

GOOD CHEVROLET

1630 Park Street • Phone 510/522-9221
ALAMEDA, CA 94501

January 30, 2003

Ms. Eva Chu
Alameda County Health Care Services
Department of Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94501

Alameda County
FEB 03 2003
Environmental Health

RE: Good Chevrolet – 1630 Park Street, Alameda, CA

Dear Ms. Chu:

Enclosed is a copy of Geo Plexus, Inc. monitoring report for December 2002, which was dropped off yesterday. I am also enclosing a work plan prepared by Geo Plexus for your review.

Thank you,

GOOD CHEVROLET

JoAnn Stewart

JKS:js

Enclosure



December 24, 2002

Ms. Jo Ann Stewart
General Manager
Good Chevrolet
1630 Park Street
Alameda, California 94501

Alameda County
FEB 03 2003
Environmental Health

**Subject: Work Plan For Additional Lateral- and Down-Gradient Monitoring Wells
Good Chevrolet, 1630 Park Street, Alameda, CA**

Dear Ms. Stewart:

In accordance with your request, and in response to a request from Alameda County Department of Environmental Health, Geo Plexus, Incorporated is pleased to present this **Work Plan** for the installation of two (2) additional ground water monitoring wells which are to be installed on the adjacent property (formerly Winner Ford) to provide further lateral- and down-gradient boundary conditions for the existing ground water contaminant plume. The purpose of the additional wells is to provide additional information regarding extent of ground water contamination, ground water gradient data, and plume stability data in support of site closure.

It is noted that Alameda County Department of Environmental Health also requested a soil-gas survey to be performed to evaluate the potential for vapor migration into the existing buildings; however, the soil gas survey performed in November, 1998 did not indicate the presence of significant volatile organic vapors within the upper 3-feet of soil at the "source area". This confirmed that, although some soil and ground water contaminants remains, the extent of off-gassing through the upper soils is very low and does not represent a significant health risk. As such, an additional soil gas survey has not been incorporated into the proposed scope of work.

1.0 SITE DATA REVIEW

The project site is an automobile dealership and service center located at 1630 Park Street in the City of Alameda, in Alameda County, California as indicated on Figure 1.

A 300 gallon waste oil storage tank and a 500 gallon underground gasoline storage tank were reportedly removed from the property by Petroleum Engineering, Inc. in October, 1986. A subsurface investigation including installation of three ground water monitoring wells (see Figure 2) was performed by Groundwater Technology, Inc. in January, 1987 (Groundwater Technology, Inc. Report Dated April 29, 1987). The three monitoring wells were monitored to evaluate the ground water conditions and to establish the direction(s) of ground water flow at the project site. The monitoring determined that the direction of flow beneath the site varies from a northwesterly direction to a northeasterly direction throughout the year. The quarterly sampling has also detected Total Petroleum Hydrocarbons as gasoline and Volatile Aromatic Compounds at various concentrations throughout the year.

A supplemental investigation was performed by Geo Plexus which included advancing 7 soil borings across the parking area of the property (see Figure 2). This investigation identified high concentrations of Total Petroleum Hydrocarbons as gasoline and Volatile Aromatic Compounds (Benzene, Toluene, Ethyl Benzene, and Xylene) in the immediate vicinity of the former underground storage tanks at depths of 5-12 feet below the ground surface. The borings identified concentrations of Total Petroleum Hydrocarbons as gasoline as high as 15,000 parts per million (ppm) decreasing to 1,000 ppm within 30-feet from the former tanks (lateral direction) and decreasing to 1,800 ppm at the down-gradient property boundary.

Two additional ground water monitoring wells were installed by Geo Plexus in April, 1994 to further characterize the down-gradient water conditions. The findings of the initial ground water samples indicated a significant increase in concentrations of Total Petroleum Hydrocarbons as gasoline and Volatile Aromatic Compounds down-gradient of the property. The ground water levels recorded to date reflect fluctuations ranging from 3 to 13 feet below the ground surface and indicate that ground water generally flows in a northwest direction.

