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OFF-SITE GROUNDWATER MONITORING WELL INSTALLATION REPORT

**FORMER TEXACO GASOLINE SERVICE STATION
15101 Freedom Avenue
SAN LEANDRO, CALIFORNIA**

October 25, 2004

Project 2552

Prepared for

**Mr. Mohammed Pazdel
2001 Sir Francis Drake Blvd.
San Leandro, California**

Prepared by

**SOMA Environmental Engineering, Inc.
2680 Bishop Drive, Suite 203
San Ramon, California**



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October 25, 2004

Mr. Robert Schultz
Alameda County Health Care Services Agency
1131 Harbor Bay Parkway, Suite 250
Alameda, California 94502-6577

Subject: STID 4473/RO0000473
Texaco Gasoline Service Station (Formerly Freedom ARCO Station)
Site Address: 15101 Freedom Avenue, San Leandro, California

Dear Mr. Schultz:

As requested in Ms. Chu's letter of February 4, 2004, enclosed for your review is SOMA's report entitled "Off-Site Groundwater Monitoring Well Installation Report" for the subject site.

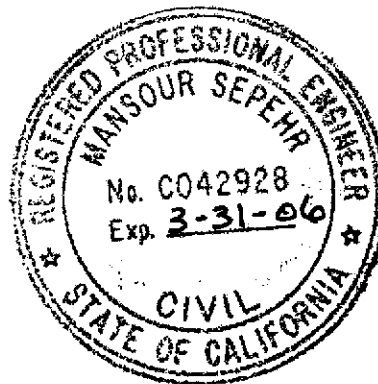
Thank you for your time in reviewing this report. If you have any questions or comments, please call me at (925) 244-6600.

Sincerely,

Mansour Sepehr, Ph.D., PE
Principal Hydrogeologist

Enclosure

cc: Mr. Mohammad Pazdel w/enclosure

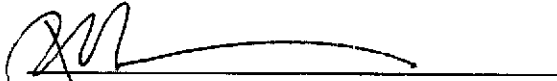
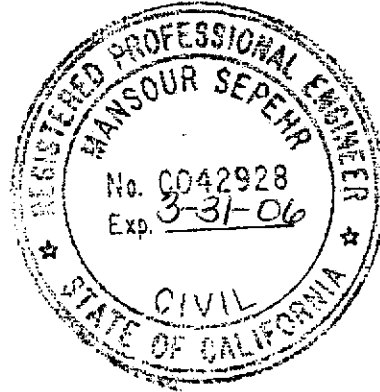


CERTIFICATION

This report has been prepared by SOMA Environmental Engineering, Inc. on behalf of Mr. Mohammed Pazdel, the property owner of 15101 Freedom Avenue, San Leandro, California. This report is based on SOMA's workplan dated January 20, 2004. This report has been prepared to comply with the Alameda County Health Care Services - Environmental Health Services' workplan approval letter dated February 4, 2004.



Mansour Sepehr, Ph.D., P.E.
Principal Hydrogeologist



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Registered Geologist

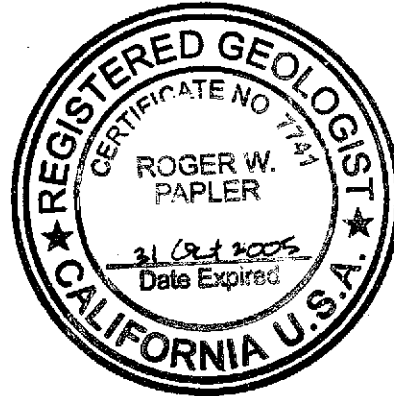


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1.0 INTRODUCTION

This report has been prepared by SOMA Environmental Engineering, Inc., (SOMA) on behalf of Mr. Mohammed Pazdel, the property owner of 15101 Freedom Avenue, San Leandro, California (the "Site"). This report is based on SOMA's workplan dated January 20, 2004. This report complies with the Alameda County Health Care Services - Environmental Health Department's (ACEHS) workplan approval letter dated February 4, 2004.

As shown in Figure 1, the Site is located at 15101 Freedom Avenue, San Leandro, California. The subject property is bordered on the west by 151st Avenue, on the north by Freedom Avenue, on the east by Fairmont Avenue, and on the south by residential properties. Currently, there are three underground storage tanks (USTs) at the Site: one 20,000-gallon and one 8,000-gallon gasoline UST and one 6,000-gallon diesel UST.

1.1 Previous Activities

Since the 1960's, the Site has been used as a gasoline service station. In 1985, Mr. Mohammad Pazdel purchased the business and in 1992 he purchased the property from Mr. Mohammad Mashhoon. From 1985 until 1997, when Mr. Pazdel sold the business, the Site operated as "Freedom ARCO Station." To comply with the UST upgrade regulations, three 10,000-gallon single-walled USTs were removed in 1999 and replaced by new double-walled fuel tanks. During the UST upgrade, petroleum hydrocarbon contaminants were detected in the subsurface soils beneath the old USTs.

On May 20, 1999, Geo-Logic oversaw the removal of three 10,000-gallon USTs, approximately 250 feet of product piping, and six dispensers from the Site. Paradiso Mechanical, Inc. removed and over-excavated the old USTs. The on-site overseeing agency was the ACEHS.

After excavation and removal, the three USTs and product piping were transported to the ECI facility in Richmond, California for proper disposal. On May 20 and May 21, 1999, Geo-Logic collected soil samples from beneath the USTs, product piping, and dispensers. On May 20, 1999, seven soil samples (T1W, T2W, T3W, T1E, T2E, T3E, and an additional soil sample at T1W) were collected from the west and east sides of the tank excavation pit ranging in depth from 12 to 14 feet below ground surface (bgs). In addition, six soil samples (P1, P2, P4, P5, P6, and P7) were collected from beneath the dispensers ranging in depth from 2.5 to 3 feet bgs. One soil sample (P3) was collected from beneath the product lines at 2.5 feet bgs. On May 21, 1999, eight additional soil samples (P8, P9, P10, P11, P12, P13, P14, and P15) were collected from beneath the product piping and in the area of the dispensers; the samples were collected from depths ranging from 3 to 3.5 feet bgs. Stockpile soil samples were also collected on May 21, 1999.

On June 2, 1999, additional soil samples were collected during over-excavation of the product piping and from the bottom of the tank excavation pit. An additional soil sample (P12) was collected from beneath the product piping at a depth of 5 feet bgs. Three additional soil samples were collected in the western portion of the tank cavity and ranged in depth from 16.5 to 24.5 feet bgs. The samples were collected to help define the vertical extent of the hydrocarbon contamination.

The soil samples collected during the removal and over-excavation activities were submitted to Calcoast Analytical in Emeryville, California. Soil samples were analyzed for total petroleum hydrocarbons as gasoline (TPH-g) using EPA Method 8015, benzene, toluene, ethylbenzene and xylene (BTEX) and Methyl tertiary Butyl Ether (MtBE) using EPA Method 8020. The presence of MtBE was confirmed using EPA Method 8260B. Total lead was analyzed using EPA Method 6010A. The concentration of TPH-g in the soil samples ranged from 0.76 mg/Kg

(P3-2.5 ft bgs) to 4,000 mg/Kg (T1W-24.5 ft bgs). Benzene concentrations ranged from 28 mg/Kg (T1W-13.5 ft bgs) to non-detectable levels (P2 through P6, and P14) at depths ranging from 2.5 to 3 feet bgs.

On July 7, 1999, Paradiso Mechanical, Inc. installed a 20,000-gallon gasoline UST, an 8,000-gallon gasoline UST, and a 6,000-gallon diesel tank inside the tank cavity.

1.2 Previous Investigations

In July 2001, CSS Environmental Services (CSS) conducted a site investigation at the request of the ACEHS. CSS performed the investigation to further delineate the on-site petroleum hydrocarbon contamination discovered during the removal and upgrade of the USTs at the Site. During that investigation, CSS drilled five temporary well boreholes (SB-1 through SB-5) using the direct-push method. The soil borings were advanced to a maximum depth of 31 feet. Based on the groundwater stabilizing at 17 to 20 feet bgs after drilling, the on-site groundwater appeared to be semi-confined. The results of that investigation indicated that petroleum-impacted soils were generally encountered below 19 feet bgs and exist mostly the capillary fringe. Maximum concentrations of TPH-g and BTEX in the soil samples collected between 19 and 25.5 feet bgs were 470,000, 2,600, 16,000, 12,000, and 73,000 $\mu\text{g}/\text{Kg}$, respectively. MtBE was not detected in any of the soil samples above the analytical method reporting limit of 5 $\mu\text{g}/\text{Kg}$. The maximum concentrations of TPH-g and BTEX in the groundwater samples collected from the soil borings were 83,000, 19,000, 1,800, 1,500, and 73,000 $\mu\text{g}/\text{L}$, respectively. MtBE was detected in the groundwater in each of the borings except SB-4. The maximum reported MtBE concentration was 87,000 $\mu\text{g}/\text{L}$ in SB-2.

Mr. Pazdel subsequently retained SOMA to conduct an on-site soil and groundwater investigation involving the installation of five groundwater monitoring

wells, as illustrated in Figure 2. Soil and groundwater analytical results indicated that elevated petroleum hydrocarbon contamination existed beneath the eastern half of the Site and that the contaminated groundwater plume had probably migrated to the south/southeast. With residential properties downgradient from the Site, SOMA recommended conducting an off-site soil and groundwater investigation. After reviewing SOMA's report, the ACEHS requested a workplan; this workplan was approved in a letter dated August 29, 2003.

SOMA conducted the off-site soil and groundwater investigation in September 2003. Based on the results of that investigation, groundwater contaminants migrated off-site at least 300 feet to the southeast with free product extending at least 100 feet south of the Site. Table 1 summarized the groundwater analytical results for this off-site soil and groundwater investigation.

The soil and groundwater investigation indicated that nearby utilities were considerably shallower than the highest historical on-site groundwater levels and did not appear to be submerged. The non-submerged utilities did not appear to be preferential flow paths for site-related contaminants migrating off-site. This investigation documented the existence of two downgradient water supply wells in close proximity of the Site. SOMA recommended testing the water supply wells for constituents of concern to evaluate if these wells have been impacted by the Site's related contaminants.

SOMA recommended installing off-site groundwater monitoring wells to evaluate and monitor the extent and stability of the groundwater contamination, groundwater flow direction, and gradient. The ACEHS reviewed the report and concurred with SOMA's recommendations and subsequently approved the workplan, dated January 20, 2004. This report presents the findings of SOMA's off-site groundwater monitoring well installation.

1.3 Nature and Extent of Groundwater Contamination

Since May 2002, SOMA has performed quarterly groundwater monitoring events at the Site. Historically, elevated levels of petroleum hydrocarbons have been detected in the groundwater with TPH-g as high as 65,000 µg/L (MW-3), benzene at 7,300 µg/L (MW-3) and MtBE at 7,800 µg/L (MW-4).

The results of SOMA's previous investigations indicated that the eastern/southeastern portion of the Site is the most contaminated and that the petroleum hydrocarbon plume has migrated off-site to the southeast/south. Free product was observed in TWB-1, located approximately 100 feet south of the Site. Of all the off-site temporary well boreholes, the second highest level of petroleum hydrocarbons was detected in TWB-2, located southeast/east of the Site, near the corner of Liberty and Fairmont avenues.

2.0 SCOPE OF WORK

Based on the ACEHS-approved workplan, the scope of work involved installing four off-site groundwater monitoring wells. The nearest off-site well was designed to eventually operate as an extraction well. During a phone conversation with Ms. Eva Chu on August 20, 2003, the ACEHS specifically requested SOMA to discretely screen the most contaminated water-bearing layers when installing monitoring wells under ACEHS oversight. To implement the approved workplan and comply with the ACEHS directive, SOMA performed the following tasks:

- Task 1: Permit Acquisition, Health and Safety Plan Preparation, and Utility Clearance**
- Task 2: Installation of Groundwater Monitoring Wells**
- Task 3: Collection and Laboratory Analysis of Soil Samples**
- Task 4: Residential Well Sampling**
- Task 5: Monitoring Well Development**
- Task 6: Monitoring Well Survey**

The following are descriptions of the above tasks.

2.1 Permit Acquisition, Health and Safety Plan Preparation, and Utility Clearance

Prior to initiating field activities, SOMA obtained the drilling and encroachment permits from the Alameda County Public Works Agency (ACPWA). The permits are attached as Appendix A.

A site-specific health and safety plan (HASP) was prepared by SOMA. The HASP was designed to address safety provisions during field activities and protect the field crew from physical and chemical hazards resulting from drilling and sampling. The HASP established personnel responsibilities, general safe work practices, field procedures, personal protective equipment standards, decontamination procedures and emergency action plans.

SOMA contacted Underground Service Alert (USA) to clear the drilling areas of underground utilities. Following USA clearance, a private utility locator surveyed the drilling areas and located additional subsurface conduits.

2.2 Installation of Groundwater Monitoring Wells

To delineate the extent of the groundwater plume, SOMA oversaw the installation of four monitoring wells; the locations of the wells are shown in Figure 2. Two of the monitoring well locations were adjusted to accommodate traffic safety considerations. To protect the field crew during the installation of MW-7, the front of the drilling rig was oriented to face the traffic flow. SOMA originally planned to install MW-8 approximately 100 feet south of TWB-1, however, traffic safety considerations also required moving this well south by approximately 75 feet to construct a sufficiently long taper zone from the nearest traffic-upgradient corner to the work area.

On August 25 and 26 and September 2, 2004, Gregg Drilling & Testing (Gregg) used a hollow stem auger drilling rig to drill and install the four monitoring wells to approximately 21 to 33 feet below ground surface (bgs).

To determine the water-bearing zones, continuous sampling with an unlined split-spoon sampler commenced at least five feet above the anticipated depth of the water-bearing zone. The expected water-bearing zone depth was based on the findings of SOMA's previous off-site investigation.

Based on these sediment core samples, a SOMA field geologist logged the borehole and determined the screen lengths based on the observed saturated-zone thickness and photo-ionization detector (PID) readings. The field crew then plugged the well borehole up to the bottom of the selected screen interval and installed the casing with factory-slotted schedule 40 PVC screen with 0.02" slots. The drilling crew screened the wells as shown in the borehole logs included as Appendix B. A PVC cap was then attached to the bottom of the casing with stainless steel screws and the top of the casing was fitted with a locking well plug.

After the casing was set into the borehole, the sand filter pack was emplaced outside the casing by slowly pouring 2/12 kiln-dried sand into the annular space from the bottom of the borehole to approximately one-foot above the screened interval. To prevent grout from infiltrating down into the filter material, a one-foot thick bentonite plug was placed above the filter pack and hydrated. After thoroughly hydrating the bentonite seal, the well was sealed from the top of the bentonite layer to about one-foot bgs with neat cement containing approximately 3 to 5% bentonite. Near surface grade, the wells were completed by installing a traffic-rated well vault into a concrete foundation. Appendix B presents the monitoring well construction details.

