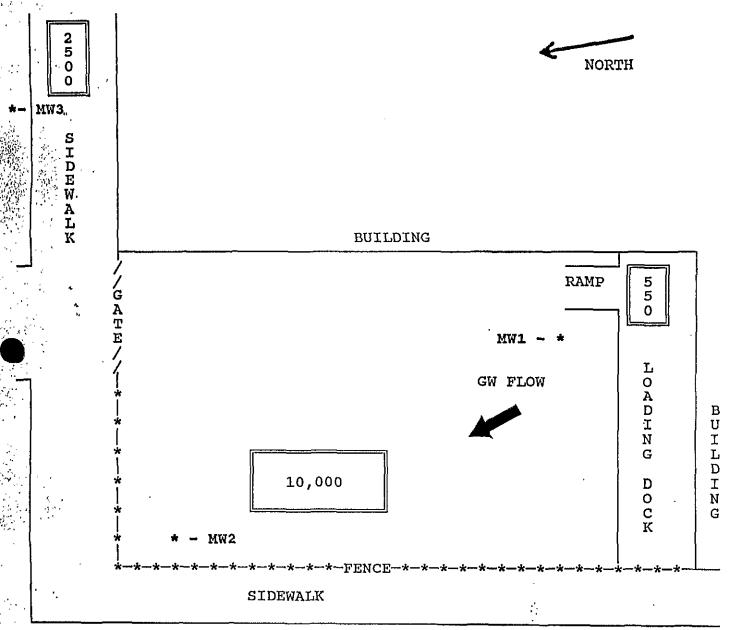
A. Location of well in sectionized areas. Sketch roads, railroads, streams, or other features as necessary.



B. Location of well in areas not sectionized 3 100 S 34
Sketch roads, railroads, streams, or other features as necessary.
Indicate distances.

DEPT OF WATER RESOURCES

SITE PLAN - CALIFORNIA LINEN 989 41st STREET, OAKLAND, CA



LINDEN STREET

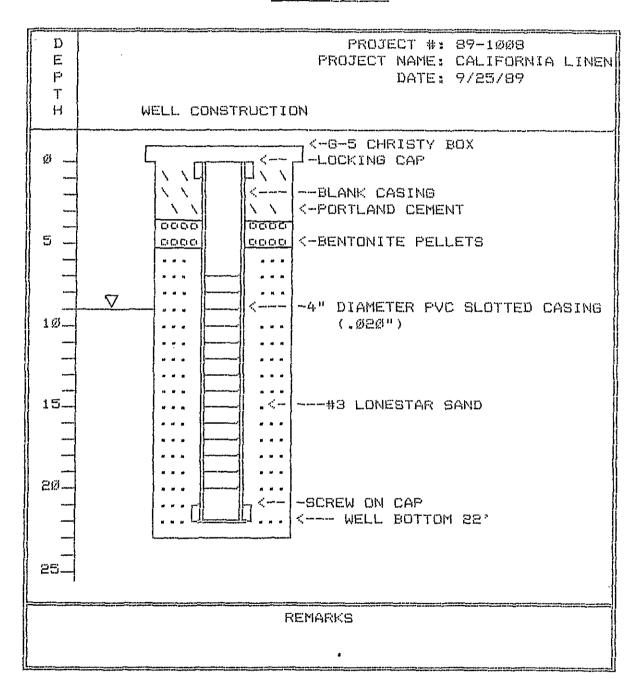
10'

* - Monitoring well location

MILLER ENVIRONMENTAL COMPANY

WELL CONSTRUCTION LOG

BORING # MW1



MILLER ENVIRONMENTAL COMPANY BORING LOG

15/4W 23D2

SHEET 1 OF 101-445G

BORING # MW1 PROJECT # 89-1008 PROJECT NAME:CAL LINEN COCATION:989 ATST STREET, OAKLAND, CA LOGGED BY: RETNHARD RUHMKE CONTRACTOR: HEW DRILLING DRILLING METHODS: 8 1/4" HOLLOW STEM AUGER SAMPLING METHODS: SPLIT SPOON SAMPLER START TIME: 9:15 DATE: 9/25/89 STOP TIME: 12:15 DATE: 9/25/89 TOTAL DEPTH: 22 419T GATE HBUILD TMG MW1 * D DOCK E N SITE MAP 5005 BLOWS SAMA RHUOVERY ·MBO EFT ŃΕ L H DESCRIPTION Ç) ASPHALT __ _ DARK GRAY TO BLACK PEBBLY, SLIGHTLY SILTY CLAY; ORGANIC SMELL; STIFF. OLIVE GREEN-GRAY CLAY; SLIGHTLY OXIDIZED. CL 4-8-12 MW1A | 18" 9:35 OLIVE-GREEN PEBBLY CLAY; STIFF; MOIST. ∇ 9:45 MW18 18" 6-9-11 105-CL LIGHT BROWN SILTY CLAY; WET. 15-20-END OF BORING; _____ 25. REMARKS

surveyed on October 12, 1989 by a California licensed surveyor. The water levels and conversions to elevations are given in Table 1 below.

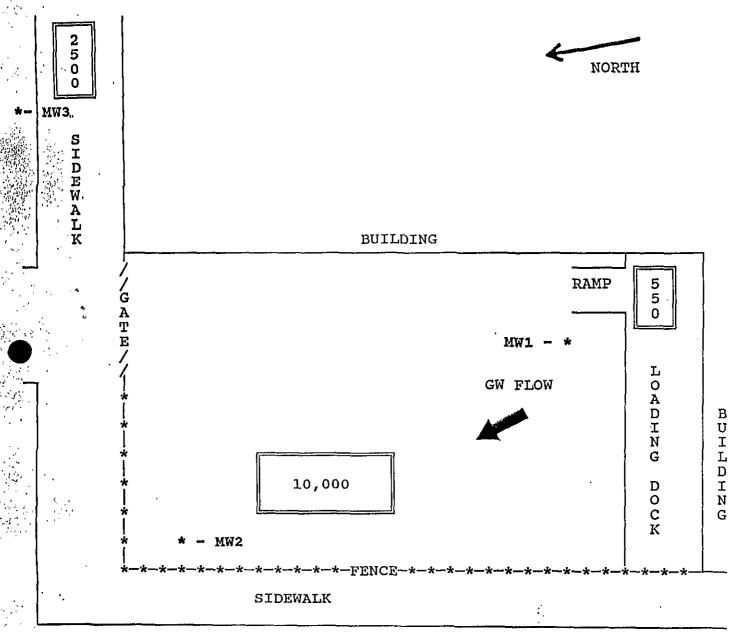
TABLE 1
WATER LEVEL DEPTHS AND ELEVATIONS IN FEET. OCT 11, 1989

Well	TOC Elev.	Depth	Elevation
—-> MW1	53.89	7.70	46.19
MW2	54.06	9.25	44.81
MW3	52.79	7.00	45.79

TOC=Top of casing

Based on the present data ground water is flowing in a northnorthwest direction towards the intersection of 41st and Linden Streets. This data is shown on Figure 1.

SITE PLAN - CALIFORNIA LINEN 989 41st STREET, OAKLAND, CA



LINDEN STREET

10'

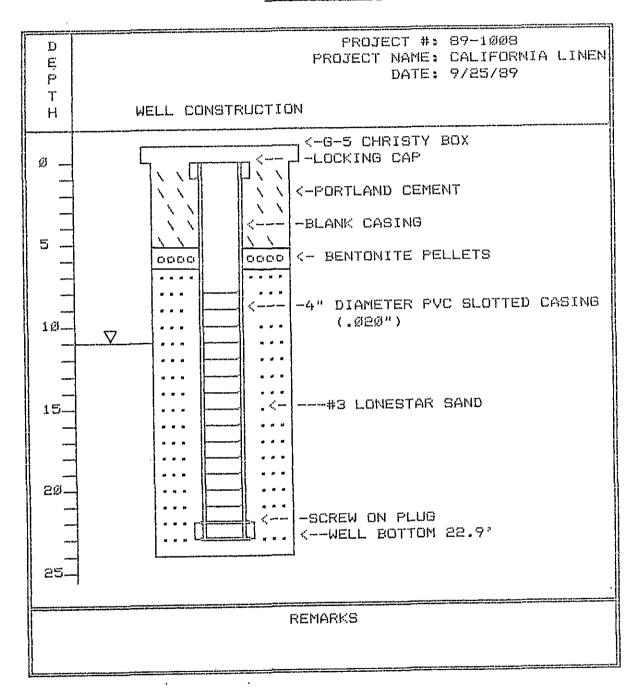
SPREE

* - Monitoring well location

MILLER ENVIRONMENTAL COMPANY

WELL CONSTRUCTION LOS

BORING # MW2



BORING # MW2

SHEET 1 DF 1 01-44514

NEDN		роск		EUILD	PROJECT # 89-1008 PROJECT NAME:CAL LIN CUCATION:789 41ST STREET, DAKLAND, CA CUGGED BY: REINHARD RUHMKE CUNTRACTOR: HEW DRILLING DRILLING METHODS: 8 I/4" HOLLOW STEM AUG SAMPLING METHODS: SPLIT SPOON SAMPLER START TIME:12:30 DATE: 9/25/89 STOP TIME: 4:00 DATE: 9/25/89 TOTAL DEPTH: 23		
			MAP	BLOWS		ŭ	 S Y
D E F T H	(0470-1E#	界田口口>日末>	T I M E		DESCRIPTION	បលបល	M B C L
i					ASPHALT	James Berry	!
_					BLACK PEBBLY CLAY; STIFF; DRY.		
_	MW2A	18"	12:50	3-4-4			!
					BROWN SICTY CLAY WITH PEBBCES	CL	
_	 						
,	-				OLIVE-GRAY SILTY CLAY WITH PEBBLES; STIFF.		
ø	MMSB	18"	1:45	3-5-7			
_	-	* -			LIGHT BROWN SILTY CLAY; WET.	CL	
 -5 - - -9					MORE DENSE		
-					END OF BORING;		

surveyed on October 12, 1989 by a California licensed surveyor. The water levels and conversions to elevations are given in Table 1 below.

TABLE 1
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Well	TOC Elev.	<u>Depth</u>	<u>Elevation</u>
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MW3	52.79	7.00	45.79

TOC=Top of casing

Based on the present data ground water is flowing in a northnorthwest direction towards the intersection of 41st and Linden Streets. This data is shown on Figure 1.

MILLER ENVIRONMENTAL COMPANY

WELL CONSTRUCTION LOG

BORING # MW3

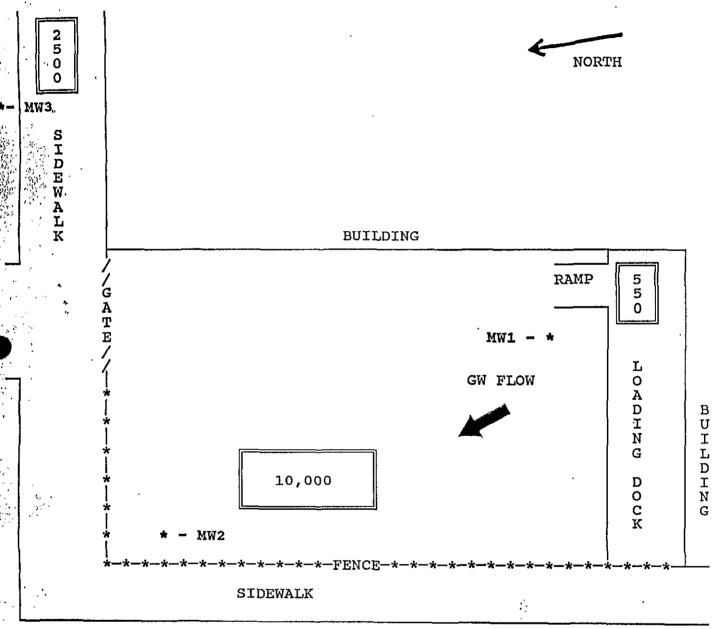
(************************************	
D E P T H	PROJECT #: 89-1008 FROJECT NAME: CALIFORNIA LINEN DATE: 9/26/89 WELL CONSTRUCTION
8	<pre></pre>
	REMARKS

BORING # MW3

SHEET 1 DF 1 01-445I

N M D M M		DOCK		ING	CONTRACTOR: HEW DRILLING DRILLING METHODS: 8 174" HOLLOW STEM A SAMPLING METHODS: SPLIT SPOON SAMPLER START TIME: 8:45 DATE: 9/25/89 STOP TIME: 12:15 DATE: 9/25/89 TOTAL DEPTH: 21.5"		
Ih_	1	SITE	MAP		1		-1:114
D E F T H	១៤೬៤ ៧២#	RECOVERY	T I M E	BLOWS	DESCRIPTION		SYMBOL
Ø					3" ASPHALT 6" GRAVEL BASE ROCK DARK BROWN-BLACK SICTY CLAY; DRY	- CL-	
					BROWN PEBBLY FINE SAND; LOOSE; DRY; WELL-SORTED; LITTLE CLAY.	SF	
3 <u>-</u>	AEWM	18"	9:00 	3-2-3	BROWN SILTY CLAY.		
	MW3B	18"	9:15	5-6-7	DARK GRAY-BROWN SILTY CLAY; WET.	_ ▽	
					LIGHT BROWN SILTY CLAY WITH PEBBLES.	CL	
					LIGHT BROWN SILTY CLAY.		
				,	END OF BORING;		

SITE PLAN - CALIFORNIA LINEN 989 41st STREET, OAKLAND, CA



LINDEN STREET

10'

STREET

* - Monitoring well location

surveyed on October 12, 1989 by a California licensed surveyor. The water levels and conversions to elevations are given in Table 1 below.

TABLE 1
WATER LEVEL DEPTHS AND ELEVATIONS IN FEET. OCT 11, 1989

Well	TOC Elev.	Depth	<u>Elevation</u>
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MW2	54.06	9.25	44.81
MW3	52.79	7.00	45.79

TOC=Top of casing

Based on the present data ground water is flowing in a northnorthwest direction towards the intersection of 41st and Linden Streets. This data is shown on Figure 1. Job #1047. Toscani Bakery, 899 - 40th.St

LOG OF WELL

Took over well at	50	feet
Sandy clay 50 to	60	ĮŤ
Yellow elay 60 "	82	Ħ
Cement gravel 82 "	83	18
Yellow clay 83 "	90	TR .
Sandy/clay 90 "	97	17
Gravel 97 "	102	11
Sandy clay 102 *	106	11
Clay 106 "	108	11

About 54' of 10" casing put in by Hell.

108 feet of 8" No. 14 R. H. Collar Casing with 50 feet of machine perforations & Welded reband.

Foreman J. Carrere.

Well finished May 8 - 1928.

Job #944.

City of Peris Laundry,

LOG OF WELL.

Tep soil				6	foot
Sandy clay		4	to	28	N .
Cement gravel		. 28	#	35	# 1
Yellow eley	i	35	*	43	H 4
Locas gravel	تاریخ	45	輔	48	₩ ~K
Yellow clay	, , ,	48	**	65	15
Cement gravek		65	Ħ	10	M ~
Yellow clay		10	Ħ	120	**
Dry dement gravel	:	120		125	. 🙀 🦯 🖠
Cement gravel (wet)		125		150	14 ×
Yellow olay					W B
Coment gravel		178	11	198	1 # 2
Yellow dlay		198		210	/ re
Cement gravel		210		240	96 J
Yellow clay	*	240		288	H
Cement gravel	: y	285		295	et
Sand rock		296	,		~*

273 feet of 12" #14 R. H. Double casing.

1 - 12" #14 Dbl. Starter 22' long
18 - feet of machine perforations
1 - 12 Shoe 1/2" x 4"

Extra Perforations 125'-150'

125'-150' 178'-198'

2101-2401

Foreman J. Carrere. Finished April 30 - 1927.

Durner

CONFIDENTIAL

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

REMOVED

ORIGINAL File with DWR

STATE OF CALIFORNIA

THE RESOURCES AGENCY

DEPARTMENT OF WATER RESOURCES WATER WELL DRILLERS REPORT

15/4W-23F1 Do Not Fill In

Nº 120159 State Well No. 15431 23 162 35

.											Other Well No	HO	<u> </u>	١.
(1) OW	NER:							(11) W	ELL L	OG:			W.q.d	`
Name		cific	Gas	& Elec	tric	C	0.	Total depth	12	O fr. Des	oth of completed well		E.M. fe.	-
Address				port St		_				by color, character, size of		1	A.E.M	1
			aklar					0"	to		halt	-	ft.	1
(2) LOC	ATIO	V OF W	ELL:					211	to	1 foot	Base rock		P.&R	1
County		meda		Owner's number,	if any			11	to	100 feet	Combinatio	n o	f~ a.v	
Township, Rac	ige, and Sec	tion									clays. sil			
Distance from											sands	L	ENG	-{
	Marke	t St	& Apg	gar St	Oakl.	an	.d	1001	to	1201	Brown stif	r c	levc	-
(3) TYP	E OF	WORK	(check):				ļ						
New Well [epening 🔲		nditioning []	Destro	yin	в 🗀	<u> </u>					R.E.	۱,
				ure in Item 11.				 					W.B.	T
(4) PRO		•				•	PMENT:	<u> </u>					F.J.S	
Domestic					Rotary		Ğ.	 -				-	17,1.27	┨_
Irrigation				ther 🗍	Cable		닖						O.F.S.	1
10 010		thodic			Other								FILE	}-
(6) CAS	ING I	NSTALL	ED:	7.6		ام.	rad	<u> </u>						L
STE		OTHE	R:	11	gravel p	Jacı	xeu	 						1
SINGLE [וטסם	Bre 🗌		1									a min district the real	-
ì			Gage	Diameter	1			 						-
From (To ft.	Diam.	or Wall	of Bore	From	١ ,	To ft.	 			· ···			-
10.		Diam.	Wati	note -	1			 						-
		None	}		 			 					 .	-
		MOTIE	1	 	┥──		<u> </u>	┼						•
· · · · ·	<u></u>			F: /	<u> </u>		<u> </u>	 						•
Size of shoe or	well ring:			Size of grave				 						•
(7) PER	EOD 4'	TTONS (OR SCI	PEENT.				 		* J 17				•
Type of perior				KERTA!							* 5.5 F			-
T/PE OF PERIOD	1	1								CONTRACTOR OF THE PARTY OF THE	West of the same			,
From	- } .	ľo l	Perf. per	Rows per	1	S	lize _			Water Code	Sec lante			•
ft.		ft.	row	ft.	1		x in.				~ 1010			-
					_			1			-			•
														•
														•
		None					,							•
- <u> </u>										. 1				
(8) CON	ISTRU	CTION:	_ 							29.4	c A			•
Was a surface				No [] T	o what depti	h_	99 ft.							_
Were any strat		_		No []	lf yes, 1	note	depth of strata				· Parting The gar			_
From	ft.	10	ſŧ.				<u> </u>				<u> </u>			_
From	ft.	to	íţ,					Work start	ed Ap	19 5 , Com	pleted April 19 C	19	71!	_
Method of seal	ing							-		CS STATEMENT:		·	•	
(9) WA	TER L	EVELS:								drilled under my juris and belief.	diction and this report	js true	e to the bes	t
Depth at which			, if known	<u> </u>	<u>ft.</u>			1 0, 11, 1, 10, 11	owner &c	ana benej.	arts t		i i	
Standing level	before pe	rforsting, if	known		ft.			NAME	T	aufenberg	Brothers, I	nc.		_
Standing level	after perf	orating and d	leveloping		ft,			1		(Person, firm, at co	sporation) (Typed of print	ed)	ſ.,	
(10) WH	ELL TI	ESTS:		<u>.</u>				Address		1248-7th 9	t Berkele	y S	710	-
Jas pump tes	made? Y	es 🗍 No	<u>X</u>	If yes, by whomi	<u> </u>					$E \cap A$			<u></u>	_
ield:	<u> </u>	al./min. with		ft. drawdow	n after		hrs.	[SIGNED]		1.0.01	anfiner	_		
Temperature o	f water		Was a chemi	ical analysis made	Yes 🗌	N	lo 🗍	.]		` (Well Deffer)	١		
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NORTH BOUNDARY OF SECTION

NE 1/4

SW 1/4

SE 1/4

JE 1/2

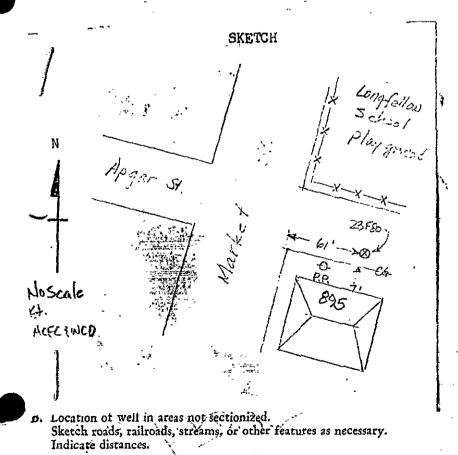
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Township ______N/S

Range _____E/W

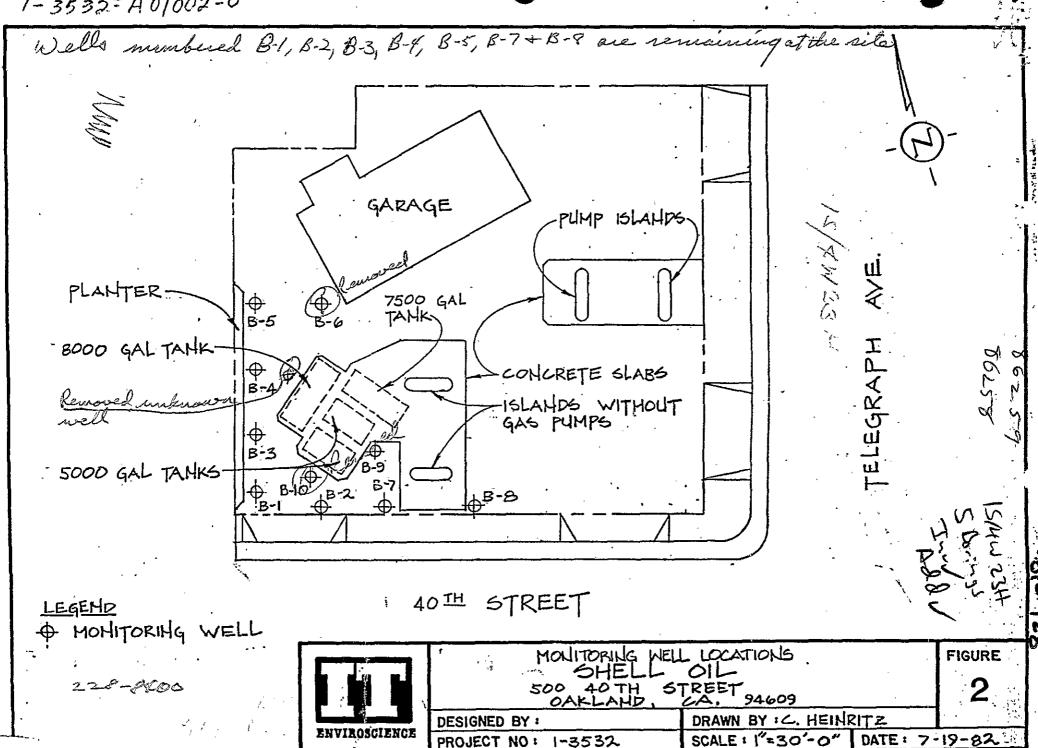
Section No.

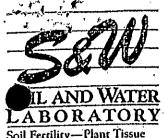
A. Location of well in sectionized areas. Sketch roads, railroads, streams, or other features as necessary.



10 11 W 13, 700 YES

LEFT, OF WATER





Soil Fertility—Plant Tissue Pollution and Residue Control Drinking Water

14072 W. Park Avenue Boulder Creek, CA 95006

(408) 338-3053

Blaine Technical Services P.O. Box 5745 San Jose, California 95150 Jack Quarte 40th and Telegraph Oakland, CA

September 30, 1986

LABORATORY REPORT

Total Hydrocarbon Analysis : Gasoline

Procedure: EPA Method 5020 for Headspace Analysis

Detection Limit: 1 ppm

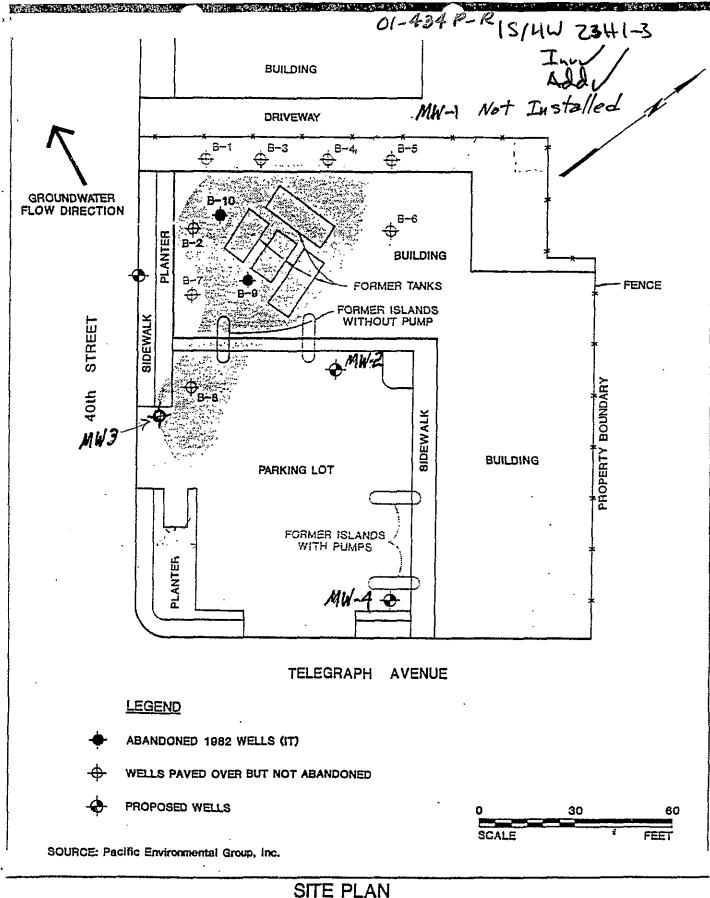
Received: September 25, 1986

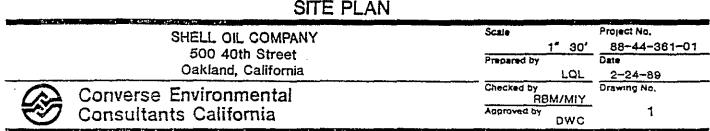
Analyzed: September 25, 1986

s&W ID	Client ID	Concentration ppm
268B6 1	86268Fl l soil, gas	99
268B6-2	86268Fl 2 soil, gas	8
268B6 3	86268Fl 3 soil, gas	27
268B6 4	86268Fl 4 soil, gas	74
268B6-5	86268Fl 5 soil, gas	86

Analyst

R.A. Lemon









FIELD LOG OF BORING NO. $\frac{M\omega^2}{a}$

SHEET NO. _____OF___

	PROJE	ECT	NO		88 -	44-	361	-01		DATE(S) 5/22/8	9	ELEVATION	
	PROJE	ECT	NAM	E	500	40	44	57	OZK	REFERENCE			
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FIELD LOG OF BORING NO. Mb. - 2 SHEET NO. Z OF Z

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In Add 15/4W 23H (01-434P) BY DOC DATE 5/57/29 CLIENT . PROJECT NO. 27-44-761-01 CHKD. BY _____ DATE ___ PROJECT nest cement 45% bontonite Bentonte Seal 2 bags Casing 4" PVC Slotted 10° -> 20° #2 Monterey 6 bags Screw cap f. Benjante Eack Fill Materials Used: 3 bags cement 3 bags bontonite pellets chips 6 bags #2 Monteray Sand HOXA" PYC TUBE 10 x 4 1 PVC tube slotted -020 I female screw czp Slip cap

Converse Consultants

SIGNED _____



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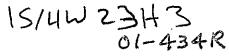
20 FINES: FRACTION OF MATERIAL SMALLER THAN NO. 200 SIEVE SIZE.

Im/ KIN 15/4W 23HZ01-434Q BY DSC DATE 5/1/59 CLIENT SHEET NO. ________ OF ________ PROJECT NO. 85-44-361-01 CHKD. BY ____ __ DATE 40-457 Cak PROJECT Slip Cap neat cenient 4 bags <5% bentonite Bentonite & bogs 4" PVC Cesing slotted .020 193 -> 105 Rivited Slip Cap BoH 190 sampled to ZIE Back Filled Benjonile Materials Used; 6 bags #2 moitorey sand 3 bags bentonite chips 4 bags comount 11 10 x 4 n pre tibe 1 10 x 4 1 pre tube softed 020 2 4" 51,0 Caps



Converse Consultants

SIGNED ______





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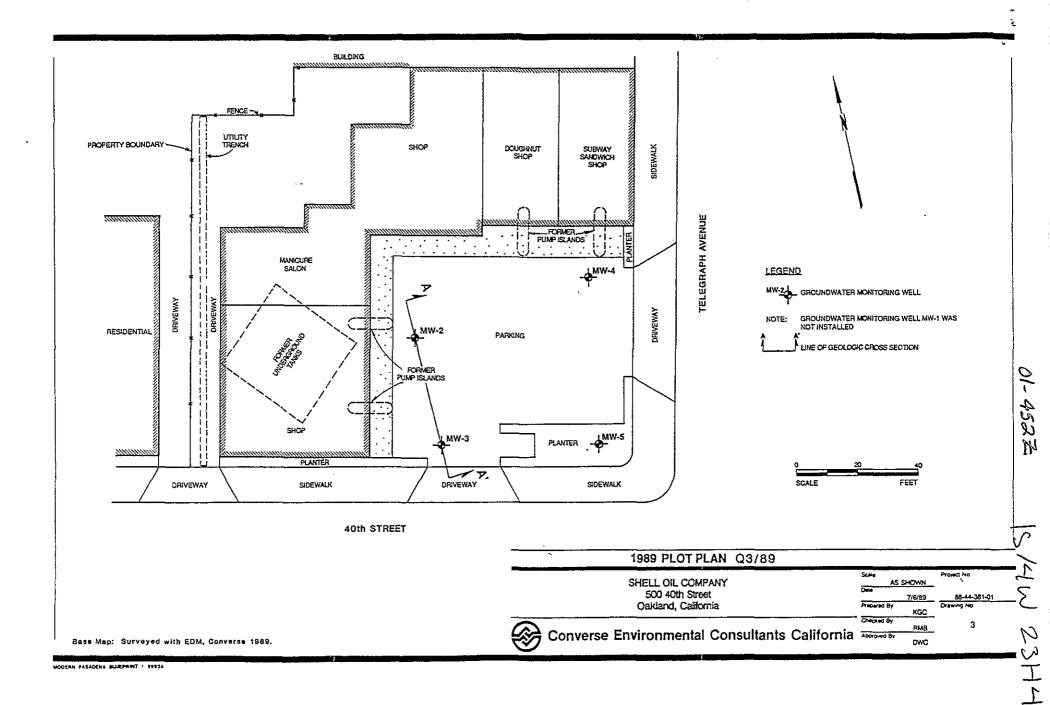
SHEET NO. 1 OF 2 / FIELD LOG OF BORING NO. MU-DATE(S) 5/23/89 Terrain 8X33 < 1QX8 DRIVING WEIGHT REMARKS 2 6 Silty Clay Tr gravel Brn 10 Szndy Grovel MD 14 MD GM VM 57 6 9 16 M 17 Tan VM Moto 18 HU51 111Cle25149 19

> 200 B0#

15- 3=n-anile

15/4W Z3H304-18 LIBA VINT BY DOC DATE STEE CLIENT STEE PROJECT NO. 85-44- - - - 21 CHKD. BY . 500 PROJECT Slip Cop -nost coment 3 bays 5% benforite Bentonite Seat 2 bags 95 4" pvc casing slotted 105 -> 155 rivited slip cap BF Boulanile Meterials Usad 3 bags cement
A bags #2 sond
A bags boutonite patiets chips 1 101x 4" pre tube slotted ,020 All pre slip caps **Converse Consultants** SIGNED REG. NO.

L-5-10/8



01-4522 15/40 2344

LOG OF BORING NO.MW-5

	DATE	TE DRILLED: 9-19-89 ELEVATION:						BUHING NU.MW-5 **IL TAKEN: 9-19-89 EQUIPMENT: 8*x 12" Hollow Stem Auger	
	00PTH (ft)	SAMPLE	KATER LEVEL	SYMBOL	NOISTURE	CONSISTENCY	COLOA	MELL CONSTRUCTION BLOWS/FT. 0.V.M. (ppm)	(mdd)
	5 1	1			slightly moist	medium medium	dark brown brown	Gravelly SAND and SILT some rubble (Fill) Sandy SILT ML increasing Clay Silty CLAY trace Gravel 9 0	
)	10-	2					brown mottled gray	Silty CLAY and fine SAND CL black tubelets 11 0	
	15-	3	₩ ;		moist	medium	light brown mottled rust and gray	Sandy CLAY som Silt CL 14 0	
		4			very moist wet	medium		Total Depth of Boring: 20 ft. Below Ground Surface	
	20.	4						Below Ground Surface	

SHELL OIL COMPANY 500 40th Street Oakland, California

Driller:

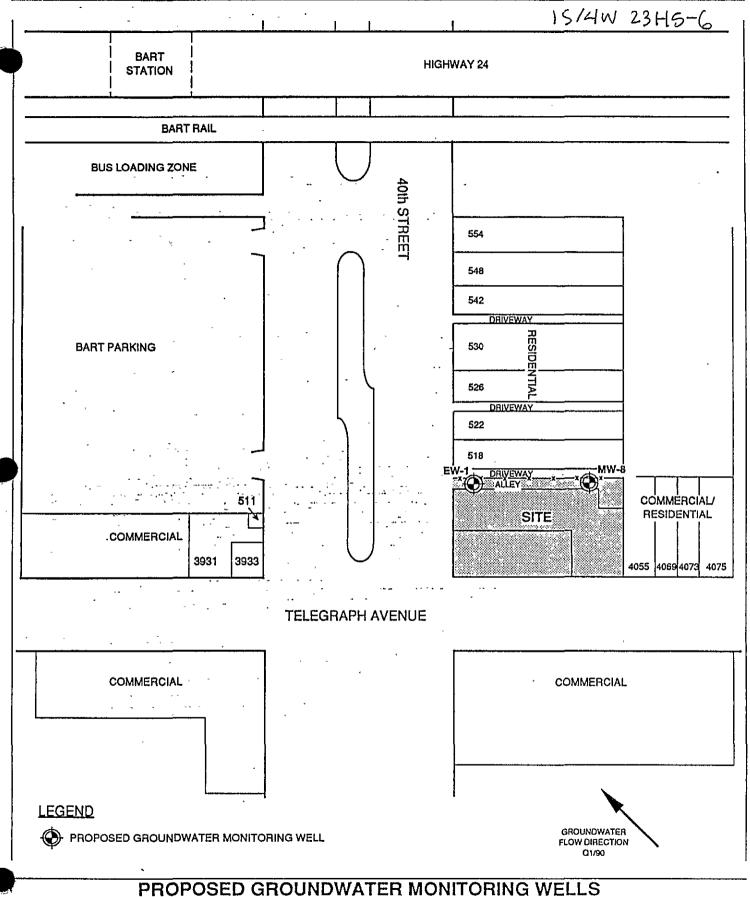
Project No.

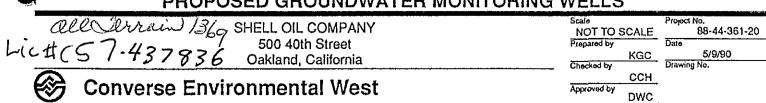
All Terrain

88-44-361-01



Converse Environmental Consultants California





_						7		BORING NO. MW-E		01-4		
DAT	IE I	=): <i>6/27</i>	/90	EL: n/	a h	L TAKEN: n/a EQUI	PMENT: 3.75*x		"x 12"	H.S.A.
DEPTH (FE)		SUPLE	KATER LEVEL	SANBOL	NOISTURE	CONSISTENCY	COLOR	DESCRIPTION		VELL CONSTRUCTION BLSMS/6IN.	0.V.K. { ppn }	7.P.H. (pps)
					moist	10080	light brown	Gravelly SAND. (Fill) SW			
					moist	medium	black	Silty CLAY, trace Gravel.	Cr S			
	5-	1			slightly moist	very stiff	brownish gray	Silty CLAY.	CL.	7 10		
	- 10-	2			slightly moist	very stiff	light gray	Silty CLAY,	GL	5 11	4	
	15-	Э			mpist	very stiff	grayish brown	Silty CLAY. trace coarse Gravel.	d d d d d d d d d d d d d d d d d d d	5 12		
	- 05	4			very moist	very stiff	reddish brown	Silty CLAY.	CL	12		

SHELL OIL COMPANY 500 40th Street Oakland, California Project No.

88-44-361-20

LOG OF BORING NO. MW-B

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01-4654

							inued - page 2				₩ €	
(1.1) HL-201	SWPLE	MATER LEVEL	SYMBOL	HOISTURE	CONSISTENCY	COLOR	DESCRIPTION		NET CONSTRUCTION	BLOKS/EIN.	D.V.N. (pps)	T.P.H. (ppm)
_	s	卆		wet.						10 10 20		
•				wat	vary stiff	light brown	Silty CLAY, CL trace fine Sand.			21 10		! !
٠.	S			wet	medium densa	n .	SAND and CLAY, some Gravel.SC Sandy GRAVEL, some CLAY, GC	_ r_`		11 13		
•				wet	stiff	light brown	Sandy CLAY, trace Gravel. CL			14 10	:	
25~	S			wet	medium dense	tan	Sandy fine to coarse GC GRAVEL, some Clay, some Silt,			15 12 15		
-	S			wet	medium dense	tan	Fine to coarse Sandy GF fine to coarse GRAVEL, trace Clay, trace Silt.			18 18 4		
-	S			wet	loose medium dense	• -	Sandy GRAVEL. GF			8 10 12 30		
30-	S				very dense		Silty SAND and GRAVEL, GM trace Clay:			27 8 17	·	
-	S			wet	dense	tan '	Sandy GRAVEL, some Silt, GM trace Clay.			25 27 5		
1	S			wet	loose d=33,75 medium dense	•	Sandy GRAVEL, some Silt. GN			4 3 18		
35-	S			wet	dense	tan	Sandy fine to very coarse GA Gravel, some SILT.			10 16 15		
•	ន			wet	dense		Sandy GRAVEL, some Silt. GN Fine SAND and Silt. SM			25 13 14		
	S						some Clay.			8 8 7	:	
<u>, </u>				moist	stiff hard	.	Silty CLAY, tr fine Sand. CL Gravelly SAND, little Clay.GO	-		14 35	į	
40-	S			moist		browniah gray	Silty CLAY, trace Gravel, CL trace fine Sand.	- I E		32		73. W. T. 10.

SHELL OIL COMPANY 500 40th Street Oakland, California Project No.

88-44-361-20

LOG OF BORING NO. MW-8

1. 4

01-4654

	continued - page 3											
	EPTH (TE	SWPLE	MATER LEVEL	SYMBOX,	HOISTURE	CONSISTENCY	COLOR	OESCRIPTION	WELL CONSTRUCTION	BLDMS/61N.	0.V.R. (ppe)	1.P.H. [ppr]
		s s			slightly moist slightly moist	hard	tan	Silty CLAY. CL Silty CLAY, CL trace fine Gravel.		12 14 18 21 8 10		
	45-				slightly moist	stiff	tan	Silty CLAY, some Sand. CL Total Depth of Boring: 44 ft Below Ground Surface. Casing: 4" ID Blank Schedule 40 PVC Pipe. Screen: 4" id Slotted Schedule 40 PVC Pipe. (0,020 inch slot) Filter Pack: 2/12 Sand.		17		
·	50-											
	557			·	-			-				

SHELL OIL COMPANY 500 40th Street Oakland, California

88-44-361-20

Project No.

DIZE	no t						BORING NO. EW-1	01-465Z "x 8" / 7.25"x 12" H.S.A.				
DATE	DAILLED: 6/28/90				EL: n/	8	WL TAKEN: n/a EQUIPMENT:	3.75		7. 25 "x	12"	H.S.A
DEPTH (FL)	SUMPLE	KATER LEVE	SYNBOL	KOISTURE	CONSISTENCY	COLOR	DESCRIPTION		NELL CONSTRUCTION	B DMS/6IN.	C.V.N. (ppm)	T.P.H. (ppm)
			, 0, 9, , 0, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5, 5,	moist	loose	light brown	0.2' CONCRETE. Pea GRAVEL, (F111)					
7				moist	medium	black	Silty CLAY, trace Gravel.	CL		1		
-												
-												
-	}											
5-	1			moist	medium	dark gray tan	Gravelly CLAY, Fine SAND.	CL. SP		5 6		
-				MOTAC	dense	tan	Fine SAND.	SP		S		
_	S		,,,,,,				Silty CLAY.			3		
•	s			slightly moist		dark gray		CL.		8 5		
-	2			slightly moist		dark gray	Silty CLAY. Silty CLAY, some fine Sand			9 8	-	
10-				moist	dense		Clayey GRAVEL.	GC		17 15		
-	s				medium dense	derk gray	Clayey GRAVEL.	GC		12 14		
-				alightly moist	very stiff	ten	Silty CLAY,	CL,		16 7		<u> </u>
-	S							i		18 15		
-	3			slightly moist	very stiff	grayish brown	Silty CLAY,	CL		14 15	i	:
15-				slightly moist	very stiff	tan	Silty CLAY, trace Gravel.	CL		11 10		}
-	s									14 18		
-				alightly moist	hard	tan	Silty CLAY, trace Gravel.	CL		20 10		
-	Si									15 19		
	1			slightly moist	very stiff	light brown	Silty Clay, tr fine Sand.	CL		21 7		
20-	4			slightly moist	hard	brown	Silty CLAY.	CL		18		

SHELL OIL COMPANY 500 40th Street Oakland, California

88-44-361-20

Drawing No.

