Project Specialist

ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY
DEPARTMENT OF ENVIRONMENTAL HEALTH
ENVIRONMENTAL PROTECTION DIVISION
1131 HARBOR BAY PARKWAY, RM 250
ALAMEDA, CA 94502-6577
PHONE # 510/567-6700
FAX # 510/337-9335

office copy

received 3/6/97
Note changes / additions in red

ACCEPTED
Underground Storage Tank Closure Permit Application
Alameda County Division of Hazardous Materials
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

These documents have been received and found to be complete and essentially meet the requirements of State and local laws. Changes to your closure plans indicated by this Department are to assure compliance with State and local laws. The project proposed herein is now released for issuance of any required building permits for construction/demolition.
One copy of the accepted plans must be on file (on site) and available to all contractors and subcontractors involved with the removal.
Any changes or alterations of these plans and specifications must be submitted to this Department to determine if such and Building Inspection Department to determine if such changes meet the requirements of State and local laws. Notify this Department at least 72 hours prior to the following required inspections:

___ Removal of Tank(s) and Piping
___ Sampling
___ Final Inspection

Issuance of a) permit to operate, b) permanent site closure, is dependent on compliance with accepted plans and all applicable laws and regulations.

THERE IS A FINANCIAL PENALTY FOR NOT OBTAINING THESE INSPECTIONS.

Contact Specialist:

UNDERGROUND TANK CLOSURE PLAN

*** * * Complete according to attached instructions * * ***

1. Name of Business LADBROKE / PACIFIC RACING ASSOC. / GOLDEN GATE FIELDS

   Business Owner or Contact Person (PRINT) MR. DON MARKERT

2. Site Address 1100 EASTSHORE HIGHWAY

   City ALBANY, CA. Zip 94706-0027 Phone (510) 559-7300

3. Mailing Address SAME AS ABOVE

   City _____ Zip _____ Phone _____

4. Property Owner _____

   Business Name (if applicable) LADBROKE/PACIFIC RACING / GOLDEN GATE FIELDS

   Address 1100 EASTSHORE HIGHWAY. _____

   City, State ALBANY, CA Zip 94706-0027

5. Generator name under which tank will be manifested

   LADBROKE / PACIFIC RACING ASSOC. / GOLDEN GATE FIELDS

   EPA ID# under which tank will be manifested C A C 0 0 0 1 6 0 3 2 0

6. Contractor MACOY RESOURCE CORP.

Address P.O. Box 3900

City PASO ROBLES, CA 93447 Phone (805) 227-1090

License Type* "A" GENERAL ENGINEERING ID# 720286

*Effective January 1, 1992, Business and Professional Code Section 7058.7 requires prime contractors to also hold Hazardous Waste Certification issued by the State Contractors License Board. - CERTIFICATE ATTACHED

7. Consultant (if applicable) HAGEMAN-AGUIAR, INC.

Address 3732 MT. DIABLO BLVD. SITE 372

City, State LAFAYETTE Phone (510) 284-1661

8. Main Contact Person for Investigation (if applicable)

Name BRUCE HAGEMAN Title FIELD ENGINEER

Company HAGEMAN-AGUIAR, INC.

Phone (510) 284-1661

9. Number of underground tanks being closed with this plan 2

Length of piping being removed under this plan APPROX 15'

Total number of underground tanks at this facility (**confirmed with owner or operator) 2

10. State Registered Hazardous Waste Transporters/Facilities (see instructions).

**** Underground storage tanks must be handled as hazardous waste ****

a) Product/Residual Sludge/Rinsate Transporter

Name INTERGRATED WASTE STREAM MGT EPA I.D. No. *

Hauler License No. * License Exp. Date

Address 950 AMES AVE.

City MILPITAS State CA Zip 95035

b) Product/Residual Sludge/Rinsate Disposal Site

Name * any left over in USTs will be transferred to newly installed EPA ID#

Address above ground tanks

City State Zip

c) Tank and Piping Transporter

Name ERIKSON, INC. EPA I.D. No. CAD009466392

Hauler License No. _____ License Exp. Date _____

Address 255 PARR BLVD.

City RICHMOND State CA Zip 94801

d) Tank and Piping Disposal Site

Name ERIKSON, INC. EPA I.D. No. CAD009466392

Address 255 PARR BLVD.

City RICHMOND State CA Zip 94801

11. Sample Collector

Name RANDAL WILSON

Company HAGEMAN-AGUIAR, INC.

Address 3732 MT. DIABLO BLVD. STE 372

City LAFAYETTE State CA Zip 94549 Phone 510 284-1661

12. Laboratory

Name PRIORITY ENVIRONMENTAL LABS, INC.

Address 1764 HOURET COURT

City MILPITAS State CA Zip 95035

State Certification No. 1708

13. Have tanks or pipes leaked in the past? Yes[ ] No[ ] Unknown[X]

If yes, describe. _____

14. Describe methods to be used for rendering tank(s) inert:

INSERTING THREE POUNDS of SOLID CARBON DIOXIDE (DRY ICE) FOR EVERY 100 GALLONS of TANK VOLUME

Before tanks are pumped out and inerted, all associated piping must be flushed out into the tanks. All accessible associated piping must then be removed. Inaccessible piping must be permanently plugged.

The Bay Area Air Quality Management District, 415/771-6000, along with local Fire and Building Departments, must also be contacted for tank removal permits. Fire departments typically require the use of a combustible gas indicator to verify tank inertness. **It is the contractor's responsibility to bring a working combustible gas indicator on-site to verify that the tank is inert.**

15. Tank History and Sampling Information *** (see instructions) ***

Tank		Material to be sampled (tank contents, soil, groundwater)	Location and Depth of Samples
Capacity	Use History include date last used (estimated)		
(2) 200 GAL	STILL IN USE 2-200 GALLON UNDERGROUND STORAGE TANKS ARE USED FOR GENERATORS USED TO SUPPLY POWER IN THE EVENT OF POWER LOSS IN THE GRANDSTAND AREA, AS WELL AS THE TOTE BOARD AND LIGHTS ORIGINAL INSTALLATION DATE IS UNKNOWN.	SOIL and groundwater, if encountered	1' TO 2' BELOW TANK BOTTOM in native soil

One soil sample must be collected for every 20 linear feet of piping that is removed. A ground water sample must be collected if any ground water is present in the excavation.

Excavated/Stockpiled Soil	
Stockpiled Soil Volume (estimated)	Sampling Plan
15 CU. YDS	4 POINT COMPOSITE

Stockpiled soil must be placed on bermed plastic and must be completely covered by plastic sheeting.

Will the excavated soil be returned to the excavation immediately after tank removal? [ ] yes [ ] no [X] unknown

If yes, explain reasoning _____

If unknown at this point in time, please be aware that excavated soil may not be returned to the excavation without prior approval from Alameda County. This means that the contractor, consultant, or responsible party must communicate with the Specialist IN ADVANCE of backfilling operations.

16. Chemical methods and associated detection limits to be used for analyzing samples:
The Tri-Regional Board recommended minimum verification analyses and practical quantitation reporting limits should be followed.
See attached Table 2.

17. Submit Site Health and Safety Plan (See Instructions)

Contaminant Sought	EPA or Other Sample Preparation Method Number	EPA or Other Analysis Method Number	Method Detection Limit
TPH, DIESEL SOIL		TPH, DIESEL GC/FID 3050	1.0 PPM
BTEX		BTX&E 8020	0.005 PPM

18. **Submit Worker's Compensation Certificate copy**

Name of Insurer STATE WORKERS COMPENSATION FUND

19. **Submit Plot Plan ***(See Instructions)*****

20. Enclose Deposit (See Instructions)

21. **Report any leaks or contamination to this office within 5 days of discovery.**
The written report shall be made on an Underground Storage Tank Unauthorized Leak/Contamination Site Report (ULR) form.

22. **Submit a closure report to this office within 60 days of the tank removal. The report must contain all information listed in item 22 of the instructions.**

23. Submit State (Underground Storage Tank Permit Application) Forms A and B (one B form for each UST to be removed) (mark box 8 for "tank removed" in the upper right hand corner)

I declare that to the best of my knowledge and belief that the statements and information provided above are correct and true.

I understand that information, in addition to that provided above, may be needed in order to obtain approval from the Environmental Protection Division and that no work is to begin on this project until this plan is approved.

I understand that any changes in design, materials or equipment will void this plan if prior approval is not obtained.

I understand that all work performed during this project will be done in compliance with all applicable OSHA (Occupational Safety and Health Administration) requirements concerning personnel health and safety. I understand that site and worker safety are solely the responsibility of the property owner or his agent and that this responsibility is not shared nor assumed by the County of Alameda.

Once I have received my stamped, accepted closure plan, I will contact the project Hazardous Materials Specialist at least three working days in advance of site work to schedule the required inspections.

CONTRACTOR INFORMATION

Name of Business HAGEMAN-AGUIAR, INC / MACOY RESOURCES

Name of Individual BRUCE HAGEMAN GARY CAMACK

Signature Bruce Hageman Date

PROPERTY OWNER OR MOST RECENT TANK OPERATOR (Circle one)

Name of Business LADBROKE / PACIFIC RACING ASSOC. / GOLDEN GATE FIELDS

Name of Individual Peter W. Tunney

Signature Date Feb. 24, 1997

HAGEMAN-AGUIAR, INC.
Underground Contamination Investigations, Groundwater Consultants, Environmental Engineering

February 26, 1997

Ms. Juliet Shin
Alameda County Health Services Agency
Environmental Health Department
1131 Harbor Bay Parkway, Room 250
Alameda, CA 94502-6577

Re: Tank Closure Plan
Ladborke\Golden Gate Fields
1100 Eastshore Highway
Albany, CA 94706-0027

Dear Juliet:

Please find attached a **Tank Closure Plan,** along with the required fees for your review and approval.

The site is Golden Gate Fields, the tanks are two steel underground storage tanks that supply standby generators at two locations (see site plan).

We talked briefly about this on the telephone last week, I would hope you will give this your early attention and approval. We would like to Finnish this project before the spring racing season starts, March 19, 1997.

Thanks for your help.

HAGEMAN-AGUIAR, INC.

Bruce Hageman

3732 Mt. Diablo Blvd. Suite 372 Lafayette, California 94549 (510) 284-1661 FAX (510) 284-1664

ALAMEDA COUNTY ENVIRONMENTAL PROTECTION DIVISION

DECLARATION OF SITE ACCOUNT REFUND RECIPIENT

There may be excess funds remaining in the Site Account at the completion of this project. The PAYOR (person or company that issues the check) will use this form to predesignate another party to receive any funds refunded at the completion of this project. In the absence of this form, the PAYOR will receive the refund.

SITE INFORMATION:

2612
Site ID Number
(if known)

LADBROKE RACING / GOLDEN GATE FIELDS
Name of Site

1100 EASTSHORE HIGHWAY
Street Address

ALBANY, CA 94706-0027
City, State & Zip Code

I designate the following person or business to receive any refund due at the completion of all deposit/refund projects:

GOLDEN GATE FIELDS
Name

1100
Street Address

ALBANY, CA 94706-0027
City, State & Zip Code

Bruce Hageman
Signature of Payor

2-26-97
Date

BRUCE HAGEMAN
Name of Payor
(PLEASE PRINT CLEARLY)

HAGEMAN-AGUIAR, INC.
Company Name of Payor

RETURN FORM TO:
County of Alameda, Environmental Protection
1131 Harbor Bay Parkway, Rm 250
Alameda CA 94502-6577
Phone#(510) 567-6700

rev.4/6/95;closure.pln\RW

STATE OF CALIFORNIA
STATE AND CONSUMER SERVICES AGENCY CONTRACTORS STATE LICENSE BOARD

Consumer Affairs

Building Quality

HAZARDOUS SUBSTANCES REMOVAL AND REMEDIAL ACTIONS CERTIFICATION

Pursuant to the provisions of Section 7058.7 of the Business and Professions Code, the Registrar of Contractors does hereby certify that the following qualifying person has successfully completed the hazardous substances removal and remedial actions examination.

Qualifier: SEAN LIAM MCCORMICK

License No.: 720286

Business Name: MACOY ENVIRONMENTAL RESOURCES INCORPORATED

DEPARTMENT OF CONSUMER AFFAIRS REGISTRAR OF CONTRACTORS STATE OF CALIFORNIA

WITNESS *my hand and official seal this*
14TH *day of* MAY 1996

David R Ellis
Registrar of Contractors

131-96 (12/91)

This certification is the property of the Registrar of Contractors, is not transferable, and shall be returned to the Registrar upon demand when suspended, revoked, or invalidated for any reason.

