FAX TRANSMITTAL COVER SHEET

DATE: October 14,1998
NUMBER OF PAGES INCLUDING THIS $\qquad$


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| PHONE \#: |
| FAX\#: |

COMMENTS:


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Sequoia Environmental (Consultant)
4701 San Leandro Street
Oakland, CA
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顛ated this 29th carty of Aug. , 1998 Sthorn and Attested bro (1)


Ms. Madhulla Logan<br>Hazardous Materials Specialist<br>Environmental Health Services<br>Alameda County Health Care Services<br>1131 Harbor Bay Parkway, Suite 250<br>Alameda, CA 94502-6577<br>Re: Soil Disposal<br>4701 San Leandro Street Oakland, California

Dear Ms. Logan:
Enclosed for your file is a copy of the Manifest for the disposal of the stockpiled soil at the referenced site.

On August 26, 1998, the soil was hauled to TPS recycling facility in Richmond, California. The soil disposal was the remaining item to be completed towards site closure.

We thank you for the assistance in the completion of this project. Please feel free to call me at 510-614-1900, if you have any questions.

Sincerely,


Chris 'Wabuzoh
Project Manager
Senior Geologist, REA \#02842

## TPS Technologies Soil Recycling

Non-Hazardous Soils


Generator's and/or consultant's certification: I/We certify that the soil referenced herein is taken entirely from those soils described in the Soil Data Sheet completed and certified by me/us for the Generation Site shown above and nothing has been added or done to such soil that would alter it in any way.


To: Mark Allen<br>From: Madhulla Logan<br>Date: January 15, 1997<br>Sub: Methylene Chloride Contamination/Dutch Boy Site

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION (LOP)
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700

FAX (510) $337-9335$

In response to your memo requesting information on the disposition of methylene chloride, I have attached a letter, dated November 19, 1996 addressed to Mr, Francis Collins. The letter includes a brief summary of the various investigations that have been performed with regard to the steel tank and concrete vaults that were removed in the year 1991. As per the letter, to close this issue (with regards to UST), this Department still requires that the stockpiled soil from the excavations be disposed at an appropriate facility. However, I received a letter from Chris Wabuza (consultant for the site), mentioning that they would rather dispose of the stockpiled soils with the rest of the soils that is going to be generated with the lead remediation process. I

Hopefully this satisfies your questions regarding the methylene chloride contamination found on site. If you need additional information, you can reach me at (510) 567-6764.

Mr. Francis Collins<br>6050 Hollis Street<br>Emeryville, CA - 94608

## Ref: Francis Collins property/Dutch Boy Site, 4701 San Leandro Street, Oakland, CA

Dear Mr. Collins:
I am in receipt of the report "Soil Pile and Concrete Vault Sampling", dated October 9, 1996 prepared by Sequoia Environmental for the above referenced site. This Department has reviewed the report and a brief summary of the site and any additional information required for closure are given below:

On October 15, 1991, 1 steel tank and 2 concrete vaults were excavated. The storage use of the tank and vaults were unknown. Six soil samples from 2 feet beneath the tank location and six additional soil samples from the stockpiled soils were collected subsequent to tank removal. The stockpiled soil samples were composited into three samples for analysis. The soil samples collected from the tank area contained up to 39.1 ppm of gasoline and below detection limits for diesel and benzene. Lead and methylene chloride were found in concentrations up to 200 ppm and 4000 ppb respectively. The laboratory results of the stockpiled samples indicated up to 860 ppm of diesel. However lead was found in concentrations less than 5 ppm .

In July 1993, this Department requested that confirmatory soil samples be obtained to characterize the hydrocarbon and chlorinated solvent contamination near the tank pit area. In October 1993, 1 soil sample was collected in the tank pit area at a depth of 9 feet below ground surface. The laboratory results did not indicate significant concentrations of hydrocarbons or chlorinated solvents. Lead was present at 200 ppm which is below the State TTLC's and the Federal EPA's preliminary remediation goals (PRG's). Hydrocarbons were not found in significant concentrations. Also, 2 composite samples were collected from the stockpiled soils in October 1993, and lead and petroleum hydrocarbons were found in concentrations of up to 5800 ppm and 2000 ppm respectively.

