

AUG 28 2002

**geo - logic** *geotechnical and environmental consulting services*

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August 23, 2002

Ms. eva chu  
Alameda County Department of Environmental Health  
1131 Harbor Bay Parkway, 2<sup>nd</sup> Floor  
Alameda, CA

RE: Work Plan/Proposal  
Assessment of Residual Hydrocarbon Vapor in Soil  
Former Berkeley Farms/Kentucky Fried Chicken  
4575 4574 San Pablo Avenue  
Emeryville, California

Dear Ms. chu:

Per our recent discussions regarding the remaining evaluation required prior to site closure, Geo-Logic has prepared this workplan/proposal for further assessment of soil vapor in the vicinity of the Kentucky Fried Chicken facility at the subject site.

SITE DESCRIPTION AND BACKGROUND

The subject site is located on the western side of San Pablo Avenue between 45th and 47th Streets in Emeryville, California, and formerly contained a service station facility at the southern portion of the property. Until 1998, the site operated as a truck repair shop and yard for Berkeley Farms. A Site Plan (Figure 1) is attached to this report.

Geo-Logic's previous work at the site includes sampling during overexcavation of a waste oil tank at the northern end of the property. This work is summarized in Geo-Logic's reports (GL-97-110.R1 and GL-97-110.R2), both dated February 10, 1998.

Following this work, installation of three monitoring wells was proposed (workplan/proposal GL-98-110, dated November 15, 1997). The wells were installed in February, 1998. This work, including the results of the first quarter of monitoring and sampling, was documented in Geo-Logic's report (GL-97-110.R3) dated March 7, 1998.

In April and May, 1998, a former service station fuel tank pit at the southern portion of the site was extensively overexcavated. This work, and the results of the second quarter of monitoring and sampling, was documented in Geo-Logic's report (GL-97-110.R4) dated June 9, 1998.

Following this work, additional hydrocarbon-impacted soils were encountered during construction of the existing Kentucky Fried Chicken (KFC) outlet. On December 12, 1998, approximately 700 tons of hydrocarbon-impacted soil was excavated and removed to the Allied Waste Landfill in Manteca, California. Based on confirmation soil sampling, some hydrocarbon-impacted soil remained and therefore a health risk assessment was completed. The risk assessment indicated that the potential carcinogenic risk to commercial workers from inhalation of indoor air was  $1.32 \times 10^{-4}$ , slightly above the EPA's acceptable range. Based on the risk assessment work, and to mitigate this risk, a vapor barrier was installed beneath the KFC building. The risk assessment and the additional excavation and sampling work are documented in reports by Waterstone Environmental dated February 10 and February 19, 2002.

On September 5, 1998, as discussed in a prior meeting with Ms. Susan Hugo of the ACDEH, ORC filter socks were placed in monitoring wells MW2 and MW3. ORC is an insoluble solid peroxygen consisting of magnesium peroxide which has been formulated to release oxygen at a controlled rate when hydrated. The purpose of the ORC in wells MW2 and MW3 was to enhance conditions for the natural biodegradation of petroleum hydrocarbons. Prior to installation of the ORC, baseline measurements of dissolved oxygen in groundwater (DO) were taken. With the concurrence of MS. Susan Hugo of the ACDEH, the ORC was removed from well MW2 on February 5, 1999.

On July 30, 1999, well MW1, damaged during construction, was properly abandoned, and replacement well MW1A was constructed, developed, and initially sampled. This work was documented in Geo-Logic's report (GL-97-110.R9) dated August 12, 1999. The wells have been monitored and sampled quarterly since that time. The most recent quarterly report, entitled "4th Quarter 2001 Monitoring and Sampling Report" and dated December 17, 2001, summarizes the historical monitoring and sampling results.

Based on our recent discussions, in July and August, 2002, attempts were made to locate a 3-inch pipe outlet to a vapor collection piping system that was installed above the vapor barrier. The vapor barrier consists of a 20 ml thick layer of Paraseal GM liner material, laid down at approximately 42 inches below grade over a prepared surface. All of the overlaps were sealed with Para JT joint sealing compound. Two layers of 10 ml visqueen were laid over the Paraseal.

The vapor collection piping system is reportedly located along the inside of the foundation walls and through the interior of the KFC building, and then routed inside the wall and outside at the rooftop. The outlet to this system could not be located. Therefore, this work plan has been prepared in order to sample soil vapors directly above the vapor barrier, to evaluate the effectiveness of the vapor barrier in mitigating the risk to commercial workers from inhalation.

The proposed scope of work includes: preparing a site specific health and safety plan; advancing four soil gas vapor probes and collecting soil vapor samples, submitting the soil vapor samples for chemical analysis; and preparing a report which presents the findings of the investigation.

The sample points are proposed at the locations shown on the attached Figure 1. Four samples are proposed because it is anticipated that all samples may not be successfully completed if obstacles are encountered. The sampling will be completed using an AMS Gas Vapor Probe System provided by Environmental Instruments of Concord, California. At each location, a 5/8 inch diameter probe will be advanced by either using a slide hammer, or by direct push. The probe will be advanced to approximately 40 inches, within 6 inches of the vapor barrier (at approximately 42 inches below grade). The probe will then be removed from the hole either by hand or by use of a removal jack. At that point, a sampling rod with an expendable tip, which contains small diameter teflon tubing plumbed directly to a vacuum pump with a sampling port, will be inserted into the borehole. The sampling rod assembly will be placed in the hole either with the slide hammer, or by direct push. Following insertion of the sampling rod assembly and placement of the expendable tip to the desired sampling depth, the sampling rod assembly will be removed, leaving the expendable tip connected to the teflon tubing. After removal of the sampling rod, bentonite or soil will be used to seal around the vinyl tubing at the surface, and the tubing will be connected to the hand-operated vacuum pump. An intermediate container connected to a tedlar bag will be placed between the vacuum pump and the sampling point. After purging sufficient air to completely displace the volume of air in the tubing between the sampling point and the intermediate container, a tedlar bag will be filled. The bags will be labeled and stored in a cooler, on crushed ice or "blue ice," for delivery to a state-certified laboratory. Properly executed Chain of Custody documentation will accompany the samples. The samples will be analyzed for benzene, toluene, ethylbenzene, and xylenes by EPA Method 8020. Following sample collection, the borings will be backfilled with the cuttings.