A 6959

State of California

Contractors State License Board

Pursuant to Chapter 9 of Division 3 of the Business and Professions Code
and the Rules and Regulations of the Contractors State License Board,
the Registrar of Contractors does hereby issue this license to:

MACOY ENVIRONMENTAL RESOURCES INCORPORATED dba MACOY RESOURCES

to engage in the business or act in the capacity of a contractor
in the following classification(s):

A - GENERAL ENGINEERING CONTRACTOR

Witness my hand and seal this day,

April 4, 1996

Issued March 21, 1996

CERTIFIED COPY

Signature of Licensee

Signature of License Qualifier

Registrar of Contractors

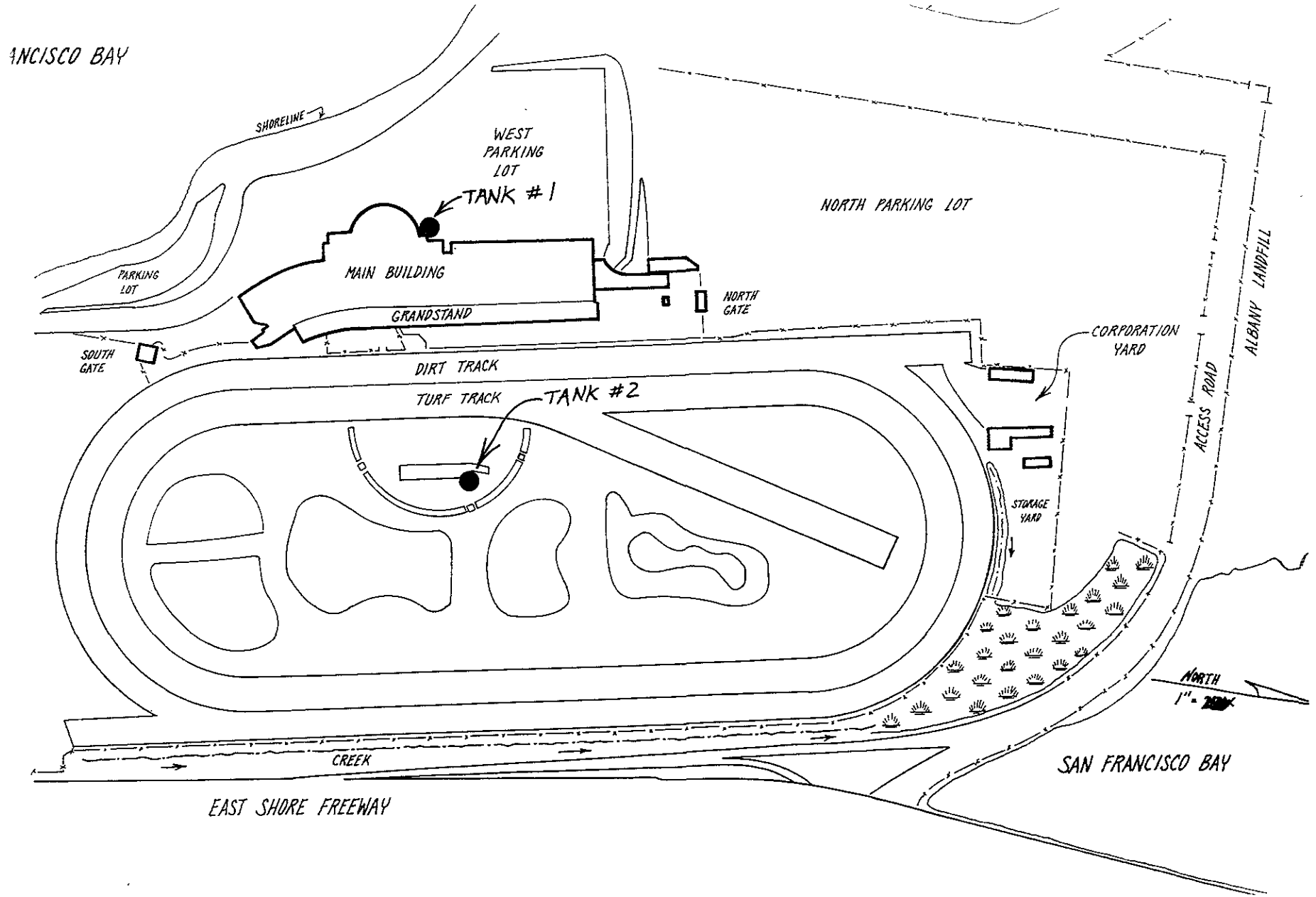
720286

License Number

This license is the property of the Registrar of Contractors, is not transferrable, and shall be returned to the Registrar upon demand when suspended, revoked, or invalidated for any reason. It becomes void if not renewed.

CSLB-24 (REV. 4-91) 91 62972

AUDIT NO: 19788


INCISCO BAY
SHORELINE
WEST PARKING LOT
TANK #1
NORTH PARKING LOT
PARKING LOT
MAIN BUILDING
GRANDSTAND
NORTH GATE
SOUTH GATE
DIRT TRACK
TURF TRACK
TANK #2
CORPORATION YARD
ACCESS ROAD
ALBANY LANDFILL
STORAGE YARD
NORTH
1" = 200'
CREEK
SAN FRANCISCO BAY
EAST SHORE FREEWAY

HAGEMAN-AGUIAR, INC.

Underground Contamination Investigations, Groundwater Consultants, Environmental Engineering

HAGEMAN - AGUIAR, INC.

Standard Operating Procedure HS-01

HEALTH AND SAFETY PROCEDURES

FOR

FIELD INVESTIGATION OF UNDERGROUND SPILLS OF
MOTOR OIL AND PETROLEUM DISTILLATE FUEL

February 1997

3732 Mt. Diablo Blvd. Suite 372 Lafayette, California 94549 (510) 284-1661 FAX (510) 284-1664

CONTENTS

1. PURPOSE

This operating procedure establishes minimum procedures for protecting personnel against the hazardous properties of motor oil and petroleum distillate fuels during the performance of field investigations of known and suspected underground releases of such materials. The procedure was developed to enable Hageman-Aguiar, Inc., health and safety personnel and project managers to quickly prepare and issue site safety plans for investigations of such releases.

2. APPLICABILITY

This procedure is applicable to field investigations conducted by Hageman-Aguiar, Inc., of underground releases of the substances listed below and involving one or more of the activities listed below:

2.1 Substances

Motor oil (used and unused)
Leaded and unleaded gasoline
No. 1 Fuel oil (kerosene, JP-1)
No. 1-D Fuel oil (light diesel)
No. 2 Fuel oil (home heating oil)
No. 2-D Fuel oil (medium diesel)
No. 4 Fuel oil (residual fuel oil)
No. 5 Fuel oil (residual fuel oil)
No. 6 Fuel oil (Bunker C fuel oil)
JP-3, 4 & 5 (jet fuels)
Gasahol

2.2 Activities

-- Collection of samples of subsurface soil with aid of truck-mounted drill rig, hand-held power auger or hand auger.

-- Construction, completion and testing of groundwater monitoring wells.

-- Collection of groundwater samples from new and existing wells.

-- Observing removal of underground fuel pipes and storage tanks.

This procedure must not be used for confined space entry (including trench entry).

No safety plans are needed for non-intrusive geophysical surveys, reconnaissance surveys and collection of surface soil, surface water and biota.

3. RESPONSIBILITY & AUTHORITY

Personnel responsible for project safety during Hageman-Aguiar, Inc., field activities are the Corporate Health and Safety Officer (**HSO**), the Project Manager (**PM**) and the Site Safety Officer (**SSO**).

The **HSO** is responsible for reviewing and approving site safety plans and any addenda and for advising both PM and SSO on health and safety matters. The **HSO** has the authority to audit compliance with the provisions of site safety plans, suspend work or modify work practices for safety reasons, and to dismiss from the site any individual whose conduct on site endangers the health and safety of others.
The **PM** is responsible for having site safety plans prepared and distributed them to all field personnel and to an authorized representative of each firm contracted to assist with on-site work. The **PM** is also responsible for ensuring that the provisions of safety plans and their addenda are carried out.

The **SSO** is responsible for assisting the **PM** with on site implementation of site safety plans. Responsibilities include:

1. Maintaining safety equipment supplies.
2. Performing or supervising air quality measurements.
3. Directing decontamination operations and emergency response operations.
4. Setting up work zone markers and signs if such zones are specified in the site safety plan.
5. Reporting all accidents, incidents and infractions of safety rules and requirements.
6. Directing other personnel to wear protective equipment when use conditions (described in **Section 5.0**) are met.

The **SSO** may suspend work anytime he/she determines that the provisions of the site safety plan are inadequate to ensure worker safety and inform the **PM** and **HSO** of individuals whose on-site behavior jeopardizes their health and safety of the health and safety of others.

4. HAZARD EVALUATION

Motor oil and petroleum distillate fuels are mixtures of aliphatic and aromatic hydrocarbons. The predominant classes of compounds in motor oil, gasoline, kerosene and jet fuels are the paraffins (e.g., benzene, toluene). Gasoline contains about 80 percent paraffins, 6 percent naphthenes, and 14 percent aromatic. Kerosene and jet fuels contain 42- 48 percent paraffins, 36-38 percent naphthenes, and 68-78 percent non-volatile aromatic. These heavier fuels contain almost no volatile aromatic compounds. Chemicals are usually added to automotive and aviation fuels to improve their burning properties. Examples are tetraethyl-lead and ethylene dibromide. Most additives are proprietary materials.

4.1 Flammability

Crude oil and petroleum distillate fuels possess two intrinsic hazardous properties, namely, flammability and toxicity. The flammable property of the oil and fuels presents a far grater hazard to field personnel than toxicity because it is difficult to protect against and can result in catastrophic consequences. Being flammable, the vapors of volatile components of crude oil and the fuels can be explosive when confined.

The lower flammable or explosive limits (LFL or LEL) of the fuels (listed in Section 2.1) range from 0.6 percent for JP-5 to 1.4 percent for gasoline. LFL and LEL are synonyms. Flash points range from -36°F for gasoline to greater than 150°F for No. 6 fuel oil. JP-5 has a flash point of 140°F. Although it has a lower LEL than gasoline, it can be considered less hazardous because its vapors must be heated to a higher temperature to ignite.

Crude oil and petroleum distillate fuels will not burn in the liquid form; only the vapors will burn and only if the vapor concentration is between the upper and lower flammable limits, sufficient oxygen is present, and an ignition source is present. If these conditions occur in a confined area an explosion may result.

The probability of fire and explosion can be minimized by eliminating any one of the three factors needed to produce combustion. Two of the factors -- ignition source and vapor concentration -- can be controlled in many cases. Ignition can be controlled by prohibiting open fires and smoking on site, installing spark arrestors on drill rig engines, and turning the engines off when LELs are approached. Vapor concentrations can be reduced by using fans. In fuel tanks, vapor concentrations in the head space can be reduced by introducing dry ice (solid carbon dioxide) into the tank; the carbon dioxide gas will displace the combustible vapors.

4.2 Toxicity

Crude oil and petroleum distillate fuels exhibit relatively low acute inhalation and dermal toxicity. Concentrations of 160 to 270 ppm gasoline vapor have been reported to cause eye, node and throat irritation after several hours of exposure. Levels of 500 to 900 ppm can cause irritation and dizziness in one hour, and 2000 ppm produces mild anesthesia in 30 minutes. Headaches have been reported with exposure to 25 ppm or more of gasoline vapors measured with a photoionization meter. Must fuels, particularly gasoline, kerosene and jet fuels are capable of causing skin irritation after several hours of contact with the skin.

Petroleum fuels exhibit moderate oral toxicity. The lethal dose of gasoline in children has been reported to be as low as 10-15 grams (2-3 teaspoons). In adults, ingestion of 20- 50 grams of gasoline may produce severe symptoms of poisoning. If liquid fuel aspirated (passes into the lungs), gasoline and other petroleum distillate fuels may cause secondary pneumonia.

Some of the additives to gasoline, such as ethylene dichloride, ethylene dibromide, tetraethyl and tetramethyl lead, are highly toxic; however, they are present in such low concentrations that their contribution to the overall toxicity of gasoline and other fuels is negligible in most instances.

OSHA has not developed permissible workplace exposure limits for crude oil and petroleum distillate fuels. It recommends using permissible exposure limits for individual components, such as benzene. The American Conference of Government Industrial Hygienists (ACGIH) has established a permissible exposure limit of 300 ppm for gasoline. The limit took into consideration the average concentration of benzene in gasoline (one percent) as well as its common additives. Exposure limits established by other countries range from 250 to 500 ppm. Chemical data sheets, prepared for the U.S. Coast Guard's Chemical Hazard Information System (CHRIS), list 200 ppm as the permissible exposure limit for kerosene and jet fuels. This limit was not developed by NIOSH/OSHA or ACGIH.

5. HEALTH AND SAFETY DIRECTIVES

5.1 Site-Specific Safety Briefing

Before field work begins, all field personnel, including subcontractor employees, must be briefed on their work assignments and safety procedures contained in this document.

5.2 Personal Protective Equipment

The following equipment should be available on-site to each member of the field team:

- NIOSH-approved full or half-face respirator with organic vapor cartridges (color coded black)
- Saranex or polyethylene-coated Tyvek coveralls
- Splash-proof safety goggles
- Nitrile or neoprene gloves
- Neoprene or butyl boots, calf-length with steel toe and shank
- Hardhats

5.2.1 Equipment Usage

Chemical-resistant safety boots must be worn during the performance of work where surface soil is obviously contaminated with oil or fuel, when product quantities of oil or fuel are likely to be encountered, and within 10 feet of operating heavy equipment.

Respirators must be worn whenever total airborne hydrocarbon levels in the breathing zone of field personnel reach or exceed a 15-minute average of 25 ppm. If total airborne hydrocarbons in the breathing zone exceeds 100 ppm, work must be suspended, personnel directed to move a safe distance from the source, and the HSO or designee consulted.

Chemical resistant gloves must be worn whenever soil or water known or suspected of containing petroleum hydrocarbons is collected or otherwise handled.

Chemical resistant coveralls must be worn whenever product quantities of fuel are actually

encountered and when oil for fuel-saturated soil is handled.

Safety goggles must be worn when working within 10 feet of any operating heavy equipment (e.g., drill rig, backhoe). Splash-proof goggles or face shields must be worn whenever product quantities of oil or fuel are encountered.

Hardhats must be worn when working within 10 feet of an operating drill rig, backhoe or other heavy equipment.

Operators of some facilities, such as refineries, often require all personnel working within facility boundaries to wear certain specified safety equipment. Such requirements shall be strictly observed.

5.3 Vapor Monitoring

5.3.1 Required Equipment

--- Organic vapor meter the flame or photoionization detector

--- Combustible gas meter

5.3.2 Monitoring Requirements and Guidelines

Vapor monitoring shall be performed as often as necessary and whenever necessary to protect field personnel from hazardous vapors. Monitoring must be performed by individuals trained in the use and care of the monitoring equipment.

During drilling operations, vapor emissions from boreholes must be measured whenever the auger is removed from the boring and whenever flights are added or removed from hollow- stem augers. This requirement does not apply to borings less than five feet deep and borings of any depth made to install monitoring wells in uncontaminated solid.

Measurements should be made initially with an organic vapor meter, followed with a combustible gas meter if vapor levels exceed the highest concentration measurable with the organic vapor meter.

Initially measurements shall be made about 12 inches from the bore hole, both upwind and downwind positions. If the total hydrocarbon concentrations exceed the respirator use action level, measurements must be made in the breathing zone of the individual(s) working closest to the borehole. Decisions regarding respiratory protection should be made using vapor concentrations in the breathing zone.