In July, 1996, this Department required that the soil piles be disposed of at an appropriate disposal facility. In response to the request, 3 composite soil sample were analyzed from the soil piles and were found to contain significant concentrations of lead up to 7600 ppm Also, three soil samples were collected at a depth of 15 feet below ground surface from the tank pit area and were analyzed for methylene chloride for the purpose of conducting the Toxicity Characteristics Leaching Procedure (TCLP) if necessary. However, the laboratory results did not indicate the presence of methylene chloride in any of the soil samples.

Based on the information provided to this Department, the following concerns needs to be addressed to move this underground storage tank investigation to closure. Please note that the lead contamination in the soil and in the building is being addressed as a separate issue.

- The stockpiled soil on the referenced site should bedisposed of at an appropriate disposal facility within 30 days from the date of this letter. All concerned manifests or disposal receipts that document the disposal of the stockpiled soils should be submitted to this Department within 45 days from the date of this letter.

Any extensions or delay should be requested in writing. If you have any questions, you may reach me at (510) 567-6764.

Sincerely,


Madhulla Logan
Hazardous Material Specialist
CC: Chris Wabuza - Sequoia Environmental, 1111 Aladdin Avenue, Suite B, San Leandro, CA

Pam,

I have reviewed the document submitted by Sequoia, dated September 9, 1996 and these are my thoughts on it:

1. No mention has been made of conducting a phase I asessment that we requested in our previous letter. We need that to identify the chemical of concerns based on past use.
2. Exterior soil sampling- The report mentions about collecting soil samples in areas where children are likely to have contact, but I would imagine any surface area outside in the ground is accessible to a child. So I really don't understand what this means. Also,we need a sample location map for both judgement sampling and for random sampling, which was not submitted with the report. The chemicals of concern that are going to be samples have not been mentioned i.e. apart from lead. How did they assume that lead is the only chemical of concern.
3. Not just the lateral extent of contamination, but also the vertical extent has to be determined or atleast the workplan should state that if the surface samples are dirty then the deeper samples will be analyzed. No mention has been made of this.
4. Cleanup Levels to be used should be clealy mentioned in the workplan for each chemical.
5. With regards to the underground storage tanks, they should clearly mention how they are going to respond to my previous request. They have not mentioned anything about it.

Madhulla

Mr. Francis Collins
6050 Hollis Street
Emeryville, CA - 94608

## RE: Second Notice of Violation for 4701 San Leandro Street, Oakland, CA -94601

Dear Mr. Collins:
This is a follow-up to the letter dated January 20,1994 which was sent to you requesting that you submit additional information to address the potential water quality threat due to methylene chloride (copy of this letter is attached) that was found in the samples collected during the removal of the two concrete vaults. As of this date, no communication has been received from you on this matter. Therefore this letter constitutes a Second Notice that you are in violation of specific laws and that the technical report is due. Also, this Department has not received any disposal records for the soils that was excavated during the removal of the underground storage tank and the concrete vaults.

## Please submit the following information to this Department withing 30 days from the date of this letter. :

- A workplan to address the methylene chloride contamination found on the referenced property which should at a minimum include 4 soil samples to be collected beneath the 2 concrete vaults. The samples should be analyzed for methylene chloride using the Toxicity Characterestics Leaching Procedure (TCLP) and the regular EPA 8010 analysis.
- All the concerned manifests or disposal receipts that document the disposal of the soil piles which were sampled on October 28, 1993. This sampling event was documented and submitted to this Department in a report dated November 19, 1993. If the soil has not been disposed, then please submit information on the status of the soil that was excavated subsequent to the removal of the underground storage tank and vaults .

This a formal request for technial documents pursuant to Section 13267 (b) of the water code. The workplan has to be approved by this Department before initiating any field work. If you have any questions, you can reach me at (510) 567-6764.

Sincerely,



Madhulla Logan, Hazardous Material Specialist

Francis Collins
6050 Hollis Street
Emeryville, CA-94608

RE: 4701 San Leandro Street, Oakland, CA-94601

Dear Mr. Collins:

I am in receipt of the soil sampling report dated November 19, 1993 prepared for the above referenced property by Chris Wabuzoh of Sequoia Environmental Consulting Services.

