

**REPLY MESSAGE SET**

Alameda County Health Care Services Agency  
Department of Environmental Health  
Hazardous Material Division  
80 Swan Way, Room 200  
Oakland, CA 94621

RETURN TO

**PELLEGRINI REFRIGERATION  
AND RESTAURANT EQUIPMENT**  
1550 PARK AVE., EMERYVILLE, CA 94608  
PHONE (415) 653-9850  
1617 HARRISON ST., SAN FRANCISCO, 94103  
PHONE (415) 626-5822

**MESSAGE**

**Subject** Tank Closure Report & Workplan For  
Groundwater Monitoring & Well  
Installation

**Date** 5-18-94

--FOLD

*STD 4042*

Enclosed is the above report.

ALCO  
HAZMAT  
91 MAY 23 AM 8:03

Enclosure

*Frances Foster*  
By Frances Foster

**REPLY**

Date By

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94 MAY 23 AM 8:03

371D 4042

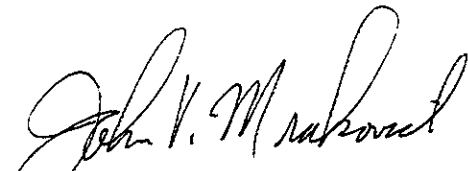
TANK CLOSURE REPORT  
AND WORKPLAN FOR  
GROUNDWATER MONITORING  
WELL INSTALLATION

PELLEGRINI REFRIGERATION  
& RESTAURANT EQUIPMENT CO.  
1550 PARK AVENUE  
EMERYVILLE, CA 94608

Prepared For:  
MR. JOHN PELLEGRINI  
PELLEGRINI REFRIGERATION  
& RESTAURANT EQUIPMENT CO.  
1550 PARK AVENUE  
EMERYVILLE, CA 94608

Submitted By:  
TANK PROTECT ENGINEERING  
Of Northern California, Inc.  
May 9, 1994

Project #294

  
John V. Mrakovich, Ph.D.  
Registered Geologist



TANK CLOSURE REPORT  
AND WORKPLAN FOR  
GROUNDWATER MONITORING  
WELL INSTALLATION

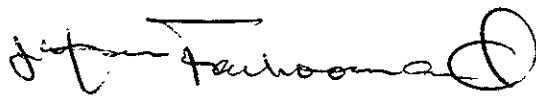
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May 9, 1994

This report has been prepared by the staff of **Tank Protect Engineering of Northern California, Inc.** under direction of an Engineer and/or Geologist whose seal(s) and/or signature(s) appear hereon.

The findings, recommendations, specifications or professional opinions are presented, within the limits prescribed by the client, after being prepared in accordance with generally accepted professional engineering and geologic practice. We make no other warranty, either expressed or implied.

  
Jeff J. Farhoomand, M.S.  
Civil Engineer

## TABLE OF CONTENTS

1.0 INTRODUCTION .....	1
2.0 TANK REMOVAL .....	1
2.1 Soil Sampling .....	2
2.2 Groundwater Sampling .....	3
2.3 Results of Chemical Analyses .....	4
2.4 Underground Storage Tank Unauthorized Release (Leak)/Contamination Site Report .....	4
3.0 DISPOSITION OF EXCAVATION AND STOCKPILED SOIL .....	5
4.0 PROPOSED WORKPLAN FOR A GROUNDWATER INVESTIGATION .	5
4.1 Predrilling Activities .....	6
4.2 Soil Boring and Sampling Procedures .....	6
4.2.1 Soil Sample Selection for Chemical Analyses .....	7
4.2.1.1 Chemical Analyses .....	8
4.3 Groundwater Monitoring Well Installation .....	8
4.4 Groundwater Monitoring Well Development .....	9
4.5 Groundwater Monitoring Well Sampling .....	10
4.5.1 Chemical Analyses .....	10
4.6 Preliminary Site Assessment Report .....	11
5.0 SITE SAFETY PLAN .....	11
6.0 TIME SCHEDULE .....	11

## FIGURE

### 1. SITE PLAN

## TABLES

1. SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS
2. SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS

## APPENDICES

- A. . ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY,  
DEPARTMENT OF ENVIRONMENTAL HEALTH, HAZARDOUS  
MATERIALS DIVISION, UNDERGROUND TANK CLOSURE PLAN
- . BAY AREA AIR QUALITY MANAGEMENT DISTRICT, NOTIFICATION  
FORM
- . ALAMEDA COUNTY, DEPARTMENT OF ENVIRONMENTAL HEALTH,  
HAZARDOUS MATERIALS INSPECTION FORM
- . UNIFORM HAZARDOUS WASTE MANIFEST
- . H&H ENVIRONMENTAL SERVICES, CERTIFICATE OF DISPOSAL
- . UNDERGROUND STORAGE TANK UNAUTHORIZED RELEASE  
(LEAK)/CONTAMINATION SITE REPORT
- . REDWOOD LANDFILL RECEIPTS
- B. SAMPLE HANDLING PROCEDURES
- C. CERTIFIED ANALYTICAL REPORTS AND CHAIN-OF-CUSTODY  
DOCUMENTATION
- D. HOLLOW-STEM AUGER DRILLING AND SOIL SAMPLING PROCEDURES
- E. WASTE HANDLING AND DECONTAMINATION PROCEDURES
- F. GROUNDWATER MONITORING WELL CONSTRUCTION PROCEDURES
- G. GROUNDWATER MONITORING WELL DEVELOPMENT PROCEDURES
- H. GROUNDWATER MONITORING WELL SAMPLING PROCEDURES
- I. QUALITY ASSURANCE AND QUALITY CONTROL PROCEDURES
- J. SITE SAFETY PLAN

## 1.0 INTRODUCTION

The site is located at 1550 Park Avenue in the City of Emeryville in Alameda County, California. Tank Protect Engineering of Northern California, Inc. (TPE) was contracted by Pellegrini Refrigeration & Restaurant Equipment Co. [(PRRE), site contact person is Mr. John Pellegrini (510) 653-9850] to remove 1 underground gasoline storage tank. Chemical analyses of soil and groundwater samples collected during removal of the underground storage tank detected petroleum hydrocarbon contamination in the groundwater. As a result of the contamination, the Alameda County Health Care Services Agency (ACHCSA) has required a groundwater investigation to determine the vertical and lateral extent of groundwater contamination and suggested that the investigation may consist of installing 1 groundwater monitoring well in the verified downgradient direction (of groundwater flow) from the former tank location. This report/workplan documents tank closure activities at the subject site and provides a workplan to install a groundwater monitoring well in accordance with the ACHCSA's requirements.

## 2.0 TANK REMOVAL

Prior to beginning tank removal activities, TPE obtained an acceptance of an Underground Tank Closure Plan from the ACHCSA on December 6, 1993, and notified the Bay Area Air Quality Management District [BAAQMD (see Appendix A)] on January 3, 1994.

On January 10, 1994, TPE removed approximately 100 gallons of product from the underground gasoline storage tank. The product was stored on site in labeled 55-gallon drums. Questions regarding the final disposition of the removed product should be directed to PRRE.

Tank removal activities began on January 10, 1994 with the removal of 6 to 8 inches of concrete overlying the tank. The tank was removed from the excavation by excavating about 11 cubic yards (cyds) of clayey soil which were stockpiled on site and covered with plastic. The excavated soil contained apparent hydrocarbon contamination based on visible hydrocarbon staining and odor.

The excavation was rectangular shaped, having a total length of approximately 18 feet and a width of about 6.5 feet (see Figure 1), and reached a maximum depth of about 7 feet.

Groundwater, having a hydrocarbon odor, was present at about 6 feet below ground surface.

On January 10, 1994, TPE removed one 1,500-gallon gasoline, underground storage tank and associated piping from the subject site (see Figure 1). The tank was purged of flammable vapors by displacement with dry ice as indicated by a combustible gas indicator (Gastech model 1314). After being hoisted from the excavation, the tank was visually examined and appeared in good condition. One small pin hole was observed in the middle of the tank (see ACHCSA Hazardous Materials Inspection Form in Appendix A).

After removal, the tank was transported off site by H&H Ship Service Company (H&H) as hazardous waste under Uniform Hazardous Waste Manifest, State Manifest Document Number 92218811 (see Appendix A) to H&H located at 220 China Basin Street in San Francisco, California. H&H rendered the tank harmless and disposed of the tank as scrap metal at Schnitzer Steel located in Oakland, California.

Tank removal and subsequent soil and groundwater sampling were conducted in accordance with the California Regional Water Quality Control Board (CRWQCB)-San Francisco Bay Region's "Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites", dated August 10, 1990, and under supervision of representatives of the ACHCSA and the EFD.

## 2.1 Soil Sampling

Two discrete soil samples, S-1 and S-2, were collected for chemical analysis from native soil from beneath the ends of the underground storage tank at depths of about 5 feet (see Figure 1). The samples were collected about 1 to 2 feet into native soil immediately above the groundwater's surface by excavating the soil with an excavator

bucket and collecting a soil sample by driving a clean 2-inch diameter by 6-inch long brass tube into the bucket with a slide-hammer corer.

Stockpile sample STK-1,2,3 was collected as discrete samples for laboratory compositing, such that 3 discrete samples were composited into 1 sample per 50 cyds, for stockpile characterization. These samples were collected from the middle of the stockpile after removing approximately 1.5 feet of overburden soil to expose a fresh surface.

After collecting the soil samples, the brass tube ends were covered with Teflon sheeting and capped with plastic end-caps. The samples were labeled to show site address, project number, sample number, sample depth, date, time, sampler name; and stored in individual plastic bags in an iced cooler for transport to California State Department of Health Services (DHS) certified Priority Environmental Labs (PRIORITY) located in Milpitas, California accompanied by chain-of-custody documentation (see Appendix B for TPE's protocol relative to sample handling procedures).

All soil samples were analyzed for total petroleum hydrocarbons as gasoline (TPHG) and for benzene, toluene, ethylbenzene, and xylenes (BTEX) by DHS Method 5030/8015 and the United States Environmental Protection Agency (EPA) Method 8020, respectively. One discrete sample, S-2, was additionally analyzed for total lead by EPA Method 7420.

## 2.2 Groundwater Sampling

On January 11, 1994, TPE removed approximately 110 gallons of groundwater from the tank excavation. On January 12, 1994, "grab" groundwater sample WS-1 was collected from the excavation at the location shown in Figure 1. On February 16, 1994, an additional "grab" groundwater sample, WS-1A, was collected (as requested by the client) to verify the previous results. Both groundwater sampling events were conducted under the supervision of a representative from the ACHCSA. Questions regarding the disposition of the purged water should be directed to PRRE.



The samples were collected in a dedicated bailer and stored in two 40-milliliter vials having Teflon-lined caps. The vials were stored in an iced-cooler for transport to PRIORITY accompanied by chain-of-custody documentation.

The groundwater samples were analyzed for TPHG and BTEX by DHS Method 5030/8015 and EPA Method 602, respectively.

### 2.3 Results of Chemical Analyses

All analytical results for discrete sample S-1 were nondetectable. Total lead was detected in discrete sample S-2 at a concentration of 9.3 parts per million (ppm); all other analytical results were nondetectable. TPHG and BTEX were detected in stockpile sample STK-1,2,3 at concentrations of 39 ppm, .051 ppm, .086 ppm, .061 ppm, and .250 ppm, respectively.

