WORK PLAN FOR SOIL-GAS SAMPLING

4550 San Pablo Avenue
Emeryville, California

SLIC Case No. R00002929
Former LOP Case No. R00000248
Former Facility Name: Berkeley Farms

Prepared For

Mr. Tom McKeithen
Garlock & Co.
1450 El Camino Real
Menlo Park, CA 94025

Prepared By

E_2C, INC.
382 MARTIN AVENUE
SANTA CLARA, CA 95050-3112
(408) 327 - 5700

E2C Project Number 2656SC01-A
Date of Document: November 7, 2006

November 7, 2006
E2C Project No. 2656SC01-A

Mr. Tom McKeithen
Garlock & Co.
1450 El Camino Real
Menlo Park, CA 94025

Subject: ***Work Plan for Soil-Gas Sampling***
4550 San Pablo Avenue
Emeryville, California
Document Date: November 7, 2006

Dear Mr. McKeithen:

E_2C, Inc is pleased to attach the November 7, 2006, *Work Plan for Soil-Gas Sampling* in accordance with E2C Proposal No. E6P-5578 dated November 6, 2006. E2C understands that the site was a former Leaking Underground Storage Tank (LUST) site that received case closure from Alameda County Environmental Health Services (ACEHS). We understand that, due to a planned change of land use from commercial to residential, the ACEHS is requiring additional investigation and that the potential for vapor intrusion into future residential buildings is the primary concern. The enclosed work plan was prepared for submittal to the ACEHS for their review, comments, and approval prior to performance of the proposed scope of work.

If you have any questions or require additional information, please do not hesitate to call us at (408) 327-5700.

Sincerely,

Benjamin Berman, REA
Senior Project Manager

CC: Mr. Jerry Wickham
Alameda County Environmental Health Services
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577

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1.0 INTRODUCTION

1.1 Background and Requirement for Proposed Work

Detailed background information is presented in the *Site Closure Report* (SOMA Environmental Engineering Inc, February 10, 2000). The site was a former Leaking Underground Storage Tank (LUST) site that received case closure in April 2006 from Alameda County Environmental Health Services (ACEHS) (*Case Closure Summary*, April 6, 2006, Alameda County Environmental Health). A copy of the April 25, 2006, Case Closure letter from ACEHS is presented in Appendix B. The site was closed with residual soil and groundwater contamination associated with former underground gasoline, diesel, and fuel oil tanks left in-place. Case closure was given for commercial land use with a requirement for case re-evaluation if land-use changes. Due to a planned change of land use from commercial to residential, the ACEHS is requiring additional investigation; the potential for vapor intrusion into future residential buildings is the primary concern. Therefore, ACEHS re-opened the site as a Spills, Leaks, Investigations, and Cleanup (SLIC) case; a copy of the September 7, 2006, SLIC case initiation letter from ACEHS is presented in Appendix C.

1.2 Site Location and Description

Figure 1 shows the site vicinity / location map, and the site plan is presented on Figure 2. The site, a former Berkeley Farms dairy product storage and distribution facility, is located at 4550 San Pablo Avenue, between 45th and 47th Streets, in a commercial and residential section of Emeryville, California. The site currently contains one 2-level commercial building and associated paved parking and landscaped areas. The ground level floor of the building is currently unoccupied and the second level is currently occupied by a yoga / fitness studio. The site lies approximately 1.0 mile east of the San Francisco Bay, approximately 0.75 mile east of U.S. Interstate Highway 80 and approximately 0.6 mile east of U.S. Interstate Highway 580.

2.0 PROPOSED SCOPE OF WORK

The project will be under the supervision of a registered civil engineer or geologist.

Task 1 – Drilling Permit

The proposed soil-gas sampling locations are shown on Figure 2. A drilling permit will be obtained from the Alameda County Public Works Agency – Water Resources Section. The County requires approximately 10 working days for permit processing.

Task 2 – Underground Service Alert

E2C will mark the proposed borehole / sampling locations with white paint as required and contact Underground Service Alert (USA) at least 48 hours (2 business days) prior to planned drilling and soil – gas sampling activities to obtain a USA ticket number, USA members are required to mark the locations of underground utilities on public property.