A Remedial Investigation was performed by Geo Plexus in April, 1997 which included advancing eight (8) subsurface exploratory geo-probes at locations which were immediately "up-", "down", and "cross-gradient" from the former underground storage tanks (see Figure 3). Grab ground water samples were also obtained from the probes for analytical testing.

The findings of the investigation indicated that gasoline contaminated soil remain in-place at the project site and is confined to depths ranging from 7- to 11-feet below the ground surface and is of limited extent.

The concentrations of Benzene in the soil exceed the ASTM RBCA Tier-1 RBSL's for contaminant leaching to ground water and gas migration to indoor air. Similarly, the concentrations of Benzene in the ground water exceed the Tier-1 RBSL's for ground water ingestion and gas migration to indoor air; however, the concentrations are below the Tier-1 RBSL's for gas migration to outdoor air. It was concluded that the site conditions did not warrant active ground water remediation.

2.0 RISK ASSESSMENT INVESTIGATION

A Risk Assessment Investigation was performed in November, 1998 which included: advancing three (3) gas collection probes at the site to obtain soil gas measurements within and exterior to the existing building; collection of summa canister gas samples from each probe from depths of 3-feet; performing analytical testing of the air bag samples for gasoline, volatile aromatic, and volatile organic compounds; collection of ground water samples from the existing monitoring wells for analytical testing; performing analytical testing of the ground water samples for gasoline, volatile aromatic, and volatile organic compounds; and performing a Tier-II ASTM Risk-Based Corrective Action (RBCA) assessment for the project site.

Three (3) gas collection probes were advanced at the locations indicated on Figure 4 by Precision Sampling, a licensed C-57 drilling contractor. The probes were advanced using a portable pneumatic drive assembly. Drilling and sampling equipment used for advancing the exploratory probes was thoroughly steam cleaned before and between each boring to prevent the introduction of off-site contamination and cross contamination between borings. Soil gas samples were obtained at depths of 3-feet below the ground surface through the use of summa canisters.

Analytical testing of the soil gas probe samples did not indicate the presence of significant volatile organic vapors within the upper 3-feet of soil at the "source area". This confirmed that, although some soil and ground water contaminants remains, the extent of off-gassing through the upper soils is very low and does not represent a significant health risk.

3.0 PROPOSED WORK ACTIVITY

It is proposed to advance two (2) soil borings to further define the lateral- and down-gradient extent of the ground water contamination as indicated on Figure 5. The work would proceed in the following manner:

Work Plan and Permits

This Work Plan would be submitted to Alameda County Department of Environmental Health personnel for review along with Monitoring Well Permits and a Site Safety Plan to the water district for approval.

Subsurface Investigation

Subject to obtaining a right-of-entry agreement to install the wells on the adjacent property, two (2) additional subsurface exploration borings would be advanced at the locations indicated on Figure 5 for construction of ground water monitoring wells. It is anticipated that the borings would be drilled by Exploration Geoservices, State of California Licensed Drilling Contractor. The borings would be logged under the supervision of a State of California Certified Engineering Geologist

The drill cuttings and soil samples obtained from the borings would be monitored during drilling to observe moisture changes in the soils and to determine the depth of the first saturated zone. It is intended that the borings would be advanced a maximum of 15 feet into the saturated zone (estimated total boring depth of 25 feet).

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

Pre-cleaned stainless steel or brass liners would be placed in the sampler to retain the soil. The drilling and sampling equipment would be steam cleaned subsequent to completion of the field activities. Soil cuttings and rinsate waters derived from the boring/cleaning would be retained in 55-gallon containers and stored on-site during the drilling pending results of the analytical testing and are the property of the client. Disposal of the soil and rinsate water remains the responsibility of the client.

Soil samples would be obtained at five (5) foot intervals throughout the boring, 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 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.

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, and project number. The samples would be placed on ice immediately for transport to the laboratory under chain-of-custody documentation.

Monitoring Well Construction

The monitoring wells would be constructed in accordance with Alameda County Department of Environmental Health Monitoring Well Construction Guidelines by installing 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 0.010 inch factory perforations. 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 well 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. 3 Monterey Sand or No. 2/12 Lonestar Sand.

