



June 25, 1993

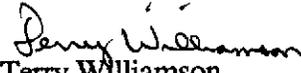
Alameda County Health Care Services Agency
Department of Environmental Health
80 Swan Way, Room 200
Oakland, Ca. 94621
Attn.: Ms. Eva Chu

Dear Ms. Chu,

Enclosed you will find the revised workplan for the groundwater well installation project at Hendrick (formerly Val Strough) Chevrolet/Mazda/Isuzu/Hyundai located at 327 27th Street in Oakland. This plan was revised based on my telephone conversation with you and the following letter sent by you to me on June 11, 1993. In essence the only change to the plan is the addition of a third groundwater monitoring well within 100' of the site.

I hope that the rest of the approval process goes quite quickly now. I will be calling you in a few days to finalize arrangements so that we may begin work. Please let me know if there is anything else that you need.

Best regards,


Terry Williamson
Engineer
KPA

June 21, 1993

Mr. Ron Tye
Val Strough
3330 Broadway
Oakland, California 94611

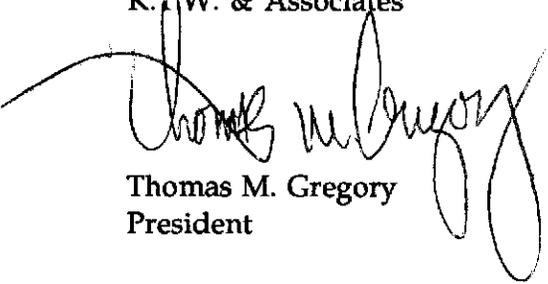
Subject: Amended Work Plan for Installation of Two Monitoring Wells at
Val Strough Chevrolet, 327 34th Street, Oakland, CA

K.T.W. & Associates and Geo Plexus, Incorporated are pleased to submit the attached
Amended Work Plan which incorporates the comments/requirements from Ms. Eva Chew,
Alameda County Department of Environmental Health.

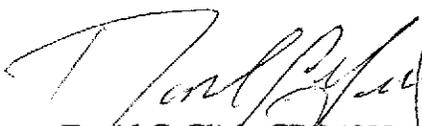
We trust these changes are consistent with the requirements and that the amended work
plan will be approved.

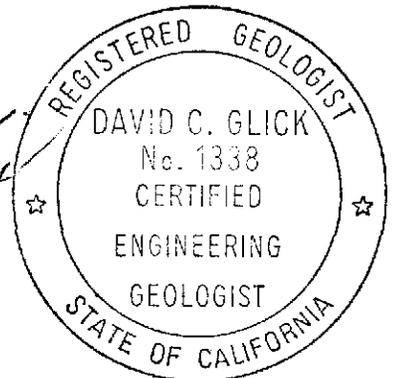
Respectfully submitted,

K.T.W. & Associates


Thomas M. Gregory
President

Geo Plexus, Incorporated


David C. Glick, CEG 1338
Director, Geological and
Environmental Services



Attachments: (1) Work Plan

Amended Work Plan for
Ground Water Monitoring Well Installation
at
Val Strough Chevrolet
327 34th Street, Oakland, CA

INTRODUCTION

The project site is located at 327 34th Street, in the city of Oakland, Alameda County, California as indicated on Figure 1. The site is the location of an automobile dealership and service center.

It is understood that two (2) underground storage tanks were removed from the site in March, 1992 by Subsurface Environmental Corporation. The tanks reportedly included: (1) 1,000 gallon gasoline tank and (1) 550 gallon waste oil tank and were located as indicated on Figure 2.

Soil samples were reportedly obtained during the tank removal activities and submitted for analytical testing. The soil samples contained detectable concentrations of Total Petroleum Hydrocarbons as gasoline (5-130 parts per million), Total Petroleum Hydrocarbons as diesel (7-96 parts per million), and Volatile Aromatic Compounds (Toluene, Ethylbenzene, and Xylenes). Benzene and Oil and Grease compounds were not detected.

SCOPE OF WORK

The proposed scope of work includes:

- (1) installation of three open-standpipe monitoring wells;
- (2) development of the monitoring wells and collection of water samples for analytical testing;
- (3) performing analytical testing on the ground water samples; and
- (4) preparation of a report documenting the findings of the investigation and presenting the results of the analytical testing.

Details of the proposed work are described in the following sections of this Work Plan.