1369 A-5

7	continued - page 2												
	क्रमा (स	SWPLE	WATER LEYEL	SYMBOL.	HOISTURE	CONSISTENCY	COLOR	DESCRIPTION		WELL	R.DKS/6DK.	0.Y.K. (pps)	T.P.H. (pps)
					slightly			Silty CLAY.	ZL.		7 19		
	-	S			moist	hard	reddish brown	Silty CLAY, trace Gravel. (Last 2° Clayay Sandy Gravel	CL		55 50		
	-				110 22 4			Sandy GRAVEL, some Silt, trace Clay.	3M		12 17		
	-	S					i	0.2' Sandy CLAY.		×× ××	20	!	
	-				very moist	dense	reddish brown	•	GC		22 5		
	25-	5	室		wet	medium dense	brown	Sandy GRAVEL, some Clay, of some Silt.	GM		11 12		
	-	s					l I	Gravelly SAND, some Silt.	GC		15 17		
	-			M	wet	dense	brown	_	GM		18		
		s					4	,			12 18		
					wet	medium dense	brown	Silty SAND, some Gravel, SC/ trace Clay.	GC		55 50		
	~ *	s			wet	dense	brown	Fine to coarse Sandy fine to coarse GRAVEL.	GM		15 23		:
	30-			000		detibo	5				15		
	-	s		000		dense		Increasing Gravel.			16 19		
	•	-	1				brown	Sandy GRAVEL.	GP		24 17		
	-	s		7////		v stiff	brown		GP CL		18 20		
					wet	A Brill					23		
	35-	s			l wet			· · · · · · · · · · · · · · · · · · ·	GP GP		17 22		
	JU							Some Sond, Some Gray.			50 55		
	•	S		ြိတ္ပို	wet		brown rusty	GRAVEL. little SAND.	GP		14 17		
	•	 	1	000			red				16		
	•	S			moist		rd brn		SM GP		22 50/5 "		
		-		FIFT		very dense		ading pare.			16		-
	40-	s		1111	moist	very dense	brown	Silty Sandy GRAVEL.	GM		24	<u> </u>	
•		-				c	UELL OT	COMPANY	_	pro	ject N	٥.	

SHELL OIL COMPANY 500 40th Street Oakland, California

88-44-361-20

15/442346.

LOG OF BORING NO. EW-1

4 50 12 6 12 1

01-465型

continued - page 3												
DEPTH (FC)	SAFFE	MATER LEVEL	SYMBOL.	HOISTURE	CONSTRUCT	COLOR	DESCRIPTION	WELL CONSTRUCTION	BLOKS/BIN.	0.V.M. { ppm }	T.P.H. (ppr)	
-	s			moist .	hard	ргомп	Sandy CLAY, some GRAVEL. CL Sandy CLAY, some GRAVEL. CL		12 13 27 29			
	S	-		moist	very	brown	Gravelly SAND, some Clay. SC		6 23 33 60			
45-					dense	u.			6			
50	S			slightly moist	very stiff	tan	Silty CLAY, CL black organics.		14 12 16 19			
•	S			slightly moist	stiff	tan reddish	Silty CLAY. CL		22 - 10 15 20	-		
55				slightly maist	hard	brown	Sandy CLAY. CL Total Depth of Boring: 44 ft Below Ground Surface.		26			
							Casing: 4* ID Blank Schedule 40 PVC Pipe. Screen: 4* id Slotted Schedule 40 PVC Pipe. (0.020 inch slot)		,			
							Filter Pack: 12/20 Sand.					
60									liact t			

SHELL OIL COMPANY 500 40th Street Oakland, California Project No.

88-44-361-20

Drawing No.

1369 A-7

15/4W 23 M13

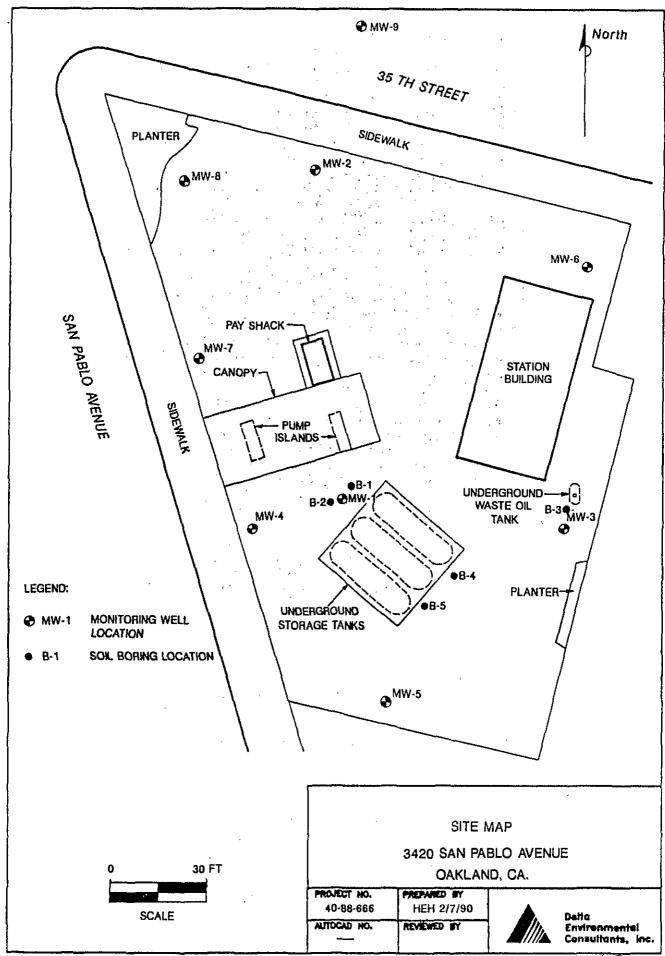
	PRO)JEC	MAM 1	E / LO	CATION			PROJECT NUMBER: 40-88-666	BORING NUMBER: M	W - 5	SHEET	2 OF 2	2
	34	120 8	nd She	ablo A	venue			CONTRACTOR: West Hazmat Drill	ing	DRILL METHO	ING D:	H.S.A.	
	Uč.	iktai	nd, C	A				DRILLER: Randy Reidhead		DRILL RIG:	ING	CME-75	
								START: 12:15/01-19	- 90	COMPL	2:40/01 - 19-	-90	
		VER:		l Oil	Company	7		SURFACE ELEVATION: 20.91		LOGGE Hal	D BY: Hansen		
Ī	S T A Y M P P E	S N A U	ВСО	SI AN TP L	S R A E	DEPIH		DESCRIPTIONS OF MAI	FRTATS	CONTA OBSER	MINANT VATION	GENERAL OBSERVATIO	ОИ
	S T A Y P E L E	PLE	BLOW TS	P L E(ft)	SAECOV:n)	SCALE 1"= 4'		AND CONDITIONS		INSTR OVM UNITS	UMENT: : ppm	NOTES	
	CA	MW- 5- 5	26/ 47/ 50 for 4"	25.0- 26.5	12	25 — 26 — 27 — 28 — 29 — 30 — 31 — 32 — 33 — 34 — 35 —		RAVELLY SAND; brown sand, saturated, min plastic fines, (SW) Total Depth at 26.5		1		No odor	
						36 — 37 — 38 — 39 — 40 — 41 — 42 — 43 — 44 — 46 — 47 —	- - - - - - - - - - - - - - - - - - -						
		WA	TER I	EVEL C	ATA	PRO	FESS]	IONAL GEOLOGIST					
	DA'	ΓE											
	TΠ	ME				CTCAT	אנכוו אווא						
	GW.	L				SIGN	ATUKI	<u>-</u>					
	CA: DE	SING PIH				TYPE	D NAI	ME.					

MEASURE POINT, Top of casing

INSTALLATION OF FLUSH GRADE MONITORING WELL

PROJECT Oakland Shell MONITORING WELL NO. ____MW-5 ELEVATIONS: TOP OF RISER 20.91 3420 San Pablo Ave GROUND LEVEL 21.29 BELTA NO. 40-88-666 PROTECTIVE CASING LOCKING VATER TIGHT CAP - FLUSH GRADE VELL CONSTRUCTION 12 inch steel DIAMETER AND MATERIAL 9 inches TOTAL LENGTH 1/4 inch LENGTH ANOVE GROUND 1-foot concrete - THICKNESS AND TYPE OF SEAL - DIAMETER MATERIAL AND JOINT TYPE OF RISER PIPE 4 inch PVC. flush thread sand cement - TYPE OF BACKFILL AROUND RISER 1 foot bentonite - THICKNESS AND TYPE OF SEAL - DISTANCE OF FILTER SAND ABOVE TOP OF SCREEN 1 foot #3 clemintine TYPE OF FILTER AROUND SCREEN sch_40. PVC HENTTERING VELL HATERIAL 0.01 inch - SCREEN GAUGE OR SIZE OF OPENINGS (SLOT SIZE) 4 inch 20 feet DIAMETER AND LENGTH OF SCREEN 25 feet - DEPTH TO THE BOTTOM OF HONITORING VELL 25 feet - DEPTH TO THE BUTTOM OF FILTER SAND N/A - THICKNESS AND TYPE OF SEAL 10 inches - DIAHETER OF BUREHOLE 0.25 FT MONITORING WELL WATER LEVEL MEASUREMENTS 4.75 WATER LEVEL * TIME DATE 20.0 2-2-90 11:59 Z.89 25.0 INSTALLATION COMPLETED 1-19-90

Environmental
Consultants, Inc.



. - 16 .

Lick C57-554979

BORING PROJECT NAME / LOCATION PROJECT SHEET 1 OF NUMBER: 40-88-666 NUMBER: MW-5 Oakland Shell 3420 San Pablo Avenue Oakland, CA CONTRACTOR: DRILLING West Hazmat Drilling METHOD: H.S.A. DRILLER: DRILLING Randy Reidhead QME-75 RIG: COMPLETED: 2:40/01-19-90 START: 12:15/01-19-90 LAND SURFACE LOGGED BY: OWNER: Shell Oil Company ELEVATION: 20.91 Hal Hansen S N B C A U L U M M W N P B W N L E E R S R A E M C P V E(in) SIANT TYPE CONTAMINANT AMPLE OBSERVATION GENERAL DEPIH DESCRIPTIONS OF MATERIALS OBSERVATION P AND CONDITIONS INSTRUMENT: NOTES SCALE 1"= 4 OVM E(ft) UNITS: ppm Asphalt road base 1 CIAY; very dark gray, highly plastic, slightly moist, (CH) 3 4 SANDY CIAY; yellowish brown, moderately plastic, slightly moist, (CL) CA MW-5-1 9/ 12/ 38 50 18 Slight odor 6 7 -8 9 -MW-5-2 12/ 16/ CA 10.0-11.5 18 Saturated 0 10 -No odor 11 12 -13 -14 CA 15.0-16.5 18 15 -0 No odor 5- 16 STITY CIAY; dark yellowish brown, moderately plastic, saturated, (CL) 17 -18 19 -MW-5-4 20.0-21.5 CA 18 20 -0 No odor 21 22 23 -WATER LEVEL DATA PROFESSIONAL GEOLOGIST DATE TIME SIGNATURE GWL CASING DEPTH TYPED NAME

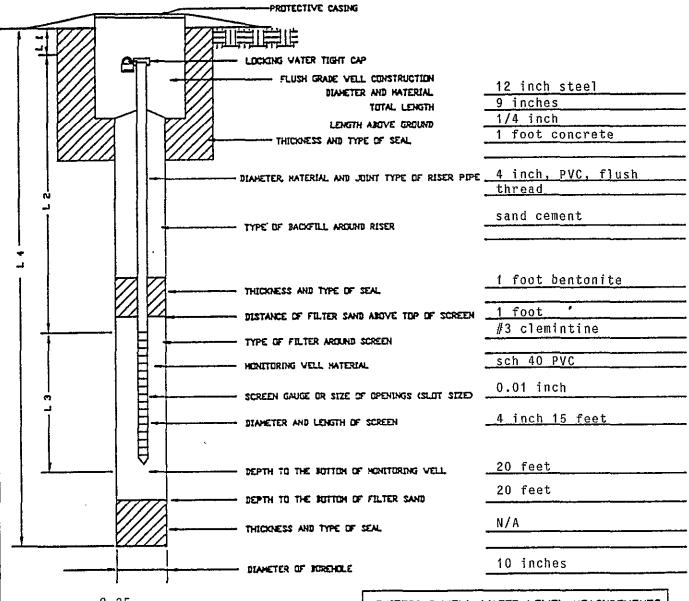
			•	CATION		PROJECT NUMBER: 40-88-66	BORING NUMBER: N	IW-6 SHEET	1 OF 1
3-	420	nd Sh San P nd, C	ablo A	venue		CONTRACTOR: West Hazmat Dr:	illing	DRILLING METHOD:	H.S.A.
						DRILLER: Randy Reidhead		DRILLING RIG:	CME-75
ļ						START: 9:00/01-	19-90	COMPLETED:	1:00/01-19-90
	NER:		1 0i 1	Company	7	SURFACE ELEVATION: 22.32	2	LOGGED BY: Hal Hansen	
STAY	N N N	BH:	S I A T	S R A E				CONTAMINANT OBSERVATION	GENERAL
SAMPLE	MAHER	BHOW BHOW	MT P L E(ft)	S R A C P O L(in)	DEPTH SCALE 1"= 4'	DESCRIPTIONS OF AND CONDITION		INSTRUMENT: OVM UNITS: ppm	OBSERVATION NOTES
					, +	Asphalt road base	. .	- FE-	
					2	CIAY; very dary of highly plastic, s moist, (CH)	gray, slightly —	1 1 1	
					4 —	····	······································		
CA	MW- 6- 1	10/ 12/ 38	5.0- 6.5	18	5 6 	SANDY CLAY; green moderately plasts moist, (CL)	nish gray, — ic, slightly	0	No odor
					7		- - -		
					9 🕂		-	-	
CA	MW- 6- 2	9/ 13/ 20	10.0- 11.5	18	10 +	Color change to y brown	yellowish —	14	Slight odor
					12 —	Saturated			
					14 —		<u> </u>		
CA	MW- 6- 3	5/ 8/ 11	15.0- 16.5	18	15 —	SILTY CLAY; yello moderately plasti saturated, (CL)	owish brown,	0	No odor
	-				17 —		-		-
					19 —				
CA	MW- 6- 4	4/ 11	20.0- 21.5	18	20	Total Depth at 2	21.5 feet -	0	No odor
					22 ——		<u></u>		
	WA:	ŒR L	EVEL D	ATA	PROFESSI	ONAL GEOLOGIST			<u></u>
DAS	Œ	Ţ							
TI	Œ	T^-							
GWI	<u> </u>				- SIGNATURE	•			
CAS	SING PIH				TYPED NAM	IE			

INSTALLATION OF FLUSH GRADE MONITORING WELL

 PROJECT
 0akland Shell
 MONITORING WELL NO.
 MW-6

 3420 San Pablo Ave
 ELEVATIONS: TOP OF RISER 22.32

 DELTA NO.
 40-88-666
 GROUND LEVEL 22.63



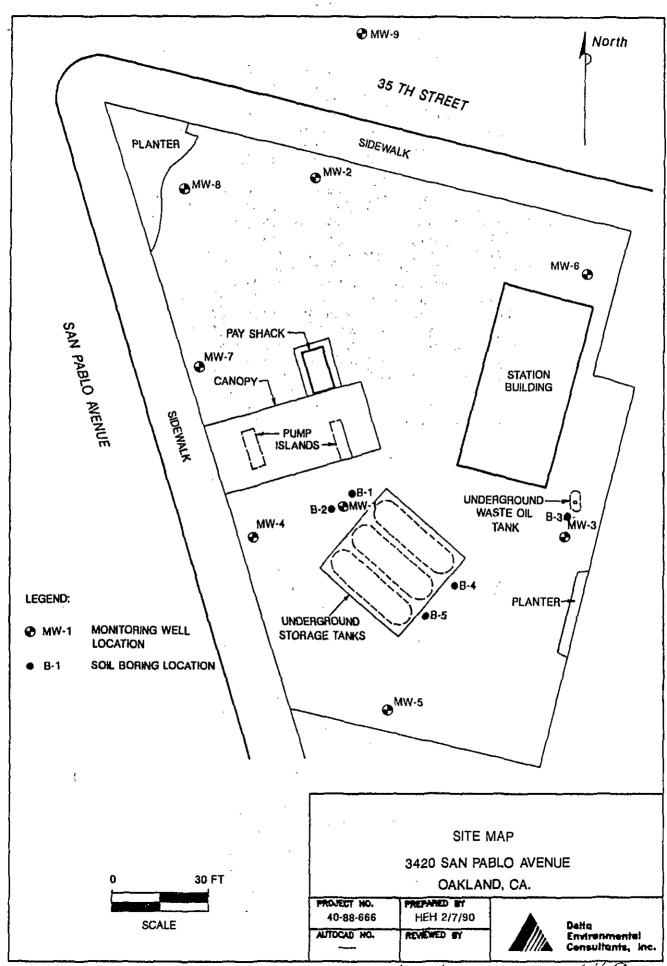
L1 = _	0.25	FT.
L 2 + _	4.75	FI.
	15.0	FT.
	20.0	FT.
~ - -		r 1+

INSTALLATION COMPLETED

1-19-90 TIME: 10:00

DATE	TIME	WATER LEVEL *
-2-90	11:41	7.86
		<u> </u>

Delta
Environmental
Consultants, inc.



Lick C57-554979

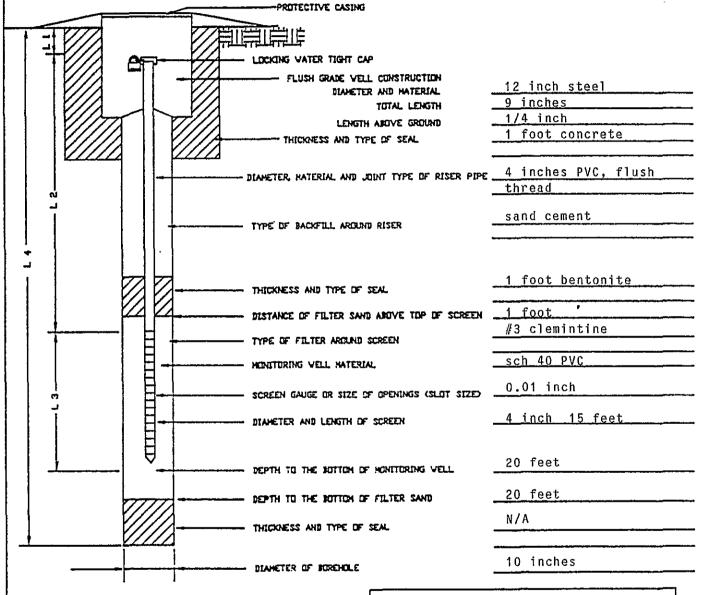
		T NAM	•	CATION		PROJECT BORING SHEET NUMBER: 40-88-666 NUMBER: MW-7	1 OF 1
	3420	San P nd, C	ablo A	venue		CONTRACTOR: DRILLING METHOD: H	.s.A.
						DRILLER: DRILLING RIG: CI	ME-75
1						START: 11:00/01-19-90 COMPLETED: 12	:00/01-19-90
O			1 Oil	Company	7	SURFACE LOGGED BY: Hal Hansen	
S	TSN YAU	B C	INT MA P	S R A E		CONTAMINANT OBSERVATION	GENERAL
SA MP L E	E P E	BLOW BLOW	E(ft)	A E M C P O L V E(in)	DEPIH SCALE 1"= 4'	DESCRIPTIONS OF MATERIALS AND CONDITIONS INSTRUMENT: OVM UNITS: ppm	OBSERVATION NOTES
					1	Asphalt road base -	
					2	CIAY; very dary gray, highly - plastic, slightly moist,	
					3	(CH)	
					4		
CA	MW-	16/	5.0-	18	· .L	SANDY CLAY; greenish gray, 95	Moderate
\ \tag{\chi_s}	7-	16/ 22/ 30	6.5		6		odor
	_	30			7 =		
Î					8 -	7	
					9 —		
CA	MW-	. 0/	10.0-	18	+	Color change to yellowish — 85	Moderate
	7-	9/ 15/ 25	11.5		11 —	brown - 3	odor
	"	2.5			12 —	Saturated	
					13 —		
	1				14		!
CA	MV-	6/	15.0-	18	15	5	Slight odor
	MW- 7- 3	6/ 8/ 10	15.0- 16.5		+		STIGITE CHOI
			 		17	SILTY CLAY; yellowish brown, moderately plastic, saturated, (CL)	
					18	7	
					19		
CA	MILAT	61	20.0	18	+	٦, ١,	N
L'A	7-	6/ 8/ 14	20.0- 21.5	10	20 —		No odor
	4	14			21	mate 1. Double at 1. Cook	
					+	Total Depth at 21.5 feet —	į
					23 —	7	
	WZ	TER I	EVEL D	ATA	PROFESS	SIONAL GEOLOGIST	
D	ATE						
T	TME				CTOBING		
G	WL				SIGNATUR	æ	
C	ASINC EPIH	;			TYPED NA	ME	

INSTALLATION OF FLUSH GRADE MONITORING WELL

 PROJECT
 0akland Shell
 MONITORING WELL NO.
 MW-7

 3420 San Pablo Ave
 ELEVATIONS: TOP OF RISER 20.36

 DELTA NO.
 40-88-666
 GROUND LEVEL 20.76



L1 =	0.25	FT.
L 2 =	4.75	FT.
L 3 =	15.0	FT.
	20.0	FT.
L 7		

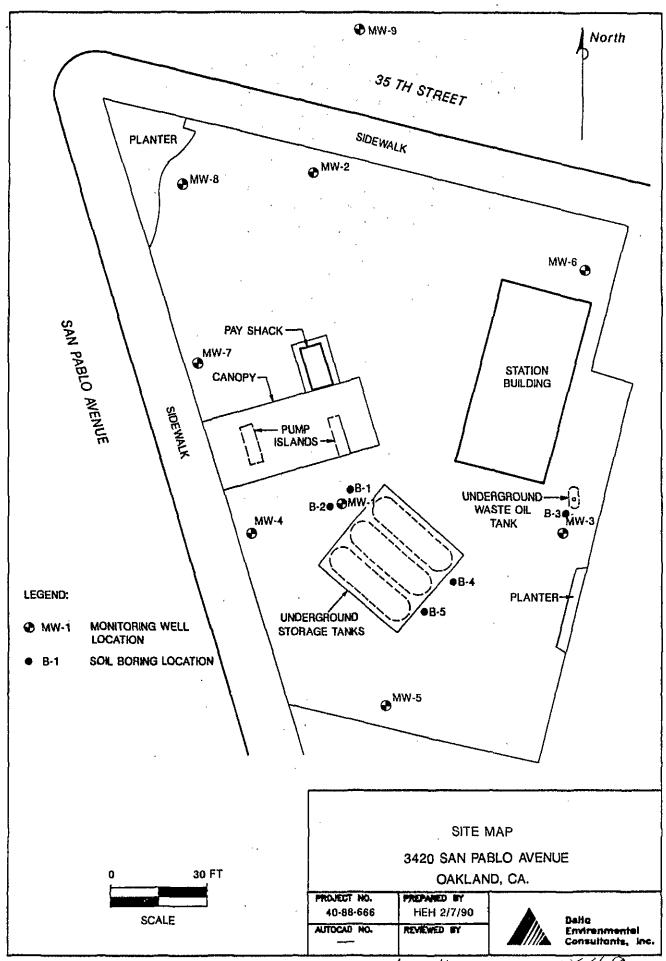
INSTALLATION COMPLETED

1-19-90 TDHG 12:00

DATE	TIME	WATER LEVEL #
2-2-90	11:52	8.91

Delta
Environmental
Consultants. Inc.





lict C57-554979

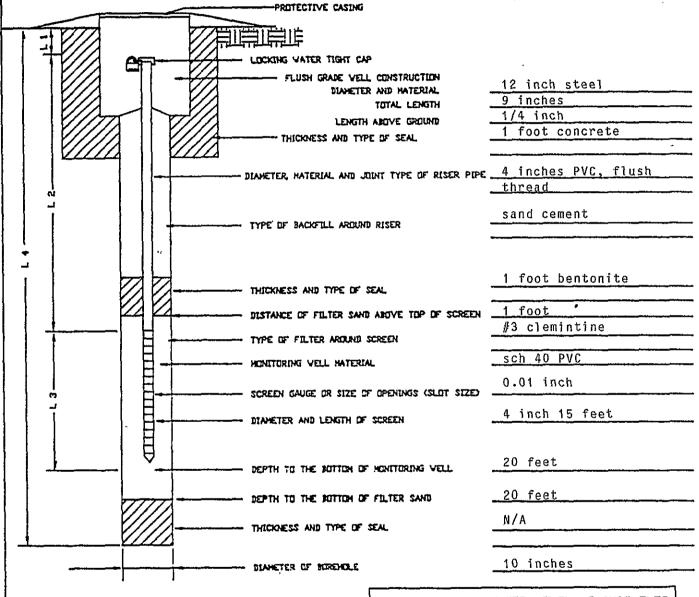
	PR	OJEC	r nam	E / LO	CATTON			PROJECT NUMBER:	40-88-666	BORING NUMBER	; }: M	₩ – 8	SHEET	1 OF 1
	3	420	nd She San Pa nd, C	ablo A	venue			CONTRACTO West Ha	OR: zmat Drill	ing.		DRILL METHO	ING D:	H.S.A.
	O	ania	iki, C	A				DRILLER: Randy R	eidhead			DRILL RIG:	ING	CME-75
ĺ								START: 2	:30/01-18-	-90		COMPL	ETED:	3:45/01-18-90
		NER:		l oil	Company	7		SURFACE ELEVATION	N: 20.95			LOGGE Hal	D BY: Hansen	
	STAY	S N A U M	OOF BHC	S I A N M T	S R A E M C	DEPTH		nrgadtøm.	ONS OF MAT	TATOTAT C		CONTAI OBSER	TMANIN NOTTAV	GENERAL OBSERVATION
	AYMPE LE	PLE	BHOW BHOW	P L E(ft)	F &	SCALE 1"= 4'	•	AND	CONDITTONS	3		INSTR OVM UNITS	UMENT: : ppm	NOTES
Ī						1-	A	sphalt ro	ad base					
						2	C	LAY; very	dark gray lightly mo	, highl	У -			
						3 -	_ {	CH)	TIGHTY NO	120,				
1						4								
	CA	MW	16/	5.0-	18	5 - 1-						3		Slight odor
		8 - 1	16/ 27/ 28	5.0- 6.5		6	_ S	ANDY CLAY	; greenish plastic,	n gray, slightl	<u>v</u>	J		2219.10
		_	20			7 +	m	oist, (CL)	2223.101	·1			
						8 -	_							
						9					-			
	CA	MW-	11/	10.0-	18	10	. c	aturated				100		Moderate
	CA.	8 -	11/ 13/ 19	11.5	10	11 =	 _	acutaced				100		odor
		2	19			12	-				_			
				,		13	_							
						14					_			
	CA	MTAT_	11	15 0-	18	15						0		No odor
	CA	MW- 8- 3	4/ 6/	15.0- 16.5	10	16	•				-	U		NO COOL
- 1		٦	'			17		TINV OT AV	a dowle wol	lerrich				
						+	b b	rown, slic	; dark yel ghtly plas (CL)	stic,	_			
				:		18 -	- S	aturateu,	(CL)					
-	-03	345.7	0.4	22.2	10	19 +	•				-			N . 3
	CA	MW- 8-	9/ 11/ 16	20.0- 21.5	18	20 -	_					0		No odor
I		4	70			21 +	· 			· et-				
						22 —	_	Tocar neb	th at 21.5	reet				
						23 —	•							
Ī		WA	TER L	EVEL D	ATA	PROFI	SSI	ONAL GEOL	OGIST					
	DA	TE	Ţ											
	TI	ME				OTOTA								
İ	GW	L				SIGNAT	LUKE							
Ì	CA DE	SING PIH	1			TYPED	NAM							

INSTALLATION OF FLUSH GRADE MONITORING WELL

 PROJECT
 Oakland Shell
 MONITORING WELL NO.
 MW-8

 3420 San Pablo Ave
 ELEVATIONS: TOP OF RISER 20.95

 DELTA NO.
 40-88-666
 GROUND LEVEL 21.14



L1 =	0.25	FT.
L 2 =	4.75	FT.
L3	15.0	FT.
L4 =	20.0	F1.

INSTALLATION COMPLETED

1-18-90 TDE: 3:45

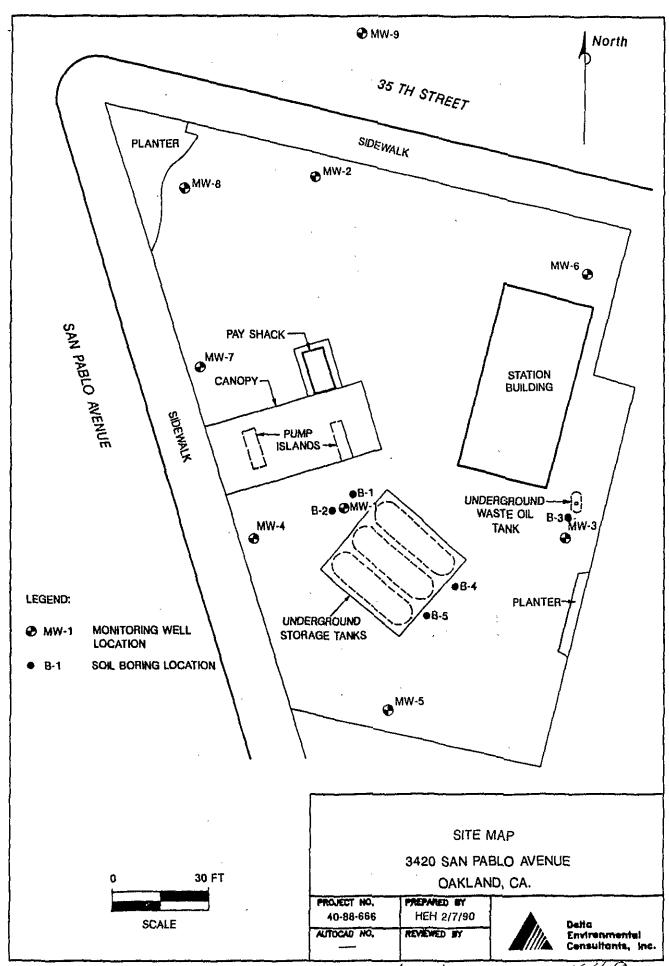
IONITORING	WELL WATER	LEVEL MEASUREMENT
DATE	TIME	VATER LEVEL ■
2-2-90	11:49	7.32
	_	
·		-

Delta

Environmental



Consultants, Inc.



LAS CONTRACTOR

Lick C57-554979

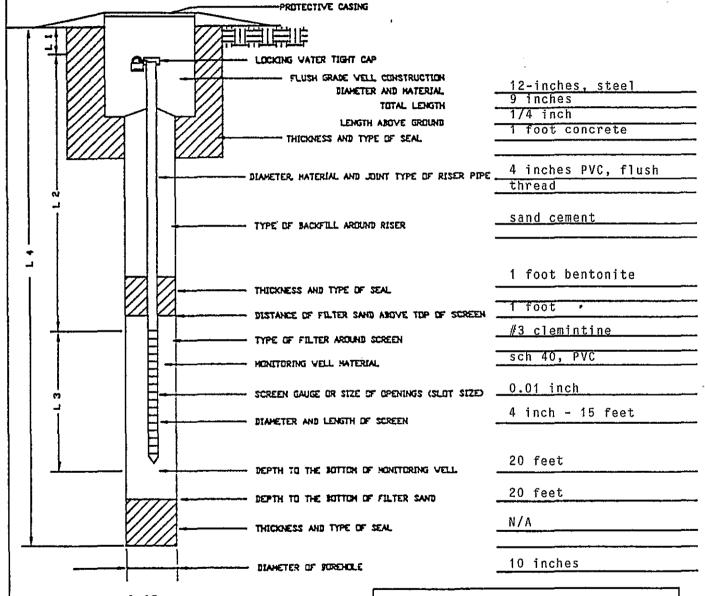
		77 37737	77 / 70	CARTON		TOOTEGE	DODANG		CHITTON	1 ^	E) ^	
) PF	OJEC.	r. NAM	r: / 110	CATION		PROJECT NUMBER: 40-88-666	BORING NUMBER:			1 0	r 1	1
] 3	420	nd She San Pa nd, C	ablo A	venue		CONTRACTOR: West Hazmat Dril	Lling	DRILI METHO	ING D:	H.S.A.		
		,	-			DRILLER: Randy Reidhead		DRILI RIG:		CME-75	·	
						START: 12:30/01-	L9-90	COMPI	ETED:	2:00/0	1–19-	-90
I Z	ND WER:	Shel	l Oil	Company	7	SURFACE ELEVATION: 21.19		LOGGE Hal	D BY: Hansen			
STAY	SAMPLE	B C O U	S I M T P	SAECOVIN)	DEPIH	DESCRIPTIONS OF M	VTERTALS	OBSER	MINANI VATION	GEN OBSER	ERAL VATIO	NC
M H L E	P B L E E R	W N T S	P L E(ft)	PO LV E(in)	SCALE 1"= 4'	AND CONDITION	vs	OVM	DMENT:	NC	TES	
					1	Asphalt road base		-				
					2	CLAY; very dark gr plastic, slighly r	cay, highly]]		{
					3	(CH)		1		<u> </u>		{
					4 +			<u> </u>				Í
CA	MW- 9- 1	9/ 23/ 27	5.0- 6.5	10	5 +	SANDY CLAY; yellow moderately plastic moist, (CL)	vish brown, c, slightly	0		No co	or	
	1	27			6	moist, (CL)		-				}
					7 +		-	- -		† †		}
					8- -	•		1		<u>.</u>		
CA	MW-	16/	10.0-	18	9 10		_	30		Sligh	t odd	or l
CA	9-	16/ 21/ 31	11.5		11] ~		Dira		
}	}	,			12 -			- -				
					13 —		•	4				}
					14 —		-	-				}
CA	MW-	5/	15.0-	18	15 —	SITLY CLAY; dark	vellowish -	-0		No co	lor	}
	9 - 3	5/ 9/ 12	16.5		16 —	SITLY CLAY; dark of brown, slightly posturated, (CL)	raslic	-				-
					17 —		•	-}				
				} }	18 —			-}				- {
					19 —		•	-}				1
CA	MW- 9-	!	20.0- 21.5	18	20 —			- 0		No oc	lor	
	$\overline{4}$				21 —			1		1		
			<u> </u> 		22 —	Total Depth at 21	.5 feet -					
					23 —		•	7				
	WA	TER I	EVEL D	ATA	PROFESS	IONAL GEOLOGIST		_1		 -		
D	ATE.	7	7									
T.	IME				CITCATAGETT	10 To						ļ
G	ΔĽ,	1			SIGNATUR	<u>r.</u>						
CD	ASING EPIH				TYPED NA	ME:						·

INSTALLATION OF FLUSH GRADE MONITORING WELL

 PROJECT
 Oakland Shell
 MONITORING WELL NO.
 MW-9

 3420 San Pablo Ave
 ELEVATIONS: TOP OF RISER 21.19

 DELTA NO.
 40-88-666
 GROUND LEVEL 21.46



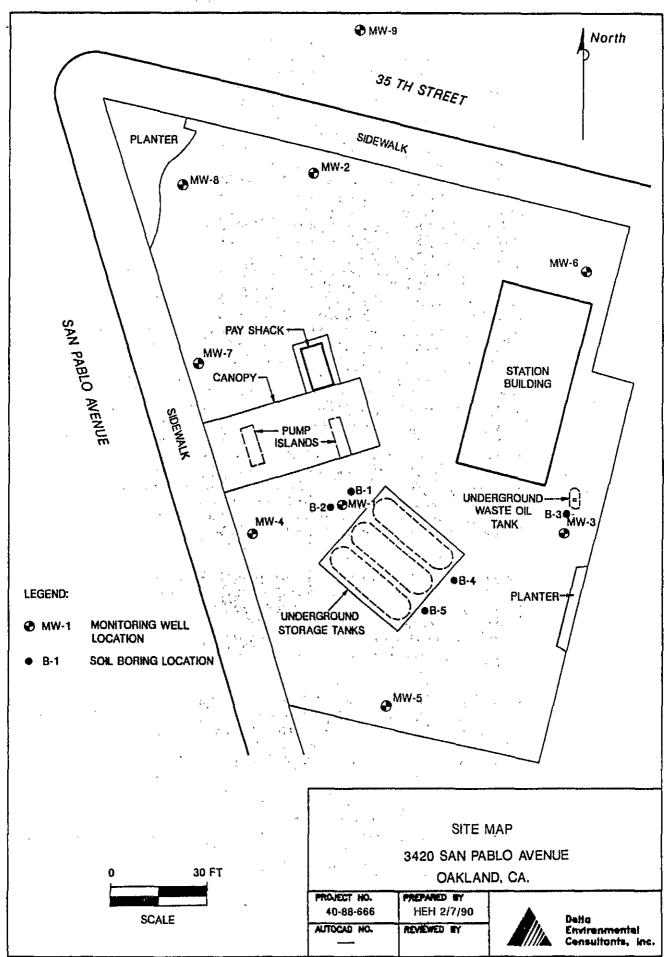
L:	0.25	FT,
rs =	4.75	FT.
	15.0	FT.
	20.0	FI.
L 4 =		F 11

INSTALLATION COMPLETED

1-18-90 TDHE: 2:00

DATE	TIME	WATER LEVEL *
2-2-90	11:43	9.02
 	<u> </u>	

Delta
Environmental
Consultants, Inc.



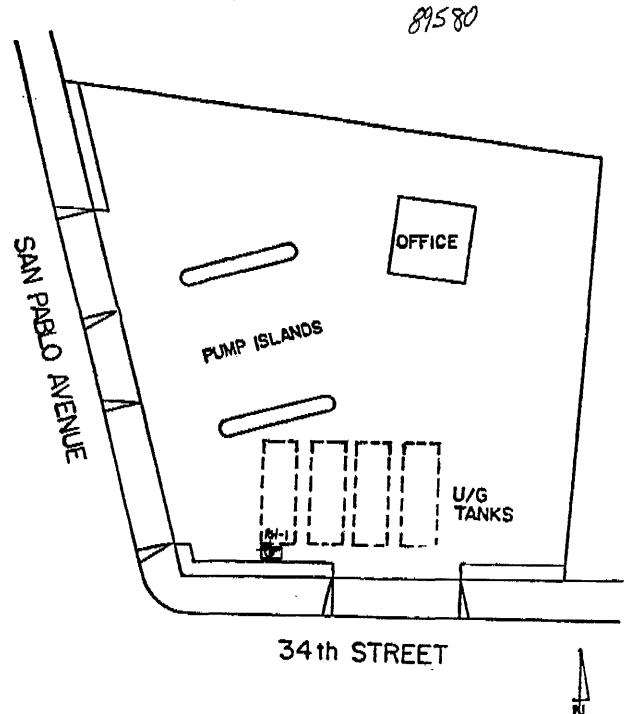
lict C57-554979

CONFIDENTIAL

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

REMOVED

201221



Permit No.



Figure 2. SITE PLAN

CONFIDENTIAL

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

REMOVED

CONFIDENTIAL

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

REMOVED

01-532M

NORTHWEST ENVIROCON INC.

Field Log of Test Pit or Auger Hole

01504W23M21

				icia Lo	g or ic.	J. I IL	U. A			01509W23M&1
) ×	X	×_	-X	Site Lo	cation 7	Doug	co Me	tal Fins	shing	Boring # MW-1
				Projec	t# 640	9	Da	te 3/9/	93	Sheet / of 2
			ouse	Drilling	Contrac	tor s	Baylo	and		
			w prenduse		Roger				ogger	Mary McDonald
	۱-MW	1 51	3		8:35ar			11:50 am		ng Diameter 12"
	2′	· ^	1	Drilling	g Method	Holle	w Ste	m Auge	· · · · · · · · · · · · · · · · · · ·	·
1			12T EXCAVATION		ing Meth	, N	lodifi		fornia	/ Brass or stainless
1 N				n/s	_ 			water der		elev
Depth	Cas.	Annu.	Well Legend	Screening Results (ppm)	Sample #	# Rec.	Blow Ct.	USCS]	Description of Material
		1		1881111						
1		we t	Casing:							
<u> </u>			4" sch 40 PVC 0-4'2"							
3 		bentanite	1	٥	2.5		3			mish black silty
4		*	Screen				lo	ļ ļ	trace	(CL) 5YRZ/1, Stiff, fine sandand angu
-			4"scr40	0	4.0	· 	1(er, mothed with brown, contains pi
5 ——	=		4'2"-				14	CL	OF b	rick and clay pipe 1.5ft gray ish brown
6			0.020" 310ts						clau	y with sand and
7 —			<u> </u>]		rel (CL) 5YR 3/2 f, five sand and five
8		Sand		0	7.5		3	<u> </u>	1/2"	gulan gravel, 1/4 to Sandstone clasts-rus
9		4		2 /	0 -		7	1	Col	ored
10			 	<u>36</u> 226	9.0		22	sc	de	derate brown sandy ay (CL) 542314
				· 570		*	24		11 0	iff, stringers of brown ay, mottled with our
_								CL	r	15t staining. 9.5 feet clayey sand
12		<u>*</u>			<u> </u>				wit	n gravel, medium de

PERMIT 93085

15/4W.23M 21

01-532M NORTHWEST ENVIROCON INC. Field Log of Test Pit or Auger Hole

										$M\omega$ -1
Ĉ	Depth	Cas.	Annu.	Well Legend	Screening Results (ppm)	Sample #	# Rec.	Blow Ct.	USCS	Description of Material
	13					12.5		4	CL	wet, nedium angular gravel well graded, odor
٠	14						-	8		lincreasing clay at 10ft.
	15	= = = = = = = = = = = = = = = = = = = =								Light olive gray clay (CCL) 5YR 3/2 stiff, tracefine sand, mother
	16									with rust, black manganese staining.
•	17									Total Depth = 14.8 ft
	18									backfilled to 12' with bentonite pellets
	20									
Ć	21			,						
	22								"	
	23	=								
	24			is						
- {	25									
$\left\{ \right.$	26									·
	28									
	29									
	30									
	31									

01-532N

NORTHWEST ENVIROCON INC.