A tank closure report submitted in November 1991 indicated that in October 1991 Verl's Construction, Inc., excavated the tank pit of 1 steel tank and 2 concrete vaults. According to Barney Chan, the inspector present on site during the tank removal, there were no cracks or leaks visible with the concrete vaults. However, the steel tanks had visible contamination which was excavated and the removed soil was piled on site. The soil pile that still remains on site was sampled on October 28, 1993 and analyzed for total petroleum hydrocarbons as gasoline (TPHg) and as diesel (TPHd), oil and grease, halogenated volatile organics, aromatic hydrocarbons as benzene, toluene, ethyl benzene, and xylene (BTEX), and metals.

Though the concrete vaults had no visible contamination, the laboratory analyzes of the samples collected during the removal of the vaults indicate the presence of gasoline ( 15.3 ppm to 39.1 ppm ), chloroform ( 114 ppb ), and methylene chloride ( 4000 ppb ). These concentrations do not pose a threat to public health. However, the water quality threat due to methylene chloride needs to be addressed as the MCL for methylene chloride is below 10 ppb .

A minimum of four samples should be collected beneath the two concrete vaults and analyzed for methylene chloride using the Toxicity Characterestics Leaching Procedure (TCLP). A sample location map indicating the proposed sample locations and sample depths should be submitted to our office for approval before work begins. Also, the soil piles on site have to be appropriately disposed and copy of all manifests should be submitted to our office.

You may call me with any questions or concerns at (510) 271-4320.

Yours Sincerely.


Madhulla Logan
Hazardous Material Specialist

CC: Chris Wabuzoh, Sequoia Environmental Consulting Firm

Francis Collins
6050 Hollis Street
Emeryville，CA－94608
Re：Work Plan for 4701 San Leandro Street，Oakland，CA
Dear Mr．Collins：
Alameda County Hazardous Materials Division has reviewed and approved the workplan dated October 20， 1993 that was prepared by Chris Wabuza of Sequoia Environmental Consulting Firm．Following soil sampling activities conducted on September 21， 1993 on the above mentioned property，a soil sampling analysis report has also been submitted to our office for review．

Since our records indicate the deposit／refund account for the above mentioned project has fallen below the minimum deposit amount，an additional deposit of $\$ 750.00$ should be paid to Alameda County before we perform any further investigation／review on this project．

If you have any questions，contact me at（510）271－4320．

Yours Sincerely，



Madhulla Logan
Hazardous Materials Specialist

CC：Chris Wabuza
Files－Alameda County

RAFAT A. SHAHID, Assistant Agency Director
DEPARTMENT OF ENVIRONNENTAL HEALTH
Hazardous Materials Division
80 Swan Way, Rm. 200
Oakland, CA 94621
(510) 271-4320

July 20, 1993
Francis Collins
6050 Hollis Street
Emeryville, CA-94608
Re: Work Plan for 4701 San Leandro Street, Oakland
Dear Mr. Collins:
I am writing to follow up on the meeting and conversations I have had with Chris Wabuzoh of Sierra Environmental regarding your site located at 4701 San Leandro Street in Oakland, California. We have worked towards clarifying some issues and Mr. Wabuzoh has been helpful in obtaining useful background information.

A tank closure report submitted in November 1991 indicated that in October 1991 Veri's Construction, Inc., excavated the tank pit of 1 steel tank and 2 concrete vaults. Following excavation, 6 soil samples were collected from locations 2 feet beneath the ends of the three tanks and 6 composite samples were collected from the soil piles on site. The contaminants of concern near the tank wefe found to be TPHg ( 39.1 ppm ), chloroform ( 114 ppb ), and methylene chloride ( 4000 ppb ). The contaminants of concern in the soil pile were identified to be oil and grease ( 3634 ppm ), methylene chloride ( 927 ppb ), and TPHd (860 ppm).

Another closure report submitted in December 1991 indicated that the discoloured south end areas of the pit were excavated to clean native soil. Two confirmatory samples were collected and analyzed from either ends of tank \#3 (near the south end). There was no significant contamination as indicated by the laboratory analysis report. No confirmatory samples were collected from tank \#1/ or tank \#2. Four composite samples were collected from the four soilpiles on site. The report indicates there was contamination found * above detection limits but the laboratory report was not included as
part of the closure report. Hence concentrations as indicated in the laboratory report are not known.