Organic vapor meter capable of being operated continuously without attention may be operated in that fashion if desired. However, the instrument must be equipped with an alarm set to sound when vapor concentrations reach 25 ppm and must be protected against physical damage and spoilage.

If total organic vapor concentrations within 12 inches of the borehole exceed the capacity of the organic vapor meter, a combustible gas meter (CGM) must be used to determine if explosive conditions exist. Operations must be suspended, the drill rig motor shot down, and corrective action taken if combustible gas concentrations reach 40 percent of LEL within a 12-inch radius of the borehole of 10 percent of LEL at a distance greater than 24 inches from the borehole. This procedure must also be followed whenever the organic vapor meter goes off-scale at its highest range and no CGM is available. If corrective action cannot be taken, field personnel and all other individuals in the vicinity of the borehole must be directed to move to a safe area and the local fire department and facility management must be alerted.

Organic vapor meter with flame ionization detectors (FID) are much more sensitive to paraffins, with the major component of gasoline, kerosene, and jet fuels, then are meters with 10.0 or 10.2 eV photoionization detectors. As the data

in Table 1 show, an FID instrument, such as the Century Systems OVA (Foxboro Analytical), will detect 70-90 percent of actual paraffin concentrations, whereas PID instruments, such as the HNU Model PI-101, AID Model 580, and Photovac TIP with 10.0 to 10.2 eV lamp will detect only 17-25 percent of actual paraffin concentrations when calibrated with benzene and only 24-35 percent when calibrated with isobutylene. Both types of meters are equally sensitive to most aromatic, including benzene, toluene, xylene and ethylbenzene. For these compounds, meter readings equal or exceed 100 percent of actual concentrations. PIDs with 11.7 eV lamps are extremely sensitive to paraffins and aromatic. When calibrated to isobutylene, an 11.7 eV PID will register about twice actual paraffin concentrations and 100 percent or more of actual concentrations of benzene, toluene, and xylene.

An FID meter, recently calibrated with methane and in good working condition, can be expected to provide readings close enough to actual petroleum hydrocarbon concentrations to make corrections unnecessary. Value obtained with a PID must be corrected when measured for paraffins. For 10.0 and 10.2 eV PIDs, the meter reading should be multiplied by 5 if the instrument is calibrated with benzene. If the instrument is calibrated with isobutylene, the meter readings should be multiplied by 3. If the instrument is equipped with an 11.7 eV probe and is calibrated with isobutylene, the meter reading should be divided by 2.

5.4 Area Control

Access to hazardous and potential hazardous areas of spill sites must be controlled to reduce the probability of occurrence of physical injury and chemical exposure of field personnel, visitors and the public. A hazardous or potentially hazardous area includes any area where:

1. Field personnel are required to wear respirators.
2. Borings are being drilled with powered augers.
3. Excavating operations with heavy equipment are being performed.

The boundaries of hazardous and potentially hazardous areas must be identified by cordons, barricades, or emergency traffic cones or posts, depending on conditions. If such areas are left unattended, signs warning of the danger and forbidding entry must be placed around the perimeter if the areas are accessible to the public.

Trenches and other large holes must be guarded with wooded or metal barricades spaced no further than 20 feet apart and connected with yellow or yellow and black nylon tape not less than 3/4-inches wide. The barricades must be placed no less than two feet from the edge of the excavation or hole.

Entry to hazardous areas shall be limited to individuals who must work in those areas. Unofficial visitors must not be permitted to enter hazardous areas while work in those areas are in progress. Official visitors should be discouraged from entering hazardous areas, but may be allowed to enter only if the agree to abide by the provisions of this document, follow orders issued by the site safety officer and are informed of the potential dangers that could be encountered in the areas.

5.5 Decontamination

Field decontamination of personnel and equipment is not required except when

contamination is obvious (visually or by odor). Recommended decontamination procedures follow:

5.5.1 Personnel

Gasoline, kerosene, jet fuel, heating oil, gasahol and diesel oil should be removed from skin using a mild detergent and water. Hot water is more efficient than cold. Liquid dishwashing detergent is more effective than hand soap. Motor oil and the heavier fuel oils (No. 4-6) can be removed with dishwashing detergent and hot water also; however, if weathered to an asphaltic condition, mechanic's waterless hand cleaner is recommended for initial cleaning followed by detergent and water.

5.5.2 Equipment

Gloves, respirators, hardhats, boots and goggles should be cleaned as described under personnel. If boots do not become clean after washing with detergent and water, wash them with a strong solution of trisodium phosphate and hot water.

Sampling equipment, augers, vehicle under-carriages and tires should be steam cleaned. The steam cleaner is a convenient source of hot water for personnel and protective equipment cleaning.

5.6 Smoking

Smoking and open flames are strictly prohibited at sites under investigation.

General Instructions

* Three (3) copies of this plan plus attachments and a deposit must be submitted to this Department.
* Any cutting into tanks requires local fire department approval.
* One complete copy of your approved plan must be at the construction site at all times; a copy of your approved plan must also be sent to the landowner.
* State of California Permit Application Forms A and B are to be submitted to this office. One Form A per site, one Form B for each removed tank.

Line Item Specific Instructions

2. SITE ADDRESS
Address at which closure is taking place.

5. EPA I.D. NO. under which the tanks will be manifested
EPA I.D. numbers may be obtained from the State Department of Toxic Substances Control, 916/324-1781.

6. CONTRACTOR
Prime contractor for the project.

10. STATE REGISTERED HAZARDOUS WASTE TRANSPORTERS/FACILITIES

a) All residual liquids and sludges are to be removed from tanks before tanks are inerted.

c) Tanks must be hauled as hazardous waste.

d) This is the place where tanks will be taken for cleaning.

15. TANK HISTORY AND SAMPLING INFORMATION
Use History - This information is essential and must be accurate. Include tank installation date, products stored in the tank, and the date when the tank was last used.

Material to be sampled - e.g. water, oil, sludge, soil, etc.

Location and depth of samples - e.g. beneath the tank a maximum of two feet below the native soil/backfill interface, side wall at the high water mark, etc.

16. CHEMICAL METHODS AND ASSOCIATED DETECTION LIMITS
See attached Table 2.

17. SITE HEALTH AND SAFETY PLAN
A site specific Health and Safety plan must be submitted. We advocate the site health and safety plan include the following items, at a minimum:

a) The name and responsibilities of the site health and safety officer;

b) An outline of briefings to be held before work each day to appraise employees of site health and safety hazards;

c) Identification of health and safety hazards of each work task. Include potential fire, explosion, physical, and chemical hazards;

d) For each hazard, identify the action levels (contaminant concentrations in air) or physical conditions which will trigger changes in work habits to ensure workers are not exposed to unsafe chemical levels or physical conditions;

e) Description of the work habit changes triggered by the above action levels or physical conditions;

f) Frequency and types of air and personnel monitoring - along with the environmental sampling techniques and instrumentation - to be used to detect the above action levels. Include instrumentation maintenance and calibration methods and frequencies;

g) Confined space entry procedures (if applicable);

h) Decontamination procedures;

i) Measures to be taken to secure the site, excavation and stockpiled soil during and after work hours (e.g. barricades, caution tape, fencing, trench plates, plastic sheeting, security guards, etc.);

j) Spill containment/emergency/contingency plan. Be sure to include emergency phone numbers, the location of the phone nearest the site, and directions to the hospital nearest the site;

k) Documentation that all site workers have received the appropriate OSHA approved trainings and participate in appropriate medical surveillance per 29 CFR 1910.120; and

l) A page for employees to sign acknowledging that they have read and will comply with the site health and safety plan.

The safety plan must be distributed to all employees and contractors working in hazardous waste operations on site. **A complete copy of the site health and safety plan along with any standard operating procedures shall be on site and accessible at all times.**

Hazardous Waste Operations and Emergency Response, Final Rule, March 6, 1989. Safety plans of certain underground tank sites may need to meet the complete requirements of this Rule.

19. PLOT PLAN
The plan should consist of a scaled view of the facility at which the tank(s) are located and should include the following information:

a) Scale;

b) North Arrow;

c) Property Lines;

d) Location of all Structures;

e) Location of all relevant existing equipment including tanks and piping to be removed and dispensers;

f) Streets;

g) Underground conduits, sewers, water lines, utilities;

h) Existing wells (drinking, monitoring, etc.);

i) Depth to ground water; and

j) All existing tank(s) and piping in addition to the tank(s) being removed.

20. DEPOSIT
A deposit, payable to "County of Alameda" for the amount indicated on the Alameda County Underground Storage Tank Fee Schedule, must accompany the plans.

21. Blank Unauthorized Leak/Contamination Site Report forms may be obtained in limited quantities from this office or from the San Francisco Bay Regional Water Quality Control Board (510/286-1255). Larger quantities may be obtained directly from the State Water Resources Control Board at (916) 739-2421.

22. TANK CLOSURE REPORT
The tank closure report should contain the following information:

a) General description of the closure activities;

b) Description of tank, fittings and piping conditions. Indicate tank size and former contents; note any corrosion, pitting, holes, etc.;

c) Description of the excavation itself. Include the tank and excavation depth, a log of the stratigraphic units encountered within the excavation, a description of root holes or other potential contaminant pathways, the depth to any observed ground water, descriptions and locations of stained or odor-bearing soil, and descriptions of any observed free product or sheen;

d) Detailed description of sampling methods; i.e. backhoe bucket, drive sampler, bailer, bottle(s), sleeves

e) Description of any remedial measures conducted at the time of tank removal;

f) To-scale figures showing the excavation size and depth, nearby buildings, sample locations and depths, and tank and piping locations. Include a copy of the plot plan prepared for the Tank Closure Plan under item 19;

g) Chain of custody records;

h) Copies of signed laboratory reports;

i) Copies of "TSDF to Generator" Manifests for all hazardous wastes hauled offsite (sludge, rinsate, tanks and piping, contaminated soil, etc.); and

j) Documentation of the disposal of/and volume and final destination of all non-manifested contaminated soil disposed offsite.

EXPLANATION FOR TABLE #2: MINIMUM VERIFICATION ANALYSIS

1. OTHER METHODOLOGIES are continually being developed and as methods are accepted by EPA or DHS, they also can be used.

2. For DRINKING WATER SOURCES, EPA recommends that the 500 series for volatile organics be used in preference to the 600 series because the detection limits are lower and the QA/QC is better.

3. APPROPRIATE STANDARDS for the materials stored in the tank are to be used for all analyses on Table #2. For instance, seasonally, there may be five different jet fuel mixtures to be considered.

4. To AVOID FALSE POSITIVE detection of benzene, benzene-free solvents are to be used.

5. TOTAL PETROLEUM HYDROCARBONS (TPH) as gasoline (G) and diesel (D) ranges (volatile and extractible, respectively) are to be analyzed and characterized by GCFID with a fused capillary column and prepared by EPA method 5030 (purge and trap) for volatile hydro- carbons, or extracted by sonication using 3550 methodology for extractable hydrocarbons. Fused capillary columns are preferred to packed columns; a packed column may be used as a "first cut" with "dirty" samples or once the hydrocarbons have been characterized and proper QA/QC is followed.

6. TETRAETHYL LEAD (TEL) analysis may be required if total lead is detected unless the determination is made that the total lead concentration is geogenic (naturally occurring).

7. CHLORINATED HYDROCARBONS (CL HC) AND BENZENE, TOLUENE, XYLENE AND ETHYLBENZENE (BTX&E) are analyzed in soil by EPA methods 8010 and 8020 respectively, (or 8240) and in water, 601 and 602, respectively (or 624).

8. OIL AND GREASE (O & G) may be used when heavy, straight chain hydrocarbons may be present. Infrared analysis by method 418.1 may also be acceptable for O & G if proper standards are used. **Standard Methods" 17th Edition, 1989, has changed the 503 series to 5520.**

9. **PRACTICAL QUANTITATION REPORTING LIMITS are influenced by matrix problems and laboratory QA/QC procedures. Following are the Practical Quantitation Reporting Limits:**

	SOIL PPM	WATER PPB
TPH G	1.0	50.0
TPH D	1.0	50.0
BTX&E	0.005	0.5
O & G	50.0	5,000.0

Based upon a Regional Board survey of Department of Health Services Certified Laboratories, the Practical Quantitation Reporting Limits are attainable by a majority of laboratories with the exception of diesel fuel in soils. The Diesel Practical Quantitation Reporting Limits, shown by the survey, are:

ROUTINE	MODIFIED PROTOCOL
≤ 10 ppm (42%)	≤ 10 ppm (10%)
≤ 5 ppm (19%)	≤ 5 ppm (21%)
≤ 1 ppm (35%)	≤ 1 ppm (60%)

When the Practical Quantitation Reporting Limits are not achievable, an explanation of the problem is to be submitted on the laboratory data sheets.

10. LABORATORY DATA SHEETS are to be signed and submitted and include the laboratory's assessment of the condition of the samples on receipt including temperature, suitable container type, air bubbles present/absent in VOA bottles, proper preservation, etc. The sheets are to include the dates sampled, submitted, prepared for analysis, and analyzed.

11. IF PEAKS ARE FOUND, when running samples, that do not conform to the standard, laboratories are to report the peaks, including any unknown complex mixtures that elute at times varying from the standards. Recognizing that these mixtures may be contrary to the standard, they may not be readily identified; however, they are to be reported. At the discretion of the LIA or Regional Board the following information is to be contained in the laboratory report:

    The relative retention time for the unknown peak(s) relative to the reference peak in the standard, copies of the chroma- togram(s), the type of column used, initial temperature, temperature program is C/minute, and the final temperature.

12. REPORTING LIMITS FOR TPH are: gasoline standard ≤ 20 carbon atoms, diesel and jet fuel (kerosene) standard ≤ 50 carbon atoms. It is not necessary to continue the chromatography beyond the limit, standard, or EPA/DHS method protocol (whichever time is greater).

