TO: City of Hayward Hazardous Materials
22300 Foothill Boulevard
Hayward, California 94541

DATE: February 11, 1991

PROJECT NO.: 282-1.1

ATTENTION: Mr. Hugh Murphy

SUBJECT: Work Plan of Correction for Five Star Auto

We are:

X	Enclosing	X	Reports
	Forwarding		Drawings
	Per your request		Specifications
1	Number of Copies		Other

Description: We are submitting this work plan of correction in the name of Five Star Auto.

Comments:

Sent by:

X	First Class Mail
	Special Delivery
	Other:

cc:

Richard A. Burzinski (signature)

Signature of Sender

Richard A. Burzinski

Keith S. Dunbar, P.E.
President, Chief Executive Officer

Catherine M. Manney
Vice President, Chief Financial Officer

Jacquelyn E. McCollough
Vice President, Secretary

I have reviewed this proposal and have talked with the consultant. the consultant will rewrite with notation in this proposal modified.
[signature] 3/25/91

BETA
Environmental Consultants
4340 Stevens Creek Blvd., Suite 181
San Jose, California 95129
(408) 247-BETA (2382)

January 16, 1991
Project 282-1.1

Mr. Mark David East
E & G Construction Company, Inc.
6433 Oberlin Way
San Jose, California 95123

Work Plan of Correction
Unauthorized Petroleum Release
Underground Storage Tanks (USTs)
Five Star Auto Care Facility
[redacted]venue, Hayward, CA.

Dear Mr. East:

Beta Environmental Consultants (Beta) is pleased to present this work plan for investigation and correction of an unauthorized petroleum hydrocarbon release from underground storage tanks (USTs) at the above referenced address.

It is Beta's understanding that as a result of a nuisance condition reported to the City of Hayward Hazardous Materials Department (i.e., a residential neighbor in proximity to the subject site reported contamination in his well), a letter was sent to Five Star Auto Care, by the City of Hayward Fire Department, instructing that the responsible party have the facility's USTs tested for tightness.

The USTs were tested by TTT Company of Richmond, California, on October 8 and 9, 1990 but the tanks failed to hold (liquid) pressure. A UST Closure Plan was filed, and the tanks were removed from the site by Verl's Construction, Inc. of San Leandro, California. Eight soil samples were collected from beneath the tanks, and a water sample was collected from the tank pit, in compliance with "Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites", dated August 10, 1990.

Four of the soil samples exhibited general non-detection of total petroleum hydrocarbons as gasoline (TPHg). However, two soil samples indicated TPHg concentrations above 100 parts per million (ppm) while the remaining two soil samples indicated TPHg concentrations in excess of 1000 ppm. The water sample collected from the tank pit indicated petroleum hydrocarbon contamination at extremely elevated concentration levels (i.e., 26,000 parts per billion (ppb) TPHg and 2,400 ppb benzene).

PLAN OF CORRECTION

The Alameda County Health Care Services Agency (ACHCSA) regulations require that contaminated soil containing in excess of 1,000 milligrams per kilogram (mg/kg, i.e., ppm) be removed from the former UST area and that a groundwater monitoring program be implemented for the purpose of evaluating the presence or absence of hydrocarbon contamination in the groundwater. Beta recommends a phased implementation of the ACHCSA regulations.

Overexcavation

First, the source area would be excavated to insure that all soils with petroleum hydrocarbon concentrations greater than 1000 ppm are removed. Although every attempt will be made to excavate to the required limits, physical constraints may inhibit actual limits of excavation. The ACHCSA would be notified prior to initiation of any remedial activities. Overexcavation activities would proceed under the supervision of a California Registered Civil Engineer.

Waste Transport and Disposal

Excavated soil would be transported to a permitted hazardous waste facility by a permitted hazardous waste transporter. An HNu meter would be used to field screen the excavated soils. If appropriate and approved, the excavated soils (or a portion thereof) would be aerated on site following the guidelines of Regulation 8, Rule 40 of the Bay Area Air Quality Management District (BAAQMD). For soils that are transported to a hazardous waste facility, the evaluation of the presence or absence of hazardous waste levels will be based on the appropriate criteria contained within California Code of Regulations Title 22.