I have identified the following concerns and issues:

1. The December 1991 closure report indicated that the soil samples collected from the four soil piles on site were analyzed by Carter Analytical Laboratories, Inc., and were found to have concentrations above detection limits for metals, oil and grease, and total petroleum hydrocarbons as diesel (TPHd). But, the report did not include the results of the laboratory analysis for the soil piles. You are required to provide a copy of the laboratory analysis report indicating the levels of the above mentioned compounds in stockpiled soils.
2. Adequate confirmatory samples were not taken to characterize the level of petroleum hydrocarbons and chlorinated hydrocarbons in the soil near the tank.

Since the information provided is incomplete, a work plan to adequately characterize the soil for petroleum hydrocarbons and chlorinated hydrocarbons and a plan to dispose the soil piles on site should be submitted within 45 days. Please include a brief history of the site in your work plan. Your plan must be reviewed and accepted by this office before work begins.

The deposit submitted to this office for oversight of investigation has been exhausted. The deposit/refund mechanism is authorized in Alameda County Ordinance Code Section 3-140.5. Please submit an additional deposit of $\$ 750.00$ to cover future costs pertaining to this case. Any unused portion of these funds will be returned to you at the completion of this project.

You may call me with any questions or concerns at (510) 271-4320
Sincerely,

Madhulla Logan
Hazardous Material Specialist
cc: Chris Nwabuzoh, Sierra Environmental Robert Gils Associates, Inc. (RGA)
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DEPARTMENT OF ANROWMETAL HEALTH
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UNDERGROUND TANK CLOSURE/MODIFICATION PLANS


1. Business Name. SAN LIANDRO ST..

Business Owner FRANEIS COLLINS
2. Site Address 4701 SAN $\angle F A N D R O S T$.

City OAKLAND Zip 9+621 Phone $\qquad$
3. Mailing Address 6400 HOLLIS ST $\# 4$

City EMERYVILLE $\quad$ Zip 94608 Phone 510-547-977J

Address EMERYVILLE City, state CALIFORNA zip 94.60Z
5. EPA I.D. NO. $\qquad$
6. Contractor V.C.I. OF CALIFORNIA

Address 753 PERALTA AVENUE
City SAN LEANDRO, CALIFDRNIA_ Phone 5/D-5108-1234
License Type $A, B$, Y HAZARDOUS ID\# 487537
7. Consultant R. G. A. IHC.

Address 6400 HOLLIS ST.,
City EMFRYVILLE, CA. $9460 \Sigma$ Phone 415-547-7771
8. Contact Person for Investigation

Name TOM TOSEPH Title PROSECT MAMA BER
Phone 510-547-7771
9. Total No. of Tanks at facility 3
10. Have permit applications for all tanks been submitted to this office? Yes [ ] No [1]
11. State Registered Hazardous Waste Transporters/Facilities
a) Product/Waste Tranporter

Name DELCAFDSF TRUCKIMG INC. EPA I.D. NO. CAD982.505364
Address P. O. $\boldsymbol{B O} \times 1622$
City UNION CITY State CA. 2 Cip 9450 Z
b) Rinsate Transporter

Name ALLIED OIL PUIDPING EPA I.D. No. CATO 8OO/4277
Address $P \cdot D, 050 Y 32 / 2 x$
City BANJTSF State CA. zip 95152
c) Tank Transporter

Name DELLAFROSE TRUCRING INC. EPA I.D. NO.
Address P. D. Do 1622
City LUNIOA C/TY State CA. zip 94507
d) Tank Disposal Site

Name DFLLAFDSE TRUCKING AMP. EPA I.D. NO.
Address $\qquad$
City $\qquad$ State $\qquad$ zip
e) Contaminated Soil Transporter

Name DELLATOSE TRUCKING, AYC.EPA I.D. NO. $\qquad$
Address SAMF
City $\qquad$ State $\qquad$
$\qquad$

