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# HARTCROWSER

Hart Crowser, Inc.  
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Earth and Environmental Technologies

**Letter of Transmittal**

To: HAZARDOUS MATERIALS  
ALAMEDA COUNTY HEALTH CARE  
80 SWAN WAY ROOM 200  
OAKLAND, CA 94621  
Attn: BARNEY CHAN  
Re: \_\_\_\_\_

Date: 5/27/94  
Job No. J6102

# 551

We are sending the following items:

Date	Copies	Description
	1	4/29/94 LETTER

These are transmitted.

- For your information
- For action specified below
- For review and comment
- For your use
- As requested

**Remarks**

PREVIOUSLY FAXED, SO THIS IS JUST FOR YOUR FILES

By: ERIC SCHMIEDER

Copies to: \_\_\_\_\_

Title: \_\_\_\_\_



**HARTCROWSER**

*Earth and Environmental Technologies*

J-6102

April 29, 1994

Alameda County Health Care Services Agency  
Department of Environmental Health  
Division of Hazardous Materials  
80 Swan Way, Room 200  
Oakland, CA 94621

Attention: Mr. Barney Chan

Reference: Grand Auto Distribution Center  
7200 Edgewater Drive, Oakland

Dear Mr. Chan:

We appreciated the opportunity to meet with you on March 10, 1994, to discuss your concerns about the above-referenced project site and determine the steps necessary to complete closure. We have reviewed the Tentative Resolution from the San Francisco Regional Water Quality Control Board for the implementation of alternative compliance points for groundwater cleanup that you provided to us at our meeting. We concur with your comment that this site is likely to meet the criteria for alternative points of compliance (APOC).

The Tentative Resolution allows APOC to be considered for sites where:

1. No significant pollutant migration will occur; and
2. Adequate source removal and/or isolation is undertaken to limit future migration of chemicals to groundwater; and
3. Best available technologies are inappropriate or not cost-effective; and
4. An acceptable plan is submitted for containing and managing the remaining risks posed by residual groundwater pollution. This plan could include institutional controls and a commitment to mitigating measures, such as participation in a regional groundwater monitoring or protection program.

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The purpose of this letter is to present a site description and demonstrate that the site conditions are consistent with Items 1, 2, and 3. We are also submitting an acceptable plan for managing the residual risk, as required in Item 4.

## SITE DESCRIPTION

The Grand Auto Distribution facility is located on an approximate 19 acre site. The facility consists of 32,000 square feet of office space and 365,000 square feet of warehouse space. The facility is used to receive and distribute automotive merchandise sold at Grand Auto's retail stores. A portion of the warehouse space is currently leased to Lucky Stores. Lucky's warehouses dry goods and bottled water.

The subsurface stratigraphy was based on materials encountered from drilling fourteen soil borings of which nine were converted to groundwater monitoring wells. The site is located in a tidal flat area of Quaternary deposits that was filled in for the purposes of development. The source of the fill material is unknown and was imported in stages throughout development beginning in the late 1940's. The fill material consists of silty sandy gravels and clays with some foreign material (i.e. brick, glass, wood, black stained material with an oily odor, etc.) to a depth of approximately 8 to 12 feet BGS. Beneath the fill material, we encountered a native organic clay, known as Bay Mud, to the total depth explored, 19 feet BGS. However, in boring B-12 we did encounter a fine grained sand beneath the Bay Mud from approximately 17 feet BGS to 20 feet BGS.

We encountered unconfined groundwater in all borings at depths of approximately 9 to 15 feet BGS within the Bay Mud. In general, the groundwater elevations do not indicate a uniform groundwater gradient. The wells are completed in the bay mud material which typically has very low hydraulic conductivity, therefore, non-uniform gradients are not uncommon.

With the exception of landscaped areas in an employee parking lot, the entire site surface is covered with buildings, concrete or asphaltic pavement. Most of the outside pavement consists of concrete slabs, approximately 8-inches thick. These surfaces have existed since the construction of the buildings at this site. Therefore, existence of this surface supports the hypothesis that contaminant residues found in soil samples at 5 to 10 foot depths, and found in groundwater were present in the fill material that was placed at the site.