Sampling and Analysis

Following overexcavation, the extent of soil remediation will be evaluated by sampling the sidewalls of the excavation (and the base if the depth to groundwater permits it). The Registered Civil Engineer will supervise all sampling activities. All samples will be appropriately preserved and transported to a Department of Health Services (DHS) State certified analytical laboratory for analysis of total petroleum hydrocarbons as gasoline (TPHg), with benzene, toluene, ethylbenzene, and total xylenes (BTEX) quantification.

Groundwater Investigation

A groundwater investigation would be performed following overexcavation of the source area. This investigation would consist of the installation of three groundwater monitoring wells in order to define subsurface lithology and hydrogeologic conditions, and to evaluate the presence or absence of groundwater contamination at the site. The required drilling permits would be obtained from the Alameda County Flood Control and Water Conservation District (Zone 7) prior to commencement of drilling activities.

Sampling and Well Installation Protocol

The initial monitoring well will be installed within ten feet of the down groundwater gradient edge of the recently removed UST system. Groundwater gradient direction will be determined on the basis of available technical documentation of nearby sites. The Registered Civil Engineer will supervise all aspects of the soil boring and monitoring well installation work. All drilling, groundwater monitoring well construction, and other work performed for this investigation will be conducted according to the "Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites", dated August 10, 1990.

no sites close enough to determine gradient

Sample Collection and Analysis

Soil samples will be collected at 2.5 foot intervals during drilling activities for purposes of lithologic identification of the subsurface regime at the site. Those soil samples to be sent to the State certified analytical laboratory for chemical analysis will be appropriately preserved. Groundwater samples will be collected in a Teflon bailer which is fitted with a bottom emptying device. The water samples will be preserved in the required containers. The soil and groundwater samples will be submitted to a DHS State certified analytical laboratory for analysis of TPHg/BTEX.

All subsurface drilling, soil and groundwater sampling, groundwater monitoring well installation, and environmental control protocol are presented in our attachment titled Beta Associates Environmental Procedures.

PLAN SUBMITTAL

Copies of this Plan of Correction should be submitted to the following agencies:

California Regional Water Quality Control Board
San Francisco Bay Region
1800 Harrison Street, Room 700
Oakland, California 94612
Attention: Mr. Tom Callaghan

Alameda County Health Care Agency
80 Swan Way, Suite 200
Oakland, California 94621
Attention: Mr. Dennis J. Byrne

The enclosed additional copies of this Plan of Correction have been provided for the purpose of the aforementioned regulatory submittal.

Should you have any questions or comments regarding this Plan of Correction, please call Richard A. Burzinski at 408/247-2382.

Respectfully submitted,
Beta Environmental Consultants

Richard A. Burzinski

Richard A. Burzinski
Project Geologist

K. S. Dunbar

Keith S. Dunbar, P.E.
President, Chief Executive Officer
Registered Civil Engineer #17309
Registered Environmental Assessor #01158

REGISTERED PROFESSIONAL ENGINEER
KEITH S. DUNBAR
No. 17,309
CIVIL
STATE OF CALIFORNIA
Expires 6-30-93

REGISTERED ENVIRONMENTAL ASSESSOR
KEITH S. DUNBAR, P.E.
No. 01158
Expires 6-30-91
STATE OF CALIFORNIA

GROUND WATER SAMPLING PROCEDURES

Static Water Level Elevation Measurement

Static water levels in each ground water monitoring well are measured to 0.01 foot each time the wells are sampled (before well evacuation). Static water level elevations are measured in all of the ground water monitoring wells within the same 24 hour period to minimize discrepancies due to changing hydrologic conditions. Field measurements include:

1) surveying elevation of top of well casing

2) depth to standing water (to calculate water level elevation)

3) total depth of each well (to calculate the volume of stagnant water in the well and identify siltation problems)

4) detection of immiscible layers

Well Casing Elevation Measurement Procedure

The highest point at the top of each well casing is surveyed by a qualified, professional surveyor. The survey point is referenced to a United States Geological Survey (USGS) elevation datum.

Water Level Measurement Procedure

Two methods of measuring depth to ground water, electric line and wetted tape, are used to determine ground water elevations.