Groundwater samples WS-1 and WS-1A detected TPHG at concentrations of 2,700 parts per billion (ppb) and 690 ppb, respectively. BTEX chemicals were also detected at concentrations of 24 ppb, 24 ppb, 20 ppb, and 61 ppb in sample WS-1, and 5.6 ppb, 5.7 ppb, 1.6 ppb, and 18 ppb in sample WS-1A, respectively.

Analytical results for soil and groundwater samples are summarized in Tables 1 and 2, respectively, and documented with certified analytical reports and chain-of-custodies in Appendix C.

### 2.4 Underground Storage Tank Unauthorized Release (Leak)/Contamination Site Report

Because of the above analytical results, an Underground Storage Tank Unauthorized Release (Leak)/Contamination Site Report was prepared for the ACHCSA (see Appendix A).

### 3.0 DISPOSITION OF EXCAVATION AND STOCKPILED SOIL

On March 10, 1994, TPE cleaned the sidewalls of the excavation and disposed of approximately 16 cyds of contaminated soil at Redwood Landfill located in Novato, California, for PRRE (see Redwood Landfill's receipt in Appendix A). On March 10, 1994, TPE backfilled the excavation to .50 feet of ground surface with pea gravel and Class II aggregate base. The remaining 6 inches were filled with concrete.

### 4.0 PROPOSED WORKPLAN FOR A GROUNDWATER INVESTIGATION

As a preliminary investigation of groundwater contamination, TPE proposes to install 1 groundwater monitoring well in the estimated downgradient direction of the former underground gasoline tank (see Figure 2) based on gradient information obtained from a review of the CRWQCB's and/or ACHCSA's files. ✓

TPE proposes the following scope of work:

- . Conduct a subsurface utility survey, if necessary, and contact Underground Service Alert to minimize the potential of encountering unexpected utilities and to assist in selecting a location for installing a groundwater monitoring well.
- . Obtain a well installation permit.
- . Drill a soil boring for installing a groundwater monitoring well.
- . Collect soil samples from the boring at approximately 5-foot depth intervals, changes in lithology, and occurrence of apparent soil contamination for construction of a boring log and for potential chemical analysis.
- . At a minimum, analyze the vadose zone soil sample nearest to groundwater for TPHG and BTEX.
- . Convert the boring into a 2-inch diameter casing groundwater monitoring well. ✓

- . Develop, purge, and sample groundwater from the well.
- . Analyze the groundwater sample and 1 trip blank sample for TPHG and BTEX.
- . Prepare a Preliminary Site Assessment Report (PSAR).

Details of the proposed scope of work are presented below.

#### 4.1 Predrilling Activities

Before commencing drilling activities, TPE will obtain a well installation permit from the Alameda County Flood Control and Water Conservation District, Water Resources Management Zone 7 and visit the site to select the proposed soil boring location. TPE will conduct a subsurface utility survey, if necessary, and contact Underground Service Alert to minimize the potential of encountering unexpected utilities and to assist in selecting the monitoring well location.

The location of the proposed monitoring well will be within 10 feet and in the estimated downgradient direction of the former underground tank location according to recommendations in the CRWQCB "Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Tank Sites", dated August 10, 1990. The location of the well will be based on groundwater gradient information obtained from the CRWQCB and/or ACHCSA and will be approved by the ACHCSA.

#### 4.2 Soil Boring and Sampling Procedures

The exploratory boring for the monitoring well will be drilled by a State of California licensed water well driller (C-57 Water Well Driller contractor's license) using 8-inch diameter, hollow-stem, auger drilling equipment. The augers will be steam-cleaned before drilling the boring to minimize the potential of introducing off-site contamination to the boring. Representative soil samples will be collected for chemical analysis in the vadose zone at approximately 5-foot depth intervals below the ground surface, at

changes in lithology, and the occurrence of apparent hydrocarbon contamination by advancing a California split-spoon sampler, equipped with 2-inch diameter by 6-inch long brass tubes, into the undisturbed soil beyond the tip of the augers. The sampling equipment will be cleaned before each sampling event by washing with a trisodium phosphate solution and rinsing in tap water.

Drill cuttings will be stored on site, contained in 55-gallon steel drums. The stored cuttings will be labeled to show contents, date stored, suspected contaminant, expected date of removal, company name, contact person, and telephone number. Disposal of the cuttings is the responsibility of the client. After the cuttings are characterized by chemical analysis, TPE will provide recommendations to the client and, upon their request, assist them in remediation or disposal of the cuttings, or both in an appropriate manner as an additional work item.

A detailed boring log will be prepared from auger return material and split-spoon samples. The soil will be logged according to the Unified Soil Classification System under the direction of a California Registered Geologist.

See Appendices D and E for TPE's protocols relative to hollow-stem auger drilling and soil sampling procedures, and waste handling and decontamination procedures, respectively.

#### 4.2.1 Soil Sample Selection for Chemical Analyses

All vadose zone soil samples will be field-screened for the presence of apparent hydrocarbon soil contamination based on visible hydrocarbon stains, odors, and headspace analysis for volatile organic compounds using a Gastech, Inc. Trace-Techtor hydrocarbon vapor tester (HVT). Headspace analysis will be conducted by partially filling a quart-size plastic bag with a soil sample, sealing the bag air tight, and warming the bag to promote volatilization of hydrocarbons, if any, into the air space of the bag. After a minimum of about 15 minutes of warming, the air space of the bag will be sampled by the HVT and the response recorded in ppm.

Samples containing apparent hydrocarbon contamination will be selected for chemical analysis. If no apparent contamination is detected, the sample nearest to groundwater will be selected for chemical analysis.

Selected samples will be preserved in their tubes by quickly covering the open ends with Teflon sheeting followed by plastic end-caps. The tubes will be labeled to show site name, project number, date and time collected, sample name and depth, and sampler name; sealed in quart-size plastic bags; and placed in an iced-cooler for transport to a DHS certified laboratory accompanied by chain-of-custody documentation (see Appendix B for TPE's protocol relative to sample handling procedures).

#### 4.2.1.1 Chemical Analyses

Soil samples are proposed to be analyzed for TPHG and BTEX by the DHS Method and EPA Method 8020, respectively.

#### 4.3 Groundwater Monitoring Well Installation

Based on an estimated depth of about 8 feet to groundwater, the exploratory boring is proposed to be drilled to a depth of about 20 feet. The boring will be converted into a groundwater monitoring well by installing 2-inch diameter, flush-threaded, schedule 40, polyvinyl chloride (PVC) casing and 0.010-inch machine-slotted screen. Slot size is based on the finest-grained aquifer material estimated to be a clayey silt or silty clay. The exact depth of the boring and screen length will be determined by the geologic profile, depth of groundwater, and whether the groundwater is confined or unconfined. If groundwater is unconfined, the screen is proposed to extend about 2 feet above and about 10 feet below the water table surface. The length of screen below the water table surface may be less than 10 feet if an aquiclude/aquitard is encountered. If groundwater is confined, the screen length will extend from the upper contact of the aquifer to a maximum depth of 10 feet. If the aquifer is less than 10 feet thick, the screen length will equal the thickness of the aquifer. A sand pack of #2/16 filter sand will be placed in the annular space from the bottom of the boring to a maximum of 1 foot above the top of the screened interval. Approximately 1 foot

of bentonite will be placed above the sand pack followed by a cement seal. A traffic rated, bolt-locked, vault box will be set in concrete to protect the well. A locking well cap with lock will be installed on the well casing.

Appendix F documents TPE's protocol relative to groundwater monitoring well construction procedures.

#### 4.4 Groundwater Monitoring Well Development

The groundwater monitoring well will be developed a minimum of 48 hours after well construction is completed. Before development, depth to water will be measured from the top-of-casing (TOC) to the nearest 0.01 foot using an electronic Solinst water level meter. A minimum of 3 repetitive measurements will be made for each level determination to ensure accuracy. The well will be checked for floating product using a dedicated polyethylene bailer. If floating product is present, the thickness of product in the bailer will be measured and recorded to the nearest .05 inch. TPE will recommend to the client that removal of floating product should commence as soon as possible.

The well will be developed by using a 1.7-inch, positive displacement, PVC hand pump or by bailing with a PVC bailer until the well is free of sand, silt, and turbidity or no further improvement is apparent.

Development water will be stored on site in 55-gallon steel drums labeled to show contents, date filled, suspected contaminant, company name, contact person, and telephone number. Disposal of the drummed water is the responsibility of the client. After the water is characterized by chemical analysis, TPE will provide recommendations to the client and, upon their request, assist them in remediation or disposal of the fluids, or both in an appropriate manner as an additional work item.

Appendix G documents TPE's protocol relative to groundwater monitoring well development procedures.

## 4.5 Groundwater Monitoring Well Sampling

After a minimum of 48 hours after well development, depth to stabilized water will be measured and recorded as discussed above under section 4.4 Groundwater Monitoring Well Development and the well will be sampled.

Prior to sampling, the well will be purged a minimum of 3 wetted well volumes with a polyethylene bailer. Temperature, pH, and electrical conductivity will be monitored and purging will continue until they are stabilized. After purging is completed, turbidity will be measured and the water sample will be collected in sterilized glass vials having Teflon-lined screw caps, immediately sealed in the vials, and labeled to include: date, time, sample location, project number, and sampler name. The sample will be immediately stored in an iced-cooler for transport to a DHS certified laboratory accompanied by chain-of-custody documentation.

Appendix H documents TPE's protocol relative to groundwater monitoring well sampling procedures. Appendices E and I document TPE's protocols relative to waste handling and decontamination procedures, and quality assurance and quality control procedures (QA/QC).

Purge water will be stored on site in 55-gallon drums. After the drummed water is characterized by chemical analysis, TPE will provide recommendations to the client and, upon their request, assist them in remediation or disposal of the fluids, or both in an appropriate manner as an additional work item.

### 4.5.1 Chemical Analyses

The water samples are proposed to be analyzed for TPHG and BTEX by the DHS Method and EPA Method 602, respectively.

#### 4.6 Preliminary Site Assessment Report

The information collected, analytical results, and TPE's conclusions and recommendations will be summarized in a report. The report will describe the work performed and include: copies of all required permits, an area map, a detailed site plan showing location of the installed monitoring well, a graphic boring log, a graphic monitoring well construction detail, tables summarizing results of chemical analyses, and copies of certified analytical reports and chain-of-custodies.

Conclusions regarding the extent and type(s) of contamination will be presented within the context of this workplan. Recommendations for feasible remedial alternatives and/or supplemental sampling and analyses will be included.

#### 5.0 SITE SAFETY PLAN

A Site Safety Plan for conducting work under this workplan is included in Appendix J.

