



A GROUND WATER CONSULTANCY

CIVIL
PROTECTION

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Mr. Scott Seery, CHMM
Hazardous Materials Specialist
Alameda County Health Care Services
Hazardous Materials Division
1131 Harbor Bay Parkway, 2nd Floor
Oakland, CA 94502

August 28, 1998

Alameda

RE: Work plan to conduct soil investigation around underground tank location at Oliver Trust Farms, 28905 Hesperian Boulevard, Hayward, California.

Dear Mr. Seery;

H₂OGEOL has been retained by DECON Environmental Services, Inc. to prepare a work plan, and conduct the ensuing investigation, to install five soil sampling and groundwater grab sampling borehole within ten feet of a tank removal excavation at the Oliver Trust Farms, 28905 Hesperian Boulevard, Hayward, California. This letter serves as that work plan.

The work plan provides information following the format of "Appendix A - Work plan for Initial Subsurface Investigation" of the "TRI-REGIONAL BOARD STAFF RECOMMENDATIONS FOR PRELIMINARY EVALUATION AND INVESTIGATION OF UNDERGROUND TANK SITES." This format is frequently requested by your coworkers at Alameda County Environmental Health, Hazardous Materials Division. Much of the information requested in "Appendix A" however, is not available.

I. Introduction

A. Statement of Scope of Work

The scope of work for the investigation to be conducted through implementation of this work plan is to ascertain the presence of gasoline derived Total Purgeable Petroleum Hydrocarbons (TPH-G) and the aromatic hydrocarbons benzene (B), toluene (T), ethylbenzene (E), and total xylene isomers (X), which are collectively referred to as BTEX, in soil and groundwater as encountered in the indicated soil and groundwater sampling borehole to be installed within about 10 feet of the tank removal excavation.

B. Site Location

The tank removal excavation site is situated within the maintenance building, at its southeast corner. The site location is shown on Figure 1 and the tank removal excavation location is shown in Figure 2.

C. Background

Background information concerning the tank and adjacent soil removal is unavailable to H₂OGEOL.

D. Site History

The site history is unavailable to H₂OGEOL.

II. Site Description

A. Vicinity description and hydrogeologic setting

The Oliver Trust Farms, 28905 Hesperian Boulevard in Hayward, are located in the East Bay Plain, less than 4,000 feet east of the former salt evaporation ponds. The channelized portion of Alameda Creek lies about 1,000 feet to the southeast. The first encountered water bearing hydrostratigraphic unit generally occurs between six and ten feet beneath the surface in the general vicinity (data from sites along the East bay, stretching from Richmond to Santa Clara) and most frequently consists of a clayey sand ranging in thickness from less than one inch to several feet.

B. Vicinity map (including wells located on-site or on adjoining lots, as well as any nearby streams).

See attached Figure 2. A well inventory has not been prepared of the area surrounding 28905 Hesperian Boulevard.

C. Site map to include; ...

A surveyed site map is not available. Figure 2 is a site sketch.

D. Existing soil contamination and excavation results.

Previously provided by DECON.

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III. Plan for determining extent of soil contamination on site.

Potential soil contamination will be ascertained through ~~and~~ ~~installation~~ of five auger holes, fairly surrounding the tank removal excavation. These five hand augerhole locations are shown in Figure 2.

Soil samples will be collected for analysis at significant changes in lithology and at the depth of first encountered water in all five augerholes.

Subsurface access to obtain soil samples will be attained using a hand operated 3¼-inch Iwan Auger. Soil is obtained from the augerhole location by pressing the auger into the ground and turning it at the same time. When the auger blades and body are loaded with all the soil that can be held, the tool is withdrawn and emptied. As the hole progresses downward, appropriate length extensions are added between the auger and the cross handle. At each of the 5 locations the stratigraphic section encountered will be continuously described/logged according to the USCS using visual-manual procedures in accordance with ASTM D-2488. The depth of first encountered water will be noted. The soils encountered and the depth to first encountered water are recorded in the Borehole Lithologic Logs to be provided in the final report.

At the desired sampling depth, ~~soil is removed from the auger blades and body and hand pressed into a wide-mouthed sample jar~~ provided by the laboratory. Each sample jar will be labeled with the sample designation, date and time and placed into an ice chest containing ice. The sample number, date, and time will be entered onto chain-of-custody form(s) that included the request for analysis by U.S. EPA Method 8015M/8020. Samples and chain-of-custody documentation will be delivered to Chromalab, Inc. (certification number is 1094) of Pleasanton, California. Copies of the laboratory reports and the chain-of-custody forms will be provided in the final report. No!

