

# CALIFORNIA GEOPHYSICAL GROUP, INC.

12973 Cree Court, Poway CA 92064

Tel: 486-1323 • 679-1114

June 14, 1990

Mr. Ted Simas  
Xtra Oil Company  
2307 Pacific Ave.  
Alameda, CA 94501

RE: Site Assessment Shell Station 3495 Castro Valley Blvd.  
Castro Valley, CA.

Dear Mr. Simas:

We have received from you a Preliminary Assessment Report of the noted property prepared by Western Geo-Engineers, and a copy of Mr. Scott Seery's letter to you of June 5, 1990. We have reviewed the report and have come to the following understandings of the site at the time of the report.

We find the slope of the hydraulic gradient to be considerably greater than reported; the gradient in February was 1.5% and in March it was 0.96%. The direction was as reported. These gradients are considered high, the steep gradient in February was possibly due to recharging from rain in the early part of the year. The gradient decreased in March probably because the recharging was reduced.

The general hydraulic gradient is to the east or northeast. This indicates that well MW-1 and possibly MW-2 are upgradient wells as far as the property is concerned. If either one of these wells are truly upgradient we feel the some contamination of the ground water might not have originated on your site. With this in mind we are suggesting the following work plan.

## Work Plan

To drill 2 monitoring wells labeled MW-4 and MW-5 on the inclosed well location map. Well MW-4 will be located approximately 30 feet west of the Waste Oil pit. Permits from the property owner are necessary. A standardized well plan is inclosed. Well 5 will be located directly down gradient of the tanks and some of the pumps. This location should assess the effect if any of the fuel storage tanks. See Drilling and Sampling Protocols in the QA/QC sheets attached. Also inclosed is our safety plan.


Upon completion and development of the 2 wells, water samples will be taken at all of the monitor wells, they will also be re-surveyed and ground water levels will be measured. The samples will be analyzed for TPH and BTX&E.

A report of the findings and recommendations will be forwarded once all of the data is available.

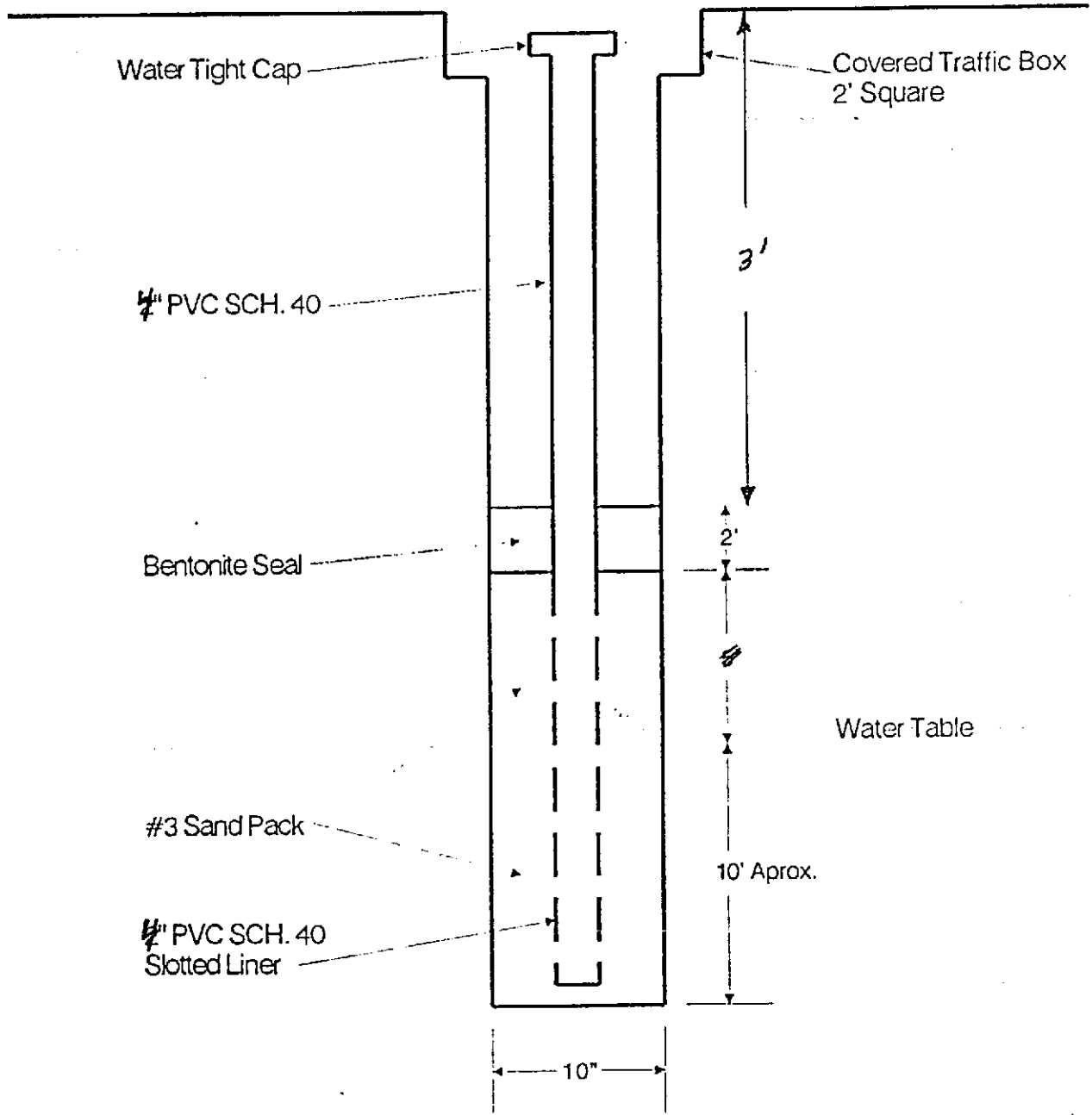
We will commence monthly testing of the monitoring wells in place starting one month after the testing, which will take place once the 2 wells are drilled. Testing will be THP and BTX&E for each well and the water level in each well. Testing will start one month after the drilling and testing described above. Quarterly reports of our findings and recommendations will be supplied starting on November 1 and on three month intervals thereafter, until the site obtains closure.