The filter-pack material would be installed in the annular spacing between the monitoring well 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 inspection Alameda County Department of Environmental Health personnel. Should ground water exist in the boring/well in excess of two feet above the bentonite seal, the cement slurry would be placed using the tremmie-method. The well casings would have a locking cap and will be enclosed inside a watertight cast iron or aluminum traffic box installed in concrete flush with the surface.

Well Development

The monitoring wells would be allowed to stabilize for a minimum of 48 hours following construction prior to development activities. The initial well development would be through the use of a 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.

Gradient Survey

The elevation of the top of the casing of the existing and new monitoring wells would be surveyed with GPS coordinates in accordance with current State of California Regional Water Quality Control Board guidelines for database record submission. Prior to purging the monitoring wells, the water levels in the wells were allowed to stabilize and the depth to ground water was measured with an electronic water level meter (measured to the nearest 0.01 foot) in each of the monitoring wells.

Free Product Measurements

Free product measurements would be obtained at the time of sample acquisition 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.

Well Sampling

The wells would be allowed to recover for a minimum of 24 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 be 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 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.

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 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 on ice immediately for transport to the laboratory under chain-of-custody documentation.

Analytical Testing

The soil and ground water samples would be submitted to and tested by McCampbell Analytical, 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 Guidelines.

The soil samples would be tested for:

- Total Petroleum Hydrocarbons as gasoline by RWQCB Method GCFID 5030/8015; and
- Volatile Aromatics (BTEX and MTBE) by EPA Method 8020/602.

The ground water samples would be tested for:

- Total Petroleum Hydrocarbons as gasoline by RWQCB Method GCFID 5030/8015;
- Volatile Aromatics (BTEX) by EPA Method 8020/602;
- Fuel Oxygenates by EPA Method 8260; and
- EDB and EDC by EPA Method 8010/601.

Report

A report would be prepared summarizing the site history and previous investigation activities and documenting the findings and observations of the investigation (including the findings and boring/well log, analytical test data, chain-of-custody records, etc.) and other pertinent information obtained throughout the investigative process.

4.0 LIMITATIONS

This Work Plan has been prepared for the exclusive use of Good Chevrolet and their authorized representatives. No reliance on this report shall be made by anyone other than the client for whom it was prepared.

We have only observed a small portion of the pertinent soil conditions present at the site. Subsurface conditions across the site have been extrapolated from information obtained from review of existing documents and from the field investigation. The conclusions made herein are based on the assumption that soil conditions do not deviate appreciably from those described in the reports and observed during the field investigation.

Geo Plexus, Incorporated provides consulting services in the fields of Geology and Engineering Geology performed in accordance with presently accepted professional practices. Professional judgments presented herein are based partly on information obtained from review of published documents, partly on evaluations of the technical information gathered, and partly on general experience in the fields of geology and engineering geology.

This Work Plan has been prepared in accordance with generally accepted methodologies and standards of practice of the area. The personnel performing this assessment are qualified to perform such investigations. No warranty, expressed or implied, is made as to the findings, conclusions and recommendations included in the report.

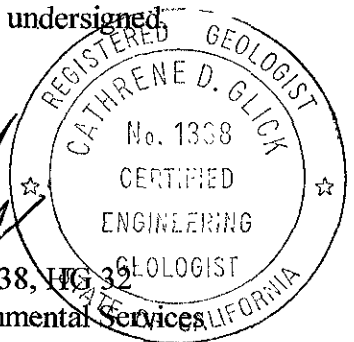
One copy of this Work Plan should be forwarded to:

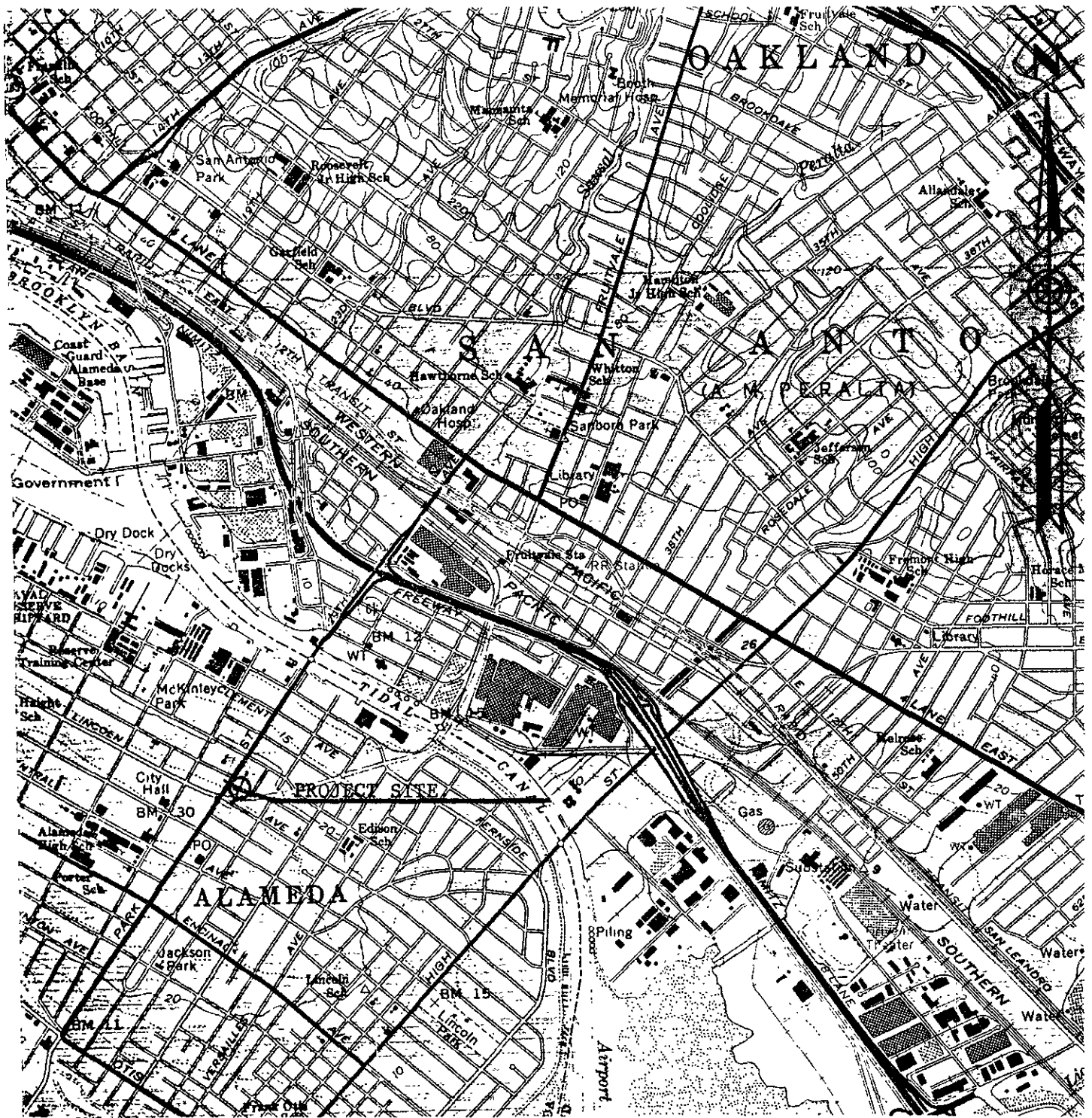
Ms. Eva Chu
Alameda County Health Care Services
Department of Environmental Health
1131 Harbor Bay Parkway, 2nd Floor
Alameda, CA 94502

Questions or comments regarding this Work Plan should be addressed to the undersigned.

Respectfully submitted,
Geo Plexus, Incorporated


Cathrene Diane Glick, CEG 1338, HG 32
Director, Geologic and Environmental Services





GOOD CHEVROLET		
DATE	SCALE	DRAWN BY
10-9-92	1"=2000'	dsg
LOCATION MAP		
		Figure 1

GeoPlexus, Inc.