2.3 Collection and Laboratory Analysis of Soil Samples

Soil samples were collected from the vadose zone of monitoring well borehole MW-6. To verify that the source of groundwater contamination was not from an off-site source above this heavily contaminated area, the samples were analyzed for the constituents of concern. The selected samples were submitted to Curtis and Tompkins, Ltd., a state-certified laboratory.

SOMA also planned to collect soil samples for fate and transport analysis from off-site wells MW-7 through MW-9. However, unexpected lateral changes in lithology required continuous sampling with an unlined sampler in order to detect thin water-bearing stringers and layers. As a result, the sampler could not be sleeved and no soil samples were collected for these physical analyses. Table 2 summarizes the results of the laboratory testing and includes a summary of fate and transport analyses from the on-site monitoring well installation report. The laboratory report of soil analytical is attached as Appendix C.

2.4 Residential Well Sampling

The sensitive receptor survey conducted by SOMA for the 2003 off-site investigation indicated that the off-site groundwater plume could impact two private wells. One of the wells was reportedly located at 1575 153rd Street and the other at an unidentified address along Oriole Avenue.

SOMA field personnel observed that there was no address of 1575 153rd Street. However, the owner of 1573 153rd Street indicated that there is a non-operational well in his backyard. The owner of this well conveyed that the water from this well was previously used only for irrigation since potable water for the house is provided through the local utilities. The well consists of an approximately six-inch diameter black plastic casing with a heavy-gauge steel lid bolted on top. From the well, two hoses connected to an aboveground dispensing device. A spigot had been mounted on front of the pump to allow for groundwater withdrawal.

The owner started the well pump and conveyed that he would leave the pump running for several hours to increase the probability of obtaining a groundwater sample from the well. Several hours later, SOMA field personnel returned to this residence to collect a groundwater sample from the well. However, opening the well spigot produced no groundwater. SOMA then attempted to unbolt the cap until field personnel noted that pre-existing cracks in the casing were exhibiting signs of stress resulting from this procedure. Removal of the cap was terminated to avoid damaging the well casing and no groundwater sample was collected from the well.

Because the well survey findings did not indicate a specific address for the private well installed along Oriole Avenue, SOMA distributed written notification to all residents on the potentially affected homes on Oriole Avenue several months ago. Besides notifying the residents of the potential exposure risk to contaminated water from private wells, the notification requested that private well owners contact SOMA in order to allow personnel to access and sample the wells at no cost to the homeowners. However, none of the contacted homeowners responded to SOMA's notification.

2.5 Well Development

On September 24, 2004, SOMA field personnel oversaw development of the monitoring wells. The wells were bailed to remove sediment and then surged to develop the sand packs. The field crew then pumped the wells until the groundwater clarified substantially and groundwater quality parameters stabilized. Appendix D presents the well development data.

2.6 Well Survey

On October 12, 2004, licensed surveyors from Harrington Surveys surveyed the casing elevations of the monitoring wells in accordance with the survey requirements set forth by the UST Fund. All well casing elevations were

vertically surveyed to NAVD 88 survey datum with latitude and longitude surveyed to NAD 83 datum. With the survey data, depths to groundwater will be converted into groundwater surface elevations to determine the groundwater flow direction beneath the off-site areas. Appendix E presents the well survey report.

3.0 RESULTS

3.1 Field Observations

Although free product was encountered in the temporary well borehole closest to the Site, no free product was observed in well borehole MW-6 that was advanced in this location. However, SOMA's field geologist noted very strong hydrocarbon odors in the wet sediments cored for this well. Borehole lithology was very similar to TWB-1 with sand/gravel sediments predominating from approximately 11 to 27 feet bgs.

As a result of moving MW-7 for traffic safety considerations, this monitoring well was installed approximately 25 feet east of TWB-2. However, unexpected substantial changes in lithology were encountered below approximately 21 feet bgs. At the same depth interval of approximately 27 to 30 feet bgs, the sandy gravel water-bearing zone of TWB-2 was absent in well borehole MW-7. At approximately 20 to 21 feet bgs, however, SOMA noted the presence of a water-bearing layer with PID readings noticeably higher than background levels. MW-7 was screened to span this layer and very moist to wet and slightly contaminated sediments above.

South of MW-6/TWB-1, at MW-8, there was no indication of the 16-foot thick sand/gravel water-bearing zone encountered in TWB-1. Borehole lithology at MW-8 consisted of predominantly silt/clay sediments with a few wet sandy stringers. PID readings indicated that the most contaminated layers and stringers

occurred at approximately 22 and 28 feet bgs. SOMA screened MW-8 to include both of these thin water-bearing units.

Southwest of MW-6/TWB-1 at MW-9, the most permeable water-bearing zone consisted of sandy gravel encountered at approximately 16 to 20 feet bgs. Below this water-bearing unit, borehole lithology consisted of predominantly silt/clay sediments with a few wet sandy stringers. However, PID readings indicated that the most contaminated water-bearing layer occurred at approximately 31 feet bgs. Based on the 30-foot depth of the First WBZ in TWB-1, SOMA concluded that this deeper water-bearing layer could represent the lower portion of the First WBZ and discretely screened this layer accordingly.

3.2 Site Conceptual Model

Based on the additional borehole lithology from the off-site monitoring wells, SOMA has modified the original site conceptual model (SCM) presented in cross sections from the off-site soil and groundwater investigation.

3.2.1 Water-Bearing Zones

As shown in Figures 3 and 4, the previously designated First and Second WBZs appear to be two sub-zones consisting of an interconnected series of water-bearing layers and stringers rather than two separate continuous water-bearing units. Based on previously limited subsurface data, aquitards between the water-bearing zones were also interpolated as continuous hydrogeologic units. Incorporating the additional lithologic and stratigraphic data, these clay layers also appear to be a series of discontinuous lenses of varying thickness.

3.2.2 Preferential Pathway

As shown in Figure 5, plotting known major gravel/sand zones at 15 to 30 feet bgs, suggests that the natural preferential pathway for the off-site plume appears to consist of an ancient meandering streambed. The natural meandering

behavior of streams and rivers accounts for the apparently sinuous course of the preferential pathway. Within the investigation area, the thickest and most contaminated portion of the water-bearing zone was encountered in TWB-1, where free product was encountered. The probable streambed appears to curve to the southeast from the Site and TWB-1 to include TWB-2. With mostly clayey fine-grained sediments in borehole MW-7, the northeast bank of this apparent watercourse could be located near this borehole. The probable ancient watercourse probably continues to the Southeast or perhaps veers to the Southwest near TWB-3.

Groundwater analytical results appear to corroborate the existence of this preferential pathway. In temporary well TWB-2 and MW-7, located southeast of the Site, TPH-g was respectively detected at 1,700 and 2,900 ug/L; this is substantially higher than other boreholes (TWB-4A, TWB-5 and TWB-6) located topographically downgradient from the Site and TWB-1. Along the apparent preferential pathway, TWB-2 is located closest to the Site and TWB-1. In temporary well TWB-3, TPH-g was detected at 150 ug/L; this concentration is higher than the three boreholes topographically downgradient from the Site and TWB-1. Temporary well borehole TWB-3 is also located further from the Site than TWB-5, where petroleum hydrocarbons were not detected. With TPH-g detected at 150 ug/L, TWB-3 is also much closer to the apparent preferential pathway than boreholes TWB-4A, TWB-5 and TWB-6, where none of the constituents of concern were detected.

3.3 Soil Analytical Results

As shown in Table 2, soil analytical results indicate that the vadose zone above the TWB-1/MW-6 area does not contain constituents of concern above minimum laboratory detection limits. The vadose zone in this area does not appear to be an off-site source.

4.0 CONCLUSIONS

Based on the additional stratigraphic and lithologic data from this off-site monitoring well installation, the originally interpreted First and Second WBZs appear to be the upper and lower sub-zones of the First WBZ. These sub-zones appear to consist of discontinuous water-bearing layers and stringers separated by discontinuous clay lenses of varying thickness.

The probable preferential pathway appears to consist of an ancient meandering streambed that includes the east half of the Site, TWB-1/MW-6 and TWB-2/MW-7. Groundwater analytical results from the off-site soil and groundwater investigation appear to corroborate the existence of this preferential pathway.

In accordance with the ACEHS directive, SOMA constructed the off-site wells to discretely screen the more contaminated water-bearing layers. As a result, the off-site wells have been screened at different depth intervals.

SOMA originally planned to access and sample the private wells at 1573 153rd Street and the unidentified address along Oriole Avenue. However, SOMA received no return notification from homeowners along Oriole Avenue. The existing private well at 1573 153rd Street was reportedly used only for irrigation and is not in operating condition. Attempting to remove the lid of this private well for sampling posed potential damage to the well casing and prevented SOMA from continuing to attempt to sample this well. Because Department of Water Resource records indicate that the total depth of the private well is 30 feet bgs and borehole logs indicate that this well is within the First WBZ, the well at 1573 153rd Street does not appear to cross-connect water-bearing zones. Because the well is a non-operational irrigation well, the impact to human health appears to be insignificant. Should the well owner rehabilitate the pump and begin using the First WBZ groundwater for irrigation, the potential for drawing the off-site MtBE plume appears to be minimal.

Soil analytical results appear to indicate that high contamination levels observed in TWB-1 and MW-6 did not originate from the vadose zone in this area. These analytical results appear to confirm that the observed contamination originated from the subject Site.

5.0 RECOMENDATIONS

Based on the results of this investigation, SOMA recommends the following:

- After incorporating the forthcoming well survey results with the current Third Quarter 2004 monitoring event results, SOMA will determine the groundwater flow direction. With continued quarterly monitoring, SOMA will more accurately determine the extent and stability of the groundwater plume and verify that the off-site wells - upgradient from the private well - continue to contain no detectable levels of the constituents of concern.
- SOMA will notify the private well owner that SOMA will sample and analyze the well water if the well owner rehabilitates the well pump. SOMA will inform the well owner that the analyses will be free of charge and that he is under no obligation or mandate from ACEHS to analyze his well water. If the well owner wants to decommission the presently non-operational well, SOMA will contact the UST Fund regarding potential reimbursement.

6.0 REFERENCES

Alameda County Health Care Services, August 23, 2001. A Letter in Connection with a Request for Conducting a Subsurface Investigation.

CSS Environmental Services, Inc., August 15, 2001. "Preliminary Site Assessment for the Property Located at 15101 Freedom Avenue, San Leandro, California."

Geo-logic, Geotechnical and Environmental Consulting Services, June 11, 1999. "Report of Soil Sampling During Tank Removal and Station Upgrade."

SOMA Environmental Engineering Inc., November 5, 2003. "Off-Site Soil and Groundwater Investigation at Former Texaco Station, 15101 Freedom Avenue, San Leandro, California."

SOMA Environmental Engineering Inc., September 4, 2003. "Third Quarter 2003 Groundwater Monitoring Report, Texaco Gasoline Service Station, 15101 Freedom Avenue, San Leandro, California."

SOMA Environmental Engineering Inc., June 18, 2003. "Second Quarter 2003 Groundwater Monitoring Report, Texaco Gasoline Service Station, 15101 Freedom Avenue, San Leandro, California."

SOMA Environmental Engineering Inc., March 21, 2003. "First Quarter 2003 Groundwater Monitoring Report, Texaco Gasoline Service Station, 15101 Freedom Avenue, San Leandro, California."

SOMA Environmental Engineering Inc., December 19, 2002. "Fourth Quarter 2002 Groundwater Monitoring Report, Texaco Gasoline Service Station, 15101 Freedom Avenue, San Leandro, California."

SOMA Environmental Engineering Inc., September 26, 2002. "Third Quarter 2002 Groundwater Monitoring Report, Texaco Gasoline Service Station, 15101 Freedom Avenue, San Leandro, California."

SOMA Environmental Engineering Inc., June 19, 2002. "Second Quarter 2002 Groundwater Monitoring Report, Texaco Gasoline Service Station, 15101 Freedom Avenue, San Leandro, California."

TABLES

Table 1

Groundwater Analytical Data 15101 Freedom Avenue, San Leandro, California

Sample Id.	TPH-g (ug/l)	Benzene (ug/l)	Toluene (ug/l)	Ethyl-benzene (ug/l)	Xylenes (ug/l)	MtBE (ug/l)	1,2 DCA (ug/l)
TWB-1	410,000	2,200 ^C	1,300 ^C	9,400	25,700	<20	<20
TWB-2	1,700	<0.5	<0.5	31	51	34	5
TWB-3	150 ^{H,Y}	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
TWB-4A	<50	<0.5	<0.5	<0.5	<0.5	2	<0.5
TWB-5	<50	<0.5	<0.5	<0.5	<0.5	<0.5	2
TWB-6	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5

Notes:

Petroleum Hydrocarbons analyzed by EPA 8015 and 8021

Gas Oxygenates analyzed by EPA 3260B - all other gas oxygenates not detected above laboratory detection limits

< : not detected above laboratory reporting limits.

^H: Heavier hydrocarbons contributed to the quantitation

^Y: Sample exhibits chromatographic pattern that does not resemble standard.

^C: Presence confirmed but RPD between columns exceeds 40%.