Task 3 – Private Underground Utility Locating

A private underground utility locating service will also be used to locate and mark underground utilities in the vicinity of the proposed soil – gas sampling locations prior to performing the planned soil - gas sampling activities.

Task 4 – Soil-Gas Sample Collection

The proposed soil-gas sampling locations are shown on Figure 2. Soil-gas sampling collection methods are detailed in Appendix A. E2C will subcontract a specialized soil-gas sampling contractor, equipment operator services, and State of California licensed drilling contractor (C-57 License) to facilitate the soil-gas sampling. Hand-held powered equipment will be used to facilitate the soil – gas sample collection. A total of up to 10 boreholes, approximately 1.0 inch in diameter, will each be advanced to an approximate depth of 5.0 feet below the existing paved or ground surface (soil-gas sampling depths may need to be adjusted in the field based on site specific subsurface conditions). Soil – gas samples will be collected from each of the 10 boreholes, at least one (1) additional quality control duplicate soil-gas sample and at least one (1) field blank will also be collected; therefore, a total of at least 12 soil-gas samples are planned to be collected for analysis.

Soil-gas samples will be collected in general accordance with the guidance document, *Advisory – Active Soil Gas Investigations* (California Environmental Protection Agency, January 28, 2003) and / or the document, *Guidance For The Evaluation And Mitigation Of Subsurface Vapor Intrusion To Indoor Air – Interim Final* (Department of Toxic Substances Control, California Environmental Protection Agency, December 15, 2004, Revised February 7, 2005).

The boreholes will be backfilled and sealed with cement grout after soil-gas samples are collected.

Task 5 – Soil-Gas Sample Analysis

Soil-gas sample analytical methods are detailed in Appendix A.

A specialized mobile laboratory designed for soil-gas sample analysis will be used to analyze soil-gas samples in the field immediately upon collection. The mobile laboratory is certified by the California Department of Health Services under the National Environmental Laboratory Accreditation Program (NELAP). Soil-gas samples will be collected in syringes. The samples will be analyzed for Benzene, Toluene, Ethyl benzene, and total Xylenes (BTEX compounds), and one (1) additional Volatile Organic Compound (VOC) to be used as a tracer / leak check, by EPA Method 8260 gas chromatography / mass spectrometry (GC/MS) methods or equivalent. The tracer / leak check compound is typically Difluoroethane, aka 1,1- Difluoroethane, aka R152A (refrigerant gas) a compound found in the product "Dust-Off XL" produced by Falcon Safety Products, Inc.

Detection limits for BTEX compounds will be lower than the Environmental Screening Levels (ESL), Shallow Soil Gas Screening Levels for Residential Land use from Table E, Shallow Soil Gas and Indoor Air, from *Screening For Environmental Concerns At Sites With Contaminated Soil And Groundwater, Volume 1: Summary Tier 1 Lookup Tables* (California Regional Water Quality Control Board – San Francisco Bay Region, Interim Final – February 2005).

Preliminary results will be available the same day soil-gas samples are collected. The final soil-gas sample certified laboratory analytical report will be available within approximately 10 working days.

Task 6 – Report of Findings

After all field sampling activities are completed and certified laboratory reports have been received, E2C will prepare a report for submittal to Alameda County Environmental Health Services (ACEHS) which will include tabulated sample results with comparison to the residential ESLs, Chain-of-Custody Record / Certified Laboratory Analytical Results, and our conclusions / recommendations. The report will be reviewed, signed and stamped by a registered civil engineer or geologist.

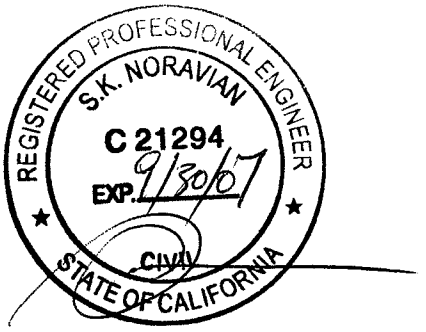
3.0 PROFESSIONAL CERTIFICATION

We declare, under penalty of perjury, that to the best of our knowledge, everything presented in this work plan is true and correct. Should you have any questions or require supplemental information, please do not hesitate to contact us at (408) 327-5700.