#### 6.0 TIME SCHEDULE

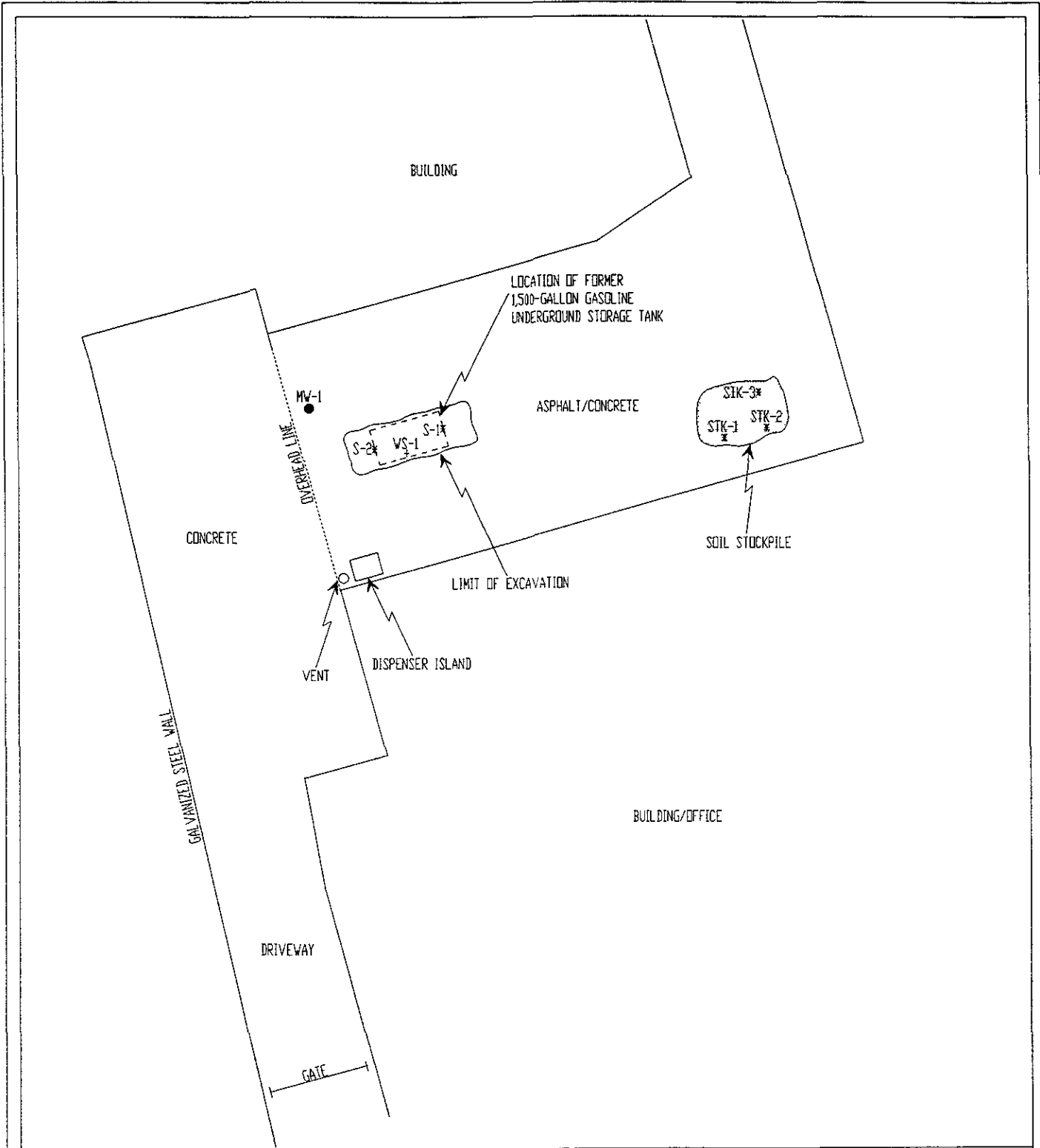
The projected time schedule for implementation of the activities described in this workplan is presented below. The schedule reflects a relatively problem-free program. However, delays in the workplan review, permitting, or laboratory analyses could lengthen the project schedule. Access difficulties, adverse weather, and regulator review could also delay the proposed time schedule. TPE will make every effort to adhere to the project schedule.

Week 1: Client Submits Workplan for Regulator Approval.

Week 2: Regulator Approval Received; Subcontracting, Conduct Underground Utility Survey, if necessary.

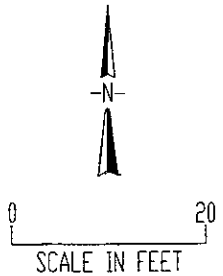


- Week 3: Install 1 Groundwater Monitoring Well and Submit Soil and Groundwater Samples for Chemical Analyses.
- Week 5: Receive Chemical Analyses, Interpret Data and Write PSAR.
- Week 8: Submit PSAR to Client.



LEGEND

- S-1 \* NAME AND LOCATION OF SOIL SAMPLE
- WS-1 + NAME AND LOCATION OF WATER SAMPLE
- MW-1 • NAME AND LOCATION OF PROPOSED GROUNDWATER MONITORING WELL



TANK PROTECT ENGINEERING

SITE PLAN

PELEGRINI REFRIGERATION & RESTAURANT EQUIPMENT CO. 1550 PARK AVENUE EMERYVILLE, CA 94608	DATE	5/6/94
	FIGURE	1
	FILE #	294-2
	DRAWN BY	MT
	CHECKED BY	LH

TABLE 1  
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS  
(ppm<sup>1</sup>)

Sample ID Name	Date	Depth (Feet)	TPHG	Benzene	Toluene	Ethyl-Benzene	Xylenes	Total Lead
S-1	01/10/94	5.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	NA <sup>2</sup>
S-2	01/10/94	5.0	<1.0	<0.0050	<0.0050	<0.0050	<0.0050	9.3
STK-1,2,3	01/10/94	1.5-2.0	39.0	0.051	0.086	0.061	0.250	NA

<sup>1</sup> PARTS PER MILLION

<sup>2</sup> NOT ANALYZED

TABLE 2  
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS  
(ppb<sup>1</sup>)

Sample ID Name	Date	TPHG	Benzene	Toluene	Ethyl-Benzene	Xylenes
WS-1	01/12/94	2,700	24	24	20	61
WS-1A	02/16/94	690	5.6	5.7	1.6	18

<sup>1</sup> PARTS PER BILLION

## APPENDIX A

- . ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY,  
DEPARTMENT OF ENVIRONMENTAL HEALTH, HAZARDOUS  
MATERIALS DIVISION, UNDERGROUND TANK CLOSURE PLAN
- . BAY AREA AIR QUALITY MANAGEMENT DISTRICT, NOTIFICATION  
FORM
- . ALAMEDA COUNTY, DEPARTMENT OF ENVIRONMENTAL HEALTH,  
HAZARDOUS MATERIALS INSPECTION FORM
- . UNIFORM HAZARDOUS WASTE MANIFEST
- . H&H ENVIRONMENTAL SERVICES, CERTIFICATE OF DISPOSAL
- . UNDERGROUND STORAGE TANK UNAUTHORIZED RELEASE  
(LEAK)/CONTAMINATION SITE REPORT
- . REDWOOD LANDFILL RECEIPTS

ALAMEDA COUNTY HEALTH CARE SERVICES AGENCY  
 DEPARTMENT OF ENVIRONMENTAL HEALTH  
 HAZARDOUS MATERIALS DIVISION  
 80 SWAN WAY, ROOM 200  
 OAKLAND, CA 94621  
 PHONE NO. 510/271-4320

**ACCEPTED**

Underground Storage Tank Closure Permit Application

Alameda County Division of Hazardous Materials

80 Swan Way, Suite 200,  
 Oakland, CA 94621  
 Telephone: (510) 271-4320

These closure/removal plans have been received and found to be acceptable and essentially meet the requirements of State and Local Health Laws. Changes to your closure plans indicated by this Department are to ensure compliance with State and local laws. The project proposed herein is now released for issuance of any required building permits for construction/destruction.

One copy of the 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 Inspections 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.

**PERMIT IS A FINANCIAL LIABILITY FOR NOT OBTAINING THESE INSPECTIONS**

*① Correct Corrections; Page 4*  
*② Health and Safety Plan must adhere to 29 CFR 1910-120.*  
*Basil Olson*  
*12/6/93*

**UNDERGROUND TANK CLOSURE PLAN**

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

1. Business Name Pelco Distributors  
 Business Owner John Pellegrini
  2. Site Address 1550 Park Avenue  
 City Emeryville Zip 94608 Phone (510) 653-9850
  3. Mailing Address 1550 Park Avenue  
 City Emeryville Zip 94608 Phone (510) 653-9850
  4. Land Owner Pelco Distributors  
 Address 1550 Park Avenue City, State Emeryville, CA Zip 94608
  5. Generator name under which tank will be manifested \_\_\_\_\_  
Pelco Distributors
- EPA I.D. No. under which tank will be manifested CAC000896752

4042



MANAGEMENT SYSTEMS  
 939 ELLIS STREET  
 SAN FRANCISCO, CALIFORNIA 94109  
 (415) 771-6001

783 800 JAN 27 1994  
 Aeration of Contaminated Soil and  
 Removal of Underground Storage Tanks *Jin*

**NOTIFICATION FORM**

- Removal or Replacement of Tanks
- Excavation of Contaminated Soil

**SITE INFORMATION**

SITE ADDRESS 1552 Park Avenue  
 CITY, STATE Emeryville CA ZIP 94608  
 OWNER NAME Pelco Distributors  
 SPECIFIC LOCATION OF PROJECT \_\_\_\_\_

<p><b>TANK REMOVAL</b></p> <p>SCHEDULED STARTUP DATE <u>1/7/94</u></p> <p>VAPORS REMOVED BY:</p> <p><input type="checkbox"/> WATER WASH</p> <p><input checked="" type="checkbox"/> VAPOR FREEING (CO<sub>2</sub>)</p> <p><input type="checkbox"/> VENTILATION</p>	<p><b>CONTAMINATED SOIL EXCAVATION</b></p> <p>SCHEDULED STARTUP DATE _____</p> <p>STOCKPILES WILL BE COVERED? YES _____ NO _____</p> <p>ALTERNATIVE METHOD OF AERATION (DESCRIBE BELOW):</p> <p>_____</p> <p>(MAY REQUIRE PERMIT)</p>
---	---

**CONTRACTOR INFORMATION**

NAME Tank Protect Engineering CONTACT Louis Travis  
 ADDRESS 2821 Whipple Rd. PHONE (510) 429-8088  
 CITY, STATE, ZIP Union City CA 94587

**CONSULTANT INFORMATION  
 (IF APPLICABLE)**

NAME \_\_\_\_\_ CONTACT \_\_\_\_\_  
 ADDRESS \_\_\_\_\_ PHONE ( ) \_\_\_\_\_  
 CITY, STATE, ZIP \_\_\_\_\_

**FOR OFFICE USE ONLY**

DATE RECEIVED FAX <u>1-3-94</u>	BY <u>Jin</u> (init.)
DATE POSTMARKED _____	BY _____ (init.)
CC: INSPECTOR NO. <u>I-451</u>	DATE <u>1-7-94</u> BY <u>Jin</u> (init.)
UPDATE: _____	DATE _____ BY _____ (init.)
AQMD NO. _____	DATA ENTRY <u>1-4-94</u>

white -env.health  
 yellow -facility  
 pink -files

ALAMEDA COUNTY, DEPARTMENT OF ENVIRONMENTAL HEALTH  
 Hazardous Materials Inspection Form

80 Swan Way, #200  
 Oakland, CA 94621  
 (415) 271-4320

II, III

Site ID # \_\_\_\_\_ Site Name Relco Distributors Today's Date 7/10/94

II.A BUSINESS PLANS (Title 19)

- 1. Immediate Reporting 2703
- 2. Bus. Plan Stds. 25503(b)
- 3. RR Cars > 30 days 25503.7
- 4. Inventory Information 25504(a)
- 5. Inventory Complete 2730
- 6. Emergency Response 25504(b)
- 7. Training 25504(c)
- 8. Deficiency 25505(a)
- 9. Modification 25505(b)

Site Address 1550 Park  
 City Emeryville Zip 94 Phone \_\_\_\_\_

MAX AMT stored > 500 lbs, 55 gal., 200 cft.?