Field Log of Test Pit or Auger Hole

01504W23M22

•				0/30900231100					
××	Site Location	Dougeo Me	tal Finishin	ng Boring # MW-2.					
	Project # 6	409 Da	ate 3/5/93	Sheet / of a					
200	Drilling Cont	Drilling Contractor Bayland							
T2U TECAVATION 1 RECENTAVATION	Driller Roge	Driller Roger Strong Logger Mary McDonald							
UST &CAVATION 1 3	Start 11:45 a	m Finish		Boring Diameter 121					
		od Hollow S	tem Auger	- ,					
30	Sampling Me	Modifi		a/brass or stainless					
N 8' 119	MW2 n/s		water depth	elev					
Well	Screening Samp	le # Blow							
Depth Cas. Annu. Legend	(ppm) #	Rec. Ct.	USCS	Description of Material					
Casing:									
4"sch4" Pvc 0-5'									
	2.5			n					
3 bentonile	Z.13	7] (Brownish black clay with sand (e4) 54R2/1					
4 Screen	4.0	9 5	CL	Stiff fine sand, small brock inclusion					
5 4"sch4	0	10	GC	dark yellowish brown clayer aravel (GC)					
5-15'		70		10YR4/2, medium dense					
slots			-	rust staining					
,	7.5	5		dali alaka lina lama na					
8 = - -	///	12] (1)	dank Yellowish brown silty clay with sand and					
9 = 5	9.0	1 2	1	grarel (CL) 10YR4/2 very stiff, file sand,					
10 = #		7		angular gravel					
# H				more sand, nogravelat 85ft Less sand, rust staining at 9.01 Light olive gray at 10ft					
				light olive grayat 40ft					
12									

NORTHWEST ENVIROCON INC. Field Log of Test Pit or Auger Hole

15/4W-23M22 MW-2

									70,00-2
Depth	Cas.	Annu.	Well Legend	Screening Results (ppm)	Sample #	# Rec.	Blow Ct.	uscs	Description of Material
13		Sano.			12.5		2	<u> </u>	dark yellowish brown
_	= =	2/2					4	CL	clay with gravel (CL) 10YR4/2, stiff, rust
14	=	#							Staining medium angula
15	=								gravel.
16——	=					·	`		Drilled to 16 feet, no
17									water observed in boring. Pulled auger
18									back 2 feet and could hear water entering
19	=								The boring.
20									
21	=		,						
22						· · · · · · · · · · · · · · · · · · ·		•	
23									
24									
25									
-			,						
26									
27——									
28									
29	1=1								
30									
31	=	- 							
·				<u> </u>				<u></u>	

01532\$

NORTHWEST ENVIROCON INC.

Field Log of Test Pit or Auger Hole

01504W23M23

Site Location Dougco Metal Finishing Boring # 14W-3 13' Date 3/5/93 Project # 6409 Sheet / of 2 Drilling Contractor Bayland Driller Roger Strong Logger Mary McDonald Start 2:30 pm Finish 4:15 pm Boring Diameter /2" Drilling Method Hollow Stem Auger EXCAYATION Modified California / brass or Sampling Method Stainless steel sleeves est. water depth elev n/s Screening Results (ppm) Sample # Blow Well USCS Rec. Ct. Description of Material Cas. Annu. Depth Legend SW light olive gray sand Cosing with gravel (sw) fire 4"scn40 gravel, piece of glass PVC bentonik 0-41 grayish brown sandy 2 2.5 0 3 clay with gravel (CL) 4 5483/2 Stiff fine angula 7 5 grarel 4.0 0 7 More gravel, color change 5 -CL Screen: 9 to brownish gray 54R4/1 4'-14' at 3,3 ft. 4" sch 40 gray ish brown 5 YR3/2 PVC with rust staining at 0.020" 5105 44 25 3 color change to moderate brown 54R3/4 brick 8 GCinclusion at 7.8ft 8 grayish brown clayey 9,0 3 18 gravel (BC) 54R3/2 8 CL 10-9 Loose, wet, angular moderate brown sandy clay with gravel (CL) 10YR5/4 shiff fine gravel

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のうちまえる NORTHWEST ENVIROCON INC. Field Log of Test Pit or Auger Hole

15/4W-J3M23

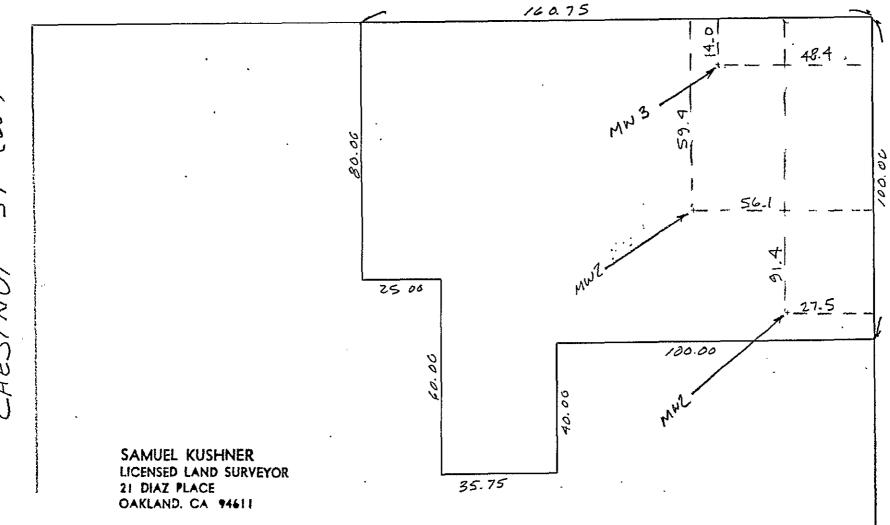
MW-3

	•								M W=3
Depth	Cas.	Annu.	Well Legend	Screening Results (ppm)	Sample #	# Rec.	Blow Ct.	USCS	Description of Material
		Jan 2		i	}	_			at 9.5 ft; grayish brown
H 2		12 sand	ĺ				3		1 silta clau with a
13		2	1		<u> </u>		5	CL	gravel (CL) 54R3/2
_		<u>#</u>				<u> </u>			
14		<u> </u>		<u> </u>			7		stiff, moist, firegrave
				ļ					with occaissional larg
15			}]	gravel
							<u> </u>		1. 9
16									Color change to dar
_									yellowish brown
17									104R4/2 at 10ft.
. ,									10 1/2 00, 10/1.
									Laark yellowish brown
18									
				<u> </u>		-			silry clay (CL) LOVR
19						<u> </u>			stiff, black inclusio
-					-	· · · · · · · · · · · · · · · · · · ·			with green rims
20	-	741							
•m	 - -		,						Total Depth = 14 A
21									
<u> </u>									
22	_								
	=								
23	=								
20									
24			•						
	1=11								
25	 								
-	1=11								
26	1=		i					j	
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ĺ	1=11				Ī			-	

SCALE: 11=30'

BM#2957 EL= 26.785

34TH ST (60')



NJONIT

SAMUEL KUSHNER

LICENSED LAND SURVEYOR

21 Diaz Place Oakland, CA 94611 (510) 339-1728

March 31, 1993

Northwest Envirocon Inc. 1800 Tribute Road, Suite 101 Sacramento, CA 95815

Attn: Kevin Gallagher

Re: Dougco, 34th St. at Linden, Oakland.

Your No. 6409

Location	Casing Elevation	Rim Elevation	
MW-1	26.78	27.20	M
MM-5	26.01	26.77	N
MM-3	26.17	26.67	Ø

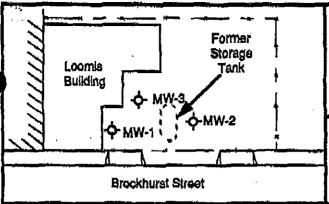
Elevations are on City of Oakland Datum. (Elevation values based on City of Oakland Datum are 3.00 feet greater than they would be if based on Mean Sea Level Datum.)

BENCH MARK: City of Oakland # 2957 Chiseled square on top of curb at mid point of northwest return, 34th Street and Linden Street.

ELEVATION = 26.785 (City of Oakland Datum)

Horizontal locations in relationship to the property boundary are shown on the enclosed sketch and are based on City of Oakland street monuments on 34th St. at the intersection with Chestnut St. and with Linden St.

01-484V 1S/4W23N2



Geraghty & Miller, Inc.

LOG OF BORING MW-1 LOOMIS ARMORED, INC. 936 Brockhurst Street Oakland, California

Project No.: CC134,01 Logged By: Daniel Becraft

Logged By: Daniel Becrai Drilling Co.: Baylands Driller: Tom Schmidt Date Drilled: August 18, 1990 Drilling Method: 10" Hollow Stem Auger Sampling Method: 2" Split spoon

sheet

1 of 2

Boring MW-1

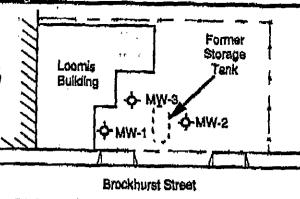
inclination: Vertical

Depth (ft.) Blowent, Gastech (ppm) Samples DESCRIPTION WELL CONSTRUCTION Surface Elevation: 28.21 feet Traffic Rated Casing Elevation: 27,77 feet Utility Box D Concrete Locking water-40 tight cap CLAY WITH SAND (CL), Dark Yellowish Brown (10 YR4/4); 20-25% fine-medium sand; angular- subangular; moist. Concrete Neat Cement CLAYEY GRAVEL WITH SAND (GC), Dark Yellowish Brown 70 (10 YP 4/6); gravel to 2 inches; well graded; angularsubangular, 20-25% fine to medium sand; 10-15% coarse 4" Sch 40 PVC sand; angular- subangular; medium dense; moist. Blank casing OLAY (CL), Very Dark Grayish Brown (10YR 3/2); 20-25% gravel; angular-subangular; 15-20% well graded sand; 18 80 angular-subrounded; moist. 10 @ 9.5 feet: Gravish Brown (2.5Y 5/2); 30-35% slit; 20-25% fine-medium sand; angular-subrounded; trace of gravel; stiff; moist. @ 14 feet: Olive Gray (5Y 5/2); 10-15% fine grained sand; trace of gravel; hard; moist, 15 -40 100 15,65 feet Date: 8/20/90 @ 19 feet: Brown (10YR 4/3); 30-35% fine-medium sand; angular-subangular; 5-10% coarse sand; trace of 38 250 20 . gravel; hard; moist. SILT (ML), Yellowish Brown (10YR 5/6), 15-20% clay: 20-25% fine grained sand; angular-subangular; gray mottling; very stiff; moist,

Geraghty & Miller, Inc.

Boring MW-1

sheet 2 of 2



LOG OF BORING MW-2 LOOMIS ARMORED, INC. 936 Brockhurst St. Oakland, California

Project No.: CC134.01 Logged By: Andy Bunten

Drilling Co.: Baylands

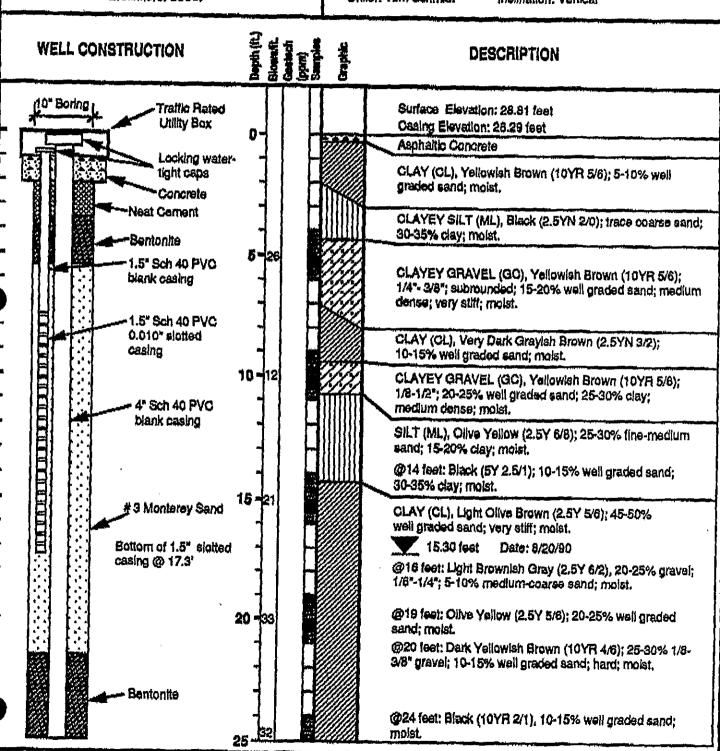
Driller, Tom Schmidt

Date Drilled: August 14, 1990

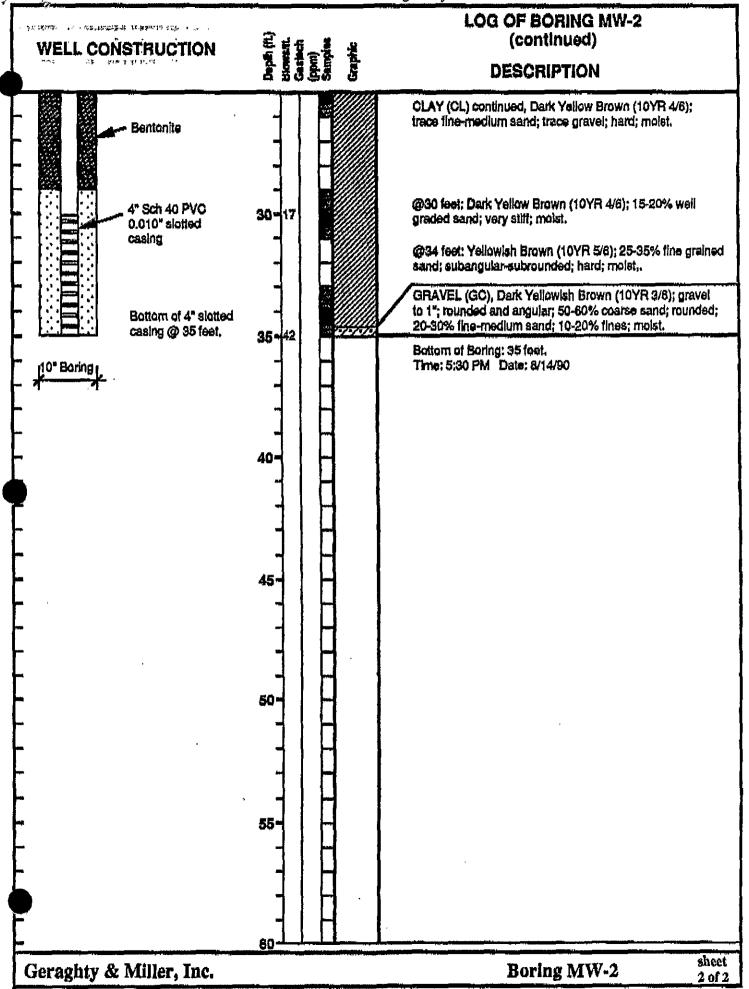
Drilling Method: 10" Hollow Stem Auger

Sampling Method: 2" Split spoon

Inclination: Vertical



01-484W IS/4W 23N3



Geraghty & Miller, Inc.

LOG OF BORING MW-3 LOOMIS ARMORED, INC. 936 Brockhurst St. Oakland, California

Project No.: CC134,01 Logged By: Andy Bunten

Drilling Co.: Baylands Driller: Tom Schmidt Date Drilled: August 14, 1990 Drilling Method: 10" Hollow Stem Auger Sampling Method: 2" Split spoon

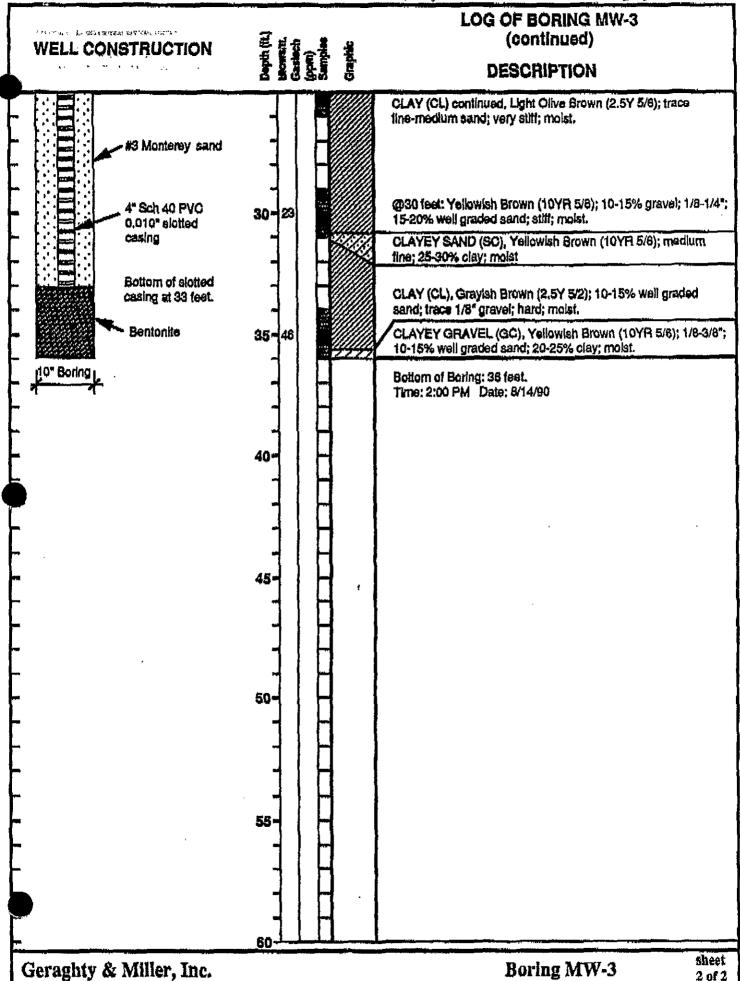
sheet

1 of 2

Boring MW-3

Inclination: Vertical

WELL CONSTRUCTION DESCRIPTION Traffic Flated Surface Elevation: 28.83 feet Littlity Box Casing Elevation: 28.07 feet Asphaltic Concrete Locking watertight cap CLAY (CL), Yellowish Brown (10YR 5/6): 5-10% well graded sand; moist, Concrete Neat Coment CLAYEY GRAVEL (GC), Yellowish Brown (10YR 5/6): 1/4"- 3/8"; subrounded; 15-20% well graded sand; medium dense: moist. SANDY CLAY (CL), Black (10YR 2/1): 15-20% fine-Bentonite medium sand w/trace coarse; stiff; moist. 10 + 8 SANDY SILT (ML), Light Olive Brown (2.5Y 5/6); 30-35% fine-medium sand: stiff: moist-wet. 4" Sch 40 PVC CLAY (CL), Light Brownish Gray (2.5Y 6): 10-15% Blank casing fine-medium sand; stiff; moist. @ 14 feet: Very Dark Grayish Brown (2.5Y 3/2); 25-30% well graded sand; molat. 15-19 3 Monterey Sand 14.54 feet Date: 8/20/90 @ 16 feet: Olive Brown (2.5Y 4/4); 15-20% gravel; 1/8-3/8"; subrounded: 5-10% fine-medium sand; very stiff: molst. SANDY SILT (ML), Light Olive Brown (2.5Y 5); 25-30% fine-medium sand witrace coarse; moist-wet. 20 -47 CLAY (CL), Dark Yellowish Brown (10YR 4/8); 30-35% well graded sand; trace gravel; hard; dry-moist. 4" Sch 40 PVC 0.010" slotted casing @24 feet: Light Yellowish Brown (2.5Y 6/4); 10-15% well graded sand; dry-moist.



phone 415-233-3200

AMERICAN CREAMERY COMPANY. 14th. & Poplar Streets. Oakland, California.

LOG OF WELL.

·	
Sandy soil	feet
Yellow sand 5 to 51	17
Blue clay 51 " 63	17
Yellow sandy clay 63 " 67	17
Blue sandy clay 67 " 92	17
Sand & Gravel 92 " 94	17
Blue clay 94 " 105	11
Blue sandy clay 105 " 120	17
Blue clay & gritt 120 " 141	Ħ
Gravel. no water(made test) 141 " 148	Ħ
Yellow clay 148 " 167	17
Gravel, some clay 167 " 168	11
Yellow clay 168 " 182	ŧŦ
Water bearing gravel(perf) 182 " 185	
Clay 185 " 195	

Casing 10" No. 14 R. H. Dbl. Total depth of well 200 feet. Cased to 195 feet.

No. 2 well. No log. Cased 164 feet of 10" Casing and 36' of 8" column

CALIFORNIA LINEN SUPPLY CO., INC.

01-741

989 41st STREET OAKLAND, CALIF.

TELEPHONE PIEDMONT 8430

HEAD OFFICE 1246 FOLSOM STREET

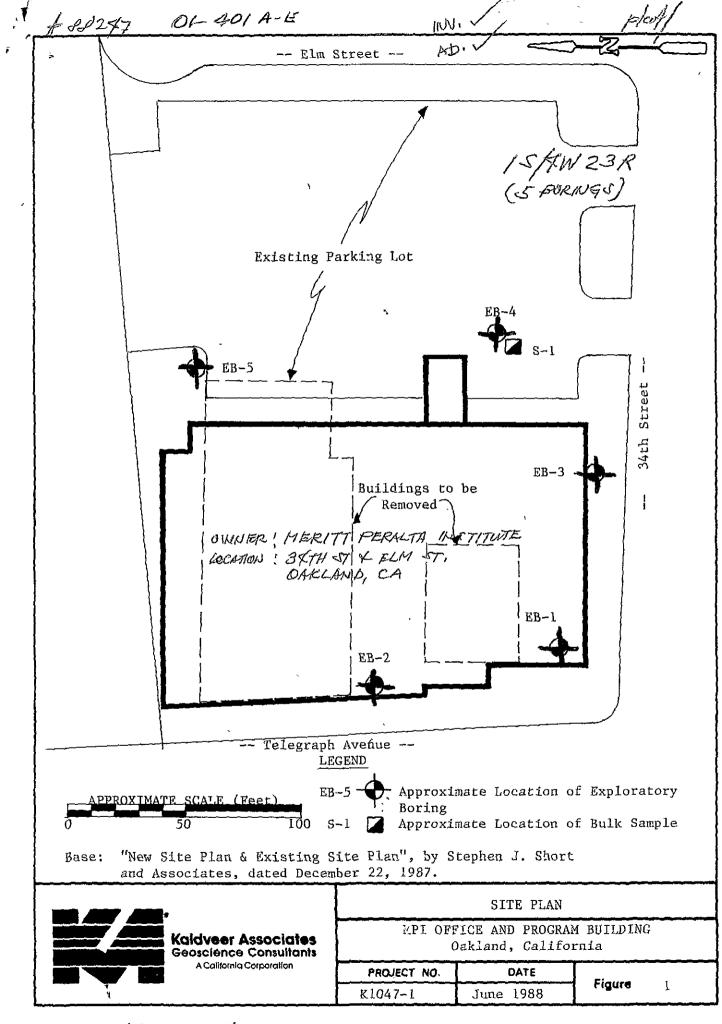
TELEPHONE MARKET 1386

SAN FRANCISCO

HOGG OF COLSE	DE VEIDE OF F	EARL LAUNDRY CO. Top of ground
Tator perforation 10ft.		25_feet 23 feet top Total 48 feet from/ground
		Hard clay and cement.
Sand and gravel		180 feat from top ground.
		Hord clay, cement and sand stone.
Up to 400 Feet.		,
arthur AM. Adaphance and a call of the cal		8 inch pipe down 110 feet.
"ater perforation 14 ft		5 feet sand and gravel on bed rock BED ROCK

Depth of well 510 feet in all. Finished July 30-August 1, 1926, by

H. U. NORMAN.



01-401A 1-5/4W23R

ORILL RIG Continuous Flight Auger	SURFACE	LEVATION			\perp	LOGGED BY LG				
DEPTH TO GROUNDWATER 14' (see note 3)	BORING DI	AMETER 6	Inc	hes		DATE D	RILLED	6/15,	/88	
DESCRIPTION AND CLASSIFIC	CATION			DEPTH	ER	ATION ANCE (/FT.)	F. F. I.	VSI TY	INED SSIVE GTH	
DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE	(FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT.)	WATER CONTENT	ORY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH	
2" AC over 4" Baserock GRAVEL, (fine grained), sandy	dark	loose	GM	- 1 -	T					
(fine-coarse grained), some silt CLAY, silty, sandy (fine-coarse	brown dark	firm	CL	2	<u> </u>	. 8	14			
grained), trace gravel (fine grained)	grey- black			- 3 - - 3 -	\bigvee_{i}	12*				
GLAY, silty, sandy (fine-coarse grained) (lense of sand fine-coarse grained, silty clayey)	medium brown	firm	CL	- 4 ~		5	15			
SAND, (fine-coarse grained), some silt, with gravel (fine grained) with lenses and balls of clay, silty, sandy (fine-coarse grained	red	medium dense	SM- SC	- 6 - - 7 - - 8 -						
Passing #200 Sieve = 36%			sc	- 8 - - 9 - - 10 - - 11 -		18				
CLAY, silty, some sand (fine-medium grained)	beige mottled with black	very stiff	CL - ML	13 - - 14 - - 15 - - 16 -	X	33*	<u>∑</u> 29	92	3.4	
Grading sandy (fine-medium graine	đ)	***		- 17 - - 18 - - 19 - - 20 -	X	34*	23	101	2.6	
				RATOR'						
Kaldveer Associate Geoscience Consultar		MPI		CE AND land, C				DING	· · · · · · · · · · · · · · · · · · ·	
A California Corporation		PROJECT NO. DATE K1047-1 June 1								

01-401A-1 KS/ OBILL RIG Continuous Flight Auger SURFACE ELEVATION DATE DRILLED DEPTH TO GROUNDWATER 14' (see note 3) **BORING DIAMETER** 6 Inches 6/15/88 PENETRATION RESISTANCE (BLOWS/FT.) WATER CONTENT (%) **DESCRIPTION AND CLASSIFICATION** DEPTH (FEET) SOIL TYPE CONSIST. COLOR DESCRIPTION AND REMARKS tan very CLAY, silty, sandy (fine-medium CL 34* mottledstiff grained) 21 with. (continued) black 22 SILT, with sand (fine-medium tan ML-very 23 mottledstiff SMgrained) with 24 black Passing #200 Sieve = 69% 22 25-26 27 SAND, (fine-coarse grained), trace brown medium 28 clay, some gravel (fine grained), dense lenses of gravel (fine grained), 29 and silt 14 Passing #200 Sieve = 15% 30 Bottom of Boring = 30 Feet 31 Notes: 32 1. The stratification lines repre sent the approximate boundaries 33 between soil types and the transition may be gradual. 34 2. For an explanation of penetration resistance values marked with an asterisk (*) see first page, 35 Appendix A. 36 3. Groundwater level was measured at $27\frac{1}{2}$ feet at time of drilling. Six hours after drilling, the 37 groundwater level measured at 14 feet. 38 39 40



EXPLORATORY BORING LOG

MPI OFFICE AND PROGRAM BUILDING Oakland, California

PROJECT NO.	DATE	BORING
K1047-1	June 1988	NO. 1

SP247

01-4018

15/XW23R

NO.

2

June 1988

DRILL RIG Continuous Flight Auger	SURFACE E	LEVATION			Ti	LOGGE) BY	LG	
DEPTH TO GROUNDWATER 19' (see note 3)	BORING DI	AMETER	6]	Inches	,	DATE D	RILLED	6/15	/88
DESCRIPTION AND CLASSIFIC	CATION				g	TION MCE FT.)	2	<u>Ł</u>	Y ED
DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE	DEPTH (FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT.)	WATER CONTENT (*	DRY DENSIT	UNCONFINED COMPRESSIVE STRENGTH IKSFI
2" AC over 4" Baserock CLAY, silty, some sand (fine- coarse grained), trace of gravel (fine grained) Liquid Limit = 34% Plasticity Index = 20%	dark grey	stiff	CL	2	X	23*	18		
Passing #200 Sieve = 75% CLAY, silty, sandy (fine-coarse grained)	medium brown	stiff	cl	- 4	X	43*	15	111	
CLAY, very silty, trace of sand (fine-medium grained)	tan	stiff	CL- ML	- 7 - - 8 - - 9 - - 10 -	\bigvee	28*	29	94	4.3
CLAY, silty, sandy (fine-coarse grained)	beige mottled with black	stiff	CL	- 11 - - 12 - - 13 - - 14 - - 15 -					
(grading very silty)		very stiff		- 16 - - 16 - - 17 - - 18 -	X	35*	25	95	2.8
SAND (fine-medium grained), silty with lenses of sand (fine-coarse grained), trace of gravel (fine grained)	beige	medium dense	SM	19 -		24	23		
		EXI	PLOF	RATOR	ΥB	ORIN	NG LO)G	
Kaldveer Associate Geoscience Consultan		MPI O		AND Pland, Ca				NG	
A California Corporation		1047-1	1	DATE			BORING	_	-

K1047-1

SURFACE ELEVATION LOGGED BY DRILL RIG Continuous Flight Auger DATE DRILLED 6/15/88 DEPTH TO GROUNDWATER 19! (see note 3) **BORING DIAMETER** 6 Inches PENETRATION RESISTANCE (BLOWS/FT.) DRY DENSITY (PCF) WATER CONTENT (%) **DESCRIPTION AND CLASSIFICATION** DEPTH (FEET) SOIL COLOR CONSIST. **DESCRIPTION AND REMARKS** SAND, (fine-to medium-grained), beige medium SM 24 23 silty, with lenses of sand (finedense 21 coarse grained), trace of gravel (fine grained) 22 (continued) 23 24 25 SAND, (fine-to medium-grained), brown dense SM with silt, with lenses of gravel 25 6" 26 and sandy silt Passing #200 Sieve = 33% 27 28 GRAVEL, (fine-grained), sandy, brown GWdense (fine-to coarse-grained) with GM 29 trace of silt 30 Bottom of Boring = 30 Feet 31 Notes: 32 1. The stratification lines represent the approximate boundaries between soil types and the transi-33 tions may be gradual. 2. For an explanation of penetration resistance values marked with an asterisk (*) see first 35 page, Appendix A. Groundwater level was measured 36 at 19 feet at time of drilling. 37 38 39 EXPLORATORY BORING LOG MPI OFFICE & PROGRAM BUILDING **Kaldveer Associates** Oakland, California Geoscience Consultants



PROJECT NO.	DATE	BORING		
K1047-1	June 1988	NO.	2	

15/XW23R

DAILL AIG Continuous Flight Auger	SURFA	CE EL	EVATION				LOGGE	D BY	LG	
DEPTH TO GROUNDWATER 141/2 (see note 3)	BORIN	G DIA	METER 6	Inch	es		DATE D	RILLED	6/15	/88
DESCRIPTION AND CLASSIFIC	CATION	1			DEPTH	EA	ATION ANCE	ER IT (*.)	YTISN	SSIVE
DESCRIPTION AND REMARKS			SOIL TYPE	(FEET)	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT)	WATER CONTENT	DRY DENSITY (PCF)	UNCONFINED COMPRESSIVE STRENGTH	
1½" AC over 4" Baserock										
CLAY, very silty, sandy, (fine-coarse grained), with trace of gravel (fine grained)	dark gre	- 1	very stiff	CL- ML	- 1 - 2 -	X	36*			
CLAY, silty, sandy, (fine-to coarse-grained), with trace of gravel (fine-grained)	medi brow	1	firm- stiff	CL	- 3 - - 4 - - 5 -	X	37*	22		And the state of t
					- 6 - - 7 -	!			ī.	
SAND, (fine to coarse grained) with silt Passing #200 Sieve = 36%	medi brow		medium dense	SM	- 8 - - 9 - - 10 - - 11 -		28			
CLAY, silty, sandy (fine-to coars grained), with trace of roots		led h ack	very stiff	CL	12	X	38*	23	98	
SAND, (fine-to medium-grained), silty, clayey	brow		medium dense	SC	- 16 - - 17 -					
SAND, (fine-to medium-grained), some silt with lenses of sand (fine-to coarse-grained) with trace gravel (fine-grained) and lense of gravel (fine-grained), sandy (fine-to coarse-grained)		m	medium dense	SM	18 -	X	50*			
			EXI	PLOF	RATOR	YE	BORIN	NG L	og	
Kaldveer Associate Geoscience Consultat	MPI OFFICE &				& PROGRAM BUILDING , California					
A California Corporation		PRO	DJECT NO.		DAT	E		BORING	3 3	
4	K1047-1 Ju				June	1 <u>9</u> 8	8	NO.	ر	

01-4010 Continuous Flight Auger SURFACE ELEVATION LOGGED BY DEPTH TO GROUNDWATER 1412 (see note 3) BORING DIAMETER DATE DRILLED 6/15/88 6 Inches PENETRATION RESISTANCE (BLOWS/FT.) WATER CONTENT (*a) **DESCRIPTION AND CLASSIFICATION** DEPTH (FEET) SOIL DESCRIPTION AND REMARKS COLOR CONSIST. SAND (fine-medium grained), some brown medium SM silt with lenses of sand (fine-21 dense coarse grained), with trace of gravel (fine grained), sandy 22 (fine-coarse grained) (continued) (lense of silty clayey sand, fine-23 medium grained) 50* 20 24 Bottom of Boring = 241/2 Feet 25 26 in the second of 1. The stratification lines 27 represent the approximate boundaries between soil types and the transi-28 tion may be gradual. 2. For an explanation of penetra-29 tion resistance values marked with an asterisk (*) see first page, 30 Appendix A. 3. Groundwater level was measured at 18 feet at time of drill-31 ing. Three hours after drilling, the groundwater level was measured 32 at 14½ feet. 33 34 35 36 37 38 39



EXPLORATORY BORING LOG

MPI OFFICE & PROGRAM BUILDING
Oakland, California

PROJECT NO.	DATE	BORING	
K1047-1	June 1988	NO.	3

10 mg 1 mg 1 mg 1 mg 1 mg 1 mg 1 mg 1 mg							_	01-	401	D
₹ ₹	#88247				<i></i>	/5	7X11	123	401 R	
	ORILL RIG Continuous Flight Auger	SURFACE	ELEVATION				LOGGE	р вү	LG	
_	DEPTH TO GROUNDWATER Not Encountered	BORING DI	AMETER	6	Inches		DATE D	RILLED	6/15	5/88
	DESCRIPTION AND CLASSIFIC	CATION	DEPTH	LER	TATION TANCE S/FT.)	FER NT (*,)	YTISMS:	SSIVE SSIVE GTM FI		
	DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE		SAMPLER	PENETRATION RESISTANCE (BLOWS/FT.)	WATER CONTENT (*,	DRY DENSITY (PCF)	UNCOMFINE COMPRESSIV STRENGTM (KSFI
:	3" AC over 6" Baserock						1		·	
	CLAY, very silty, sandy (fine- coarse grained), trace of gravel, trace of bricks	dark brown	very stiff	CL	- 2 -	X	33*	16	104	8.6
	CLAY, silty, sandy (fine-coarse grained), with gravel (fine grained)	medium brown	very stiff	CL-SC	- 3 -	X	30 50*	13		
	SAND (fine-coarse grained), with gravel (fine grained), some silt	brown	medium dense	SM	_5 _ - 6 _ - 6 _					
	Notes: 1. The stratification lines represent the approximate boundaries between soil types and the transition may be gradual 2. For an explanation of penetration resistance values marked with an asterisk (*) see first page, Appendix A.				- 7 - 8 10 12 13 15 18 19					
			EX	PLOR	ATOR	YE	BORIN	IG L	OG	



Kaldveer Associates Geoscience Consultants A California Corporation

MPI OFFICE AND PROGRAM BUILDING Oakland, California

PROJECT NO. DATE BORING NO. K1047-1 June 1988

ORILL RIG Continuous Flight Auger SURFACE ELEVATION LOGGED BY BORING DIAMETER 6 Inches DATE DRILLED 6/15/88 DEPTH TO GROUNDWATER 27 (See Note 3) ORY DENSITY (PCF) PENETRATION RESISTANCE (BLOWS/FT.) UNCONFINED COMPRESSIVE STRENGTH (KSF) WATER CONTENT (**) **DESCRIPTION AND CLASSIFICATION** DEPTH (FEET) SOIL COLOR CONSIST. DESCRIPTION AND REMARKS 3" AC over 6" Baserock CLAY, silty, sandy (fine-to coarse stiff CL-dark 24* grained), some gravel (finegrey grained), some bricks 2 12* firm 3 (FILL) CLAY, silty, some sand (fine-to medium stiff CL11 22 medium-grained) brown mottled black SAND, (fine-to coarse-grained), medium tan SMsome silt with gravel (fineand dense SC grained), lenses and balls of red 20 12 silty, sandy (fine-to coarsegrained) clay SILT, clayey, trace of sand (fine beige stiff-ML12 grained) mottled very 32* 31 with stiff 92 3.3 black 13 14 15 CLAY, very silty, with trace of CLbeige very mottled stiff sand (fine-to medium-grained) 16 with black. 17 108 45* 19 16.9 18 19 20 **EXPLORATORY BORING LOG** MPI OFFICE AND PROGRAM BUILDING Kaldveer Associates Oakland, California Geoscience Consultants



A STATE

A California Corporation

PROJECT NO.	DATE	BORING	
K1047-1	June 1988	NO.	5

48247

01-4018 /S/XW23R

# 1 8 2 4 7					_		<i>y</i> -		
DRILL RIG Continuous Flight Auger	SURFACE E	LEVATION				LOGGE	ЭВҮ	LG	<u> </u>
DEPTH TO GROUNDWATER 27' (See Note 3)	BORING DI	AMETER 6	Inch	es		DATE D	RILLED	6/15	/88
DESCRIPTION AND CLASSIFIC	CATION			DEPTH	LER	NATION LANCE S/FT.)	rer NT (°a)	ENSITY F)	FINED ESSIVE NGTH
DESCRIPTION AND REMARKS	COLOR	CONSIST.	SOIL TYPE	1 1	SAMPLER	PENETRATION RESISTANCE (BLOWS/FT.)	WATER CONTENT (*a)	DRY DENSITY (PCF)	COMPRESSIVE STRENGTH
CLAY, very silty, with trace of sand (fine-to medium-grained) (continued) (grading with some sand fine-to medium-grained) SAND, (fine-to coarse-grained), with silt and clay, grading to clay, silty Passing #200 Sieve =683 Bottom of Boring = 28½ Feet Notes: 1. The stratification lines represent the approximate boundaries between soil types and the transitions may be gradual. 2. For an explanation of penetration resistance values marked with an asterisk (*) see first page, Appendix A. 3. Groundwater level was measured at time of drilling.		medium dense	CL	- 21 - 22 - 23 - 24 - 25 - 26 - 27 - 28 - 29 - 30 - 31 - 32 - 33 - 35 - 36 - 37 - 38 - 39 - 40 - 40 - 40 - 40 - 40 - 40 - 40 - 4		27* 31*	∀ =	G	



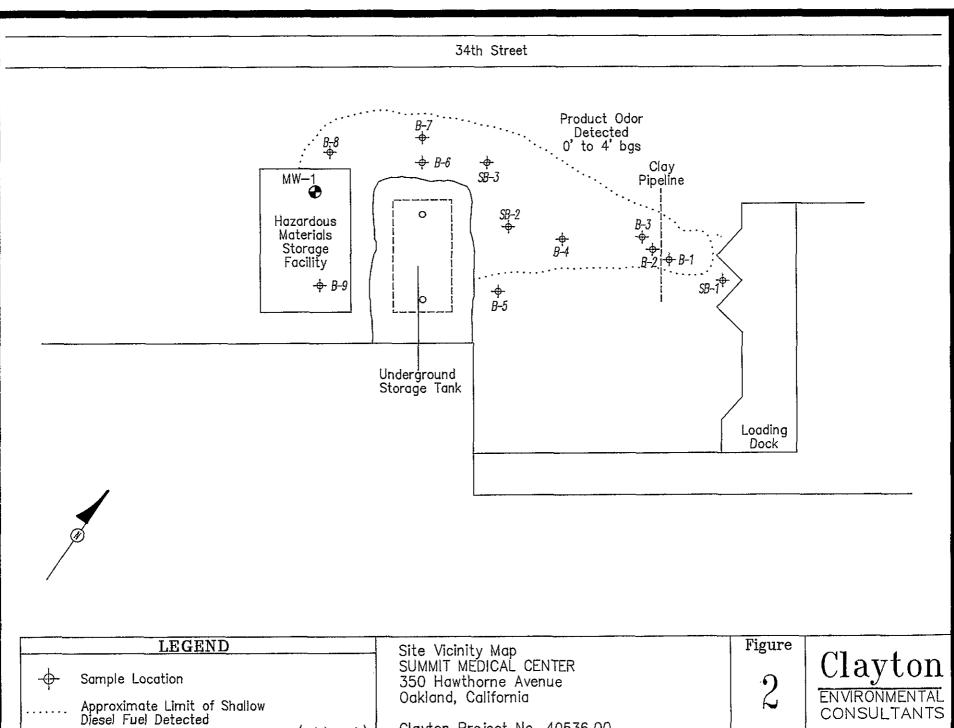
EXPLURATORY BURING LOG

MPI OFFICE & PROGRAM BUILDING Oakland, California

PROJECT NO.	DATE	BORING	
K1047-1	June 1988	NO.	5

	EXPLO	LOC RATC		BORING	ř		edical Center orne Avenue	, Oakland	ril 11, 1992 est Hazmat	BORING NO. MW-1 Sheet 1 of 3
Field Loca ~10' sout Ground E	ition of Bor hwest of ex- levation:	ring: cavation	pit		Datum:	Drilling Method: Continu Hole Diameter: 8" Casing Installation Data: bentonite - 18' to 15'; grou	Screen - 40	' to 20'; solid	-	and - 40' to 18';
						Water Level	21.97'	22.66'		
		D	5 A			Time	1400	1551		
	PID	E P	M P	Sail Group	Litho-	Date	4-13-92	4-17-92	1	I
Blow Count	OVA (ppm)	T H	I I	Symbol (USEs)	graphic Symbol		DESC	RIPTI	ON	
				CL		Silty clay, very dark gray (10 YR 3/1),	moist, low p	asticity, no o	dor
		1								
		2				Silty clay, brownish (10 Y)	R 5/3), mois	, gravel (~5	%), no odor	
<u> </u>		3					·			
		3								
		4								
		5								
2										
	ND	6	X	CL		Silty clays, dark gray (10.3	(R. 4/1), moi	st, low plasti	city, no odor	
		7								
		8	1							
	<u> </u>	9								
4		10					****			
4	ND.		_x_	CL		Silty clay, yellowish brown	(10 YR 5/6), moist, low	plasticity, no	ndor
- 5		11					· · · · · · · · · · · · · · · · · · ·			
		12								
	<u> </u>	13								
				,						
		14						· •		
4		15								
7	ND_		x	CL		Sandy clays, brownish (10	YR 4/3), m	nist, gravel (~ 5%), no ode	nr
16	-	16								
		17								
		18	<u> </u>	,				*****		
		**								