Sincerely,

Benjamin Berman, REA
Senior Project Manager

Sako K. Noravian, PE, REA
Principal



VICINITY MAP (U.S.G.S. BASE)

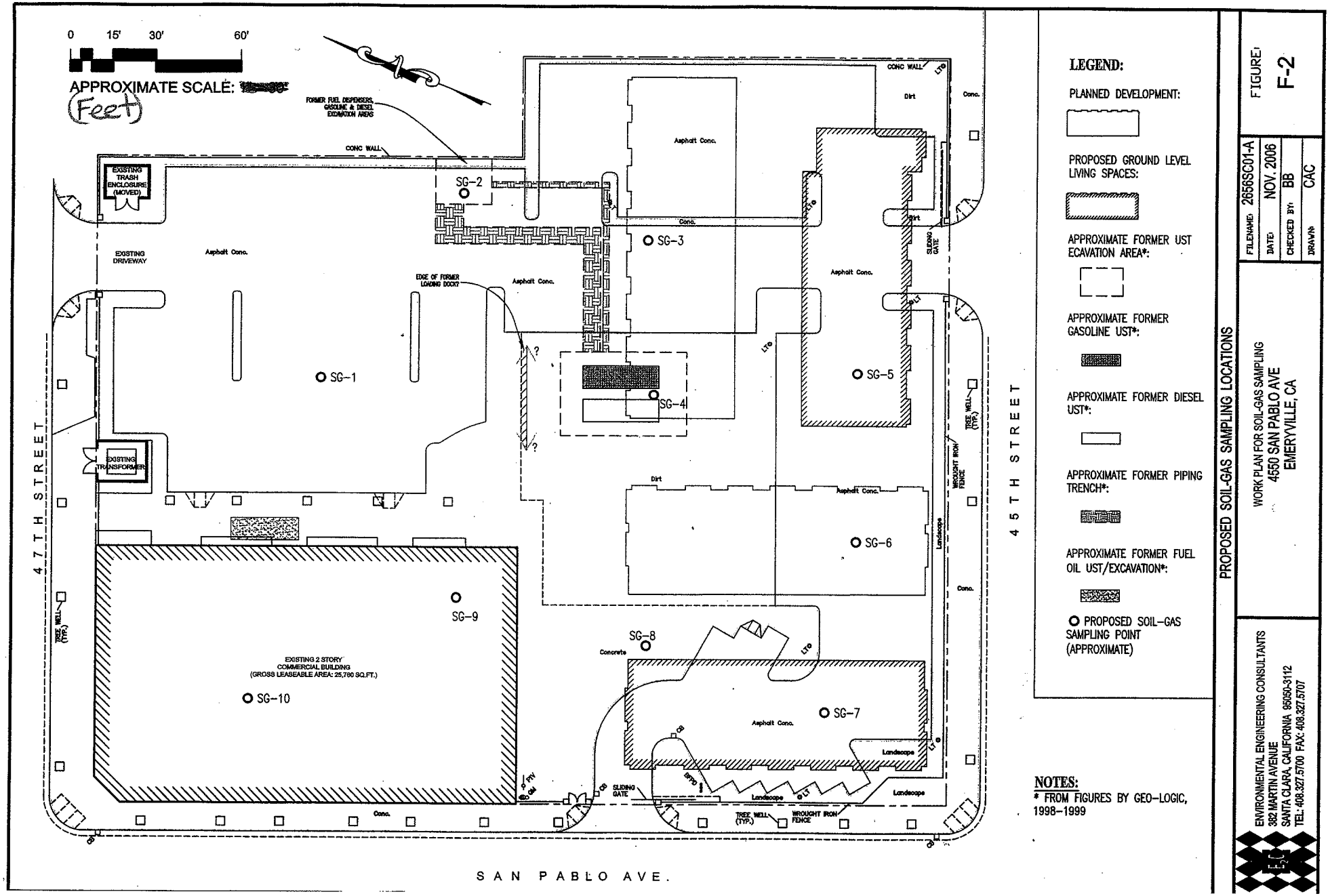
ENVIRONMENTAL /
ENGINEERING CONSULTANTS
382 MARTIN AVENUE
SANTA CLARA, CALIFORNIA 95050-3112
TEL: 408.327.5700 FAX: 408.327.5707