Inspection Categories:

- I. Haz. Mat/Waste GENERATOR/TRANSPORTER
- II. Business Plans, Acute Hazardous Materials
- III. Underground Tanks

II.B ACUTELY HAZ. MATLS

- 10. Registration Form Filed 25533(a)
- 11. Form Complete 25533(b)
- 12. RMPP Contents 25534(c)
- 13. Implement Sch. Req'd? (Y/N)
- 14. OffSite Conseq. Assess. 25524(c)
- 15. Probable Risk Assessment 25534(d)
- 16. Persons Responsible 25534(g)
- 17. Certification 25534(f)
- 18. Exemption Request? (Y/N) 25536(b)
- 19. Trade Secret Requested? 25538

Calif. Administration Code (CAC) or the Health & Safety Code (HS&C)

III. UNDERGROUND TANKS (Title 23)

- General
- 1. Permit Application 25284 (H&S)
  - 2. Pipeline Leak Detection 25292 (H&S)
  - 3. Records Maintenance 2712
  - 4. Release Report 2651
  - 5. Closure Plans 2670

- Monitoring for Existing Tanks
- 6. Method
    - 1) Monthly Test
    - 2) Daily Vadose Semi-annual groundwater One time soils
    - 3) Daily Vadose One time soils Annual tank test
    - 4) Monthly Gndwater One time soils
    - 5) Daily Inventory Annual tank testing Cont pipe leak det Vadose/gndwater mon.
    - 6) Daily Inventory Annual tank testing Cont pipe leak det
    - 7) Weekly Tank Gauge Annual tank tng
    - 8) Annual Tank Testing Daily Inventory
    - 9) Other \_\_\_\_\_

- 7. Precs Tank Test Date: 2643
- 8. Inventory Rec. 2644
- 9. Soil Testing 2646
- 10. Ground Water. 2647

- New Tanks
- 11. Monitor Plan 2632
  - 12. Access. Secure 2634
  - 13. Plans Submit Date: 2711
  - 14. As Built Date: 2635

Comments:

Inspection by UST removed - 1500 gal  
 1000 gal tank removed FD on site  
 (Kenny Warren) del 91 - 2 1/2 in. OK to  
 pull tank per EFD -  
 Upon removal there were 17 8" diameter  
 holes in the tank floor - there was  
 minor odor of fuel and tank perhaps  
 possibly from removal of uranium -  
 There was a gas hole observed 1/2  
 The tank was not in use there was  
 no sight glass and no water  
 Note full in 100 site inspection  
 to check tank at site in order  
 to check tank was noted  
 Note: (see general tank use observations)  
 that - do not fill. Long after removal from  
 ground at this was intended to be left in  
 ground it with no way to fill with water  
 water amount to be taken later fall from

Rev 6/88

Contact: Ken Dutton  
 Title: Hydrogeologist T/E  
 Signature: \_\_\_\_\_

Inspector: Tom Oen  
 Signature: \_\_\_\_\_

II, III



white -env.health  
yellow -facility  
pink -files

# ALAMEDA COUNTY, DEPARTMENT OF ENVIRONMENTAL HEALTH

## Hazardous Materials Inspection Form

80 Swan Way, #200  
Oakland, CA 94621  
(415) 271-4320

II, III

Site ID # \_\_\_\_\_ Site Name Delco Distributors Today's Date 9/1/91

### II.A BUSINESS PLANS (Title 19)

- \_\_\_ 1. Immediate Reporting 2703
- \_\_\_ 2. Bus. Plan Stds. 25503(b)
- \_\_\_ 3. RR Cars > 30 days 25503.7
- \_\_\_ 4. Inventory Information 25504(a)
- \_\_\_ 5. Inventory Complete 2730
- \_\_\_ 6. Emergency Response 25504(b)
- \_\_\_ 7. Training 25504(c)
- \_\_\_ 8. Deficiency 25505(a)
- \_\_\_ 9. Modification 25505(b)

Site Address 1850 Park  
City Emeryville Zip 94 Phone \_\_\_\_\_

MAX AMT stored > 500 lbs. 55 gal., 200 cft.?

### Inspection Categories:

- \_\_\_ I. Haz. Mat/Waste GENERATOR/TRANSPORTER
- \_\_\_ II. Business Plans, Acute Hazardous Materials
- \_\_\_ III. Underground Tanks 1 inventory list - 3/85

### II.B ACUTELY HAZ. MAT'L S

- \_\_\_ 10. Registration Form Filed 25533(a)
- \_\_\_ 11. Form Complete 25533(b)
- \_\_\_ 12. RMPP Contents 25534(c)
- \_\_\_ 13. Implement Sch. Req'd? (Y/N)
- \_\_\_ 14. OffSite Conseq. Assess. 25524(c)
- \_\_\_ 15. Probable Risk Assessment 25534(d)
- \_\_\_ 16. Persons Responsible 25534(g)
- \_\_\_ 17. Certification 25534(f)
- \_\_\_ 18. Exemption Request? (Y/N) 25536(b)
- \_\_\_ 19. Trade Secret Requested? 25538

Calif. Administration Code (CAC) or the Health & Safety Code (HS&C)

### Comments:

*Water tank in storage area  
no inventory list - 3/85*

*inspected 2 tanks  
1 D 5. and sample in storage  
no label on tank (BTEX) & 4th in storage  
2 tanks in storage - results within  
2 hours ( )*

*to a tank has been inspected  
underneath storage area in tank  
to check for BTEX*

*4. water in pt area replaced  
with 1/2 gallon water tank*

### III. UNDERGROUND TANKS (Title 23)

- General**
- \_\_\_ 1. Permit Application 25284 (H&S)
- \_\_\_ 2. Pipeline Leak Detection 25292 (H&S)
- \_\_\_ 3. Records Maintenance 2712
- \_\_\_ 4. Release Report 2651
- \_\_\_ 5. Closure Plans 2670
- \_\_\_ 6. Method
- 1) Monthly Test
- 2) Daily Vadose  
Semi-annual groundwater  
One time soils
- 3) Daily Vadose  
One time soils  
Annual tank test
- 4) Monthly Groundwater  
One time soils
- 5) Daily Inventory  
Annual tank testing  
Cont pipe leak det  
Vadose/gndwater mon.
- 6) Daily Inventory  
Annual tank testing  
Cont pipe leak det
- 7) Weekly Tank Gauge  
Annual tank testing
- 8) Annual Tank Testing  
Daily Inventory
- 9) Other \_\_\_\_\_
- \_\_\_ 7. Precs Tank Test 2643  
Date: \_\_\_\_\_
- \_\_\_ 8. Inventory Rec. 2644
- \_\_\_ 9. Soil Testing 2646
- \_\_\_ 10. Ground Water. 2647
- Monitoring for Existing Tanks**
- \_\_\_ 11. Monitor Plan 2632
- \_\_\_ 12. Access, Secure 2634
- \_\_\_ 13. Plans Submit 2711  
Date: \_\_\_\_\_
- \_\_\_ 14. As Built 2635  
Date: \_\_\_\_\_
- New Tanks**

Rev 6/88

Contact: John Hines  
Title: \_\_\_\_\_  
Signature: \_\_\_\_\_

Inspector: Gregory P. ...  
Signature: \_\_\_\_\_

II, III

Information in the shaded areas is not required by Federal law.

92218811  
 IN CASE OF EMERGENCY OR SPILL, CALL THE NATIONAL RESPONSE CENTER 1-800-424-8802. WITHIN CALIFORNIA, CALL 1-800-852-7550

<b>UNIFORM HAZARDOUS WASTE MANIFEST</b>		1. Generator's US EPA ID No. C   A   C   0   0   0   8   9   6   7   5   2		Manifest Document No. 1   8   8   1   1		2. Page 1 of 1									
3. Generator's Name and Mailing Address PALCO DISTRIBUTORS Atten: J. Pellegrini 1550 Park Ave., Emeryville, CA 94608						A. State Manifest Document Number 92218811									
4. Generator's Phone (510) 653 9850						B. State Generator's ID									
5. Transporter 1 Company Name H & H SHIP SERVICE COMPANY				6. US EPA ID Number C   A   D   0   0   4   7   7   1   1   6   8											
7. Transporter 2 Company Name						8. US EPA ID Number									
9. Designated Facility Name and Site Address H & H SHIP SERVICE COMPANY 220 CHINA BASIN STREET SAN FRANCISCO, CA 94107						10. US EPA ID Number C   A   D   0   0   4   7   7   1   1   6   8									
11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)						12. Containers									
RESIDUE GASOLINE TANK NON-RCRA HAZARDOUS WASTE SOLID  b.  c.  d.						No.		Type		13. Total Quantity		14. Unit Wt/Vol		15. Waste Number	
						0 0 1		T P		0 1 5 0 0		P		State 5 1 2	
														EPA/Other	
														State	
														EPA/Other	
11. US DOT Description (including Proper Shipping Name, Hazard Class, and ID Number)						12. Containers		13. Total Quantity		14. Unit Wt/Vol		15. Waste Number			
J. Additional Descriptions for Materials Listed Above EMPTY STEEL TANK LAST CONTAINING GASOLINE. TANK INERTED WITH DRY ICE FOR TRANSPORT. PROFILE#A4051						K. Handling Codes for Wastes Listed Above a. 01									
15. Special Handling Instructions and Additional Information JOB #13853 24-Hr. Emergency Contact: H & H #(415) 543-4835 APPROPRIATE PROTECTIVE CLOTHING AND RESPIRATOR															
16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of the consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable federal, state and international laws.  If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.															
Printed/Typed Name J. Pellegrini		Signature J. Pellegrini		Month 01		Day 11		Year 94							
17. Transporter 1 Acknowledgement of Receipt of Materials Printed/Typed Name Leonard M. Erick		Signature Leonard M. Erick		Month 01		Day 11		Year 94							
18. Transporter 2 Acknowledgement of Receipt of Materials Printed/Typed Name		Signature		Month		Day		Year							
19. Discrepancy Indication Space															
20. Facility Owner or Operator Certification of receipt of hazardous materials covered by this manifest except as noted in Item 19. Printed/Typed Name JH Passet		Signature JH Passet		Month 01		Day 11		Year 94							

DO NOT WRITE BELOW THIS LINE.



220 CHINA BASIN, SAN FRANCISCO, CA 94107 • DAY AND NIGHT: (415) 543-4835 FAX (415) 543-8265

CERTIFICATE OF DISPOSAL

JANUARY 13, 1994

H & H Ship Service Company hereby certifies to TANK PROTECT ENG.

1. The storage tank(s), size(s) ONE (1) 1,500 GALS.

removed from the  
facility at

PELCO DISTRIBUTORS

1550 PARK AVENUE

EMERYVILLE, CALIFORNIA

were transported to H & H Ship Service Company, 220 China Basin St., San Francisco, California 94107.

2. The following tank(s), H & H Job Number 13853

have been steam cleaned, cut with approximately 2' x 2' holes, rendered harmless and disposed of as scrap metal.

3. Disposal site: SCHNITZER STEEL, OAKLAND, CALIFORNIA

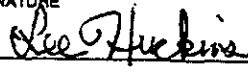
4. The foregoing method of destruction/disposal is suitable for the materials involved, and fully complies with all applicable regulatory and permit requirements.