TABLE 2

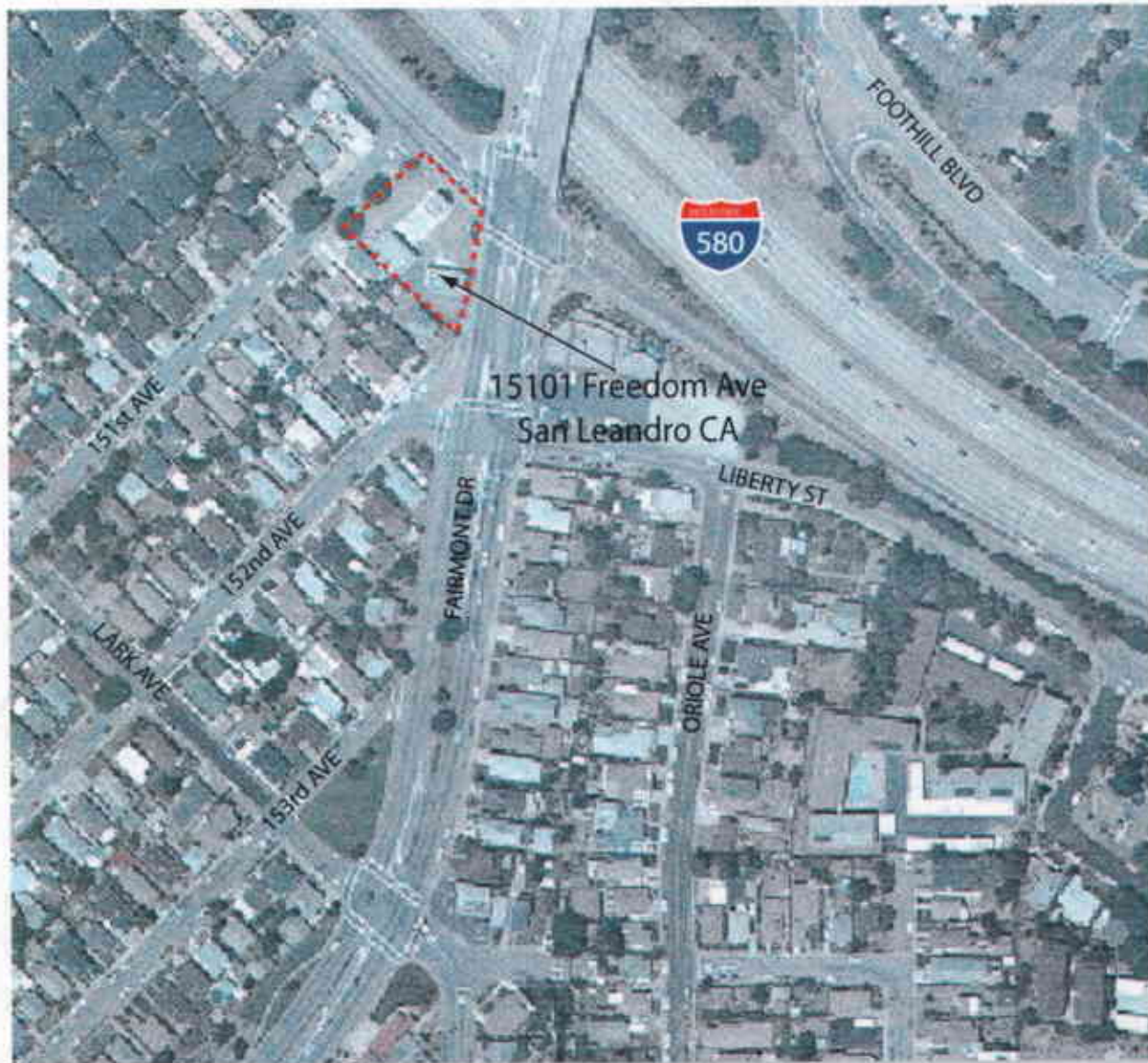
Soil Analytical Results
15101 Freedom Avenue, San Leandro, California

Borehole	Depth (feet bgs)	TPH-g (mg/Kg)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethylbenzene (mg/Kg)	Total Xylenes (mg/Kg)	Bulk Density (%)	TOC (%)	Total Lead (mg/Kg)
September 2004 Monitoring Well Installation									
MW-6	5.5-6	<1,100	<5.3	<5.3	<5.3	<5.3	*	*	*
MW-6	6-6.5	<1,100	<5.3	<5.3	<5.3	<5.3	*	*	*
MW-6	8.5-9	<1,100	<5.3	<5.3	<5.3	<5.3	*	*	*
MW-6	9-9.5	<1,000	<5.3	<5.3	<5.3	<5.3	*	*	*
May 2002 Monitoring Well Installation									
MW-5	9.5-10	*	*	*	*	*	1.83	*	*
MW-5	10-10.5	*	*	*	*	*	*	0.07	0.6
MW-5	19-19.5	*	*	*	*	*	*	0.05	0.22
MW-5	20-20.5	*	*	*	*	*	1.89	*	*

NOTE:

* Sample not tested for indicated analysis

FIGURES



approximate scale in feet

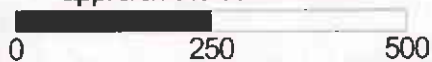
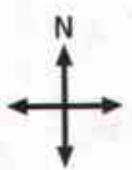





Figure 1: Site vicinity map.



-  MONITORING WELL
-  TEMPORARY WELL BOREHOLE
-  WATER SUPPLY WELL

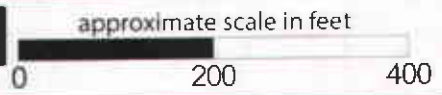


Figure 2: Site vicinity map of groundwater monitoring wells and temporary well boreholes.

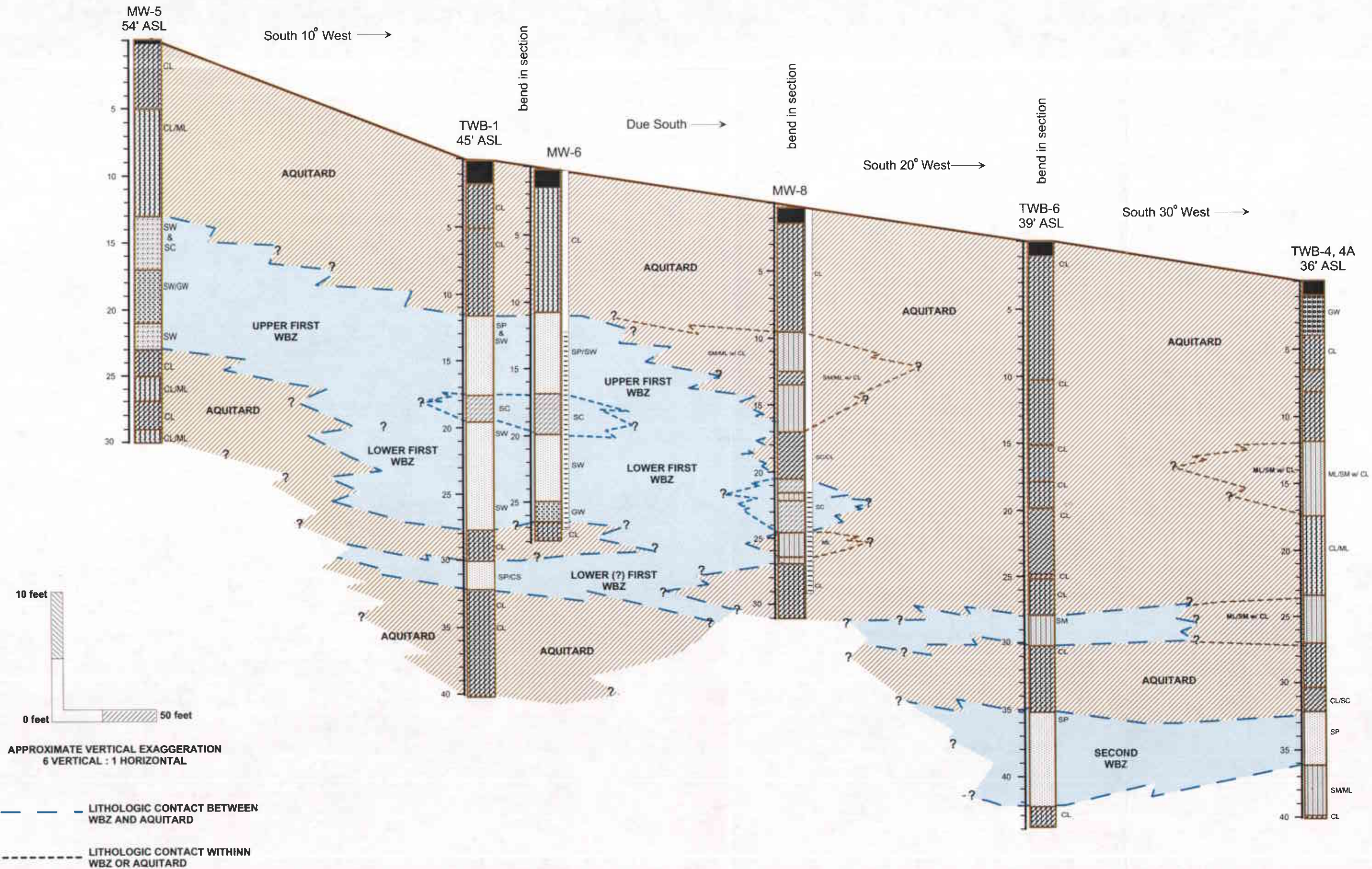
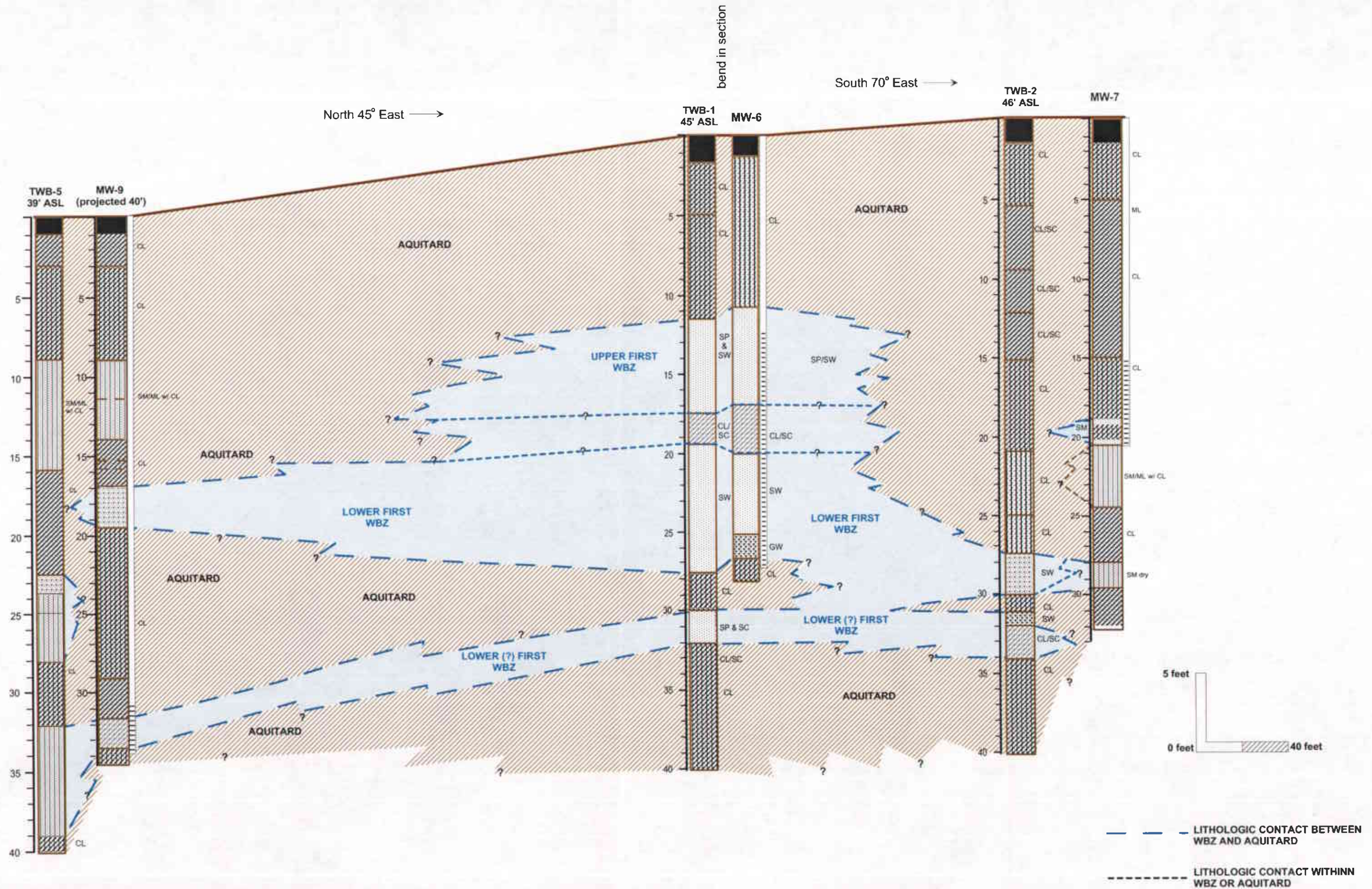
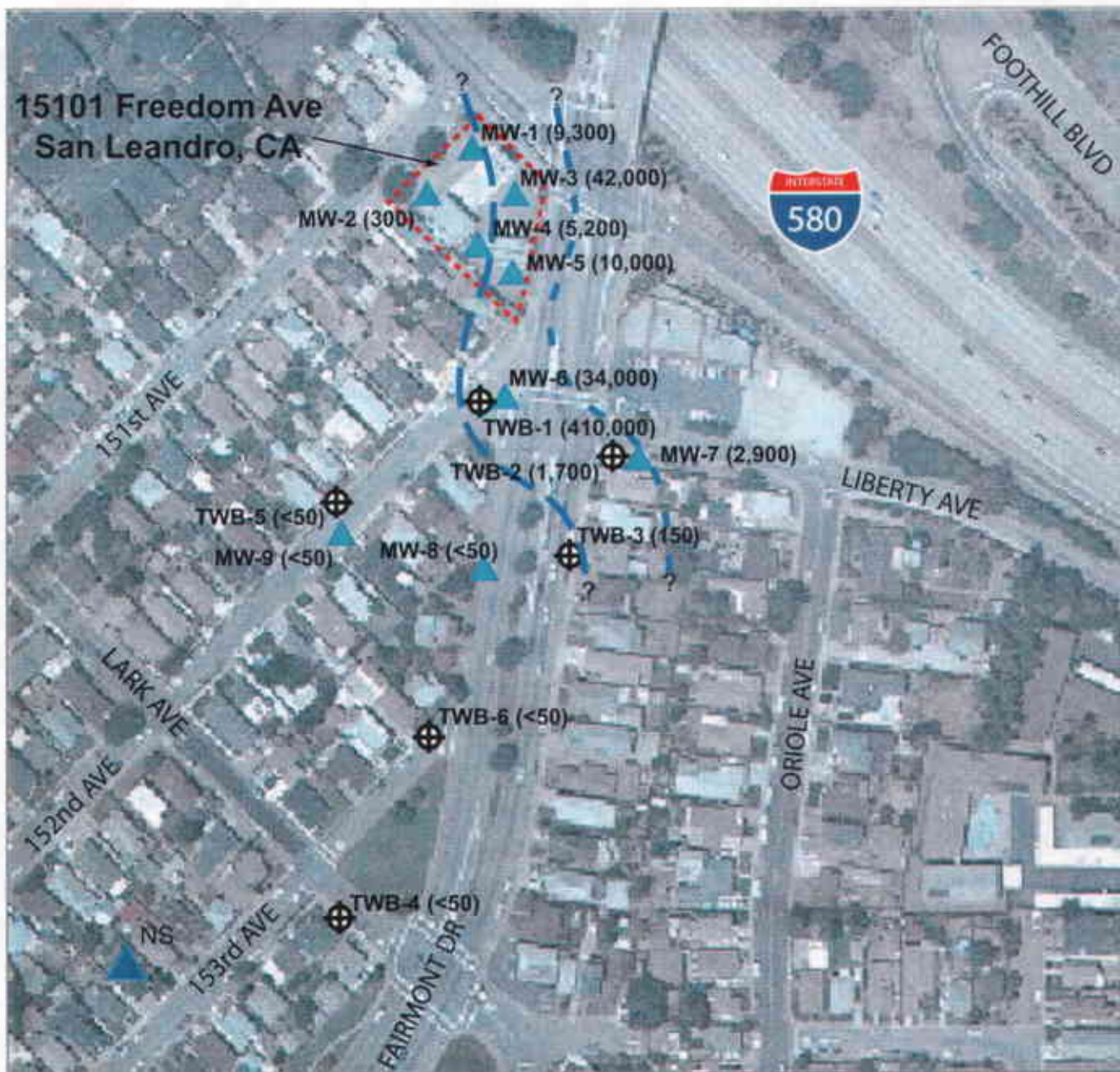






Figure 3: Geologic Fence Diagram A - A'.