WORK PLAN FOR SOIL-GAS SAMPLING
4550 SAN PABLO AVE
EMERYVILLE, CA

FILENAME:	2658SC01
DATE:	NOVEMBER 2008
CHECK BY:	BB
DRAWN:	CAC

FIGURE:

F-1



LEGEND:

PLANNED DEVELOPMENT:

PROPOSED GROUND LEVEL LIVING SPACES:

APPROXIMATE FORMER UST ECAVATION AREA*:

APPROXIMATE FORMER GASOLINE UST*:

APPROXIMATE FORMER DIESEL UST*:

APPROXIMATE FORMER PIPING TRENCH*:

APPROXIMATE FORMER FUEL OIL UST/EXCAVATION*:

O PROPOSED SOIL-GAS SAMPLING POINT (APPROXIMATE)

NOTES:

* FROM FIGURES BY GEO-LOGIC, 1998-1999

PROPOSED SOIL-GAS SAMPLING LOCATIONS

WORK PLAN FOR SOIL-GAS SAMPLING
4550 SAN PABLO AVE
EMERYVILLE, CA

FIGURE: F-2

FILENAME:	2656SC01-A
DATE:	NOV. 2006
CHECKED BY:	BB
DRAWN:	CAC

ENVIRONMENTAL ENGINEERING CONSULTANTS
382 MARTIN AVENUE
SANTA CLARA, CALIFORNIA 95050-3112
TEL: 408.327.5700 FAX: 408.327.5707

APPENDIX A

Soil Vapor Survey Methodology

SOIL VAPOR SURVEY METHODOLOGY

DTSC Protocols

Active Soil Vapor Sampling System

The low-dead volume soil vapor sampling system has been inspected, endorsed, and is favored by all regulatory agencies who have seen it, including the EPA and CA DTSC. The design eliminates the risk of air leakage down the soil vapor probe, ensures sample collection from the tip, and greatly facilitates decontamination procedures.

Probe Construction

The soil vapor probes are constructed of 1 inch outer diameter chrom-moly steel, equipped with a steel drop off tip. The Strataprobe can use a larger diameter probe if needed. Nominal lengths are 4 feet and additional lengths may be added to one another to achieve the required sampling depth. An inert 1/8 inch tube runs through the center of the probe and is attached to the sampling port with a stainless steel post run fitting.

Probe Insertion

The probe is driven into the ground with an electric rotary hammer, or with the Strataprobe. After inserted to the desired depth, the probe is retracted slightly, which opens the tip and exposes the vapor sampling port. This design prevents clogging of the sampling port and cross-contamination from soils during insertion. Once the probe rod is placed, the sample can be collected after waiting twenty minutes for equilibration.

Soil Gas Sampling

Soil vapor is withdrawn from the inert tubing using a calibrated syringe connected via an on-off valve. A purge volume test is conducted by sampling at the first soil vapor location three times after sequentially collecting and discarding one, three, and seven dead volumes of soil vapor gas to flush the sample tubing and fill it with in-situ soil vapor. The purge volume used prior to the sample yielding the highest analytical value is used for all subsequent sampling. After purging, the next 20cc to 50cc of soil vapor are withdrawn in the syringe, plugged, and immediately transferred to the mobile lab for analysis within the required holding time. During sampling, a leak check gas is used to confirm that the sample train and probe rod is tight and leak free. Additional soil vapor may be collected and stored in gas-tight containers (e.g. Summa canisters) as desired.

Flushing & Decontamination Procedures

To minimize the potential for cross-contamination between sites, all external probe parts are cleaned of excess dirt and moisture prior to insertion. The internal inert tubing and sampling syringes are flushed with large volumes of ambient air between samples or discarded as required. If water, dirt, or any material is observed in the tubing, the tubing is discarded and replaced with fresh tubing.

SOIL VAPOR SURVEY METHODOLOGY

DTSC Protocols

Analytical Methodology

Soil vapor samples collected from each probe will be transferred directly to the on-site mobile laboratory and analyzed immediately. There will be minimal lag time between sample collection and analysis, ensuring that the integrity of the sample is maintained.

Samples will be analyzed on a gas chromatograph equipped with capillary columns and a combination of mass spectrometer (GC/MS), TCD, and FID detectors as needed. This combination of columns and detectors ensures compound separation, recognition, and detection at the required levels.