Following receipt and analysis of all data, a report will be prepared which summarizes the procedures and findings associated with this investigation, and makes additional recommendations, as appropriate. If you have any questions regarding this work plan/proposal, please do not hesitate to call me at (510) 593-5382.

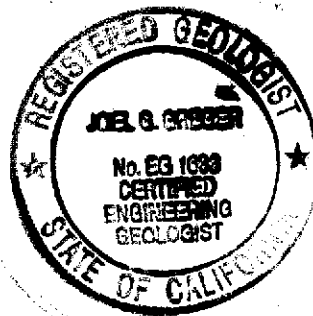
Sincerely,

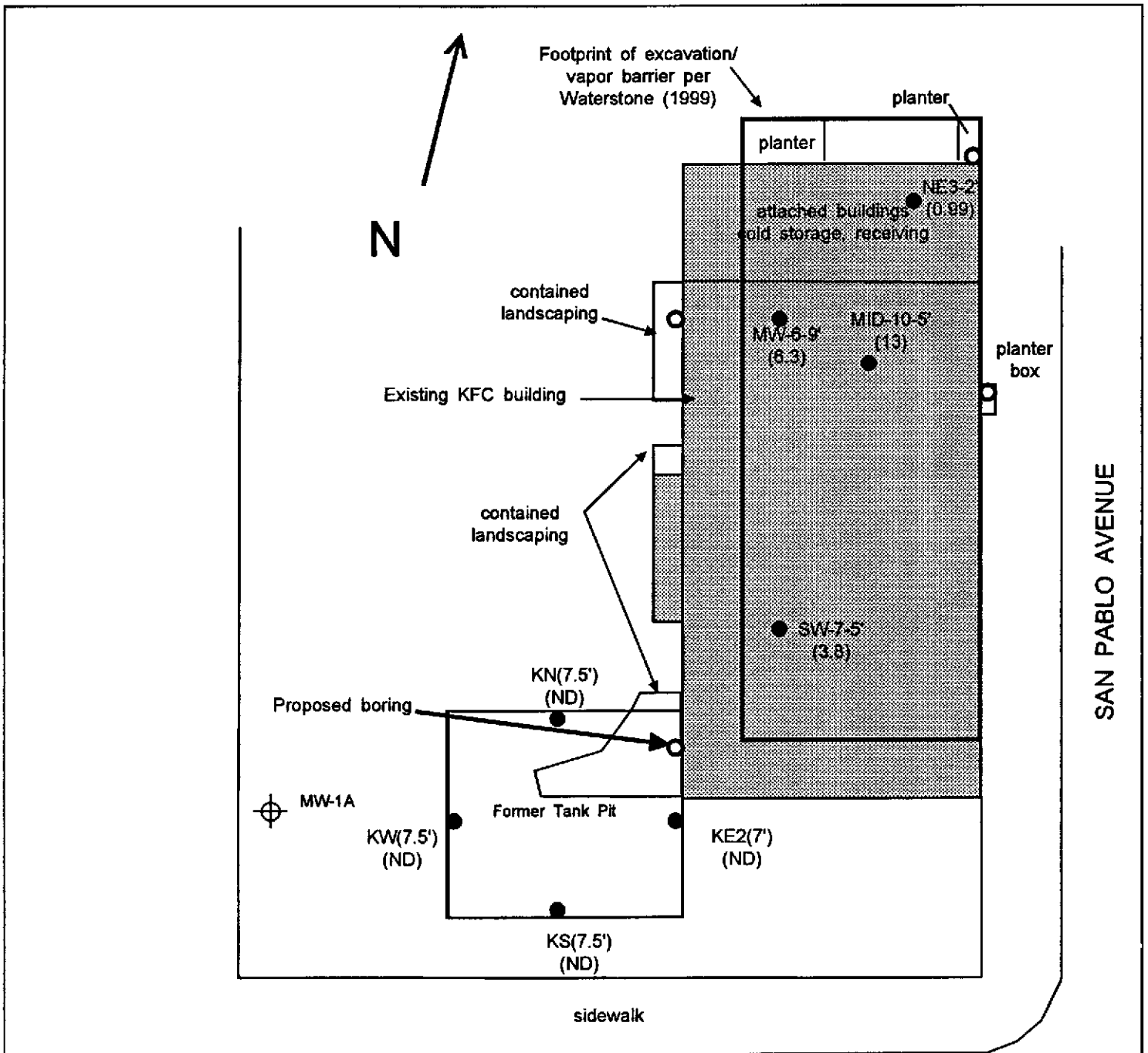
Geo-Logic



Joel G. Greger  
C.E.G. No. EG 1633,  
Exp. Date 8/31/2004

Attachments: Site Plan - Figure 1





**LEGEND**

- ⊕ Monitoring well
- Sample No. - depth (benzene in ppm)
- Exploratory boring/vapor sample (proposed)

45TH STREET

APPROXIMATE  
SCALE  
0 20  
1" = 20'

Former Berkeley Farms Truck Shop & Yard 4575 San Pablo Avenue Emeryville, California	Figure No: <b>1</b>	Date: August 23, 2002
		Drawn By: JG/Geo-Logic

**Site Plan showing Proposed Borings**