EPILOGUE

ADDITIVES: Major oil companies are being encouraged or required by the federal government to reformulate gasoline as cleaner burning fuels to reduce air emissions. MTBE (Methyl-tertiary butyl ether), ETHANOL (ethyl alcohol), and other chemicals may be added to reformulate gasolines to increase the oxygen content in the fuel and thereby decrease undesirable emissions (about four percent with MTBE). MTBE and ethanol are, for practical purposes, soluble in water. The removal from the water column will be difficult. Other compounds are being added by the oil companies for various purposes. The refinements for detection and analysis for all of these additives are still being worked out. If you have any questions about the methodology, please call your Regional Board representative.

TABLE 1
RELATIVE SENSITIVITIES OF FID AND PID INSTRUMENTS TO SELECTED COMPONENTS OF OILS AND PETROLEUM DISTILLATE FUELS

	Sensitivity in Percent of Standard		
	FID	PID	
Component		10.2 eV[a]	11.7 eV[b]
Paraffins			
Pentane	65	--	141
Hexane	70	22 (31)	189
Heptane	75	17 (24)	221
Octane	80	25 (35)	---
Nonane	90	--	---
Decane	75	--	---
Napthenes			
Cyclopentane	--	--	---
Methylcyclopentane	80	--	---
Cyclohexane	85	34 (40)	---
Methylcyclohexane	100	--	---
Aromatic			
Benzene	150	100 (143)	122
Toluene	110	100 (143)	100
Ethylbenzene	100	---	---
p-Xylene	116	114 (60)	---
Cumene	100	---	---
n-Propylbenzene	---	---	---
Napthaeine	---	---	---

a Values are relative to benzene standard. Values in parentheses are relative to isobutylene standard and were calculated.

b Values are relative to isobutylene standard.

TABLE #2
RECOMMENDED MINIMUM VERIFICATION ANALYSES FOR
UNDERGROUND TANK LEAKS

HYDROCARBON LEAK	SOIL ANALYSIS	WATER ANALYSIS
Unknown Fuel	TPH G GCFID(5030) TPH D GCFID(3550) BTX&E 8020 or 8240 TPH AND BTX&E 8260	TPH G GCFID(5030) TPH D GCFID(3510) BTX&E 602, 624 or 8260
Leaded Gas	TPH G GCFID(5030) BTX&E 8020 OR 8240 TPH AND BTX&E 8260 TOTAL LEAD AA ------Optional------- TEL DHS-LUFT EDB DHS-AB1803	TPH G GCFID(5030) BTX&E 602 or 624 TOTAL LEAD AA TEL DHS-LUFT EDB DHS-AB1803
Unleaded Gas	TPH G GCFID(5030) BTX&E 8020 or 8240 TPH AND BTX&E 8260	TPH G GCFID(5030) BTX&E 602, 624 or 8260
Diesel, Jet Fuel and Kerosene	TPH D GCFID(3550) BTX&E 8020 or 8240 TPH AND BTX&E 8260	TPH D GCFID(3510) BTX&E 602, 624 or 8260
Fuel/Heating Oil	TPH D GCFID(3550) BTX&E 8020 or 8240 TPH AND BTX&E 8260	TPH D GCFID(3510) BTX&E 602, 624 or 8260
Chlorinated Solvents	CL HC 8010 or 8240 BTX&E 8020 or 8240 CL HC AND BTX&E 8260	CL HC 601 or 624 BTX&E 602 or 624 CL HC AND BTX&E 8260
Non-chlorinated Solvents	TPH D GCFID(3550) BTX&E 8020 or 8240 TPH AND BTX&E 8260	TPH D GCFID(3510) BTX&E 602 or 624 TPH and BTX&E 8260
Waste and Used Oil or Unknown (All analyses must be completed and submitted)	TPH G GCFID(5030) TPH D GCFID(3550) TPH AND BTX&E 8260 O & G 5520 D & F BTX&E 8020 or 8240 CL HC 8010 or 8240 ICAP or AA TO DETECT METALS: Cd, Cr, Pb, Zn, Ni METHOD 8270 FOR SOIL OR WATER TO DETECT: PCB* PCP* PNA CREOSOTE	TPH G GCFID(5030) TPH D GCFID(3510 O & G 5520 B & F BTX&E 602, 624 or 8260 CL HC 601 or 624 PCB PCP PNA CREOSOTE

* If found, analyze for dibenzofurans (PCBs) or dioxins (PCP)

Reference: Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites, 10 August 1990


ALBANY
University
BERKELEY
EMERYVILLE
Mountain View Cemetery
Alta Bates Hospital
2459 Ashby Ave
Berkeley, CA
(510)204-4444

Hageman - Aguiar, Inc.

3732 Mt. Diablo Blvd., Suite 372 Lafayette CA 94549 (510) 284-1661 FAX (510) 284-1664

FAX TRANSMISSION SHEET

ATTN: MS. EVA CHOW

COMPANY: ALAMEDA COUNTY HEALTH DEPT. ENVIRONMENTAL HEALTH

FAX: (510) 337-9335

FROM: BRUCE HAGEMAN

COMMENTS: PER YOUR REQUEST RE: GOLDEN GATE FIELDS - TANK REMOVAL PROJECT. SITE SAFETY PLAN.

This transmittal is page 1 of 2

2 USTs removed on 3/15/94

COPY

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

UNDERGROUND STORAGE TANK PERMIT APPLICATION - FORM A

COMPLETE THIS FORM FOR EACH FACILITY/SITE

MARK ONLY ONE ITEM: ☐ 1 NEW PERMIT ☐ 2 INTERIM PERMIT ☐ 3 RENEWAL PERMIT ☐ 4 AMENDED PERMIT ☐ 5 CHANGE OF INFORMATION ☐ 6 TEMPORARY SITE CLOSURE ☒ 7 PERMANENTLY CLOSED SITE

I. FACILITY/SITE INFORMATION & ADDRESS - (MUST BE COMPLETED)

DBA OR FACILITY NAME	NAME OF OPERATOR	
LADBROKE RACING - GOLDEN GATE FIELDS	LADBROKE RACING - GOLDEN GATE FIELDS	
ADDRESS	NEAREST CROSS STREET	PARCEL # (OPTIONAL)
1100 EASTSHORE HIGHWAY	N/A	
CITY NAME	STATE / ZIP CODE	SITE PHONE # WITH AREA CODE
ALBANY	CA 94706-0027	(510) 559-7300

✓ BOX TO INDICATE: ☒ CORPORATION ☐ INDIVIDUAL ☐ PARTNERSHIP ☐ LOCAL-AGENCY DISTRICTS ☐ COUNTY-AGENCY * ☐ STATE-AGENCY * ☐ FEDERAL-AGENCY *

* If owner of UST is a public agency, complete the following: name of supervisor of division, section or office which operates the UST _____

TYPE OF BUSINESS	✓ IF INDIAN RESERVATION OR TRUST LANDS	# OF TANKS AT SITE	E. P. A. I. D. # (optional)
☐ 1 GAS STATION ☐ 2 DISTRIBUTOR ☐ 3 FARM ☐ 4 PROCESSOR ☒ 5 OTHER	☐	2	

EMERGENCY CONTACT PERSON (PRIMARY)		EMERGENCY CONTACT PERSON (SECONDARY) - optional	
DAYS: NAME (LAST, FIRST)	PHONE # WITH AREA CODE	DAYS: NAME (LAST, FIRST)	PHONE # WITH AREA CODE
DON MARKERT	(510) 559-7300		
NIGHTS: NAME (LAST, FIRST)	PHONE # WITH AREA CODE	NIGHTS: NAME (LAST, FIRST)	PHONE # WITH AREA CODE
MARKERT DON	(510) 559-7300		

II. PROPERTY OWNER INFORMATION - (MUST BE COMPLETED)

NAME	CARE OF ADDRESS INFORMATION		
LADBROKE RACING - GOLDEN GATE FIELDS	SAME		
MAILING OR STREET ADDRESS	✓ box to indicate: ☐ INDIVIDUAL ☐ LOCAL-AGENCY ☐ STATE-AGENCY		
1100 EASTSHORE HIGHWAY	☒ CORPORATION ☐ PARTNERSHIP ☐ COUNTY-AGENCY ☐ FEDERAL-AGENCY		
CITY NAME	STATE	ZIP CODE	PHONE # WITH AREA CODE
ALBANY	CA	94706-0027	(510) 559-7300

III. TANK OWNER INFORMATION - (MUST BE COMPLETED)

NAME OF OWNER	CARE OF ADDRESS INFORMATION		
LADBROKE RACING - GOLDEN GATE FIELDS	SAME		
MAILING OR STREET ADDRESS	✓ box to indicate: ☐ INDIVIDUAL ☐ LOCAL-AGENCY ☐ STATE-AGENCY		
1100 EASTSHORE HIGHWAY	☒ CORPORATION ☐ PARTNERSHIP ☐ COUNTY-AGENCY ☐ FEDERAL-AGENCY		
CITY NAME	STATE	ZIP CODE	PHONE # WITH AREA CODE
ALBANY	CA	94706-0027	(510) 559-7300

IV. BOARD OF EQUALIZATION UST STORAGE FEE ACCOUNT NUMBER - Call (916) 322-9669 if questions arise.

TY (TK) HQ 44- [ ][ ][ ][ ][ ][ ]-[ ]

V. PETROLEUM UST FINANCIAL RESPONSIBILITY - (MUST BE COMPLETED) – IDENTIFY THE METHOD(S) USED

✓ box to indicate: ☐ 1 SELF-INSURED ☐ 2 GUARANTEE ☒ 3 INSURANCE ☐ 4 SURETY BOND ☐ 5 LETTER OF CREDIT ☐ 6 EXEMPTION ☒ 7 STATE FUND ☐ 8 STATE FUND & CHIEF FINANCIAL OFFICER LETTER ☐ 9 STATE FUND & CERTIFICATE OF DEPOSIT ☐ 10 LOCAL GOVT. MECHANISM ☐ 99 OTHER_____

VI. LEGAL NOTIFICATION AND BILLING ADDRESS

Legal notification and billing will be sent to the tank owner unless box I or II is checked.

CHECK ONE BOX INDICATING WHICH ABOVE ADDRESS SHOULD BE USED FOR LEGAL NOTIFICATIONS AND BILLING: I. ☐ II. ☒ III. ☐

THIS FORM HAS BEEN COMPLETED UNDER PENALTY OF PERJURY, AND TO THE BEST OF MY KNOWLEDGE, IS TRUE AND CORRECT

TANK OWNER'S NAME (PRINTED & SIGNATURE)	TANK OWNER'S TITLE	DATE MONTH/DAY/YEAR

LOCAL AGENCY USE ONLY

COUNTY #	JURISDICTION #	FACILITY #
[ ][ ]	[ ][ ][ ]	[ ][ ][ ][ ][ ][ ]

LOCATION CODE - *OPTIONAL*	CENSUS TRACT # - *OPTIONAL*	SUPVISOR - DISTRICT CODE - *OPTIONAL*

THIS FORM MUST BE ACCOMPANIED BY AT LEAST (1) OR MORE PERMIT APPLICATION - FORM B, UNLESS THIS IS A CHANGE OF SITE INFORMATION ONLY.

OWNER MUST FILE THIS FORM WITH THE LOCAL AGENCY IMPLEMENTING THE UNDERGROUND STORAGE TANK REGULATIONS

2 USTs removed on 5/13/97 COPY

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

UNDERGROUND STORAGE TANK PERMIT APPLICATION - FORM B

COMPLETE A SEPARATE FORM FOR EACH TANK SYSTEM.

MARK ONLY ONE ITEM: ☐ 1 NEW PERMIT ☐ 2 INTERIM PERMIT ☐ 3 RENEWAL PERMIT ☐ 4 AMENDED PERMIT ☐ 5 CHANGE OF INFORMATION ☐ 6 TEMPORARY TANK CLOSURE ☐ 7 PERMANENTLY CLOSED ON SITE ☒ 8 TANK REMOVED

DBA OR FACILITY NAME WHERE TANK IS INSTALLED: LADBROKE RACING - GOLDEN GATE FIELDS

I. TANK DESCRIPTION

COMPLETE ALL ITEMS -- SPECIFY IF UNKNOWN

A. OWNER'S TANK I. D. # UNKNOWN	B. MANUFACTURED BY: UNKNOWN
C. DATE INSTALLED (MO/DAY/YEAR) UNKNOWN	D. TANK CAPACITY IN GALLONS: 200 GALLONS

II. TANK CONTENTS

IF A-1 IS MARKED, COMPLETE ITEM C.