We are enclosing a filled out drilling permit for the two wells. This should be sent to the zone 7 office for approval. There is no charge for this service. Once the permit is approved we can then schedule the drilling and begin the operations.

Yours truly,



John Cussen  
President



Site:	
Title: Monitoring Well	
Figure No.:	2
California Geophysical Group Inc.	

## QUALITY ASSURANCE/QUALITY CONTROL

The following licensed professional people will be involved in this project.

Geologist: Richard Merriam, Certified Engineering Geologist  
California Registration # 850.

Drillers: Will have a current C-57 Drilling license.

Laboratory: California Labs. Modesto, CA

### Protocols

#### Drilling:

All downhole equipment will be decontaminated using steam, prior to use. Wells will be drilled with a continuous flight hallow stem auger.

Core samples of the vadose zone will be taken every 5 feet. The final core will be taken as near as possible to the capillary fringe as possible.

Prior to removing any equipment from the hole the TD will be measured. Once the casing is places in the hole an accurate measurement of the total amount of casing must be made. The difference between the two figures will be explained by the well logger.

#### Completion:

Slotted casing will be capped with a bottom plug. The slots will extend 5 feet above the estimated water table indicated during drilling. Clean sand of the appropriate grain size will be placed opposite the slotted casing and 2 feet above the last slot. Directly above the sand a 3 foot plug of bentonite will be placed. Above the plug a seal of cement with 5% bentonite will be placed to the surface. The top of the casing will be capped and a traffic box will be cemented in place around and above the top of the casing.

The well will be developed by bailing within a few days of drilling to remove most of the sediment within the casing and to remove bridging fines within the slots and sand. This will be done by surging using the well water if possible, if not then only potable water may be used. Bailing and surging will continue until the water does not contain any fine silt and clay.

## Sampling Protocol:

### Soil

Soil samples will be obtained from the core samples taken every 5 feet during drilling. The samples will remain within the brass sleeve and capped with the plastic caps which are supplied with the sleeves. The plastic cap will be taped to the brass sleeve using electrical tape so that an air tight seal is obtained. Samples will be marked and placed in a cooler of ice until they are turned over to the laboratory, which should be within 48 hours of the drilling.

### Water

To obtain a water sample the well must be purged of 4 to 5 well volumes of water. The well must be allowed to recover to within 80% of its original volume or else the sample should be taken 105 minutes after the purging was completed. All equipment will be decontaminated by washing with water and detergent and a good rinse with local potable water normally, prior to placing it in the well. This decontamination will take place between each well.

Purged water will be placed in a drum sealed and left at the site until its hazardous condition is assessed.

Water samples will be taken from the water at or near the surface of the water table, unless otherwise indicated. Water will be placed within the prescribed container for the tests required. Once full the container will be placed in a cooler containing ice until delivered to the lab within 48 hours of the sampling time. Trip blanks will accompany all sample containers

Detection limits must be supplied by the laboratory.

## HEALTH AND SAFETY PLAN

### GENERAL SAFE WORK PRACTICES

California Geophysical Group, Inc. is responsible for the safety of all California Geophysical Group employees on-site. All general safety guidelines and procedures will conform to:

- \* 29 CFR 1910.120
- \* Standard Operating Safety Guides (U.S.E.P.A., Nov. 1984)

All containers will be labeled identifying them as to their contents. Hazardous or suspected hazardous material will be labeled with yellow labels and identifying the person to contact.

All excavation/drilling work will comply with Title 8, Article G of the California Administrative Code and local ordinances.

Personnel at the site will use the "buddy system" when wearing any respiratory protective equipment. No one will be allowed to engage in drilling or sampling operations alone.

Personnel are not allowed to eat or smoke on the site.

The project manager is John Cussen 619 486 1323.

Field team members are:

Dick Merriam geologist 619 744 7982.

### PERSONNEL PROTECTION

Personnel working around drilling activity will wear hard hats.

All people not directly involved in the site investigation will be asked to leave. The site is a gas station serving the public, however, public will be required to stay away from the actual work.

All inflammable materials will be stored in drums and sealed when not in use. Monitoring of the air will not be required at this site.

### DISPOSAL OF HAZARDOUS MATERIALS

Hazardous material which is required by the County Health Department to be containerized will be transported by a licenced Hazardous waste transporter to a Class I facility with a properly filled out chain of custody form.