SIDEWALK

MW-3

EB5

GOOD CHEVROLET
SHOW ROOM

MW-2

EB4

APPROXIMATE
LIMITS OF
PREVIOUS
EXCAVATION

SB4

EB6

EB3

APPROXIMATE
LOCATION OF
FORMER
STORAGE
TANKS

MW-1

PROPERTY FENCE LINE

EB2

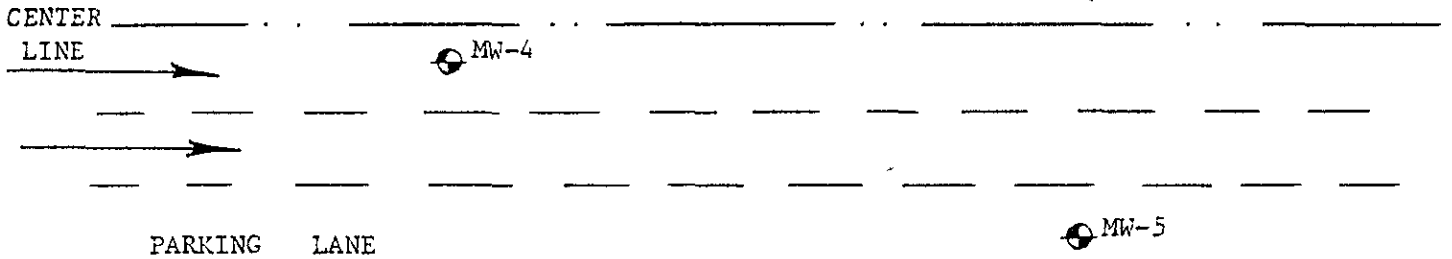
EB1

SERVICE CENTER

EB7

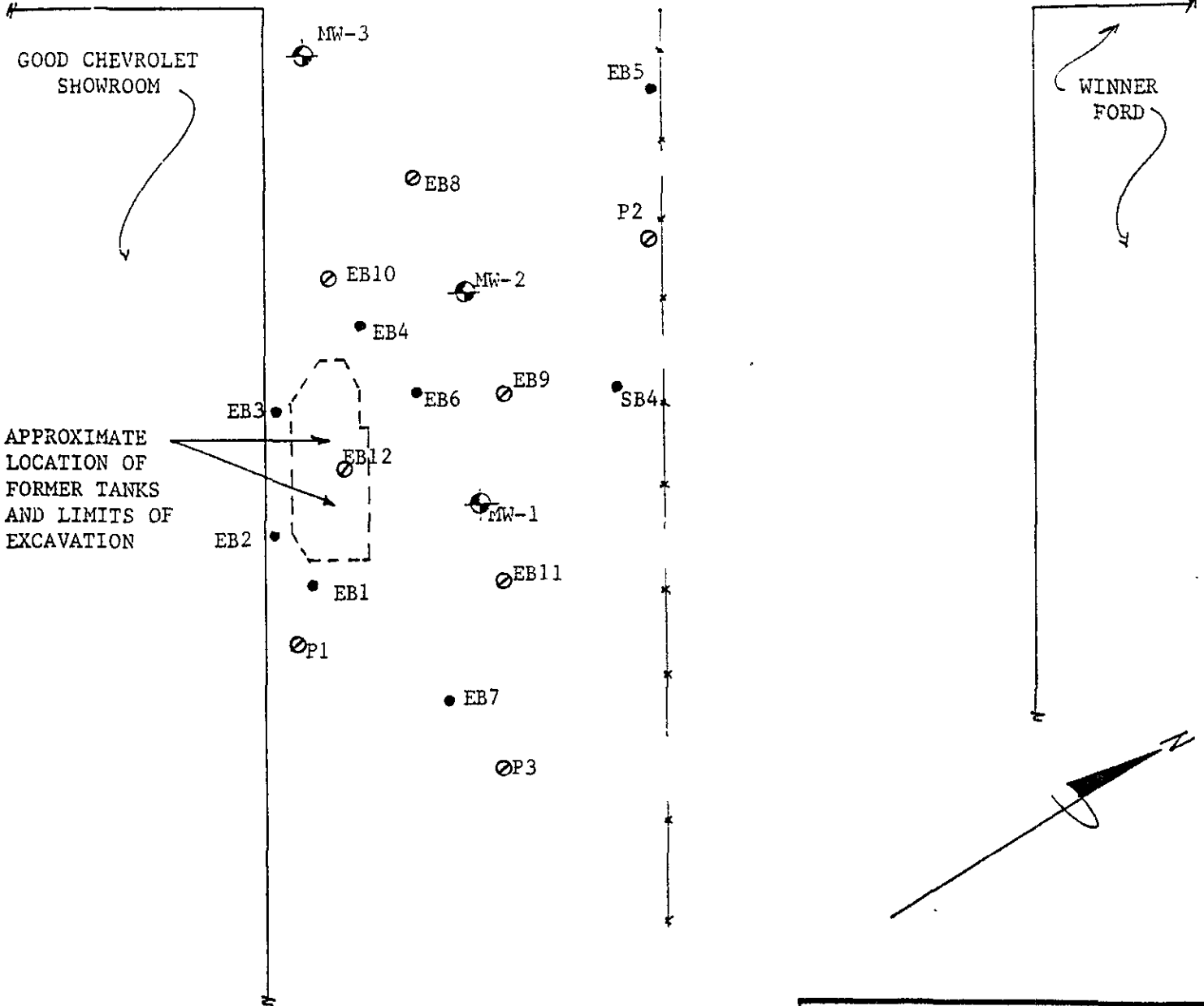
GOOD CHEVROLET		
DATE 10/25/93	SCALE 1"=10'	DRAWN BY dcg
SITE PLAN		
		Figure 2