APPROXIMATE VERTICAL EXAGGERATION
7 VERTICAL : 1 HORIZONTAL

Figure 4: Geologic Fence Diagram B - B'.



-  APPROXIMATE BANKS OF PROBABLE BURIED WATERCOURSE
-  MONITORING WELL WITH TPH-G (ug/L) LEVELS (SEPTEMBER 2004)
-  TEMPORARY WELL BOREHOLE WITH TPH-G (ug/L) LEVELS (SEPTEMBER 2003)
-  WATER SUPPLY WELL
- NS NOT SAMPLED
- <50 LESS THAN LAB REPORTING LIMIT (ug/L)

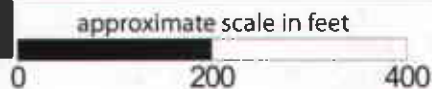


Figure 5: Site vicinity map showing probable buried stream bed.

APPENDIX A

Drilling and Encroachment Permits

Aug 17 04 04:39p

p. 2



ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 678-6653 James Yoo
FAX (510) 782-1939

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT 15101 Freedom Ave.
San Leandro, CA

PERMIT NUMBER W04-0832
WELL NUMBER _____
APN _____

CLIENT
Name Mohammed Haxdel
Address 1770 Estacia Ct Phone 707 399 7723
City Fairfield Zip 94533

APPLICANT
Name SOMA Environmental Engineering
Address 2680 Bishop Dr. Phone 925 244 6600
City San Ramon Zip 94583

TYPE OF PROJECT
Well Construction Geotechnical Investigation
Cathodic Protection General
Water Supply Commercialization
Monitoring / Extraction Well Destruction

PROPOSED WATER SUPPLY WELL USE
New Domestic Replacement Domestic
Municipal Irrigation
Industrial Other

DRILLING METHOD:
Mud Rotary Air Rotary Auger
Cable Other

DRILLER'S NAME Gregg Drilling Co.

DRILLER'S LICENSE NO. 057-485-165

WELL PROJECTS
Drill Hole Diameter: 12" Maximum Depth: 30 ft
Casing Diameter: 4" Owner's Well Number: MW-6
Surface Seal Depth: 11"

GEOTECHNICAL PROJECTS
Number of Borings: _____ Maximum Depth: _____ ft
Hole Diameter: _____ in

STARTING DATE 25 August 2004

COMPLETION DATE 26 August 2004

I hereby agree to comply with all requirements of this permit and Alameda County Ordinance No. 72-68

APPLICANT'S SIGNATURE [Signature] DATE 12 Aug 04

PLEASE PRINT NAME R.W. Papler Rev 9-18-02

APPROVED [Signature] DATE 8-19-04

- PERMIT CONDITIONS**
Circled Permit Requirements Apply
- A. GENERAL**
 1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
 2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources Well Completion Report.
 3. Permit is void if project not begun within 90 days of approval date.
 - B. WATER SUPPLY WELLS**
 1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
 2. Minimum seal depth is 30 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.
 - C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS**
 1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
 2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.
 - D. GEOTECHNICAL**
Backfill bore hole by tremie with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.
 - E. CATHODIC**
Fill hole annule zone with concrete placed by tremie
 - F. WELL DESTRUCTION**
Send a map of work site. A separate permit is required for wells deeper than 45 feet.
- Special Conditions** MW#1
- NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.



ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA. 94544-1395
PHONE (510) 670-6633 Inmate Void
FAX (510) 782-1939

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT 15101 Freedom Ave.
San Leandro, CA

PERMIT NUMBER W04-0833
WELL NUMBER _____
APN _____

CLIENT
Name Mohammed Pazzel
Address 1770 Estacia Ct. Phone 707 399 7723
City Fairfield Zip 94533

APPLICANT
Name SOMA Environmental Engineering Fax 925 244 6601
Address 2680 Bishop Dr. Phone 925 244 6600
City San Ramon Zip 94583

TYPE OF PROJECT
Well Construction Geotechnical Investigation
Cathodic Protection General
Water Supply Contamination
Monitoring Well Destruction

PROPOSED WATER SUPPLY WELL USE
New Domestic Replacement Domestic
Municipal Irrigation
Industrial Other

DRILLING METHOD:
Mud Rotary Air Rotary Auger
Cable Other

DRILLER'S NAME Gregg Drilling Co.
DRILLER'S LICENSE NO. C57 485 165

WELL PROJECTS
Drill Hole Diameter 8" Maximum Depth 30'
Casing Diameter 2" Owner's Well Number MW#7
Surface Seal Depth 2'-7"

GEOTECHNICAL PROJECTS
Number of Borings _____ Maximum Depth 3'
Hole Diameter _____

STARTING DATE 25 August 2004

COMPLETION DATE 25 August 2004

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

APPLICANT'S SIGNATURE [Signature] DATE 17 Aug 04

PLAASER PRINT NAME Ravi P. P. P. Rev. 9-18-02

PERMIT CONDITIONS

Circled Permit Requirements Apply

- (A) GENERAL**
 1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
 2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources Well Completion Report.
 3. Permit is void if project not begun within 90 days of approval date.
- (B) WATER SUPPLY WELLS**
 1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
 2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.
- (C) GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS**
 1. Minimum surface seal thickness is two inches of cement grout placed by tremie.
 2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.
- (D) GEOTECHNICAL**
Backfill bore hole by means with cement grout or cement grout and mixture. Upper two-thirds feet replaced in kind or with compacted cuttings.
- (E) CATHODIC**
Fill hole anode zone with concrete placed by tremie.
- (F) WELL DESTRUCTION**
Send a map of work site. A separate permit is required for wells deeper than 45 feet.
- (G) SPECIAL CONDITIONS** MW#1

NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

APPROVED [Signature] DATE 8/19/04

Aug 17 04 04:40p

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ALAMEDA COUNTY PUBLIC WORKS AGENCY

WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD CA 94544-1395
PHONE (510) 670-6653 James Yoo
FAX (510) 767-1939

APPLICANTS: PLEASE ATTACH A SITE MAP FOR ALL DRILLING PERMIT APPLICATIONS
DESTRUCTION OF WELLS OVER 45 FEET REQUIRES A SEPARATE PERMIT APPLICATION

DRILLING PERMIT APPLICATION

FOR APPLICANT TO COMPLETE

FOR OFFICE USE

LOCATION OF PROJECT 15101 Freedom Ave.
San Leandro, CA

PERMIT NUMBER W04-0834
WELL NUMBER _____
APN _____

CLIENT

Name Mohammed Pazdel
Address 1770 Estacia Ct Phone 707 399-7723
City Fairfield Zip 94533

APPLICANT

Name SOMA Environmental Engineering
Address 2680 Bishop Dr. Phone 925-244-6600
City San Ramon Zip 94583

TYPE OF PROJECT

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

PROPOSED WATER SUPPLY WELL USE

New Domestic Replacement Domestic
Municipal Irrigation
Industrial Other

DRILLING METHOD:

Mud Rotary Air Rotary Auger
Cable Other

DRILLER'S NAME Gregg Drilling Co.

DRILLER'S LICENSE NO CS 7485-165

WELL PROJECTS

Drill Hole Diameter 8" Maximum
Casing Diameter 2" Depth 25 ft
Surface Seal Depth 20 ft Owner's Well Number MW-8

GEOTECHNICAL PROJECTS

Number of Borings _____ Maximum
Hole Diameter _____ in Depth _____ ft

STARTING DATE 25 August 2004

COMPLETION DATE 26 August 2004

I hereby agree to comply with all provisions of this permit and Alameda County Ordinance No. 75-68.

APPLICANT'S SIGNATURE [Signature] DATE 8/19/04

PLEASE PRINT NAME E. W. Peoples Rev 5-19-03

PERMIT CONDITIONS

Circled Permit Requirements Apply

- A. GENERAL**
 1. A permit application should be submitted so as to arrive at the ACPWA office five days prior to proposed starting date.
 2. Submit to ACPWA within 60 days after completion of permitted original Department of Water Resources-Well Completion Report.
 3. Permit is void if project not begun within 90 days of approval date.
- B. WATER SUPPLY WELLS**
 1. Minimum surface seal thickness is two inches of cement grout placed by trowel.
 2. Minimum seal depth is 50 feet for municipal and industrial wells or 20 feet for domestic and irrigation wells unless a lesser depth is specially approved.
- C. GROUNDWATER MONITORING WELLS INCLUDING PIEZOMETERS**
 1. Minimum surface seal thickness is two inches of cement grout placed by trowel.
 2. Minimum seal depth for monitoring wells is the maximum depth practicable or 20 feet.
- D. GEOTECHNICAL**
Backfill bore hole by trowel with cement grout or cement grout/sand mixture. Upper two-three feet replaced in kind or with compacted cuttings.
- E. CATHODIC**
Fill hole anode zone with concrete placed by trowel.
- F. WELL DESTRUCTION**
Send a map of work site. A separate permit is required for wells deeper than 45 feet.
- G. SPECIAL CONDITIONS**
NOTE: One application must be submitted for each well or well destruction. Multiple borings on one application are acceptable for geotechnical and contamination investigations.

APPROVED _____ DATE 8-19-04



**ALAMEDA COUNTY PUBLIC WORKS AGENCY
WATER RESOURCES SECTION
399 ELMHURST ST. HAYWARD, CA. 94544-1395
PHONE (510) 670-6633 James Yoo FAX (510) 782-1939**

PERMIT NO. W04-0832-0835

**WATER RESOURCES SECTION
GROUNDWATER PROTECTION ORDINANCE
MW#1-GENERAL CONDITIONS: MONITORING WELL**

1. Prior to installation of any monitoring wells into any public right-of-ways, it shall be the applicants responsibilities to contact and coordinate a Underground Service Alert (USA), obtain encroachment permit(s), excavation permit(s) or any other permits required for that City or to the County and follow all City or County Ordinances. It shall also be the applicants responsibilities to provide to the Cities or to Alameda County a 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.
2. The minimum surface seal thickness two inches of cement grout placed by tremie.
3. All monitoring wells shall have a minimum surface cement seal depth of five (5) feet or the maximum depth practicable or twenty (20) feet.
4. Wells shall have a Christy box or similar structure with a locking cap or cover. Well(s) shall be kept locked at all times. Well(s) that become damaged by traffic or construction shall be repaired in a timely manner or destroyed immediately (through permit process). No well(s) shall be left in a manner to act as a conduit at any time.
5. Permittee, 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 statues 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.
6. No changes in construction procedures or well type shall change, as described on this permit application. This permit may be voided if it contains incorrect information.
7. Drilling Permit(s) can be voided/ canceled only in writing. It is the applicants responsibilities to notify Alameda County Public Works Agency, Water Resources Section in writing for an extension or to cancel the drilling permit application. No drilling permit application(s) shall be extended beyond ninety (90) days from the original start date. Permit is valid from August 25 to August 26, 2004. Applicants may not cancel a drilling permit application after the completion date of the permit issued has passed.
8. Compliance with the above well-sealing specifications shall not exempt the well-sealing contractor from complying with appropriate State reporting-requirements related to well destruction (Sections 13750 through 13755 (Division 7, Chapter 10, Article 3) of the California Water Code). Contractor must complete State DWR Form 188 and mail original to the Alameda County Public Works Agency, Water Resources Section, within 60 days. Including: permit number and site map.
9. 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 exercisc of this Permit including, but not limited to, properly damage, personal injury and wrongful death.

Work Order Number:* 80001
*This WO is ___ / is not open for charges.

Permit Number: B04-LD-6007
Permit Issuance Date: 7-26-2004
Permit Expiration Date: 7-26-2005

COUNTY OF ALAMEDA PUBLIC WORKS AGENCY ROADWAY ENCROACHMENT PERMIT

This Permit is issued in accordance with Chapter 12.08 of the Alameda County General Ordinance Code

Name & Address of Property Owner:
Mohammed Raddal
1770 Pistoria Ct.
Fremont, CA 94533
Phone Number: 787 399-7723

Job Site Address:
15101 Freedom Ave.
San Leandro, CA

Name & Address of Contractor:
SDMA Environmental Eng.
2680 Bishop Drive, Suite 203
San Ramon, CA 94583
Phone Number: (925)244-6600

(This statement to be completed by the Agency)
This permit is issued to the owner ___ / contractor ;
if "owner" is checked, he/she is ___ / is not ___ exempt
from the requirement that work in the roadway be
performed by a licensed contractor.

The Applicant intends to perform the following work scope:

monitoring wells

Licensed Contractor Declaration:

I hereby affirm, under penalty of perjury, that I hold the following contractor's license, which is in full force and effect, under the applicable provisions of the State Business and Professions Code.

License Class and No.
Contractor's Signature:

Worker's Compensation Insurance Declaration:

I hereby affirm, under penalty of perjury, that I will, during the performance of any and all work authorized by this permit, satisfy the requirements of the State Labor Code with regard to Worker's Compensation Insurance, as declared below:

I will maintain a certificate of consent to self-insure.
 I will maintain the following insurance policy:
Carrier's Name and Policy No.:

I will not employ any person in any manner so as to become subject to the worker's compensation laws of the State.
Owner's/Contractor's Signature:

All work and/or access shall be performed in accordance with the requirements of Chapter 12.08 and, unless otherwise specified below, shall be fully compliant with each of the terms and conditions of the attached General Provisions:

Tom Ringot
CALL THIS NUMBER FOR INSPECTIONS: 510 670 5979

Bond Information:
12,000⁰⁰

Insp. Fee or Deposit ___: 60⁻
125⁰⁰

BY: M Hubbard, Alameda County

Work Completed (Date):
Inspector:

I certify that the information that I have entered into this permit application is correct, and I agree to comply with all of the terms and conditions and other requirements of the issued Permit.
Signature of Applicant: [Signature] Date: 07/26/04

THIS PERMIT IS INCOMPLETE WITHOUT THE ATTACHED GENERAL PROVISIONS

INSPECTION REQUIREMENTS

- All encroachments authorized by this Permit shall be subject to monitoring, inspection, and/or testing by a County representative; notify the County before you start work by calling the number on the front of this form.
- If the face of this Permit is marked to indicate that the assigned County work order is open for charges, a job account will be opened and the assigned inspectors and other representatives will charge the actual cost of all required tests and inspections against this account. All cost overruns must be resolved prior to closeout of this Permit. Any underruns will be returned to the Permittee as soon as possible following the closeout.

CAUTION!

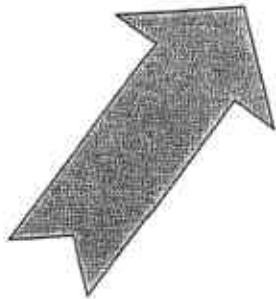
Most traffic signals and some streetlights are connected to their power sources with underground wiring. Many signals are also wired to traffic detector loops buried in the roadway. None of these County-owned wiring runs are included in the Underground Service Alert (USA) review and marking processes.

If you intend to excavate within 500' of a traffic signal, or in proximity to County-owned streetlights, you must contact the County traffic signal maintenance office at

→(510) 670 - 5537←

at least 48 hours in advance of the start of your planned work.

