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November 15, 1999

Ms. Juliet Shin, R.G.  
Hazardous Materials Specialist  
Alameda County Health Care Services Agency  
Environmental Health Services  
1131 Harbor Bay Parkway, Suite 250  
Alameda, CA 94502-6577

Re: Ground Water Investigation Workplan  
Mills College Corporation Yard, 5000 MacArthur Boulevard  
Oakland, California  
*Harza Project No.: 16198-EA*

Dear Ms. Shin:

Harza Engineering Company, Inc. (Harza) is submitting this workplan for the above-referenced site on behalf of Mills College. This workplan is designed to address the additional investigation requested in your October 15, 1999 letter to Mr. Paul Richards of Mills College.

## BACKGROUND

In October 1988, a 1,000-gallon gasoline UST was removed from the Corporation Yard facility. A report prepared by Blaine Tech Services, Inc. of San Jose, California, indicated that soil samples collected from a depth of 21 feet below ground surface (bgs) following tank removal contained moderately high levels of total petroleum hydrocarbons as gasoline (TPHg). It is understood that 100 cubic yards of contaminated soils were excavated from the tank pit area at the time of tank removal and aerated on-site.

Beginning in June 1989, Harza (formerly Kaldveer Associates) performed soil and ground water quality investigations at the site, consisting of the installation and sampling of three ground water monitoring wells (MW-1 through MW-3) and two additional shallow soil borings. The results of these investigations, presented in a report titled *Soil and Ground Water Testing Report for Mills College Corporation Yard*, dated May 7, 1991, indicated that the majority of gasoline contamination in the unsaturated zone in the vicinity of the tanks appeared to have been removed during the soil excavation program conducted when the tanks were removed. Additional wells were installed in May 1994 (MW-4) and April 1995 (MW-5).

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Analysis of ground water samples collected from the monitoring wells since June 1989 have indicated the presence of TPHg at concentrations up to 11 parts per million (ppm). The most recent monitoring conducted by Harza in October 1998 indicated TPHg was not present above laboratory method reporting limits (MRLs) in wells MW-3 through MW-5. TPHg was present in wells MW-1 and MW-2 at 0.42 ppm and 0.18 ppm, respectively. Low levels of some BTEX constituents (benzene, toluene, ethylbenzene and xylenes) were reported in wells MW-1 through MW-4. The measured ground water flow direction at the site has been toward the south to west-southwest.

## INVESTIGATION ACTIVITIES

Our proposed field investigation is designed to address the requirements of ACHCSA so that the site may be evaluated for closure. ACHCSA has expressed concern that monitoring well MW-4 is not screened at the appropriate interval for ground water monitoring and has requested a "grab" sample be collected from a soil boring adjacent to MW-4. In addition, they have requested a round of ground water samples from each of the wells to be analyzed for methyl *tert*-butyl ether (MTBE).

In order to collect the "grab" ground water sample near MW-4, Harza will retain the services of a GeoProbe subcontractor. Harza will secure the appropriate permits from Alameda County and the City of Oakland, and contact Underground Service Alert (USA), prior to performance of any borings. Direct-push methods will be used to install a one and one-half inch boring adjacent to the well. A slotted PVC pipe will be inserted into the boring, and one ground water sample will be collected using a disposable bailer. The sample will be transferred to two 40 milliliter volatile organic analysis (VOA) containers and preserved with hydrochloric acid. Each sample will be labeled, and placed into a cooled container for transport to a Cal-EPA certified analytical laboratory under chain-of-custody control. Samples from this boring will be analyzed for TPHg and BTEX using the California LUFT method, and for MTBE using EPA Method 8260.

Although ACHCSA has requested ground water samples be collected from each of the five monitoring wells, Harza has requested that a "grab" sample from a boring adjacent to well MW-5 be collected in lieu of a sample from this well. The casing on this well is creased approximately 5 to 10 feet bgs, precluding proper purging and sampling of this well. Ms. Juliet Shin, Hazardous Materials Specialist, has verbally approved this action.

Harza will collect ground water samples from wells MW-1 through MW-4. Each well will be purged a minimum of three casing-volumes of water using a submersible pump.

Wells will be sampled following purging once field-monitored parameters pH, temperature, and electrical conductivity have stabilized. All purge water will be drummed on-site, pending later disposal. Samples will be collected using disposable bailers and transferred to VOA containers as described earlier in this sampling workplan. Each of these samples, in addition to the sample from the borings adjacent to MW-4 and MW-5, will be submitted to a certified analytical laboratory for analysis of MTBE using EPA Method 8260.

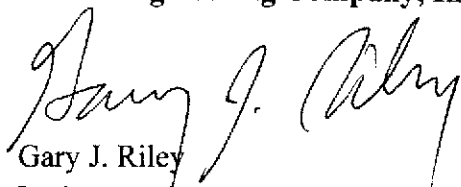
## REPORTING

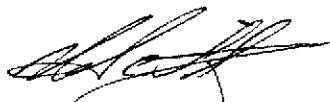
Following receipt of certified analytical reports from the laboratory, we will prepare a report summarizing our field investigation and results. Our report will include tabular summaries of ground water data for the site and will present our recommendations pertaining to site closure. This report will be submitted to ACHCSA to the attention of Ms. Shin.

We anticipate this workplan properly addresses your concerns and that you will approve of its scope and methods. If you have any questions or comments, please do not hesitate to contact Mark Litzau at (510) 636-2140.

Sincerely,

**Harza Engineering Company, Inc.**

  
Gary J. Riley  
Project Engineer

  
Mark C. Litzau  
Regional Manager,  
Environmental & Regulatory Services

GR/MCL:tr

Cc: Addressee (2)

Ms. Pat Ernesto (Mills College - 1)

Mr. Leroy Griffin (City of Oakland Fire Dept., OES - 1)