A. ☒ 1 MOTOR VEHICLE FUEL ☐ 2 PETROLEUM ☐ 3 CHEMICAL PRODUCT ☐ 4 OIL ☐ 80 EMPTY ☐ 95 UNKNOWN

B. ☒ 1 PRODUCT ☐ 2 WASTE

C. ☐ 1a REGULAR UNLEADED ☐ 1b PREMIUM UNLEADED ☐ 1c MIDGRADE UNLEADED ☐ 2 LEADED ☒ 3 DIESEL ☐ 4 GASAHOL ☐ 5 JET FUEL ☐ 6 AVIATION GAS ☐ 7 METHANOL ☐ 8 M85 ☐ 99 OTHER (DESCRIBE IN ITEM D. BELOW)

D. IF (A.1) IS NOT MARKED, ENTER NAME OF SUBSTANCE STORED C. A. S. # :

III. TANK CONSTRUCTION

MARK ONE ITEM ONLY IN BOXES A, B, AND C, AND ALL THAT APPLIES IN BOX D AND E

A. TYPE OF SYSTEM: ☐ 1 DOUBLE WALL ☒ 2 SINGLE WALL ☐ 3 SINGLE WALL WITH EXTERIOR LINER ☐ 4 SINGLE WALL IN A VAULT ☐ 5 INTERNAL BLADDER SYSTEM ☐ 95 UNKNOWN ☐ 99 OTHER

B. TANK MATERIAL (Primary Tank): ☒ 1 BARE STEEL ☐ 2 STAINLESS STEEL ☐ 3 FIBERGLASS ☐ 4 STEEL CLAD W/ FIBERGLASS REINFORCED PLASTIC ☐ 5 CONCRETE ☐ 6 POLYVINYL CHLORIDE ☐ 7 ALUMINUM ☐ 8 100% METHANOL COMPATIBLE W/FRP ☐ 9 BRONZE ☐ 10 GALVANIZED STEEL ☐ 95 UNKNOWN ☐ 99 OTHER

C. INTERIOR LINING OR COATING: ☐ 1 RUBBER LINED ☐ 2 ALKYD LINING ☐ 3 EPOXY LINING ☐ 4 PHENOLIC LINING ☐ 5 GLASS LINING ☐ 6 UNLINED ☒ 95 UNKNOWN ☐ 99 OTHER
IS LINING MATERIAL COMPATIBLE WITH 100% METHANOL? YES ___ NO ___

D. EXTERIOR CORROSION PROTECTION: ☐ 1 POLYETHYLENE WRAP ☐ 2 COATING ☐ 3 VINYL WRAP ☐ 4 FIBERGLASS REINFORCED PLASTIC ☐ 5 CATHODIC PROTECTION ☒ 91 NONE ☐ 95 UNKNOWN ☐ 99 OTHER

E. SPILL AND OVERFILL, etc. SPILL CONTAINMENT INSTALLED (YEAR) ___ DROP TUBE YES ___ NO ☒ OVERFILL PREVENTION EQUIPMENT INSTALLED (YEAR) ___ STRIKER PLATE YES ___ NO ☒ DISPENSER CONTAINMENT YES ___ NO ___

IV. PIPING INFORMATION

CIRCLE A IF ABOVE GROUND OR U IF UNDERGROUND, BOTH IF APPLICABLE

A. SYSTEM TYPE: A (U) 1 SUCTION A U 2 PRESSURE A U 3 GRAVITY A U 4 FLEXIBLE PIPING A U 99 OTHER

B. CONSTRUCTION: A (U) 1 SINGLE WALL A U 2 DOUBLE WALL A U 3 LINED TRENCH A U 95 UNKNOWN A U 99 OTHER

C. MATERIAL AND CORROSION PROTECTION: A (U) 1 BARE STEEL A U 2 STAINLESS STEEL A U 3 POLYVINYL CHLORIDE (PVC) A U 4 FIBERGLASS PIPE A U 5 ALUMINUM A U 6 CONCRETE A U 7 STEEL W/ COATING A U 8 100% METHANOL COMPATIBLE W/FRP A U 9 GALVANIZED STEEL A U 10 CATHODIC PROTECTION A U 95 UNKNOWN A U 99 OTHER ___

D. LEAK DETECTION: ☐ 1 MECHANICAL LINE LEAK DETECTOR ☐ 2 LINE TIGHTNESS TESTING ☐ 3 CONTINUOUS INTERSTITIAL MONITORING ☐ 4 ELECTRONIC LINE LEAK DETECTOR ☐ 5 AUTOMATIC PUMP SHUTDOWN ☐ 99 OTHER NONE

V. TANK LEAK DETECTION

☒ 1 VISUAL CHECK ☐ 2 MANUAL INVENTORY RECONCILIATION ☐ 3 VADOZE MONITORING ☐ 4 AUTOMATIC TANK GAUGING ☐ 5 GROUND WATER MONITORING ☐ 6 ANNUAL TANK TESTING ☐ 7 CONTINUOUS INTERSTITIAL MONITORING ☐ 8 SIR ☐ 9 WEEKLY MANUAL TANK GAUGING ☒ 10 MONTHLY TANK TESTING ☐ 95 UNKNOWN ☐ 99 OTHER

VI. TANK CLOSURE INFORMATION (PERMANENT CLOSURE IN-PLACE)

1. ESTIMATED DATE LAST USED (MO/DAY/YR)	2. ESTIMATED QUANTITY OF SUBSTANCE REMAINING	3. WAS TANK FILLED WITH INERT MATERIAL?
STILL IN USE	50 GALLONS	YES ☐ NO ☒

THIS FORM HAS BEEN COMPLETED UNDER PENALTY OF PERJURY, AND TO THE BEST OF MY KNOWLEDGE, IS TRUE AND CORRECT

TANK OWNER'S NAME (PRINTED & SIGNATURE)	DATE
LADBROKE GOLDEN GATE FIELDS By DON MARKERT	

LOCAL AGENCY USE ONLY

THE STATE I.D. NUMBER IS COMPOSED OF THE FOUR NUMBERS BELOW

STATE I.D.# COUNTY # ☐☐ JURISDICTION # ☐☐☐ FACILITY # ☐☐☐☐☐☐ TANK # ☐☐☐☐☐☐

PERMIT NUMBER	PERMIT APPROVED BY/DATE	PERMIT EXPIRATION DATE

THIS FORM MUST BE ACCOMPANIED BY A PERMIT APPLICATION - FORM A, UNLESS A CURRENT FORM A HAS BEEN FILED. FORM C MUST BE COMPLETED FOR INSTALLATIONS. THIS FORM SHOULD BE ACCOMPANIED BY A PLOT PLAN. FILE THIS FORM WITH THE LOCAL AGENCY IMPLEMENTING THE UNDERGROUND STORAGE TANK REGULATIONS

2 USTs removed on 5/15/14

COPY

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

UNDERGROUND STORAGE TANK PERMIT APPLICATION - FORM B

COMPLETE A SEPARATE FORM FOR EACH TANK SYSTEM.

MARK ONLY ONE ITEM: ☐ 1 NEW PERMIT ☐ 2 INTERIM PERMIT ☐ 3 RENEWAL PERMIT ☐ 4 AMENDED PERMIT ☐ 5 CHANGE OF INFORMATION ☐ 6 TEMPORARY TANK CLOSURE ☐ 7 PERMANENTLY CLOSED ON SITE ☒ 8 TANK REMOVED

DBA OR FACILITY NAME WHERE TANK IS INSTALLED: LADEBROKE RACING - GOLDEN GATE FIELDS

I. TANK DESCRIPTION

COMPLETE ALL ITEMS -- SPECIFY IF UNKNOWN

A. OWNER'S TANK I. D. # UNKNOWN	B. MANUFACTURED BY: UNKNOWN
C. DATE INSTALLED (MO/DAY/YEAR) UNKNOWN	D. TANK CAPACITY IN GALLONS: 200 GALLONS

II. TANK CONTENTS

IF A-1 IS MARKED, COMPLETE ITEM C.

A. ☒ 1 MOTOR VEHICLE FUEL ☐ 2 PETROLEUM ☐ 3 CHEMICAL PRODUCT ☐ 4 OIL ☐ 80 EMPTY ☐ 95 UNKNOWN

B. ☒ 1 PRODUCT ☐ 2 WASTE

C. ☐ 1a REGULAR UNLEADED ☐ 1b PREMIUM UNLEADED ☐ 1c MIDGRADE UNLEADED ☐ 2 LEADED ☒ 3 DIESEL ☐ 4 GASAHOL ☐ 5 JET FUEL ☐ 6 AVIATION GAS ☐ 7 METHANOL ☐ 8 M85 ☐ 99 OTHER (DESCRIBE IN ITEM D. BELOW)

D. IF (A.1) IS NOT MARKED, ENTER NAME OF SUBSTANCE STORED C. A. S. # :

III. TANK CONSTRUCTION

MARK ONE ITEM ONLY IN BOXES A, B, AND C, AND ALL THAT APPLIES IN BOX D AND E

A. TYPE OF SYSTEM: ☐ DOUBLE WALL ☒ 2 SINGLE WALL ☐ 3 SINGLE WALL WITH EXTERIOR LINER ☐ 4 SINGLE WALL IN A VAULT ☐ 5 INTERNAL BLADDER SYSTEM ☐ 95 UNKNOWN ☐ 99 OTHER

B. TANK MATERIAL (Primary Tank): ☒ 1 BARE STEEL ☐ 2 STAINLESS STEEL ☐ 3 FIBERGLASS ☐ 4 STEEL CLAD W/ FIBERGLASS REINFORCED PLASTIC ☐ 5 CONCRETE ☐ 6 POLYVINYL CHLORIDE ☐ 7 ALUMINUM ☐ 8 100% METHANOL COMPATIBLE W/FRP ☐ 9 BRONZE ☐ 10 GALVANIZED STEEL ☐ 95 UNKNOWN ☐ 99 OTHER

C. INTERIOR LINING OR COATING: ☐ 1 RUBBER LINED ☐ 2 ALKYD LINING ☐ 3 EPOXY LINING ☐ 4 PHENOLIC LINING ☐ 5 GLASS LINING ☐ 6 UNLINED ☒ 95 UNKNOWN ☐ 99 OTHER
IS LINING MATERIAL COMPATIBLE WITH 100% METHANOL? YES ___ NO ___

D. EXTERIOR CORROSION PROTECTION: ☐ 1 POLYETHYLENE WRAP ☐ 2 COATING ☐ 3 VINYL WRAP ☐ 4 FIBERGLASS REINFORCED PLASTIC ☐ 5 CATHODIC PROTECTION ☒ 91 NONE ☐ 95 UNKNOWN ☐ 99 OTHER

E. SPILL AND OVERFILL, etc. SPILL CONTAINMENT INSTALLED (YEAR) ___ DROP TUBE YES ___ NO ☒ OVERFILL PREVENTION EQUIPMENT INSTALLED (YEAR) ___ STRIKER PLATE YES ___ NO ☒ DISPENSER CONTAINMENT YES ___ NO ☒

IV. PIPING INFORMATION

CIRCLE A IF ABOVE GROUND OR U IF UNDERGROUND, BOTH IF APPLICABLE

A. SYSTEM TYPE	A (U) 1 SUCTION	A U 2 PRESSURE	A U 3 GRAVITY	A U 4 FLEXIBLE PIPING	A U 99 OTHER
B. CONSTRUCTION	A (U) 1 SINGLE WALL	A U 2 DOUBLE WALL	A U 3 LINED TRENCH	A U 95 UNKNOWN	A U 99 OTHER
C. MATERIAL AND CORROSION PROTECTION	A (U) 1 BARE STEEL	A U 2 STAINLESS STEEL	A U 3 POLYVINYL CHLORIDE (PVC)	A U 4 FIBERGLASS PIPE	
	A U 5 ALUMINUM	A U 6 CONCRETE	A U 7 STEEL W/ COATING	A U 8 100% METHANOL COMPATIBLE W/FRP	
	A U 9 GALVANIZED STEEL	A U 10 CATHODIC PROTECTION	A U 95 UNKNOWN	A U 99 OTHER	

D. LEAK DETECTION: ☐ 1 MECHANICAL LINE LEAK DETECTOR ☐ 2 LINE TIGHTNESS TESTING ☐ 3 CONTINUOUS INTERSTITIAL MONITORING ☐ 4 ELECTRONIC LINE LEAK DETECTOR ☐ 5 AUTOMATIC PUMP SHUTDOWN ☐ 99 OTHER

V. TANK LEAK DETECTION

☒ 1 VISUAL CHECK ☐ 2 MANUAL INVENTORY RECONCILIATION ☐ 3 VADOZE MONITORING ☐ 4 AUTOMATIC TANK GAUGING ☐ 5 GROUND WATER MONITORING ☐ 6 ANNUAL TANK TESTING ☐ 7 CONTINUOUS INTERSTITIAL MONITORING ☐ 8 SIR ☐ 9 WEEKLY MANUAL TANK GAUGING ☐ 10 MONTHLY TANK TESTING ☐ 95 UNKNOWN ☐ 99 OTHER

VI. TANK CLOSURE INFORMATION (PERMANENT CLOSURE IN-PLACE)

1. ESTIMATED DATE LAST USED (MO/DAY/YR)	2. ESTIMATED QUANTITY OF SUBSTANCE REMAINING	3. WAS TANK FILLED WITH INERT MATERIAL ?
STILL IN USE	50 GALLONS	YES ☐ NO ☒

THIS FORM HAS BEEN COMPLETED UNDER PENALTY OF PERJURY, AND TO THE BEST OF MY KNOWLEDGE, IS TRUE AND CORRECT

TANK OWNER'S NAME (PRINTED & SIGNATURE)	DATE
LADBROKE RACING By DON MARKERT	

LOCAL AGENCY USE ONLY

THE STATE I.D. NUMBER IS COMPOSED OF THE FOUR NUMBERS BELOW

STATE I.D.# COUNTY # (2) JURISDICTION # (3) FACILITY # (6) TANK # (6)

PERMIT NUMBER	PERMIT APPROVED BY/DATE	PERMIT EXPIRATION DATE

THIS FORM MUST BE ACCOMPANIED BY A PERMIT APPLICATION - FORM A, UNLESS A CURRENT FORM A HAS BEEN FILED. FORM C MUST BE COMPLETED FOR INSTALLATIONS. THIS FORM SHOULD BE ACCOMPANIED BY A PLOT PLAN. FILE THIS FORM WITH THE LOCAL AGENCY IMPLEMENTING THE UNDERGROUND STORAGE TANK REGULATIONS

DATE: 2/26/92

TO : **Local Oversight Program**

FROM: Juliet Shin

SUBJ: **Transfer of Elligible Oversight Case**

Site name: Pacific Racing Assoc.

Address: 1100 Eastshore Highway City Albany Zip 94706

Closure plan attached? (Y) N DepRef remaining $ ~~444.25~~ 386.50

DepRef Project # 365 STID #(if any) 2612

Number of Tanks: 3 removed? (Y) N Date of removal 12/14/88

Leak Report filed? Y (N) Date of Discovery _____

Samples received? (Y) N Contamination: Soil & G.W

Petroleum (Y) N Types: Avgas Jet (leaded unleaded Diesel)
fuel oil waste oil kerosene solvents

Monitoring wells on site 1 Monitoring schedule? (Y) N

Briefly describe the following:

Preliminary Assessment Phase II Sampling Sumary, 11/88 Groundwater Monitoring 3/1/90

Remedial Action NA

Post Remedial Action Monitoring NA

Enforcement Action NA

Comments: 3 USTs, one 2,000-gallon diesel tank, one 2,000-gallon gasoline tank, and one 200-gallon gasoline tank were hauled off site. Up to 7,000 ppm of TPH and 0.43 ppm of benzene were identified in the soil samples. A groundwater monitoring well was installed on site on April 25, 1989. Benzene (3 ppb), toluene (9 ppb), and xylene (4.0 ppb) were identified from g.w. samples collected from this well in April 1989. TPH was detected in one g.w. sample at 12 ppm in Feb. 1990.

ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY
DEPARTMENT OF ENVIRONMENTAL HEALTH
HAZARDOUS MATERIALS DIVISION
470 - 27TH ST., RM. 322
OAKLAND, CA 94612
PHONE NO. 415/~~874-7237~~ 271-4320

Project # H928765

Fee Paid $60.00

Date 12/6/88

ACCEPTED BY
12/9/88
DEPARTMENT OF ENVIRONMENTAL HEALTH
470 - 27th Street, Third Floor
Oakland, CA 94612
Telephone: (415) 874-7237

These plans have been reviewed and found to be acceptable and essentially meet the requirements of State and local health laws. Changes to your plans indicated by this Department are to assure compliance with State and local laws. The proposed work detailed herein is now released for issuance of any required building permits for construction.

One copy of these accepted plans must be on the job and available to all contractors and craftsmen involved with the removal.

Any changes or alterations of these plans and specifications must be submitted to this Department and to the Fire and Building Inspection Department to determine if such changes meet the requirements of State and local laws. Notify this Department at least 48 hours prior to the following required inspections:

_____ Removal of Tank and Piping

_____ Sampling

_____ Backfilling

_____ Issuance of a permit is dependent on compliance with accepted plans and all applicable laws and regulations.

THERE IS A PENALTY FOR NOT OBTAINING THESE INSPECTIONS.

UNDERGROUND TANK CLOSURE/MODIFICATION PLANS

1. **Business Name** Pacific Racing Association

   Business Owner Kjell Qvale

2. **Site Address** Golden Gate Fields, 1100 Eastshore Freeway

   City Albany, CA **Zip** 94706 **Phone** 528-7352

3. **Mailing Address** 901 Van Ness Avenue

   City San Francisco, CA **Zip** 94109 **Phone** _____

4. **Land Owner** Santa Fe Railroad

   Address 201 Mission St. **City, State** S.F., CA **Zip** 94105

5. **EPA I.D. No.** CAC-000133877

6. **Contractor** L & W Environmental Services, INC.

   Address 2111 Jennings St.

   City San Francisco, CA 94124-3224 **Phone** 822-4555

   License Type Gen. Engr. **ID#** 507442

7. **Other (Specify)** _____

   Address _____

   City _____ **Phone** _____

8. Contact Person for Investigation

Name George Wilson Title Vice-President

Phone 822-4555

9. Total No. of Tanks at facility 3

10. Have permit applications for all tanks been submitted to this office? Yes [ ] No [ ]

11. State Registered Hazardous Waste Transporters/Facilities

a) Product/Waste Tranporter

Name Erickson, Inc. EPA I.D. No. CAD009466392

Address 255 Parr Blvd.

City Richmond State CA Zip 94801

b) Rinsate Transporter

Name Erickson, Inc. EPA I.D. No. CAD009466392

Address 255 Parr Blvd.

City Richmond State CA Zip 94801

c) Tank Transporter

Name Erickson, Inc. EPA I.D. No. CAD009466392

Address 255 Parr Blvd.

City Richmond State CA Zip 94801

d) Contaminated Soil Transporter

Name Erickson, Inc. EPA I.D. No. CAD009466392

Address 255 Parr Blvd.

City Richmond State CA Zip 94801

12. Sample Collector

Name Mark Toy

Company L & W Environmental Services

Address 2111 Jennings ST.

City San FRancisco State CA Zip 94124 Phone 822-4555

13. Sampling Information for each tank or area

Tank or Area		Material sampled	Location & Depth
Capacity	Historic Contents (past 5 years)		
2000 gal	Diesel	yes	dimensions: 75.5 x 104" tank bottom 7' below grade
2000 gal	Unleaded gasoline	yes	dimensions: 75.5 x 104" tank bottom 7' below grade
500 gal	Leaded gasoline	yes	dimensions: 45.5 x 80" tank bottom 6' below grade

14. Have tanks or pipes leaked in the past? Yes [x] No [ ]

If yes, describe. unspecified piping leak in unleaded tank detected during precision test Nov. 14. Other tanks passed.

15. NFPA methods used for rendering tank inert? Yes [x] No [ ]

If yes, describe. pump out all remaining fluid, rinse if necessary, purge with dry ice to below 10% LEL before removal.

16. Laboratories

Name Precision Analytical Laboratory, Inc.

Address 2111 Jennings St.

City San Francisco State CA Zip 94107

State Certification No. 211

17. Chemical Methods to be used for Analyzing Samples

Contaminant Sought	EPA, DHS, or Other Sample Preparation Method Number	EPA, DHS, or Other Analysis Number
Soil Samples Water Samples - (if necessary) oil + Grease	SW 846	8015 - Total Petroleum Hydrocarbons 8020 - BTX 5503 D+E

18. Site Safety Plan submitted? Yes [X] No [ ]

19. Workman's Compensation: Yes [X] No [ ]

Copy of Certificate enclosed? Yes [X] No [ ]

Name of Insurer Scottsdale Insurance & Republic Indemnity

20. Plot Plan submitted? Yes [X] No [ ]

21. Deposit enclosed? Yes [X] 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

I declare that to the best of my knowledge and belief the statements and information provided above are correct and true. I understand that information in addition to that provided above may be needed in order to obtain an approval from the Department of Environmental Health and that no work is to begin on this project until this plan is approved.

I understand that any changes in design, materials or equipment will void this plan if prior approval is not obtained.

I will notify the Department of Environmental Health at least two (2) working days (48 hours) in advance to schedule any required inspections. I understand that site and worker safety are soley the responsibility of the property owner or his agent and that this responsibility is not shared nor assumed by the County of Alameda.

Signature of Contractor

Name (please type) George J. Wilson

Signature _____

Date _____

Signature of Site Owner or Operator

Name (please type) Kjell Qvale

Signature [signature] for KJELL QVALE

Date 12/1/97

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. A copy of your approved plan must be sent to the landowner.

UNDERGROUND TANK CLOSURE/MODIFICATION PLANS

ATTACHMENT A

SAMPLING RESULTS

Tank or Area	Contaminant	Location & Depth	Results (specify units)

INSTRUCTIONS

2. SITE ADDRESS
Address at which closure or modification is taking place.

5. EPA I.D. NO.
This number may be obtained from the State Department of Health Services, 916/324-1781.

6. CONTRACTOR
Prime contractor for the project.

7. OTHER
List professional consultants here.

12. SAMPLE COLLECTOR
Persons who are collecting samples.

13. SAMPLING INFORMATION
Historic contents - the principal product(s) used in the last 5 years.

Material sampled - i.e., water, oil, sludge, soil, etc.

16. LABORATORIES
Laboratories used for chemical and geotechnical analyses.

17. CHEMICAL METHODS:
All sample collection methods and analyses should conform to EPA or DHS methods.

Contaminant - Specify the chemical to be analyzed.

Sample Preparation Method Number - The means used to prepare the sample prior to analyses - i.e., digestion techniques, solvent extraction, etc. Specify number of method and reference if not an EPA or DHS method.

Analysis Method Number - The means used to analyze the sample - i.e., GC, GC-MS, AA, etc. Specify number of method and reference if not a DHS or EPA method.

NOTE:
Method Numbers are available from certified laboratories.

18. SITE SAFETY PLAN
A plan outlining protective equipment and additional specialized personnel in the event that significant amount of hazardous materials are found. The plan should consider the availability of respirators, respirator cartridges, self-contained breathing apparatus (SCBA) and industrial hygienists.

19. ATTACH COPY OF WORKMAN'S COMPENSATION

20. PLOT PLAN

The plan should consists of a scaled view of the facility at which the tank(s) are located and should include the following information:

a) Scale

b) North Arrow

c) Property Line

d) Location of all Structures

e) Location of all relevant existing equipment including tanks and piping to be removed

f) Streets

g) Underground conduits, sewers, water lines, utilities

h) Existing wells (drinking, monitoring, etc.)

i) Depth to ground water

j) All existing tanks in addition to the ones being pulled

1/88

A-C O R D **CERTIFICATE OF INSURANCE** Date 11/30/88

PRODUCER Oper. ID SA
Cook, Disharoon & Greathouse
P.O. Box 12909
Oakland CA 94604-

This certificate is issued as a matter of information only and confers no rights upon the certificate holder. This certificate does not amend, extend or alter the coverage afforded by the policies below.

INSURED

L & W ENVIRONMENTAL SERVICES
2111 JENNINGS STREET
SAN FRANCISCO CA 94124

COMPANIES AFFORDING COVERAGE

COMPANY LETTER A: CONCO INSURANCE COMPANY
COMPANY LETTER B: REPUBLIC INDENNITY
COMPANY LETTER C:
COMPANY LETTER D:
COMPANY LETTER E:

COVERAGES

This is to certify that policies of insurance listed below have been issued to the insured named above for the policy period indicated, notwithstanding any requirement, term or condition of any contract or other document with respect to which this certificate may be issued or may pertain, the insurance afforded by the policies described herein is subject to all the terms, exclusions, and conditions of such policies.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	EFF DATE	EXP DATE	ALL LIMITS IN THOUSANDS	
A	GENERAL LIABILITY [X]COMMERCIAL GENERAL LIABILITY [X][ ]CLAIMS MADE [X]OCCURRENCE [ ]OWNER'S & CONTR. PROTECTIVE [X]XCU [X]INDEP. CONTRACT.	100173	09/23/88 / / / / / / / /	09/23/89 / / / / / / / /	GENERAL AGGREGATE PRODUCTS-COMP/OPS AGGREGATE PERSONAL&ADVERTISING INJURY EACH OCCURRENCE FIRE DAMAGE(ANY ONE FIRE) MED EXPENSE(ANY ONE PERSON)	1000 1000 1000 1000 100 5
	AUTOMOBILE LIABILITY [ ]ANY AUTO [ ]ALL OWNED AUTOS [ ]SCHEDULED AUTOS [ ]HIRED AUTOS [ ]NON-OWNED AUTOS [ ]GARAGE LIABILITY [ ]		/ / / / / / / / / / / / / /	/ / / / / / / / / / / / / /	 CSL BODILY INJURY(PER PERSON) BODILY INJURY(PER ACCIDENT) PROPERTY DAMAGE 	
	EXCESS LIABILITY [ ]UMBRELLA FORM [ ]OTHER THAN UMBRELLA FORM		/ / / /	/ / / /	 EACH OCCURRENCE AGGREGATE	
B	WORKER'S COMPENSATION AND EMPLOYER'S LIABILITY	PC 988445	01/08/88 / /	01/08/89 / /	STATUTORY 1000 (EACH ACCIDENT) 1000 (DISEASE-POLICY LIMIT) 1000 (DISEASE-EACH EMPLOYEE)	
	OTHER		/ / / /	/ / / /		

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/RESTRICTIONS/SPECIAL ITEMS

ALL CALIFORNIA LOCATIONS
CERTIFICATE HOLDER IS NAMED AS ADDITIONAL INSURED

CERTIFICATE HOLDER

PACIFIC RACING ASSOCIATION
KJELL QVALE
901 VAN NESS AVE
SAN FRANCISCO CA 94109

CANCELLATION

Should any of the above described policies be cancelled before the expiration date thereof the issuing company will endeavor to mail 10 days written notice to the certificate holder named to the left, but failure to mail such notice shall impose no obligation or liability of any kind upon the company, its agents or representatives.

AUTHORIZED REPRESENTATIVE

ACORD CERTIFICATE OF INSURANCE

ISSUE DATE (MM/DD/YY): 11-30-88

PRODUCER

CLEN HANSEN INSURANCE BROKERS, INC.
313 LENNON LANE, SUITE 100
WALNUT CREEK, CALIFORNIA 94598

CODE SUB-CODE

INSURED

AQUA SCIENCE ENGINEERS
P.O. BOX 535
SAN RAMON, CALIFORNIA 94583

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW

COMPANIES AFFORDING COVERAGE

COMPANY LETTER A: VALLEY FORGE INSURANCE CO.
COMPANY LETTER B: TRANSPORTATION INSURANCE CO.
COMPANY LETTER C: CNA CASUALTY OF CALIFORNIA
COMPANY LETTER D:
COMPANY LETTER E:

COVERAGES

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	ALL LIMITS IN THOUSANDS
	GENERAL LIABILITY				
A	X COMMERCIAL GENERAL LIABILITY	CO900507352	6-1-88	6-1-89	GENERAL AGGREGATE $ 500
	CLAIMS MADE X OCCUR.				PRODUCTS-COMP/OPS AGGREGATE $ 500
	X OWNER'S & CONTRACTOR'S PROT.				PERSONAL & ADVERTISING INJURY $ 500
					EACH OCCURRENCE $ 500
					FIRE DAMAGE (Any one fire) $ 50
					MEDICAL EXPENSE (Any one person) $ 5
	AUTOMOBILE LIABILITY				
	ANY AUTO				COMBINED SINGLE LIMIT $ 500
	ALL OWNED AUTOS				
B	X SCHEDULED AUTOS	BUA700507353	6-1-88	6-1-89	BODILY INJURY (Per person) $
	X HIRED AUTOS				
	X NON-OWNED AUTOS				BODILY INJURY (Per accident) $
	GARAGE LIABILITY				
					PROPERTY DAMAGE $
	EXCESS LIABILITY				EACH OCCURRENCE / AGGREGATE
A	X	CUP300507355	6-1-88	6-1-89	$ 2,000 / $ 2,000
	OTHER THAN UMBRELLA FORM				
	WORKER'S COMPENSATION				STATUTORY
C	AND	PWC300943199	8-15-88	8-15-89	$ 2,000 (EACH ACCIDENT)
	EMPLOYERS' LIABILITY				$ 2,000 (DISEASE—POLICY LIMIT)
					$ 2,000 (DISEASE—EACH EMPLOYEE)
	OTHER				

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/RESTRICTIONS/SPECIAL ITEMS

RE: ALL CALIFORNIA OPERATIONS

CERTIFICATE HOLDER

L & W ENVIRONMENTAL SERVICES, INC.
211 JENNINGS
SAN FRANCISCO, CA 94124

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 10 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE

FIGURE 2
GOLDEN GATE FIELDS
1100 BAYSHORE FWY.
CORPORATE YARD
ALBANY, CALIFORNIA
CA0010194

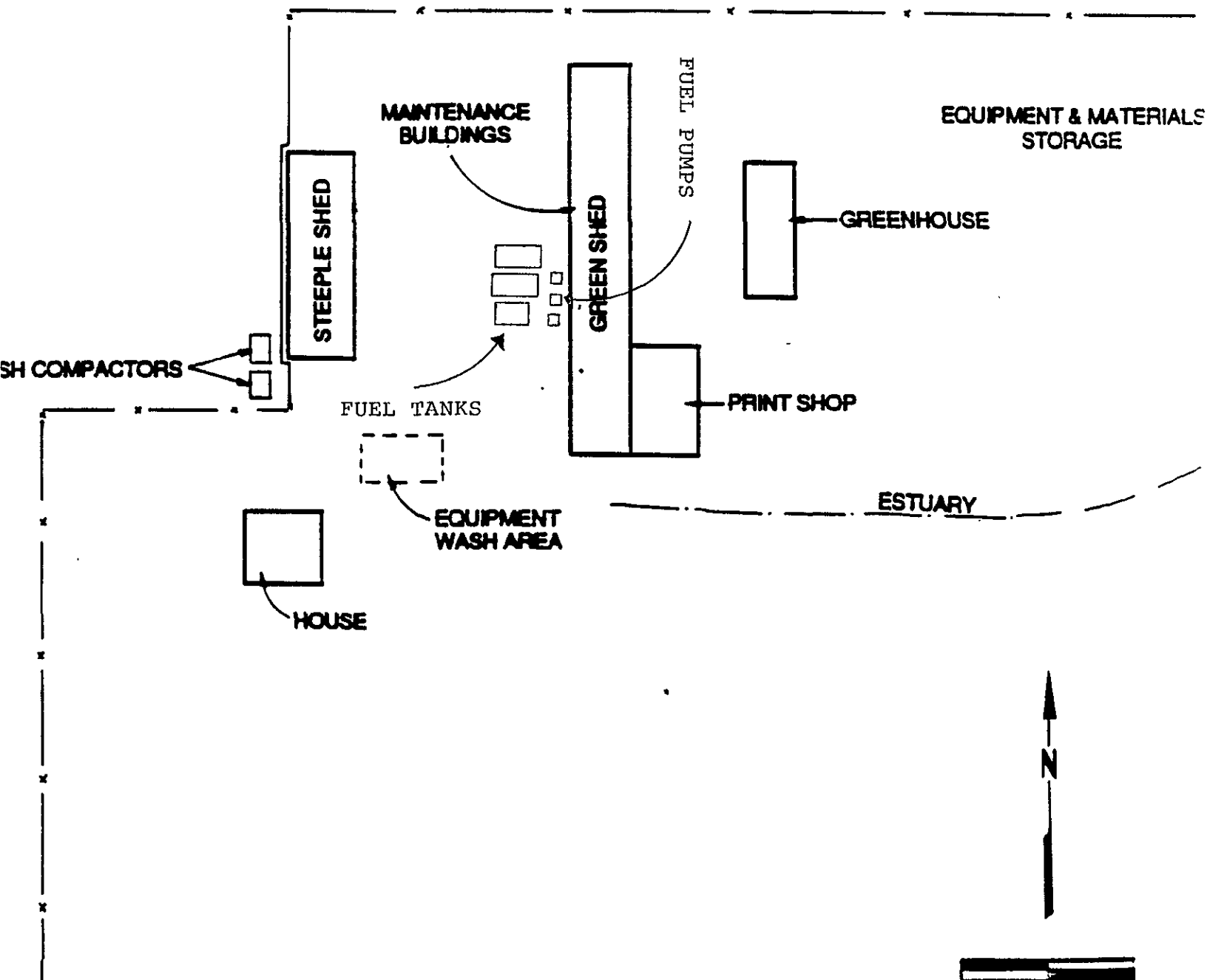
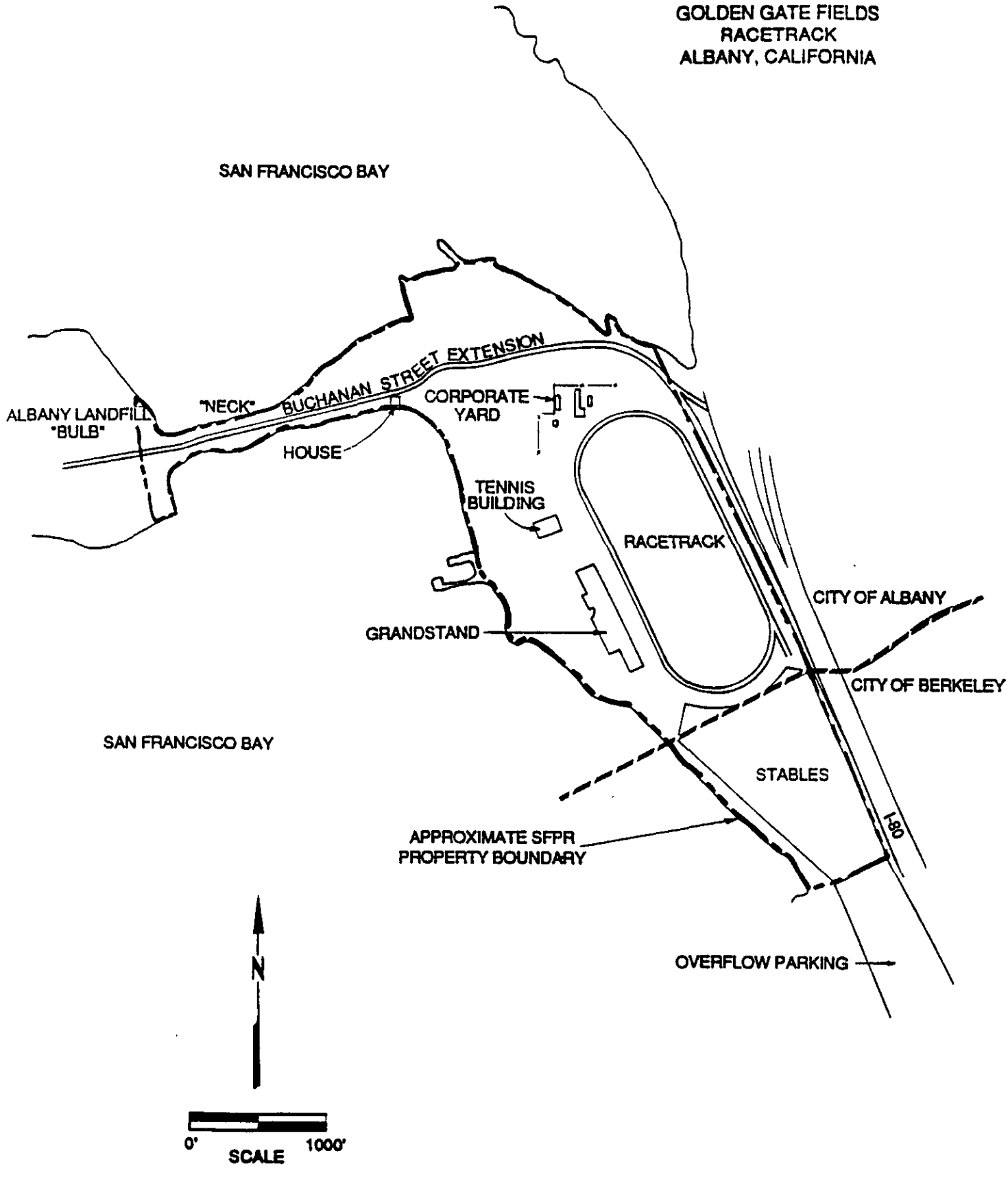


FIGURE 1
GOLDEN GATE FIELDS
RACETRACK
ALBANY, CALIFORNIA



SITE SAFETY PLAN
FLAMMABLE LIQUID STORAGE TANK REMOVAL

ADMINISTRATIVE INFORMATION

Project No. 9039 Date of Issue 12-5-88
Project Name Tank Closure, Removal
Project Manager Gary Aguiar, P.E. Business Unit L&W Environmental
SSO Rich Della Valle HSO Mark Toy

SITE INFORMATION

Location: Golden Gate Fields
Pertinent History: 1 - 2,000 gallon Diesel
1 - 2,000 gallon Unleaded Gasoline
1 - 500 gallon Gasoline

Material(s) Spilled: No apparent spills

FIELD ACTIVITIES

Empty Tanks, Purge Tanks Co^2

EMERGENCY TELEPHONE NUMBERS

Fire Dept. Albany Fire Dept. 911 or 528-5775 Project Mgr. 822-4555
Ambulance Ambulance Service 530-7678 HSO 822-4555
Hospital Alta Bates

HOSPITAL NAME, ADDRESS & ROUTE

Name: Alta Bates Address: 3001 Colby at Ashby, Berkeley, Ca. Telephone 540-1303

Route: From Golden Gate Fields--Gilman St. to Rt. 80 South, 2 miles, Ashby Exit East to Colby and Hospital

AUTHORIZED FIELD PERSONNEL

Gary Aguiar Reg. Calif. P.E.
Richard Della Valle PhD Geo Chemist
Jim Tracy Superintendent SSO
Mark Toy Industrial Hygienist

NAME OF SUBCONTRACTORS (Field Work)

Name: Erickson Telephone No. 235-1393
Address: 255 Parr Blvd., Richmond, CA
Authorized Representative: Larry Rossi

Name: Telephone
Address:
Authorized Representative:

APPROVALS

Gary Aguiar 12/6/88
Project Manager Date

Mark Toy RSO 12/6/88
HSO Date

Richard Della Valle 12/6/88
CHSO Date

S

100.0 HEALTH AND SAFETY PROCEDURES FOR FIELD INVESTIGATIONS OF UNDERGROUND SPILLS OF MOTOR OIL AND PETROLEUM DISTILLATE FUEL

100.1 PURPOSE

This operating procedure established minimum procedures for protecting personnel against the hazardous properties of motor oil and petroleum distillate fuels during the performance of field investigations of known and suspected underground releases of such materials. The procedure was developed to enable health and safety personnel and project managers to quickly prepare and issue site safety plans for investigations of such releases.

Whenever this procedure is used a Site Safety Plan form must be completed and attached; together, the completed form and this operating procedure shall comprise a site safety plan. Safety procedures for additional site activities should be attached as needed. Rules governing approval, distribution, acknowledgement of receipt of standard site safety plans are applicable whenever this procedure is used.

100.2 APPLICABILITY

This procedure is applicable to field investigations of underground releases of the substances listed below and involving one or more of the activities listed below.

Substances

Motor oil (used and unused)
Leaded and unleaded gasoline
No. 1 Fuel oil (kerosene, JP-1)
No. 1-D Fuel oil (light diesel)
No. 2 Fuel oil (home heating oil)
No. 2-D Fuel oil (medium diesel)
No. 4 Fuel oil (residual fuel oil)
No. 5 Fuel oil (residual fuel oil)
No. 6 Fuel oil (Bunker C fuel oil)
JP-3, 4 & 5 (jet fuels)
Gasahol

Activities

Collection of samples of subsurface soil with aid of truck-mounted drill rig, hand-held power auger or hand auger.

Construction, completion and testing of groundwater monitoring wells.

Collection of groundwater samples from new and existing wells.

Observing removal of underground fuel pipes and storage tanks.

This procedure must not be used for confined space entry (including trench entry) or for installing or operating pilot and full-scale fuel recovery systems.

No safety plans needed for non-intrusive geophysical surveys, reconnaissance surveys and collection of surface soil, surface water and biota.

100.3 RESPONSIBILITY AND AUTHORITY

Personnel responsible for project safety are the Business Unit Health and Safety Officer (HSO), the Project Manager (PM) and the Site Safety Officer (SSO).

The HSO is responsible for reviewing and approving site safety plans and any addenda and for advising both PM and SSO on health and safety matters. The HSO has the authority to audit compliance with the provisions of site safety plans. suspend work or modify work practices for safety reasons, and to dismiss from the site any individual whose conduct on site endangers the health and safety of others.

The PM is responsible for having site safety plans prepared and distributing them to all L&W field personnel and to an authorized representative of each firm contracted to assist with on-site work.

The PM is also responsible for ensuring that the provisions of safety plans and their addenda are carried out. This includes ensuring that all L&W field personnel have met L&W's medical examination requirements and received adequate training, an adequate supply of safety equipment is available, and the required safety reports are submitted to the HSO. The authority of the PM in matters of safety is the same as that of the HSO.

The SSO is responsible for assisting the PM with on site implementation of site safety plans. Responsibilities include:

1. Maintaining safety equipment supplies.

2. Performing or supervising air quality measurements.

3. Directing decontamination operations and emergency response operations.

4. Setting up work zone markers and signs if such zones are specified in the site safety plan.

5. Reporting all accidents, incidents and infractions of safety rules and requirements to HSO.

6. Directing other personnel to wear protective equipment when use conditions described in Section 100.5.3 are met.

The SSO may suspend work anytime he/she determines that the provisions of the site safety plan are inadequate to ensure worker safety and inform the PM and HSO of individuals who on-site behavior jeopardizes their health and safety or the health and safety of others.

100.4 HAZARD EVALUATION

Motor oil and petroleum distillate fuels are mixtures of aliphatic and aromatic hydrocarbons. The predominant classes of compounds in motor oil, gasoline, kerosene and jet fuels are the paraffins. Gasoline contains about 80 percent paraffins, 6 percent olefins, and 14 percent aromatic hydrocarbons ranging from C3 to C11 compounds. Kerosene and jet fuels contain 42-48 percent paraffins, 36-38 percent olefins, and 16-20 percent aromatic hydrocarbons. Diesel fuels and heating oils contain less than 10 percent paraffins, 14-23 percent olefins, and 68-78 percent non-volatile aromatic. These heavier fuels contain almost no volatile aromatic compounds. Chemicals are usually added to automotive and aviation fuels to improve their burning properties. Examples are tetraethyl-lead and ethylene dibromide. Most additives are proprietary materials.

