GeoPlexus, Inc.

Health & Safety Training • Geo/Environmental Personnel • Engineering Geology Consultants • Environmental Management Consultants

November 25, 1996

Ms. JoAnn Stewart
Good Chevrolet
1630 Park Street
Alameda, California 94501

Subject: Work Plan for Implementation of On-Site Source Verification Investigation for Phase III Remedial Investigation and Feasibility Study

Reference: (a) Invitation to Bid - Phase III Remedial Investigation and Feasibility Study dated November 17, 1995

Dear Ms. Stewart:

Geo Plexus, Incorporated is pleased to present this Work Plan to implement the first phase of the Phase III Remedial Investigation and Feasibility Study prepared by Geo Plexus, Inc in November, 1995 which included the following scope of work:

(1) advancing up to fifteen exploration borings on-site and off-site to define the limits of the soil and ground water contamination;
(2) installation of up to two ground water monitoring wells to verify the limits of the ground water contamination;
(3) collection of soil and ground water grab samples from the borings and collection of ground water samples from the new and existing monitoring wells for analytical testing;
(4) performing analytical testing on the soil and ground water samples,
(5) preparation of a report documenting the findings of the investigation and presenting the results of the analytical testing;
(6) performing a vapor extraction test to evaluate remedial action alternatives;
(7) performing a ground water extraction test to evaluate remedial action alternatives;
(8) development of a remedial action plan; and
(9) implementation of a quarterly monitoring program.

PROPOSED SCOPE OF WORK

The current phase of the investigation includes advancing up to 10 exploration borings in the immediate vicinity of the former underground storage tanks and dispenser pump to further define the on-site source of soil contamination.

Subsequent to evaluation of the field and analytical test data, a Risk Based Corrective Action Tier-2 evaluation will be performed utilizing all soil and ground water data derived to date to establish corrective action goals for the project site.

Specifics of the individual investigative phases are described in the following sections of this Wok Plan.

1900 Wyatt Drive, Suite 1 • Santa Clara, California 95054 • Phone 408/987-0210 • FAX 408/988-0815

Work Plan

This Work Plan has been prepared to describing the nature of the work to be performed at the site and is intended to be submitted to the Alameda County Department of Environmental Health for review and authorization.

Permits

The borings will be advanced by Precision Sampling, Inc. (a licenced C-57 drilling contractor) and will be logged under the supervision of a State of California Certified Engineering Geologist. Soil boring permits would be obtained from Alameda County Flood Control District - Zone 7 prior to proceeding with the investigation.

Subsurface Borings

Supplemental investigation activities are planned to determine/verify the limits of soil contamination and to reduce the uncertainty of remediation requirements. The investigation would be accomplished by advancing up to 10 additional soil borings at the locations indicated on Figure 1. The actual number and locations of the borings may vary depending on the conditions encountered in the field.

The soil borings would be advanced using a portable pneumatic drive assembly which advances a double casing system with a split barrel sampler as the inside casing. The casings are driven into the soil in three-foot intervals. The inner casing (containing stainless steel sample liners) is then removed following each drive and replaced with a new sampler prior to advancing the boring. Pre-cleaned stainless steel liners would be placed in the inner casing (sampler) to retain the soil.

Drilling and sampling equipment used for advancing the exploratory borings would be thoroughly steam cleaned before drilling begins and between each boring to prevent the introduction of off-site contamination and cross contamination between borings. Sampling equipment would be cleaned between sample events by steam cleaning or using a phosphate-free detergent bath and double rinsed in hot water baths to prevent cross contamination. The drilling and sampling equipment would be steam cleaned subsequent to completion of the field activities. Soil cuttings and rinsate waters derived from the borings/cleaning would be retained in 5- gallon and/or 55-gallon containers and stored on-site during the drilling pending results of the analytical testing.

The drill cuttings and soil samples would be monitored in the field for evidence of hydrocarbon content through the use of a portable photo-ionization detector (PID), organic vapor meter (OVM), or similar device. Soil samples will be obtained at various depths ranging from 2- to 18-feet below the ground surface to determine the stratigraphic variations in soil/contaminant conditions. The soil samples would be immediately sealed in the liners using aluminum foil and plastic caps and properly labeled including: the date, time, sample location (boring number and depth interval), and project number. The samples would be placed in a cooler maintained at 4°C with water ice immediately for transport to the laboratory under chain-of-custody documentation.

The soil borings would be grouted with a neat bentonite-cement slurry mixed at the project site. Should more than 2-feet of ground water exist in the soil borings, the cement slurry would be placed using the tremmie-method.

Ground Water "Grab" Samples

Ground water is anticipated to be encountered at a depth of 8- to 10-feet below the ground surface. "Grab" water samples would be obtained from each of the borings/geo-probes through the use of a pre-cleaned stainless steel bailer lowered through the drill casing. The water contained in the bailer would then decanted directly into sterile vials 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 immediately into a chilled cooler and maintained at 4° C for transport to the laboratory under chain-of-custody documentation.

Sampling of Existing Wells

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. Depth to water measurements would be also be recorded at this time using an electronic water level probe.

Prior to sampling the wells, a minimum of four well volumes would be purged from the well 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. The water developed from the monitoring well would be contained on-site pending receipt of the laboratory test results. The samples would be placed on ice immediately for transport to the laboratory under chain-of-custody documentation.

Analytical Testing

The soil and ground water samples will be submitted to and tested by McCampbell Analytical, a State of California, Department of Health Services certified testing laboratory. Analytical testing will be scheduled and performed in accordance with the State of California, Regional Water Quality Control Board, and Alameda County Department of Environmental Health guidelines. The soil samples from the borings will be tested for the following:

- Total Petroleum Hydrocarbons as gasoline by Method GCFID 5030/8015; and
- Volatile Aromatics (BTEX) and MTBE by EPA Method 8020.