40536--00--17



Clayton Project No. 40536.00

(not to scale)

	EXPLO	LOC RATC		BORING		Project No.: 40536.00 Client: Summit Me Location: 350 Hawthe Logged By: R. Silva	edical Center orne Avenue,		il 11, 1992 est Hazmat	N	NG NO. IW-1 at 2 of 3	
Field Loca ~10' south	nwest of exc	ing: cavation	pit		Datum:	Hole Diameter: 8" Casing Installation Data:	Drilling Method: Continuous flight hollow stem auger Hole Diameter: 8" Casing Installation Data: Screen - 40' to 20'; solid - 20' to 0'; sand - bentonite - 18' to 15'; grout 15' to surface					
						Water Level	21.97'	22.66'				
		D	S			Time	1400	1551				
	PID	Ē P	M P	Soil	Lilho	Date	4-13-92	4-17-92				
Riow Count	OVA (ppm)	T H	i E	Group Symbol (uscs)	grapius Symbol		DESC	RIPTI	ON			
		19		CL		Sandy clay, dark yellowish	hrown (10 Y	'R 4/4), cora	Lchips (~59	%), very m	pist, low	
3		20										
10	ND	21						· · · · · · · · · · · · · · · · · · ·				
		22	$\vdash \dashv$									
		23										
		24		į							:	
4	ND	25		CL		Sandy clays, dark yellowisi	h hanna /10	VD 4/4) ***	- moist love		to adam	
8 8	1872	26		CL.		Saury Llays, Hark yeliliwisi	11110012(111	TR 4(4), VEI	<u> </u>	Insuring,		
					<u> </u>					,, , ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
		27		▽		Approximate depth of gro	undwater en	countered				
		28			ļ			······				
 		29							<u> </u>			
		29			ľ							
	<u> </u>	30										
 		31									 ;	
]		CL		Sandy clays, very pale bro	wn (10 YR 8	V3), saturated	i, low plastic	ity, no odc	r	
 		32										
1		33										
									,			
 		34	 -							<u>. </u>		
		35										
		<u> </u>										
		36	 									
<u> </u>	<u> </u>	<u> </u>	<u> </u>	<u> </u>	L	<u> </u>						

	EXPLO	LOC RATE		BORING	,	Project No.: 40536.00 Client: Summit Medical Location: 350 Hawthorne Logged By: R. Silva	Center Avenue,		ril 11, 1992 est Hazmat	М	NG NO. IW-1 1 3 of 3
Field Loca ~10' sout Ground E	tion of Bor west of exc evation:	ing: cavation	pit		Datum:	Drilling Method: Continuous of Hole Diameter: 8" Casing Installation Data: Screentonite - 18' to 15'; grout 15'	and - 40° t	o 18';			
						Water Level 2	1.97'	22.66'			
			S A			Time 1	1400	1551			
	PID	D E P	M P	Sall Group	Lithe-	Date 4-	13-92	4-17-92		_	2
Blow Count	OVA (ppm)	Ť H	I E	Symbol (uscs)	prophic Symbol	E	ESC	RIPTI	ON		
		37		CL		Sandy clays, very pale hrown (1	0 YR 8	/3), saturated	i, low plastic	ty, no odo	r
		38					• • •				
		39									
		40				Terminated borehole at 40'; se	t mall	40°			· · · · · · · · · · · · · · · · · · ·
		41				remmated borenoie at 44; se	r weit at	40			
		42						7			
		43		-						runm .	
	·	44							·		
		45									
		46							· · · · · · · · · · · · · · · · · · ·		
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		52									
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		54									
		<u> </u>	<u> </u>								

In Ald 15/4W 23M9

INSTALLATION OF FLUSH GRADE MONITORING WELL

PROJECT Oakland Shell MONITORING WELL NO. MW-1 ELEVATIONS: TOP OF RISER 100 0 relative GROUND LEVEL _____ DELTA NO. _40-88-666 PROTECTIVE CASING LOCKING VATER TIGHT CAP FLUSH GRAPE VELL CONSTRUCTION 15-inch galvanized DIAMETER AND MATERIAL 12 inches TUTAL LENGTH 0 foot LENGTH ABOVE GROUND 18 inches, concrete THICKNESS AND TYPE OF SEAL - DIAMETER, MATERIAL AND JOINT TYPE OF RISER PIPE 4-inch PVC SCH 40 Flush-threaded Concrete with 5% bentonite TYPE OF BACKFILL AROUND RISER 2 feet, bentonite pellets THICKNESS AND TYPE OF SEAL DISTANCE OF FILTER SAND ABOVE TOP OF SCREEN 2 feet 16/40 clementine TYPE OF FILTER AROUND SCREEN PVC SCH 40 HUNITURING VELL HATERIAL - SCREEN GAUGE OR SIZE OF OPENINGS (SLOT SIZE) 0.01 inch 4 inches 20 feet DIAMETER AND LENGTH OF SCREEN 25 feet DEPTH TO THE NOTTON OF MONITORING VELL 25 feet DEPTH TO THE BOTTOM OF FILTER SAND THICKNESS AND TYPE OF SEAL - DIAHETER OF BOREHOLE 10 inches 0.25 MONITORING WELL WATER LEVEL MEASUREMENTS TIME WATER LEVEL # DATE 20 4-17-1989 13:25 6.30 25 INSTALLATION COMPLETED DATE: 4-11-1989 # HEASURE POINT: Top of Casing TIME: 10:30

ſ	PR	OJEC:	r nam	E / LO	CATION	<u></u>	PROJECT NUMBER: 40-88-66	BORING NUMBER: M	W-1 SHEET	1 OF 2
	34:	20 Sa	an Pal 1, CA	olo Av	enue		CONTRACTOR: West Hazmat I	Drilling	DRILLING METHOD: H	.s.A.
	Oal	r⊤ai ¥	a, CA				DRILLER: Randy Re:	idhead	DRILLING RIG: C	ME-55
							START: 8:00		COMPLETED:	4-11-89/10:30
		NER:		Shell	Oil Cor	pany	SURFACE ELEVATION: 100.0	00 (relative)	LOGGED BY: Hal Hans	en
	SAYP MPL E	S N M M P B	BLOW BLOW FS	SI ANT PL	S R M C O V	DEPIH SCALE	DESCRIPTIONS OF I	MATERIALS ONS	CONTAMINANT OBSERVATION INSTRUMENT:	GENERAL OBSERVATION
	E	ER	S	上 E(ft)	E(in)	1"= 4'			UNITS: Tip	Odor
					10	1 — — — — — — — — — — — — — — — — — — —	ASPHALT AND ROAD I	ray, highly - moist, no	1100	Gharan 1
	CA	MW1	9/12/15	5.0- 6.5	18	5	SANDY CIAY; dark of gray, moderately publicately possible to some grave the bottom of the	olastic, - clastic, - clastic - clas	1100	Strong odor
	CA	MW1 2	12/ 15/ 18	10.0- 11.5	18	10 ————————————————————————————————————			375	Slight odor
	CA	3 WWI	6/6/ 9	15.0- 16.5	17	15 ————————————————————————————————————	SILITY CLAY; dark y prown, moderately very moist, stiff at the bottom of i	yellowish plastic, — representation of the property of the pro	30	Slight odor
	CA	MW1 4	11/ 15/ 21	20.0- 21.5	15	20		- - -	3	Very slight odor
		WA'	TER L	EVEL D	ATA	PROFESS:	IONAL GEOLOGIST			
	DA'	ΤE	T							
	TI	ME	1							
Ì	GW.	 L	1			- SIGNATURI	E l			ĺ
	CA: DE	SING PIH				TYPED NAM	ME.			

	,										-7 -10		
I	ROJEC	T NAM	E / LO	CATION		PROJECT NUMBER: 40-	-88-666	BORING NUMBER:	MW-1	SHEET	2	OF	2
1	420 S aklan	an Pa	blo Av	enue		CONTRACTOR: West	Hazmat		DRILI METHO	ING D:	H.S.A.		
	cu Lui	a, as				DRILLER: Ra	ndy Rei	dhead	DRILL RIG:		CME-55	5	
						START: 8:	00/4-11	-89	COMPL	ETED:	10:30/	/4-1:	L - 89
I	AND WNER:	Sh	ell Oi	1 Compa	any	SURFACE ELEVATION:	100.00	(relative)	LOGGE H	D BY: al Han	sen		
S	TSN	ВС	SI	S R					CONTA	MINANI			
SAMPLE	T S N Y A U P M M E P B L E	Q Q	S I A N T P L	S R A C P O L	DEPIH	DESCRIPTIONS	OF MAT	ERIALS		VATION	OBSET	VAT	ION
L	LE	W N T	P L	F &	SCALE 1"= 4'	AND CON	IDITIONS			UMENT:	NOTES		
E	ER	S	E(ft)	E(in)			——————————————————————————————————————		UNITS	: Tip			
C#	MW1	12/ 14/ 20	25.0- 26.5	6	25 —	GRAVELLY SANI coarse sand, gravel 1/2 ir minor plastic); brown saturat ch to 1 : fines	ed, very - ed, - /4 inch, -	Lost	sample	No od	lor	
İ					- - '	Total Depth 2							
					28 —	iocar repair z	.J.O ICC						
					29 —								
					30			_					
			<u> </u>		31 —								
					32 —								
					4			-					
					33 +			-					
					34 —								
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					36 —			-					
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		<u> </u>	even D	UTY.	PROFESS.	IONAL GEOLOGI	21						ļ
	ATE	-			_								
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	WL	-		_	_		ŀ						
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Jul S/4W 23 M10

INSTALLATION OF FLUSH GRADE MONITORING WELL

PROJECT Oakland Shell	MONITOE	ING VELI	NП	MW-2	} *
	CICYAT	towe. To	יי וייטי –	21050 100	.29 relativ
DELTA NO. 40-88-666	CLE VAI			EVEL	
DEL!A NU. 40 00 000	•				
PROTECTIVE CASING					
LOCKING VATER TIGHT C	AP.				
FLUSH GRADE VE		15.	-inch	galvanize	d
DIAMETE	er and Haterial Total Length		inche	S	
	H ANDVE GROUND		foot	s, concre	+ 0
THICKNESS AND TY	PE OF SEAL	_ 10	Inche	s, concre	<u> </u>
DIAMETER, MATERIAL AND	EDAY TYPE BE DIFE	n nme // '	inch D	NC SCH VU	
au June 162 Miletane Ann	AUNI TIPE OF RISE			readed	
		Coi	ncrete	with 5%	 bentonite
TYPE OF BACKFILL AROUN	ID RISER		101 000	W 1 011 010	<u> </u>
		2 .	feet.	bentonite	nellets
THICKNESS AND TYPE OF	-				
DISTANCE OF FILTER SAN	D ANOVE TOP OF S	жеен <u>2</u>	feet 01	ementine	
TYPE OF FILTER AROUND	- TYPE OF FILTER AROUND SCREEN - MENUTURING VELL HATERIAL				
MENETURING VELL HATERE	- MENITURING VELL SATERIAL				
SCREEN GAUGE OR STIZE S	e apeutude /ei ne	erzes n (Ol inc	h	
-		_		15 feet	
DIAMETER AND LENGTH OF	SCREEN		Inches	15 1666	
DEPTH TO THE BOTTOM OF	F HONTTORING VELL		feet		
DEPTH TO THE BUTTOM OF	FILTER SAND	19	feet		
					
THICOLESS AND TYPE OF	SEAL	N/.	<u> </u>		
DIAMETER OF BOREHOLE		10	inche	S	:
1 1			1110110	<u> </u>	
L:= 0.25 FT.	MONITORING W	ELL VATER	R LEVEL	MEASUREM	ENTS
L2 = FT.	DATE	TIME	VA	TER LEVEL	*
15	4-17-1989	13:15		.46	
L 3 = FT.	1 17-1303	10.13	- -		
L 4 = 19 FT.					
INSTALLATION CONSIDERS					
DATE 4-10-1989		<u> </u>			
9:45	Deita #	MEASURE POI	пт То	p of casi	ng
	vena Environmental <u> </u>				

PROJECT NAME / LOCATION PROJECT NUMBER: 40-88-666 NUMBER: M	IV-2 SHEET 1 OF 1
3420 San Pablo Avenue CONTRACTOR: West Hazmat	DRILLING MEIHOD: H.S.A.
DRILLER: Randy Reidhead	DRILLING RIG: CME-55
START: 8:00/4-10-89	COMPLETED: 9:45/4-10-89
IAND OWNER: Shell Oil Company SURFACE ELEVATION: 100.29 (relative)	LOGGED BY: Hal Hansen
STSNBCSISR AYAULO AN AE MPMMOUMT MC DEPIH DESCRIPTIONS OF MATERIALS PEPBWNPPO AND CONDITIONS LLET L V SCALE ERSE(ft) E(in) 1"= 4'	CONTAMINANT OBSERVATION GENERAL
A Y A U L O A N A E M P M M O U M T M C DEPIH DESCRIPTIONS OF MATERIALS AND CONDITIONS L L E T L L V SCALE E E R S E(ft) E(in) 1"= 4'	INSTRUMENT: OBSERVATION NOTES
L LE T L V SCALE E E R S E(ft) E(in) 1"= 4'	UNITS: Tip
ASPHALIT AND ROAD BASE -	
2 — CIAY; very dark gray, highly plastic, slightly moist,	
no sand (CH)	
]
CA MW2 6/ 5.0- 18 5 - gray, moderately low plas-	25 Moderate
1 19/ 6.5	25 Moderate odor
19 6— grades to gravel at bottom — + of the unit (CL)	1
_	
9	
CA MW2 9/ 10.0-17 10 — — — — — — — — — — — — — — — — — —	75 Moderate
	odor
1 12 —	1 1
1 14 +	
(2) MW2 4/5/ 15 0-16 15 15 1	0 No odor
3 7 16.5	NO COOL
16 brown, moderately low plas- ticity, moist stiff gravel	[
CA MW2 12/ 20.0- 17 20 - Total Depth 20.0 feet - Total	0 No odor
4 26/21.5 Total Depth 20.0 feet	
22 —	1
	1
WATER LEVEL DATA PROFESSIONAL GEOLOGIST	
DATE	
TIME SIGNATURE	
GWL	
CASING	

Inv/ADD/15/4W 23M/1 01-2174

INSTALLATION OF FLUSH GRADE MONITORING WELL

PROJECT . - DELTA NO	Oakland Shell 40-88-666			DNS: TOP	D. <u>MW-3</u> DF RISER100.50 relat D LEVEL
1 - 1 - 2 - 1 - 2 - 1 - 2 - 1 - 2 - 1 - 2 - 1 - 2 - 2		LENGTH THICKNESS AND TY	P L CONSTRUCTION R AND HATERIAL TUTAL LENGTH H ABOVE GROUND PE OF SEAL DUNT TYPE OF RISER	12 in 0 foo 15-in PPFE 4-inc Flush	
L 3		TYPE OF BACKFILL AROUNT THICKNESS AND TYPE OF DISTANCE OF FILTER SAND TYPE OF FILTER AROUND HONITORING VELL MATERIA SCREEN GAUGE OR SIZE OF DIAMETER AND LENGTH OF	SEAL 3 ABOVE TOP OF SCR SCREEN UL F OPENINGS (SLOT SI	2 fee 2 fee 16/40 PVC S	t. bentonite pellets t ' clementine CH 40
0.25		DEPTH TO THE BOTTOM OF DEPTH TO THE BOTTOM OF THICKNESS AND TYPE OF DIAMETER OF BOREHOLE	FILTER SAND	_27.5 _N/A 	ches
1.1 = 0.25 1.2 = 7.5 1.3 = 20 1.4 = 27.5	FT FT FT.		DATE 4-17-1989	TIME 13:20	EVEL MEASUREMENTS WATER LEVEL * 5.81

-

Delta
Environmental
Consultants, Inc.

INSTALLATION COMPLETED

4-10-89

13:00

15/4W-23MII-

									13/4	400-23MII-
[PR	UEC.	r nam	E / L	CATION		PROJECT NUMBER: 40-88-6	BORING NUMBER: M	W-3 SHEET	1 OF 2
	34: 0ai	20 Sa	an Pal	blo Av	venue		CONTRACTOR: West Hazma	t	DRILLING METHOD:	H.S.A.
	-		., .				DRILLER: Randy	Reidhead	DRILLING RIG:	CME-55
ł							START: 11:00/	4-10-89	COMPLETED:	1:00/4-10-89
		VER:			il Compa	any	SURFACE ELEVATION: 100.	00 (relative)	LOGGED BY: Hal Hans	sen
	SAMPLE	S N A U M M	BLOW TS	SANT	RECOV	DEPIH	DESCRIPTIONS OF AND CONDITE	MATERIALS ONS	CONTAMINAMI OBSERVATION INSTRUMENT:	GENERAL OBSERVATION
	Ĺ	ĒŔ	T S	Ē E(ft)	Ľ V E(in)	SCALE 1"= 4'			UNITS: Tip	1.0.11
						1	ASPHALIT AND ROAD			
						2 -	IAY; very dark g plastic, slightly no sand (CH)	ray, highly moist, —		
						3 —	io said (ch)			
	CA	MM3	8/	5.0-	18	5			0	No odor
ĺ		MW3 -1	8/ 13/ 13	5.0- 6.5			SILITY CLAY; olive	brown with		NO GUOI
						7 - 1	SIMY CLAY; olive light olive brown moderately high p slighty moist (mottles, lasticity, - CL)	4	
						8 —— "	, and the second	, 	;	
	CA	MW3 -2	13/	10.0	18	10			0	No odor
		-2	13/ 23/ 21	11.5		11 +		- -		
						12 —		<u></u> .		
						13		······································		
Ì	CA	-3	11/	15.0- 16.5	17	15 - 1	SANDY CLAY; yello moderately low pl moist, fine sands	wish brown, - asticity, -	o	No odor
		رى	i 5	70.0		10-1	otor, the paras	((11)	-	
						17		-		
						19 —]	
	CA	MW3	3/8/ 15	20.0 21.5	15	20		-	0	No odor
						21 ——		<u></u>		
						23 —		•]	
						<u> </u>				
			IER L	EVEL I	DATA	PROFESSI	ONAL GEOLOGIST			
	DA'	TE								
	TI	ME				CTCMATTER				Ì
	GW.					SIGNATURE	u .			
	CA: DE	SING PIH				TYPED NAM	Œ			

15/4W-23M11

	PR	OJEC	T NAM	E / LO	CATTON	······································		PROJECT NUMBER: 4	0-88-666	BORING NUMBER:	MW-3	SHEET	2 OF	2
	34: Oa	20 S klan	an Pal d, CA	blo Av	enue			CONTRACTO West	R: Hazmat Dr	illing	DRILL METHOL	ING D: H	.s.a.	
	-		, C					DRILLER:	Randy Rei	dhead	DRILLING RIG: CME-55			
ı								START: 1	1:00/4-10	-89	COMPLETED: 1:00/4-10-89			89
i		NER:		ell Oi	l Compa	any		SURFACE ELEVATION:100.50' (relative)			LOGGEI Ha	D BY: al Han	sen	
i	SAYPE	SAMME	BHOW BHOWHIS	S I M T P L	SAMPLE	DEPIH SCALE	Ľ	DESCRIPTION AND O	NS OF MAI ONDITIONS	ERIALS	OBSERV	MINANT VATION JMENT:	GENERAL OBSERVATT NOTES	ON
	Ë	ER	š	E(ft)	E(in)	1"= 4'					UNITS	:	Odor	
	CA	мжэ -5	25/ 25/ 42	25.0- 26.5	14	23 ————————————————————————————————————	GR Sa Mi	AVELLY SAIND, grave nor plast	ND; brown l, satura ic fines	, coarse - ited, (SW)	0		No odor	
	CA	мw3 -6	18/ 23/ 39	30.0- 31.5	15	29 — 30 — 31 — 32 — 33 —	To	tal Depth	30.0 fee	t .	0	·	No odor	
						34	-			1.				
i		T-TAI	Bon T	ביי אנייר ז'	Ama	45 —		ATAT CHOTO	стоп Т	-				
	ראת		TEK L	EVEL D	HIA	PROFE	SOTO	NAL GEOLO	2721,					
	DAY					_			į					
	TI		 			SIGNAT	JRE							
	GW.		 -						1					
	CA: DE	SING PIH				TYPED 1	NAME			·····				

Add/ Inv/ 15/4WZ3 M 12 01-2172

INSTALLATION OF FLUSH GRADE MONITORING WELL

PROJECT Oakland Shell	MONITORIN	IG WELL N	o. <u>MW-4</u>	relative
DELTA NO40-88-666	LECVATIO	GROUN	D LEVEL	
PROTECTIVE CASING	•			
	•			-
LOCKING VATER TIGHT OF	AP LL CONSTRUCTION	15-in	ch galvanized	
	er and material		ches	
LENGT	TOTAL LENGTH TH ABOVE GROUND	0 foc	t	
THICKORESS AND IT		<u> 18-ir</u>	ch concrete	
DIAMETER, MATERIAL AND	MINT TYPE RE SINCE		h PVC	
as a survey of the survey of t	JOHN TIPE OF RISER F	_Flush	-threaded	
TYPE OF BACKFILL AROUS	ND RISER	_Concr	ete with 5% be	ntonite
THICKNESS AND TYPE OF	SEAL.	2 fee	et, bentonite p	ellets
DISTANCE OF FILTER SA	O ABOVE TOP OF SCRE		ot ,	
TYPE OF FILTER AROUND				
MONITORING VELL MATER			clementine CH 40	
SCREEN GAUGE OR SIZE		•		i
SCREEN GAUGE OR SIZE STAND LENGTH DE	F SCREEN	<u> 7 111C</u>	.nes 20 1eec	
1 1 ₽ 1 ▼ 1		25 fe	et.	
DEPTH TO THE NOTION O	¢.			
DEPTH TO THE ROTTON O	F FILTER SAND	25_fe	eet	
THICKNESS AND TYPE OF	SEAL,	<u>_N/A_</u>		
DIAMETER OF BUREHOLE		10ir	ches	
L1 = 0.25	MONITORING WEL	L VATER L	EVEL MEASUREMENT	2
L 2 = 5	DATE	TIME	WATER LEVEL *	
L3 = 20	4-17-1989 1	13:30	6.30	
14 = <u>25</u>				
		<u> </u>		
	Dello	easure point	Top of casing	
1022 P/2-00	Environmental ——— Consultants, Inc.			

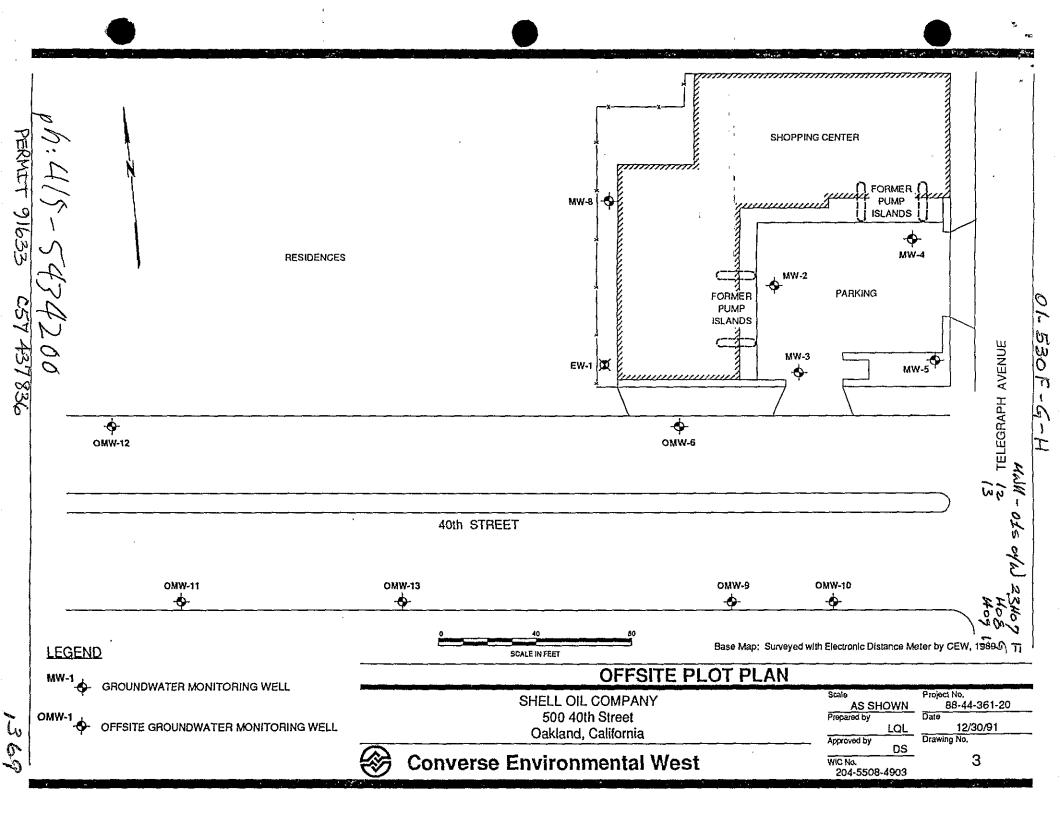
1022 B/3-89

15/4W-23M12

PF	OJEC	r nam	E / LO	CATION		PROJECT NUMBER: 4	0-88-666	BORING NUMBER:	MW-4 SHEET	T 1 OF 2
34	20 Si	an Pal d, CA	blo Av	enue		CONTRACTO West	R: Hazmat Dr	illing	DRILLING MEIHOD:	H.S.A.
	nzicii »	., cs				DRILLER:	andy Reid	head	DRILLING RIG:	CME-55
						START:	2:30/4-1	0-89	COMPLETED:	6:30/4-10-89
OW	ND NER:			Compa	ny	SURFACE ELEVATION	: 99.03'	(relative)	IOGGED BY: Hal Hans	sen
S T M H P H	S M M B L	BLOW TS	S I A N M T P L	S R M C P C L	DEPIH SCALE	DESCRIPTION AND C	NS OF MAT ONDITIONS	ERIALS	CONTAMINANT OBSERVATION INSTRUMENT:	GENERAL OBSERVATION
E	ĒŘ	Ŝ	E(ft)	E(in)	1"= 4"				UNITS:	Odor
CA	MW4 -1	17/ 25/ 32	5.0- 6.5	18	1 — — — — — — — — — — — — — — — — — — —	ASPHALIT AND LEAN CLAY; highly plas moist, no s SILTY CLAY; gray, mediu slightly mo (CL)	very dark tic, slig and (CH	gray, htly —	7	Slight odor
CA	MW4 -2	6/8/ 12	10.0- 11.5	17	9 10 11 11 12 12	SILITY CLAY; brown, dark mottles, mo moist (CL	dark yel greenish derately	lowish gray, plastic,	0	No odor
CA	Mw4 -3	8/9/ 12	14.0- 16.5	17	13 — 14 — — 15 — 16 — 17 — 18 — 18 — 18 — 18 — 18 — 18 — 18	SANDY CLAY; moderately fine sand, sand at the unit (CL)	yellowis plastic, grades to bottom o	h brown, moist, a coarse	0	No odor
CA	MW4 -4	9/8/ 24	20.0- 21.5	15	19 —— 20 —— 21 —— 22 —— 23 ——				0	No odor
	WA	TER L	EVEL D	ATA	PROFESS:	IONAL GEOLO	GIST		<u> </u>	
DZ	TE	1						•		
T	ME				SIGNATUR					Į
GV	T.				STGWHIOK	r.				
CZ DI	SING PIH				TYPED NAI	ME				

15/4W-23M12

[PR	OJEC.	r nam	E / LO	CATION		PROJECT NUMBER: 40-8	8-666	BORING NUMBER: 1	MW-4	SHEET	2 OF	2
	34: 0al	20 Sa	an Pal d, CA	blo Av	enue		CONTRACTOR: West Haz	mat Dr	illing	DRILLI METHOL	NG):]	H.S.A.	
	Oct		., .				DRILLER: Ran	dy Rei	dhead	DRILLI RIG:		OME-55	
l							START: 2:3	0/4-10	-89	COMPLE	TED:	6:30/4-1	0-89
		NER:			1 Compa	nny	SURFACE ELEVATION: 9	9.03 (relative)	LOGGEI F) BY: Mal Ha	nsen	
	TYPE	S N A U M P F	BLOW BLOW BLOW BLOW	INT SAMPLI	SAECOV(in)	DEPIH SCALE	DESCRIPTIONS AND COND	OF MAIN	ERIALS	CONTAM OBSERV INSTRU	ATTON	GENERA OBSERVAT NOTES	ION
١	Ë	EE	ន់	E(ft)	E(in)	1"= 4				UNITS:	:	Odor	.
	CA.	MW4 -5		25.0- 26.5		27	RAVELLY SAND; and, saturate o 1", some pl	brown d, gra astic	, coarse - vel 1/2" - fines (SW)-	0		No odor	
	CA	MW4 -6	19/27	30.0-31.5	17	29 — 30 — 31 — 32 — 33 — 34 — 35 — 36 — 37 — 38 — 39 — 40 — 41 — 42 — 43 — 44 — 45 — 45 — 45 — 45 — 45 — 45	Potal Depth 31	5		0		No odor	
		WA	TER L	EVEL D	ATA	PROFESSI	ONAL GEOLOGIS	T					
	DA	ΤΈ	<u> </u>										{
	TI	ME	 			-							
l	GW		+	_		- SIGNATURE	•						
i	CA	SING PIH				TYPED NAM	IE.						



O/- 530F LOG OF BORING NO. OMW-11

als of w 23407

Start: 11/21/91 Geologist: C. Brown
Completion: 11/21/91 Assistant Geol.: N/A
Water Measure: 11/22/91 Drilling Co.: A.T.D.

Geologist: C. Brown
Assistant Geol.: N/A
Drilling Method: Hollow Stem Auger
Auger/Bit Dia.: 3.75" x 8" - 7.25" x 13"

L			sule. 117			18	7011 151a 5			
DEPTH (FT)	SAMPLE	WATER LEVEL	SYMBOL	WELL CONSTRUCT.	DESCRIPTION	MOISTURE	SOIL CONSISTENCY OR ROCK HARDNESS	COLOR	BLOWS / 6*	PERCENT RECOVERY
					8" Concrete, 7" Base	moist	dense	gray brown		
5	S 1				Silty Clay CI Silty Clay CI Silty Clay CI Silty Clay CI Silty Clay A Silty Clay CI Silty Clay CI Silty Clay CI Silty Clay A Silty Clay CI Silty Clay Ci Silty Clay Ci Silty Clay Ci Silty Clay Ci Silty Clay Ci Silty Clay Ci	moist	stiff	black	4 9	
10	S S S P T 1	<u> </u>			Clayey Sand, little fine Gravel SC	moist to very moist	medium dense	gray with rust	5 13 10 14 16 18 9 11 14	
	3 S				Slightly Clayey, coarse Sand, SP/SC trace to little fine Gravel	wet	loose		5 5	
15 —	S				Fine Sandy Clay Cl	very moist	stiff	gray with rust	4 5 5 7	
	S P				Clayey fine Sand SC		medium dense		4 5	
	T 2				Silty fine Sand SP/SN			brown	6 6	
20	S				Coarse Sand and fine Gravel, GP/GC trace Clay	wet			9 20	

SHELL OIL COMPANY 500 40th Street Oakland, California Project No.

88-44-361-20

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Converse Environmental West

Drawing No.

A-2

Continued - Page 2

DEPTH (FT)	SAMPLE	WATER LEVEL	SYMBOL	WELL CONSTRUCT.	DESCRIPTION	MOISTURE	SOIL CONSISTENCY OR ROCK HARDNESS	COLOR	BLOWS / 6"	PERCENT RECOVERY
	S				Clayey coarse Sand and fine Gravel SC/GC	wet	dense	brown	11 19	
	S				Fine Gravelly coarse Sand, trace Clay SP				21 16	
	S				Very Sandy Clay/Clayey Sand CL/SC			rust with gray	5	
	3	_	7777		Fine Gravelly fine to medium Sand SP	 		gray	10	
25 ~					Total Depth of Boring: 24 ft. Casing: Blank 4" ID Sch. 40 PVC Screen: Slotted 4" ID Sch. 40 PVC, 0.020" slots Filter Pack: 2/12 sand					
35-					ERED GEOLOGIA W. S. S. S. Sattuy. OF CALLEGE					

SHELL OIL COMPANY 500 40th Street Oakland, California Project No.

88-44-361-20

Drawing No.

A-3



Converse Environmental West

Geologist: C. Brown Štart: 11/20/91 Driller/Helper: N/A Assistant Geol.: N/A Drilling Method: Hollow Stem Auger Completion: 11/20/91 Drilling Co.: A.T.D. Water Measure: 12/2/91 Auger/Bit Dia.: 3.75" x 8" - 7.25" x 13" LEVEL MOISTURE BLOWS / 6" DEPTH (FT) COLOR SYMBOI DESCRIPTION WATER ≈8" Concrete, 8" Base, 6" Fill 6st layer Gravel CL Silty Clay stiff moist black trace black specks 10 brown 10 5 Clayey Sand SC moist medium gray with 6 dense rust 2 18 10 16 S MLFine Sandy Silt 11 11 S Clayey Sand, little fine Gravel SC very moist red 16 to wet brown 9 wet Sand lens 12 wet Sand lens 12 wet Sand lens 18 SC/GC Coarse Sand, pea Gravel wet 8 very moist stiff 3 Fine Sandy Clay CL10 gray 15 5 S rust with 8 gray 11 wet lens wet 12 very moist 4 S 5 Silty Clay CL. 12 wet 15 Clayey Sand and fine Gravel SC/GC very moist stiff 4 Silty Clay CL moist

> SHELL OIL COMPANY 500 40th Street Oakland, California

Project No.

88-44-361-20



Converse Environmental West

Drawing No.

A-4

Continued - Page 2

ОЕРТН (FT)	SAMPLE	WATER LEVEL	SYMBOL	WELL CONSTRUCT.	DESCRIPTION	MOISTURE	SOIL CONSISTENCY OR ROCK HARDNESS	COLOR	BLOWS / 6"	PERCENT RECOVERY
	S S P T				Silty Clay CL Becoming Sandy	moist	stiff	rust with gray	5 8 6 7 4 5	
25 —	3				Total Depth of Boring: 24 (t. Casing: Blank 4" ID Sch. 40 PVC Screen: Slotted 4" ID Sch. 40 PVC, 0.020" slots Filter Pack: 2/12 sand					
30-					No. 5038 No. 5038 OF CALIFORNIA					
40										

SHELL OIL COMPANY 500 40th Street Oakland, California Project No.

88-44-361-20

(%)

Converse Environmental West

Drawing No.

A-5

OI-530-UT LOG OF BORING NO. OMW-13

als of w 23409

Start: 11/21/91 Geologist: C. Brown Driller/Helper: N/A Assistant Geol.: N/A Drilling Method: Hollow Stem Auger Completion: 11/21/91 Drilling Co.: A.T.D. Auger/Bit Dia.: 3.75" x 8" - 7.25" x 13" Water Measure: 11/22/91 WATER LEVEL MOISTURE BLOWS / 6" PERCENT RECOVERY DEPTH (FT) SAMPLE SYMBOL COLOR DESCRIPTION 8" Concrete, 8" Base CL stiff Silty Clay moist dark gray black mottled gray 8 brown 5 S 9 trace Sand gray 12 14 Grading into fine Sandy Clay Fine Sandy Clay/Clayey Sand CL/SC 5 2 7 10light gray with rust Silty Clay CL stiff 6 11 sc/gc Clayey Sand and Gravel dense 24 25 9 15 16 wet 20 medium 8 dense 9 15 10 S Sandy Silt ML stiff rust 7 SC/GC Clayey Sand and Gravel brown 12 S 16 12 19 23 34 wet medium 10 dense 15 20

> SHELL OIL COMPANY 500 40th Street Oakland, California

Project No.

88-44-361-20



Converse Environmental West

Drawing No.

Continued - Page 2

ОЕРТН (FT)	SAMPLE	WATER LEVEL	SYMBOL	WELL CONSTRUCT.	DESCRIPTION	MOISTURE	SOIL CONSISTENCY OR ROCK HARDNESS	COLOR	BLOWS / 6"	PERCENT RECOVERY
-	s s				Silty Clay CL	very moist	stiff	gray brown	5 8 6 7	
-	S P T 3				Sandy Clay with occasional Clayey Sand lens	very moist		gray with rust	4 5 6 8	
25 — -					Total Depth of Boring: 24 ft. Casing: Blank 4" ID Sch. 40 PVC Screen: Slotted 4" ID Sch. 40 PVC, 0.020" slots Filter Pack: 2/12 sand					
-									-	
30 —					TERED GEOLOGO No. 5038 * No. 5038 * No. 5038					
35				-	OF CALLY					
-										
40]									

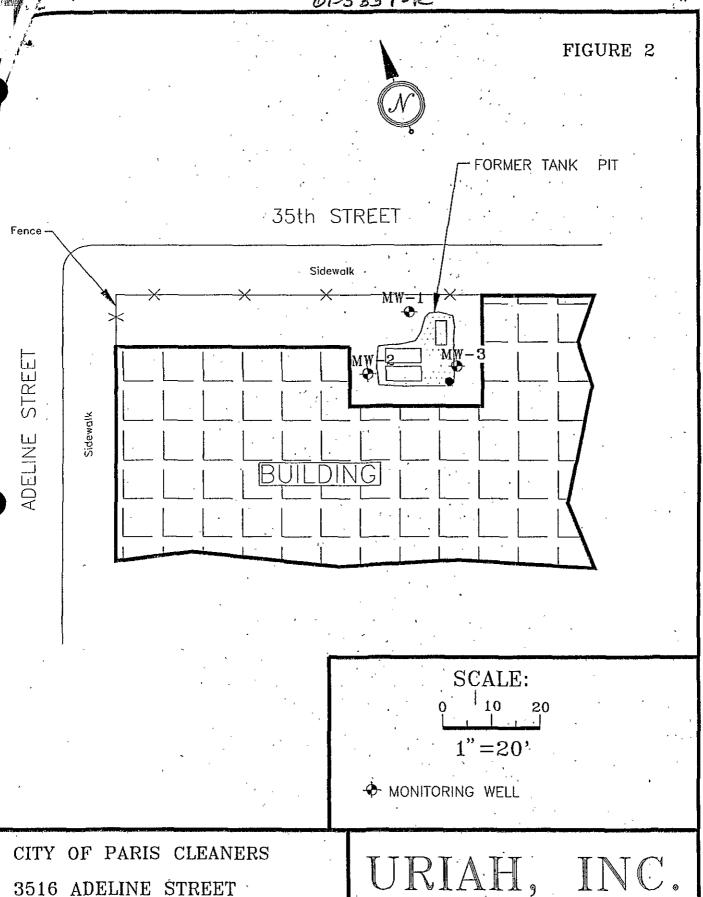
SHELL OIL COMPANY 500 40th Street Oakland, California Project No.

88-44-361-20

Converse Environmental West

Drawing No.