5. Should you require further information, please call (415) 543-4835 or (415) 905-5510.

Very truly yours,

*Lourdes B. Lopez*  
Lourdes B. Lopez  
Operations Coordinator

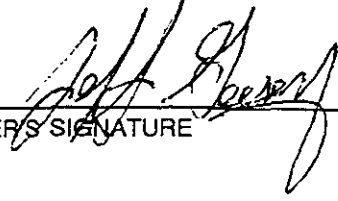
# UNDERGROUND STORAGE TANK UNAUTHORIZED RELEASE (LEAK) / CONTAMINATION SITE REPORT

EMERGENCY <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		HAS STATE OFFICE OF EMERGENCY SERVICES REPORT BEEN FILED? <input type="checkbox"/> YES <input type="checkbox"/> NO		FOR LOCAL AGENCY USE ONLY I HEREBY CERTIFY THAT I HAVE DISTRIBUTED THIS INFORMATION ACCORDING TO THE DISTRIBUTION SHOWN ON THE INSTRUCTION SHEET ON THE BACK PAGE OF THIS FORM.	
REPORT DATE 0 <u>1</u> <u>1</u> d <u>3</u> d <u>9</u> y <u>4</u> y		CASE #		SIGNED _____ DATE _____	
REPORTED BY	NAME OF INDIVIDUAL FILING REPORT Lee Huckins		PHONE (510) 429-8088		SIGNATURE 
	REPRESENTING <input checked="" type="checkbox"/> OWNER/OPERATOR <input type="checkbox"/> REGIONAL BOARD <input type="checkbox"/> LOCAL AGENCY <input type="checkbox"/> OTHER		COMPANY OR AGENCY NAME Tank Protect Engineering of Northern California, Inc.		
	ADDRESS 2821 Whipple Road Union City CA 94587				
RESPONSIBLE PARTY	NAME Pelco Distributors <input type="checkbox"/> UNKNOWN		CONTACT PERSON John Pellegrini		PHONE (510) 653-9850
	ADDRESS 1550 Park Avenue Emeryville CA 94608				
	FACILITY NAME (IF APPLICABLE) Pelco Distributors OPERATOR PHONE (510) 653-9850				
SITE LOCATION	ADDRESS 1550 Park Avenue Emeryville CA 94608		CITY STATE ZIP		Alameda 94608
	CROSS STREET				
	LOCAL AGENCY AGENCY NAME CONTACT PERSON PHONE Alameda County, Department of Environmental Health Brian Oliva (510) 271-4320				
IMPLEMENTING AGENCIES	REGIONAL BOARD CRWOCB- San Francisco Bay Region		CONTACT PERSON Brian Oliva		PHONE (510) 286-1255
	SUBSTANCES INVOLVED (1) NAME QUANTITY LOST (GALLONS) Petroleum hydrocarbons- See below <input checked="" type="checkbox"/> UNKNOWN				
DISCOVERY/ABATEMENT	DATE DISCOVERED 0 <u>1</u> <u>1</u> d <u>0</u> d <u>9</u> y <u>4</u> y		HOW DISCOVERED <input type="checkbox"/> INVENTORY CONTROL <input type="checkbox"/> SUBSURFACE MONITORING <input type="checkbox"/> NUISANCE CONDITIONS <input type="checkbox"/> TANK TEST <input checked="" type="checkbox"/> TANK REMOVAL <input type="checkbox"/> OTHER		
	DATE DISCHARGE BEGAN _____ y _____ y <input checked="" type="checkbox"/> UNKNOWN		METHOD USED TO STOP DISCHARGE (CHECK ALL THAT APPLY) <input type="checkbox"/> REMOVE CONTENTS <input checked="" type="checkbox"/> CLOSE TANK & REMOVE <input type="checkbox"/> REPAIR PIPING <input type="checkbox"/> REPAIR TANK <input type="checkbox"/> CLOSE TANK & FILL IN PLACE <input type="checkbox"/> CHANGE PROCEDURE <input type="checkbox"/> REPLACE TANK <input type="checkbox"/> OTHER		
	HAS DISCHARGE BEEN STOPPED? <input type="checkbox"/> YES <input type="checkbox"/> NO IF YES, DATE _____ y _____ y				
SOURCE/ CAUSE	SOURCE OF DISCHARGE <input type="checkbox"/> TANK LEAK <input checked="" type="checkbox"/> UNKNOWN <input type="checkbox"/> PIPING LEAK <input type="checkbox"/> OTHER		CAUSE(S) <input type="checkbox"/> OVERFILL <input type="checkbox"/> RUPTURE/FAILURE <input type="checkbox"/> SPILL <input type="checkbox"/> CORROSION <input checked="" type="checkbox"/> UNKNOWN <input type="checkbox"/> OTHER		
	CASE TYPE CHECK ONE ONLY <input type="checkbox"/> UNDETERMINED <input type="checkbox"/> SOIL ONLY <input checked="" type="checkbox"/> GROUNDWATER <input type="checkbox"/> DRINKING WATER - (CHECK ONLY IF WATER WELLS HAVE ACTUALLY BEEN AFFECTED)				
CURRENT STATUS	CHECK ONE ONLY <input checked="" type="checkbox"/> NO ACTION TAKEN <input type="checkbox"/> PRELIMINARY SITE ASSESSMENT WORKPLAN SUBMITTED <input type="checkbox"/> POLLUTION CHARACTERIZATION <input type="checkbox"/> LEAK BEING CONFIRMED <input type="checkbox"/> PRELIMINARY SITE ASSESSMENT UNDERWAY <input type="checkbox"/> POST CLEANUP MONITORING IN PROGRESS <input type="checkbox"/> REMEDIATION PLAN <input type="checkbox"/> CASE CLOSED (CLEANUP COMPLETED OR UNNECESSARY) <input type="checkbox"/> CLEANUP UNDERWAY				
	REMEDIAL ACTION CHECK APPROPRIATE ACTION(S) (SEE BACK FOR DETAILS) <input type="checkbox"/> CAP SITE (CD) <input type="checkbox"/> EXCAVATE & DISPOSE (ED) <input type="checkbox"/> REMOVE FREE PRODUCT (FP) <input type="checkbox"/> ENHANCED BIO DEGRADATION (BT) <input type="checkbox"/> CONTAINMENT BARRIER (CB) <input type="checkbox"/> EXCAVATE & TREAT (ET) <input type="checkbox"/> PUMP & TREAT GROUNDWATER (GT) <input type="checkbox"/> REPLACE SUPPLY (RS) <input type="checkbox"/> VACUUM EXTRACT (VE) <input type="checkbox"/> NO ACTION REQUIRED (NA) <input type="checkbox"/> TREATMENT AT HOOKUP (HU) <input type="checkbox"/> VENT SOIL (VS) <input type="checkbox"/> OTHER (OT)				
COMMENTS	Removed one 1,000-gallon, gasoline, underground storage tank.				
	_____				



8950 REDWOOD HIGHWAY  
 P.O. BOX 793  
 NOVATO, CALIFORNIA 94948  
 TEL: (415) 892-2851  
 FAX: (415) 898-1354

**REDWOOD  
 LANDFILL INC.**

X   
 DRIVER'S SIGNATURE

- PERSONS USING THESE PREMISES DO SO AT THEIR OWN RISK.
- CHILDREN AND PETS ARE NOT ALLOWED OUT OF VEHICLES.
- NO RUMMAGING IN DUMP AREA.
- NO SMOKING ON DUMP SITE.
- FOR YOUR OWN SAFETY, WE RECOMMEND THAT YOU WEAR LEATHER WORK SHOES WITH REINFORCED SOLES, HEAVY SAFETY GLOVES, SAFETY GLASSES, WORK CLOTHING, AND CARRY A DUST MASK.
- PLEASE YIELD TO EQUIPMENT.
- PLEASE NOTIFY OFFICE OF ANY COMPLAINT.
- THANK YOU.

ACCOUNT NUMBER: 8190  
 JOB NUMBER: P.O. 3635  
 VEHICLE: VE&N  
 COMMODITY: O.C./P. C. DIRT

RECEIVED BY: R.K. J.B.  
 CUSTOMER: TANK PROTECT ENGINEERING  
 DESC: 070 PC  
 TIME: 12: 0:19  
 YARDS: 20.00  
 PER YARD 12.00

DATE: 3/10/94  
 LOAD # : 196  
 FEE 240.00

BO/SO-0

\*\*\* CHARGE \*\*\*  
 CUSTOMER COPY

TOTAL 240.00  
 LOAD TICKET #: 47038

APPENDIX B

SAMPLE HANDLING PROCEDURES

## APPENDIX B

### SAMPLE HANDLING PROCEDURES

Soil and groundwater samples will be packaged carefully to avoid breakage or contamination, and will be delivered to the laboratory in an iced-cooler. The following sample packaging requirements will be followed.

- . Sample bottle/sleeve lids will not be mixed. All sample lids will stay with the original containers and have custody seals affixed to them.
- . Samples will be secured in coolers to maintain custody, control temperature, and prevent breakage during transportation to the laboratory.
- . A chain-of-custody form will be completed for all samples and accompany the sample cooler to the laboratory.
- . Ice, blue ice, or dry ice (dry ice will be used for preserving soil samples collected for the Alameda County Water District) will be used to cool samples during transport to the laboratory.
- . Each sample will be identified by affixing a pressure sensitive, gummed label, or standardized tag on the container(s). This label will contain the site identification, sample identification number, date and time of sample collection, and the collector's initials.
- . Soil samples collected in brass tubes will be preserved by covering the ends with Teflon tape and capped with plastic end-caps. The tubes will be labeled, sealed in quart size bags, and placed in an iced-cooler for transport to the laboratory.

All groundwater sample containers will be precleaned and will be obtained from a State Department of Health Services certified analytical laboratory.

Sample Control/Chain-of-Custody: All field personnel will refer to this workplan to verify the methods to be employed during sample collection. All sample gathering activities will be recorded in the site file; all sample transfers will be documented in the chain-of-custody; samples are to be identified with labels and all sample bottles are to be custody-sealed. All information is to be recorded in waterproof ink. All TPE field personnel are personally responsible for sample collection and the care and custody of collected samples until the samples are transferred or properly dispatched.

The custody record will be completed by the field technician or professional who has been designated by the TPE project manager as being responsible for sample shipment to the appropriate laboratory. The custody record will include, among other things, the following information: site identification, name of person collecting the samples, date and time samples were collected, type of sampling conducted (composite/grab), location of sampling station, number and type of containers used, and signature of the TPE person relinquishing samples to a non-TPE person with the date and time of transfer noted. The relinquishing individual will also put all the specific shipping data on the custody record.

Records will be maintained by a designated TPE field employee for each sample, site identification, sampling locations, station numbers, dates, times, sampler's name, designation of the samples as a grab or composite, notation of the type of sample (e.g. groundwater, soil boring, etc.), preservatives used, on-site measurement data, and other observations or remarks.



APPENDIX C

CERTIFIED ANALYTICAL REPORTS AND  
CHAIN-OF-CUSTODY DOCUMENTATION



# PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

January 12, 1994

PEL # 9401025

TANK PROTECT ENGINEERING, INC.

Attn: Jeff

Re: Three soil samples for Gasoline/BTEX and Lead analyses.

Project name: Pelco Distributers

Project location: 1550 Park Ave.