12．Sample Collector $\qquad$
Company R．G．A．$/$ R $/$ ．
Address 6400 HOLLIS 57 ．
City EMERYV／LE State CA，Zip 9460\＆Phone 415－54Z－7アスリ
13．Sampling Information for each tank or area


14．Have tanks or pipes leaked in the past？Yes［ ］No［ ］
If yes，describe． $\qquad$
$\qquad$
15．NFPA methods used for rendering tank inert？Yes ［1］No［ ］

If yes，describe． $\qquad$ AFTER BEING TRIPPLFD－RINSFD－OLES．OF DNY／CE FER 1,000 GALLONS．
An explosion proof combustible gas meter shall be used to verify tank inertness．

16．Laboratories


City JANYA ROSA．State CA．Zip＿os，901
State Certification No． $\qquad$
（1）Stabile soil ：caution i discrete／docuyds（reuse）a Adrenek tube composited in lab／50 cu yd．（dispismel）


18. Submit Site Safety Plan
19. Workman's Compensation: Yes $\mathbb{\chi}$ ] No [ ]

Copy of Certificate enclosed? Yes $[\varnothing$ No [ ]
Name of Insurer STATE FUND INSURANCE
20. Plot Plan submitted? Yes [X] No [ ]
21. Deposit enclosed? Yes [ ] No [ ]
22. Please forward to this office the following information within 60 days after receipt of sample results.
a) Chain of Custody Sheets
b) Original signed Laboratory Reports
c) TSD to Generator copies of wastes shipped and received
d) Attachment A summarizing laboratory results














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NOTES:

1. Any changes in this document must be approved by this Department.
2. Any leaks discovered must be submitted to this office on an underground storage tank unauthorized leak/contamination site report form within 5 days of its discovery.
3. Three (3) copies of this plan must be submitted to this Department. One copy must be at the construction site at all times.
4. After approval of plan, notification of at least two (2) working days ( 48 hours) must be given to this Department prior to removal of tank (s).
5. A copy of your approved plan must be sent to the landowner.
6. Triple rinse means that:
a) Final rinse must contain less than 100 ppm of Gasoline (EPA method 8020 for soil, or EPA method 602 for water) or Diesel (EPA method 418.1). Other methods for halogenated volatile organics (EPA method 8010 for soil, EPA method 601 for water) may be required. The composition of the final rinse must be demonstrated by an original or facsimile report from a laboratory certified for the above analyses.
b) Tank interior is shown to be free from deposits or residues upon a visual examination of tank interior.
c) Tank should be labelled as "tripled rinsed; laboratory certified analysis available upon request" with the name and address of the contractor.

If all the above requirements cannot be met, the tank must be transported as a hazardous waste.
7. Any cutting into tanks requires local fire department approval.

UNDERGROUND TANK CLOSURE/MODIFICATION PLANS

ATTACHMENT A
SAMPLING RESULTS





Page 1

## SITE HEALTH AND SAFETY PLAN

## Introduction

This health and safety plan prescribes the work-place procedures which be followed during the soil and groundwater assessment of the site located at 4701 SAN $\angle F A N D O D \leq T$. OAKLAND - CA. California. The provisions of this plan are mandatory for all V.C.I. personnel and subcontractors assigned to this project. All authorized visitors to the site will be required to abide by the procedures. The requirements in this plan may change due to changes in the work conditions, however, no changes will be made, without prior written approval of the Health and safety Consultant and the project Manager.

VERL CONSTROCTION, INC, is committed to providing a safe and healthful working environmental for all its employees and subcontractors.

## ASSIGNMENT OF RESPONSIBILITY

## Project manager

VCI's Project Manager will be VERL K. NOTHLABGRGER, who will be responsible for oversight and management of the project. GOERLIN BOWEN Will be responsible for the implementation and management of the Health and Safety plan.

## Health and Safety Consultant

Mr. MIRLIN BOWEN or his designee will visit the site periodically and during critical phases of the project. The Health and Safety Consultant is responsible for preparation of this plan.

## YCI Site Representative/Safety and Health officer

 During most of this project there will be an VCI representative on site. That representative will be responsible for day to day implementation of the health and safety plan and overall airection of subcontractor personnel. The VCI representative is empowered to, stop all site, work in the case of violation of the requirements of the health and safety plan.
## Other Project Personnel /Subcontractor

All project and subcontractor personnel will be responsible for understanding and complying with the project health and safety requirements.