A-7



3516 ADELINE STREET OAKLAND, CALIFORNIA

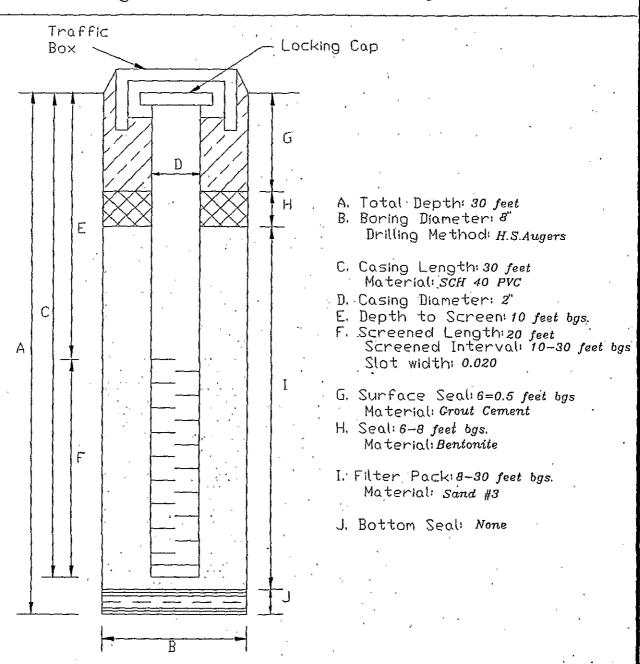
AN ENVIRONMENTAL SERVICES COMPANY

WELL DETAILS

Clienti Champion Estate

Location 3561 Adeline St., Oakland, CA

Monitoring Well Number: <u>MW-1 through MW-3</u>



SOIL BORING LOG

Same Street Market

CLIENT CHAMPION ESTATE WELL #: MW-1 LOCATION: 3516 ADELINE St., OAKLAND, CA. DATE DRILLED: 10/29-30/92 DRILLED BY: S.E.S. DRILLING METHOD: H.S. Augers SAMPLE METHOD: Split LOGGED BY: ADI CONSTANTINESCU Spoon

			ADI CONSTANTI	•	,	_	2100010
Depth Below	Col	amples lected	SOIL DESCRIPTION	Unified Soil Classi-	Log	Penetration Collected	Commonitie
urface	INT	Sample No.	Color, Grain size, Texture, Moisture, Consistency, Odor	fication		Blows / 18"	Comments
				,		٠	u .
_						, Marin Time I	
5·		MW1-5	SANDY GRAVEL; BROWN; WELL GRADED; '- LOOSE; DRY; NO HYDROCARBON ODOR			2, 3, 6	
		· · · · ·				_, _,	
		ı		GW		. "	
— — 10		MW1-10	SANDY GRAVEL; GRAY TO BROWN; MEDIUM DENSE; SLIGHTLY MOIST, VAGUE HYDROCAR-			4, 5, 8	
		INTAL TO	BON ODOR.	/		7, 3, 0	
			,				•
— — 15		MW1-15	CLAVEY CAND, OBECNICH OBAY, UPDING			4, 11, 12	
_		IMIYY J — 1 J	CLAYEY SAND; GREENISH GRAY; MEDIUM; MEDIUM DENSE; MOIST; VAGUE HYDROCAR— BON ODOR,			T, 11, 12	
							,
20	***************************************	MW1-20	CLAYEY SAND; OLIVE GRAY; POORLY GRADED MEDIUM: MEDIUM DENSE; WET; NO HYDRO—	sc		7 5 10	,
_	**********	MW 1 - ZO	CARBON ODOR.			3, 5, 10	
<u> </u>							. * . *
- 25	******		CLAYEY SAND: OLIVE GRAY: POORLY GRADED MEDIUM: MEDIUM DENSE; WATER SATURATED;			3, 7, 6	
- ·	~~~		NO HYDROCARBON ODOR.				2
- - [/			
30			SANDY CLAY; WITH SOME GRAVEL; LIGHT BROWN; WITH LOW PLASTICITY; STIFF; WATER	CL			. *
	**********		SATURATED; NO HYDROCARBON ODOR.	OL .		4, 8, 14	

Uriah, Inc.

An Environmental Services Company

2456 Armstrong Street Livermore, CA 94550 (510) 455-4991 Office (510) 455-4995 FAX

WELL MONITORING FORM:

CLIENT: <u>CITY OF</u>	' PARIS CLEAI	<u>VERS</u> DATE: _	NOVEMBE	CR 18, 1992			
SITE ADDRESS: <u>3516 AI</u>	DELINE STREE	COUNTY REPRES		MR. JEFF SHAP	PIRO		
<u>OAKLAN</u>	D, CA	-	Y REPRESI TED PRIO	ENTATIVE R TO SAMPLING?_	YES		
accuracy	of .01' from	DEPTH TO WATER a straight edge p the christy box.	placed in	nents are read to a north-south	an		
has unit PVC pipe	s of gallons/l with an insid	inear foot; and is	for a 2" 067". Sim	LUMN HEIGHT to diameter, Sched ilarly, use a con I.D.	ule 40		
	LL DEPTH <u>30.</u> TO WATER <u>13.</u>	04' MONITO		L # <u>MW-1</u> DISPOSABLE BA	ULER		
		e a je		ns (1 well volum			
Multiply I well v water to be purg	olume by 3 t	o obtain the min itoring well prior	imum nu to taking	mber of gallons o	of		
3 X <u>2.73</u>	<u> = 8.19</u>	Gallons (3 Well	Volumes)	¥		
TIME	GALLONS	TEMPERATURE °F	рН	CONDUCTIVITY μmhos/cm	}		
1337	0 , :	65.5	6.9	1785			
1344	3	63.6	6.8	1606			
1352	6	62.4	6.7	1604			
1358	8	62.1	6.7	1574			
1402	9	62.1	6.8	1563	į		
					,		
					, ,		
			 : , , ,		,		
CONTAMINANT OD	OR? <u>YES</u>	_ TIME OF SAMPI	LE COLLEC	TION: 1420	·• .		
TURBIDITY LEVEL: MODERATE WITNESSED BY: *** NO WITNESS ***							
SHEEN ON WATER	?YES.	_ SAMPLER'S SIG	NATURE:_	Y. RAFF for 7. Fay	EAD		

SOIL BORING LOG

CLIENT: CHAMPION ESTATE WELL #: MW-2
LOCATION: 3516 ADELINE St., OAKLAND, CA.

DATE DRILLED: 10/30/92 DRILLED BY: S.E.S.

DRILLING METHOD: H.S. Augers SAMPLE METHOD: Split
LOGGED BY: ADI CONSTANTINESCU Spoon

Depth	So	amples	SOIL DESCRIPTION .	Unified Soil	روما	Penetration		
Below Surface		lected Sample No.	Color, Grain size, Texture, Moisture, Consistency, Odor	Classi- fication		Collected Blows / 18'	Comments	-
					0.00			
 5		MW2-5	SANDY GRAVEL; BROWN; WELL GRADED; LOOSE; DRY; NO HYDROCARBON ODOR.		000	2, 3, 5		
				GW				
10	****	MW2-10	SANDY GRAVEL: GRAY TO BROWN: MEDIUM DENSE: SLIGHTLY MOIST, VAGUE HYDROCAR BON ODOR.			3, 6, 14		
						• • • •		
—— 15 ——	****	MW215	CLAYEY, SAND; GREENISH GRAY; MEDIUM; MEDIUM DENSE; MOIST; HYDROCARBON ODOR;			4, 12, 12		
			CLAYEY SAND; OLIVE GRAY; POORLY GRADE	SC		7 0 11		
20 ·		MW2-20	MEDIUM; MEDIUM DENSE; WET; NO HYDRO- CARBON ODOR.	30		3, 6, 11		
 25			CLAYEY SAND, OLIVE GRAY, POORLY GRADS MEDIUM, MEDIUM DENSE, WATER SATURATE			4, 7, 5		
 			NO HYDROCARBON ODOR.					
30	——————————————————————————————————————	-	SANDY CLAY; WITH SOME GRAVEL; LIGHT BROWN; WITH LOW PLASTICITY; STIFF; WATE SATURATED; NO HYDROCARBON ODOR.	CL		3, 9, 15		
٠			· · ·					

Uriah, Inc.

An Environmental Services Company

2456 Armstrong Street Livermore, CA 94550 (510) 455-4991 Office (510) 455-4995 FAX

WELL MONITORING FORM:

CLIEN	T: <u>CITY O</u>	F PARIS CLEA	NERS DATE:	DATE: NOVEMBER 18, 1992				
SITE ADDRE	ESS: <u>3516 A</u>	DELINE STRE		COUNTY REPRESENTATIVE: <u>MR. JEFF SHAPIRO</u>				
	<u>OAKLAN</u>	D, CA		Y REPRES	ENTATIVE OR TO SAMPLING?	<u>YES</u>		
Note	accuracy	of .01' from	DEPTH TO WATER a straight edge the christy box.	placed in	ments are read to a a north-south	n		
Note	has unit PVC pipe	ts of gallons/ with an inst	below to convert linear foot, and i ide diameter of 2 4" pipe, which ha	ls for a 2 2.067". Sim	OLUMN HEIGHT to ga " diameter, Schedul ailarly, use a conve ' I.D.	llons e 40 rsion		
	TOTAL WI	ELL DEPTH <u>30</u>	. <i>20'</i> MONIT	ORING WE	LL # <u>MW-2</u>	•		
					DISPOSABLE BAILE	R		
≈ 14			•	k	ons (1 well volume)	1 1		
Multi water	ply 1 well v to be pur	volume by 3 ged from mor	to obtain the min	nimum nu r to takin	imber of gallons of ag samples.			
ė.	3 X <u>2.8</u>	= 8.67	Gallons (3 We	ll Volume	s)			
	TIME	GALLONS	TEMPERATURE °F	pН	CONDUCTIVITY µmhos/cm			
	1442	0	60.4	. 6.8	1384			
	1449	3	60.5	6.9	1390			
	1457	6	60.2	6.9	1407			
	1505	8 .	59.9	6.9	1411	¥		
	1510	9	60.4	7.0	1413			
				115				
	,	,						
		OR? <u>SLIGHT</u> : MODERAT	TIME OF SAME	,	•	· `		
TURB				444	O WITNESS ***			

SOIL BORING LOG

CLIENT: CHAMPION ESTATE WELL #: MW-3 LOCATION: 3516 ADELINE St., OAKLAND, CA. DATE DRILLED: 10/30/92 DRILLED: 87: S.E.S. DRILLING METHOD: H.S. Augers SAMPLE METHOD: Split LOGGED BY: ADI CONSTANTINESCU Spoon

Depth Below	Çol	amples lected	SDIL DÉSCRIPTION Color, Grain size, Texture,	Unified Soil Classi-	Log	Penetration Collected	Comments
Surface	INT	Sample No.	Moisture, Consistency, Odor	fication		Blows / 18"	
5		мw3~,5	SANDY GRAVEL: BROWN; WELL GRADED: LOOSE: DRY: NO HYDROCARBON ODOR.	GW		2, 4, 5	
10		MW310	SANDY GRAVEL; GRAY TO BROWN; MEDIUM DENSE; SLIGHTLY MOIST, VAGUE HYDROCAR BON ODOR.			3, 10, 13	
— — —— 15 —		MW3-15	CLAYEY SAND: GREENISH GRAY; MEDIUM; MEDIUM DENSE; MOIST: HYDROCARBON ODOR;			3, 11, 11	
— 20 — 20		MW3-20	CLAYEY SAND; OLIVE GRAY; POORLY GRADER MEDIUM; MEDIUM DENSE; MOIST; VAGUE HYDROCARBON ODOR.	sc		4, 6, 10	
 25 25			CLAYEY SAND; OLIVE GRAY; POORLY GRADEE MEDIUM; MEDIUM DENSE; WATER SATURATED NO HYDROCARBON ODOR.			4, 6, 8	
30 			SANDY CLAY; WITH SOME GRAVEL; LIGHT BROWN; WITH LOW PLASTICITY; STIFF; WATER SATURATED; NO HYDROCARBON ODOR.	CL		4, 8, 15	
_	,		· · · · · · · · · · · · · · · · · · ·		* * * *		

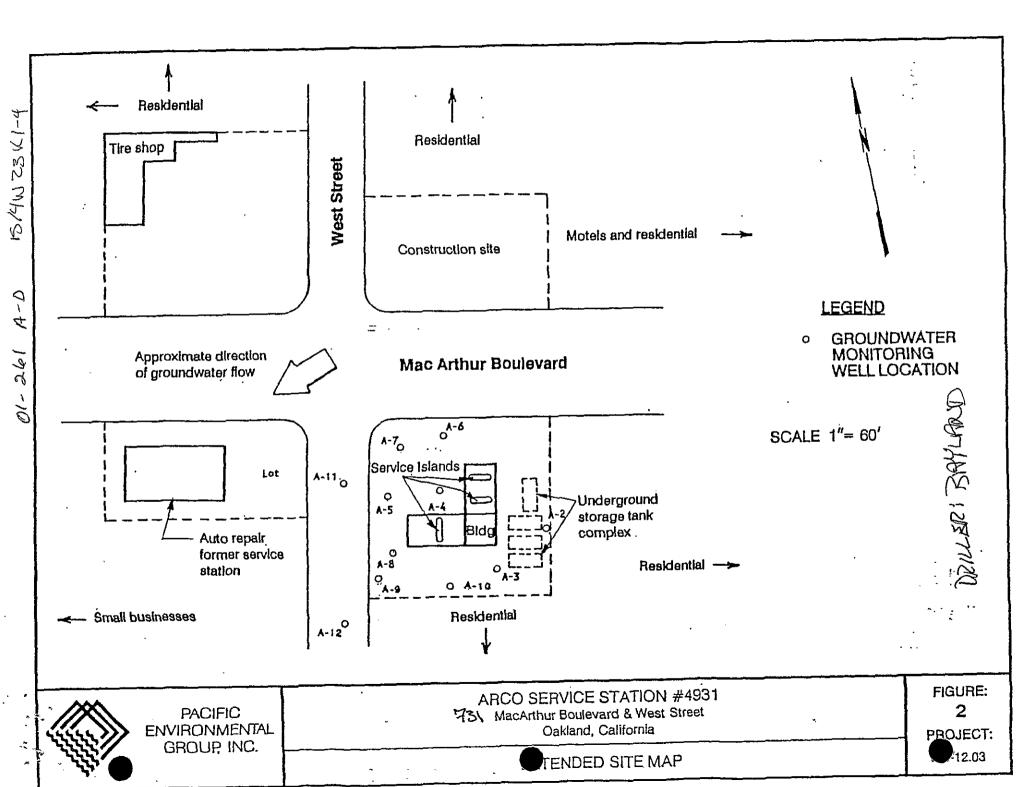
Uriah, Inc.

An Environmental Services Company

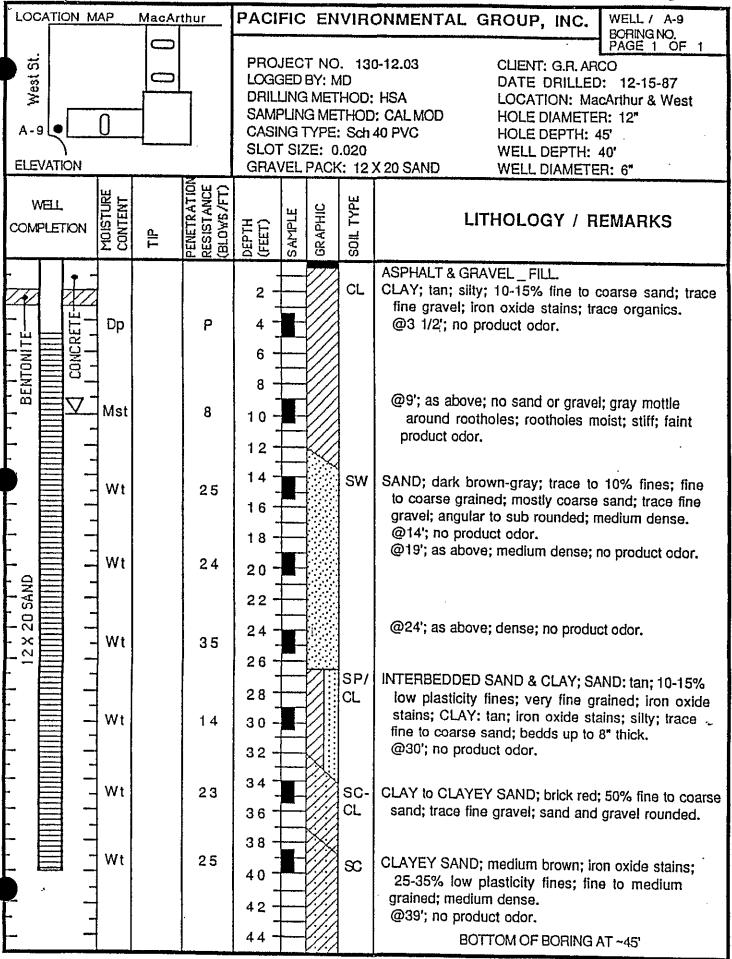
2456 Armstrong Street Livermore, CA 94550 (510) 455-4991 Office (510) 455-4995 FAX

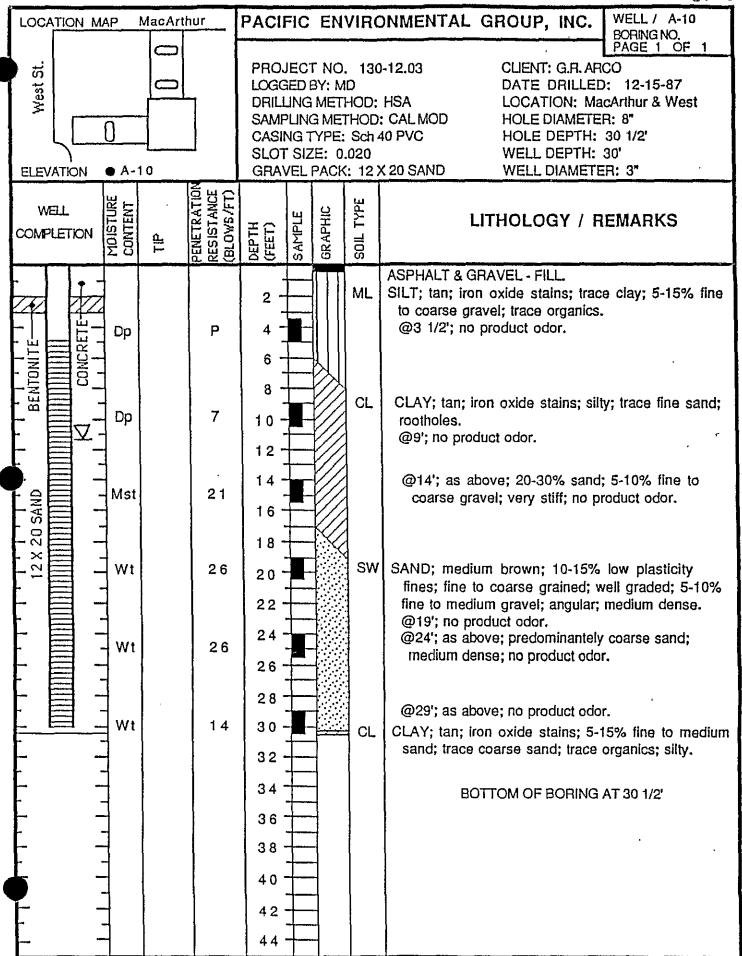
WELL MONITORING FORM:

CLIENT:CITY_C	OF PARIS CLEAR	NERS DATE:	NOVEMB	ER 18, 1992	
SITE ADDRESS: 3516 A	ADELINE STREE	COUN' REPRI		: MR. JEFF SH.	APIRO
OAKLA!	VD, CA		TY REPRES	ENTATIVE OR TO SAMPLING?	YES
accurac	y of 401' from		placed in	nents are read a north-south	to an
has uni PVC pip	ts of gallons/l e with an insi	inear foot, and	is for a 2' 2.067". Sim	DLUMN HEIGHT to diameter, Scho nilarly, use a co I.D.	edula 40
TOTAL W	ELL DEPTH <u>30</u> .	.05' MONI	roring wei	LL # <u>MW-3</u>	*
– DEPTH	TO WATER 13.	.93' PURG	E METHOD:	DISPOSABLE B	AILER
= WATER COLU	MN HEIGHT 16.	$\frac{12}{}$ X $0.17 = \frac{2}{}$	74 Galle	ons (1 well volu	me)
Multiply 1 well water to be pur	volume by 3 t ged from mon	o obtain the mi itoring well prio	nimum nu r to takin	mber of gallons g samples.	of ·
_	:	Gallons (3 We		-	
TIME	GALLONS	TEMPERATURE °F	рН	conductivity µmhos/cm	•
1538	0	59.9	7.0	1586	
1,545	3	60.0	7.1	1585	
1553	6	59.3	7.0	1470	
1601	8	59.6	- 7.1	1491	-
1605	9	60.1	7.1	1478	-
,	:				7 .
		-			
		3	, .		_
CONTAMINANT OF	OOR? YES	_ TIME OF SAM	PLE COLLEC	CTION: <u>1616</u>	
TURBIDITY LEVE	.: MODERAT	E WITNESSED BY	Y:*** <i>NO</i>	WITNESS ***	•
SHEEN ON WATE				U. ROPP FOR P. FOR	end ·



SAN JOSE BLUEPRINT CO.





01-261 C PACIFIC ENVIRONMENTAL GROUP, INC. LOCATION MAP MacArthur BORING NO. PAGE 1 OF 1 ಕ PROJECT NO. 130-12.03 CLIENT: G.R. ARCO LOGGED BY: MD DATE DRILLED: 12-16-87 A-11 DRILLING METHOD: HSA LOCATION: MacArthur & West SAMPLING METHOD: CAL MOD HOLE DIAMETER: 8" CASING TYPE: Sch 40 PVC HOLE DEPTH: 30 1/2' SLOT SIZE: 0.020 WELL DEPTH: 30' GRAVEL PACK: 12 X 20 SAND **ELEVATION** WELL DIAMETER: 3" RESISTANCE (BLOWS/FT) PENETRATIO MOISTURE CONTENT WELL. **SRAPHIC** SAMPLE LITHOLOGY / REMARKS DEPTH (FEET) COMPLETION <u>a</u>, ASPHALT & GRAVEL - FILL. CL CLAY; tan-orange; iron oxide stains; silty; trace 2 fine sand; rootholes; gray mottle at rootholes; trace Dp P organics. CONCRET @3 1/2'; no product odor. 6 @9'; as above; water in rootholes; stiff; no product Mst 10 10 odor. 12 14 @14'; as above; medium brown; 5-10% fine to Wt 28 coarse sand; trace fine gravel; water in rootholes; 16 very stiff; no product odor. 18 SAND SW SAND; dark reddish brown; 5% low plasticity fines: Wt 41 20 fine to coarse grined; 5% fine to medium gravel; 203 angular to sub rounded; dense. 22 @19'; no product odor. @24'; as above; very dense; no product odor. 24 Wt 51 26 28 INTERBEDDED CLAY & SAND; CLAY: tan; iron oxide SP/ CL. stains; silty; trace fine sand; low plasticity; Wt 15 30 SAND: tan; iron oxide stains; 10-15% low plasticity fines; very fine grained; bedds ~ 4-6" 32 thick in sample tube. 34 @29'; no product odor. BOTTOM OF BORING AT 30 1/2' 36 38 40 42 44

PACIFIC ENVIRONMENTAL GROUP, INC. LOCATION MAP MacArthur BORING NO. PAGE 1 OF 1 PROJECT NO. 130-12.03 CLIENT: G.R. ARCO West St. LOGGED BY: MD **DATE DRILLED: 12-16-87** LOCATION: MacArthur & West DRILLING METHOD: HSA SAMPLING METHOD: CALMOD HOLE DIAMETER: 8" HOLE DEPTH: 30 1/2' CASING TYPE: Sch 40 PVC A-12 WELL DEPTH: 30' SLOT SIZE: 0.020 GRAVEL PACK: 12 X 20 SAND WELL DIAMETER: 3" **ELEVATION** PENETRATION RESISTANCE (BLOWS/FT) TYPE YOISTURE CONTENT WELL GRAPHIC SAMPLE LITHOLOGY / REMARKS DEPTH (FEET) COMPLETION SOIL 르 ASPHALT. CL CLAY; tan; silty; 10-15% fine sand; trace organics; 2 roots; rootholes; rootholes dry. @3 1/2'; no product odor. p Dp BENTONIT 6 8 @9'; as above; trace sand; no organics; rootholes Mst 14 mottled gray; rootholes wet; stiff; no product 10 odor. 12 14 SWI SAND; medium brown; 10-15% low plasticity Wt 15 fines; fine to coarse grained; trace fine gravel; 16 angular to sub rounded; well graded; medium dense. @14': no product odor. 18 Wt 28 20 @19'; as above; thin interbedds of medium grained sand; medium dense; no product odor. 22 20 × 24 16 Wt CL CLAY; tan; iron oxide stains; trace fine sand; silty; 26 very stiff; no product odor. 28 SW SAND; as above; some 2" clay interbedds; medium Wt 24 30 @29'; no product odor. 32 BOTTOM OF BORING AT 30 1/2' 34 36 38 40 42 44

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

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STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

STATE OF CALIFORNIA DEPARTMENT OF WATER RESOURCES

State	No
01-7	46

WELL DATA

Owner Character Pages Commenced Supplied	1111 State No. 15 4W 23M
	j H
4	Other No
Tenant Sylvidia	
Address	
Type of Well: Hydrograph , Key Index	Semiannual
	BasinNoNo
U.S.G.S. Quad. OAKLAND WEST	Quad. No.
	, Rge, SB Base & Meridian
Description	H
10' K. W m	3,010 30
120' 81819	
	Adeline SFI
	
Reference Point description Refered	
· · · · · · · · · · · · · · · · · · ·	
which isft. above land surface. Ground Elevation.	
Reference Point Eley ft. Determined from	
Well: Use Indistrict Condition;	Depth ft.
Casing, sizein., perforationsNA Cat	sind from 42 - 6 7
cusing, sizein., perforationsin	W 10 10 10 10 10 10 10 10 10 10 10 10 10
Measurements By: DWR USGS USBR County	Irr. Dist. Water Dist. Cons. Dist.
Chief Aquifer: Name Depth to Top A	g Denth to Bot. Ag
Type of Material Perm. Rating _	Populato Bott Adi
Type of Material Perm. Karing _	Thickness
	r Depth to Bot, Gr
Supp. Aquifer Depth to Top A	g Depth to Bot. Aq
Driller	
Date drilled Log, filed	open (1)confidential (2)
Equipment: Pump, type Dr With make	open (1)compaential (2)
- de la marca	I
Serial No Size of discharge pipe in.	Water Analysis: Min. (1) San. (2) H.M. (3)
Power, KindMakeK, # Make	Water Levels available: Yes (1)No
H. P. Motor Serial No. MS Star 76 VB	Water Levels available: Yes (1)No
H. P. Motor Serial No. MS 865 96 VB	Water Levels available: Yes (1) No Period of Record: Begin End
H. P Motor Serial No. <u>MS Sing 96, YB</u> Elec. Meter No Transformer No	Water Levels available: Yes (1) No Period of Record: Begin End Collecting Agency:
H. P. Motor Serial No. MS 865 96 VB	Water Levels available: Yes (1) No Period of Record: Begin End
H. P Motor Serial No. <u>MS Sing 96, YB</u> Elec. Meter No Transformer No	Water Levels available: Yes (1) No Period of Record: Begin End Collecting Agency:
H. PMotor Serial No. MS River 76. YB Elec. Meter NoTransformer No YieldG.P.M. Pumping levelft.	Water Levels available: Yes (1) No Period of Record: Begin End Collecting Agency: Prod. Rec. (1) Pump Test (2) Yield (3)
H. P Motor Serial No. <u>MS Sing 96, YB</u> Elec. Meter No Transformer No	Water Levels available: Yes (1) No Period of Record: Begin End Collecting Agency:
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H. P Motor Serial No. MS 2007 76 VB Elec. Meter No Transformer No Yield G.P.M. Pumping level ft.	Water Levels available: Yes (1) No Period of Record: Begin End Collecting Agency: Prod. Rec. (1) Pump Test (2) Yield (3)
H. P Motor Serial No. MS 2007 76 VB Elec. Meter No Transformer No Yield G.P.M. Pumping level ft.	Water Levels available: Yes (1) No Period of Record: Begin End Collecting Agency: Prod. Rec. (1) Pump Test (2) Yield (3)
H. P Motor Serial No. MS 2007 76 VB Elec. Meter No Transformer No Yield G.P.M. Pumping level ft.	Water Levels available: Yes (1) No Period of Record: Begin End Collecting Agency: Prod. Rec. (1) Pump Test (2) Yield (3)
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H. P Motor Serial No. MS 2007 76 VB Elec. Meter No Transformer No Yield G.P.M. Pumping level ft.	Water Levels available: Yes (1)No
H. P Motor Serial No. MS 2007 76 VB Elec. Meter No Transformer No Yield G.P.M. Pumping level ft.	Water Levels available: Yes (1) No Period of Record: Begin End Collecting Agency: Prod. Rec. (1) Pump Test (2) Yield (3)

14 1/1/11 273)

Job #1744. City of Paris Cleaning & Dyeing Works, 3516 - Adeline Street, Oakland.

LOG OF WELL.

Black adobe			- 3	feet.
Hard yellow clay			18	11
Small water gravel			20	37
Hard yellow sandy clay	20	IT >	34	ij
Coarse water gravel	34	11	37	17
Hard brown sandy clay	37	17	38	13
Hard blue sandy clay	38	I F	49	17
Hard yellow clay	49	17	80	11
Hard brown clay, some rock in it	80	17	97	11

From 42 feet to 97 feet open hole no casing in it.

42 feet 8" No. 14 R. H. Collar Casing with 10 perforated 1/8" open slot
30 feet 6" No. 16 R. H. Collar Casing with 12' perforated.
Water 16 feet from top of casing.

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

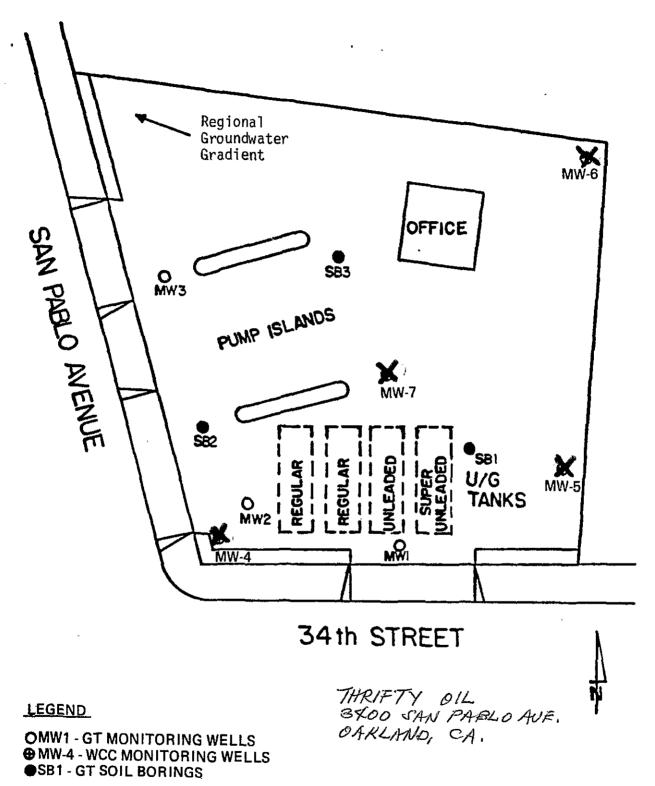
STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

STATE OF CALIFORNIA DWR WELL COMPLETION REPORT (WELL LOGS)

INV /

01-218 A-D Permit No. 86303 plot/upa

15/4W23M5-8



DRILLER! KVILHAUG XIELL DRILLING CONCRD, CD.



Figure 1. MONITORING WELL AND BORING LOCATIONS

#16303

INV AD

01-218A 15/4W23M5

· Project No.: 90386A

Date: 11-14-86

Elevation.

Name	DEPTH 45	щ.	PENE.		WELL	DESIGN
Concrete Slab and Base Black Silty Clayey Fill - Dry - No Odor Dlive Silty Clay - Moist - No Odor Light Green Silty Clay w/ Brown Mottling - Moist - Moderate HC Odor Noist - Moderate HC Odor Olive Silty Sandy Clay - Very Moist - Slight to Moderate HC Odor ID - II - II - II - II - II - II - II	IN FEB	LOG & SAMPLE	RESIS.	DESCRIPTION	1	SAND 02SLOT
Concrete Slab and Base Black Silty Clayey Fill - Dry - No Odor Olive Silty Clay - Moist - No Odor Light Green Silty Clay w/ Brown Mottling - Moist - Moderate HC Odor Olive Silty Sandy Clay - Very Moist - Slight to Moderate HC Odor Olive Silty Sandy Clay - Very Moist - Slight to Moderate HC Odor Light Brown Silty Sandy Clay - Very Moist - Slight to Moderate HC Odor Dive Silty Sandy Clay - Very Moist - Slight to Moderate HC Odor Bettom of Boring at 15 ft. Bottom of Boring at 15 ft. Bottom of Boring at 15 ft.				Existing Ground Surface		P
Olive Silty Clay - Moist - No Odor Light Green Silty Clay w/ Brown Mottling - Moist - Moderate HC Odor Bottom of Boring at 15 ft. Light Brown Silty Sandy Clay - Very Moist - Slight to Moderate HC Odor Light Brown Silty Sandy Clay - Very Moist - Slight to Moderate HC Odor Moist - No Odor Bottom of Boring at 15 ft. Bottom of Boring at 15 ft. Capable Company Clay - Very Moist - Slight Brown Silty Sandy Clay - Very Moist - No Odor Capable Company Clay - Very Moist - Slight Brown Silty Sandy Clay - Very Moist - No Odor Capable Company Clay - Very Moist - Slight Brown Silty Sandy Clay - Very Moist - No Odor Capable Company Clay - Very Moist - Slight Brown Silty Sandy Clay - Very Moist - No Odor Capable Company Clay - Very Moist - Slight Brown Silty Sandy Clay - Very Moi	0					\$3.55 \$3.55 \$3.55 \$3.55 \$4.55
Dlive Silty Clay - Moist - No Odor	, l —			Black Silty Clayey Fill - Dry - No Odor		
Light Green Silty Clay w/ Brown Mottling Moist - Moderate HC Odor	{			Olive Silty Clay - Moist - No Odor	-	
Olive Silty Sandy Clay - Very Moist - Slight to Moderate HC Odor 10 - 11 - 12 - Light Brown Silty Sandy Clay - Very Moist - No Odor Light Brown Silty Sandy Clay - Very Moist - No Odor Bottom of Boring at 15 ft.	5 —			Maria A. Marahaman IIC Ordon		
Light Brown Silty Sandy Clay - Very Moist - No Odor 15 16 - 17 - 18 - 19 - 20 - 20 - 21 - 22 - 23 - 24 - 25 - 25 - 25 - 25 - 25 - 25 - 25	7 - 4-1	X	14	Olive Silty Sandy Clay - Very Moist -	-	
Moist - No Odor -1415	- 11 —				- - -	
Bottom of Boring at 15 ft. -171819202122232425 - Bottom of Boring at 15 ft.	- 13 —				-	
- 17 18 19 20 21 22 23 24 25 25	Ĭ	Free				
- 18				2	_	
- 19						
20 - 21 22						
- 21 - - 22 - - 23 - - 24 - - 25 - 25 -						
- 22	i			20		
- 23 - - 24 - - 25 -	j					
- 24 - - 25 - 25 -	•				_	}
- 25 -	l l				_	
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	ì			. 29		
- 27 -	i			,		

igure 2 - Test Boring Log No. B-1 - Monitoring Well No. MW-4

#X6303

Project No.: 90386A

Date: 11-14-86

MV

15/4W23M6

Elevation.

					LIGY	ation	*	
DEPTH IN FEET	JA PE	LOG & SAMPLE	PENE. RESIS. / FT.	DESCRIPTION			L DES	SAND
<u> </u>				Existing Ground Surface		[ם ני
F 0		33333		AC Pavement and Base		25355		33333
- 1 - 2				Black Silty Clay Fill	1-			
- 3 - 4				Brown Silty Loam - Dry - No Odor	_			
- 5 - 6			50	Light Green Silty Clay w/ Some Sand - Moist - No Odor	5-			
- 7 - 8	5-1			Same as Above Except More Moisture No Odor – No Recovery From Sample			Y	
- 9 ·				Brown Silty Gravelly Clay - Moist - No Odor	10 -			
- 11 - - 12 - - 13 -				Same as Above Except No Gravel				
- 14 · - 15 ·					 15 -			
18				Bottom of Boring at 15 ft.	-			
- 17 - - 18 -					,			
- 19 ·	_				-			
20	-				20-	:		
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22 -	-				•			
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- 24	- 1				-			
- 25	1				25~			
- 26 · - 27 ·	1							

igure 3 – Test Boring Log No. B-2

- Monitoring Well No. MW-5

+16303

-Project No.: 90386A

15/4W23M7

Date: 11-14-86

Elevation.

DEPTH			·			ucion		
Existing Ground Surface AC Pavement and Base Black Silty Clayer Fill- Dry - No Odor Light Brown Silty Clay - Moist - No Odor Light Brown to Light Green Silty Clay - Moist No Odor S- 6 - 8 - 1	_	LE EB	Ee		RECCDIRTION	WE	LL DES	SIGN
AC Pavement and Base Black Silty Clayey Fill- Dry - No Odor Light Brown Silty Clay - Moist - No Odor Light Brown to Light Green Silty Clay - Moist No Odor S- 6 - 6 - 6 - 1 26 Olive Silty Clay - Moist - No Odor 7 - 7 - 8 - Light Brown Gravelly Silty Clay - Moist - No Odor 10 - 11 - 12 - No Odor Brown Gravelly Silty Clay, Less Gravel w/ Depth - Very Moist - No Odor 13 - 14 - 15 - 16 - 17 - 18 - 19 - 20 - 20 - 21 - 22 - 23 - 24 - 25 - 26 - 25 - 26 - 25 - 25 - 26 - 25 - 25		SAME	SPIFE	1	BESCRIPTION	2"10-		
AC Pavement and Base 1					Existing Ground Surface	 [p
Light Brown Silty Clay - Moist - No Odor 4								
Light Brown Silty Clay - Moist - No Odor Light Brown to Light Green Silty Clay - Moist No Odor 6 - 6 - 6 - 7 - 8 - 8 - 10 - 10 - 10 - 11 - 12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 20 - 21 - 22 - 23 - 24 - 25 - 26 - 26 - 10 - 10 - 10 - 10 - 10 - 10 - 10 - 1					Black Silty Clayey Fill- Dry - No Odor			
Moist No Odor S-	[
Light Brown Gravelly Silty Clay - Moist - No Odor 10 - 11 - 12 - Brown Gravelly Silty Clay, Less Gravel w/ Depth - Very Moist - No Odor 15 - 16 - 17 - 18 - 19 - 20 - 20 - 21 - 22 - 23 - 24 - 25 - 26 - 25 - 26 - 25 - 26 - 10 - 10 - 10 - 10 - 10 - 10 - 10 - 1	- 4 - - 5 -				84 ' 1 N M 1			
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-16 - -17 - -18 - -19 - -20 - -21 - -22 - -23 - -24 - -25 - -26 -	- 11 - - 12 - - 13 - - 14 -				Brown Gravelly Silty Clay, Less Gravel			
- 21 - - 22 - - 23 - - 24 - - 25 - - 26 -	- 16 - - 17 - - 18 - - 19 -				Bottom of Boring at 15 ft. ———————————————————————————————————			
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igure 4 - Test Boring Log No. B-3 - Monitoring Well No. MW-6

AS6303

Project No.: 90386A

01-218.0 15/4W23M8

Date: 11-14-86

Elevation.

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- 2 - - 3 -				Olive Silty Clay - Moist - Possible HC Odor	-			
- 4 -				Light Blue/Green Silty Clay - Moist - No Odor	5-			
B	7-1	X	20	Lt.Green/Brown Silty Clay-Slight HC O	dor			
- 7 - - 8 - - 9 - - 10 -				Light Brown Silty Clay - Moist - Slight HC Odor - Some Gravel		V · · · · · · ·	Z=	
- 11 - - 12 - - 13 - - 14 -				Brown Silty Clay w/ Less Gravel and Some Sand - Moist - No Odor	- -			
- 15 - - 16 - - 17 - - 18 - - 19 - - 20 - - 21 - - 22 - - 23 - - 24 - - 25 - - 26 - - 27 -					15 - - 20 - - - 25			

igure 5 - Test Boring Log No. B-7 - Monitoring Well No. MW-7

Attachment C

Soil Boring Permit

Alameda County Public Works Agency - Water Resources Well Permit



399 Elmhurst Street Hayward, CA 94544-1395 Telephone: (510)670-6633 Fax:(510)782-1939

Application Approved on: 08/17/2009 By jamesy

Permit Numbers: W2009-0754

Permits Valid from 08/27/2009 to 08/28/2009

Application Id:

1249593773171

City of Project Site: Oakland

Site Location:

3943 Broadway

Project Start Date:

Completion Date: 08/28/2009 08/27/2009

Assigned Inspector:

Contact Ron Smalley at (510) 670-5407 or ronaldws@acpwa.org

Applicant:

Delta Consultants - Alan Buehler

Phone: 916-503-1273

Property Owner:

11050 White Rock Rd, Suite 110, Rancho Cordova, CA 95670

Clement Leung

Phone: 510-655-7662

3943 Broadway, Oakland, CA 94611

Phone: 916-503-1273

Client: Alan Buehler

11050 White Rock Rd, Suite 110, Rancho Corvoda, CA 95670

Receipt Number: WR2009-0309

Total Due: **Total Amount Paid:** \$265.00 \$265.00

Payer Name: Delta Consultants Paid By: CHECK

PAID IN FULL

Works Requesting Permits:

Borehole(s) for Investigation-Geotechnical Study/CPT's - 2 Boreholes

Driller: Gregg Drilling - Lic #: 485165 - Method: CPT

Work Total: \$265.00

Specifications

Permit Issued Dt Expire Dt # Hole Diam Max Depth Number **Boreholes** W2009-2.00 in. 35 00 ft 08/17/2009 11/25/2009

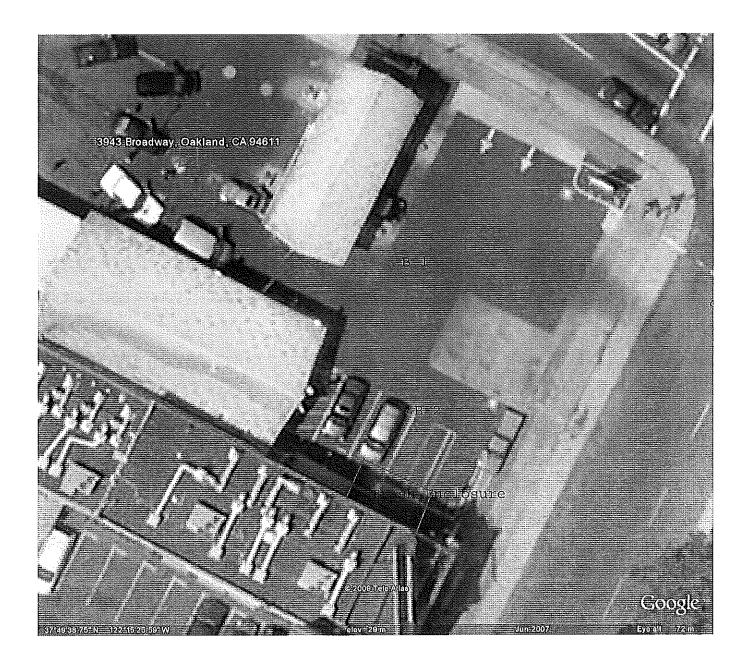
0754

Specific Work Permit Conditions

- 1. Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings. All cuttings remaining or unused shall be containerized and hauled off site.
- 2. Boreholes shall not be left open for a period of more than 24 hours. All boreholes left open more than 24 hours will need approval from Alameda County Public Works Agency, Water Resources Section. All boreholes shall be backfilled according to permit destruction requirements and all concrete material and asphalt material shall be to Caltrans Spec or County/City Codes. No borehole(s) shall be left in a manner to act as a conduit at any time.
- 3. Permittee shall assume entire responsibility for all activities and uses under this permit and shall indemnify, defend and save the Alameda County Public Works Agency, its officers, agents, and employees free and harmless from any and all expense, cost, liability in connection with or resulting from the exercise of this Permit including, but not limited to, properly damage, personal injury and wrongful death.
- 4. Prior to any drilling activities, it shall be the applicant's responsibility to contact and coordinate an Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits or agreements required for that Federal, State, County or City, and follow all City or County Ordinances. No work shall begin until all the permits and requirements have been approved or obtained. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County an Traffic Safety Plan for any lane closures or detours planned. No work shall begin until all the permits and requirements have been approved or obtained.
- 5. Applicant shall contact Ron Smalley for an inspection time at 510-670-5407 at least five (5) working days prior to starting, once the permit has been approved. Confirm the scheduled date(s) at least 24 hours prior to drilling.