Project number: 294011094

Date sampled: Jan 10, 1994

Date submitted: Jan 11, 1994

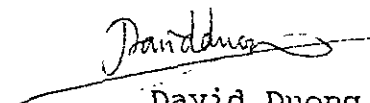
Date extracted: Jan 11-12, 1994

Date analyzed: Jan 11-12, 1994

## RESULTS:

SAMPLE I.D.	Gasoline (mg/Kg)	Benzene (ug/Kg)	Toluene (ug/Kg)	Ethyl Benzene (ug/Kg)	Total Xylenes (ug/Kg)	Lead (mg/Kg)
S-1	N.D.	N.D.	N.D.	N.D.	N.D.	---
S-2	N.D.	N.D.	N.D.	N.D.	N.D.	9.3
STK-1,2,3*	39	51	86	61	250	---
Blank	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	88.6%	92.1%	88.1%	96.4%	102.2%	---
Duplicate Spiked Recovery	86.0%	80.7%	81.9%	84.4%	84.5%	---
Detection limit	1.0	5.0	5.0	5.0	5.0	1.0
Method of Analysis	5030/ 8015	8020	8020	8020	8020	7420

\*Composited soil sample.

  
David Duong  
Laboratory Director



TANK PROTECT ENGINEERING

2821 WHIPPLE ROAD  
 UNION CITY, CA 94587  
 (415)429-8088  
 (800)523-8088  
 FAX(415)429-8089

PEL # 9401025

INV # 24369

LAB: Priority

TURNAROUND: \_\_\_\_\_

P.O. #: \_\_\_\_\_

PAGE 1 OF 1

CHAIN OF CUSTODY

PROJECT NO.		SITE NAME & ADDRESS				(1) TYPE OF CONTAINER	ANALYTES REQUESTED							REMARKS		
294 D11094		Telco Distributors 1550 Park Ave					TOTAL LIGHT HC	AROMATIC HC	TOTAL HEAVY HC	OIL & GREASE	VOC SCAN (624's)	OTHER				
SAMPLER NAME, ADDRESS AND TELEPHONE NUMBER																
Lee Huckins 2821 WHIPPLE ROAD, UNION CITY, CA 94587 (415) 429-8088																
ID NO.	DATE	TIME	SOIL	WATER	SAMPLING LOCATION											
S-1	1/10	1415	✓		5.0	Bruss	✓	✓								
S-2	1/10	1420	✓		5.0		✓	✓				✓				
STK-1	1/10	1445	✓		1.5-2.0		✓	✓								} Composite into 1
STK-2	1/10	1450	✓		1.5-2.0		✓	✓								
STK-3	1/10	1500	✓		1.5-2.0		✓	✓								
Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Relinquished by: (Signature)		Date / Time		Received by: (Signature)						
Lee Huckins		1/11/94 8:00am		[Signature]		[Signature]		1/11/94 10:55am		[Signature]						
Relinquished by: (Signature)		Date / Time		Received by: (Signature)		Relinquished by: (Signature)		Date / Time		Received by: (Signature)						
				[Signature]												
Relinquished by: (Signature)		Date / Time		Received for Laboratory by: (Signature)		Date / Time		Remarks								
		1/11/94 10:55am		[Signature]												

DATE: 1/11/94



# PRIORITY ENVIRONMENTAL LABS

Precision Environmental Analytical Laboratory

January 13, 1994

PEL # 9401028

TANK PROTECT ENGINEERING, INC.

Attn: Jeff

Re: One water sample for Gasoline/BTEX analysis.

Project name: Pelco Distributers

Project location: 1550 Park Ave.

Project number: 294011294

Date sampled: Jan 12, 1994


Date submitted: Jan 12, 1994

Date extracted: Jan 13, 1994

Date analyzed: Jan 13, 1994

## RESULTS:

SAMPLE I.D.	Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
WS-1	2700	24	24	20	61
Blank	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	88.6%	92.1%	88.1%	96.4%	102.2%
Detection limit	50	0.5	0.5	0.5	0.5
Method of Analysis	5030 / 8015	602	602	602	602

  
 David Duong  
 Laboratory Director



TANK PROTECT ENGINEERING

2821 WHIPPLE ROAD  
 UNION CITY, CA 94587  
 (415) 429-8088  
 (800) 523-8088  
 FAX (415) 429-8089

PEL # 9401028

INV # 24372

LAB: Priority Env.

TURNAROUND: \_\_\_\_\_

P.O. #: 766

PAGE 1 OF 1

CHAIN OF CUSTODY

PROJECT NO.		SITE NAME & ADDRESS				(1) TYPE OF CONTAINER	ANALYTES REQUESTED							REMARKS			
294 011294		Pelco Distributors 1550 Park Ave					TOTAL LIGHT HC	AROMATIC HC	TOTAL HEAVY HC	OIL & GREASE	VOC SCAN (24's)	OTHER					
SAMPLER NAME, ADDRESS AND TELEPHONE NUMBER																	
Lee Huckins 2821 WHIPPLE ROAD, UNION CITY, CA 94587 (415) 429-8088																	
ID NO.	DATE	TIME	SOIL	WATER	SAMPLING LOCATION												
WS-1	1/12	11:15		X	Pit (6')	Z40ml	+	+									
Relinquished by : (Signature)		Date / Time		Received by : (Signature)		Relinquished by : (Signature)		Date / Time		Received by : (Signature)							
Lee Huckins		1/12/94 1300		Law Wetmore		Law Wetmore		1/12/94 2300									
Relinquished by : (Signature)		Date / Time		Received by : (Signature)		Relinquished by : (Signature)		Date / Time		Received by : (Signature)							
Relinquished by : (Signature)		Date / Time		Received for Laboratory by: (Signature)		Date / Time		Remarks									
		1/12/94 2:30 PM		PEL													

DATE: 1/12/94



# PRIORITY ENVIRONMENTAL LABS

Engineering Environmental Analytical Laboratory

February 20, 1994

PEL # 9402053

TANK PROTECT ENGINEERING, INC.

Attn: Jeff

Re: One water sample for Gasoline/BTEX analysis.

Project name: Pelco Distributors

Project location: 1550 Park Ave.

Project number: 294021694

Date sampled: Feb 16, 1994

Date submitted: Feb 17, 1994

Date extracted: Feb 17-18, 1994

Date analyzed: Feb 17-18, 1994

RESULTS:

SAMPLE I.D.	Gasoline (ug/L)	Benzene (ug/L)	Toluene (ug/L)	Ethyl Benzene (ug/L)	Total Xylenes (ug/L)
WS-1A	690	5.6	5.7	1.6	18
Blank	N.D.	N.D.	N.D.	N.D.	N.D.
Spiked Recovery	101.5%	86.6%	76.3%	78.6%	76.9%
Detection limit	50	0.5	0.5	0.5	0.5
Method of Analysis	5030 / 8015	602	602	602	602

David Duong  
Laboratory Director



TANK PROTECT ENGINEERING

2821 WHIPPLE ROAD  
 UNION CITY, CA 94587  
 (415) 429-8088  
 (800) 523-8088  
 FAX (415) 429-8089

PEL # 9402053

INV # 24499

LAB: Priority Env

TURNAROUND: \_\_\_\_\_

P.O. #: 782

PAGE 1 OF 1

CHAIN OF CUSTODY

PROJECT NO.		SITE NAME & ADDRESS				(1) TYPE OF CON- TAINER	ANALYTES REQUESTED							REMARKS				
SAMPLER NAME, ADDRESS AND TELEPHONE NUMBER		ID NO.					DATE	TIME	SOIL	WATER	SAMPLING LOCATION	TOTAL LIGHT HC	AROMATIC HC		TOTAL HC (BTL)	OIL & GREASE	VOC SCAN (24's)	OTHER
294 021694		Pelco Distributors 1550 Park Avenue				2- 40ml								2/16				
Lee Huckins 2821 WHIPPLE ROAD, UNION CITY, CA 94587 (415) 429-8088																		
Relinquished by : (Signature)		Date / Time		Received by : (Signature)		Relinquished by : (Signature)		Date / Time		Received by : (Signature)								
Lee Huckins		2/17/94 9:00am		Lawn Lawrence		Lawn Lawrence		2/17/94 2:45pm										
Relinquished by : (Signature)		Date / Time		Received by : (Signature)		Relinquished by : (Signature)		Date / Time		Received by : (Signature)								
		2/17/94 2:45		Lawn Lawrence														
Relinquished by : (Signature)		Date / Time		Received for Laboratory by: (Signature)		Date / Time		Remarks										
		2/17/94 2:45		PEL														

DATE: 2/17/94

APPENDIX D

HOLLOW-STEM AUGER DRILLING AND SOIL SAMPLING PROCEDURES



## APPENDIX D

### HOLLOW-STEM AUGER DRILLING AND SOIL SAMPLING PROCEDURES

Undisturbed soil samples will be recovered from soil without introducing liquids into the borings. At a minimum, soil samples as core will be taken at 5-foot depth intervals, changes in lithology, and when encountering apparent soil contamination to termination depth, or through the aquifer zone of interest for lithologic logging.

Borings will be drilled with a hollow-stem auger and sampled with a California or modified California-type split-spoon sampler. Soil samples will be of sufficient volume to perform the analyses which may be required, including replicate analyses.

Soil from all borings will be described in detail using the Unified Soil Classification System and will be logged under the direction of a geologist, civil engineer, or engineering geologist who is registered or certified by the State of California and is experienced in the use of the Unified Soil Classification System.

All wet zones above the free water zone will be noted and accurately logged.

Soil samples will be collected in clean brass or stainless steel sampling tubes in the split-spoon. Sediment traps will be used when unconsolidated sands and gravels fall from the sampler during retrieval. The brass tubes will be cut apart using a clean knife. The ends of the tubes will be covered with Teflon sheets or aluminum foil beneath plastic end caps and sealed with electrical or duct tape and properly labeled. In lieu of electrical or duct tape, the tubes may be individually sealed in plastic bags. The samples will be stored on ice at a temperature of 4 degrees Celsius.

Drill cuttings will be stored on site in 55-gallon drums or covered with plastic sheeting. Analytical results will be submitted immediately to the site owner for determination of appropriate disposal procedures. The soil borings not completed as wells will be backfilled with a cement grout.

APPENDIX E

WASTE HANDLING AND DECONTAMINATION PROCEDURES

## APPENDIX E

### WASTE HANDLING AND DECONTAMINATION PROCEDURES

Decontamination: Any drilling, sampling or field measurement equipment that comes into contact with soil or groundwater will be properly decontaminated prior to its use at the site and after each incident of contact with the soil or groundwater being investigated. Proper decontamination is essential to obtain samples that are representative of environmental conditions and to accurately characterize the extent of soil and groundwater contamination. Hollow-stem auger flights and the drill bit will be steam-cleaned between the drilling of each well.

All sample equipment, including the split-tube sampler and brass tubes, will be cleaned by washing with trisodium phosphate detergent, followed by rinsing with potable water. Where required by specific regulatory guidelines, a nonphosphate detergent will be used.

Waste Handling: Waste materials generated during site characterization activities will be handled and stored as hazardous waste and will be stored on site in appropriately labeled containers. Waste materials anticipated include excavated soil, drill cuttings, development and purge water, water generated during aquifer testing, water generated during decontamination, and used personnel protection equipment such as gloves and Tyvek. The site owner will be responsible for providing the storage containers and will be responsible for the disposal of the waste materials. Drill cuttings from individual borings will be stored separately in drums or covered by plastic sheeting and the appropriate disposal procedure will be determined by the site owner or TPE following receipt of the soil sample analytical results. Drums will be labeled to show material stored, known or suggested contaminant, date stored, expected removal date, company name, contact, and telephone number.

APPENDIX F

GROUNDWATER MONITORING WELL CONSTRUCTION PROCEDURES

## APPENDIX F

### GROUNDWATER MONITORING WELL CONSTRUCTION PROCEDURES

#### BOREHOLE DESIGN

Casing Diameter: The minimum diameter of well casings will be 2 inches (nominal).