Auger cuttings produced during this investigation will be added to the existing soil pile.

IV. Plan for determining groundwater contamination.

Preliminary evaluation of the potential for groundwater contamination will be determined by collection and analysis of **grab groundwater samples** from each of the five soil sampling augerholes.

Items A and B address various aspects of the installation of permanent monitoring wells.

C. Groundwater sampling plans (include plans for sampling any on-site domestic wells)

1. Water level measurement procedure.

Depth to water below the ground surface will be measured with an electric sounding line to an accuracy of 0.01 feet.

2. Methods for free product measurement, observation of sheen and odor.

Depth to top of fluid will be measured with a sounding bell. Product thickness is the difference between depth to water and depth to fluid. The sample retrieved will be used to check to sheen and odor.

3. Purging procedure.

The augerhole will be purged of no less than one standing volume by pumping.

4. Purge water disposal plans.

Water produced during this investigation will be added to the existing soil pile.

5. Sample collection procedures.

? A groundwater sample will be pulled from the augerhole with the purge pump discharging at less than 1 liter per minute. The sample will be collected directly into a 40-mL VOA vial with a teflon™ septum lid.

6. Sample analyses to be used

U.S. EPA Method 5030/8015 for TPH-G and method 8020 for BTEX.

7. Quality assurance plan.

Field sampling will be performed by an experienced groundwater sampler. Samples will be stored and transported in an ice chest maintained at 4° C. Samples will be delivered to the laboratory under chain-of-custody documentation. While at the laboratory the sample tracking and analysis will follow the laboratory's approved quality assurance protocol.

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8. Chain of Custody Procedures.

Sample numbers, container types, etc., and analytical request information will be entered on the chain-of-custody form. The sample collector will sign the form when transferring the sample to the laboratory personnel. The laboratory personnel will sign the form upon receipt of the sample.

V. Include a site safety plan.

A site safety plan is included as Attachment A.

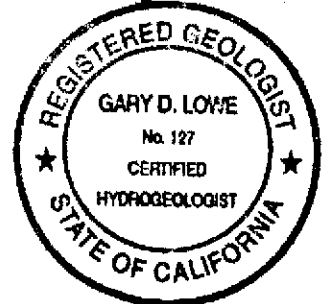
This concludes the work plan for soils and groundwater investigation at Oliver Trust Farms, 28905 Hesperian Boulevard, Hayward, California.

Please do not hesitate to call me at (925) 373-9211 should you have any questions.