Alameda County Public Works Agency - Water Resources Well Permit

- 6. Permitte, permittee's contractors, consultants or agents shall be responsible to assure that all material or waters generated during drilling, boring destruction, and/or other activities associated with this Permit will be safely handled, properly managed, and disposed of according to all applicable federal, state, and local statutes regulating such. In no case shall these materials and/or waters be allowed to enter, or potentially enter, on or off-site storm sewers, dry wells, or waterways or be allowed to move off the property where work is being completed.
- 7. Copy of approved drilling permit must be on site at all times. Failure to present or show proof of the approved permit application on site shall result in a fine of \$500.00.
- 8. Permit is valid only for the purpose specified herein. No changes in construction procedures, as described on this permit application. Boreholes shall not be converted to monitoring wells, without a permit application process.



Attachment D

Gregg Drilling and Testing CPT Report



GREGG DRILLING & TESTING, INC.

GEOTECHNICAL AND ENVIRONMENTAL INVESTIGATION SERVICES

August 31, 2009

Delta Consultants Attn: Lia Holden 312 Piercy Rd. San Jose, California 95138

Subject:

CPT Site Investigation

ConocoPhillips 0746, 3943 Broadway

Oakland, California

GREGG Project Number: 09-141MA

Dear Ms. Holden:

The following report presents the results of GREGG Drilling & Testing's Cone Penetration Test investigation for the above referenced site. The following testing services were performed:

1	Cone Penetration Tests	(CPTU)	\boxtimes
2	Pore Pressure Dissipation Tests	(PPD)	\boxtimes
3	Seismic Cone Penetration Tests	(SCPTU)	
4	Resistivity Cone Penetration Tests	(RCPTU)	
5	UVOST Laser Induced Fluorescence	(UVOST)	
6	Groundwater Sampling	(GWS)	\boxtimes
7	Soil Sampling	(SS)	\boxtimes
8	Vapor Sampling	(VS)	
9	Vane Shear Testing	(VST)	
10	SPT Energy Calibration	(SPTE)	

A list of reference papers providing additional background on the specific tests conducted is provided in the bibliography following the text of the report. If you would like a copy of any of these publications or should you have any questions or comments regarding the contents of this report, please do not hesitate to contact our office at (925) 313-5800.

Sincerely, GREGG Drilling & Testing, Inc.

Mary Walden Operations Manager

GREGG DRILLING & TESTING, INC. GEOTECHNICAL AND ENVIRONMENTAL INVESTIGATION SERVICES

Cone Penetration Test Sounding Summary

-Table 1-

CPT Sounding Identification	Date	Termination Depth (Feet)	Depth of Groundwater Samples (Feet)	Depth of Soil Samples (Feet)	Depth of Pore Pressure Dissipation Tests (Feet)
CPT-B1	8/27/09	35	15.5, 24, 34	6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 20, 25, 30, 35	35.3
CPT-B2	8/27/09	35	15, 25, 34	6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 20, 25, 30, 35	-



GREGG DRILLING & TESTING, INC.

GEOTECHNICAL AND ENVIRONMENTAL INVESTIGATION SERVICES

Bibliography

Lunne, T., Robertson, P.K. and Powell, J.J.M., "Cone Penetration Testing in Geotechnical Practice" E & FN Spon. ISBN 041923750, 1997

Roberston, P.K., "Soil Classification using the Cone Penetration Test", Canadian Geotechnical Journal, Vol. 27, 1990 pp. 151-158.

Mayne, P.W., "NHI (2002) Manual on Subsurface Investigations: Geotechnical Site Characterization", available through www.ce.gatech.edu/~geosys/Faculty/Mayne/papers/index.html, Section 5.3, pp. 107-112.

Robertson, P.K., R.G. Campanella, D. Gillespie and A. Rice, "Seismic CPT to Measure In-Situ Shear Wave Velocity", Journal of Geotechnical Engineering ASCE, Vol. 112, No. 8, 1986 pp. 791-803.

Robertson, P.K., Sully, J., Woeller, D.J., Lunne, T., Powell, J.J.M., and Gillespie, D.J., "Guidelines for Estimating Consolidation Parameters in Soils from Piezocone Tests", Canadian Geotechnical Journal, Vol. 29, No. 4, August 1992, pp. 539-550.

Robertson, P.K., T. Lunne and J.J.M. Powell, "Geo-Environmental Application of Penetration Testing", Geotechnical Site Characterization, Robertson & Mayne (editors), 1998 Balkema, Rotterdam, ISBN 90 5410 939 4 pp 35-47.

Campanella, R.G. and I. Weemees, "Development and Use of An Electrical Resistivity Cone for Groundwater Contamination Studies", Canadian Geotechnical Journal, Vol. 27 No. 5, 1990 pp. 557-567.

DeGroot, D.J. and A.J. Lutenegger, "Reliability of Soil Gas Sampling and Characterization Techniques", International Site Characterization Conference - Atlanta, 1998.

Woeller, D.J., P.K. Robertson, T.J. Boyd and Dave Thomas, "Detection of Polyaromatic Hydrocarbon Contaminants Using the UVIF-CPT", 53rd Canadian Geotechnical Conference Montreal, QC October pp. 733-739, 2000.

Zemo, D.A., T.A. Delfino, J.D. Gallinatti, V.A. Baker and L.R. Hilpert, "Field Comparison of Analytical Results from Discrete-Depth Groundwater Samplers" BAT EnviroProbe and QED HydroPunch, Sixth national Outdoor Action Conference, Las Vegas, Nevada Proceedings, 1992, pp 299-312.

Copies of ASTM Standards are available through www.astm.org



Cone Penetration Testing Procedure (CPT)

Gregg Drilling carries out all Cone Penetration Tests (CPT) using an integrated electronic cone system, *Figure CPT*. The soundings were conducted using a 20 ton capacity cone with a tip area of 15 cm² and a friction sleeve area of 225 cm². The cone is designed with an equal end area friction sleeve and a tip end area ratio of 0.80.

The cone takes measurements of cone bearing (q_c) , sleeve friction (f_s) and penetration pore water pressure (u_2) at 5-cm intervals during penetration to provide a nearly continuous hydrogeologic log. CPT data reduction and interpretation is performed in real time facilitating on-site decision making. The above mentioned parameters are stored on disk for further analysis and reference. All CPT soundings are performed in accordance with revised (2002) ASTM standards (D 5778-95).

The cone also contains a porous filter element located directly behind the cone tip (u_2) , *Figure CPT*. It consists of porous plastic and is 5.0mm thick. The filter element is used to obtain penetration pore pressure as the cone is advanced as well as Pore Pressure Dissipation Tests (PPDT's) during appropriate pauses in penetration. It should be noted that prior to penetration, the element is fully saturated with silicon oil under vacuum pressure to ensure accurate and fast dissipation.

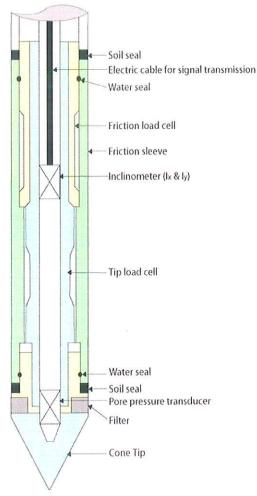


Figure CPT

When the soundings are complete, the test holes are grouted using a Gregg support rig. The grouting procedures generally consist of pushing a hollow CPT rod with a "knock out" plug to the termination depth of the test hole. Grout is then pumped under pressure as the tremie pipe is pulled from the hole. Disruption or further contamination to the site is therefore minimized.



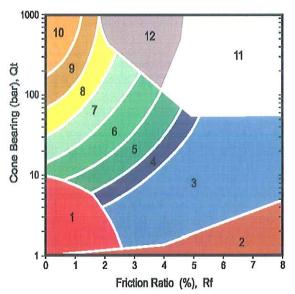
Cone Penetration Test Data & Interpretation

The Cone Penetration Test (CPT) data collected from your site are presented in graphical form in the attached report. The plots include interpreted Soil Behavior Type (SBT) based on the charts described by Robertson (1990). Typical plots display SBT based on the non-normalized charts of Robertson et al (1986). For CPT soundings extending greater than 50 feet, we recommend the use of the normalized charts of Robertson (1990) which can be displayed as SBTn, upon request. The report also includes spreadsheet output of computer calculations of basic interpretation in terms of SBT and SBTn and various geotechnical parameters using current published correlations based on the comprehensive review by Lunne, Robertson and Powell (1997), as well as recent updates by Professor Robertson. The interpretations are presented only as a guide for geotechnical use and should be carefully reviewed. Gregg Drilling & Testing Inc. do not warranty the correctness or the applicability of any of the geotechnical parameters interpreted by the software and do not assume any liability for any use of the results in any design or review. The user should be fully aware of the techniques and limitations of any method used in the software.

Some interpretation methods require input of the groundwater level to calculate vertical effective stress. An estimate of the in-situ groundwater level has been made based on field observations and/or CPT results, but should be verified by the user.

A summary of locations and depths is available in Table 1. Note that all penetration depths referenced in the data are with respect to the existing ground surface.

Note that it is not always possible to clearly identify a soil type based solely on q_t , f_s , and u_2 . In these situations, experience, judgment, and an assessment of the pore pressure dissipation data should be used to infer the correct soil behavior type.



ZONE	SBT
1	Sensitive, fine grained
2	Organic materials
3	Clay
4	Silty clay to clay
5	Clayey silt to silty clay
6	Sandy silt to clayey silt
7	Silty sand to sandy silt
8	Sand to silty sand
9	Sand
10	Gravely sand to sand
11	Very stiff fine grained*
12	Sand to clayey sand*

(After Robertson, et al., 1986)

Figure SBT



Pore Pressure Dissipation Tests (PPDT)

Pore Pressure Dissipation Tests (PPDT's) conducted at various intervals measured hydrostatic water pressures and determined the approximate depth of the ground water table. A PPDT is conducted when the cone is halted at specific intervals determined by the field representative. The variation of the penetration pore pressure (*u*) with time is measured behind the tip of the cone and recorded by a computer system.

Pore pressure dissipation data can be interpreted to provide estimates of:

- Equilibrium piezometric pressure
- Phreatic Surface
- In situ horizontal coefficient of consolidation (ch)
- In situ horizontal coefficient of permeability (k_h)

In order to correctly interpret the equilibrium piezometric pressure and/or the phreatic surface, the pore pressure must be monitored until such time as there is no variation in pore pressure with time. Figure PPDT. This time is commonly referred to as t_{100} , the point at which 100% of the excess pore pressure has dissipated.

A complete reference on pore pressure dissipation tests is presented by Robertson et al. 1992.

A summary of the pore pressure dissipation tests is summarized in Table 1.

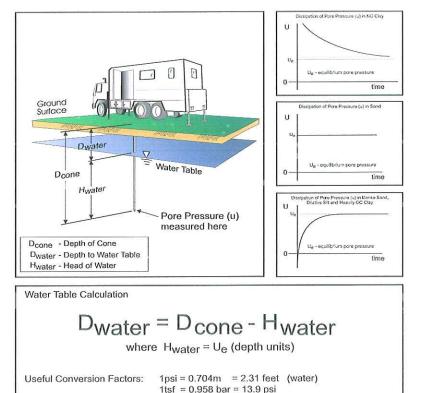


Figure PPDT

1m = 3.28 feet



Groundwater Sampling (GWS)

Gregg Drilling conducts groundwater sampling using a Hydropunch[®] type groundwater sampler, *Figure GWS*. The groundwater sampler has a retrievable stainless steel or disposable PVC screen with steel drop off tip. This allows for samples to be taken at multiple depth intervals within the same sounding location. In areas of slower water recharge, provisions may be made to set temporary PVC well screens during sampling to allow the drill rig to advance to the next sample location while the groundwater is allowed to infiltrate.

The groundwater sampler operates advancing 1 3/4 inch hollow push rods with the filter tip in a closed configuration to the base of the desired sampling interval. Once at the desired sample depth, the push rods are retracted; exposing the encased filter screen groundwater infiltrate allowing to hydrostatically from the formation into the A small diameter bailer inlet screen. (approximately ½ or ¾ inch) is lowered through the push rods into the screen section for sample collection. The number of downhole trips with the bailer and time necessary to complete the sample collection at each depth interval is a function of sampling protocols, volume requirements, and the yield characteristics and storage capacity of the formation. Upon completion of sample collection, the push rods and sampler, with the exception of the PVC screen and steel drop off tip are retrieved to the ground surface, decontaminated and prepared for the next sampling event.

A summary of the groundwater samples collected, including the sampling date, depth and location identification, is presented in Table 1 and the corresponding CPT plot.

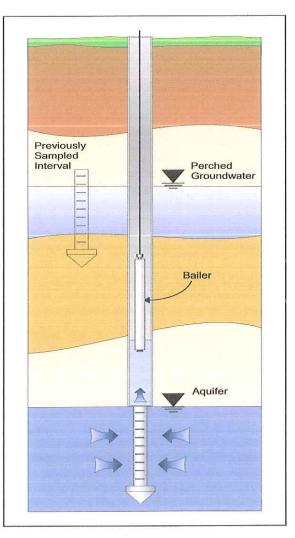


Figure GWS

For a detailed reference on direct push groundwater sampling, refer to Zemo et. al., 1992.



Soil Sampling (SS)

Gregg Drilling uses a piston-type sampler to obtain relatively undisturbed soil samples without generating any soil cuttings, Figure SS. Two different types of samplers (12 and 18 inch) are used depending on the soil type and density. The soil sampler is initially pushed in a "closed" position to the desired sampling interval using a hydraulic rig. Keeping the sampler closed minimizes the potential of cross contamination caused by sloughing. The inner tip of the sampler is then retracted 12 inches (or 18 inches if using the longer sampler) leaving a hollow soil sampler with two inner 11/4 inch diameter by 6 inch or four 3 inch long soil sample tubes. If using the 18 inch sampler, two 1½ inch diameter by 6 inch long tubes will be exposed. The hollow sampler is then pushed in a locked "open" position to collect a soil sample. The filled sampler and push rods are then retrieved to the ground surface. Because the soil enters the sampler at a constant rate, the opportunity for 100% recovery increased. For environmental analysis, the soil sample tube ends are sealed with Teflon and plastic caps. Often, a longer "split tube" can be used for geotechnical sampling.

For a detailed reference on direct push soil sampling, refer to Robertson et al, 1998.

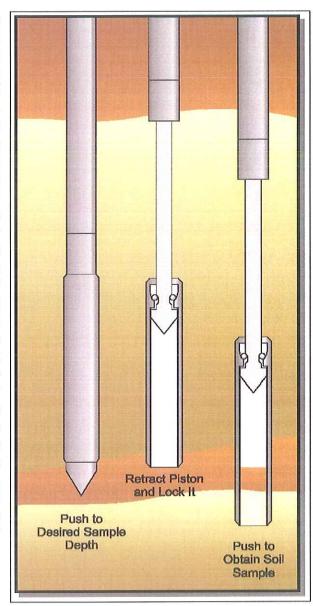


Figure SS

A summary of the soil samples collected, including the sampling date, depth and location identification, is presented in Table 1.

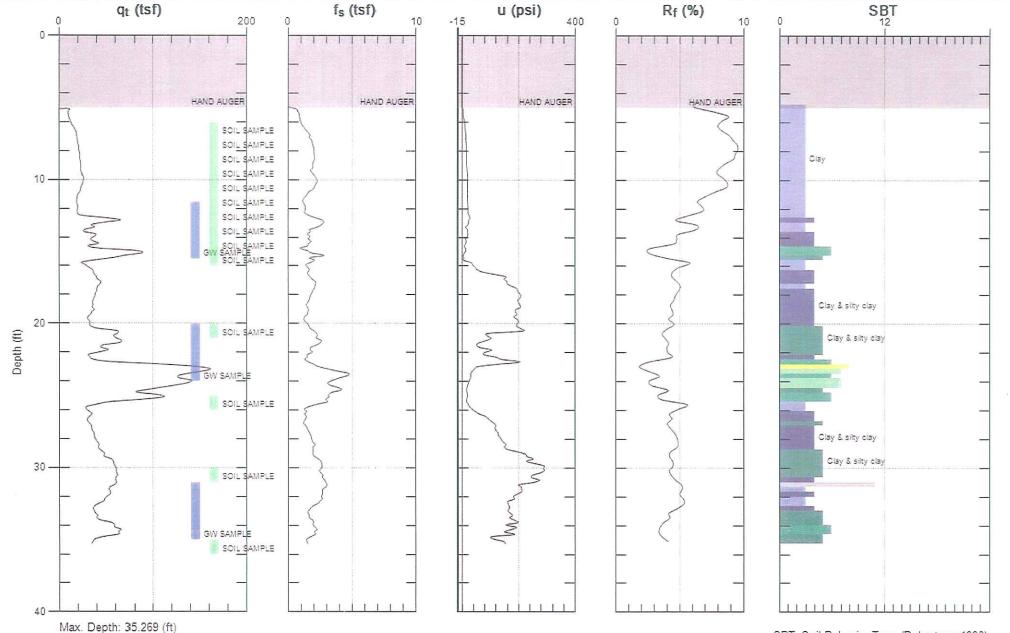


DELTA CONSULTANTS

Site: CONOCOPHILLIPS 0746 Engineer: L.HOLDEN

Sounding: CPT-B1

Date: 8/27/2009 06:13



Avg. Interval: 0.328 (ft)

SBT: Soil Behavior Type (Robertson 1990)



Avg. Interval: 0.328 (ft)

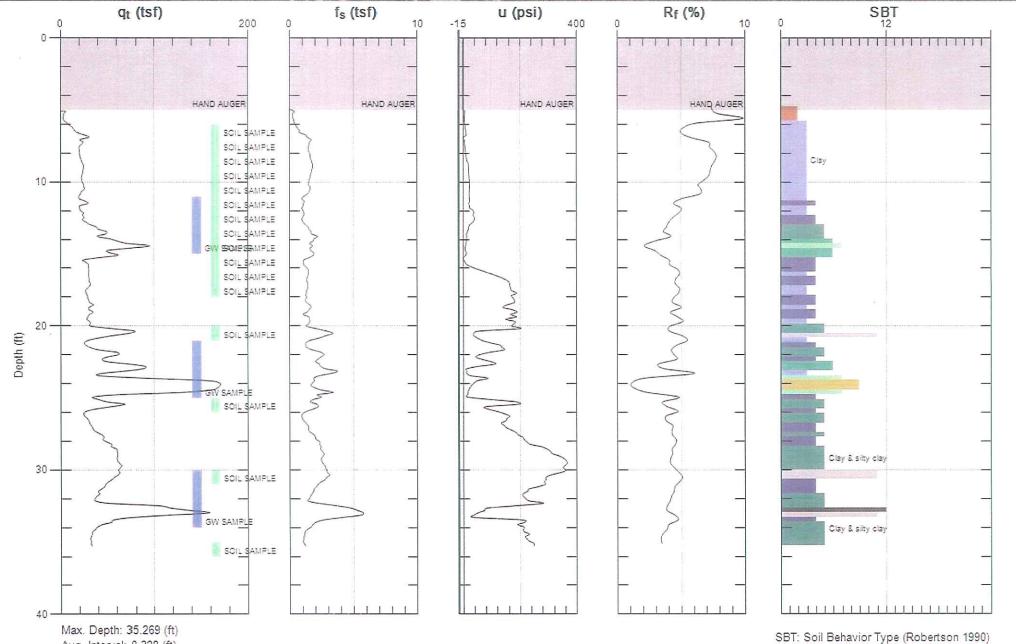
DELTA CONSULTANTS

Site: CONOCOPHILLIPS 0746

Sounding: CPT-B2

Engineer: L.HOLDEN

Date: 8/27/2009 11:36





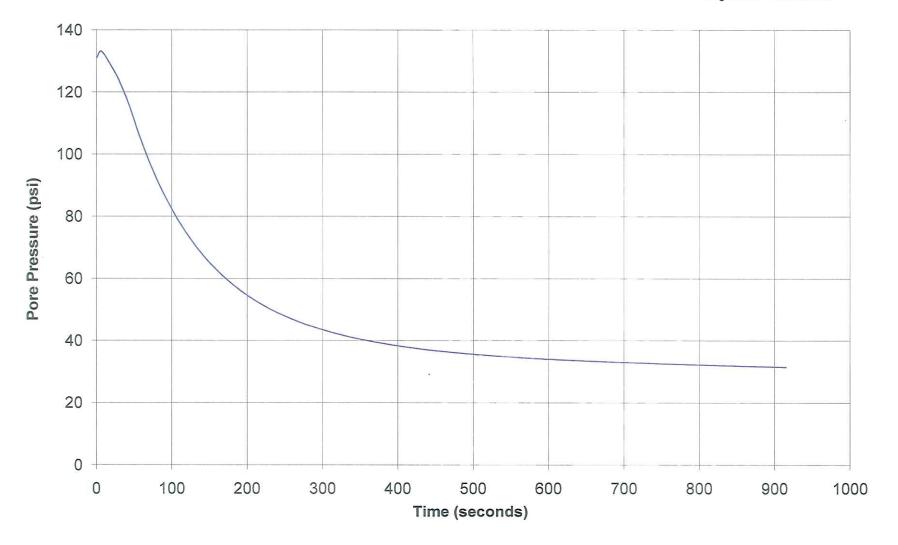
GREGG DRILLING & TESTING

Pore Pressure Dissipation Test

Sounding: CPT-B1 Depth: 35.269

Site: CONOCOPHILLIPS 074

Engineer: L.HOLDEN



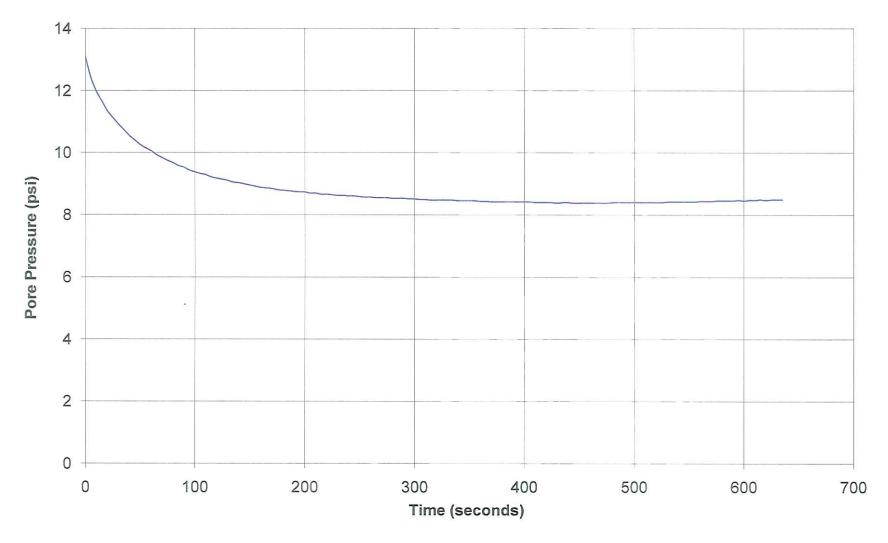


GREGG DRILLING & TESTING

Pore Pressure Dissipation Test

Sounding: CPT-B2
Depth: 22.802
Site: CPT-B2

Engineer: A. BUEHLER



Attachment E

Soil Boring Logs

The state of the s		I -	lo: c10074			TO MOTOR MADE VICTOR			coPhillips		B-1
			By:A. Bueh		.1				43 Broadway, Oakland, CA	Location Map	Page 1 of 2
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Consult	aiito	Slot Size						Depth: I			= Measured Water Level
į		Gravel P						ng Stick			Prior to Grouting Borehole
			Elevation			Nort	hing		Easting		
Well			<u> </u>	T <u> </u>	£	T				<u> </u>	
Completion	Static	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	_ I	mple _	Soil Type			/ DESCRIPTION
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					8—				5% sand		
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		Moist	16.7		_	7 PACE AND A SECOND SEC			As above:	larou	
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B-1 Project No: c100746006 Client: ConocoPhillips Page 2 of 2 Logged By:A. Buehler Location: 3943 Broadway, Oakland, CA Location Map Driller:Gregg Drilling and Testing Date Drilled: 8/27/09 Delta Please see site map Drilling Method: CPT Hole Diameter: 1 3/4 inches = First Water Sampling Method:Direct Push Hole Depth: 36 Casing Type:NA Well Diameter: NA Consultants V = Measured Water Level Slot Size:NA Well Depth: NA Prior to Grouting Borehole Gravel Pack: NA Casing Stickup: NA Elevation Northing Easting Well PID Reading (ppm) Penetration (blows/6") Sample Completion Moisture Content Soil Type Static Intervai LITHOLOGY / DESCRIPTION Water Level Sandy Silt continued 23 25 CH Fat Clay with Sand, light brown, 15-20% sand Wet 67.6 26 28 29 Lean Clay, light brown, medium plasticity 0.0 CL Damp 31 32 33 34 35 17.2 As above: Damp 5-10% fine sand 36 Bottom of boring = 36 feet 37 38 39

		gift T. Clay and Egift at the Squidal Charles of the control of th						****			
			No: c10074						coPhillips		B-2
			By: E. Char		a ki m ar				13 Broadway, Oakland, CA		Page 1 of 2
Del	ta	1	regg Drilling /lethod: CP		sung				8/27/09 er: 1 3/4 inches	Location Map	e site map
	La	1	g Method: C		.h	-		Depth: (= First Water
Consulta	ants	Casing T	-		••			Diamete			
		Slot Size				٧	Vell [Depth: N	NA .	▼	= Measured Water Level
		Gravel P	ack: NA					g Stickı			Prior to Grouting Borehole
			Elevation			Northir	ng		Easting		
Backfill Casing Casing Casing Casing	Static Water Level	Moisture Content	PID Reading (ppm)	Penetration (blows/6")	Depth (feet)	Recovery S	Interval d	Soil Type	LIT	HOLOGY	/ DESCRIPTION
			<u> </u>	<u></u>		 "	<u>-</u> ★		Hand Augered	to 5 feet	
					1						
					! ' .		$\perp \! \! \perp$	CL	Lean Clay, black, me	dium plast	icity
					2		\dashv				
					.			CL	Sandy Lean Clay, gr	ev-green l	ow-medium plasticity
					3 —	++	+	UL.	Carray Ecan Clay, gi	oy green, I	OTT THOUGHT PROBERT
					4						
					4						
					5—		<u>*</u>				
		Moist	20.2		6—	700000000000000000000000000000000000000	Primaria Constant Constant Constant Constant	CL	Lean Clay, black, 5-1	0% fine sa	and medium plasticity
		Wiolot	20.2		_ •	100 100 100 100 100 100 100 100 100 100	Particular of the state of the	~_	Loun Glay, Black, 6	0 70 11110 00	ina, modam placticity
		Moist	76.8		/			CL	Lean Clay with Sand	l, dark brov	wn, 10-20% fine sand,
	V				8		7		low plasticity		
	▼ 8.2	Moist	161		Ι΄.	110000000000000000000000000000000000000			As above:	<u> </u>	
		N4-:-4	005		9—	Parameter of the control of the cont			brown As above:		
		Moist	925			100 million 100 mi	AND THE RESERVE		15-25% fine sa	and	
		Moist	1093		10	2 (100 (200) 100 (200			As above:		1.1.11111111111111111111111111111111111
			,,,,		11	10220012 HZ	A Common		10-20% fine sa	ınd	
		Moist	311.0		11	2450000 SE	Property D. Proper		As above:		10 10 T 10 T 10 T 10 T 10 T 10 T 10 T 1
					12-		Control of the contro		20-25% fine sa		
		Moist	508				101020171 101020171 101020171	CL	Sandy Lean Clay, bro	own, 20-30	0% fine sand,
	\sum	Wet	195		13	2 A 17 San 1 A 17 A 17 A 17 A 17 A 17 A 17 A 17 A			low plasticity As above:		
		vvet	190			The second state of the se			dark gray, 30-4	0% fine sa	and
		Wet	172		14 —	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		SC	Clayey Sand, dark gr		
						10 200 00 00 00 00 00 00 00 00 00 00 00 0	A CONTRACT OF THE PROPERTY OF		plastic fines		
			56.7	-	-	32450			As above:	ea of lean	clay at 15.5 feet
					16	500000000000000000000000000000000000000	Constitution in		No recovery		
					-				110 1000 701 7		
	•				17 —	100			No recovery		
					18—		1003540			·	
					-	- -					
					19 —	++	<u> </u>				
					-						
		Wet	58.6		20	Service Control of Con	Construct Construct Constructor	CL	Sandy Lean Clay, gra	ay, 20-30%	fine sand, low to
					21	200 (000) 000 (000) 000 (000) 000 (000) 000 (000) 000 (000)	Annania (III)		medium plastic		
						\prod	_				
					22 —	_		:			

B-2 Project No: c100746006 Client: ConocoPhillips Page 2 of 2 Logged By: E. Chantikian Location: 3943 Broadway, Oakland, CA Driller:Gregg Drilling and Testing Date Drilled: 8/27/09 Location Map Delta Please see site map Drilling Method: CPT Hole Diameter: 1 3/4 inches \triangle = First Water Sampling Method:Direct Push Hole Depth: 36 Well Diameter: NA Casing Type:NA Consultants V = Measured Water Level Slot Size:NA Well Depth: NA Prior to Grouting Borehole Gravel Pack: NA Casing Stickup: NA Elevation Northing Easting Well PID Reading (ppm) Penetration (blows/6") Sample Completion Moisture Content Depth (feet) Static Soil Type Recovery Interval Water LITHOLOGY / DESCRIPTION Level Lean Clay with Sand continued 23 24 25 Wet 49.9 CL Sandy Lean Clay, dark brown mottled with light brown, 20-30% fine sand, low to medium plasticity 26 27 28 29 30 CL Lean Clay with Sand, light brown, 15-20% fine sand, low 30.7 Damp to medium plasticity 31 32 33 35 Sandy Lean Clay, light brown, 35-40% fine sand, low CL Damp 0.0 plasticity 36 Bottom of boring = 36 feet 38 39 LIA-HOLDEN No. 8584 43

Attachment F

Certified Laboratory Analytical Report



Date of Report: 09/15/2009

Lia Holden

Delta Environmental 312 Piercy Rd San Jose, CA 95138

RE: 0746

BC Work Order: 0911376 Invoice ID: B067933

Enclosed are the results of analyses for samples received by the laboratory on 8/28/2009. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Contact Person: Molly Meyers

Client Service Rep

Authorized Signature



 Delta Environmental
 Project:
 0746
 Reported:
 09/15/2009
 14:59

 312 Piercy Rd
 Project Number:
 4512169612

San Jose, CA 95138 Project Manager: Lia Holden

Laboratory	Client Sample Information	on			
0911376-01	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	 0746 B-2@12-15 DECJ	Receive Date: Sampling Date: Sample Depth: Sample Matrix:	08/28/2009 19:15 08/27/2009 04:40 Water	Delivery Work Order: Global ID: T0600101471 Location ID (FieldPoint): B-2 Matrix: W Sample QC Type (SACode): CS Cooler ID:
0911376-02	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	 0746 B-2@23-25 DECJ	Receive Date: Sampling Date: Sample Depth: Sample Matrix:	08/28/2009 19:15 08/27/2009 04:55 Water	Delivery Work Order: Global ID: T0600101471 Location ID (FieldPoint): B-2 Matrix: W Sample QC Type (SACode): CS Cooler ID:
0911376-03	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	 0746 B-2@32-34.5 DECJ	Receive Date: Sampling Date: Sample Depth: Sample Matrix:	08/28/2009 19:15 08/27/2009 05:25 Water	Delivery Work Order: Global ID: T0600101471 Location ID (FieldPoint): B-2 Matrix: W Sample QC Type (SACode): CS Cooler ID:
0911376-04	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	 0746 B-2@35 DECJ	Receive Date: Sampling Date: Sample Depth: Sample Matrix:	08/28/2009 19:15 08/27/2009 03:51 Solids	Delivery Work Order: Global ID: T0600101471 Location ID (FieldPoint): B-2 Matrix: SO Sample QC Type (SACode): CS Cooler ID:



 Delta Environmental
 Project:
 0746
 Reported:
 09/15/2009
 14:59

 312 Piercy Rd
 Project Number:
 4512169612

San Jose, CA 95138 Project Manager: Lia Holden

Laboratory	Client Sample Information	on			
0911376-05	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	 0746 B-2@12 DECJ	Receive Date: Sampling Date: Sample Depth: Sample Matrix:	08/28/2009 19:15 08/27/2009 02:50 Solids	Delivery Work Order: Global ID: T0600101471 Location ID (FieldPoint): B-2 Matrix: SO Sample QC Type (SACode): CS Cooler ID:
0911376-06	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	 0746 B-2@10 DECJ	Receive Date: Sampling Date: Sample Depth: Sample Matrix:	08/28/2009 19:15 08/27/2009 02:42 Solids	Delivery Work Order: Global ID: T0600101471 Location ID (FieldPoint): B-2 Matrix: SO Sample QC Type (SACode): CS Cooler ID:
0911376-07	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	 0746 B-2@13 DECJ	Receive Date: Sampling Date: Sample Depth: Sample Matrix:	08/28/2009 19:15 08/27/2009 02:55 Solids	Delivery Work Order: Global ID: T0600101471 Location ID (FieldPoint): B-2 Matrix: SO Sample QC Type (SACode): CS Cooler ID:
0911376-08	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	 0746 B-2@6 DECJ	Receive Date: Sampling Date: Sample Depth: Sample Matrix:	08/28/2009 19:15 08/27/2009 02:27 Solids	Delivery Work Order: Global ID: T0600101471 Location ID (FieldPoint): B-2 Matrix: SO Sample QC Type (SACode): CS Cooler ID:



 Delta Environmental
 Project:
 0746
 Reported:
 09/15/2009 14:59

 312 Piercy Rd
 Project Number:
 4512169612

San Jose, CA 95138 Project Manager: Lia Holden

Laboratory	Client Sample Information	o n			
0911376-16	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	 0746 B-1@12.5-15.5 DECJ	Receive Date: Sampling Date: Sample Depth: Sample Matrix:	08/28/2009 19:15 08/27/2009 10:35 Water	Delivery Work Order: Global ID: T0600101471 Location ID (FieldPoint): B-1 Matrix: W Sample QC Type (SACode): CS Cooler ID:
0911376-17	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	 0746 B-1@22-24 DECJ	Receive Date: Sampling Date: Sample Depth: Sample Matrix:	08/28/2009 19:15 08/27/2009 10:50 Water	Delivery Work Order: Global ID: T0600101471 Location ID (FieldPoint): B-1 Matrix: W Sample QC Type (SACode): CS Cooler ID:
0911376-18	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	 0746 B-1@33-35 DECJ	Receive Date: Sampling Date: Sample Depth: Sample Matrix:	08/28/2009 19:15 08/27/2009 11:10 Water	Delivery Work Order: Global ID: T0600101471 Location ID (FieldPoint): B-1 Matrix: W Sample QC Type (SACode): CS Cooler ID:
0911376-19	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	 0746 B-1@6 DECJ	Receive Date: Sampling Date: Sample Depth: Sample Matrix:	08/28/2009 19:15 08/27/2009 08:45 Solids	Delivery Work Order: Global ID: T0600101471 Location ID (FieldPoint): B-1 Matrix: SO Sample QC Type (SACode): CS Cooler ID:



 Delta Environmental
 Project:
 0746
 Reported:
 09/15/2009
 14:59

 312 Piercy Rd
 Project Number:
 4512169612

San Jose, CA 95138 Project Manager: Lia Holden

Laboratory	Client Sample Information	on			
0911376-23	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	 0746 B-1@10 DECJ	Receive Date: Sampling Date: Sample Depth: Sample Matrix:	08/28/2009 19:15 08/27/2009 09:00 Solids	Delivery Work Order: Global ID: T0600101471 Location ID (FieldPoint): B-1 Matrix: SO Sample QC Type (SACode): CS Cooler ID:
0911376-26	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	 0746 B-1@13 DECJ	Receive Date: Sampling Date: Sample Depth: Sample Matrix:	08/28/2009 19:15 08/27/2009 09:10 Solids	Delivery Work Order: Global ID: T0600101471 Location ID (FieldPoint): B-1 Matrix: SO Sample QC Type (SACode): CS Cooler ID:
0911376-27	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	 0746 B-1@14 DECJ	Receive Date: Sampling Date: Sample Depth: Sample Matrix:	08/28/2009 19:15 08/27/2009 09:11 Solids	Delivery Work Order: Global ID: T0600101471 Location ID (FieldPoint): B-1 Matrix: SO Sample QC Type (SACode): CS Cooler ID:
0911376-31	COC Number: Project Number: Sampling Location: Sampling Point: Sampled By:	 0746 B-1@35 DECJ	Receive Date: Sampling Date: Sample Depth: Sample Matrix:	08/28/2009 19:15 08/27/2009 09:50 Solids	Delivery Work Order: Global ID: T0600101471 Location ID (FieldPoint): B-1 Matrix: SO Sample QC Type (SACode): CS Cooler ID:

312 Piercy RdProject Number:4512169612San Jose, CA 95138Project Manager:Lia Holden

BCL Sample ID:	0911376-01	Client Sample	Name:	0746, B-2@12-15, 8	3/27/2009 4:4	40:00AM							
						Prep	Run		Instru-		QC	MB	Lab
Constituent		Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Benzene		8.9	ug/L	5.0	EPA-8260	08/31/09	08/31/09 16:29	KEA	MS-V12	10	BSH1914	ND	A01,Z1
1,2-Dibromoethane		ND	ug/L	5.0	EPA-8260	08/31/09	08/31/09 16:29	KEA	MS-V12	10	BSH1914	ND	A01,Z1
1,2-Dichloroethane		ND	ug/L	5.0	EPA-8260	08/31/09	08/31/09 16:29	KEA	MS-V12	10	BSH1914	ND	A01,Z1
Ethylbenzene		26	ug/L	5.0	EPA-8260	08/31/09	08/31/09 16:29	KEA	MS-V12	10	BSH1914	ND	A01,Z1
Methyl t-butyl ether		59	ug/L	5.0	EPA-8260	08/31/09	08/31/09 16:29	KEA	MS-V12	10	BSH1914	ND	A01,Z1
Toluene		ND	ug/L	5.0	EPA-8260	08/31/09	08/31/09 16:29	KEA	MS-V12	10	BSH1914	ND	A01,Z1
Total Xylenes		74	ug/L	10	EPA-8260	08/31/09	08/31/09 16:29	KEA	MS-V12	10	BSH1914	ND	A01,Z1
t-Amyl Methyl ether		ND	ug/L	5.0	EPA-8260	08/31/09	08/31/09 16:29	KEA	MS-V12	10	BSH1914	ND	A01,Z1
t-Butyl alcohol		ND	ug/L	100	EPA-8260	08/31/09	08/31/09 16:29	KEA	MS-V12	10	BSH1914	ND	A01,Z1
Diisopropyl ether		ND	ug/L	5.0	EPA-8260	08/31/09	08/31/09 16:29	KEA	MS-V12	10	BSH1914	ND	A01,Z1
Ethanol		ND	ug/L	2500	EPA-8260	08/31/09	08/31/09 16:29	KEA	MS-V12	10	BSH1914	ND	A01,Z1
Ethyl t-butyl ether		ND	ug/L	5.0	EPA-8260	08/31/09	08/31/09 16:29	KEA	MS-V12	10	BSH1914	ND	A01,Z1
1,2-Dichloroethane-d4 (Su	ırrogate)	112	%	76 - 114 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 16:29	KEA	MS-V12	10	BSH1914		
Toluene-d8 (Surrogate)		92.4	%	88 - 110 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 16:29	KEA	MS-V12	10	BSH1914		
4-Bromofluorobenzene (Su	urrogate)	109	%	86 - 115 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 16:29	KEA	MS-V12	10	BSH1914		



312 Piercy RdProject Number:4512169612San Jose, CA 95138Project Manager:Lia Holden

BCL Sample ID:	0911376-01	Client Sampl	e Name:	0746, B-2@12-15,	8/27/2009 4:	40:00AM							
						Prep	Run		Instru-		QC	МВ	Lab
Constituent		Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Gasoline Range Orga	anics (C4 - C12)	3200	ug/L	500	Luft	08/31/09	09/01/09 10:57	jjh	GC-V4	10	BSH2003	ND	A01
a,a,a-Trifluorotoluene	(FID Surrogate)	102	%	70 - 130 (LCL - UCL)	Luft	08/31/09	09/01/09 10:57	jjh	GC-V4	10	BSH2003		