Borehole Diameter: The diameter of the borehole will be a minimum of 4 inches and a maximum of 12 inches greater than the diameter of the well casing. The minimum annular space will be 2.5 inches as measured from the outside diameter of the casing to the drill hole wall.

Shallow (Unconfined Zone) Wells: When unconfined groundwater is encountered the borehole will be advanced through the aquifer to an underlying clay layer or aquitard or to a maximum depth of 15 feet into the saturated zone, or the maximum depths required by regulatory guidelines. The screened interval will begin a minimum of 5 feet above the saturated zone or above the anticipated seasonal high level of groundwater. The screen will extend the full thickness of the aquifer or no more than 15 feet (or 20 feet if required by regulatory guidelines) into the saturated zone, whichever is reached first. The well screen will not extend into the aquitard, nor will the screened interval exceed 20 feet in length (or 30 feet if required by regulatory guidelines).

Deep (Confined Zone) Wells: Any monitoring well to be screened below the upper aquifer will be installed as a double-cased well. A steel conductor casing will be placed through the upper water-bearing zone to prevent aquifer cross-contamination.

The conductor casing will be installed in the following manner: a large diameter borehole (typically 18 inches) will be drilled until it is determined that the first competent aquitard has been reached. A low carbon steel conductor casing will be placed in the borehole to the depth drilled. Centralizers will be used to center the casing in the borehole. The annular space between the conductor casing and the

formation will be cement-grouted from bottom to top by tremie pipe method. The grout will be allowed to set for a minimum of 72 hours.

Drilling will continue inside the conductor casing, with a drill bit of smaller diameter than the conductor casing. If additional known aquifers are to be fully penetrated, the procedure will be repeated with successively smaller diameter conductor casings.

The bottom of the well screen in a confined aquifer will be determined by presence or lack of a clay layer or aquitard as described above. The screened interval in a confined zone shall extend across the entire saturated zone of the aquifer or up to a length of 20 feet, whichever is less. The screened zone and filter pack will not cross-connect to another aquifer.

#### CONSTRUCTION MATERIALS

Casing and Screen Materials: Well casing and screen will be constructed of clean materials that have the least potential for affecting the quality of the sample. The most suitable material for a particular installation will depend upon the parameters to be monitored. Acceptable materials include PVC, stainless steel, or low carbon steel.

Casing Joints: Joints will be connected by flush threaded couplers. Organic bonding compounds and solvents will not be used on joints.

Well Screen Slots: Well screen will be factory slotted. The size of the slots will be selected to allow sufficient groundwater flow to the well for sampling, minimize the passage of formation materials into the well, and ensure sufficient structural integrity to prevent the collapse of the intake structure.

Casing Bottom Plug: The bottom of the well casing will be permanently plugged, either by flush threaded screw-on or friction cap. Friction caps will be secured with stainless steel set screws. No organic solvents or cements will be applied.

Filter Pack Material: Filter envelope materials will be durable, water worn, and washed clean of silt, dirt, and foreign matter. Sand size particles will be screened silica sand.

Particles will be well rounded and graded to an appropriate size for retention of aquifer materials.

Bentonite Seal Material: Bentonite will be pure and free of additives that may affect groundwater quality. Bentonite will be hydrated with potable or tap water.

Grout Seal Material: Neat cement grout or sand-cement grout will consist of a proper mixture of Type 1/11 Portland cement, hydrated with potable or tap water. Up to 3% bentonite may be added to the mixture to control shrinkage.

### CONSTRUCTION PROCEDURES

Decontamination: All downhole tools, well casings, casing fittings, screens, and all other components that are installed in the well shall be thoroughly cleaned immediately before starting each well installation. When available, each component shall be cleaned with a high temperature, high pressure washer for a minimum of 5 minutes. When a washer is not available, components shall be cleaned with water and detergent, rinsed in potable or tap water, then rinsed in distilled water.

Soil and water sampling equipment and material used to construct the wells shall not donate to, capture, mask, nor alter the chemical composition of the soil and groundwater.

Drilling Methods: Acceptable drilling methods include solid and hollow-stem auger, percussion, direct circulation mud and air rotary, and reverse rotary. The best alternative is that which minimizes the introduction of foreign materials or fluids. If drilling fluid is employed, drilling fluid additives shall be limited to inorganic and non-hazardous compounds. Compressed air introduced into the borehole shall be adequately filtered to remove oil and particulates.

Casing Installation: The casing will be set under tension, when necessary, to ensure straightness. Centralizers will be used where necessary to prevent curvature or stress to the casing.

Sand Pack Installation: The sand pack will be installed so as to avoid bridging and the creation of void spaces. The tremie pipe method will be used where installation conditions or local regulations require. Drilling mud, when used, will be thinned prior to pack placement. The sand pack shall cover the entire screened interval and rise a minimum of 2 feet above the highest perforation.

Bentonite Seal Placement: A bentonite seal will be placed above the sand pack by a method that prevents bridging. Bentonite pellets can be placed by free fall if proper sinking through annular water can be assured. Bentonite slurry will be placed by the tremie pipe method from the bottom upward. The bentonite seal will not be less than 1 to 3-feet in thickness, depending on regulatory guidelines.

Grout Seal Placement: The cement grout mixture will be hydrated with potable or tap water and thoroughly mixed prior to placement. If substantial groundwater exists in the bore hole, the grout shall be placed by tremie pipe method from the bottom upward. In a dry borehole, the grout may be surface poured to a depth of 30 feet. Below a depth of 30 feet grout will be placed by tremie pipe. Grout will be placed in 1 continuous lift and will extend to the surface or to the well vault if the well head is completed below grade. A minimum of 5 feet of grout seal will be installed, unless impractical due to the shallow nature of the well.

Surface Completion: The well head will be protected from fluid entry, accidental damage, unauthorized access, and vandalism. A watertight, locking cap will be installed on the well casing. Access to the casing will be controlled by a keyed lock.

Well heads completed below grade will be completed in a concrete and/or steel vault, installed to drain surface runoff away from the vault.

Well Identification: Each well will be labeled to show well number, depth, hole and casing diameter, and screened interval.



APPENDIX G

GROUNDWATER MONITORING WELL DEVELOPMENT PROCEDURES

## APPENDIX G

### GROUNDWATER MONITORING WELL DEVELOPMENT PROCEDURES

#### INTRODUCTION

Newly installed groundwater monitoring wells will be developed to restore natural hydraulic conductivity of the formation, remove sediments from well casing and filter pack, stabilize the filter pack and aquifer material, and promote turbidity-free groundwater samples.

Wells may be developed by bailing, hand pumping, mechanical pumping, air lift pumping, surging, swabbing, or an effective combination of methods. Wells will be developed until the water is free of sand, silt, and minimum turbidity has stabilized.

In some cases where low permeability formations are involved or the drilling mud used fails to respond to cleanup, initial development pumping may immediately dewater the well casing and thereby inhibit development. When this occurs, clean, potable grade water may be introduced into the well, followed by surging of the introduced waters with a surge block. This operation will be followed by pumping or bailing. The procedure may be repeated as required to establish full development.

#### METHODOLOGY

Seal Stabilization: Cement and bentonite annular seals shall set and cure not less than 24 to 72 hours (according to local regulatory guidelines) prior to well development.

Decontamination: All well development tools and equipment shall be thoroughly cleaned immediately before starting each well installation. When available, each component shall be cleaned with a high temperature, high pressure washer for a minimum of 5 minutes. When a washer is not available, components shall be cleaned with potable or tap water, then rinsed with distilled water.

Development equipment shall not donate to, capture, mask, nor alter the chemical composition of the soil and groundwater.

Introduction of Water: Initial development of wells in low permeability formations may dewater the casing and filter pack. When this occurs, clean, potable or tap water will be introduced into the well to enhance development.

Bailing: Development will begin by bailing to remove heavy sediments from the well casing. Care will be taken to not damage the well bottom cap during lowering of the bailer.

Surging: Care will be exercised when using a surge block to avoid damaging the well screen and casing. When surging wells screened in coarse (sand/gravelly) aquifers, the rate of surge block lifting shall be slow and constant. When surging wells screened in fine (silty) aquifers, more vigorous lifting may be required. Between surging episodes, wells will be bailed to remove accumulated sediments.

Pumping: Development pumping rates shall be less than the recharge rate of the well in order to avoid dewatering.

Discharged Water Containment and Disposal: All water and sediment generated by well development shall be collected in labeled 55-gallon steel drums. Development water will be temporarily contained on site, pending sampling and laboratory analysis. No hazardous development water will be released to the environment. Disposal of development water will be the responsibility of the client

APPENDIX H

GROUNDWATER MONITORING WELL SAMPLING PROCEDURES

## APPENDIX H

### GROUNDWATER MONITORING WELL SAMPLING PROCEDURES

Groundwater monitoring wells will not be sampled until at least 24 to 72 hours (according to local regulatory guidelines) after well development. Groundwater samples will be obtained using either a bladder pump, clear Teflon bailer, or dedicated polyethylene bailer. Prior to collecting samples, the sampling equipment will be thoroughly decontaminated to prevent introduction of contaminants into the well and to avoid cross-contamination. Monitoring wells will be sampled after 3 to 10 wetted casing volumes of groundwater have been evacuated and pH, electrical conductivity, and temperature have stabilized as measured with a Hydac Digital Tester. If the well is emptied before 3 to 10 well volumes are removed, the sample will be taken when the water level in the well recovers to 80% of its initial water level or more.

When a water sample is collected, turbidity of the water will be measured and recorded with a digital turbidimeter. Degree of turbidity will be measured and recorded in nephelometric turbidity units (NTU).

TPE will also measure the thickness of any floating product in the monitoring wells using an interface or probe clear Teflon or polyethylene bailer. The floating product will be measured after well development but prior to the collection of groundwater samples. If floating product is present in the well, TPE will recommend to the client that product removal be commenced immediately and reported to the appropriate regulatory agency.

Unless specifically waived or changed by the local, prevailing regulatory agency, water samples shall be handled and preserved according to the latest EPA methods as described in the Federal Register (Volume 44, No. 233, Page 69544, Table II) for the type of analysis to be performed.

Development and/or purge water will be stored on site in labeled containers. The disposal of the containers and development and/or purge water is the responsibility of the client.

MEASUREMENTS

Purged Water Parameter: During purging, discharged water will be measured for the following parameters.

<u>Parameter</u>	<u>Units of Measurement</u>
pH	None
Electrical Conductivity	Micromhos
Temperature	Degrees F or C
Depth to Water	Feet/Hundredths
Volume of Water Discharged	Gallons
Turbidity	NTU

Documentation: All parameter measurements shall be documented in writing on TPE development logs.

APPENDIX I

QUALITY ASSURANCE AND QUALITY CONTROL PROCEDURES

## APPENDIX I

### QUALITY ASSURANCE AND QUALITY CONTROL PROCEDURES

The overall objectives of the field sampling program include generation of reliable data that will support development of a remedial action plan. Sample quality will be checked by the use of proper sampling, handling, and testing methods. Additional sample quality control methods may include the use of background samples, equipment rinse samples, and trip and field blanks. Chain-of-custody forms, use of a qualified laboratory, acceptable detection limits, and proper sample preservation and holding times also provide assurance of accurate analytical data.