Risk Based Corrective Action Evaluation

To asses the potential health risk of the project site, a risk based corrective action analysis would be performed in accordance with the procedures presented in ASTM E 1739-95 using a commercially available, automated process known as "Tier 2 RBCA Tool Kit" published by Groundwater Services, Inc. Collect "clean" soil samples from vadose zone for bulk density, water content, porosity and FOC

Remedial Action Alternative Review

A review of available remedial technologies and approaches applicable to the site conditions and remedial goals would be performed to select effective methods to achieve remediation and to achieve site closure to be considered for future implementation/testing.

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, boring logs and well development records; analytical test data, chain-of-custody records, and other pertinent information obtained throughout the investigative process. The results of the RBCA evaluation and remedial action alternative review would be included.

SCHEDULE

We anticipate that Alameda County will take from 2- to 3-weeks to review this Work Plan and we could mobilize for this project within one week of your approval and authorization to proceed and notice from the drilling contractor of the available drilling schedule following regulatory approval.

The subsurface exploration could be initiated within one week following notice of Agency review/approval of the Work Plan and Permits and is expected to be completed in 1- to 2-days.

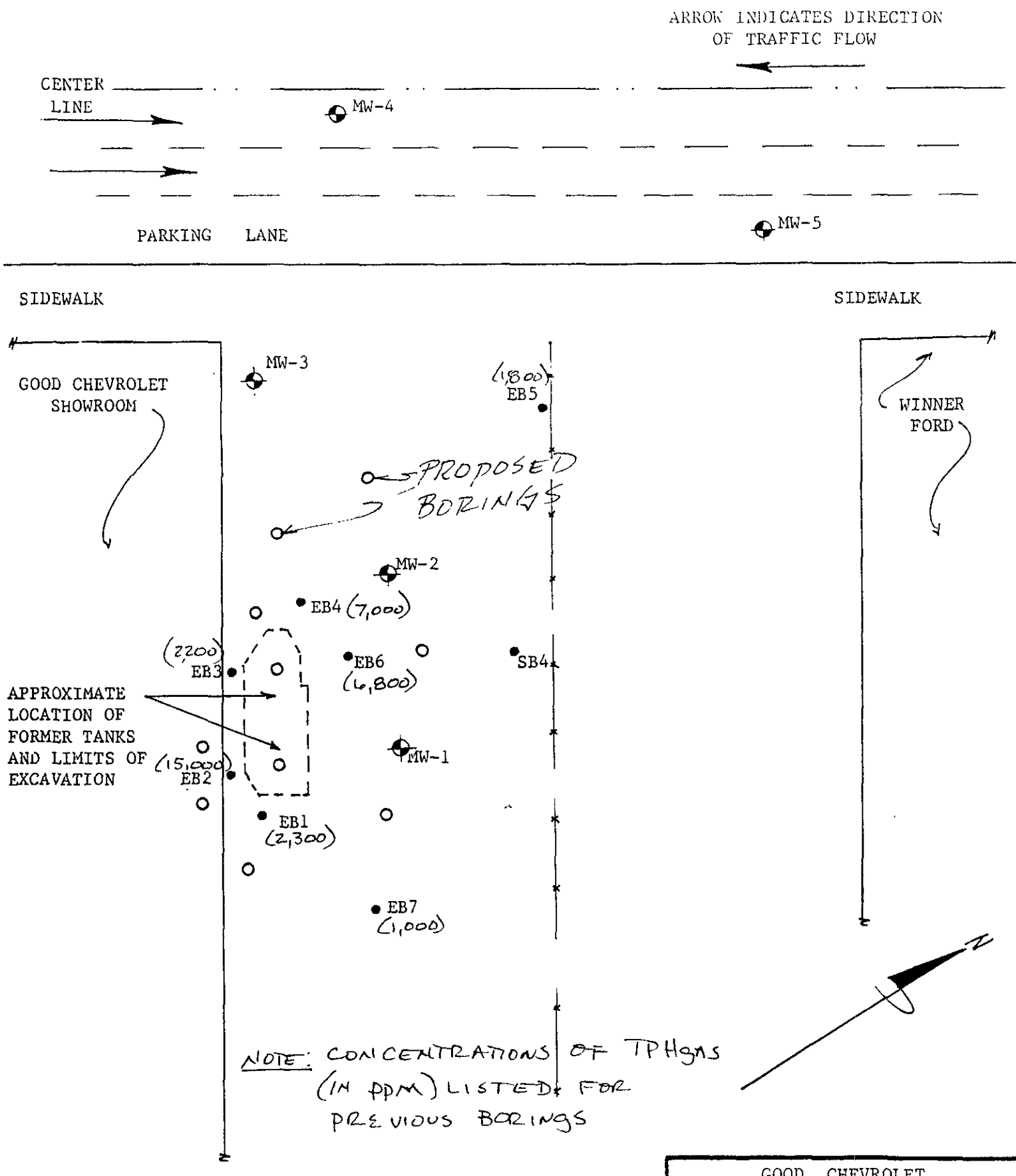
We anticipate that the laboratory testing would be completed within two weeks following the investigation and that the RBCA evaluation and site characterization report would be completed within four weeks following receipt of the analytical test data.

Should you require additional information at this time, or would like to discuss current/future needs, please contact us.

Respectfully submitted,

Geo Plexus, Incorporated

David C. Glick, CEG 1338, HG 32
Director, Geologic and Environmental Services



GOOD CHEVROLET		
DATE	SCALE 1"=20'	DRAWN BY dcg
		Figure

GeoPlexus, Inc.