312 Piercy RdProject Number:4512169612San Jose, CA 95138Project Manager:Lia Holden

BCL Sample ID:	0911376-02	Client Sample	Name:	0746, B-2@23-25, 8	3/27/2009 4:	55:00AM							
		-				Prep	Run		Instru-		QC	MB	Lab
Constituent		Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Benzene		39	ug/L	0.50	EPA-8260	08/31/09	08/31/09 15:53	KEA	MS-V12	1	BSH1914	ND	
1,2-Dibromoethane		ND	ug/L	0.50	EPA-8260	08/31/09	08/31/09 15:53	KEA	MS-V12	1	BSH1914	ND	
1,2-Dichloroethane		ND	ug/L	0.50	EPA-8260	08/31/09	08/31/09 15:53	KEA	MS-V12	1	BSH1914	ND	
Ethylbenzene		83	ug/L	0.50	EPA-8260	08/31/09	08/31/09 15:53	KEA	MS-V12	1	BSH1914	ND	
Methyl t-butyl ether		2.3	ug/L	0.50	EPA-8260	08/31/09	08/31/09 15:53	KEA	MS-V12	1	BSH1914	ND	
Toluene		ND	ug/L	0.50	EPA-8260	08/31/09	08/31/09 15:53	KEA	MS-V12	1	BSH1914	ND	
Total Xylenes		240	ug/L	1.0	EPA-8260	08/31/09	08/31/09 15:53	KEA	MS-V12	1	BSH1914	ND	
t-Amyl Methyl ether		ND	ug/L	0.50	EPA-8260	08/31/09	08/31/09 15:53	KEA	MS-V12	1	BSH1914	ND	
t-Butyl alcohol		ND	ug/L	10	EPA-8260	08/31/09	08/31/09 15:53	KEA	MS-V12	1	BSH1914	ND	
Diisopropyl ether		ND	ug/L	0.50	EPA-8260	08/31/09	08/31/09 15:53	KEA	MS-V12	1	BSH1914	ND	
Ethanol		ND	ug/L	250	EPA-8260	08/31/09	08/31/09 15:53	KEA	MS-V12	1	BSH1914	ND	
Ethyl t-butyl ether		ND	ug/L	0.50	EPA-8260	08/31/09	08/31/09 15:53	KEA	MS-V12	1	BSH1914	ND	
1,2-Dichloroethane-d4 (Su	rrogate)	104	%	76 - 114 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 15:53	KEA	MS-V12	1	BSH1914		
Toluene-d8 (Surrogate)		103	%	88 - 110 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 15:53	KEA	MS-V12	1	BSH1914		
4-Bromofluorobenzene (Si	urrogate)	94.2	%	86 - 115 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 15:53	KEA	MS-V12	1	BSH1914		



Delta Environmental Project: 0746 Reported: 09/15/2009 14:59

312 Piercy RdProject Number:4512169612San Jose, CA 95138Project Manager:Lia Holden

BCL Sample ID:	0911376-02	Client Sampl	e Name:	0746, B-2@23-25,	8/27/2009 4:	55:00AM							
						Prep	Run		Instru-		QC	МВ	Lab
Constituent		Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Gasoline Range Orga	nics (C4 - C12)	770	ug/L	50	Luft	08/31/09	09/01/09 14:07	jjh	GC-V4	1	BSH2003	ND	
a,a,a-Trifluorotoluene	(FID Surrogate)	127	%	70 - 130 (LCL - UCL)	Luft	08/31/09	09/01/09 14:07	jjh	GC-V4	1	BSH2003		

312 Piercy RdProject Number:4512169612San Jose, CA 95138Project Manager:Lia Holden

BCL Sample ID:	0911376-03	Client Sample	Name:	0746, B-2@32-34.5	, 8/27/2009	5:25:00AM							
		•				Prep	Run		Instru-		QC	МВ	Lab
Constituent		Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Benzene		11	ug/L	0.50	EPA-8260	08/31/09	08/31/09 15:35	KEA	MS-V12	1	BSH1914	ND	
1,2-Dibromoethane		ND	ug/L	0.50	EPA-8260	08/31/09	08/31/09 15:35	KEA	MS-V12	1	BSH1914	ND	
1,2-Dichloroethane		ND	ug/L	0.50	EPA-8260	08/31/09	08/31/09 15:35	KEA	MS-V12	1	BSH1914	ND	
Ethylbenzene		11	ug/L	0.50	EPA-8260	08/31/09	08/31/09 15:35	KEA	MS-V12	1	BSH1914	ND	
Methyl t-butyl ether		ND	ug/L	0.50	EPA-8260	08/31/09	08/31/09 15:35	KEA	MS-V12	1	BSH1914	ND	
Toluene		ND	ug/L	0.50	EPA-8260	08/31/09	08/31/09 15:35	KEA	MS-V12	1	BSH1914	ND	
Total Xylenes		22	ug/L	1.0	EPA-8260	08/31/09	08/31/09 15:35	KEA	MS-V12	1	BSH1914	ND	
t-Amyl Methyl ether		ND	ug/L	0.50	EPA-8260	08/31/09	08/31/09 15:35	KEA	MS-V12	1	BSH1914	ND	
t-Butyl alcohol		ND	ug/L	10	EPA-8260	08/31/09	08/31/09 15:35	KEA	MS-V12	1	BSH1914	ND	
Diisopropyl ether		ND	ug/L	0.50	EPA-8260	08/31/09	08/31/09 15:35	KEA	MS-V12	1	BSH1914	ND	
Ethanol		ND	ug/L	250	EPA-8260	08/31/09	08/31/09 15:35	KEA	MS-V12	1	BSH1914	ND	
Ethyl t-butyl ether		ND	ug/L	0.50	EPA-8260	08/31/09	08/31/09 15:35	KEA	MS-V12	1	BSH1914	ND	
1,2-Dichloroethane-d4 (Sur	rogate)	102	%	76 - 114 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 15:35	KEA	MS-V12	1	BSH1914		
Toluene-d8 (Surrogate)		99.4	%	88 - 110 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 15:35	KEA	MS-V12	1	BSH1914		
4-Bromofluorobenzene (Su	rrogate)	97.5	%	86 - 115 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 15:35	KEA	MS-V12	1	BSH1914		



312 Piercy Rd Project Number: 4512169612 San Jose, CA 95138 Project Manager: Lia Holden

BCL Sample ID:	0911376-03	Client Sample	e Name:	0746, B-2@32-34.5	5, 8/27/2009	5:25:00AM							
		•				Prep	Run		Instru-		QC	MB	Lab
Constituent		Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Gasoline Range Orga	nics (C4 - C12)	370	ug/L	50	Luft	08/31/09	08/31/09 11:59	jjh	GC-V4	1	BSH2003	ND	
a,a,a-Trifluorotoluene	(FID Surrogate)	125	%	70 - 130 (LCL - UCL)	Luft	08/31/09	08/31/09 11:59	jjh	GC-V4	1	BSH2003		

312 Piercy RdProject Number:4512169612San Jose, CA 95138Project Manager:Lia Holden

BCL Sample ID:	0911376-04	Client Sample	Name:	0746, B-2@35, 8/27	7/2009 3:51:	MA00							
						Prep	Run		Instru-		QC	MB	Lab
Constituent		Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Benzene		ND	mg/kg	0.050	EPA-8260	08/31/09	09/01/09 15:12	ADC	MS-V2	10	BSH1912	ND	A10,Z1a
1,2-Dibromoethane		ND	mg/kg	0.050	EPA-8260	08/31/09	09/01/09 15:12	ADC	MS-V2	10	BSH1912	ND	A10,Z1a
1,2-Dichloroethane		ND	mg/kg	0.050	EPA-8260	08/31/09	09/01/09 15:12	ADC	MS-V2	10	BSH1912	ND	A10,Z1a
Ethylbenzene		ND	mg/kg	0.050	EPA-8260	08/31/09	09/01/09 15:12	ADC	MS-V2	10	BSH1912	ND	A10,Z1a
Methyl t-butyl ether		ND	mg/kg	0.050	EPA-8260	08/31/09	09/01/09 15:12	ADC	MS-V2	10	BSH1912	ND	A10,Z1a
Toluene		ND	mg/kg	0.050	EPA-8260	08/31/09	09/01/09 15:12	ADC	MS-V2	10	BSH1912	ND	A10,Z1a
Total Xylenes		ND	mg/kg	0.10	EPA-8260	08/31/09	09/01/09 15:12	ADC	MS-V2	10	BSH1912	ND	A10,Z1a
t-Amyl Methyl ether		ND	mg/kg	0.050	EPA-8260	08/31/09	09/01/09 15:12	ADC	MS-V2	10	BSH1912	ND	A10,Z1a
t-Butyl alcohol		ND	mg/kg	0.50	EPA-8260	08/31/09	09/01/09 15:12	ADC	MS-V2	10	BSH1912	ND	A10,Z1a
Diisopropyl ether		ND	mg/kg	0.050	EPA-8260	08/31/09	09/01/09 15:12	ADC	MS-V2	10	BSH1912	ND	A10,Z1a
Ethanol		ND	mg/kg	10	EPA-8260	08/31/09	09/01/09 15:12	ADC	MS-V2	10	BSH1912	ND	A10,Z1a
Ethyl t-butyl ether		ND	mg/kg	0.050	EPA-8260	08/31/09	09/01/09 15:12	ADC	MS-V2	10	BSH1912	ND	A10,Z1a
1,2-Dichloroethane-d4 (Sur	rogate)	93.4	%	70 - 121 (LCL - UCL)	EPA-8260	08/31/09	09/01/09 15:12	ADC	MS-V2	10	BSH1912		
Toluene-d8 (Surrogate)		96.3	%	81 - 117 (LCL - UCL)	EPA-8260	08/31/09	09/01/09 15:12	ADC	MS-V2	10	BSH1912		
4-Bromofluorobenzene (Su	rrogate)	101	%	74 - 121 (LCL - UCL)	EPA-8260	08/31/09	09/01/09 15:12	ADC	MS-V2	10	BSH1912		



312 Piercy RdProject Number:4512169612San Jose, CA 95138Project Manager:Lia Holden

BCL Sample ID:	0911376-04	Client Sampl	e Name:	0746, B-2@35, 8/27	7/2009 3:51:0	MA00							
		-				Prep	Run		Instru-		QC	MB	Lab
Constituent		Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Gasoline Range Orga	nics (C4 - C12)	ND	mg/kg	1.0	Luft	08/31/09	09/01/09 08:50	JJH	GC-V8	1	BSH1727	ND	
a,a,a-Trifluorotoluene	(FID Surrogate)	86.5	%	70 - 130 (LCL - UCL)	Luft	08/31/09	09/01/09 08:50	JJH	GC-V8	1	BSH1727		

312 Piercy RdProject Number:4512169612San Jose, CA 95138Project Manager:Lia Holden

BCL Sample ID: 091	1376-05	Client Sample	e Name:	0746, B-2@12, 8/27	7/2009 2:50:0	MA00							
						Prep	Run		Instru-		QC	MB	Lab
Constituent		Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Benzene		0.71	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 16:25	ADC	MS-V2	25	BSH1912	ND	A01
1,2-Dibromoethane		ND	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 16:25	ADC	MS-V2	25	BSH1912	ND	A01
1,2-Dichloroethane		ND	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 16:25	ADC	MS-V2	25	BSH1912	ND	A01
Ethylbenzene		42	mg/kg	0.50	EPA-8260	08/31/09	09/10/09 14:43	ADC	MS-V2	100	BSH1912	ND	A01
Methyl t-butyl ether		ND	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 16:25	ADC	MS-V2	25	BSH1912	ND	A01
Toluene		ND	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 16:25	ADC	MS-V2	25	BSH1912	ND	A01
Total Xylenes		130	mg/kg	2.0	EPA-8260	08/31/09	09/10/09 16:28	ADC	MS-V2	200	BSH1912	ND	A01
t-Amyl Methyl ether		ND	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 16:25	ADC	MS-V2	25	BSH1912	ND	A01
t-Butyl alcohol		ND	mg/kg	1.2	EPA-8260	08/31/09	08/31/09 16:25	ADC	MS-V2	25	BSH1912	ND	A01
Diisopropyl ether		ND	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 16:25	ADC	MS-V2	25	BSH1912	ND	A01
Ethanol		ND	mg/kg	25	EPA-8260	08/31/09	08/31/09 16:25	ADC	MS-V2	25	BSH1912	ND	A01
Ethyl t-butyl ether		ND	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 16:25	ADC	MS-V2	25	BSH1912	ND	A01
1,2-Dichloroethane-d4 (Surroga	ate)	101	%	70 - 121 (LCL - UCL)	EPA-8260	08/31/09	09/10/09 14:43	ADC	MS-V2	100	BSH1912		
1,2-Dichloroethane-d4 (Surroga	ate)	95.4	%	70 - 121 (LCL - UCL)	EPA-8260	08/31/09	09/10/09 16:28	ADC	MS-V2	200	BSH1912		
1,2-Dichloroethane-d4 (Surroga	ate)	102	%	70 - 121 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 16:25	ADC	MS-V2	25	BSH1912		
Toluene-d8 (Surrogate)		98.3	%	81 - 117 (LCL - UCL)	EPA-8260	08/31/09	09/10/09 16:28	ADC	MS-V2	200	BSH1912		
Toluene-d8 (Surrogate)		97.9	%	81 - 117 (LCL - UCL)	EPA-8260	08/31/09	09/10/09 14:43	ADC	MS-V2	100	BSH1912		
Toluene-d8 (Surrogate)		105	%	81 - 117 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 16:25	ADC	MS-V2	25	BSH1912		
4-Bromofluorobenzene (Surrog	ate)	104	%	74 - 121 (LCL - UCL)	EPA-8260	08/31/09	09/10/09 14:43	ADC	MS-V2	100	BSH1912		
4-Bromofluorobenzene (Surrog	ate)	102	%	74 - 121 (LCL - UCL)	EPA-8260	08/31/09	09/10/09 16:28	ADC	MS-V2	200	BSH1912		
4-Bromofluorobenzene (Surrog	ate)	111	%	74 - 121 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 16:25	ADC	MS-V2	25	BSH1912		



Delta Environmental Project: 0746 Reported: 09/15/2009 14:59

312 Piercy RdProject Number:4512169612San Jose, CA 95138Project Manager:Lia Holden

BCL Sample ID:	0911376-05	Client Sample	Name:	0746, B-2@12, 8/27	7/2009 2:50:0	MA00							
						Prep	Run		Instru-		QC	MB	Lab
Constituent		Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Gasoline Range Organi	ics (C4 - C12)	760	mg/kg	100	Luft	08/31/09	08/31/09 10:33	JJH	GC-V8	100	BSH1727	ND	A01
a,a,a-Trifluorotoluene (F	ID Surrogate)	92.8	%	70 - 130 (LCL - UCL)	Luft	08/31/09	08/31/09 10:33	JJH	GC-V8	100	BSH1727		

312 Piercy RdProject Number:4512169612San Jose, CA 95138Project Manager:Lia Holden

BCL Sample ID:	0911376-06	Client Sample	Name:	0746, B-2@10, 8/27	/2009 2:42:0	DOAM							
		•				Prep	Run		Instru-		QC	MB	Lab
Constituent		Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Benzene		1.9	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 16:51	ADC	MS-V2	25	BSH1912	ND	A01
1,2-Dibromoethane		ND	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 16:51	ADC	MS-V2	25	BSH1912	ND	A01
1,2-Dichloroethane		ND	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 16:51	ADC	MS-V2	25	BSH1912	ND	A01
Ethylbenzene		10	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 16:51	ADC	MS-V2	25	BSH1912	ND	A01
Methyl t-butyl ether		ND	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 16:51	ADC	MS-V2	25	BSH1912	ND	A01
Toluene		ND	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 16:51	ADC	MS-V2	25	BSH1912	ND	A01
Total Xylenes		24	mg/kg	0.25	EPA-8260	08/31/09	08/31/09 16:51	ADC	MS-V2	25	BSH1912	ND	A01
t-Amyl Methyl ether		ND	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 16:51	ADC	MS-V2	25	BSH1912	ND	A01
t-Butyl alcohol		ND	mg/kg	1.2	EPA-8260	08/31/09	08/31/09 16:51	ADC	MS-V2	25	BSH1912	ND	A01
Diisopropyl ether		ND	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 16:51	ADC	MS-V2	25	BSH1912	ND	A01
Ethanol		ND	mg/kg	25	EPA-8260	08/31/09	08/31/09 16:51	ADC	MS-V2	25	BSH1912	ND	A01
Ethyl t-butyl ether		ND	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 16:51	ADC	MS-V2	25	BSH1912	ND	A01
1,2-Dichloroethane-d4 (Sui	rrogate)	95.3	%	70 - 121 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 16:51	ADC	MS-V2	25	BSH1912		
Toluene-d8 (Surrogate)		100	%	81 - 117 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 16:51	ADC	MS-V2	25	BSH1912		
4-Bromofluorobenzene (Su	ırrogate)	106	%	74 - 121 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 16:51	ADC	MS-V2	25	BSH1912		



Delta Environmental Project: 0746

312 Piercy Rd Project Number: 4512169612 San Jose, CA 95138 Project Manager: Lia Holden

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID:	0911376-06	Client Sample	Name:	0746, B-2@10, 8/27	7/2009 2:42:0	MA00							
						Prep	Run		Instru-		QC	MB	Lab
Constituent		Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Gasoline Range Organ	ics (C4 - C12)	250	mg/kg	100	Luft	08/31/09	08/31/09 11:03	JJH	GC-V8	100	BSH1727	ND	A01
a,a,a-Trifluorotoluene (F	FID Surrogate)	97.8	%	70 - 130 (LCL - UCL)	Luft	08/31/09	08/31/09 11:03	JJH	GC-V8	100	BSH1727		

Reported: 09/15/2009 14:59



312 Piercy RdProject Number:4512169612San Jose, CA 95138Project Manager:Lia Holden

Total Concentrations (TTLC)

BCL Sample ID:	0911376-06	Client Sample	e Name:	0746, B-2@1	0, 8/27/2009 2:42:0	0AM							
						Prep	Run		Instru-		QC	MB	Lab
Constituent		Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Lead		11	mg/kg	2.5	EPA-6010	09/01/09	09/02/09 09:41	ARD	PE-OP1	0.962	BSI0038	ND	
					В								

312 Piercy RdProject Number:4512169612San Jose, CA 95138Project Manager:Lia Holden

BCL Sample ID:	0911376-07	Client Sample	Name:	0746, B-2@13, 8/27	7/2009 2:55:0	MA00							
						Prep	Run		Instru-		QC	MB	Lab
Constituent		Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Benzene		0.22	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 17:17	ADC	MS-V2	25	BSH1912	ND	A01
1,2-Dibromoethane		ND	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 17:17	ADC	MS-V2	25	BSH1912	ND	A01
1,2-Dichloroethane		ND	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 17:17	ADC	MS-V2	25	BSH1912	ND	A01
Ethylbenzene		6.3	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 17:17	ADC	MS-V2	25	BSH1912	ND	A01
Methyl t-butyl ether		ND	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 17:17	ADC	MS-V2	25	BSH1912	ND	A01
Toluene		ND	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 17:17	ADC	MS-V2	25	BSH1912	ND	A01
Total Xylenes		12	mg/kg	0.25	EPA-8260	08/31/09	08/31/09 17:17	ADC	MS-V2	25	BSH1912	ND	A01
t-Amyl Methyl ether		ND	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 17:17	ADC	MS-V2	25	BSH1912	ND	A01
t-Butyl alcohol		ND	mg/kg	1.2	EPA-8260	08/31/09	08/31/09 17:17	ADC	MS-V2	25	BSH1912	ND	A01
Diisopropyl ether		ND	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 17:17	ADC	MS-V2	25	BSH1912	ND	A01
Ethanol		ND	mg/kg	25	EPA-8260	08/31/09	08/31/09 17:17	ADC	MS-V2	25	BSH1912	ND	A01
Ethyl t-butyl ether		ND	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 17:17	ADC	MS-V2	25	BSH1912	ND	A01
1,2-Dichloroethane-d4 (Sur	rogate)	109	%	70 - 121 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 17:17	ADC	MS-V2	25	BSH1912		
Toluene-d8 (Surrogate)		106	%	81 - 117 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 17:17	ADC	MS-V2	25	BSH1912		
4-Bromofluorobenzene (Su	rrogate)	118	%	74 - 121 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 17:17	ADC	MS-V2	25	BSH1912		



312 Piercy RdProject Number:4512169612San Jose, CA 95138Project Manager:Lia Holden

BCL Sample ID:	0911376-07	Client Sampl	e Name:	0746, B-2@13, 8/27	7/2009 2:55:0	00AM							
	uent Result Units PQL				Prep	Run		Instru-		QC	МВ	Lab	
Constituent		Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Gasoline Range Orga	nics (C4 - C12)	790	mg/kg	100	Luft	08/31/09	08/31/09 11:34	JJH	GC-V8	100	BSH1727	ND	A01
a,a,a-Trifluorotoluene	(FID Surrogate)	111	%	70 - 130 (LCL - UCL)	Luft	08/31/09	08/31/09 11:34	JJH	GC-V8	100	BSH1727		

312 Piercy RdProject Number:4512169612San Jose, CA 95138Project Manager:Lia Holden

BCL Sample ID:	0911376-08	Client Sample	Name:	0746, B-2@6, 8/27/2	2009 2:27:00	DAM							
		•				Prep	Run		Instru-		QC	МВ	Lab
Constituent		Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Benzene		ND	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 13:49	ADC	MS-V2	1	BSH1912	ND	
1,2-Dibromoethane		ND	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 13:49	ADC	MS-V2	1	BSH1912	ND	
1,2-Dichloroethane		ND	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 13:49	ADC	MS-V2	1	BSH1912	ND	
Ethylbenzene		0.0093	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 13:49	ADC	MS-V2	1	BSH1912	ND	
Methyl t-butyl ether		0.0085	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 13:49	ADC	MS-V2	1	BSH1912	ND	
Toluene		ND	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 13:49	ADC	MS-V2	1	BSH1912	ND	
Total Xylenes		0.015	mg/kg	0.010	EPA-8260	08/31/09	08/31/09 13:49	ADC	MS-V2	1	BSH1912	ND	
t-Amyl Methyl ether		ND	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 13:49	ADC	MS-V2	1	BSH1912	ND	
t-Butyl alcohol		ND	mg/kg	0.050	EPA-8260	08/31/09	08/31/09 13:49	ADC	MS-V2	1	BSH1912	ND	
Diisopropyl ether		ND	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 13:49	ADC	MS-V2	1	BSH1912	ND	
Ethanol		ND	mg/kg	1.0	EPA-8260	08/31/09	08/31/09 13:49	ADC	MS-V2	1	BSH1912	ND	
Ethyl t-butyl ether		ND	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 13:49	ADC	MS-V2	1	BSH1912	ND	
1,2-Dichloroethane-d4 (Su	ırrogate)	102	%	70 - 121 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 13:49	ADC	MS-V2	1	BSH1912		
Toluene-d8 (Surrogate)		101	%	81 - 117 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 13:49	ADC	MS-V2	1	BSH1912		
4-Bromofluorobenzene (S	urrogate)	100	%	74 - 121 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 13:49	ADC	MS-V2	1	BSH1912		



312 Piercy RdProject Number:4512169612San Jose, CA 95138Project Manager:Lia Holden

BCL Sample ID:	0911376-08	Client Sample	Name:	0746, B-2@6, 8/27/	2009 2:27:00	DAM							
						Prep	Run		Instru-		QC	MB	Lab
Constituent		Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Gasoline Range Organi	cs (C4 - C12)	6.6	mg/kg	1.0	Luft	08/31/09	09/01/09 09:51	JJH	GC-V8	1	BSH1727	ND	
a,a,a-Trifluorotoluene (F	ID Surrogate)	93.0	%	70 - 130 (LCL - UCL)	Luft	08/31/09	09/01/09 09:51	JJH	GC-V8	1	BSH1727		

312 Piercy RdProject Number:4512169612San Jose, CA 95138Project Manager:Lia Holden

BCL Sample ID:	0911376-16	Client Sample	Name:	0746, B-1@12.5-15	.5, 8/27/2009	10:35:00AI	М						
						Prep	Run		Instru-		QC	МВ	Lab
Constituent		Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Benzene		ND	ug/L	0.50	EPA-8260	08/31/09	08/31/09 14:39	KEA	MS-V12	1	BSH1914	ND	
1,2-Dibromoethane		ND	ug/L	0.50	EPA-8260	08/31/09	08/31/09 14:39	KEA	MS-V12	1	BSH1914	ND	
1,2-Dichloroethane		ND	ug/L	0.50	EPA-8260	08/31/09	08/31/09 14:39	KEA	MS-V12	1	BSH1914	ND	
Ethylbenzene		ND	ug/L	0.50	EPA-8260	08/31/09	08/31/09 14:39	KEA	MS-V12	1	BSH1914	ND	
Methyl t-butyl ether		9.2	ug/L	0.50	EPA-8260	08/31/09	08/31/09 14:39	KEA	MS-V12	1	BSH1914	ND	
Toluene		ND	ug/L	0.50	EPA-8260	08/31/09	08/31/09 14:39	KEA	MS-V12	1	BSH1914	ND	
Total Xylenes		ND	ug/L	1.0	EPA-8260	08/31/09	08/31/09 14:39	KEA	MS-V12	1	BSH1914	ND	
t-Amyl Methyl ether		ND	ug/L	0.50	EPA-8260	08/31/09	08/31/09 14:39	KEA	MS-V12	1	BSH1914	ND	
t-Butyl alcohol		47	ug/L	10	EPA-8260	08/31/09	08/31/09 14:39	KEA	MS-V12	1	BSH1914	ND	
Diisopropyl ether		ND	ug/L	0.50	EPA-8260	08/31/09	08/31/09 14:39	KEA	MS-V12	1	BSH1914	ND	
Ethanol		ND	ug/L	250	EPA-8260	08/31/09	08/31/09 14:39	KEA	MS-V12	1	BSH1914	ND	
Ethyl t-butyl ether		ND	ug/L	0.50	EPA-8260	08/31/09	08/31/09 14:39	KEA	MS-V12	1	BSH1914	ND	
1,2-Dichloroethane-d4 (Su	ırrogate)	102	%	76 - 114 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 14:39	KEA	MS-V12	1	BSH1914		
Toluene-d8 (Surrogate)		101	%	88 - 110 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 14:39	KEA	MS-V12	1	BSH1914		
4-Bromofluorobenzene (Si	urrogate)	105	%	86 - 115 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 14:39	KEA	MS-V12	1	BSH1914		



312 Piercy RdProject Number:4512169612San Jose, CA 95138Project Manager:Lia Holden

BCL Sample ID:	0911376-16	Client Sample Name:		0746, B-1@12.5-15	.5, 8/27/2009	10:35:00AI	М						
						Prep	Run		Instru-		QC	MB	Lab
Constituent		Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Gasoline Range Organ	nics (C4 - C12)	1700	ug/L	50	Luft	08/31/09	09/01/09 10:33	jjh	GC-V4	1	BSH2003	ND	
a,a,a-Trifluorotoluene (l	FID Surrogate)	104	%	70 - 130 (LCL - UCL)	Luft	08/31/09	09/01/09 10:33	jjh	GC-V4	1	BSH2003		

312 Piercy RdProject Number:4512169612San Jose, CA 95138Project Manager:Lia Holden

BCL Sample ID:	0911376-17	Client Sample Name:		0746, B-1@22-24, 8/27/2009 10:50:00AM									
						Prep	Run		Instru-		QC	МВ	Lab
Constituent		Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Benzene		ND	ug/L	1.0	EPA-8260	08/31/09	08/31/09 16:11	KEA	MS-V12	2	BSH1914	ND	A01,Z1
1,2-Dibromoethane		ND	ug/L	1.0	EPA-8260	08/31/09	08/31/09 16:11	KEA	MS-V12	2	BSH1914	ND	A01,Z1
1,2-Dichloroethane		ND	ug/L	1.0	EPA-8260	08/31/09	08/31/09 16:11	KEA	MS-V12	2	BSH1914	ND	A01,Z1
Ethylbenzene		ND	ug/L	1.0	EPA-8260	08/31/09	08/31/09 16:11	KEA	MS-V12	2	BSH1914	ND	A01,Z1
Methyl t-butyl ether		1.0	ug/L	1.0	EPA-8260	08/31/09	08/31/09 16:11	KEA	MS-V12	2	BSH1914	ND	A01,Z1
Toluene		ND	ug/L	1.0	EPA-8260	08/31/09	08/31/09 16:11	KEA	MS-V12	2	BSH1914	ND	A01,Z1
Total Xylenes		ND	ug/L	2.0	EPA-8260	08/31/09	08/31/09 16:11	KEA	MS-V12	2	BSH1914	ND	A01,Z1
t-Amyl Methyl ether		ND	ug/L	1.0	EPA-8260	08/31/09	08/31/09 16:11	KEA	MS-V12	2	BSH1914	ND	A01,Z1
t-Butyl alcohol		ND	ug/L	20	EPA-8260	08/31/09	08/31/09 16:11	KEA	MS-V12	2	BSH1914	ND	A01,Z1
Diisopropyl ether		ND	ug/L	1.0	EPA-8260	08/31/09	08/31/09 16:11	KEA	MS-V12	2	BSH1914	ND	A01,Z1
Ethanol		ND	ug/L	500	EPA-8260	08/31/09	08/31/09 16:11	KEA	MS-V12	2	BSH1914	ND	A01,Z1
Ethyl t-butyl ether		ND	ug/L	1.0	EPA-8260	08/31/09	08/31/09 16:11	KEA	MS-V12	2	BSH1914	ND	A01,Z1
1,2-Dichloroethane-d4 (Su	urrogate)	99.4	%	76 - 114 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 16:11	KEA	MS-V12	2	BSH1914		
Toluene-d8 (Surrogate)		93.1	%	88 - 110 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 16:11	KEA	MS-V12	2	BSH1914		
4-Bromofluorobenzene (S	urrogate)	121	%	86 - 115 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 16:11	KEA	MS-V12	2	BSH1914		A19,S09



312 Piercy RdProject Number:4512169612San Jose, CA 95138Project Manager:Lia Holden

BCL Sample ID:	0911376-17	Client Sample	e Name:	0746, B-1@22-24, 8	0746, B-1@22-24, 8/27/2009 10:50:00AM								
						Prep	Run		Instru-		QC	MB	Lab
Constituent		Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Gasoline Range Orga	nics (C4 - C12)	1100	ug/L	50	Luft	08/31/09	08/31/09 18:24	jjh	GC-V4	1	BSH2003	ND	
a,a,a-Trifluorotoluene	(FID Surrogate)	98.6	%	70 - 130 (LCL - UCL)	Luft	08/31/09	08/31/09 18:00	jjh	GC-V4	1	BSH2003		

312 Piercy RdProject Number:4512169612San Jose, CA 95138Project Manager:Lia Holden

BCL Sample ID:	0911376-18	Client Sample Name:		0746, B-1@33-35, 8/27/2009 11:10:00AM									
	-		_			Prep	Run		Instru-		QC	MB	Lab
Constituent		Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Benzene		ND	ug/L	0.50	EPA-8260	08/31/09	08/31/09 14:02	KEA	MS-V12	1	BSH1914	ND	
1,2-Dibromoethane		ND	ug/L	0.50	EPA-8260	08/31/09	08/31/09 14:02	KEA	MS-V12	1	BSH1914	ND	
1,2-Dichloroethane		ND	ug/L	0.50	EPA-8260	08/31/09	08/31/09 14:02	KEA	MS-V12	1	BSH1914	ND	
Ethylbenzene		ND	ug/L	0.50	EPA-8260	08/31/09	08/31/09 14:02	KEA	MS-V12	1	BSH1914	ND	
Methyl t-butyl ether		ND	ug/L	0.50	EPA-8260	08/31/09	08/31/09 14:02	KEA	MS-V12	1	BSH1914	ND	
Toluene		ND	ug/L	0.50	EPA-8260	08/31/09	08/31/09 14:02	KEA	MS-V12	1	BSH1914	ND	
Total Xylenes		ND	ug/L	1.0	EPA-8260	08/31/09	08/31/09 14:02	KEA	MS-V12	1	BSH1914	ND	
t-Amyl Methyl ether		ND	ug/L	0.50	EPA-8260	08/31/09	08/31/09 14:02	KEA	MS-V12	1	BSH1914	ND	
t-Butyl alcohol		ND	ug/L	10	EPA-8260	08/31/09	08/31/09 14:02	KEA	MS-V12	1	BSH1914	ND	
Diisopropyl ether		ND	ug/L	0.50	EPA-8260	08/31/09	08/31/09 14:02	KEA	MS-V12	1	BSH1914	ND	
Ethanol		ND	ug/L	250	EPA-8260	08/31/09	08/31/09 14:02	KEA	MS-V12	1	BSH1914	ND	
Ethyl t-butyl ether		ND	ug/L	0.50	EPA-8260	08/31/09	08/31/09 14:02	KEA	MS-V12	1	BSH1914	ND	
1,2-Dichloroethane-d4 (Sur	rrogate)	104	%	76 - 114 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 14:02	KEA	MS-V12	1	BSH1914		
Toluene-d8 (Surrogate)		97.3	%	88 - 110 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 14:02	KEA	MS-V12	1	BSH1914		
4-Bromofluorobenzene (Su	rrogate)	103	%	86 - 115 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 14:02	KEA	MS-V12	1	BSH1914		



312 Piercy RdProject Number:4512169612San Jose, CA 95138Project Manager:Lia Holden

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID:	0911376-18	Client Sampl	e Name:	0746, B-1@33-35,	8/27/2009 11	:10:00AM							
						Prep	Run		Instru-		QC	MB	Lab
Constituent		Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Gasoline Range Orga	nics (C4 - C12)	ND	ug/L	50	Luft	08/31/09	09/01/09 09:45	jjh	GC-V4	1	BSH2003	ND	
a,a,a-Trifluorotoluene	(FID Surrogate)	95.0	%	70 - 130 (LCL - UCL)	Luft	08/31/09	09/01/09 09:45	jjh	GC-V4	1	BSH2003		

312 Piercy RdProject Number:4512169612San Jose, CA 95138Project Manager:Lia Holden

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID:	0911376-19	Client Sample	Name:	0746, B-1@6, 8/27/2	2009 8:45:00	DAM							
						Prep	Run		Instru-		QC	МВ	Lab
Constituent		Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Benzene		ND	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 14:15	ADC	MS-V2	1	BSH1912	ND	
1,2-Dibromoethane		ND	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 14:15	ADC	MS-V2	1	BSH1912	ND	
1,2-Dichloroethane		ND	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 14:15	ADC	MS-V2	1	BSH1912	ND	
Ethylbenzene		ND	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 14:15	ADC	MS-V2	1	BSH1912	ND	
Methyl t-butyl ether		0.0055	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 14:15	ADC	MS-V2	1	BSH1912	ND	
Toluene		ND	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 14:15	ADC	MS-V2	1	BSH1912	ND	
Total Xylenes		ND	mg/kg	0.010	EPA-8260	08/31/09	08/31/09 14:15	ADC	MS-V2	1	BSH1912	ND	
t-Amyl Methyl ether		ND	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 14:15	ADC	MS-V2	1	BSH1912	ND	
t-Butyl alcohol		ND	mg/kg	0.050	EPA-8260	08/31/09	08/31/09 14:15	ADC	MS-V2	1	BSH1912	ND	
Diisopropyl ether		ND	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 14:15	ADC	MS-V2	1	BSH1912	ND	
Ethanol		ND	mg/kg	1.0	EPA-8260	08/31/09	08/31/09 14:15	ADC	MS-V2	1	BSH1912	ND	
Ethyl t-butyl ether		ND	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 14:15	ADC	MS-V2	1	BSH1912	ND	
1,2-Dichloroethane-d4 (Su	ırrogate)	97.0	%	70 - 121 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 14:15	ADC	MS-V2	1	BSH1912		
Toluene-d8 (Surrogate)		97.3	%	81 - 117 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 14:15	ADC	MS-V2	1	BSH1912		
4-Bromofluorobenzene (Si	urrogate)	102	%	74 - 121 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 14:15	ADC	MS-V2	1	BSH1912		



312 Piercy RdProject Number:4512169612San Jose, CA 95138Project Manager:Lia Holden

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID:	0911376-19	Client Sample	e Name:	0746, B-1@6, 8/27/	2009 8:45:0	0AM							
						Prep	Run		Instru-		QC	MB	Lab
Constituent		Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Gasoline Range Orga	nics (C4 - C12)	1.3	mg/kg	1.0	Luft	08/31/09	08/31/09 12:35	JJH	GC-V8	1	BSH1727	ND	
a,a,a-Trifluorotoluene	(FID Surrogate)	98.5	%	70 - 130 (LCL - UCL)	Luft	08/31/09	08/31/09 12:35	JJH	GC-V8	1	BSH1727		

312 Piercy RdProject Number:4512169612San Jose, CA 95138Project Manager:Lia Holden

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID:	0911376-23	Client Sample	Name:	0746, B-1@10, 8/27	/2009 9:00:0	00AM							
		•				Prep	Run		Instru-		QC	MB	Lab
Constituent		Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Benzene		ND	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 17:43	ADC	MS-V2	25	BSH1912	ND	A01
1,2-Dibromoethane		ND	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 17:43	ADC	MS-V2	25	BSH1912	ND	A01
1,2-Dichloroethane		ND	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 17:43	ADC	MS-V2	25	BSH1912	ND	A01
Ethylbenzene		ND	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 17:43	ADC	MS-V2	25	BSH1912	ND	A01
Methyl t-butyl ether		ND	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 17:43	ADC	MS-V2	25	BSH1912	ND	A01
Toluene		ND	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 17:43	ADC	MS-V2	25	BSH1912	ND	A01
Total Xylenes		ND	mg/kg	0.25	EPA-8260	08/31/09	08/31/09 17:43	ADC	MS-V2	25	BSH1912	ND	A01
t-Amyl Methyl ether		ND	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 17:43	ADC	MS-V2	25	BSH1912	ND	A01
t-Butyl alcohol		ND	mg/kg	1.2	EPA-8260	08/31/09	08/31/09 17:43	ADC	MS-V2	25	BSH1912	ND	A01
Diisopropyl ether		ND	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 17:43	ADC	MS-V2	25	BSH1912	ND	A01
Ethanol		ND	mg/kg	25	EPA-8260	08/31/09	08/31/09 17:43	ADC	MS-V2	25	BSH1912	ND	A01
Ethyl t-butyl ether		ND	mg/kg	0.12	EPA-8260	08/31/09	08/31/09 17:43	ADC	MS-V2	25	BSH1912	ND	A01
1,2-Dichloroethane-d4 (Su	rrogate)	95.6	%	70 - 121 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 17:43	ADC	MS-V2	25	BSH1912		
Toluene-d8 (Surrogate)		98.3	%	81 - 117 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 17:43	ADC	MS-V2	25	BSH1912		
4-Bromofluorobenzene (Su	ırrogate)	106	%	74 - 121 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 17:43	ADC	MS-V2	25	BSH1912		



312 Piercy RdProject Number:4512169612San Jose, CA 95138Project Manager:Lia Holden

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID:	0911376-23	Client Sampl	e Name:	0746, B-1@10, 8/2	7/2009 9:00:0	00AM							
						Prep	Run		Instru-		QC	MB	Lab
Constituent		Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Gasoline Range Orga	nics (C4 - C12)	120	mg/kg	100	Luft	08/31/09	08/31/09 13:36	JJH	GC-V8	100	BSI0118	ND	A01
a,a,a-Trifluorotoluene	(FID Surrogate)	101	%	70 - 130 (LCL - UCL)	Luft	08/31/09	08/31/09 13:36	JJH	GC-V8	100	BSI0118		

312 Piercy RdProject Number:4512169612San Jose, CA 95138Project Manager:Lia Holden

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID:	0911376-26	Client Sample	Name:	0746, B-1@13, 8/27	/2009 9:10:0	00AM							
						Prep	Run		Instru-		QC	MB	Lab
Constituent		Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Benzene		ND	mg/kg	0.0050	EPA-8260	08/31/09	09/01/09 07:35	ADC	MS-V2	1	BSH1912	ND	
1,2-Dibromoethane		ND	mg/kg	0.0050	EPA-8260	08/31/09	09/01/09 07:35	ADC	MS-V2	1	BSH1912	ND	
1,2-Dichloroethane		ND	mg/kg	0.0050	EPA-8260	08/31/09	09/01/09 07:35	ADC	MS-V2	1	BSH1912	ND	
Ethylbenzene		ND	mg/kg	0.0050	EPA-8260	08/31/09	09/01/09 07:35	ADC	MS-V2	1	BSH1912	ND	
Methyl t-butyl ether		ND	mg/kg	0.0050	EPA-8260	08/31/09	09/01/09 07:35	ADC	MS-V2	1	BSH1912	ND	
Toluene		ND	mg/kg	0.0050	EPA-8260	08/31/09	09/01/09 07:35	ADC	MS-V2	1	BSH1912	ND	
Total Xylenes		ND	mg/kg	0.010	EPA-8260	08/31/09	09/01/09 07:35	ADC	MS-V2	1	BSH1912	ND	
t-Amyl Methyl ether		ND	mg/kg	0.0050	EPA-8260	08/31/09	09/01/09 07:35	ADC	MS-V2	1	BSH1912	ND	
t-Butyl alcohol		ND	mg/kg	0.050	EPA-8260	08/31/09	09/01/09 07:35	ADC	MS-V2	1	BSH1912	ND	
Diisopropyl ether		ND	mg/kg	0.0050	EPA-8260	08/31/09	09/01/09 07:35	ADC	MS-V2	1	BSH1912	ND	
Ethanol		ND	mg/kg	1.0	EPA-8260	08/31/09	09/01/09 07:35	ADC	MS-V2	1	BSH1912	ND	
Ethyl t-butyl ether		ND	mg/kg	0.0050	EPA-8260	08/31/09	09/01/09 07:35	ADC	MS-V2	1	BSH1912	ND	
1,2-Dichloroethane-d4 (Su	rrogate)	92.7	%	70 - 121 (LCL - UCL)	EPA-8260	08/31/09	09/01/09 07:35	ADC	MS-V2	1	BSH1912		
Toluene-d8 (Surrogate)		95.6	%	81 - 117 (LCL - UCL)	EPA-8260	08/31/09	09/01/09 07:35	ADC	MS-V2	1	BSH1912		
4-Bromofluorobenzene (Su	urrogate)	104	%	74 - 121 (LCL - UCL)	EPA-8260	08/31/09	09/01/09 07:35	ADC	MS-V2	1	BSH1912		