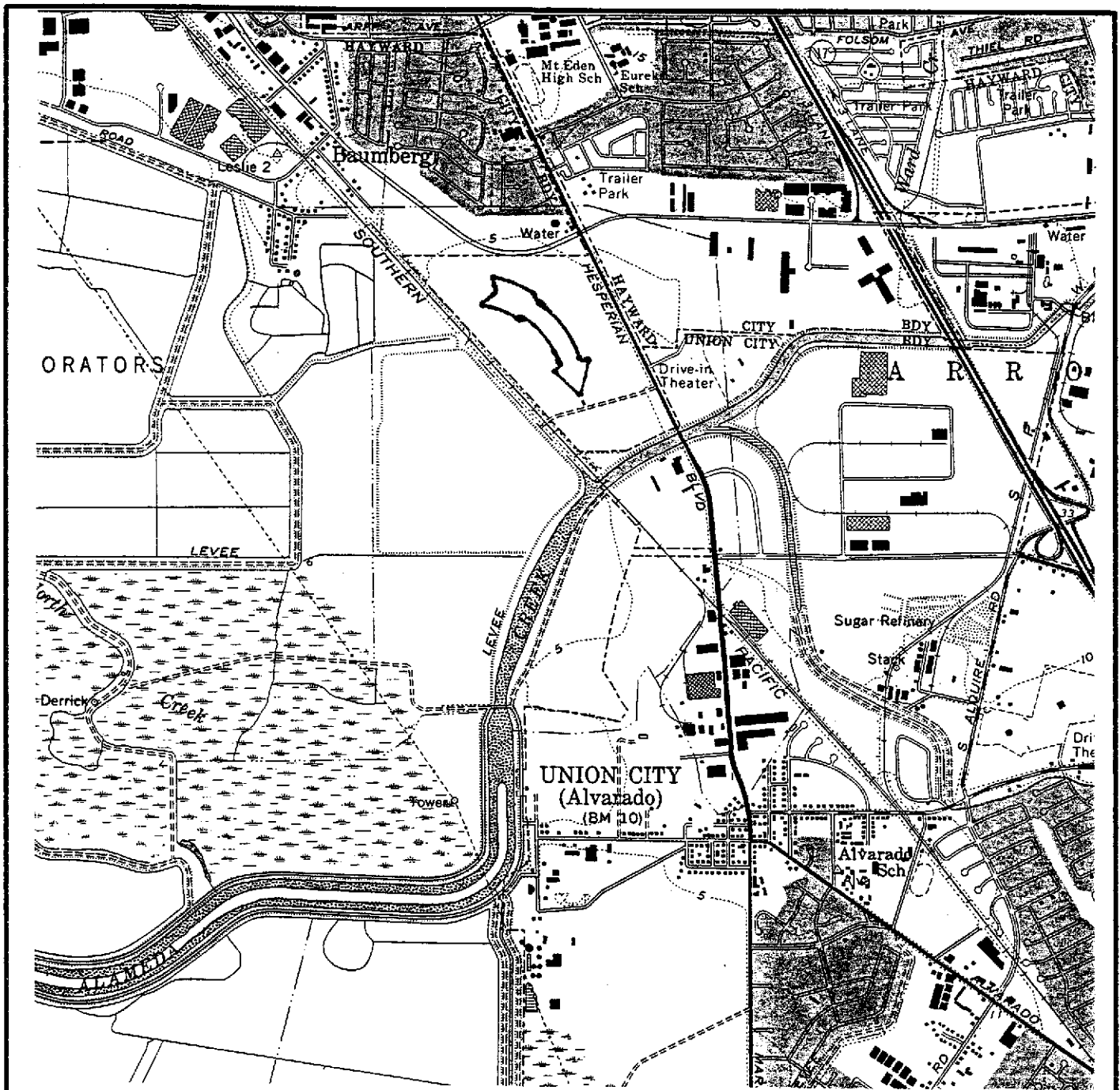
Sincerely,



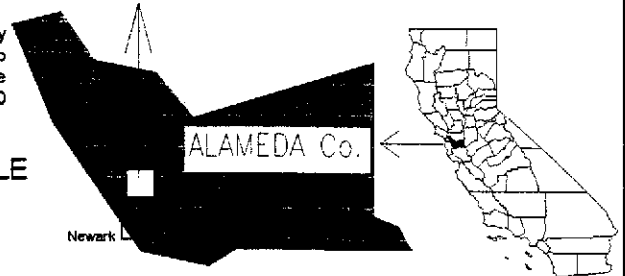
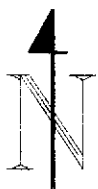
Gary D. Lowe, R.G., C.E.G., C.HG.
Principal, Hydrogeologist



xc: Mr. Ray Maiden, DECON Environmental Services, Inc.