The Bay Mud effectively limits groundwater movement. In addition, the presence of the concrete and asphalt surface prevents chemical residues from migrating through the vadose zone to groundwater, and effectively isolates the chemical residues found in site soils and groundwater.

Recently the site has been divided into three areas of concern. These three areas are described further in the following paragraphs. No further action or monitoring is currently proposed for Area One. We are proposing that APOCs be considered for the residual chemical levels in Area Two and Area Three.

### *Area One*

This area contains an operating 10,000-gallon underground diesel fuel storage tank. Groundwater in this area is currently monitored by three groundwater monitoring wells (MW-1, MW-2, and MW-3). The initial groundwater samples from these three monitoring wells (March 1992) were reported to contain up to 5.7 milligrams per liter (ppm) of total petroleum hydrocarbons as diesel (TPH-D). Soil samples collected during the construction of these wells showed 2.7 to 14 ppm of TPH-D. However, these monitoring wells have reported non-detectable concentrations of TPH-D the subsequent three quarters (August 1993, November 1993, and March 1994). The diesel tank is equipped with an operating leak detection system.

Given the low levels of petroleum residuals measured in Area One soils and non-detectable TPH-D in groundwater, no further action is proposed in this area. Two of the monitoring wells in Area One will be properly abandoned at the time the underground diesel storage tank is removed. The remaining monitoring well will be used for perimeter groundwater monitoring of the site.

### *Area Two*

This area consists of the location of two former underground gasoline storage tanks that were reportedly removed in 1987, and the north warehouse service area where a release of hydraulic fluid occurred in 1991 from a hydraulic hoist. Area Two groundwater is monitored by four monitoring wells MW-4, MW-5, MW-5A and MW-6. MW-6 is the only well in this area with consistent detections of contaminants. The well was not originally sampled in March 1992 when installed because of the presence of a product sheen on the groundwater surface. Subsequent sampling of MW-6 in August 1993, November 1993, and March 1994 have showed declining concentrations of TPH-D of 1.0 ppm, 0.92 ppm, and 0.41 ppm, respectively. It should be noted



that the diesel found in groundwater has not been attributed to onsite sources other than the site fill. Groundwater samples from MW-4 and MW-5 also contained detectable concentrations of TPH-D in March 1992. TPH-D has been reported at non-detectable concentrations in MW-4 and MW-5 in the last three sample events.

Chemical analyses of three soil samples from this area reported detectable concentrations of TPH-D in all samples at concentrations ranging from 2.7 to 330 ppm. Polynuclear aromatic hydrocarbons (PAHs) were detected in soil samples from borings MW-5 and MW-6 at concentrations of 5.8 ppm and 2.5 ppm total PAHs, respectively. PAHs have not been detected in groundwater samples from these wells during the last three quarters.

Groundwater elevations measured in Area Two show no uniform gradient which is indicative of the relatively low permeability of soils (Bay Mud) at the site. Monitoring well MW-5A was installed to further investigate the groundwater elevation measured in MW-5, which had been constructed differently from MW-4 and MW-6. Groundwater elevation measurements from MW-5A taken with measurements from MW-4 and MW-6 also showed no uniform gradient. A groundwater sample from MW-5A showed non-detectable concentrations of TPH-D, oil and grease, and metals (cadmium, chromium, lead, nickel, and zinc).

During the 1990 replacement of an hydraulic lift in the service area of Area Two, it was reported that gasoline odors were encountered in the hoist pits. The results of six soil samples from the excavation sidewalls indicated that TPH-gasoline range (TPH-G) was present at levels ranging from non-detectable to 23 ppm. Grab water samples from the replacement hoist excavation and the old hoist excavation reported concentrations of TPH-G of 0.18 ppm and 63 ppm, respectively. A release of 80 gallons of hydraulic fluid occurred from the new hoist in February 1991. During removal of the hoist it was noted that the hoist had been installed within a concrete trench that appeared to have contained the leaked hydraulic fluid. Soils in this area were excavated to the extent possible with the final excavation dimensions being 19-feet by 10-feet to a depth of 10 feet BGS. Four verification soil samples were collected from the excavation and analyzed for TPH-D and TPH-G. Only a single sample had a reportable level of TPH-D at 17 ppm along the south wall of the excavation. Excavated soil was disposed of at BFI's Vasco Road Sanitary Landfill, Livermore, California and the Gibson Oil Refinery in Bakersfield, California.