These detectors enable on-site analysis for petroleum hydrocarbons, volatile aromatics (BTEX), and volatile organic compounds (e.g. DCE, TCE, PCE, vinyl chloride) using EPA approved analytical methodology outlined in methods 8260B and 8015m. Output signals from each detector are processed by computer chromatography software and the results entered into a laboratory computer for on-site processing.

Daily instrument Calibration

Daily continuing calibration is performed at the start of each day by injecting and analyzing a mid-range calibration standard. Acceptable continuing calibration agreement: +/- 15% to 25% to the calibration curve, depending on the compound.

Blanks & Duplicates

Blanks are analyzed at the start of each day and more often as appropriate depending upon the measured concentrations. Typically, when high sample values are encountered, additional blanks may be analyzed. Duplicate samples are analyzed as needed or as requested by the client or regulatory agency.

Compound Confirmation

A MS (mass spectrometer) detector is used for absolute compound identification of VOCs. Also, a surrogate compound is added to each sample during analysis to confirm that the chromatographic retention times have not shifted during the course of the day and that surrogate recovery is adequate showing proper instrument operation and integrity.

SOIL VAPOR SURVEY METHODOLOGY

Health and Safety - Training and Medical Monitoring Programs

In order to reduce potential employee exposure to hazardous materials and reduce the risk of injury incurred during the normal performance of work, the soil-gas sampling and analysis contractor maintains active participation of personnel in a Injury and Illness Prevention Program (IIPP). Each employee that performs work in a laboratory or in the field, is required to have completed a 40-hour training session in accordance with 29 CFR 1910.120. The Health and Safety Officer coordinates all aspects of training and maintaining the Injury and Illness Prevention program, including, but not limited to:

-- annual physical examination of field personnel (including an initial baseline exam upon hiring)
-- health, safety and hazardous material training
-- first aid and Cardio-Pulmonary Resuscitation (CPR) training
-- safety equipment inventory and purchasing
-- review of health and safety procedures, exposure limits, and plans for each project.

Work procedures and required safety conditions are determined on the basis of anticipated work, environmental conditions and levels of toxic chemicals at a given site. Consultation with client safety personnel or representatives is undertaken to determine potential health hazards to workers at that site. Each employee participates in all pre-job safety meetings at each job site.

APPENDIX B

April 25, 2006
Case Closure letter
from ACEHS

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

April 25, 2006

Mr. Peter Puckett
Berkeley Farms
P.O. Box 4616
Hayward, CA 94540-4616

Ms. Carol Light
Emeryville Farms, LLC
1201 Park Avenue
Emeryville, CA 94608-3632

Ms. Natasha Moiseyev
4550 San Pablo LLC/Peter and Leslie Matthews Trust
1450 El Camino Avenue
Menlo Park, CA 94025

Dear Mr. Puckett, Ms. Light, and Ms. Moiseyev:

Subject: Fuel Leak Site Case Closure; Berkeley Farms, 4550 San Pablo Avenue, Emeryville, CA; Case No. RO0000248

This letter transmits the enclosed underground storage tank (UST) case closure letter in accordance with Chapter 6.75 (Article 4, Section 25299.37[h]). The State Water Resources Control Board adopted this letter on February 20, 1997. As of March 1, 1997, the Alameda County Environmental Health (ACEH) is required to use this case closure letter for all UST leak sites. We are also transmitting to you the enclosed case closure summary. These documents confirm the completion of the investigation and cleanup of the reported release at the subject site. The subject fuel leak case is closed.

SITE INVESTIGATION AND CLEANUP SUMMARY

Please be advised that the following conditions exist at the site:

- Residual concentrations of up to 1,300 milligrams per kilogram (mg/kg) of total petroleum hydrocarbons as diesel remain in soil at the site.
- Residual concentrations of up to 1,275 micrograms per liter (µg/L) of total petroleum hydrocarbons as gasoline remain in groundwater at the site.
- Residual concentrations of up to 8,450 µg/L of total petroleum hydrocarbons as diesel remain in groundwater at the site.

If you have any questions, please call Jerry Wickham at (510) 567-6791. Thank you.