ARROW INDICATES DIRECTION OF TRAFFIC FLOW



SIDEWALK

SIDEWALK

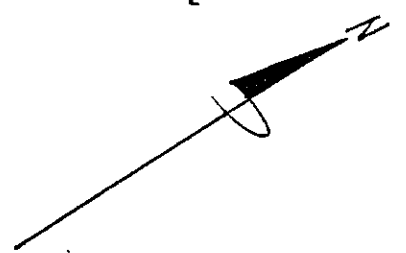
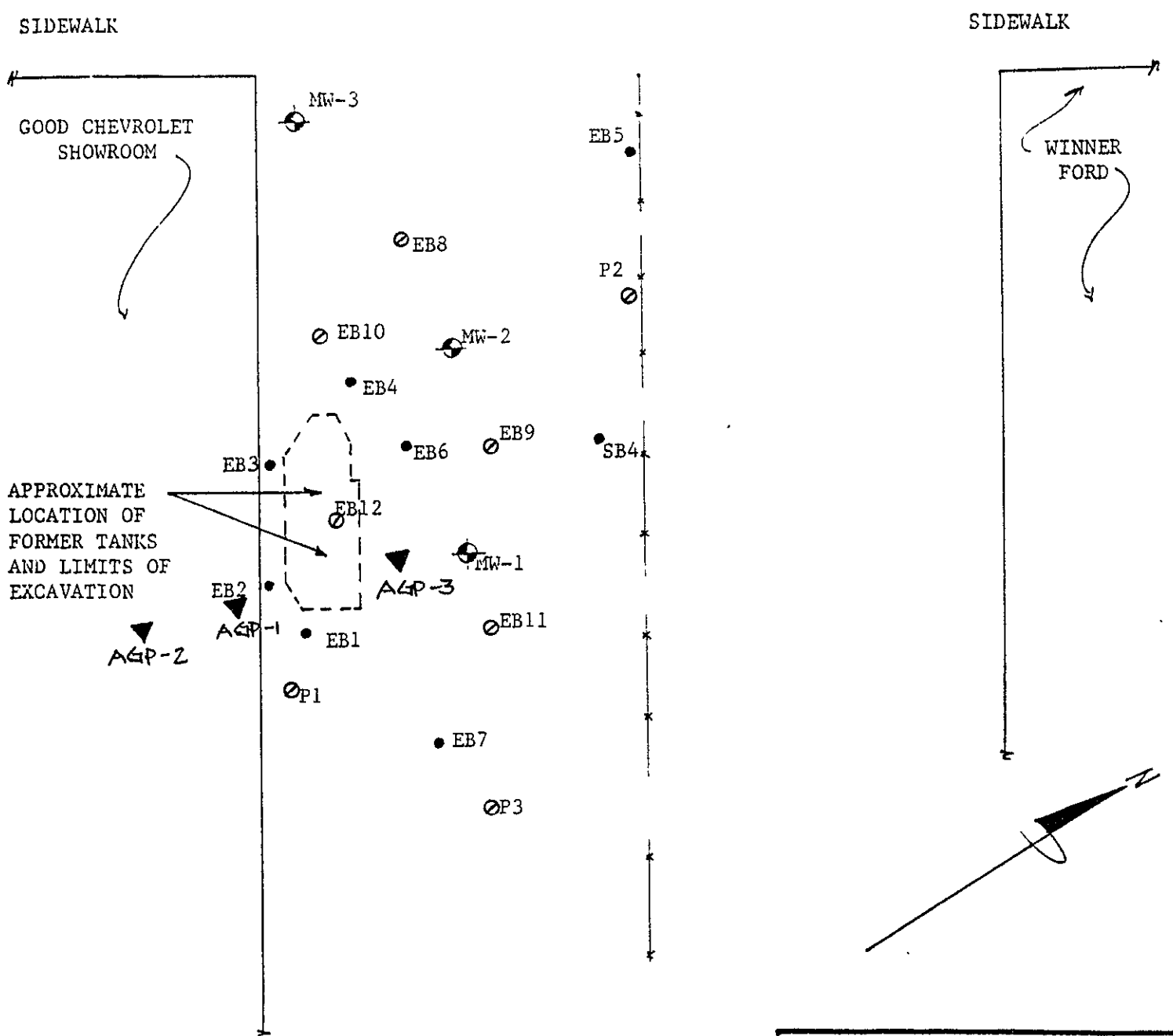