The procedure for using an electric line is to switch the unit to the selected indicator (light or buzzer) and lower the probe element into the well by pulling the cable from the hand held reel. When the water level reaches that point just above the insulator sleeve on the probe element tip, the light or buzzer will indicate contact. Moving the element tip up and down fractionally, while observing the selected indicator, will locate the water level exactly. The point on the cable that matches the survey point of the well casing is then maintained. Cable measurements are calibrated from the water contact junction point, typically at five foot intervals with various types of codes. The depth to water level is determined by measuring, to within 0.01 foot, the distance between the survey match point on the cable to the nearest calibration mark. An accurate water level elevation is calculated by subtracting the measured depth to water from the elevation of the survey point.

In using the wetted tape method, a graduated steel tape with a reverse reading add-foot is used. The add-foot is coated with chalk and the tape is lowered into the well so that a foot mark lines up with the surveyed point on the well head. By properly selecting the foot mark on the tape and matching it to the survey point on the well casing, a portion of the chalk-coated interval of the tape will be submerged. The graduations may be read to within 0.01 foot and then added to the even foot mark value for the total depth to water from the surveyed point on the well head. An accurate water level elevation is calculated by subtracting the depth to water from the elevation of the survey point.

Total Well Depth Measurement Procedure

The total depth of each ground water monitoring well is measured with a steel tape. The procedure of measuring total depth is similar to that used for the wetted tape method except that the tape is lowered to the bottom of the well instead of to the water level surface. The total depth is determined by measuring, to within 0.01 foot, the distance between the survey match point on the steel tape and the nearest calibration mark.

The volume of standing water in the well is calculated by multiplying the height, in feet, of standing water (total depth minus depth to water level) by the cross-sectional area, in square feet, of the inside of the well casing. To determine the volume of standing water in gallons, multiply the height, in feet, by the factor 0.65 gal/ft.

Significant discrepancies between the total well depth measurement and the actual well depth may represent a siltation problem with that well.

Detection of Immiscible Layers

Prior to evacuation of standing water in each monitoring well, detection of immiscible contaminants ("floaters" and "sinkers") is attempted. "Floaters" are those relatively insoluble organic liquids that are less dense than water and which spread across the ground water surface. "Sinkers" are those relatively insoluble organic liquids that are more dense than water and tend to migrate vertically through permeable aquifer material to an underlying confining layer.

After determining the static water level in the well, a bottom check valve bailer is slowly lowered to that surface and retrieved. Inspection of the retrieved sample should indicate if a "floater" has accumulated on top of the ground water surface.

The procedure for detecting the presence of a "sinker" is similar to that used for a "floater" except that the bailer is lowered to the bottom of the well and retrieved.

Sample Collection

The primary consideration of ground water monitoring well sampling is to obtain a representative sample of the ground water by guarding against mixing the sample with stagnant (standing) water in the well casing. Although the well water in the screened section of the well may mix with the ground water due to normal flow patterns, the well water above the screened section will remain isolated and become stagnant. The stagnant water may also contain foreign material inadvertently introduced from the surface, resulting in non-representative data and misleading interpretations.

To safeguard against collecting non-representative stagnant water in a sample, the following procedures and techniques are used during sample collection.

Well Evacuation

The evacuation (purging) of stagnant well water prior to sampling of the wells is performed using a stainless steel, positive displacement bladder pump, or a hand-held, bottom check valve bailer.

Evacuation of a minimum of three volumes of water in the casing and preferably five to seven volumes for high-yielding wells, is recommended. For high-yielding wells, the pump intake is placed in the uppermost part of the water column to ensure that fresh water from the formation moves upward in the screen. In low-yielding wells, the pump intake is placed so that water is removed from the bottom of the screened interval. For wells that can be pumped to dryness prior to yielding three well volumes, sufficient recovery of the well is allowed prior to sampling. At no time is a well pumped to dryness if the recharge rate causes the formation water to vigorously cascade down the sides of the screen causing an accelerated loss of volatiles.

Sample Withdrawal

Once the proper number of well volumes have been removed from the well and there is reasonable assurance that all stagnant water has been evacuated, temperature, pH, and specific conductance measurements are made in the field before and after sample collection, and after each well volume removal. A ground water sample is not collected until three consecutive like readings have been recorded. The results and the device(s) used are entered in the field log book. Ground water samples are collected directly from the pump discharge line, or from the bailer sampling port. Sample agitation and contact with atmosphere is kept to a minimum. Clean gloves are worn by sampling personnel.