Sincerely,

Donna L. Drogos, P.E.
LOP and Toxics Program Manager

Enclosures:
1. Remedial Action Completion Certificate
2. Case Closure Summary

cc:

Ms. Cherie McCaulou (w/enc)
SF- Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Mr. Toru Okamoto (w/enc)
State Water Resources Control Board
UST Cleanup Fund
P.O. Box 944212
Sacramento, CA 94244-2120

Mr. Ignacio Dayrit (w/enc)
City of Emveryville
1333 Park Avenue
Emeryville, CA 94608-3517

Mr. Mansour Sepehr (w/enc)
Soma Environmental Engineering, Inc.
6620 Owens Drive, Suite A
Pleasanton, CA 94588-3334

Jerry Wickham (w/orig enc), D. Drogos (w/enc), R. Garcia (w/enc)

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
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1131 Harbor Bay Parkway, Suite 250
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April 25, 2006

Mr. Peter Puckett
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1201 Park Avenue
Emeryville, CA 94608-3632

Ms. Natasha Moiseyev
4550 San Pablo LLC/Peter and Leslie Matthews Trust
1450 El Camino Avenue
Menlo Park, CA 94025

REMEDIAL ACTION COMPLETION CERTIFICATE

Dear Mr. Puckett, Ms. Light, and Ms. Moiseyev:

Subject: Fuel Leak Site Case Closure; Berkeley Farms, 4550 San Pablo Avenue, Emeryville, CA; Case No. RO0000248

This letter confirms the completion of a site investigation and remedial action for the underground storage tanks formerly located at the above-described location. Thank you for your cooperation throughout this investigation. Your willingness and promptness in responding to our inquiries concerning the former underground storage tank(s) are greatly appreciated.

Based on information in the above-referenced file and with the provision that the information provided to this agency was accurate and representative of site conditions, this agency finds that the site investigation and corrective action carried out at your underground storage tank(s) site is in compliance with the requirements of subdivisions (a) and (b) of Section 25299.37 of the Health and Safety Code and with corrective action regulations adopted pursuant to Section 25299.77 of the Health and Safety Code and that no further action related to the petroleum release(s) at the site is required.

This notice is issued pursuant to subdivision (h) of Section 25299.37 of the Health and Safety Code.

Please contact our office if you have any questions regarding this matter.

Sincerely,

William W. Pitcher

William Pitcher
Interim Director
Alameda County Environmental Health

APPENDIX C

September 7, 2006
SLIC case initiation letter
from ACEHS

7

ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
DAVID J. KEARS, Agency Director

ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
1131 Harbor Bay Parkway, Suite 250
Alameda, CA 94502-6577
(510) 567-6700
FAX (510) 337-9335

September 7, 2006

Ms. Natasha Moiseyev
4550 San Pablo LLC/Peter and Leslie Matthew Trust
1450 El Camino Avenue
Menlo Park, CA 94025

Subject: SLIC Case RO0002929, San Pablo LLC, 4505 San Pablo Avenue, Emeryville, CA 94608

Dear Ms. Moiseyev:

Based upon the information in our case files, a fuel leak case at the above referenced site (RO0000248) was closed by Alameda County Environmental Health (ACEH) on April 25, 2006. Due to residual soil and groundwater contamination at the site, the site was closed with a restriction for future commercial land use only. Based upon your letter dated May 23, 2006, we have opened a Spills, Leaks, Investigations, and Cleanup (SLIC) case in order to review the site for unrestricted future use. Existing reports will be reviewed in order to make this assessment.

In order for ACEH to review reports for your site, we require an oversight account for the above-referenced site in order to recover our costs. To set up your account, please send a check in the amount of $6,000.00 payable to Alameda County Environmental Health. Please send your check to the attention of our Finance Department.

This initial deposit may or may not be sufficient to provide all necessary regulatory oversight. ACEH will deduct actual costs incurred based upon the hourly rate specified below. If these funds are insufficient, additional deposit will be requested. Otherwise, any unused monies will be refunded to you or your designee.

The deposit is authorized in Section 6.92.040L of the Alameda County Ordinance Code. Work on this project is being debited at the Ordinance specified rate, currently $166.00 per hour.

Please write "SLIC" (the type of project), the site address, and the AR# 317722 on your check.

If you have any questions, please contact Jerry Wickham at (510) 567-6791.

Sincerely,

Arlu Levi
Division Chief

cc: D. Drogos, J. Jacobs, Jerry Wickham