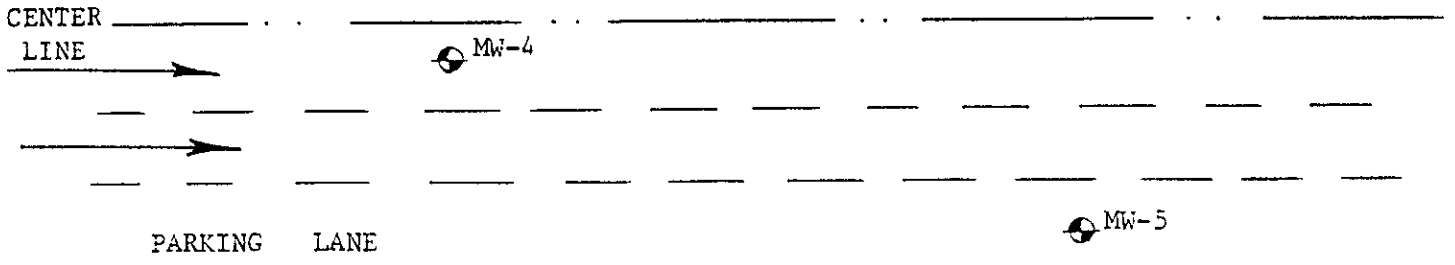


- ⊗ Monitoring Wells
- Borings Previous Studies
- ⊙ Borings Previous Study 1/97

GeoPlexus, Inc.