### *Area Three*

This area consists of the remainder of the site where wells MW-7 and MW-8 are located and borings B-9 through B-13 were drilled. This area also includes the North Warehouse service area where a hydraulic hoist has recently been removed. With the exception of 0.0005 ppm of toluene detected in MW-8 in August 1993, and 0.140 ppm of TPH-D in MW-7 on June 8, 1992, no positive detections have been reported. A grab groundwater sample was also obtained during the removal of the hydraulic hoists from the service area in the North Warehouse. This sample did not contain any detectable levels of petroleum hydrocarbon concentrations.

Soil samples collected during installation of monitoring well MW-8 and drilling of borings B-9 through B-13 showed the presence of polychlorinated biphenyls (PCBs) in three of the 12 samples analyzed at concentrations of 0.0043 ppm to 0.027 ppm. TPH-D was reported in three of 12 samples at concentrations ranging from 13 to 24 ppm. Oil and Grease was reported in five of 12 samples. The oil and grease concentration in four of these samples ranged from 57 to 140 ppm. The fifth sample, taken from Boring B-13 at a depth of 5 feet BGS, reportedly contained 2,600 ppm of oil and grease. This sample also reportedly contained 580 ppm of total lead and 640 ppm of total zinc. A deeper sample from B-13 at 10 feet BGS, contained less than 50 ppm of oil and grease and 9 and 65 ppm of total lead and total zinc, respectively.

### ITEM 1. NO MIGRATION

Based on the site's hydrogeology and the distribution of chemical residues it can be reasonably concluded that:

- The lateral and vertical migration of groundwater is restricted due to the presence of low permeability geologic material (Bay Mud).
- No significant potential horizontal pathways were identified in any borings conducted during this investigation.
- The identified impacts to groundwater from petroleum hydrocarbons is limited in extent. Currently detectable concentrations of TPH-D are only found in groundwater samples from MW-6.
- The Bay Mud provides a low permeability barrier to vertical migration of chemical residues.



## ITEM 2. SOURCE REMOVAL AND ISOLATION

Based on the site's conditions and the distribution of chemical residues it can be reasonably concluded that:

- All known onsite sources except for the fill material have been removed.
- No separate phase hydrocarbons are currently present on the groundwater table.
- Highly polluted soil (Area Two hoist leak) has been removed to the maximum extent possible with the maximum remaining concentration in soil of 17 ppm TPH-D.
- The residual chemical concentrations measured in site soils are consistent with risk-based cleanup levels we have developed for similar sites.
- Existing site improvements ( asphalt and concrete surfaces, and buildings) are adequate to isolate chemical residues in soils and groundwater and to prevent any migration.

## ITEM 3. BEST AVAILABLE TECHNOLOGY

Based on the site conditions and hydrogeology, groundwater contamination recovery by conventional pump and treat techniques is not practical. Currently, each monitoring well is bailed dry during sampling, indicating this low groundwater recovery potential. In addition, the low volatility of the compounds detected in the soil samples, the shallow groundwater table, and the low permeability of the site soils make the use of vapor extraction technology impractical.

## ITEM 4. CLOSURE PLAN

The subject property and surrounding areas are zoned commercial and light industrial and a change in land use in this area is not anticipated. The property has been used for as a distribution center for automotive parts by Grand Auto, and it is likely that the facility will be continued to be operated as a product distribution center, though the types of products handle at the site may change. Lucky's stores dry goods under a lease in a portion of the facility vacated by another tenant. The groundwater at this site will continue to have little development potential due to low yields and high total dissolved solids levels.



