

ALAMEDA COUNTY  
HEALTH CARE SERVICES

AGENCY  
DAVID J. KEARS, Agency Director



SENT  
7-20-05

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

July 18, 2005

Mr. Denis Brown  
Shell Oil Products US  
20945 S. Wilmington Ave.  
Carson, CA 90810-1039

Subject: Fuel Leak Case No. RO0002525, Shell#13-5440, 318 South Livermore Avenue, Livermore, CA

Dear Mr. Brown:

Alameda County Environmental Health (ACEH) staff has reviewed the case file and the documents entitled, "Soil and Groundwater Investigation and Over-Excavation Report," dated July 11, 2005, and "Quarterly Monitoring Report – Second Quarter 2005," dated June 10, 2005. Both reports were prepared on behalf of Shell by Delta Environmental Consultants, Inc. The "Soil and Groundwater Investigation and Over-Excavation" report presents the results from three soil borings drilled in June 2005 and overexcavation of fill material containing elevated concentrations of lead. The report includes recommendations for over-excavation of soil in the central portion of the site and additional investigation potholes to define the extent of lead in fill materials in the southern portion of the site. The report also includes a recommendation to install an additional monitoring well between existing wells MW-7 and MW-8. ACEH concurs with the recommendations provided that the conditions identified in the technical comments below are met.

Please address the following technical comments, perform the proposed work, and send us the reports described below. Please provide 72-hour advance written notification to this office (e-mail preferred to [jerry.Wickham@acgov.org](mailto:jerry.Wickham@acgov.org)) prior to the start of field activities.

**TECHNICAL COMMENTS**

1. **Over-Excavation.** ACEH concurs with the proposed excavation area to remove the fill material containing elevated concentrations of lead. Confirmation samples are to be collected from the darker (high organic) soil layer at intervals of no greater than 20 feet along the sidewalls of the excavation. A minimum of two confirmation soil samples is to be collected from the base of the excavation. All soil samples are to be analyzed for total lead using EPA Method 6010B. The volumes and weight of soil removed from the site is to be documented and reported. Copies of waste manifests are required. All results are to be presented in the report requested below.
2. **Investigation Potholes.** ACEH concurs with the proposed locations for additional potholes on Figure 3 and collection of soil samples to define the extent of elevated lead concentrations in fill material but requests that an additional pothole be excavated and sampled in the area of MW-5, north of the proposed excavation area. All results are to be presented in the report requested below.

3. **Additional Monitoring Well MW-9.** ACEH concurs with the recommendation to install proposed monitoring well MW-9 between existing wells MW-7 and MW-8. During well installation, soil samples are to be collected for laboratory analysis at five-foot intervals. The soil samples are to be analyzed for total petroleum hydrocarbons as gasoline (TPHg), BTEX compounds, MTBE, TBA, and 1,2-DCA by EPA Method 8260B; ethylene dibromide (EDB) by EPA Method 504.1; and total lead by EPA Method 6010B. The well is to have a screened interval of 5 feet, installed within the sand and gravel unit previously encountered approximately 30 feet bgs. Following installation and development, monitoring well MW-9 is to be sampled quarterly for four quarters. Groundwater samples are to be analyzed for TPHg; BTEX compounds; the fuel oxygenates, MTBE, DIPE, ETBE, TAME, and TBA; and 1,2-DCA by EPA Method 8260B; EDB using EPA Method 504.1; and total lead using EPA Method 6010B.
4. **Groundwater Monitoring for Existing Wells.** Based on the consistent monitoring results obtained from existing wells MW-5, MW-6, MW-7, and MW-8, the sampling frequency for the existing wells can be reduced from quarterly to semi-annual during the second and fourth quarters. In addition, the fuel oxygenates DIPE, ETBE, and TAME can be eliminated from the analysis for the existing wells.

#### **TECHNICAL REPORT REQUEST**

Please submit technical reports to Alameda County Environmental Health (Attention: Mr. Jerry Wickham), according to the following schedule:

- **October 19, 2005** – Well Installation and Over-excavation Report
- **January 17, 2006** - Quarterly Report for the Fourth Quarter 2005

These reports are being requested pursuant to California Health and Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2728 outline the responsibilities of a responsible party in response to an unauthorized release from a petroleum UST system, and require your compliance with this request.

#### **PERJURY STATEMENT**

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

#### **PROFESSIONAL CERTIFICATION & CONCLUSIONS/RECOMMENDATIONS**

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering

Mr. Denis Brown  
July 18, 2005  
Page 3

evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

**UNDERGROUND STORAGE TANK CLEANUP FUND**

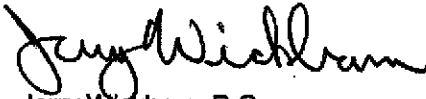
Please note that delays in investigation, later reports, or enforcement actions may result in your becoming ineligible to receive grant money from the state's Underground Storage Tank Cleanup Fund (Senate Bill 2004) to reimburse you for the cost of cleanup.