TPE will follow a QA/QC program in the field to ensure that all samples collected and field measurements taken are representative of actual field and environmental conditions and that data obtained are accurate and reproducible. These activities and laboratory QA/QC procedures are described below.

Field Samples: Additional samples may be taken in the field to evaluate both sampling and analytical methods. Three basic categories of QA/QC samples that may be collected are trip samples, field blanks, and duplicate samples.

Trip blanks are a check for cross-contamination during sample collection, shipment, and in the laboratory. Analytically confirmed organic-free water shall be used for organic parameters and deionized water for metal parameters. Blanks will be prepared by the laboratory supplying the sample containers. The blank shall be numbered, packaged, and sealed in the same manner as the other samples. One trip blank will be used for each sample set of less than 20 samples. At least 5% blanks will be used for sets greater than 20 samples. The trip blank is a water sample that remains with the collected samples during transportation and is analyzed along with the field samples to check for residual contamination. The trip blank is not to be opened by either the sample collectors or the handlers.



The field blank is a water sample that is taken into the field and is opened and exposed at the sampling point to detect contamination from air exposure. The water sample is poured into appropriate containers to simulate actual sampling conditions. Contamination for air exposure can vary considerably from site to site.

The laboratory will not be informed about the presence of field and trip blanks and a false identifying number will be put on the label. Full documentation of these collection and decoy procedure will be made in the site log book.

Duplicate samples are identical sample pairs (collected in the same place and at the same time), placed in identical containers. For soils, adjacent sample liners will be analyzed. For the purpose of data reporting, one is arbitrarily designated the sample, and the other is designated as a duplicate sample. Both sets of results are reported to give an indication of the precision of sampling and analytical methods.

The laboratory's precision will be assessed without the laboratory's knowledge by labeling one of the duplicates with false identifying information. Data quality will be evaluated on the basis of the duplicate results.

Laboratory QA/QC: Execution of a strict QA/QC program is an essential ingredient in high-quality analytical results. By using accredited laboratory techniques and analytical procedures, estimates of the experimental values can be very close to the actual value of the environmental sample. The experimental value is monitored for its precision and accuracy by performing QC test designed to measure the amount of random and systematic errors and to signal when correction of these errors is needed.

The QA/QC program describes methods for performing QC tests. These methods involve analyzing method blanks, calibration standards, check standards (both independent and EPA-certified standards), duplicates, replicates, and sample spikes. Internal QC also requires adherence to written methods, procedural documentation, and record keeping, and the observance of good laboratory practices.

APPENDIX J

SITE SAFETY PLAN

**SITE HEALTH AND SAFETY PLAN**  
**TANK PROTECT ENGINEERING OF NORTHERN CALIFORNIA, INC.**

**Site: Pellegrini Refrigeration  
& Restaurant Equipment, Co.  
1550 Park Avenue  
Emeryville, CA 94608**

**Project Number: 294**

**Original Site Safety Plan: Yes (X) No ( )**

**Revision Number:**

**Plan Prepared by: John Mrakovich**

**Date: 5/5/94**

**Plan Approved by: Lee Huckins**

**Date: 5/6/94**

Please respond to each item as completely as possible. Where an item is not applicable, please mark "N/A".

**1. KEY PERSONNEL AND RESPONSIBILITIES**

<b>Project Manager</b>	<b>John Mrakovich, (510) 429-8088</b>
<b>Site Safety Manager</b>	<b>Lee Huckins, (510) 429-8088</b>
<b>Alternate Site Safety Manager</b>	
<b>Field Team Members</b>	<b>N/A</b>

**Agency Reps: Please specify by one of the following symbols: Federal: (F), State: (S), Local: (L), Contractor(s): (C)**

**(L) Alameda County Health Care Services Agency: (510) 271-4320**

## 2. JOB HAZARD ANALYSIS

### 2.1 OVERALL HAZARD EVALUATION

Hazard Level: High ( ) Moderate ( ) Low ( ) Unknown (X)  
Hazard Type: Liquid (X) Solid ( ) Sludge ( ) Vapor/Gas (X)

Known or suspected hazardous materials present on site

#### **Benzene, Toluene, Ethyl-Benzene, Xylenes (BTEX)**

Characteristics of hazardous materials included above (complete for each chemical presents):

---

#### **MATERIAL #1**

Corrosive ( )	Ignitable (X)	Toxic (X)	Reactive ( )
Volatile (X)	Radioactive ( )	Biological Agent ( )	
Exposure Routes:	Inhalation (X)	Ingestion (X)	Contact (X)

---

#### **MATERIAL #2**

Corrosive ( )	Ignitable ( )	Toxic ( )	Reactive ( )
Volatile ( )	Radioactive ( )	Biological Agent ( )	
Exposure Routes:	Inhalation ( )	Ingestion ( )	Contact ( )

---

#### **MATERIAL #3**

Corrosive ( )	Ignitable ( )	Toxic ( )	Reactive ( )
Volatile ( )	Radioactive ( )	Biological Agent ( )	
Exposure Routes:	Inhalation ( )	Ingestion ( )	Contact ( )

---

#### **MATERIAL #4**

Corrosive ( )	Ignitable ( )	Toxic ( )	Reactive ( )
Volatile ( )	Radioactive ( )	Biological Agent ( )	
Exposure Routes:	Inhalation ( )	Ingestion ( )	Contact ( )

## 2.2 JOB-SPECIFIC HAZARDS

For each labor category specify the possible hazards based on information available (i.e., Task-driller, Hazards-trauma from drill rig accidents, etc.). For each hazard, indicate steps to be taken to minimize the hazard.

**Driller/Helper/Geologist-Trauma from drilling rig accidents-wear hard hat, gloves, steel-toed boots.**

The following additional hazards are expected on site (i.e., snake infested area, extreme heat, etc.):

**Temporary open boreholes.**

Measures to minimize the effects of the additional hazards are:

**Protect with barricades, caution tape, or traffic cones when unattended.**

## 3. MONITORING PLAN

### 3.1 (a) Air Monitoring Plan

Action levels for implementation of air monitoring. Action levels should be based on published data available on contaminants of concern. Action levels should be set by persons experienced in industrial hygiene.

Level  
(i.e., .5 ppm)

Action Taken  
(i.e., commence perimeter monitoring)

**5 ppm**

**Cease work and commence perimeter monitoring until contamination disperses.**

(b) Air Monitoring Equipment

Outline the specific equipment to be used, calibration method, frequency of monitoring, locations to be monitored, and analysis of samples (if applicable).

**Gastech, Inc. Trace-Techtor, hexane calibration. Monitor at borehole during each sampling event if vapors detected.**

If air monitoring is not to be implemented for this site, explain why:

N/A

3.2 Personnel Monitoring

(Include hierarchy of responsibilities decision making on the site)

**Site safety manager to make decision.**

3.3 Sampling Monitoring

(a) Techniques used for sampling: **Sample air at borehole.**

(b) Equipment used for sampling: **Gastech, Inc., Trace-Techtor**

(c) Maintenance and calibration of equipment: **Calibrate to hexane prior to operation.**

4. PERSONAL PROTECTIVE EQUIPMENT (PPE)

Equipment used by employees for the site tasks and operations being conducted. Be Specific (i.e., hard hat, impact resistance goggles, other protective glove, etc.).

**Hard hat, protective gloves (when necessary), steel-toed boots**

## 5. SITE CONTROL AND SECURITY MEASURES

The following general work zone security guidelines should be implemented:

- Work zone shall be delineated with traffic cones.
- Boreholes shall be delineated with traffic cones when drilling and sampling activities are not actually taking place.
- Excavations shall be protected when unattended. Visitors will not be allowed to enter the work zone unless they have attended a project safety briefing.

## 6. DECONTAMINATION PROCEDURE

List the procedures and specific steps to be taken to decontaminate equipment and PPE.

**Wash equipment with a trisodium phosphate/tap water solution and rinse with clean tap water.**

## 7. TRAINING REQUIREMENTS

Prior to mobilization at the job site, employees will attend a safety briefing. The briefing will include the nature of the wastes and the site, donning personal protection equipment, decontamination procedures and emergency procedures.

Supervisory and key contractor personnel will take an instruction course and pass an airports operations test.

## 8. MEDICAL SURVEILLANCE REQUIREMENTS

If any task requires a very high personnel protection level (OSHA Level A or B), personnel shall provide assurances that they have received a physical

examination and they are fit to do the task. Also personnel will be instructed to look for any symptom of heat stress, heat stroke, heat exhaustion or any other unusual symptom. If there is any report of that kind it will be immediately followed through, and appropriate action will be taken.

## 9. STANDARD OPERATION PROCEDURES

Tank Protect Engineering of Northern California, Inc. (TPE) is responsible for the safety of all TPE employees on site. Each contractor shall provide all the equipment necessary to meet safe operation practices and procedures for their personnel on site and be responsible for the safety of their workers.

A "Three Warning" system is utilized to enforce compliance with Health and Safety procedures practices which will be implemented at the site for worker safety:

- \* Eating, drinking, chewing gum or tobacco, and smoking will be allowed only in designated areas.
- \* Wash facilities will be utilized by workers in the work areas before eating, drinking, or use of the toilet facilities.
- \* Containers will be labeled identifying them as waste, debris or contaminated clothing.
- \* All excavation/drilling work will comply with regulatory agency requirements.
- \* All site personnel will be required to wear hard hats and advised to take adequate measures for self protection.
- \* Any other action which is determined to be unsafe by the site safety officer.



10. CONFINED SPACE ENTRY PROCEDURES

No one is allowed to enter any confined space operation without proper safety measures. Specifically in case of an excavated Tank Pit no one should enter at any time.

11. EMERGENCY RESPONSE PLAN

Fire extinguisher(s) will be on site prior to excavation. Relevant phone numbers:

Person	Title	Phone No.
<u>John Mrakovich</u>	Project Manager	(510) 429-8088
_____	Fire	911 or _____
_____	Police	911 or _____
_____	Ambulance	911 or _____
_____	Poison Control Center	(800) 523-2222
_____	Nearest off-site no.	_____
<u>Alta Bates-Herrick Hospital</u>	Medical Advisor	(510) 204-2188
<u>John Pellegrini</u>	Client Contact	(510) 653-9850
U.S EPA - ERT _____		(201) 321-6660
Chemtrec _____		(800) 424-9300
Centers for Disease Control _____	Day	(404) 329-3311
	Night	(404) 329-2888
National Response Center _____		(800) 424-8802
Superfund/RCRA Hotline _____		(800) 424-8802
TSCA Hotline _____		(800) 424-9065
National Pesticide Information Services _____		(800) 845-7633
Bureau of Alcohol, Tobacco, and Firearms _____		(800) 424-9555

HEALTH AND SAFETY COMPLIANCE STATEMENT

I, \_\_\_\_\_ have received and read a copy of the project Health and Safety Plan.

I understand that I am required to have read the aforementioned document and have received proper training under the occupational Safety and Health Act (29 CFR, Part 1910.120) prior to conducting site activities at the site.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Nearest Hospital:

**Alta Bates-Herrick Hospital**  
**3001 Colby Street**  
**Berkeley, CA 94705**  
**Gen. Info. (510) 204-4444**  
**Emergency (510) 204-2188**

Directions From Site:

**Drive northeast on Park Avenue to Hollis Street. Turn left (northwest) onto Hollis Street. Proceed on Hollis Street until Ashby Avenue. Turn right (northeast) on Ashby Avenue. Proceed on Ashby Avenue until Colby Street. Turn right (south) on Colby Street and look for the hospital on the left hand side.**