If you cause a signal outage, a streetlight failure, or other damage to County signal or streetlight facilities because you failed to contact the signal office to get the facilities marked, you will be billed for the full cost of our emergency response and repairs.



Work Order Number: * 20001

This WO is ___ / is not open for charges.

Permit Number: 204-LD-6007

Permit Issuance Date: 7-26-04

Permit Expiration Date: OPEN

**COUNTY OF ALAMEDA PUBLIC WORKS AGENCY
ROADWAY ENCROACHMENT PERMIT**

This Permit is issued in accordance with Chapter 12.08 of the Alameda County General Ordinance Code

Name & Address of Property Owner:
Mohammed Bagdal
1770 Pizzeria Ct.
Fairfield, CA 94533

Phone Number: 707 399-7723

Name & Address of Contractor:
SDMA Environmental Eng.
2680 Bishop Drive, Suite 203
San Ramon, CA 94583

Phone Number: (925) 244-6600

Job Site Address:
15101 Freedom Ave.
San Leandro, CA

(This statement to be completed by the Agency)

This permit is issued to the owner ___ / contractor ; if "owner" is checked, he/she is ___ / is not ___ exempt from the requirement that work in the roadway be performed by a licensed contractor.

The Applicant intends to perform the following work scope:

- (4) monitoring wells (1) ONE ON SOUTHBOUND LANE FAIRMONT AV
(1) ONE ON LIBERTY AV @ FAIRMONT AV
See Attached MAP. (2) TWO ON 152ND ST.

Licensed Contractor Declaration:

I hereby affirm, under penalty of perjury, that I hold the following contractor's license, which is in full force and effect, under the applicable provisions of the State Business and Professions Code.

License Class and No. _____
Contractor's Signature: _____

Worker's Compensation Insurance Declaration:

I hereby affirm, under penalty of perjury, that I will, during the performance of any and all work authorized by this permit, satisfy the requirements of the State Labor Code with regard to Worker's Compensation Insurance, as declared below:

___ I will maintain a certificate of consent to self-insure.
___ I will maintain the following insurance policy:
Carrier's Name and Policy No.: _____

___ I will not employ any person in any manner so as to become subject to the worker's compensation laws of the State.
Owner's/Contractor's Signature: _____

All work and/or access shall be performed in accordance with the requirements of Chapter 12.08 and, unless otherwise specified below, shall be fully compliant with each of the terms and conditions of the attached General Provisions:

TON RINGOT

CALL THIS NUMBER FOR INSPECTIONS: 670 59799

Bond Information:
12,000

BY: M. Hubbard, Alameda County

Insp. Fee or Deposit 60
125

Work Completed (Date): _____

Inspector: _____

I certify that the information that I have entered into this permit application is correct, and I agree to comply with all of the terms and conditions and other requirements of the issued Permit.

[Signature] Signature of Applicant 07/26/04 Date

THIS PERMIT IS INCOMPLETE WITHOUT THE ATTACHED GENERAL PROVISIONS

INSPECTION REQUIREMENTS

- All encroachments authorized by this Permit shall be subject to monitoring, inspection, and/or testing by a County representative; notify the County before you start work by calling the number on the front of this form.
- If the face of this Permit is marked to indicate that the assigned County work order is open for charges, a job account will be opened and the assigned inspectors and other representatives will charge the actual cost of all required tests and inspections against this account. All cost overruns must be resolved prior to closeout of this Permit. Any underruns will be returned to the Permittee as soon as possible following the closeout.

CAUTION!

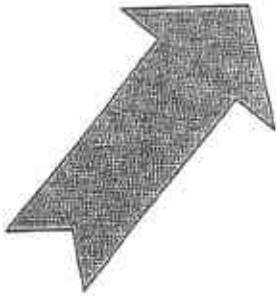
Most traffic signals and some streetlights are connected to their power sources with underground wiring. Many signals are also wired to traffic detector loops buried in the roadway. None of these County-owned wiring runs are included in the Underground Service Alert (USA) review and marking processes.

If you intend to excavate within 500' of a traffic signal, or in proximity to County-owned streetlights, you must contact the County traffic signal maintenance office at

→(510) 670 - 5537←

at least 48 hours in advance of the start of your planned work.

If you cause a signal outage, a streetlight failure, or other damage to County signal or streetlight facilities because you failed to contact the signal office to get the facilities marked, you will be billed for the full cost of our emergency response and repairs.



APPENDIX B

Monitoring Well Borehole Logs and Construction Details



GEOLOGIC LOG OF BOREHOLE MW-6

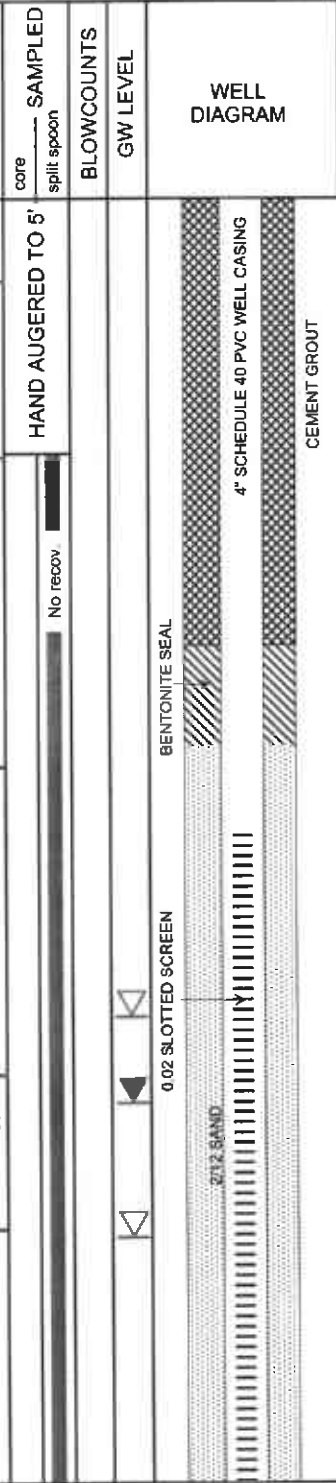
BORING LOCATION

SEE SITE MAP

PROJECT: 2552
 SITE LOCATION: Intersection of 152-nd and Liberty St.
 DRILLING METHOD: HSA
 DRILLER: Gregg Drilling & Testing. (Jason)
 LOGGED BY: E Jennings

DATE DRILLED: August 25, 2004
 CASING ELEVATION: NA
 DEPTH TO 1ST GW: 16 ft bgs
 APPROVED BY: R. Papler R.G.

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS.	GEOLOGIC DESCRIPTION	SAMPLING		BLOWCOUNTS	GW LEVEL	WELL DIAGRAM
					core	split spoon			
				6-7" Asphalt over 15" Baserock					
			CL	SILTY CLAY: dark gray becoming medium dark brownish gray w/ depth, med. stiff to stiff, moist, high plasticity; Low estimated permeability (LEK). Slight petroleum hydrocarbon (PHC) odor.					
	5		CL	SILTY CLAY with some Sand and Gravel: light gray brown becoming gray brown below 8', stiff, damp, becoming moist below 8'; <15% very fine sand and gravel with some caliche; Low estimated permeability (LEK). No petroleum hydrocarbon (PHC) odor.					
	0								
	0								
	10		SP/SW	SAND interbedded with GRAVELLY SAND: olive gray, med dense; moist to very moist becoming wet below 16"; fine to coarse sand with < 20% subangular to subrounded gravel to 1"; High estimated permeability (HEK). No PHC odor.					
	10								
	15			As above with moderate PHC odor.					
	307		CL/SC	SANDY CLAY/ CLAYEY SAND w/ some Gravel: olive gray, med. stiff, very moist; 40-60% very fine to fine sand w/ <15% subangular to subrounded gravel to 1 1/2"; MEK-HEK. Moderate to strong PHC odor.					
	442		SW	SAND w/ some Gravel: olive gray, med. dense, moist becoming wet, fine to coarse sand w/ < 10% subrounded gravel to 3/4"; HEK. Strong PHC odor.					
	20								
255									
25									





GEOLOGIC LOG OF BOREHOLE MW-7

BORING LOCATION

SEE SITE MAP

PROJECT: 2552
 SITE LOCATION: 1760 Fairmont Ave,
 San Leandro, CA
 DRILLING METHOD: HSA
 DRILLER: Gregg Drilling & Testing. (Jason)
 LOGGED BY: R. Papler R.G.

DATE DRILLED: August 26, 2004
 CASING ELEVATION: NA
 DEPTH TO 1ST GW: 20.25 ft bgs
 APPROVED BY: R. Papler R.G.

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS.	GEOLOGIC DESCRIPTION	spill-spoon core	SAMPLED	BLOWCOUNTS	GW LEVEL	WELL DIAGRAM
				5" Asphalt over 3" Concrete over 10" Baserock					
	5		CL	SILTY CLAY: dark gray, moist, high plasticity; Low estimated permeability (LEK) No petroleum hydrocarbon (PHC) odor.					<p>CEMENT BENTONITE GROUT</p> <p>2" Schedule 40 PVC casing</p> <p>BENTONITE SEAL</p> <p>0.02 SLOTTED SCREEN</p> <p>2 1/2" SAND</p> <p>BENTONITE PLUG</p>
			ML	SANDY CLAY/ CLAYEY SAND: as per TWB-2, contact the same as TWB-2					
	10		CL	SANDY CLAY cuttings: light brown, moist, mod. plastic; LEK-MEK. SANDY CLAY/ CLAYEY SAND as per TWB-2. Contact same as TWB-2					
	15		CL	SILTY CLAY CUTTINGS: olive gray, moist becoming very moist with depth, highly plastic; LEK. No PHC odor.					
	20			SILTY CLAY w/ very moist Sand stringer at 19': as per TWB-2, with wet sand stringers at 20.25-20.5' w/ slight PHC odor. As above w/ wet sand stringer at 20.25 to 20.5'					
	20		SM/ML	SANDY SILT/ SILTY SAND with some Clay: light gray brown slightly mottled olive gray, very stiff to hard, damp becoming moist below 22', mod. plastic; 40-60% very fine sand w/ abundant caliche to 23'. LEK. No PHC odor.					
	25		CL	SANDY CLAY w/ some Sand: light brownish gray, very stiff to hard, damp, mod. to highly plastic; <20-30% very fine sand. LEK. No PHC odor.					



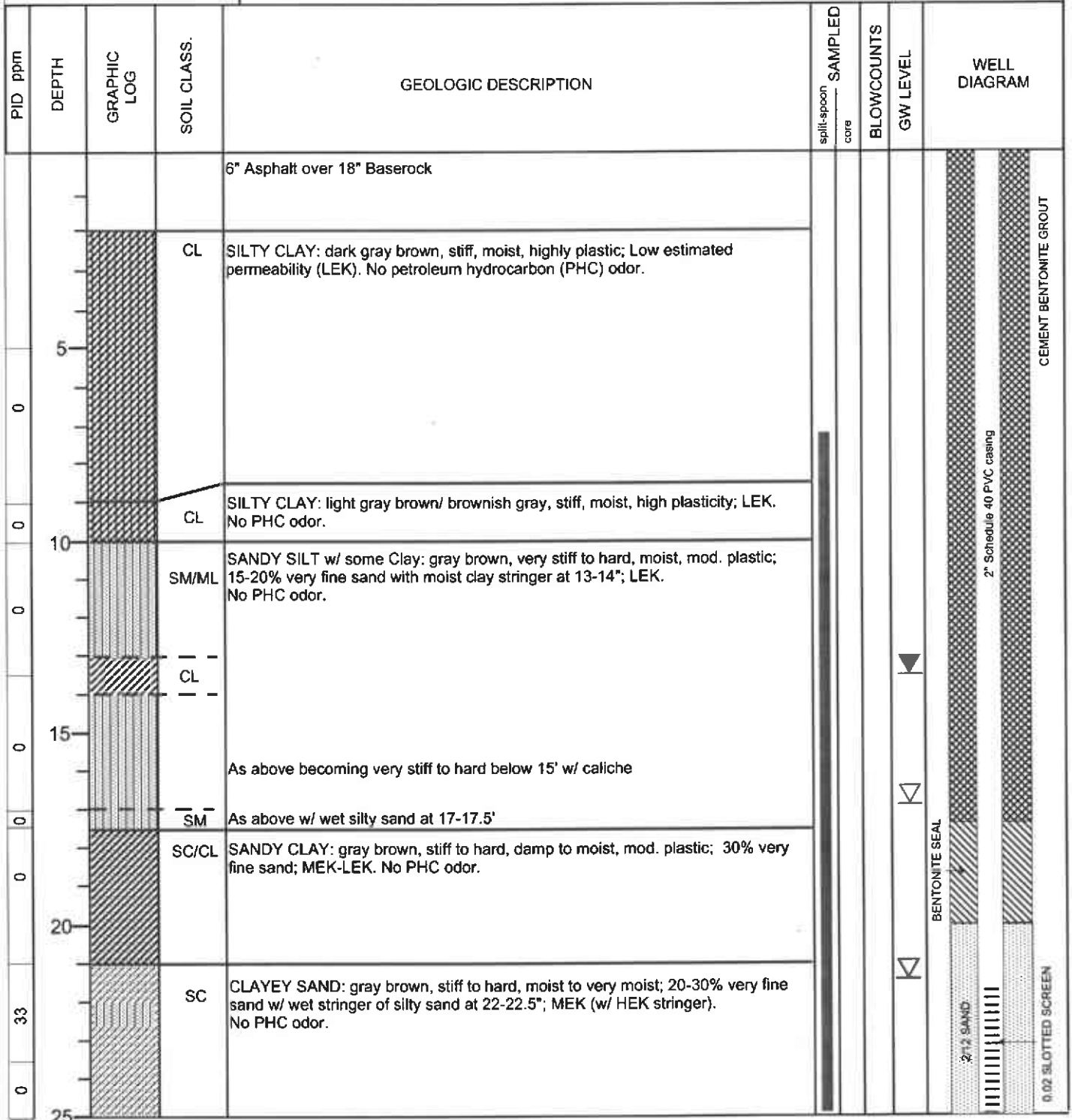
GEOLOGIC LOG OF BOREHOLE MW-8

BORING LOCATION

SEE SITE MAP

PROJECT: 2552
 SITE LOCATION: 1701 Fairmont Ave,
 San Leandro, CA
 DRILLING METHOD: HSA
 DRILLER: Gregg Drilling & Testing.
 LOGGED BY: R. Papler R.G.

DATE DRILLED: August 26, 2004
 CASING ELEVATION: NA
 DEPTH TO 1ST GW: 17 ft bgs
 APPROVED BY: R. Papler R.G.





GEOLOGIC LOG OF BOREHOLE MW-8

BORING LOCATION

PROJECT: 2552
 SITE LOCATION: 1701 Fairmont Ave,
 San Leandro, CA
 DRILLING METHOD: HSA
 DRILLER: Gregg Drilling & Testing.
 LOGGED BY: R. Papler R.G.

DATE DRILLED: August 26, 2004
 CASING ELEVATION: NA
 DEPTH TO 1ST GW: 17 ft bgs
 APPROVED BY: R. Papler R.G.