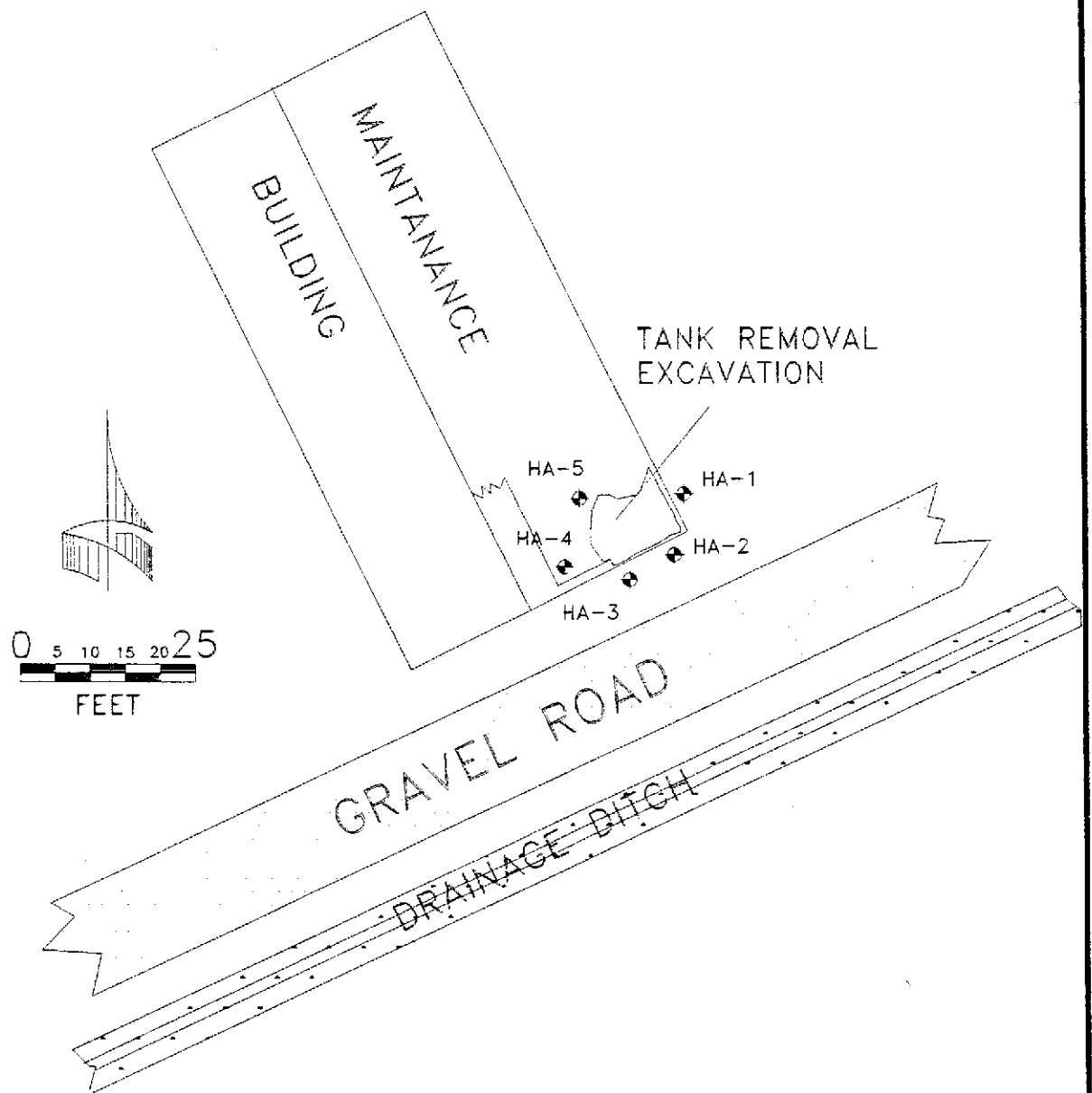
Base from U.S. Geological Survey
 7.5 Minute Series Topographic Map
 Newark Quadrangle
 Edition of 1959, Photorevised 1980



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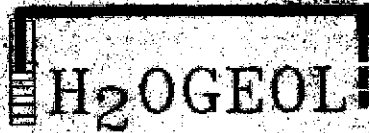
**UNDERGROUND STORAGE TANK SITE LOCATION MAP
 OLIVER TRUST FARMS
 28905 HESPERIAN BOULEVARD
 HAYWARD, CALIFORNIA**

**FIGURE
 1**



**UNDERGROUND STORAGE TANK SITE DIAGRAM
SHOWING PROPOSED SAMPLING AUGERHOLES
OLIVER TRUST FARMS.
28905 HESPERIAN BOULEVARD
HAYWARD, CALIFORNIA**

**FIGURE
2**



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P.O. Box 2185 ■ Livermore, California 94551 ■ (925) 773-9211

ATTACHMENT A

Health and Safety Plan



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P.O. Box 2165 ■ Livermore, California 94551 ■ (925) 373-9211

SITE SAFETY PLAN
FOR
OLIVER TRUST FARMS
28905 HESPERIAN BOULEVARD
HAYWARD, CALIFORNIA

1.0 PURPOSE AND SCOPE

This site safety plan (SSP) establishes the basic safety guidelines and requirements for the installation of hand augered soil and groundwater sampling augerholes at the Oliver Trust Farms, 28905 Hesperian Boulevard, Hayward, California. The SSP addresses hazards that may be encountered during this project. Field activities are anticipated to occur in September, 1998.

The provisions set forth in this SSP shall apply to any parties contracted to DECON Environmental Services, Inc./Oliver Trust Farms, including, but not limited to H₂OGEOL. All personnel working for DECON Environmental Services, Inc./Oliver Trust Farms at the job site must read this SSP and sign the attached Compliance Agreement before entering the work area. All persons, or firms, working on site are responsible for their own accident reporting.

All persons performing soil and groundwater sampling services will be properly trained and will be in compliance with 29 CFR 1910.120 for 40 hour basic training and will have had a current 8-hour refresher course.