GROUND WATER GRADIENT DATA

Ground water data, specifically direction of ground water flow, has been based on topographic and ground water flow in the vicinity of the project site. Based on this information, it has been determined that ground water should be encountered (stabilized) at a depth of 25-29 feet below the ground surface and should flow beneath the subject site in a southwesterly direction (subparallel to Broadway) as indicated on Figure 3.

MONITORING WELL INSTALLATION

Subsurface Borings

It is anticipated that three subsurface exploration borings would be advanced at the project site to facilitate installation of the monitoring wells in the reported down-gradient direction. The boring would be drilled by a State of California Licensed Drilling Contractor and would be logged under the supervision of a State of California Certified Engineering Geologist.

The soil borings would be advanced using an eight-inch, nominal diameter, continuous flight hollow stem auger. Drilling equipment used for advancing the exploratory boring would be thoroughly steam cleaned before drilling begins to prevent the introduction of off-site contamination.

It is intended that the borings would be advanced a minimum of 10 feet into the saturated zone (estimated total boring depth of 35 feet) unless a low permeable material is encountered prior to achieving this depth. Should a low permeable zone be encountered prior to achieving the 10 foot depth, the screened interval of the well would be reduced such that the low permeable zone is not penetrated to protect underlying aquifers.

Soil samples would be obtained at five (5) foot intervals throughout the borings, at changes in lithology, and where obvious soil contamination exists through the use of a 2 inch I.D. split-barrel sampler advanced into the undisturbed soil by a 140 pound hammer repeatedly falling 30 inches. Sand catchers would be used as necessary to retain the samples. A split-barrel, standard penetration sampler would be used should the 2 inch sampler prove ineffective at obtaining the samples. The soil samples which indicate a potential for contamination in the field (e.g. soil discoloration, odor, PID readings, etc.) would be immediately sealed in the liners using aluminum foil and plastic caps and properly labeled including: the date, time, sample location, and project number. The samples would be placed on ice immediately for transport to the laboratory under chain-of-custody documentation.

The drilling and sampling equipment would be steam cleaned subsequent to completion of the filed activities. Soil cuttings and rinsate waters derived from the borings/cleaning would be retained in 55-gallon containers and stored on-site during the drilling pending results of the analytical testing.

Monitoring Well Construction

The monitoring wells would be constructed in accordance with Alameda County Monitoring Well Construction Guidelines by installing a 2-inch diameter polyvinyl chloride (PVC) flush-threaded casing and slotted pipe directly through the hollow stem auger. The slotted section of the PVC pipe installed through the saturated zone would have 0.020 inch factory perforations (see Typical Well Detail included as Figure 4). The slotted pipe would extend a minimum of two feet above the current ground water level to monitor fluctuations in the ground water level. Materials used in the well construction would be thoroughly cleaned prior to introduction into the boring.

The monitoring wells would be filter-packed with clean monterey silica sand throughout the screened interval. The filter material would be determined based on lithology encountered during drilling and would likely consist of No. 2/12 Lonestar Sand. The filter-pack material would be installed in the annular spacing between the piezometer pipe and the auger as the auger is removed and would extend a minimum of two feet above the top of the screened interval. To assure continuity and integrity of the filter material, and to prevent the bore hole from caving, no more than five foot of auger would be removed at a time.

A one foot thick layer of bentonite pellets would be placed above the filter material to provide an annular seal and the remainder of the boring would be filled with an 11-sack sand-cement slurry to within one foot of grade under direct observation of Alameda County inspection personnel. Should ground water exist in the borings/wells in excess of two feet above the bentonite seal, the cement slurry would be placed using the tremmie-method. The well casing would have a locking cap and will be enclosed inside a watertight traffic box installed in concrete flush with the surface.

Monitoring Well Development and Sampling

The monitoring wells would be allowed to stabilize for a minimum of 72 hours following construction prior to development activities. The initial well development would be through the use of a 1.7 inch Brainard-Kilman mechanical lift hand pump, an air-lift or nitrogen-lift pump, or a positive displacement bladder pump dependent on the depth to ground water and the screened interval. The wells would be developed until a minimum of four well volumes have been purged and the discharged water appears clear of sediment. Electrical conductivity, temperature, and pH of the ground water would be recorded throughout the development process. The well development would continue until the electrical conductivity, temperature, and pH of

the discharged water have stabilized. Depth to water measurements would be recorded prior to and following the well development activities.