SEE SITE MAP

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS.	GEOLOGIC DESCRIPTION	spill-spoon core SAMPLED	BLOWCOUNTS	GW LEVEL	WELL DIAGRAM
0	0		SM/ML	SANDY SILT/ SILTY SAND w/ some Clay: gray brown, very stiff to hard, med. dense, moist; LEK. No PHC odor.				
	2		CL	SILTY CLAY: dark gray brown, very stiff to hard, moist, high plasticity; w/ wet 3" stringer sandy silt/ silty sand at 27.75; LEK. No PHC odor.				
	30		CL	SILTY CLAY w/ some Sand: gray brown, very stiff, moist, high plasticity; <15% very fine grain sand; LEK. No PHC odor.				
	35			Total depth 31 ft bgs Caved in to 29 ft Groundwater first encountered at 17 ft bgs then 22 ft bgs and later stabilized to 12.48 feet below toc (21 September 2004).				
	40							
	45							
	50							



GEOLOGIC LOG OF BOREHOLE MW-9

BORING LOCATION SEE SITE MAP	PROJECT: 2552	DATE DRILLED: August 25/ Sept 2, 2004
	SITE LOCATION: 1638 152-nd Street, San Leandro, CA	CASING ELEVATION: NA
	DRILLING METHOD: HSA	DEPTH TO 1ST GW: 17 ft bgs
	DRILLER: Gregg Drilling & Testing. (Jason) LOGGED BY: R. Papler R.G./ E. Jennings	APPROVED BY: R. Papler R.G.

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS.	GEOLOGIC DESCRIPTION	spoil-spoon core SAMPLED	BLOWCOUNTS	GW LEVEL	WELL DIAGRAM
				3-4" asphalt over 6-8" baserock				
			CL	SANDY CLAY/SILTY CLAY: dark gray brown; moist; plastic. Medium to low estimated permeability (MEK-LEK). No petroleum hydrocarbon (PHC) odor. (fill)	HAND AUGERED TO 5'			
	5		CL	SILTY CLAY: dark gray, med. stiff, moist, high plasticity; w/ some caliche at 6.5-8'; Low estimated permeability (LEK). No petroleum hydrocarbon (PHC) odor.				
				SILTY CLAY CUTTINGS: dark gray, moist, plastic. As above: color grading to light gray below 7.75'				
	10		SM/ML	SANDY SILT with some Clay: light gray brown, stiff to hard, damp, becoming very moist w/ depth, sl. plasticity; 20-40% very fine grain sand; <10-15% clay w/ caliche at 9.5-10.5'; w/ wet sand stringer at 11.5-12'; MEK. No PHC odor.				
			SM					
			SM/ML	SANDY SILT/ SILTY SAND w/ some Clay: light gray brown, very stiff/ med. dense, moist to very moist, plastic; 40-60% very fine to fine sand; MEK. No PHC odor.				
	15		SC/CL	SANDY CLAY/ CLAYEY SAND: light brown, med. stiff to stiff, damp to moist, plastic; 40-60% very fine to fine sand w/ very moist to wet silty sand stringer at 15.5-15.75'; LEK. No PHC odor.				
			SM					
			SC/CL					
			SC/CL	GRAVELLY SAND: gray brown, med. dense, wet, poorly graded; 20-40% subangular to subrounded gravel to 3/4"; HEK. No PHC odor.				
	20		CL	SILTY CLAY w/ some Sand: gray brown, very stiff to hard, moist to very moist, high plasticity; <15% very fine grain sand w/ occasional gravel to 1/2" diameter; LEK. No PHC odor.				
				As above: becoming damp to moist and hard.				
	25							

2" Schedule 40 PVC casing
CEMENT BENTONITE GROUT



GEOLOGIC LOG OF BOREHOLE MW-9

BORING LOCATION

SEE SITE MAP

PROJECT: 2552
 SITE LOCATION: 1638 152-nd Street,
 San Leandro, CA
 DRILLING METHOD: HSA
 DRILLER: Gregg Drilling & Testing. (Robert)
 LOGGED BY: R. Papler R.G.

DATE DRILLED: August 25/ Sept 2, 2004
 CASING ELEVATION: NA
 DEPTH TO 1ST GW: 17 ft bgs
 APPROVED BY: R. Papler R.G.

PID ppm	DEPTH	GRAPHIC LOG	SOIL CLASS.	GEOLOGIC DESCRIPTION	split-spoon core SAMPLED	GW LEVEL	BLOWCOUNTS	WELL DIAGRAM
2	2		CL	SILTY CLAY w/ some Sand: gray brown, very stiff to hard, damp to moist; <15% very fine grain sand; LEK. No PHC odor.				
2	2							
2	2							
3	30	CL/SC	SANDY CLAY: gray brown, very stiff, very moist, mod. - high plasticity; <15-20% very fine grain sand; MEK-LEK. No PHC odor.					
2	9	SM SC	CLAYEY SAND: gray brown, mod. to very stiff, moist to very moist; 50-60% very fine sand w/ wet silty sand stringer at 31.5-32'; MEK (w/ HEK stringer) No PHC odor.					
6	6	CL	SILTY CLAY w/ some Sand: gray brown, med. stiff, very moist, mod. to high plasticity; <10-15% very fine sand; LEK. No PHC odor.					
6	35			Total depth 34.5 ft bgs Caved to 33.5 ft bgs Groundwater first encountered at 17 ft bgs then 31.5 ft bgs and later stabilized to 12.98 ft bgs.				
	40							
	45							
	50							

APPENDIX C

Laboratory Report of Soil Analytical



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878

2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

A N A L Y T I C A L R E P O R T

Prepared for:

SOMA Environmental Engineering Inc.
2680 Bishop Dr.
Suite 203
San Ramon, CA 94583

Date: 15-SEP-04

Lab Job Number: 174306

Project ID: 2552


Location: 15101 Freedom Avenue

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis.

Reviewed by:


Project Manager

Reviewed by:


Operations Manager

This package may be reproduced only in its entirety.

CASE NARRATIVE

Laboratory number: 174306
Client: SOMA Environmental Engineering Inc.
Project: 2552
Location: 15101 Freedom Avenue
Request Date: 08/27/04
Samples Received: 08/27/04

This hardcopy data package contains sample and QC results for four soil samples, requested for the above referenced project on 08/27/04. The samples were received cold and intact.

TPH-Purgeables and/or BTXE by GC (EPA 8015B and EPA 8021B):

No analytical problems were encountered.

Volatile Organics by GC/MS (EPA 8260B):

High recovery was observed for MTBE in the MS for batch 94304; the parent sample was not a project sample, the LCS was within limits, and this analyte was not detected in the associated samples. High surrogate recovery was observed for bromofluorobenzene in the method blank for batch 94193. High surrogate recovery was observed for bromofluorobenzene in the LCS for batch 94193. High surrogate recovery was observed for dibromofluoromethane in the MS for batch 94304; the parent sample was not a project sample. No other analytical problems were encountered.

Curtis & Tompkins, Ltd.

Analytical Laboratory Since 1878

2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900 Phone
(510) 486-0532 Fax

CHAIN OF CUSTODY

Analysis

C & T LOGIN #: 174306

Project No.: 2552
Project Name: PAZDEL / SAN LEANDRO
Project P.O.: —
Turnaround Time: STANDARD

Sampler: E JENNINGS
Report To: J BOREK
Company: SOMA ENV ENV
Telephone: 925 244-6600
Fax: 925 244-6601

Lab No.	Sample ID.	Sampling Date Time	Matrix			# of Containers	Preservative			
			Soil	Water	Waste		HCL	H ₂ SO ₄	HNO ₃	ICE
-1	MW-605.5-6	25 AUG 2004 8 ⁰⁰	X			1				X
-2	MW-606-6.5	8 ⁰⁰	X			1				X
-3	MW-608.5-9	8 ⁰⁰	X			1				X
-4	MW-609-9.5	8 ⁰⁵	X			1				X
-5	MW-905.5-6	11 ²⁰	X			1				X
-6	MW-906-0.5	11 ²⁰	X			1				X

TPM WAS 8015	STEX 8020	WAS OXYGENATES 8200	F. M. D.																		
X	X	X																			
X	X	X																			
X	X	X																			
X	X	X																			

Notes: EDF REQUIRED

SAMPLE RECEIPT
 Intact Cold
 On Ice Ambient
 Preservative Correct?
 Yes No N/A

RELINQUISHED BY:
E JENNINGS
 DATE / TIME: 25 AUG 2004 / 5:00
 DATE / TIME: 26 29 AUG 04 / 12:00
 DATE / TIME: _____

RECEIVED BY:
[Signature]
 DATE / TIME: 25 AUG 2004 / 5:00
 DATE / TIME: 8/27/04 12:00
 DATE / TIME: _____

SIGNATURE

rec'd intact cold RG

Curtis & Tompkins Laboratories Analytical Report

Lab #:	174306	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552		
Matrix:	Soil	Sampled:	08/25/04
Basis:	as received	Received:	08/27/04
Diln Fac:	1.000	Analyzed:	08/28/04
Batch#:	94162		

Field ID: MW-6@5.5-6 Lab ID: 174306-001
 Type: SAMPLE

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	1.1	mg/Kg	EPA 8015B
Benzene	ND	5.3	ug/Kg	EPA 8021B
Toluene	ND	5.3	ug/Kg	EPA 8021B
Ethylbenzene	ND	5.3	ug/Kg	EPA 8021B
m,p-Xylenes	ND	5.3	ug/Kg	EPA 8021B
o-Xylene	ND	5.3	ug/Kg	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	93	68-135	EPA 8015B
Bromofluorobenzene (FID)	96	75-148	EPA 8015B
Trifluorotoluene (PID)	93	61-124	EPA 8021B
Bromofluorobenzene (PID)	94	74-127	EPA 8021B

Field ID: MW-6@6-6.5 Lab ID: 174306-002
 Type: SAMPLE

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	1.1	mg/Kg	EPA 8015B
Benzene	ND	5.3	ug/Kg	EPA 8021B
Toluene	ND	5.3	ug/Kg	EPA 8021B
Ethylbenzene	ND	5.3	ug/Kg	EPA 8021B
m,p-Xylenes	ND	5.3	ug/Kg	EPA 8021B
o-Xylene	ND	5.3	ug/Kg	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	93	68-135	EPA 8015B
Bromofluorobenzene (FID)	96	75-148	EPA 8015B
Trifluorotoluene (PID)	93	61-124	EPA 8021B
Bromofluorobenzene (PID)	93	74-127	EPA 8021B

Field ID: MW-6@8.5-9 Lab ID: 174306-003
 Type: SAMPLE

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	1.1	mg/Kg	EPA 8015B
Benzene	ND	5.3	ug/Kg	EPA 8021B
Toluene	ND	5.3	ug/Kg	EPA 8021B
Ethylbenzene	ND	5.3	ug/Kg	EPA 8021B
m,p-Xylenes	ND	5.3	ug/Kg	EPA 8021B
o-Xylene	ND	5.3	ug/Kg	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	91	68-135	EPA 8015B
Bromofluorobenzene (FID)	94	75-148	EPA 8015B
Trifluorotoluene (PID)	91	61-124	EPA 8021B
Bromofluorobenzene (PID)	92	74-127	EPA 8021B

ND= Not Detected
 RL= Reporting Limit
 Page 1 of 2



Curtis & Tompkins Laboratories Analytical Report

Lab #:	174306	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552		
Matrix:	Soil	Sampled:	08/25/04
Basis:	as received	Received:	08/27/04
Diln Fac:	1.000	Analyzed:	08/28/04
Batch#:	94162		

Field ID: MW-6@9-9.5 Lab ID: 174306-004
 Type: SAMPLE

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	1.0	mg/Kg	EPA 8015B
Benzene	ND	5.0	ug/Kg	EPA 8021B
Toluene	ND	5.0	ug/Kg	EPA 8021B
Ethylbenzene	ND	5.0	ug/Kg	EPA 8021B
m,p-Xylenes	ND	5.0	ug/Kg	EPA 8021B
o-Xylene	ND	5.0	ug/Kg	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	94	68-135	EPA 8015B
Bromofluorobenzene (FID)	96	75-148	EPA 8015B
Trifluorotoluene (PID)	93	61-124	EPA 8021B
Bromofluorobenzene (PID)	95	74-127	EPA 8021B

Type: BLANK Lab ID: QC262899

Analyte	Result	RL	Units	Analysis
Gasoline C7-C12	ND	1.0	mg/Kg	EPA 8015B
Benzene	ND	5.0	ug/Kg	EPA 8021B
Toluene	ND	5.0	ug/Kg	EPA 8021B
Ethylbenzene	ND	5.0	ug/Kg	EPA 8021B
m,p-Xylenes	ND	5.0	ug/Kg	EPA 8021B
o-Xylene	ND	5.0	ug/Kg	EPA 8021B

Surrogate	%REC	Limits	Analysis
Trifluorotoluene (FID)	93	68-135	EPA 8015B
Bromofluorobenzene (FID)	91	75-148	EPA 8015B
Trifluorotoluene (PID)	91	61-124	EPA 8021B
Bromofluorobenzene (PID)	90	74-127	EPA 8021B



Curtis & Tompkins, Ltd., Analytical Laboratories, Since 1878
2323 Fifth Street, Berkeley, CA 94710, Phone (510) 486-0900

ANALYTICAL REPORT

Prepared for:

SOMA Environmental Engineering Inc.
2680 Bishop Dr.
Suite 203
San Ramon, CA 94583

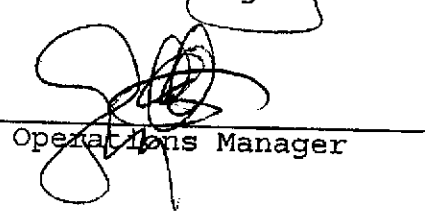
Date: 30-MAY-02
Lab Job Number: 158675
Project ID: 2552
Location: 15101 Freedom Avenue

This data package has been reviewed for technical correctness and completeness. Release of this data has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signatures. The results contained in this report meet all requirements of NELAC and pertain only to those samples which were submitted for analysis.

Reviewed by:


Project Manager

Reviewed by:


Operations Manager

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NELAP # 01107CA

Page 1 of 12



Curtis & Tompkins, Ltd.

Laboratory Number: 158675
Client: Soma Environmental Engineering, Inc.
Project Name: 15101 Freedom Boulevard
Project #: 2550
Receipt Date: 05/24/02

CASE NARRATIVE

This hardcopy data package contains sample results and batch QC results for five soil samples received from the above referenced project on April 24th, 2002. The samples were received cold and intact.

Metals (EPA 6010B):

No analytical problems were encountered.

Total Organic Carbon (Walkley-Black):

No analytical problems were encountered.

Subcontracted Analysis

Bulk Density (ASTM D2216):

This analysis was performed by PTS Laboratories, Inc. of Santa Fe Springs, California. Please see the PTS Laboratories, Inc. case narrative.