Sample Preservation and Handling

To prevent the loss of constituents of interest, samples are collected directly from the pump discharge line or the bailer sampling port to the sample container that has been specifically prepared for that given parameter analysis. Samples to be analyzed for volatile organics contain no headspace in the sample container. Any required sample preservative is added immediately to the samples and sample containers are placed in coolers (4 degrees C) as they are taken.

Sample Containers and Preservation Procedures

Appropriate containers and sample preservation procedures used are included in EPA Test Methods For Evaluating Solid Waste-Physical/Chemical Methods, SW-846. Filtration of samples in which volatile organic constituents or total recoverable metals are of interest is done only when absolutely necessary. The determination of whether to filter a ground water sample is a laboratory decision to be made by the chemist.

Field Quality Assurance/Quality Control

Duplicate samples are obtained once a day or once every ten samples obtained, whichever is greater. The duplicate samples are obtained from sampling points which are known or suspected to be contaminated.

An equipment rinsate blank is obtained once each sampling round per collection device.

A field or travel blank is obtained once per day per laboratory shipment.

SOIL SAMPLING PROCEDURES

Sample Collection

Soil samples are obtained every two and one half feet and at significant material changes for the purpose of lithologic description. Soil samples are obtained by drilling bore holes with eight-inch hollow stem augers and using either Modified California or Standard Penatrometer driven samplers.

Soil Sampling with Drill Rig

The soil samples are obtained with a Modified California sampler equipped with clean, two-inch diameter by four-inch long brass liners. The brass liners are extracted from the sampler and immediately sealed with aluminum foil, plastic caps, and tape. The samples are labeled, transferred to a refrigerated container, and transported to a State-certified laboratory under chain-of-custody documentation.

Hand-Soil Sampling

The soil samples are obtained with a hand-sampling device equipped with clean, two-inch diameter by six-inch long brass liners. The brass liners are extracted from the sampler and immediately sealed with aluminum foil, plastic caps, and tape. The samples are labeled, transferred to a refrigerated container, and tra*sported to a State-certified laboratory under chain-of-custody documentation.

Sample Containers and Preservation Procedures

The soil samples to be analyzed are contained within two-inch diameter brass liners, wrapped in aluminum foil, capped at both ends, taped, labeled, and refrigerated as quickly as possible to prevent loss of constituents of concern. The samples are transported in refrigerated containers to the laboratory for analysis under appropriate chain-of-custody documents.

CHAIN-OF-CUSTODY PROGRAM

The chain-of-custody program allows for the tracing of possession and handling of individual samples from the time of field collection through laboratory analysis. The document also serves as a sample at all times and is completed including signature of collector, date and time of collection, sample number, number and type of containers including preservatives, parameters requested for analysis, signatures of persons and inclusive dates involved in the chain of possession. Upon delivery to the laboratory the document information includes: name of person receiving the samples; laboratory sample number (if different from the field number); date and time of sample receipt; and analysis to be performed. Copies of all chain-of-custodies are included in Appendix B.

STORAGE OF POTENTIALLY CONTAMINATED MATERIAL

All soil cuttings generated during drilling operations and all ground water extracted during development and sampling of monitoring wells are contained in sealed, labeled fifty-five-gallon drums that meet DOT specifications and stored on site.

EQUIPMENT DECONTAMINATION PROCEDURES

To prevent the possible transfer of contamination, all augers and down-hole tools are thoroughly steam cleaned between borings, and all soil and ground water sampling apparatus are steam cleaned or triple-rinsed in a tri-sodium phosphate solution between each sampling event.

METHOD OF WELL CONSTRUCTION

Soil borings are converted to ground water monitoring wells by installing two-inch diameter, threaded PVC monitoring casing, the lower fifteen to twenty feet of which is factory slotted (slot size 0.020 inches) to allow the inflow of ground water. A coarse sand filter pack is installed adjacent to the slotted portion of the casing to a level two feet above the slotted interval. A bentonite seal one foot thick is placed above the sand filter pack, and the remaining annular space is tremmied with a cement/bentonite grout to prevent the downward migration of surface water. The well head is fitted with a locking steel vault, and encased in a traffic-rated christy box, to protect against damage and unauthorized access.