312 Piercy RdProject Number:4512169612San Jose, CA 95138Project Manager:Lia Holden

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID:	0911376-26	Client Sample	Name:	0746, B-1@13, 8/27	7/2009 9:10:0	MA00							
						Prep	Run		Instru-		QC	MB	Lab
Constituent		Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Gasoline Range Organi	ics (C4 - C12)	110	mg/kg	25	Luft	09/01/09	09/01/09 11:39	JJH	GC-V8	25	BSI0118	ND	A01
a,a,a-Trifluorotoluene (F	FID Surrogate)	92.8	%	70 - 130 (LCL - UCL)	Luft	09/01/09	09/01/09 11:39	JJH	GC-V8	25	BSI0118		

312 Piercy RdProject Number:4512169612San Jose, CA 95138Project Manager:Lia Holden

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID:	0911376-27	Client Sample	Name:	0746, B-1@14, 8/27	7/2009 9:11:0	MA00							
		-				Prep	Run		Instru-		QC	MB	Lab
Constituent		Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Benzene		ND	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 15:33	ADC	MS-V2	1	BSH1837	ND	
1,2-Dibromoethane		ND	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 15:33	ADC	MS-V2	1	BSH1837	ND	
1,2-Dichloroethane		ND	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 15:33	ADC	MS-V2	1	BSH1837	ND	
Ethylbenzene		ND	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 15:33	ADC	MS-V2	1	BSH1837	ND	
Methyl t-butyl ether		ND	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 15:33	ADC	MS-V2	1	BSH1837	ND	
Toluene		ND	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 15:33	ADC	MS-V2	1	BSH1837	ND	
Total Xylenes		ND	mg/kg	0.010	EPA-8260	08/31/09	08/31/09 15:33	ADC	MS-V2	1	BSH1837	ND	
t-Amyl Methyl ether		ND	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 15:33	ADC	MS-V2	1	BSH1837	ND	
t-Butyl alcohol		ND	mg/kg	0.050	EPA-8260	08/31/09	08/31/09 15:33	ADC	MS-V2	1	BSH1837	ND	
Diisopropyl ether		ND	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 15:33	ADC	MS-V2	1	BSH1837	ND	
Ethanol		ND	mg/kg	1.0	EPA-8260	08/31/09	08/31/09 15:33	ADC	MS-V2	1	BSH1837	ND	
Ethyl t-butyl ether		ND	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 15:33	ADC	MS-V2	1	BSH1837	ND	
1,2-Dichloroethane-d4 (Sui	rogate)	92.6	%	70 - 121 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 15:33	ADC	MS-V2	1	BSH1837		
Toluene-d8 (Surrogate)		96.8	%	81 - 117 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 15:33	ADC	MS-V2	1	BSH1837		
4-Bromofluorobenzene (Su	rrogate)	116	%	74 - 121 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 15:33	ADC	MS-V2	1	BSH1837		



312 Piercy RdProject Number:4512169612San Jose, CA 95138Project Manager:Lia Holden

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID:	0911376-27	Client Sample	e Name:	0746, B-1@14, 8/27	7/2009 9:11:0	MA00							
						Prep	Run		Instru-		QC	MB	Lab
Constituent		Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Gasoline Range Organ	ics (C4 - C12)	ND	mg/kg	1.0	Luft	09/01/09	09/01/09 10:31	JJH	GC-V8	1	BSI0118	ND	
a,a,a-Trifluorotoluene (l	FID Surrogate)	82.2	%	70 - 130 (LCL - UCL)	Luft	09/01/09	09/01/09 10:31	JJH	GC-V8	1	BSI0118		

312 Piercy RdProject Number:4512169612San Jose, CA 95138Project Manager:Lia Holden

Volatile Organic Analysis (EPA Method 8260)

BCL Sample ID:	0911376-31	Client Sample	Name:	0746, B-1@35, 8/27	7/2009 9:50:0	MA00							
		•				Prep	Run		Instru-		QC	MB	Lab
Constituent		Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Benzene		ND	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 15:59	ADC	MS-V2	1	BSH1837	ND	
1,2-Dibromoethane		ND	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 15:59	ADC	MS-V2	1	BSH1837	ND	
1,2-Dichloroethane		ND	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 15:59	ADC	MS-V2	1	BSH1837	ND	
Ethylbenzene		ND	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 15:59	ADC	MS-V2	1	BSH1837	ND	
Methyl t-butyl ether		ND	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 15:59	ADC	MS-V2	1	BSH1837	ND	
Toluene		ND	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 15:59	ADC	MS-V2	1	BSH1837	ND	
Total Xylenes		ND	mg/kg	0.010	EPA-8260	08/31/09	08/31/09 15:59	ADC	MS-V2	1	BSH1837	ND	
t-Amyl Methyl ether		ND	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 15:59	ADC	MS-V2	1	BSH1837	ND	
t-Butyl alcohol		ND	mg/kg	0.050	EPA-8260	08/31/09	08/31/09 15:59	ADC	MS-V2	1	BSH1837	ND	
Diisopropyl ether		ND	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 15:59	ADC	MS-V2	1	BSH1837	ND	
Ethanol		ND	mg/kg	1.0	EPA-8260	08/31/09	08/31/09 15:59	ADC	MS-V2	1	BSH1837	ND	
Ethyl t-butyl ether		ND	mg/kg	0.0050	EPA-8260	08/31/09	08/31/09 15:59	ADC	MS-V2	1	BSH1837	ND	
1,2-Dichloroethane-d4 (Sur	rrogate)	95.0	%	70 - 121 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 15:59	ADC	MS-V2	1	BSH1837		
Toluene-d8 (Surrogate)		96.9	%	81 - 117 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 15:59	ADC	MS-V2	1	BSH1837		
4-Bromofluorobenzene (Su	ırrogate)	123	%	74 - 121 (LCL - UCL)	EPA-8260	08/31/09	08/31/09 15:59	ADC	MS-V2	1	BSH1837		S09



312 Piercy RdProject Number:4512169612San Jose, CA 95138Project Manager:Lia Holden

Purgeable Aromatics and Total Petroleum Hydrocarbons

BCL Sample ID:	0911376-31	Client Sample	e Name:	0746, B-1@35, 8/27	7/2009 9:50:0	MA00							
						Prep	Run		Instru-		QC	MB	Lab
Constituent		Result	Units	PQL	Method	Date	Date/Time	Analyst	ment ID	Dilution	Batch ID	Bias	Quals
Gasoline Range Orga	nics (C4 - C12)	6.1	mg/kg	1.0	Luft	09/01/09	09/01/09 09:21	JJH	GC-V8	1	BSI0118	ND	
a,a,a-Trifluorotoluene ((FID Surrogate)	83.8	%	70 - 130 (LCL - UCL)	Luft	09/01/09	09/01/09 09:21	JJH	GC-V8	1	BSI0118		

Delta Environmental

Project: 0746

Reported: 09/15/2009 14:59

312 Piercy Rd San Jose, CA 95138 Project Number: 4512169612 Project Manager: Lia Holden

Volatile Organic Analysis (EPA Method 8260)

										Contr	ol Limits
			Source	Source		Spike			Percent		Percent
Constituent	Batch ID	QC Sample Type	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery Lab Quals
Benzene	BSH1837	Matrix Spike	0909743-85	0	0.11400	0.12500	mg/kg		91.2		70 - 130
		Matrix Spike Duplicate	0909743-85	0	0.11874	0.12500	mg/kg	4.1	95.0	20	70 - 130
Toluene	BSH1837	Matrix Spike	0909743-85	0	0.12490	0.12500	mg/kg		99.9		70 - 130
		Matrix Spike Duplicate	0909743-85	0	0.12661	0.12500	mg/kg	1.1	101	20	70 - 130
1,2-Dichloroethane-d4 (Surrogate)	BSH1837	Matrix Spike	0909743-85	ND	0.047920	0.050000	mg/kg		95.8		70 - 121
		Matrix Spike Duplicate	0909743-85	ND	0.047599	0.050000	mg/kg		95.2		70 - 121
Toluene-d8 (Surrogate)	BSH1837	Matrix Spike	0909743-85	ND	0.049096	0.050000	mg/kg		98.2		81 - 117
		Matrix Spike Duplicate	0909743-85	ND	0.047835	0.050000	mg/kg		95.7		81 - 117
4-Bromofluorobenzene (Surrogate)	BSH1837	Matrix Spike	0909743-85	ND	0.050343	0.050000	mg/kg		101		74 - 121
		Matrix Spike Duplicate	0909743-85	ND	0.050916	0.050000	mg/kg		102		74 - 121
Benzene	BSH1912	Matrix Spike	0909743-93	0	0.12544	0.12500	mg/kg		100		70 - 130
		Matrix Spike Duplicate	0909743-93	0	0.12058	0.12500	mg/kg	3.6	96.5	20	70 - 130
Toluene	BSH1912	Matrix Spike	0909743-93	0	0.13294	0.12500	mg/kg		106		70 - 130
		Matrix Spike Duplicate	0909743-93	0	0.12994	0.12500	mg/kg	1.9	104	20	70 - 130
1,2-Dichloroethane-d4 (Surrogate)	BSH1912	Matrix Spike	0909743-93	ND	0.047889	0.050000	mg/kg		95.8		70 - 121
		Matrix Spike Duplicate	0909743-93	ND	0.047955	0.050000	mg/kg		95.9		70 - 121
Toluene-d8 (Surrogate)	BSH1912	Matrix Spike	0909743-93	ND	0.048606	0.050000	mg/kg		97.2		81 - 117
		Matrix Spike Duplicate	0909743-93	ND	0.048372	0.050000	mg/kg		96.7		81 - 117
4-Bromofluorobenzene (Surrogate)	BSH1912	Matrix Spike	0909743-93	ND	0.050181	0.050000	mg/kg		100		74 - 121
		Matrix Spike Duplicate	0909743-93	ND	0.051506	0.050000	mg/kg		103		74 - 121
Benzene	BSH1914	Matrix Spike	0909743-89	0	17.760	25.000	ug/L		71.0		70 - 130
		Matrix Spike Duplicate	0909743-89	0	18.500	25.000	ug/L	4.1	74.0	20	70 - 130
Toluene	BSH1914	Matrix Spike	0909743-89	0	18.830	25.000	ug/L		75.3		70 - 130
		Matrix Spike Duplicate	0909743-89	0	20.190	25.000	ug/L	7.0	80.8	20	70 - 130
1,2-Dichloroethane-d4 (Surrogate)	BSH1914	Matrix Spike	0909743-89	ND	10.180	10.000	ug/L		102		76 - 114
		Matrix Spike Duplicate	0909743-89	ND	9.8400	10.000	ug/L		98.4		76 - 114



312 Piercy RdProject Number:4512169612San Jose, CA 95138Project Manager:Lia Holden

Volatile Organic Analysis (EPA Method 8260)

								Control Limits			ol Limits
			Source	Source		Spike			Percent		Percent
Constituent	Batch ID	QC Sample Type	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery Lab Quals
Toluene-d8 (Surrogate)	BSH1914	Matrix Spike	0909743-89	ND	9.7500	10.000	ug/L		97.5		88 - 110
		Matrix Spike Duplicate	0909743-89	ND	9.9800	10.000	ug/L		99.8		88 - 110
4-Bromofluorobenzene (Surrogate)	BSH1914	Matrix Spike	0909743-89	ND	9.6300	10.000	ug/L		96.3		86 - 115
		Matrix Spike Duplicate	0909743-89	ND	9.9900	10.000	ug/L		99.9		86 - 115

Delta Environmental

Project: 0746

Reported: 09/15/2009 14:59

312 Piercy Rd San Jose, CA 95138 Project Number: 4512169612 Project Manager: Lia Holden

Purgeable Aromatics and Total Petroleum Hydrocarbons

		_	_							Contr	ol Limits
			Source	Source		Spike			Percent		Percent
Constituent	Batch ID	QC Sample Type	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery Lab Quals
Gasoline Range Organics (C4 - C12)	BSH1727	Matrix Spike	0909743-77	0	5.2510	5.0000	mg/kg		105		70 - 130
		Matrix Spike Duplicate	0909743-77	0	5.2796	5.0000	mg/kg	0.9	106	20	70 - 130
a,a,a-Trifluorotoluene (FID Surrogate)	BSH1727	Matrix Spike	0909743-77	ND	0.037300	0.040000	mg/kg		93.2		70 - 130
		Matrix Spike Duplicate	0909743-77	ND	0.039400	0.040000	mg/kg		98.5		70 - 130
Gasoline Range Organics (C4 - C12)	BSH2003	Matrix Spike	0909743-65	0	1109.1	1000.0	ug/L		111		70 - 130
		Matrix Spike Duplicate	0909743-65	0	1062.6	1000.0	ug/L	4.6	106	20	70 - 130
a,a,a-Trifluorotoluene (FID Surrogate)	BSH2003	Matrix Spike	0909743-65	ND	41.413	40.000	ug/L		104		70 - 130
		Matrix Spike Duplicate	0909743-65	ND	39.893	40.000	ug/L		99.7		70 - 130
Gasoline Range Organics (C4 - C12)	BSI0118	Matrix Spike	0909743-81	0	4.9592	5.0000	mg/kg		99.2		70 - 130
		Matrix Spike Duplicate	0909743-81	0	5.1866	5.0000	mg/kg	4.7	104	20	70 - 130
a,a,a-Trifluorotoluene (FID Surrogate)	BSI0118	Matrix Spike	0909743-81	ND	0.043000	0.040000	mg/kg		108		70 - 130
		Matrix Spike Duplicate	0909743-81	ND	0.043300	0.040000	mg/kg		108		70 - 130



Delta Environmental

Project: 0746

Reported: 09/15/2009 14:59

312 Piercy Rd San Jose, CA 95138 Project Number: 4512169612 Project Manager: Lia Holden

Total Concentrations (TTLC)

								Control Limits			ol Limits
			Source	Source		Spike			Percent		Percent
Constituent	Batch ID	QC Sample Type	Sample ID	Result	Result	Added	Units	RPD	Recovery	RPD	Recovery Lab Quals
Lead	BSI0038	Duplicate	0911376-06	10.752	11.947		mg/kg	10.5		20	
		Matrix Spike	0911376-06	10.752	113.97	96.154	mg/kg		107		75 - 125
		Matrix Spike Duplicate	0911376-06	10.752	118.97	96.154	mg/kg	5.5	113	20	75 - 125

312 Piercy RdProject Number:4512169612San Jose, CA 95138Project Manager:Lia Holden

Volatile Organic Analysis (EPA Method 8260)

Quality Control Report - Laboratory Control Sample

				-				-				
						·				Control	Limits	_
					Spike			Percent		Percent		
Constituent	Batch ID	QC Sample ID	QC Type	Result	Level	PQL	Units	Recovery	RPD	Recovery	RPD	Lab Quals
Benzene	BSH1837	BSH1837-BS1	LCS	0.11691	0.12500	0.0050	mg/kg	93.5		70 - 130		
Toluene	BSH1837	BSH1837-BS1	LCS	0.12325	0.12500	0.0050	mg/kg	98.6		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BSH1837	BSH1837-BS1	LCS	0.049667	0.050000		mg/kg	99.3		70 - 121		
Toluene-d8 (Surrogate)	BSH1837	BSH1837-BS1	LCS	0.048511	0.050000		mg/kg	97.0		81 - 117		
4-Bromofluorobenzene (Surrogate)	BSH1837	BSH1837-BS1	LCS	0.051163	0.050000		mg/kg	102		74 - 121		
Benzene	BSH1912	BSH1912-BS1	LCS	0.12086	0.12500	0.0050	mg/kg	96.7		70 - 130		
Toluene	BSH1912	BSH1912-BS1	LCS	0.13277	0.12500	0.0050	mg/kg	106		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BSH1912	BSH1912-BS1	LCS	0.048908	0.050000		mg/kg	97.8		70 - 121		
Toluene-d8 (Surrogate)	BSH1912	BSH1912-BS1	LCS	0.048174	0.050000		mg/kg	96.3		81 - 117		
4-Bromofluorobenzene (Surrogate)	BSH1912	BSH1912-BS1	LCS	0.050004	0.050000		mg/kg	100		74 - 121		
Benzene	BSH1914	BSH1914-BS1	LCS	17.530	25.000	0.50	ug/L	70.1		70 - 130		
Toluene	BSH1914	BSH1914-BS1	LCS	19.080	25.000	0.50	ug/L	76.3		70 - 130		
1,2-Dichloroethane-d4 (Surrogate)	BSH1914	BSH1914-BS1	LCS	10.270	10.000		ug/L	103		76 - 114		
Toluene-d8 (Surrogate)	BSH1914	BSH1914-BS1	LCS	10.100	10.000		ug/L	101		88 - 110		
4-Bromofluorobenzene (Surrogate)	BSH1914	BSH1914-BS1	LCS	9.8500	10.000		ug/L	98.5		86 - 115		

Delta Environmental

Project: 0746

Reported: 09/15/2009 14:59

312 Piercy Rd San Jose, CA 95138 Project Number: 4512169612 Project Manager: Lia Holden

Purgeable Aromatics and Total Petroleum Hydrocarbons

Quality Control Report - Laboratory Control Sample

						Control Limits						
					Spike			Percent		Percent		
Constituent	Batch ID	QC Sample ID	QC Type	Result	Level	PQL	Units	Recovery	RPD	Recovery	RPD	Lab Quals
Gasoline Range Organics (C4 - C12)	BSH1727	BSH1727-BS1	LCS	4.6071	5.0000	1.0	mg/kg	92.1		85 - 115		
a,a,a-Trifluorotoluene (FID Surrogate)	BSH1727	BSH1727-BS1	LCS	0.039000	0.040000		mg/kg	97.5		70 - 130		
Gasoline Range Organics (C4 - C12)	BSH2003	BSH2003-BS1	LCS	1072.2	1000.0	50	ug/L	107		85 - 115		
a,a,a-Trifluorotoluene (FID Surrogate)	BSH2003	BSH2003-BS1	LCS	40.530	40.000		ug/L	101		70 - 130		
Gasoline Range Organics (C4 - C12)	BSI0118	BSI0118-BS1	LCS	4.9990	5.0000	1.0	mg/kg	100		85 - 115		
a,a,a-Trifluorotoluene (FID Surrogate)	BSI0118	BSI0118-BS1	LCS	0.043200	0.040000		mg/kg	108		70 - 130		



Delta Environmental

Project: 0746

Reported: 09/15/2009 14:59

312 Piercy Rd San Jose, CA 95138 Project Number: 4512169612 Project Manager: Lia Holden

Total Concentrations (TTLC)

Quality Control Report - Laboratory Control Sample

							Control Limits					
					Spike			Percent		Percent		
Constituent	Batch ID	QC Sample ID	QC Type	Result	Level	PQL	Units	Recovery	RPD	Recovery	RPD	Lab Quals
Lead	BSI0038	BSI0038-BS1	LCS	112.05	100.00	2.5	mg/kg	112		75 - 125		

 Delta Environmental
 Project: 0746
 Reported: 09/15/2009 14:59

 312 Piercy Rd
 Project Number: 4512169612

312 Piercy Rd Project Number: 4512169612 San Jose, CA 95138 Project Manager: Lia Holden

Volatile Organic Analysis (EPA Method 8260)

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Benzene	BSH1837	BSH1837-BLK1	ND	mg/kg	0.0050		
1,2-Dibromoethane	BSH1837	BSH1837-BLK1	ND	mg/kg	0.0050		
1,2-Dichloroethane	BSH1837	BSH1837-BLK1	ND	mg/kg	0.0050		
Ethylbenzene	BSH1837	BSH1837-BLK1	ND	mg/kg	0.0050		
Methyl t-butyl ether	BSH1837	BSH1837-BLK1	ND	mg/kg	0.0050		
Toluene	BSH1837	BSH1837-BLK1	ND	mg/kg	0.0050		
Total Xylenes	BSH1837	BSH1837-BLK1	ND	mg/kg	0.010		
t-Amyl Methyl ether	BSH1837	BSH1837-BLK1	ND	mg/kg	0.0050		
t-Butyl alcohol	BSH1837	BSH1837-BLK1	ND	mg/kg	0.050		
Diisopropyl ether	BSH1837	BSH1837-BLK1	ND	mg/kg	0.0050		
Ethanol	BSH1837	BSH1837-BLK1	ND	mg/kg	1.0		
Ethyl t-butyl ether	BSH1837	BSH1837-BLK1	ND	mg/kg	0.0050		
1,2-Dichloroethane-d4 (Surrogate)	BSH1837	BSH1837-BLK1	93.6	%	70 - 121	(LCL - UCL)	
Toluene-d8 (Surrogate)	BSH1837	BSH1837-BLK1	96.0	%	81 - 117	(LCL - UCL)	
4-Bromofluorobenzene (Surrogate)	BSH1837	BSH1837-BLK1	100	%	74 - 121	(LCL - UCL)	
Benzene	BSH1912	BSH1912-BLK1	ND	mg/kg	0.0050		
1,2-Dibromoethane	BSH1912	BSH1912-BLK1	ND	mg/kg	0.0050		
1,2-Dichloroethane	BSH1912	BSH1912-BLK1	ND	mg/kg	0.0050		
Ethylbenzene	BSH1912	BSH1912-BLK1	ND	mg/kg	0.0050		
Methyl t-butyl ether	BSH1912	BSH1912-BLK1	ND	mg/kg	0.0050		
Toluene	BSH1912	BSH1912-BLK1	ND	mg/kg	0.0050		
Total Xylenes	BSH1912	BSH1912-BLK1	ND	mg/kg	0.010		
t-Amyl Methyl ether	BSH1912	BSH1912-BLK1	ND	mg/kg	0.0050		
t-Butyl alcohol	BSH1912	BSH1912-BLK1	ND	mg/kg	0.050		

 Delta Environmental
 Project:
 0746
 Reported:
 09/15/2009
 14:59

 312 Piercy Rd
 Project Number:
 4512169612

San Jose, CA 95138 Project Manager: Lia Holden

Volatile Organic Analysis (EPA Method 8260)

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Diisopropyl ether	BSH1912	BSH1912-BLK1	ND	mg/kg	0.0050		
Ethanol	BSH1912	BSH1912-BLK1	ND	mg/kg	1.0		
Ethyl t-butyl ether	BSH1912	BSH1912-BLK1	ND	mg/kg	0.0050		
1,2-Dichloroethane-d4 (Surrogate)	BSH1912	BSH1912-BLK1	95.8	%	70 - 121	(LCL - UCL)	
Toluene-d8 (Surrogate)	BSH1912	BSH1912-BLK1	96.5	%	81 - 117	(LCL - UCL)	
4-Bromofluorobenzene (Surrogate)	BSH1912	BSH1912-BLK1	100	%	74 - 121	(LCL - UCL)	
Benzene	BSH1914	BSH1914-BLK1	ND	ug/L	0.50		
1,2-Dibromoethane	BSH1914	BSH1914-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane	BSH1914	BSH1914-BLK1	ND	ug/L	0.50		
Ethylbenzene	BSH1914	BSH1914-BLK1	ND	ug/L	0.50		
Methyl t-butyl ether	BSH1914	BSH1914-BLK1	ND	ug/L	0.50		
Toluene	BSH1914	BSH1914-BLK1	ND	ug/L	0.50		
Total Xylenes	BSH1914	BSH1914-BLK1	ND	ug/L	1.0		
t-Amyl Methyl ether	BSH1914	BSH1914-BLK1	ND	ug/L	0.50		
t-Butyl alcohol	BSH1914	BSH1914-BLK1	ND	ug/L	10		
Diisopropyl ether	BSH1914	BSH1914-BLK1	ND	ug/L	0.50		
Ethanol	BSH1914	BSH1914-BLK1	ND	ug/L	250		
Ethyl t-butyl ether	BSH1914	BSH1914-BLK1	ND	ug/L	0.50		
1,2-Dichloroethane-d4 (Surrogate)	BSH1914	BSH1914-BLK1	104	%	76 - 114	(LCL - UCL)	
Toluene-d8 (Surrogate)	BSH1914	BSH1914-BLK1	101	%	88 - 110	(LCL - UCL)	
4-Bromofluorobenzene (Surrogate)	BSH1914	BSH1914-BLK1	95.3	%	86 - 115	(LCL - UCL)	

 Delta Environmental
 Project:
 0746
 Reported:
 09/15/2009 14:59

 312 Piercy Rd
 Project Number:
 4512169612

San Jose, CA 95138 Project Number: 4512169612
Project Manager: Lia Holden

Purgeable Aromatics and Total Petroleum Hydrocarbons

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Gasoline Range Organics (C4 - C12)	BSH1727	BSH1727-BLK1	ND	mg/kg	1.0		
a,a,a-Trifluorotoluene (FID Surrogate)	BSH1727	BSH1727-BLK1	88.8	%	70 - 130	(LCL - UCL)	
Gasoline Range Organics (C4 - C12)	BSH2003	BSH2003-BLK1	ND	ug/L	50		
a,a,a-Trifluorotoluene (FID Surrogate)	BSH2003	BSH2003-BLK1	100	%	70 - 130	(LCL - UCL)	
Gasoline Range Organics (C4 - C12)	BSI0118	BSI0118-BLK1	ND	mg/kg	1.0		
a,a,a-Trifluorotoluene (FID Surrogate)	BSI0118	BSI0118-BLK1	104	%	70 - 130	(LCL - UCL)	



Delta Environmental 312 Piercy Rd Project: 0746

Reported: 09/15/2009 14:59

312 Piercy RdProject Number:4512169612San Jose, CA 95138Project Manager:Lia Holden

Total Concentrations (TTLC)

Constituent	Batch ID	QC Sample ID	MB Result	Units	PQL	MDL	Lab Quals
Lead	BSI0038	BSI0038-BLK1	ND	mg/kg	2.5		



312 Piercy Rd Project Number: 4512169612 San Jose, CA 95138 Project Manager: Lia Holden

Notes And Definitions

MDL Method Detection Limit	t
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ND Analyte Not Detected at or above the reporting limit

PQL Practical Quantitation Limit

RPD Relative Percent Difference

A01 PQL's and MDL's are raised due to sample dilution.

A10 PQL's and MDL's were raised due to matrix interference.

A19 Surrogate is high due to matrix interference. Interferences verified through second extraction/analysis.

S09 The surrogate recovery on the sample for this compound was not within the control limits.

Z1 Run at dilution to avoid sample foaming.

Z1a Sample plugged twice at 5.0g.

### Although Althoug	27/09 of <u>4</u>
After: Dee Hutchisson	or <u>'</u>
CRITICATION CRITICATION	tto
Pelic Consultants	to
DIDUTES STREAD ROSES (Server and CHY) STREAD ROSES (Server and CHY) Terry Grays on PIDE Report to): SAMAL SA	Ho
ROUGHT CONTACT (Pleaseage or PDR Report to):	tω
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108-826-1863	tlo
Van Chantikian/Alan Buehler 0746	
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Purchase Order # **BC** Laboratories INVOICE REMITTANCE ADDRESS: 4512169612 CONOCOPHILLIPS Attn: Dee Hutchinson 4100 Atlas Court, Bakersfield, CA ConocoPhillips AOC# 3611 South Harbor, Suite 200 Santa Ana, CA, 92704 (661) 327-4911 (661) 327-1918 fax 01085 GLOBAL ID NO .: SAMPLING COMPANY: Valid Value ID: CONOCOPHILLIPS SITE NUMBER Delta Consultants 0746 T0600101471 ConocoPhillips Manager ADDRESS: SITE ADDRESS (Street and City): 312 Piercy Road, San Jose, CA Terry Grayson 3943 Broadway, Oakland, CA PROJECT CONTACT (Hardcopy or PDF Report to); EDF DELIVERABLE TO (RP or Designee): PHONE NO.: E-MAIL: LAR USE ONLY Lia Holden TELEPHONE: 09-11376 E-MAIL: 408-826-1863 Lia Holden 408-826-1863 408-225-8506 Lholden@deltaenv.com SAMPLER NAME(S) (Print): CONSULTANT PROJECT NUMBER REQUESTED ANALYSES 0746 Evan Chantikian/Alan Buehler TURNAROUND TIME (CALENDAR DAYS): , TBA, DIPE, I by EPA Method ☑ 14 DAYS ☐ 7 DAYS ☐ 72 HOURS ☐ 48 HOURS ☐ 24 HOURS ☐ LESS THAN 24 HOURS 1,2-FIELD NOTES: FIVE DAY TURN AROUND DIPE, **EPA 8260B** CHECK BOX IF EDD IS NEEDED [7] Container/Preservative SPECIAL INSTRUCTIONS OR NOTES: EPA Method 8260B , ETBE, TAME, D I by EPA 8260B or PID Readings 8015 without silica gel or Laboratory Notes Please cc results to echantikian@deltaenv.com (MTBE, 1 ethanol t MTBE by oxys (EPA 8015M , MTBE, TBA, E EDB, ethanol b 2 Scan VOCs ∞ర , BTEX, TAME), TPH-G by TPH-D, { * Field Point name only required if different from Sample ID BTEX, DCA, E тррн, TEMPERATURE ON RECEIPT C° LAB USE ONLY Field Point SAMPLING NO. OF MATRIX Sample ID Name DATE TIME H B-2 012 12 0 011 13 20-21 ľ 611 10:50 22-21 17 11:10 18 8:45 501 19 1525 BINT BEL

8/28/09 19/5

9/19/03 Revision

BC Laboratories	INVOICE REMITTANCE ADD	DECC	· ·									Pu	rchas	e Ord	er#		0/2	
4100 Atlas Court, Bakersfield, CA	THE OLDER KEINIT TANGE ADD		·.			HILLIPS lutchinso	on.					4512169612 DATE: 1						27
(661) 327-4911 (661) 327-1918 fax				3611	l South	Harbor, S	Suite 2	00				Conc	ocoPi	iillips	AOC#		PAGE: 3 of	
SAMPLING COMPANY:	Valid Value ID:	CONC	COPHILLIPS S			CA. 9270	04	····	···					085			- FAGE 0I	+
Delta Consultants ADDRESS:		0746	6											AL ID NO 001014				
312 Piercy Road, San Jose, CA		1	ADDRESS (Stre												Manager			
PROJECT CONTACT (Hardcopy or PDF Report to): Lia Holden			3 Broadway										Terry	/ Gray	son			
TELEPHONE	E-MAIL:	EDF D	ELIVERABLE T	O (RP c	r Design	ee):			PHO	NE NO.:			E-MAIL	.:		LAB	USEONLY	
408-826-1863 408-225-8506	Lholden@deltaenv.com	Lia F	Holden						408	3-826-18	863					7	29-11376	
	CONSULTANT PROJECT NUMBER 0746					V				REQ	UESTED	ANALY	SES			<u> </u>		
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SPECIAL INSTRUCTIONS OR NOTES:	CHECK BOX IF EDD IS NEEDED	<u></u>	DIP N A				г п	ī									FIELD NOTES:	
ا Please cc results to echantikian@deltaen	v com	8260B	TBA, by Ei	8260B	_		<u>п</u>	e i									Container/Preservative or PID Readings	
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BC Laboratories

4100 Atlas Court, Bakersfield, CA (661) 327-4911 (661) 327-1918 fax

INVOICE REMITTANCE ADDRESS:

CONOCOPHILLIPS Attn: Dee Hutchinson 3611 South Harbor, Suite 200 Santa Ana, CA. 92704 Purchase Order # 4512169612 ConocoPhillips AOC#

DATE: 3/27/09

SAMPLING COME	DANIV.	****	Valid Value	In.			I a a vi a												0108						
Delta Consu			valid value	ili:			CONOCOPHILLIPS SITE NUMBER 0746										GLOBAL ID NO.:								
ADDRESS:	- Corrico							DDRESS (Stre	et and C	itu):								T0600101471 ConocoPhillips Manager							
312 Piercy F	Road, San .	Jose, CA					1				٠.														
PROJECT CONTA	ACT (Hardcopy	or PDF Report to):						Broadway										Terry Grayson							
Lia Holden							EDF D	ELIVERABLE T	O (RP o	r Design	ee):			Р	HONE NO.:			E	-MAIL:			LAB US	E ONLY		
TELEPHONE: 408-826-186		FAX: 408-225-8506	E-MAIL: Lholden@del	taenv.com			Lia ⊦	lolden						4	08-826-	1863		69 - I					370		
SAMPLER NAME(S)			CONSULTANT	T FROJECT N	UMBER																	1		· · · · · · · · · · · · · · · · · · ·	11111111111111111111
Evan Chanti			0746												RE	QUEST	ED AN	ALYS	ES						
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FIVE DAY TU	JRN AROUI	ND					1	λΕ, Meti					ETBE, TAME, DIPE, 1,2- by EPA 8260B										rie:	D NOTES:	
SPECIAL INSTRUCTIONS OR NOTES: CHECK BOX IF EDD IS NEEDED [7]						[7]	<u>m</u>	P K	_ m				ם												
			1			ت	8260B	BA,	909;				D B											er/Preservative D Readings	
Please o	cc results to	echantikian@deltaer	iv.com				EPA 8	F &	8,5	gel			AME 3260											oratory Notes	
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							втех,	, BTEX, TAME),		8015 without silica gel		\ \frac{2}{3}	11B 7B,												
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ONLY: N	lame	Sample ID	DATE	TIME	MATRIX	NO. OF CONT.	тРРН,	TPH-G, ETBE, 7 8260B	Full Scan VOCs EPA Method 8260B	TPH-D,		TPH-G by EPA 8015M	BTEX, MTBE, TBA, E DCA, EDB, ethanol b									TEMPERA	TURE ON REC	EIPT C°	
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KU	كريس	~~ B-	18-0	9			l					1	-1										9/19/03 R	evision	
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BC LABORATORIES INC.	(SAMPLE	RECEIP'	FORM	Rev.	No. 12	06/24/08	Page	Of 4			
Submission #: 09-11370												
SHIPPING INFO	RMATION						IG CONT					
Federal Eynress UPS	Hand Deliv	ery 🗆	pay security is the second of	lce Chest. ☐ None ☐ Box ☐ Other ☐ (Specify)								
BC Lab Field Service Other	□ (Specify)				/ DOX L		Ontel		y /			
Refrigerant: Ice Ø Blue Ice	☐ None i	□ Oth	er□ C	omment	s:							
	The state of the state of the state of											
Custody Seals Ice Chest ☐ Intact? Yes ☐ No ☐	Containe		None 🗹	Comme	nts:			110	uju 8/28			
All samples received? Yes ☑ No □	All samples	containers	intact? Ye	s <u>r</u> Í No⊡]	Descripti	on(s) matc	h COC? Yo	es No [
COC Received	Emissivity: <u>0</u>	.98 c	ontainer: _	vog T	hermomete	r ID: Th	080	Date/Time	= 8/28/09	1923		
	emperature:							Analyst Ir	<u> War</u> tin			
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SAMPLE CONTAINERS	1 1	2	3	44	5	6	7	8	9	10		
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QT EPA 413.1, 413.2, 418.1			<u> </u>	0 1909						 		
PT ODOR			0/2	P 10-1			 -	ļ		†		
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40 ml VOA VIAL- 504			 			-						
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PLASTIC BAG												
FERROUS IRON										ļ		
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Comments: VCSM (V) TOV I
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A = Actual / C = Corrected _ Date/Time: 628 09 WUL

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BC LABORATORIES INC.		SAMPLE	RECEIPT	FORM	Rev.	No. 12 C	06/24/08	Page 2	<u> </u>		
Submission #: 09+1376											
SHIPPING INFO	RMATION					SHIPPIN	G CONT.	AINER			
Federal Express UPS UPS	Hand Deliv			lo	ce Chest,E		None				
BC Lab Field Service Other	r 🗆 (Specify)				. Box []	Other	□ (Speci	ŕy)		
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Refrigerant: Ice Blue Ice	□ None	□ Oth	er□ C	omment	s:						
	Containe	rsП	None 🗹	Comme	nts:						
Custody Seals Ice Chest Intact? Yes No I	Intact? Yes										
				·							
All samples received? Yes 🗹 No 🗆	All samples	containers	intact? Yes	No C]	Descriptio	on(s) matcl	n COC? Ye		1923	
COC Received Emissivity: 0.98 Container: <u>VOQ</u> Thermometer ID: TV080 Date/Time 3/28/09											
				•							
9 123	Temperature:	A 2.5	>°c	/ C	25	°C		Analyst In	100		
	l l				SAMPLE N						
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20z. NITRATE / NITRITE									****		
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PT ODOR				the Ref							
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40 ml VOA VIAL- 504											
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OT EPA 525 TRAVEL BLANK	A Company							<u> </u>			
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8 OZ. JAR						T					
32 OZ. JAR	4	A	A	4	TA				A	A	
SOIL SLEEVE											
PCB VIAL											
PLASTIC BAG	1		T								
FERROUS IRON : ENCORE											
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Comments:
Sample Numbering Completed By:
A = Actual / C = Corrected Date/Time: 828 09 WUL

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BC LABORATORIES INC.		SAMPLE	KECEIF	IFORM	Rev.	No. 12 06	/24/08	Page <u>3</u>	<u>UI</u>	
Submission#: 09-11376									· · · · · · · · · · · · · · · · · · ·	
SHIPPING INFO	RMATION					SHIPPING	CONTA	INER		
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BC Lab Field Service Other	☐ (Specify))			y Box □	İ	Other	□ (Speci	ту)	
								·	Paga di a	
Refrigerant: Ice 🗷 Blue Ice 🛭	None	□ Oth		Comment						
Custody Seals Ice Chest	Containe	ers 🗆	None 🗷	["] Comme	nts:					
Intact? Yes □ No □	Intact? Yes	□ No □		M-111						
	All samples	containers	intact? Y	es rí Nor	٦	Description	n(s) match	COC? Ye	s,⊠ No □	3
All samples received? Yes 🗵 No 🗆							Bincon			1923
COC Received	Emissivity: (<u> 3,98 </u>	Date/Time	8/28/09						
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/ ' '	emperature									
		,			SAMPLE N		_			250
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PT PE UNPRESERVED	NAME OF THE PERSON OF THE PERS	<u> </u>								
OT INORGANIC CHEMICAL METALS			 		-					
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40ml VOA VIAL TRAVEL BLANK		1) () (()	()	()	(1	() ()
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40 ml VOA VIAL- 504										<u> </u>
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SOIL SLEEVE	A_	LA_	A	IA	4_	A_	A	<u> </u>	<u> </u>	14
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Comments:
Sample Numbering Completed By:
A = Actual / C = Corrected

Date/Time: 8128 09 2017

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BC LABORATORIES INC.		SAMPLE	RECEIPT	FORM	Rev.	No. 12	06/24/08	Page <u>4</u>	Of4					
Submission #: 69-11376														
SHIPPING INFO	RMATION		THEORET			SHIPPIN	G CONT.	AINER						
Federal Express □ UPS □	Hand Deliv		A CONTRACTOR OF THE PARTY OF TH	l	ce Chest,E	1	None							
BC Lab Field Service Other	☐ (Specify)				Box □ Other □ (Specify)									
			Į.											
Refrigerant: Ice Blue Ice [□ None	□ Oth	er□ C	omment	s:									
Custody Seals Ice Chest □	Containe	rs 🗆	None 🗹	Comme	nts:									
Intact? Yes No	Intact? Yes													
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COC Received	Emissivity: 🐧	0.98 c	ontainer: _	VOQ 1	Thermomete	er ID: Th	080	Date/Time	8/28/09	14-0				
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	Temperature:	: A	<u> </u>	. / C	<i>~~</i>		1	Analysem	<u>4810</u>					
					SAMPLE	IUMBERS								
SAMPLE CONTAINERS	31	2	3	4	5	6	7	8	9	10				
QT GENERAL MINERAL/ GENERAL PHYSICA	L													
PT PE UNPRESERVED		ļ												
OT INORGANIC CHEMICAL METALS		<u> </u>												
PT INORGANIC CHEMICAL METALS					ļ									
PT CYANIDE										***************************************				
PT NITROGEN FORMS														
PT TOTAL SULFIDE														
20z. NITRATE / NITRITE		-												
PT TOTAL ORGANIC CARBON					<u> </u>									
PT TOX		<u> </u>	<u> </u>											
PT CHEMICAL OXYGEN DEMAND					<u> </u>									
PtA PHENOLICS	24 125 126 127													
40ml VOA VIAL TRAVEL BLANK		(()	(()	()	()	()	()	{)				
40ml VOA VIAL	(1		\	1	' ' '								
OT EPA 413.1, 413.2, 418.1														
PT ODOR														
RADIOLOGICAL		<u> </u>												
BACTERIOLOGICAL														
40 ml VOA VIAL- 504		1.												
OT EPA 508/608/8080		1	1											
OT EPA 525		1												
OT EPA 525 OT EPA 525 TRAVEL BLANK										<u> </u>				
	Special Control of the Control of th													
100ml EPA 547 100ml EPA 531.1														
OT EPA 548	The same of the same								<u> </u>					
QT EPA 549									<u> </u>	<u> </u>				
OT EPA 632									<u> </u>					
QT EPA 8015M									<u> </u>					
QT AMBER								<u> </u>	<u> </u>	<u> </u>				
8 OZ. JAR								<u> </u>	<u> </u>	<u> </u>				
32 OZ. JAR							<u> </u>	ļ	<u> </u>	 				
SOIL SLEEVE	K								-	<u> </u>				
PCB VIAL									<u> </u>	_				
PLASTIC BAG							ļ		_	<u> </u>				
FERROUS IRON			ļ			<u> </u>				-				
ENCORE										<u> </u>				

Comments:
Sample Numbering Completed By: JNW Date/Time: 828 09 2017

A = Actual / C = Corrected [H:\DOCS\WP80\LAB_