Lead

Lab #:	158675	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 3050
Project#:	2552	Analysis:	EPA 6010B
Analyte:	Lead	Batch#:	72456
Matrix:	Soil	Sampled:	04/22/02
Units:	mg/Kg	Received:	04/24/02
Basis:	as received	Prepared:	05/21/02
Diln Fac:	1.000	Analyzed:	05/27/02

Field ID	Type	Lab ID	Result	RL
MW-5 @ 6'	SAMPLE	158675-001	1.6	0.14
MW-5 @ 19.5'	SAMPLE	158675-003	0.22	0.14
MW-5 @ 10'	SAMPLE	158675-006	0.55	0.13
	BLANK	QC178995	ND	0.15

Lead			
Lab #:	158675	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 3050
Project#:	2552	Analysis:	EPA 6010B
Analyte:	Lead	Diln Fac:	1.000
Matrix:	Soil	Batch#:	72456
Units:	mg/Kg	Prepared:	05/21/02
Basis:	as received	Analyzed:	05/22/02

Type	Lab ID	Spiked	Result	PREC	Limite	RPD	Lim
BS	QC178996	100.0	84.65	85	70-120		
BSD	QC178997	100.0	85.90	86	70-120	1	20

Lead

Lab #: 158675	Location: 15101 Freedom Avenue
Client: SOMA Environmental Engineering Inc.	Prep: EPA 3050
Project#: 2552	Analysis: EPA 6010B
Analyte: Lead	Diln Fac: 1.000
Field ID: ZZZZZZZZZZ	Batch#: 72456
MSS Lab ID: 158669-001	Sampled: 05/17/02
Matrix: Soil	Received: 05/17/02
Units: mg/Kg	Prepared: 05/21/02
Basis: as received	Analyzed: 05/22/02

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim
MS	QC178998	10.67	80.97	73.68	78	46-128		
MSD	QC178999		96.15	90.10	83	46-128	5	39

RPD= Relative Percent Difference

Page 1 of 1



Curtis & Tompkins, Ltd.

Total Organic Carbon (TOC)

Lab #:	158675	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Analysis:	WALKLEY-BLACK
Project#:	2552		
Analyte:	Total Organic Carbon	Batch#:	72411
Matrix:	Soil	Sampled:	04/22/02
Units:	%	Received:	04/24/02
Basis:	as received	Analyzed:	05/20/02

Field ID	Type	Lab ID	Result	RL	Diln Fac
MW-5 @ 6'	SAMPLE	158675-001	0.13	0.03	3.000
MW-5 @ 19.5'	SAMPLE	158675-003	0.05	0.01	1.000
MW-5 @ 10'	SAMPLE	158675-006	0.07	0.01	1.000
	BLANK	QC178844	ND	0.01	1.000

Total Organic Carbon (TOC)

Lab #:	158675	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Analysis:	WALKLEY-BLACK
Project#:	2552		
Analyte:	Total Organic Carbon	Basis:	as received
Field ID:	MW-5 @ 6'	Batch#:	72411
MSS Lab ID:	158675-001	Sampled:	04/22/02
Matrix:	Soil	Received:	04/24/02
Units:	%	Analyzed:	05/20/02

Type	Lab ID	MSS Result	Spiked	Result	%REC	Limits	RPD	Lim	Diln	Fac
LCS	QC178845		0.1300	0.1200	92	76-120				3.000
MS	QC178846	0.1260	0.2200	0.2340	50	35-146				7.000
MSD	QC178847		0.2100	0.2670	67	35-146	13	32		6.000

RPD= Relative Percent Difference
Page 1 of 1



Curtis & Tompkins, Ltd

PTS Laboratories

Geotechnical Services

8100 Secura Way • Santa Fe Springs • CA 90670
Phone (562) 907-3607 • Fax (562) 907-3610

May 24, 2002

Mr. Paul Prendergast
Curtis & Tompkins
2323 Fifth St.
Berkeley, CA 94710

Re: 158675
PTS File: 32216

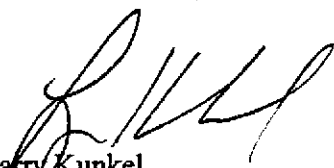
Dear Mr. Prendergast:

Enclosed are final data for your Project # 158675. All analyses were performed by applicable ASTM, EPA or API methodology. Samples will be retained for 30 days before disposal unless other arrangements are made.

We appreciate the opportunity to be of service and trust these data will prove beneficial in the development of this project. Please feel free to call me at (562) 907-3607 should you have any questions or require additional information.

Sincerely,

PTS Laboratories, Inc.



Larry Kunkel
District Manager

LK/vk

encl.

PHYSICAL PROPERTIES DATA
(METHODOLOGY: ASTM D2216, API RP40)

PROJECT NAME: N/A
PROJECT NO: 158675

SAMPLE ID.	DEPTH, ft.	SAMPLE ORIENT. (1)	MOISTURE CONTENT (% wt)	DENSITY	
				BULK (g/cc)	GRAIN (g/cc)
MW-5@9.5	9.50	V	19.10	1.83	2.73
MW-5@20	20.00	V	9.34	1.89	2.87

(1) Sample Orientation: H = horizontal; V = vertical

32216

Curtis & Tompkins, Ltd.
Analytical Laboratories, Since 1878
2323 Fifth Street
Berkeley, CA 94710
(510) 486-0900
(510) 486-0532

Project Number: 158675

Subcontract Laboratory:
PTS Laboratories, Inc
8100 Secura Way
Santa Fe Springs, CA 90670
(562) 907-3607
ATTN: Rick Young

Turnaround Time: 5 DAY TAT (DUE 5/27) Report Level: II

Please send report to: Paul Prendergast
*** Please report using Sample ID rather than C&T Lab #.

Sample ID	Sampled	Matrix	Analysis	C&T Lab #	Comments
MW-5 @ 9.5'	04/22	Soil	DENSITY	158675-002	
MW-5 @ 20'	04/22	Soil	DENSITY	158675-004	

Notes:	Relinquished By:	Received By:
	<i>Paul Prendergast</i>	<i>Ray B...</i>
	Date/Time: <i>5-20-02 2:15 p.m.</i>	Date/Time: <i>5/21/02 2:30</i>

APPENDIX D

Well Development Data



ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-6
 Casing Diameter: 4 inch
 Depth of Well: 27.6 ft
 Top of Casing Elevation: _____ ft
 Depth to Groundwater: 17.80 ft
 Groundwater Elevation: _____ ft
 Water Column Height: 9.7 ft
 Purged Volume: 28 gallons

Project No.: 2552

Address: 1501 FREEDOM BLVD. SAN LEANDRO

Date: 20 SEPT 2004

Sampler: E JENNINGS

Purging Method: Bailer Pump

Sampling Method: Bailer Pump

Color: No Yes Describe _____

Sheen: No Yes Describe _____

Odor: No Yes Describe _____

Field Measurements: WELP DEVELOPMENT

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU
	20		6.85	22.1	1075	535
	24		6.85	22.3	1065	534
	28		6.87	22.0	1070	536

Notes: PWT DEVELOPMENT TD: 27.6 DTW: 17.82
TOTAL PURGED VOLUME 28 GAL



ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-7
 Casing Diameter: 2 inch
 Depth of Well: 21 ft
 Top of Casing Elevation: _____ ft
 Depth to Groundwater: 15.35 ft
 Groundwater Elevation: _____ ft
 Water Column Height: 5.65 ft
 Purged Volume: 18 gallons

Project No.: 2552
 Address: 19101 FREEDOM BLVD. SAN LEANDRO
 Date: 20 SEPT 2004
 Sampler: E JENNINGS

Purging Method: Bailer Pump

Sampling Method: Bailer Pump

Color: No Yes Describe _____

Sheen: No Yes Describe _____

Odor: No Yes Describe _____

Field Measurements: WELL DEVELOPMENT

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU
	10		6.75	19.9	1409	704
	14		6.80	19.7	1287	643
	18		6.83	19.8	1245	622

Notes: 70% DEVELOPMENT TD; 21 DTW; 15.35 TO 19.61
 TOTAL PURGED VOLUME 18 GAL



ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-8
 Casing Diameter: 2 inch
 Depth of Well: 28.10 ft
 Top of Casing Elevation: _____ ft
 Depth to Groundwater: 15.10 ft
 Groundwater Elevation: _____ ft
 Water Column Height: 15 ft
 Purged Volume: 18 gallons

Project No.: 2542

Address: 15101 FREEDOM BLD. SAN LEANDRO

Date: 20 SEP 2004

Sampler: E JENNINGS

TOTAL

Purging Method: Bailer Pump

Sampling Method: Bailer Pump

Color: No Yes Describe _____

Sheen: No Yes Describe _____

Odor: No Yes Describe _____

Field Measurements: NEW DEVELOPMENT

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU
	9		7.15	20.7	1465	732
	12		7.17	20.7	1396	697
	15		7.00	20.7	1388	695
	18		7.18	20.8	1314	687

Notes: POST DEVELOPMENT TD: 28.10 DTW: 13.27
TOTAL PURGED VOLUME 18 GAL



ENVIRONMENTAL ENGINEERING, INC

Well No.: MW-9
 Casing Diameter: 2 inch
 Depth of Well: 32.20 ft
 Top of Casing Elevation: _____ ft
 Depth to Groundwater: 13.27 ft
 Groundwater Elevation: _____ ft
 Water Column Height: 18.93 ft
 Purged Volume: 24 gallons

Project No.: 2552
 Address: 19101 FREEDOM BVD · SAN LEANDRO
 Date: 20 SEPT 2004
 Sampler: E JENNINGS

Purging Method: Bailer Pump

Sampling Method: Bailer Pump

Color: No Yes Describe _____

Sheen: No Yes Describe _____

Odor: No Yes Describe _____

Field Measurements: NEW DEVELOPMENT

Time	Volume (gallons)	D.O. mg/L	pH	Temp °C	E.C. (µS/cm)	Turb. NTU
	15		7.19	20.4	877	442
	18		7.10	20.2	844	422
	21		7.07	20.0	826	416
	24		7.10	20.0	839	420

Notes: POGT DEVELOPMENT TD 32.75 DTW 12.40
TOTAL PURGED VOLUME 24 GAL

8⁵⁵ ORANGE / WOODWARD DRILLING ON SITE
 8³⁰ PRE-DEVELOPMENT: MW-6 TD 27.6" DTW 17.80 FT BGS
 8¹⁰ - 10¹⁰ DEVELOPMENT OF MW-6

NOTE: OFFSITE 3¹⁵ / TWO 55 GAL OR VERT ON SITE

SURFED WELL FOR 15 MIN
 BAILED APPROX. 19 GAL BEFORE PUMPING

WATER QUALITY PARAMETERS:	PH	TURB. (ppm)	TEMP.	COND (uS)
20 GAL	6.89	535	22.1	1075
25	6.65	534	22.3	1065
28	6.67	536	23.0	1070

TOTAL PUMED: 28 GAL

WATER QUALITY: CLEAR

10⁰⁰ POST DEVELOPMENT: TD 27.6" DTW 17.82 FT BGS

10²⁵ PRE-DEVELOPMENT: MW-7 TD 21' DTW 15.35 FT BGS

10³⁵ - 11³⁵ DEVELOPMENT OF MW-7

SURFED WELL FOR 15 MIN
 BAILED APPROX. 7.5 GAL

WATER QUALITY PARAMETERS:	PH	TURB. (ppm)	TEMP.	COND (uS)
10 GAL	6.75	704	19.9	1409
14 GAL	6.80	643	19.7	1287
18 GAL	6.85	622	19.8	1245

TOTAL PUMED: 18 GAL

WATER QUALITY: CLEAR

11³⁵ POST DEVELOPMENT: TD 21' DTW 15.61 FT BGS

11⁵⁵ PRE-DEVELOPMENT: MW-8 TD 28.10" DTW 13.10 FT BGS

11⁵⁵ - 12⁵⁵ DEVELOPMENT OF MW-8

SURFED WELL FOR 15 MIN
 BAILED APPROX. 5 GAL

WATER QUALITY PARAMETERS:	PH	TURB. (ppm)	TEMP.	COND (uS)
9 GAL	7.15	732	20.1	1465
12	7.17	647	20.7	1396
15	7.00	695	20.7	1333
18	7.18	687	20.3	1314

TOTAL PUMED: 18 GAL

WATER QUALITY: CLEAR

12⁵⁵ POST DEVELOPMENT: TD 23.10" DTW 13.27 FT BGS

12²⁵ PRE-DEVELOPMENT: MW-9 TD 32.20" DTW 13.02 FT BGS

12³⁵ - 12⁴⁵ DEVELOPMENT OF MW-9 SURFED WELL FOR 10 MIN

WATER QUALITY PARAMETERS:	PH	TURB. (ppm)	TEMP.	COND (uS)
15	7.19	442	20.4	877

24 GAL BAILED
 POST DEVEL
 TD 32.7"
 COND 17.00

APPENDIX E

Well Survey Report

Harrington Surveys Inc.

Land Surveying & Mapping

2278 Larkey Lane, Walnut Creek, Ca. 94596 Phone (925)935-7228 Fax (925)935-5118
Cel (925)788-7359 E-Mail (ben5132@pacbell.net)

Oct. 14, 2004

Soma Environmental Engineering
2680 Bishop Dr. # 203
San Ramon, Ca. 94583

Attn: Elena Manzo
Job # 2445

Ref: 15101 Freedom Ave, San Leandro, Ca.

HORIZONTAL CONTROL, NAD 88:

Survey based on California Coordinate System, Zone 3, NAD 83.

CHABOT "B", NORTH 2,087,731.02 EAST 6,094,039.23 sft. LAT. N37°43'02.71762"
W122°07'00.46339", NAVD 88, ELEV. 134.957.

CHABOT "A", NORTH 2,088,584.99 EAST 6,093,351.39 sft. LAT. N37°43'11.04190"
W122°07'09.20691", NAVD 88, ELEV. 492.08.

VERTICAL CONTROL, NAVD 88:


NGS 1974, STATION K 1256, NAVD 88 ELEV. 58.50.
PID # HT1871

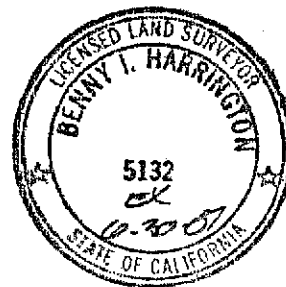
GPS: TRIMBLE 5800, LEICA TCA 1800, 1" HORZ. & VERT.

EPOCH DATE 1998.5

OBSERVATION: EPOCH=180.

FIELD SURVEY: OCT. 11, 2004.