We propose providing perimeter monitoring of Area Two and Area Three to demonstrate that the residual contaminants in groundwater are being contained on the site. Existing monitoring wells would be used for this purpose. A description of the proposed monitoring activities are given below. Activities have been proposed to address your remaining concerns and to demonstrate the compliance with the Tentative APOC Policy Resolution.

The ACHCSA had expressed concern over the potential for groundwater impacts from residual contamination in the service area of Area Two. In order to address the ACHCSA's concerns about possible groundwater impacts in this area we are proposing to obtain a grab groundwater sample using a HydroPunch or a similar sampling technique.

In Area Two the concern is that no follow-up groundwater sampling was performed after soil excavation was completed in the area. An initial groundwater sample was reported to contain 63 ppm of TPH-G.

A single HydroPunch sample would be collected in the area of the former hydraulic hoist excavation from Area Two. The collected groundwater sample would be analyzed for TPH-G, TPH-D and oil and grease. Future activities in this area of the site will be predicated on the results of the chemical analyses of the groundwater sample. If the levels of TPH-G, TPH-D and oil and grease are reported as non-detectable in this groundwater sample, then the concerns of the ACHCSA will have been addressed, and no further investigation activities will be performed, other than the Area Two groundwater monitoring. If detectable concentrations of TPH-G, TPH-D or oil and grease are reported in the groundwater sample, the significance of the concentrations will be discussed with ACHCSA. As soil excavation in this area has already been completed, and the site conditions make "pump and treat" alternatives impractical, we intend to address any ACHCSA concerns in this area that remain after the HydroPunch sampling through the site monitoring program described in the following paragraph.

A monitoring program will be continued in Area Two and will include MW-4 and MW-6. Each of these wells is located at the property perimeter. Samples will be analyzed for TPH-D. Additional analyses may be performed pending the results of the HydroPunch sample from the service area. Sampling frequency will be quarterly for one year, and semi-annually for one year. A sample will also be collected from each well at the end of the third year. However, should four consecutive rounds of non-detect sample results be reported, case closure will be appropriate.





In Area Three the concern is over the high level of oil and grease (2,600 ppm) and total PAHs (14.7 ppm) that were reported in a soil sample at five feet BGS in Boring B-13. A deeper sample from the same boring at 10 feet BGS (approximate depth of the groundwater surface) reported non-detectable concentrations of both oil and grease, and PAHs. A groundwater sample obtained in October 1993 from the hoist excavation (North Warehouse Service Area) approximately 20 feet from B-13 did not contain detectable concentrations of TPH-D, or oil and grease. This area of the site is currently covered with an eight inch concrete surface which significantly limits precipitation infiltration and the ability of contaminants found in shallow soils to mobilize and migrate to underlying groundwater. The effectiveness of this concrete surface is demonstrated by the Boring B-13 soil samples which show decreasing contaminant concentrations with depth.


A monitoring program will be continued in Area Three and will include MW-7 and MW-8, and MW-1 located in Area One. Each of these wells is located at the property perimeter. Samples will be analyzed for TPH-Diesel. Sampling frequency will be quarterly for one year, and semi-annually for one year. A sample will also be collected from each well at the end of the third year. However, should four consecutive sample results report non-detectable results, closure of this site area will be appropriate.

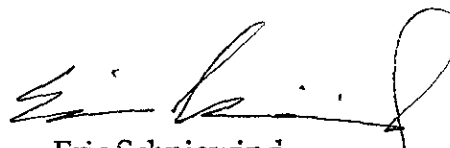
The monitoring wells not used for alternative points of compliance (MW-2, MW-3, MW-5 and MW-5A) will be properly abandoned.

We hope that this letter has adequately addressed ACHSA remaining concerns about soil and groundwater conditions at this site. If you have any questions regarding this information, please do not hesitate to call us at (415) 391-1885.

Sincerely,

**HART CROWSER, INC.**

*for*   
Patrick G. Lynch, P.E.  
Senior Project Engineer

  
Eric Schniewind  
Project Hydrogeologist

PGL/ETS:pr

Enclosure

cc: Mr. Raymond Elliott, PACCAR Automotive, Inc.  
Ms. Lisa Robbins, PACCAR, Inc.