Because they are properly trained field personnel may deviate from the safety provisions set forth in this SSP, but only to increase safety.

2.0 SAFETY PERSONNEL

All persons working for DECON Environmental Services, Inc./Oliver Trust Farms are responsible for job safety. The geologist at the site, Mr. Gary D. Lowe, R.G., C.E.G., C.HG. will serve as Site Safety Officer. As such, he is responsible for the informing all personnel working on site of the contents of the SSP. His responsibilities include making sure everyone has adequate safety supplies and equipment. Mr. Lowe is responsible for insuring proper decontamination/contamination reduction procedures are observed.

3.0 SITE HAZARD ANALYSIS/CHARACTERIZATION

The expected potential hazards to personnel in the work area and at the site are:

- Physical injury from equipment operated at the job site
- heat stress
- fire or explosion
- exposure to chemical hazards

Preventing heat stress is particularly important, because a person who suffers from heat stress or stroke may be subject to additional heat injuries.

The proposed work does not appear to present any potential health risk to workers, the surrounding community, or the environment if the provisions of this SSP are properly implemented.

3.1 Physical Hazards

The potential for physical injury exists from the operation of any machinery. Use of steel-toed boots, hard hats or caps, and safety glasses will be required when in the work area.

The potential for noise hazards exist whenever the noise exceeds the CAL-OSHA permissible exposure level of 90 dB. Noise level protection shall be available to all personnel within the job site in the event noise levels exceed individual comfort levels.

The risk of physical injury can be increase due to decreased visibility, hearing, and dexterity whenever protective equipment is used.

3.2 Heat Stress

Project implementation is expected to occur in September. The potential for heat stress exists. Signs and symptoms of heat stress are:

- Heat rash from continuous exposure to heat and/or humid air.

- Heat cramps are caused by heavy sweating with inadequate electrolyte replacement. Signs and symptoms are muscle spasms, heavy sweating, dizziness, nausea, and fainting.

- Heat exhaustion occurs from increased stress on various body organs including inadequate blood circulation due to cardiovascular capability or dehydration. Signs and symptoms include pale, cool, moist skin; heavy sweating; dizziness, nausea, and fainting.

Heat stroke is the most serious because body temperature regulation fails, and body temperature rises to critical levels. The victims body must be cooled immediately to lessen the risk of serious injury or death. Competent medical help must be obtained. Sign and symptoms include red, hot, usually dry skin; lack of or reduced perspiration; nausea; dizziness and confusion; strong rapid pulse; and coma.

3.3 Fire Hazards

The potential for fire or explosion exists whenever flammable liquids or vapors are present above the lower explosion limit (LEL) concentration and sufficient oxygen is present to support combustion. These condition include vehicular fuel. General drilling operations in materials suspected of containing flammable substances may pose a fire hazard. A fire extinguisher will be located in the drilling area and the site safety officer's vehicle.

3.4 Chemical Hazards

The hazardous chemicals that may be encountered at the site are petroleum hydrocarbons, including the volatile aromatic hydrocarbons benzene, toluene, ethylbenzene, and xylene isomers. A summary of the relevant chemical, physical, and toxicological properties for each potentially encountered hazardous chemical is listed below.

Trace to minor concentrations of these chemicals may be present adsorbed on soil particles or dissolved in groundwater. If a free petroleum phase is present these chemicals could be present as a part of that organic phase.

Ingestion of contaminants will be controlled by prohibiting eating, drinking, smoking, and chewing in the work area. In addition, workers will be instructed to wash their hands and face before engaging in any of the above activities after they leave the work area.

Adsorption of contaminants will be controlled by requiring workers to wear long-sleeved shirts or coveralls, rubber and/or cotton work gloves, and safety glasses.

BENZENE

Benzene may occur as a trace constituent in soils and groundwater. In its pure form benzene is a colorless liquid with an aromatic odor. It is a relatively volatile chemical with a vapor pressure of 75 mm Hg @ 68° F. The flash point of benzene is only 12 °F, thus classifying benzene as a flammable liquid. Benzene is recognized by the National Institute of Occupational Safety and Health (NIOSH) as a potential human carcinogen.

Benzene can enter the body through four routes of exposure: inhalation, adsorption, ingestion and injection. Target organs are the blood, central nervous system, skin, bone marrow, eyes, and respiratory system. Acute exposure effects include irritation of the eyes, nose, and respiratory system as well as headache, nausea, staggered gait, depression, and abdominal pain. The chronic effect of overexposure is the potential for cancer. The permissible exposure level (PEL) for benzene is 10.0 ppm.