Ben Harrington
PLS 5132



Batch QC Report

Gasoline Oxygenates by GC/MS

Lab #:	174306	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8260B
Field ID:	ZZZZZZZZZZ	Diln Fac:	1.000
MSS Lab ID:	174399-001	Batch#:	94304
Matrix:	Soil	Sampled:	09/01/04
Units:	ug/Kg	Received:	09/02/04
Basis:	as received	Analyzed:	09/02/04

Type: MS Lab ID: QC263481

Analyte	MSS Result	Spiked	Result	%REC	Limits
BE	<0.4100	50.00	60.94	122 *	71-120

Surrogate	%REC	Limits
Bromofluoromethane	121 *	79-120
1,2-Dichloroethane-d4	120	80-120
Toluene-d8	101	80-120
Bromofluorobenzene	112	80-121

Type: MSD Lab ID: QC263482

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
BE	50.00	53.40	107	71-120	13	20

Surrogate	%REC	Limits
Bromofluoromethane	113	79-120
1,2-Dichloroethane-d4	114	80-120
Toluene-d8	107	80-120
Bromofluorobenzene	109	80-121

*= Value outside of QC limits; see narrative

RPD = Relative Percent Difference

Batch QC Report

Gasoline Oxygenates by GC/MS

Lab #:	174306	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8260B
Type:	LCS	Basis:	as received
Lab ID:	QC263461	Diln Fac:	1.000
Matrix:	Soil	Batch#:	94304
Units:	ug/Kg	Analyzed:	09/02/04

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	125.0	124.7	100	78-135
MTBE	50.00	47.48	95	76-127
Isopropyl Ether (DIPE)	25.00	27.01	108	80-124
Ethyl tert-Butyl Ether (ETBE)	25.00	26.16	105	80-120
Ethyl tert-Amyl Ether (TAME)	25.00	24.84	99	80-120

Surrogate	%REC	Limits
Bromofluoromethane	96	79-120
1,2-Dichloroethane-d4	105	80-120
Toluene-d8	107	80-120
Bromofluorobenzene	101	80-121



Batch QC Report

Gasoline Oxygenates by GC/MS

Lab #:	174306	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8260B
Matrix:	Soil	Diln Fac:	1.000
Units:	ug/Kg	Batch#:	94193
Basis:	as received	Analyzed:	08/30/04

Type: BS Lab ID: QC263035

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)		NA		
ETBE	50.00	61.80	124	76-127
Isopropyl Ether (DIPE)		NA		
Ethyl tert-Butyl Ether (ETBE)		NA		
Methyl tert-Amyl Ether (TAME)		NA		

Surrogate	%REC	Limits
Dibromofluoromethane	106	79-120
2-Dichloroethane-d4	100	80-120
Toluene-d8	104	80-120
Bromofluorobenzene	103	80-121

Type: BSD Lab ID: QC263036

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
tert-Butyl Alcohol (TBA)		NA				
ETBE	50.00	57.06	114	76-127	8	20
Isopropyl Ether (DIPE)		NA				
Ethyl tert-Butyl Ether (ETBE)		NA				
Methyl tert-Amyl Ether (TAME)		NA				

Surrogate	%REC	Limits
Dibromofluoromethane	103	79-120
2-Dichloroethane-d4	84	80-120
Toluene-d8	95	80-120
Bromofluorobenzene	98	80-121

NA= Not Analyzed

RPD= Relative Percent Difference



Batch QC Report

Gasoline Oxygenates by GC/MS

Lab #:	174306	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8260B
Type:	LCS	Basis:	as received
Lab ID:	QC263037	Diln Fac:	1.000
Matrix:	Soil	Batch#:	94193
Units:	ug/Kg	Analyzed:	08/30/04

Analyte	Spiked	Result	%REC	Limits
tert-Butyl Alcohol (TBA)	250.0	250.3	100	78-135
ETBE	50.00	54.82	110	76-127
Isopropyl Ether (DIPE)	50.00	52.99	106	80-124
Ethyl tert-Butyl Ether (ETBE)	50.00	56.18	112	80-120
Methyl tert-Amyl Ether (TAME)	50.00	53.53	107	80-120

Surrogate	%REC	Limits
Bromofluoromethane	97	79-120
1,2-Dichloroethane-d4	87	80-120
Toluene-d8	101	80-120
Bromofluorobenzene	128 *	80-121



Gasoline Oxygenates by GC/MS

Lab #: 174306	Location: 15101 Freedom Avenue
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2552	Analysis: EPA 8260B
Matrix: Soil	Sampled: 08/25/04
Units: ug/Kg	Received: 08/27/04
Basis: as received	

Type: BLANK	Batch#: 94193
Lab ID: QC263038	Analyzed: 08/30/04
Diln Fac: 1.000	

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
n-Butyl tert-Butyl Ether (ETBE)	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
1,2-Dichloroethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethanol	ND	1,000

Surrogate	REC Limits	
Dibromofluoromethane	98	79-120
1,2-Dichloroethane-d4	90	80-120
Toluene-d8	101	80-120
Bromofluorobenzene	127 *	80-121

Type: BLANK	Batch#: 94304
Lab ID: QC263462	Analyzed: 09/02/04
Diln Fac: 1.000	

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	100
MTBE	ND	5.0
Isopropyl Ether (DIPE)	ND	5.0
n-Butyl tert-Butyl Ether (ETBE)	ND	5.0
Methyl tert-Amyl Ether (TAME)	ND	5.0
1,2-Dichloroethane	ND	5.0
1,2-Dibromoethane	ND	5.0
Ethanol	ND	1,000

Surrogate	REC Limits	
Dibromofluoromethane	104	79-120
1,2-Dichloroethane-d4	107	80-120
Toluene-d8	100	80-120
Bromofluorobenzene	105	80-121

* Value outside of QC limits; see narrative

ND= Not Detected

RL= Reporting Limit

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Gasoline Oxygenates by GC/MS

Job #: 174306	Location: 15101 Freedom Avenue
Client: SOMA Environmental Engineering Inc.	Prep: EPA 5030B
Project#: 2552	Analysis: EPA 8260B
Matrix: Soil	Sampled: 08/25/04
Units: ug/Kg	Received: 08/27/04
Basis: as received	

Field ID: MW-6@8.5-9	Diln Fac: 0.9615
Type: SAMPLE	Batch#: 94304
Lab ID: 174306-003	Analyzed: 09/02/04

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	96
MTBE	ND	4.8
Diisopropyl Ether (DIPE)	ND	4.8
Ethyl tert-Butyl Ether (ETBE)	ND	4.8
Methyl tert-Amyl Ether (TAME)	ND	4.8
1,2-Dichloroethane	ND	4.8
1,2-Dibromoethane	ND	4.8
Ethanol	ND	960

Surrogate	%REC	Limits
Dibromofluoromethane	108	79-120
1,2-Dichloroethane-d4	113	80-120
Toluene-d8	104	80-120
Bromofluorobenzene	111	80-121

Field ID: MW-6@9-9.5	Diln Fac: 0.8929
Type: SAMPLE	Batch#: 94304
Lab ID: 174306-004	Analyzed: 09/02/04

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	89
MTBE	ND	4.5
Diisopropyl Ether (DIPE)	ND	4.5
Ethyl tert-Butyl Ether (ETBE)	ND	4.5
Methyl tert-Amyl Ether (TAME)	ND	4.5
1,2-Dichloroethane	ND	4.5
1,2-Dibromoethane	ND	4.5
Ethanol	ND	890

Surrogate	%REC	Limits
Dibromofluoromethane	107	79-120
1,2-Dichloroethane-d4	113	80-120
Toluene-d8	104	80-120
Bromofluorobenzene	111	80-121



Gasoline Oxygenates by GC/MS

Lab #:	174306	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8260B
Matrix:	Soil	Sampled:	08/25/04
Units:	ug/Kg	Received:	08/27/04
Basis:	as received		

Field ID:	MW-6@5.5-6	Diln Fac:	0.9615
Type:	SAMPLE	Batch#:	94193
Lab ID:	174306-001	Analyzed:	08/31/04

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	96
MTBE	ND	4.8
Isopropyl Ether (DIPE)	ND	4.8
Ethyl tert-Butyl Ether (ETBE)	ND	4.8
Methyl tert-Amyl Ether (TAME)	ND	4.8
1,2-Dichloroethane	ND	4.8
1,2-Dibromoethane	ND	4.8
Ethanol	ND	960

Surrogate	REC	Limits
Dibromofluoromethane	97	79-120
1,2-Dichloroethane-d4	93	80-120
Fluorene-d8	99	80-120
Bromofluorobenzene	116	80-121

Field ID:	MW-6@6-6.5	Diln Fac:	0.8929
Type:	SAMPLE	Batch#:	94304
Lab ID:	174306-002	Analyzed:	09/02/04

Analyte	Result	RL
tert-Butyl Alcohol (TBA)	ND	89
MTBE	ND	4.5
Isopropyl Ether (DIPE)	ND	4.5
Ethyl tert-Butyl Ether (ETBE)	ND	4.5
Methyl tert-Amyl Ether (TAME)	ND	4.5
1,2-Dichloroethane	ND	4.5
1,2-Dibromoethane	ND	4.5
Ethanol	ND	890

Surrogate	REC	Limits
Dibromofluoromethane	98	79-120
1,2-Dichloroethane-d4	110	80-120
Fluorene-d8	107	80-120
Bromofluorobenzene	108	80-121

*= Value outside of QC limits; see narrative

ND= Not Detected

RL= Reporting Limit

Page 1 of 3



Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	174306	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8015B
Field ID:	MW-6@5.5-6	Diln Fac:	1.000
MSS Lab ID:	174306-001	Batch#:	94162
Matrix:	Soil	Sampled:	08/25/04
Units:	mg/Kg	Received:	08/27/04
Basis:	as received	Analyzed:	08/28/04

Type: MS Lab ID: QC262902

Analyte	MSS Result	Spiked	Result	%REC	Limits
Gasoline C7-C12	0.04570	10.75	11.02	102	48-120

Surrogate	%REC	Limits
Trifluorotoluene (FID)	112	68-135
Bromofluorobenzene (FID)	98	75-148

Type: MSD Lab ID: QC262903

Analyte	Spiked	Result	%REC	Limits	RPD	Lim
Gasoline C7-C12	10.87	11.09	102	48-120	0	24

Surrogate	%REC	Limits
Trifluorotoluene (FID)	113	68-135
Bromofluorobenzene (FID)	98	75-148



Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	174306	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8021B
Type:	LCS	Basis:	as received
Lab ID:	QC262901	Diln Fac:	1.000
Matrix:	Soil	Batch#:	94162
Units:	ug/Kg	Analyzed:	08/28/04

Analyte	Spiked	Result	%REC	Limits
Benzene	100.0	98.57	99	80-120
Toluene	100.0	99.16	99	80-120
Ethylbenzene	100.0	100.9	101	80-120
m,p-Xylenes	100.0	100.1	100	80-120
o-Xylene	100.0	100.9	101	80-120

Surrogate	%REC	Limits
1,2-difluorotoluene (PID)	91	61-124
Bromofluorobenzene (PID)	91	74-127



Batch QC Report

Curtis & Tompkins Laboratories Analytical Report

Lab #:	174306	Location:	15101 Freedom Avenue
Client:	SOMA Environmental Engineering Inc.	Prep:	EPA 5030B
Project#:	2552	Analysis:	EPA 8015B
Type:	LCS	Basis:	as received
Lab ID:	QC262900	Diln Fac:	1.000
Matrix:	Soil	Batch#:	94162
Units:	mg/Kg	Analyzed:	08/28/04

Analyte	Spiked	Result	REC	Limits
Gasoline C7-C12	10.00	10.29	103	80-120

Surrogate	REC	Limits
Trifluorotoluene (FID)	109	68-135
Bromofluorobenzene (FID)	95	75-148

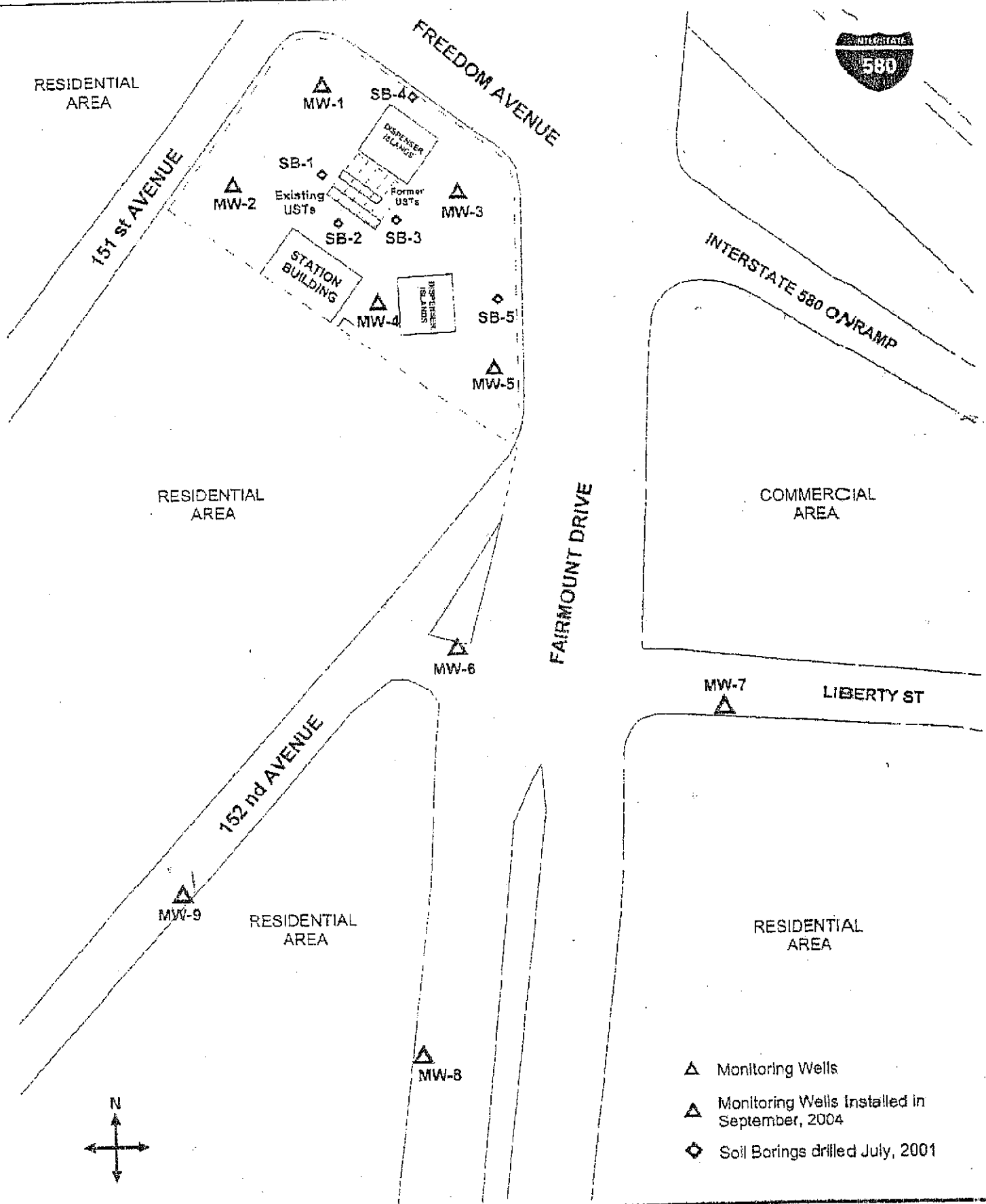


Figure 2: Site map showing locations of groundwater monitoring wells and soil borings.



approximate scale in feet
 0 30 60