GOOD CHEVROLET		
DATE 12/5/98	SCALE 1"=20'	DRAWN BY dcg
BORING LOCATION PLAN		
		Figure 3

ARROW INDICATES DIRECTION OF TRAFFIC FLOW

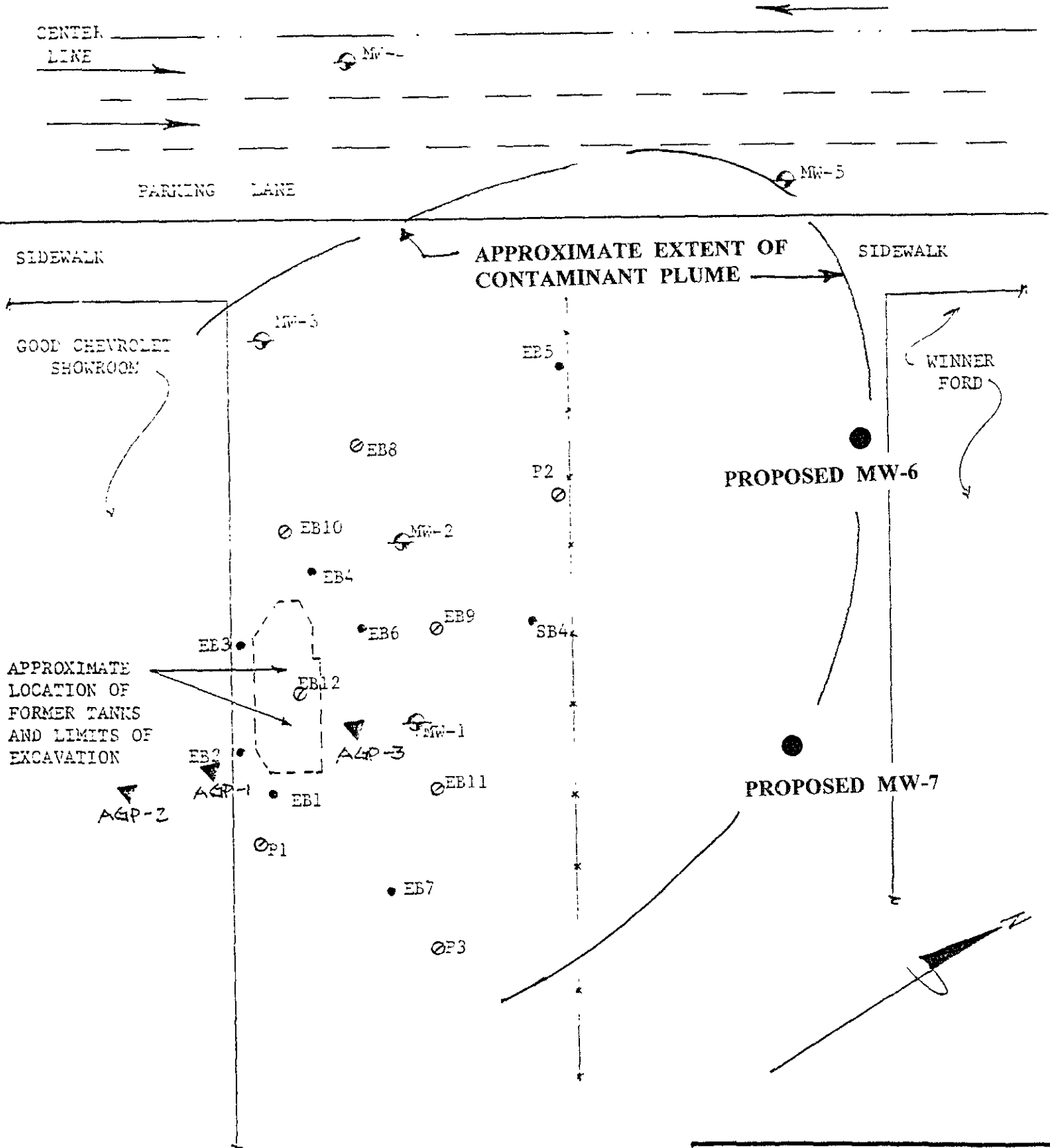


- ⊕ Monitoring Wells
- Borings Previous Studies
- ⊙ Borings Previous Study 1/97

GeoPlexus, Inc.

GOOD CHEVROLET		
DATE 12/5/98	SCALE 1"=20'	DRAWN BY dcg
SOIL GAS PROBE LOCATION PLAN		
		Figure 4

ARROW INDICATES DIRECTION OF TRAFFIC FLOW



- ⊕ Monitoring Wells
- Borings Previous Studies
- Borings Previous Study 1/97

GOOD CHEVROLET		
DATE	SCALE 1"=20'	DRAWN BY dcb
PROPOSED WELL LOCATIONS		
		Figure 5