HAZARD CHARACTERIZATION AND RISK ANALYSIS
Petroleum Contaminated Water and Soils Gasoline and its constituents pose health hazards in two major classifications: explosivity and toxicity. the extreme flammability of gasoline is commonly known. The lower
explosion limit (LEL) of gasoline vapor is 1.3 percent in air. If the Concentration of gasoline vapor in air exceeds 1.3. percent ( 13,000 parts per million) and sufficient quantities of oxygen are present, then the introduction of sufficient heat, spark, or flame will result in an explosion. Prior to conducting any subsurface excavation in the vicinity of a fuel tank, the tank should be emptied of all liquid product and receive sufficient quantities of dry ice (frozen carbon dioxide) so that available oxygen is displaced from the tank, atmosphere.

A lesser known health hazard resulting from exposure to gasoline is toxicity. over exposure to petroleum hydrocarbon Vapor can cause depression of the central nervous system. Inhalation of high concentrations of gasoline can cause chemical pneumonia and/ or pulmonary edema. Repeated of prolonged skin exposure to gasoline or gasoline contaminated materials can cause dermatitis or even blistering of the skin.

Several common constituents of gasoline have been shown to cause serious health problems resulting from relatively minor exposures include benzene, toluene, meta, para, and ortho xylenes, ethyl benzene and tetraethyl lead.

Typical percentages (by weight) of these constituents in gasoline are: benzene - $0.12-3.50 \%$, toluene - 2.73-21.80\%, meta xylene -1.77-3.87\%, para xylene -9.77-1.58\%, ortho xylene - 0.68-2.66\%, and ehtyl benzene - $0.36-2.36 \%$. Typical percentage of tetraethyl lead is not available.

Units used to describe occupational exposures to hazardous substances include: exposure limit, also known as the "threshold limit value" (TLV), ceiling limit, and the concentration level that is "Immediately dangerous to life and health" (IDLH). the exposure limit defines the maximum concentration of a substance to which one can be exposed during an 8 hour period without suffering significant health effects. The ceiling limit is the concentration level that cannot be exceeded at any time; i.e., a suitable respirator must be worn if concentration values reach the ceiling limit. The IDLH level represents a maximum concentration from which one could escape within 30 minutes of respirator failure without experiencing escape-impairment or irreversible health damage. IDLH values are not listed for substances that are potential human carcinogens.

## EXPOSURE TABLE

| Substance | Exposure Limit | Ceiling Limit | IDIH |
| :--- | :--- | :--- | :--- |
| Benzene | $0.1 \mathrm{ppm}(8 \mathrm{hrs})$ | $1 \mathrm{ppm}(15 \mathrm{~min})$ | Carcinogen |
| Toluene | $100 \mathrm{ppm}(10 \mathrm{hrs})$ | $200 \mathrm{ppm}(10 \mathrm{~min})$ | 2000 ppm |
| Xylene | $100 \mathrm{ppm}(8 \mathrm{hrs})$ | $200 \mathrm{ppm}(10 \mathrm{~min})$ | 1000 ppm |
| Ethyl Benzene | $100 \mathrm{ppm}(8 \mathrm{hrs})$ | $\mathrm{N} / \mathrm{A}$ |  |
| Tetraethyl |  | $\mathrm{N} / \mathrm{A}$ | 2000 ppm |
| lead | 0.0067 ppm |  | 3.6 ppm |

Prolonged exposures to concentrations above the limits noted may affect the central nervous system, cardiovascular system, respiratory system, eyes, skin, kidneys, bones and bone marrow. Research has shown that benzene is a carcinogen.

Immediate symptoms of over-exposure include: eye irritation, nose irritation, throat irritation, headache, nausea, dizziness, weakness, confusion, euphoria, excitement, staggered gait, abnormal pain, respiratory difficulties, muscle fatigue, and coma.

In order to protect against over-exposure to these compounds, the ambient air will be monitored with a "lower explosion limit/oxygen content meter and/or handled photo ionizing detector (PID). As soon as vapor concentrations approach 75\% of the exposure limit value, work will cease until all onsite personnel have donned protective clothing and suitable respiratory devices.