The wells would be allowed to recover for a minimum of 72 hours between development and sampling activities. Free product measurements would be obtained utilizing a product/ground water interface probe or through the use of an acrylic or teflon bailer lowered into the well to obtain a surface water sample. The teflon bailer would be used to collect a surface water sample to observe the presence of hydrocarbon odors, visible sheen, or free product. Depth to water measurements would also be recorded at this time using an electronic water level probe.

Prior to sampling, a minimum of four well volumes would be purged from the wells through the use of a positive displacement bladder pump or teflon bailer. Electrical conductivity, temperature, and pH of the ground water would be recorded throughout the purging process. The purging activities would continue until the electrical conductivity, temperature, and pH of the discharged water have stabilized. Water samples for analytical testing would be obtained through the use of the bladder pump or teflon bailer. The water developed from the monitoring well would be contained on-site pending receipt of the laboratory test results.

The water samples would be collected in sterilized glass with Teflon lined screw caps. The samples would be immediately sealed in the vials and properly labeled including: the date, time, sample location, project number, and indication of any preservatives added to the sample. The samples would be placed on ice immediately for transport to the laboratory under chain-of-custody documentation. Travel blanks or duplicate field blanks are not anticipated to be carried or collected.

Ground Water Depth and Gradient Measurements

The location and elevation of each monitoring well would be surveyed following completion of the well construction. Water levels in the three wells would be measured using an electronic water level probe. The depth to water measurements would be consistently recorded from a scribed location on the top of the well casing. The depth to water measurements would be used to determine the direction of ground water flow and ground water gradient beneath the project site.

Analytical Testing

The soil and ground water samples would be submitted to and tested by a State of California, Department of Health Services certified testing laboratory. Analytical testing would be scheduled and performed in accordance with the State of California, Regional Water Quality Control Board and Alameda County Guidelines.

The soil and ground water samples would be tested for Total Petroleum Hydrocarbons as gasoline by RWQCB Method GCFID (8015/5030), Total Petroleum Hydrocarbons as diesel by RWQCB Method GCFID (3550/8015), Oil & Grease by Method 5520 B&F and Volatile Aromatics by EPA Method 8020/5030 (Modified for BTEX Distinction).

Report

A report documenting the findings and observations of the investigation and the results of the analytical laboratory testing would be prepared to include: the findings and boring logs for the subsurface investigation, water level recordings, analytical test data, chain-of-custody records, ground water flow direction and gradient, along with other pertinent information obtained throughout the investigative process.

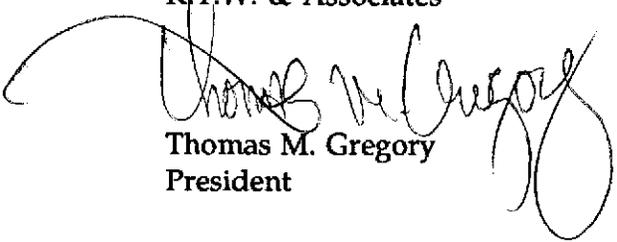
SCHEDULE

The field investigation has been tentatively scheduled to begin within two weeks following review and approval of this Work Plan by Alameda County Department of Environmental Health personnel and receipt of the well permit.

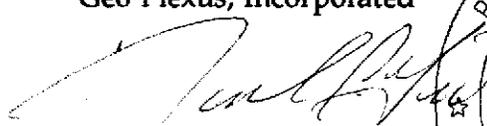
The subsurface investigation and installation of the monitoring wells are anticipated to be accomplished in one day. It is estimated that the well developed, well purging and sampling would be accomplished during the following week. Standard analytical testing turnaround time of two (2) weeks is anticipated to be used unless directed otherwise. The final report would be submitted within two weeks following receipt of the analytical test data for the ground water samples.

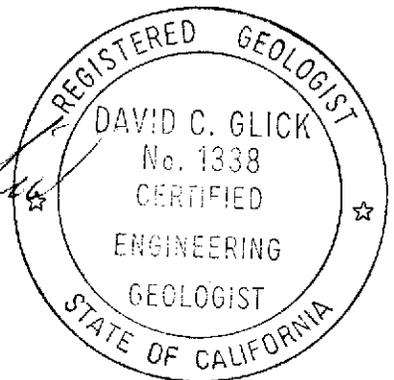
Respectfully Submitted,

KT.W. & Associates


Thomas M. Gregory
President

Geo Plexus, Incorporated


David C. Glick, CEG 1338
Director, Geological and
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DCG/cls