Flammability

Crude oil and petroleum distillate fuels possess two intrinsic hazardous properties, namely, flammability and toxicity. The flammable property of the oil and fuels presents a far greater hazard to field personnel than toxicity because it is difficult to protect against and can result in catastrophic consequences. Being flammable, the vapors of volatile components of crude oil and the fuels can be explosive when confined.

The lower flammable or explosive limits (LFL or LEL) of the fuels listed in SEction 508.2 range from 0.6 percent for JP-5 to 1.4 percent for gasolines. LFL and LEL are synonyms. Flash points range from -50oF for gasoline to greater than 150oF for No. 6 fuel oil. JP-5 has a flash point of 140oF. Although it has a lower LEL than gasoline, it can be considered less hazardous because its vapors must be heated to a higher temperature to ignite.

Crude oil and petroleum distillate fuels will not burn in the liquid form; only the vapors will burn and only if the vapor concentration is between the upper and lower flammable limits, sufficient oxygen is present, and an ignition source is present. If these conditions occur in a confined area an explosion may result.

The probability of fire and explosion can be minimized by eliminating any one of the three factors needed to produce combustion. Two of the factors -- ignition source and vapor concentration -- can be controlled in many cases. Ignition can be controlled by prohibiting open fires and smoking on site, installing spark arrestors on drill rig engines, and turning the engines off when LELs are approached. Vapor concentrations can be reduced by using fans. In fuel tanks, vapor concentrations in the head space can be reduced by introducing dry ice (solid carbon dioxide) into the tank; the carbon dioxide gas will displace the combustible vapors.

Toxicity

Crude oil and petroleum distillate fuels exhibit relatively low acute inhalation and dermal toxicity. Gasolines act generally as an anesthetic and are mucous membrane irritants. Their hazard is high because of the ease in which harmful concentrations may develop. Inhalation is the most important route of occupational exposure. Concentrations of 160 to 270 ppm gasoline vapor have been reported to cause eye, nose and throat irritation after several hours of exposure. Levels of 500 to 900 ppm can cause irritation and dizziness in one hour, and 2000 ppm produces mile anesthesia in 30 minutes. Most fuels, particularly →
gasoline, kerosene and jet fuels are capable of causing skin irritation after several hours contact with the skin.

Petroleum fuels exhibit moderate oral toxicity. The lethal dose of gasoline in children has been reported to be as low as 10-15 grams (2-3 teaspoons). In adults, ingestion of 20-50 grams of gasoline may produce severe symptoms of poisoning. If liquid fuel is aspirated (passed in to the lungs) gasoline and other petroleum distillate fuels causes intense burning in the throat and lungs and may cause secondary pneumonia.

Some of the additives to gasoline, such as ethylene dichloride and ethylene dibromide,are highly toxic; however, they are present in

such low concentrations that their contribution to the overall toxicity of gasoline and other fuels is negligible in most instances. Tetraethyl and tetramethyl lead are so low in volatility that they usually produce little health hazard in the handling of leaded gasoline.

It is noteworthy that the concentration of aromatics in gasoline vapor is reported to be much less than the liquid, with benzene (0.7%), toluene and xylene constituting less than 3% of the total. Cal-OSHA and ACGIH has established an eight hour (time weighted average) permissible exposure limit of 300 ppm and a short term (15 minute average) exposure limit of 500 ppm for gasoline. The limit took into consideration the average concentration of benzene in gasoline (one percent) as well as its common additives. Exposure limits established by other countries range from 250 to 500 ppm. Chemical data sheets, prepared for the U.S. Coast Guard's Chemical Hazard Information System (CHRIS), list 200 ppm as the permissible exposure limit for kerosene and jet fuels. This limit was not developed by NIOSH/OSHA or ACGIH.

100.5 HEALTH AND SAFETY DIRECTIVES

100.5.1 Personnel Clearance

L&W employees assigned to field operations must

1. Be certified by a L&W-approved physician as being physically fit to wear respiratory protective devices and to perform their assigned field work.

2. Be certified by a L&W Corporate Health and Safety Officer as having successfully completed, as a minimum, L&W's basic safety training course (Level C) for field personnel or the equivalent.

100.5.2 Site-Specific Safety Briefing

Before field work beings, all field personnel, including subcontractor employees, must be briefed on their work assignments and safety procedures contained in this document. Each must be provided with a copy of this document and submit a signed safety compliance agreement to the project manager before commencing work.

Individuals refusing to sign the agreement will be prohibited from working.

100.5.3 Personnel Protective Equipment

Required Equipment

Each member of the L&W field team must be provided with the equipment listed below.

- NIOSH-approved full or half-face respirator with organic vapor cartridges (color coded black)
- Saranex or polyethylene-coated Tyvek coveralls
- Splash-proof safety goggles
- Nitrile or neoprene gloves
- Neoprene or butyl boots, calf-length with steel toe and shank
- Hardhat

Equipment Usage

Chemical-resistant safety boots must be worn during the performance of work where surface soil is obviously contaminated with oil or fuel, when product quantities of oil or fuel are likely to be encountered, and within 10 feet of operating heavy equipment.

Respirators must be worn whenever total airborne hydrocarbons levels in the breathing zone of field personnel reach or exceed a 15-minute average of 150 ppm. If total airborne hydrocarbons in the breathing zone exceeds 500 ppm, work must be suspended, personnel directed to move a safe distance from the source, and the HSO or designee consulted.

Chemical resistant gloves must be worn whenever soil or water known or suspected of containing petroleum hydrocarbons is collected or otherwise handled.

Chemical resistant coveralls must be worn whenever product quantities of fuel are actually encountered and when oil or fuel-saturated soil is handled.

Safety goggles must be worn when working within 10 feet of any operating heavy equipment (e.g., drill rig, backhoe). Splash-proof goggles or face shields must be worn whenever product quantities of oil or fuel are encountered.

Hardhats must be worn when working within 10 feet of an operating drill rig, backhoe or other heavy equipment.

Operators of some facilities, such as refineries, often require all personnel working within facility boundaries to wear certain specified safety equipment. Such requirements shall be strictly

observed by L&W personnel and its subcontractors.

100.5.4 Vapor Monitoring

Required Equipment

--- Organic vapor meter with flame or photoionization detector
--- Combustible gas meter

Monitoring Requirements and Guidelines

Vapor monitoring shall be performed as often as necessary and whenever necessary to protect field personnel from hazardous vapors. Monitoring must be performed by individuals trained in the use and care of the monitoring equipment.

During drilling operations, vapor emissions from boreholes must be measured whenever the auger is removed from the boring and whenever flights are added or removed from hollow-stem augers. This requirement does not apply to borings less than five feet deep and borings of any depth made to install monitoring wells in uncontaminated soils. Measurements should be made initially with an organic vapor meter, followed with a combustible gas meter if vapor levels exceed the highest concentration measurable with the organic vapor meter.

Initially measurements shall be made about 12 inches from the bore hole, both upwind and downwind positions. If the total hydrocarbon concentrations exceed the respirator use action level (See Section 100.5.3), measurements must be made in the breathing zone of the individual(s) working closest to the borehole. Decisions regarding respiratory protection should be made using vapor concentrations in the breathing zone.

If total organic vapor concentrations within 12 inches of the borehole exceed the capacity of the organic vapor meter, a combustible gas meter (CGM) must be used to determine if explosive conditions exist. Operations must be suspended, the drill rig motor shut down, and corrective action taken if combustible gas concentrations reach 40 percent of LEL within a 12-inch radius of the borehole or 10 percent of LEL at a distance greater than 24 inches from the borehole. This procedure must also be followed whenever the organic vapor meter goes offscale at its highest range and no CGM is available. If corrective action cannot be taken, field personnel and all other individuals in the vicinity of the borehole must be directed to move to a safe are and the local fire department and facility management must be alerted.

Organic vapor meters with flame ionization detectors (FID) are much more sensitive to paraffins, with the major component of gasoline, kerosene, and jet fuels, then are meters with 10.0 or 10.2 eV

photoionization detectors. As the data in Table 1 show, an FID instrument, such as the Century Systems OVA (Foxboro Analytical), will detect 70-90 percent of actual paraffin concentrations, whereas PID instruments, such as the HNU Model PI-101, AID Model 580, and Photovac TIP with 10.0 to 10.2 eV lamp will detect only 17-25 percent of actual paraffin concentrations when calibrated with benzene and only 24-35 percent when calibrated with isobutylene. Both types of meters are equally sensitive to most aromatic, including benzene, toluene, xylene and ethylbenzene. For these compounds, meter readings equal or exceed 100 percent of actual concentrations. PIDs with 11.7 eV lamps are extremely sensitive to paraffins and aromatic. When calibrated to isobutylene, an 11.7 eV PID will register about twice actual paraffin concentrations and 100 percent or more of actual concentrations of benzene, toluene, and xylene.

An FID meter, recently calibrated with methane and in good working condition, can be expected to provide readings close enough to actual petroleum hydrocarbon concentrations to make corrections unnecessary. Value obtained with a PID must be corrected when measuring for paraffins. For 10.0 and 10.2 eV PIDs, the meter reading should be multiplied by 5 if the instrument is calibrated with benzene. If the instrument is calibrated with isobutylene, the meter readings should be multiplied by 3. If the instrument is equipped with an 11.7 eV probe and is calibrated with isobutylene, the meter reading should be divided by 2.

100.5.5 Area Control

Access to hazardous and potential hazardous areas of spill sites must be controlled to reduce the probability of occurrence of physical injury and chemical exposure of field personnel, visitors and the public. A hazardous or potentially hazardous area includes any area where

1. Field personnel are required to wear respirators.

2. Borings are being drilled with powered augers.

3. Excavating operations with heavy equipment are being performed.

The boundaries of hazardous and potentially hazardous areas must be identified by cordons, barricades, or emergency traffic cones or posts, depending on conditions. If such areas are left unattended, signs warning of the danger and forbidding entry must be placed around the perimeter if the areas are accessible to the public. Trenches and other large holes must be guarded with wooded or metal barricades spaced no further than 20 feet apart and connected with yellow or yellow and black nylon tape not less and 3/4-inches wide. The barricades must be placed no less than two feet from the edge of the excavation or hole.

Entry to hazardous areas shall be limited to individuals who must work in those areas. Unofficial visitors must not be permitted to enter hazardous areas while work in those areas is in progress. Official visitors should be discouraged from entering hazardous areas, but may be allowed to enter only if they agree to abide by the provisions of this document, follow orders issued by the site safety officer and are informed of the potential dangers that could be encountered in the areas.

Field personnel must maintain a safe distance from heavy equipment and excavations when tanks are being physically removed from an excavation and loaded onto a transport vehicle. Tanks must be placed securely on the ground and stabilized to prevent rolling before field personnel may attempt to remove excess soil. Field personnel under no circumstances shall descend into an excavation greater than four feet. unless adequate shoring is provided.

100.5.6 Decontamination

Field decontamination of personnel and equipment is not required except when contamination is obvious (visually or by odor). Recommended decontamination procedures follow:

Personnel

Gasoline, kerosene, jet fuel, heating oil, gasahol and diesel oil should be removed from skin using a mild detergent and water. Hot water is more effective than cold. Liquid dishwashing detergent is more effective than hand soap. Motor oil and the heavier fuel oils (No. 4-6) can be removed with dishwashing detergent and hot ware also; however, if weathered to an asphaltic condition, mechanic's waterless hand cleaner is recommended for initial cleaning followed by detergent and water.

Equipment

Gloves, respirators, hardhats, boots and goggles should be cleaned as described under personnel; however, if boots do not become clean after washing with detergent and water, wash them with a strong solution of trisodium phosphate and hot water and, if this fails, clean them with diesel oil followed by detergent and water to remove diesel oil.

Sampling equipment, augers, vehicle undercarriages and tires should be steam cleaned. The steam cleaner is a convenient source of hot water for personnel and protective equipment cleaning.

100.5.7 Smoking

Smoking and open flames are strictly prohibited at sites under

investigation.

100.5.8 Inerting of Tanks

Whenever L&W personnel must be present during removal or transport of fuel storage tanks, the SSO or designee must determine whether or not the procedures to be used by the firm responsible for tank removal/transport agree with procedures recommended by the America Petroleum Institute (attached). If the firm's procedures, especially those addressing removal/inactivation of flammable vapors, disagree substantially with API's procedures, the PM and HSO must be notified immediately (by telephone if possible). In turn, the PM shall inform the client that L&W personnel will not report to the site during tank removal/transport operations unless proper procedures are used. If the firm responsible for tank removal/transport is under subcontract to L&W it must be required to follow API procedures.

100.5.8 Reporting

Site Safety Plan Form must be completed and delivered to the HSO for each accident or incident involving L&W personnel. The form is available from the HSO.

The Site Safety Officer shall prepare a safety completion report after field work has been completed and deliver it to the HSO. The report shall contain and evaluation of the adequacy of the safety plan, summaries of each accident and safety incident, including safety infractions by site personnel (subcontractors included), air quality monitoring data (if collected) and description of decisions based on them, and recommendation for improving safety at similar sites.

TABLE 1
RELATIVE SENSITIVITIES OF FID AND PID INSTRUMENTS TO SELECTED COMPONENTS OF OILS AND PETROLEUM DISTILLATE FUELS

Component	Sensitivity in Percent of Standard FID	PID 10.2 eVa	PID 11.7 eVb
Paraffins			
Pentane	65	--	141
Hexane	70	22 (31)	189
Heptane	75	17 (24)	221
Octane	80	25 (35)	--
Nonane	90		--
Decane	75	--	--
Napthenes			
Cyclopentane	--	--	--
Methylcyclopentane	80	--	--
Cyclohexane	85	34 (40)	--
Methylcyclohexane	100	--	--
Aromatic			
Benzene	150	100 (143)	122
Toluene	110	100 (143)	100
Ethylbenzene	100	--	--
p-Xylene	116	114 (60)	--
Cumene	100	--	--
n-Propylbenzene	--	--	--
Napthaeine	--	--	--

a Values are relative to benzene standard. Values in parentheses are relative to isobutylene standard and were calculated.

b Values are relative to isobutylene standard.

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