Personnel exposures to excessive job-related hazards are expected to be minimal using these safeguards.

It should be noted that summertime heat may initiate weather stress-related problems and decrease productivity on the job site.

Based upon VCI's experience with investigations of potentially gasoline contaminated soil and water, overexposure of personnel to gasoline vapor is unlikely. Personnel however may be exposed to short term vapor concentrations approaching 100 ppm. Respiratory protection plans will be directed to protecting personnel from the transient exposures.

## Drilling activities

Various hazards are present during excavating procedures.

- electrical hazards due to overhead and underground utility line
- excessive noise
- confined space
- moving portions of the drilling
- falling of heavy overhead objects
- fall hazards due to working at heights


## SITE CONTROL

A site map has been attached to this plan. The areas where work will occur, will be on the site, and may be barricade to prevent unauthorized access. Only authorized personnel
shall be allowed in the work areas and any unauthorized visitors must remain outside any barricade area.

The site is small enough that normal voice communication can be used. In the vicinity of the excavation, common hand signals will be used.

## TRAINING

## YCI Personnel

All VCI project personnel shall have completed 40 hours of off-site health and safety training, related to hazardous waste operations. In general, the VCI personnel will have completed a combination of paid training courses which meet the requirements of both the interim and final occupational Safety and Health Administration (OSEA) rule for Hazardous Waste and Emergency Response Operations (29 CFR 1910.120). All VCI supervisory personnel on site will have completed an additional 8 hours of relevant health and safety training. VCI personnel who may visit the site occasionally, and are unlikely to be exposed to chemical hazards will have completed at least 24 hours of relevant health and safety training.

Any VCI or contractor personnel operating specialized industrial equipment such as forklifts, heavy equipment, drilling equipment, etc. shall be able to demonstrate their competency in the safe operation of such items.

## Subcontractor Personnel

All subcontractor personnel who are likely to be exposed to hazards materials either by inhalation or dermal contact shall have completed 40 hours of off-site health and safety training, in accordance with the OSHA interim and final Hazardous Waste and Emergency Operations rule. Subcontractor personnel who are required to work on the site for short periods of time (l-day or less), and who will not be required to wear any protective equipment, shall have completed at least 24 hours of off-site health and safety training.

## All Site Personnel

Prior to starting off the project, a kick-off safety will be on the site. During this meeting all personnel will be briefed on the requirements contained within the health and safety plan, and will be told the site safety rules. The kick-off safety meeting will be conducted jointly by the project manager and the HSO.

At the beginning of each work shift, or whenever new personnel arrive on the site, a tailgate safety meeting will be held. The purpose of such meetings is to highlight health and safety concerns and to ensure that employees are fully briefed on the site work procedures to be followed during the shift. The tailgate safety meetings will be conducted by the first line supervisors. The project manager will review records of all tailgate safety meetings.

## MEDICAL SURVEILLANCE

All VCI subcontractor personnel shall provide proof of having successfully completed a preplacement or annual update physical examination. This examination shall have been designed to comply with regulatory requirements for hazardous waste operations and shall include the following:

- medical and occupational history form
- physical examination
- blood analysis
- urinalysis
- chest x-ray
- pulmonary function test
- audiogram
- electrocardiogram ( if indicated during the physical exam)
- alcohol and illegal drug screening


## GOVERNMENT AND VCI STANDARDS

Currently the health and safety of workers performing hazardous waste activities regulated by OSHA ( 29 CFR 1910.120).

The OSEA PEL for gasoline vapor is 300 ppm average over an eight-hour period. The 15 -minute short term exposure limit is $500 \mathrm{ppm}$. To ensure that no project workers monitored several times each day using either a photoionization detector (PID) or colorimetric indicator tubes.

If the PID or colorimetric indicator tube samples indicate that hydrocarbon vapor levels are 50 ppm or greater, then daily air samples will be collected from representative project personnel using charcoal tube sampling methods (OSBA Method 1 M1s1340). Personnel will be notified in writing of the results of any personal air samples and their significance. A copy of this report will be maintained in the employee's edical surveillance file.