TOLUENE

Toluene may occur as a trace constituent in soils and groundwater. In its pure form toluene is a colorless liquid with an aromatic odor. It is less volatile than benzene, with a vapor pressure of 22 mm Hg @ 68°F. Toluene is a flammable liquid with a flash point of 40°F.

Toluene can enter the body through all four routes of exposure. Target organs include the central nervous system, liver, kidneys, and skin. Acute exposure effects include fatigue, dizziness, headache, euphoria, dilated pupils, and paralysis. The PEL is 200 ppm.

ETHYLBENZENE

Ethylbenzene may occur as a trace constituent in soils and groundwater. In its pure form ethylbenzene is a colorless liquid with an aromatic odor. It has a low volatility with a vapor pressure of 7.1 mm Hg @ 68°F. It is a flammable liquid with a flash point of 59°F.

Ethylbenzene can enter the body through all four routes of exposure. Target organs include the central nervous system, eyes, upper respiratory system, and skin. Acute exposure effects include irritation of the eyes and mucous membranes, nose, and respiratory system, headache, nausea, staggered gait, dermatitis, narcosis, and coma. The PEL is 100 ppm.

XYLENE ISOMERS

Xylene isomers may occur as a trace constituent in soils and groundwater. In pure form xylene isomers are a colorless liquid with an aromatic odor. It has a low volatility with a vapor pressure of 8 mm Hg @ 68°F (average). It is a flammable liquid with a flash point of 81°F.

Xylene isomers can enter the body through all four routes of exposure. Target organs include the central nervous system, eyes, gastrointestinal tract, blood, liver, kidneys, and skin. Acute exposure effects include dizziness, excitement, drowsiness, incoordination,

abdominal pain, vomiting, and irritation of the eyes nose, and throat. The PEL is 100 ppm.

4.0 EXPOSURE MONITORING PLAN

The augerholes will be constructed in an open area with free air circulation. Visual and odoriferous concentrations would have to be present before an ambient air concentration exceeding 100 ppm for 15 minutes could be approached. Air monitoring is not necessary.

All persons working for ECON Environmental Services, Inc./Oliver Trust Farms will be wearing standard cotton and/or synthetic work clothes. Monitoring for heat stress will consist of personnel constantly observing each other for any of the heat stress symptoms discussed in Section 3.2.

No dust monitoring will be performed because none of the tasks in this project are expected to generate large quantities of dust.

No noise monitoring will be performed, because none of the tasks in this project are expected to generate over 90 dB permissible exposure limit or the 85 dB action level. Ear noise protection shall be available to all personnel.

5.0 PERSONAL PROTECTIVE EQUIPMENT

Level "D" personal protection is expected to be the highest level required to complete the monitoring well installation, development, and sampling. Modified level "C" equipment and supplies will be made available if needed.

6.0 SITE CONTROL

The site is in the middle of the large Oliver Trust Farms. Understood work zones will be used and physical demarcation will be provided. There is no public access.

7.0 DECONTAMINATION MEASURES

Field personnel shall wash their hands and face at the buildings faucets or restroom before leaving the site.

8.0 EMERGENCY RESPONSE PLAN

In the event of an accident resulting in physical injury, first aid will be administered and the injured worker will be transported to Saint Rose Hospital at 27200 Calaroga Avenue, Hayward, California, or as determined appropriate by the transporting organization. Transport will be by calling 911, as recommended by local police and emergency

personnel. In no event shall a seriously injured person be transported to a hospital in a private automobile.

For minor injuries the hospital can be reached by leaving the site and turning right (south) onto Hesperian Boulevard, making a U-turn at Kohotek Way (second signal light) and proceeding north along Hesperian Boulevard to West Tennyson Road. At W. Tennyson Road turn right (east) into Kaiser Permanente Medical Center or proceed along W. Tennyson to Saint Rose Hospital, following signs to emergency admittance.

In the event of a fire the local fire department will be notified by dialing 911.

COMPLIANCE AGREEMENT

EACH OF THE UNDERSIGNED HAS READ THE SITE SAFETY PLAN AND FULLY UNDERSTAND THE POTENTIAL HAZARDS ASSOCIATED WITH SOIL AND GROUNDWATER SAMPLING AT OLIVER TRUST FARMS, 28905 HESPERIAN BOULEVARD, HAYWARD, CALIFORNIA.

NAME	SIGNATURE	EMPLOYER/COMPANY	DATE
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
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