**AGENCY OVERSIGHT**

If it appears as though significant delays are occurring or reports are not submitted as requested, we will consider referring your case to the Regional Board or other appropriate agency, including the County District Attorney, for possible enforcement actions. California Health and Safety Code, Section 25299.76 authorizes enforcement including administrative action or monetary penalties of up to \$10,000 per day for each day of violation.

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

Sincerely,



Jerry Wickham, P.G.  
Hazardous Materials Specialist

cc: Debbie Arnold, Delta Environmental Consultants, 175 Bernal Road, San Jose, CA 95119

Colleen Winey, QIC 80201  
Zone 7 Water Agency, 100 North Canyons Parkway, Livermore, CA 94551

Paul Smith, Livermore-Pleasanton Fire Department, 3560 Nevada Street, Pleasanton, CA 94566

Danielle Stefani, Livermore-Pleasanton Fire Department, 3560 Nevada Street, Pleasanton, CA 94566

Chris Davidson, City of Livermore, Economic Development, 1052 S. Livermore Ave., Livermore, CA 94550

Donna Drogos, ACEH  
Jerry Wickham, ACEH  
File

ALAMEDA COUNTY  
HEALTH CARE SERVICES

AGENCY  
DAVID J. KEARS, Agency Director



SENT 01-29-05

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

January 21, 2005

Karen Petryna  
Shell Oil Products US  
20945 S. Wilmington Ave.  
Carson, CA 90810

Subject: Fuel Leak Case No. RO0002525, Shell #13-5440, Former Service Station at 318 Livermore Avenue, Livermore, California –Workplan Approval

Dear Ms. Petryna:

Alameda County Environmental Health (ACEH) has reviewed your January 20, 2005, *Investigation and Excavation Work Plan – Second Revision* prepared by Delta Environmental Consultants, Inc., for the above-referenced site. We concur with your workplan provided the following conditions are met:

1. As required by 23 CCR 2725(a), sufficient data will be collected to define the likely vertical extent of contamination. To help achieve this goal, and thereby progress the case towards regulatory closure, ACEH requested in our December 20, 2004 letter that you drill boring B-2 to depth sufficient to fully define the vertical extent of residual fuel. Additional discussion of this issue is provided under Technical Comment #1, below.
2. A minimum of six excavation confirmation samples will be collected and analyzed. The six samples will include one sample from each of the four sidewalls and two samples from the excavation bottom.
3. Soil excavation practices will be compliant with all Bay Area Air Quality Management District rules and regulations.
4. Volume and weight of all soil removed from the site as part of the cleanup action will be documented and reported. Copies of waste manifests are required.
5. If deemed necessary by your geologist or engineer to fully define the vertical and lateral extent of contamination, additional soil or groundwater samples will be collected as part of the current investigation efforts. ACEH will be informed via telephone or email of any additions to the sampling and analysis plan. Any additional work will follow the workplan-specified procedures. Dynamic investigations are consistent with USEPA protocol for expedited site assessments, which are scientifically valid and offer a cost-effective approach to fully define a plume and to help progress a case toward closure.
6. Because detected 1,2-DCA concentrations exceed the applicable cleanup goal, sufficient data will be collected in the field and/or from historical site investigation to evaluate natural attenuation of this compound and the likely time period required for the site to achieve water quality objectives.
7. 72-hr advance written notification (email preferred) will be provided to ACEH prior to field sampling activities.

Please implement the proposed investigation and submit technical reports following the schedule below. In addition, we request that you address the following technical comments in your report.

## TECHNICAL COMMENTS

### 1. Vertical Definition

As required by 23 CCR 2725(a), and consistent with State Water Resource Control Board Resolution 92-49 (II,A,1,a&b) *Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304*, ACEH requires definition of the likely vertical extent of contamination. We will be unable to close this fuel leak case if the likely vertical extent of contamination is not suitably defined. Due to historical groundwater level fluctuation, and uncertainty regarding the timing of the fuel release, soils currently located below the water table could have been affected by the release.

Typically, as a preliminary step in defining the vertical extent of source area contamination, ACEH recommends that soil samples be collected and analyzed from a boring within the footprint of the former UST field (or point of fuel release) to at least 10 ft below the total depth of contamination, as identified by field screening of samples. We do not share Delta's concern regarding cross-contamination during source area drilling below the water table for the following reasons: 1) no free product has been detected; 2) while groundwater can enter hollow-stem augers during soil sampling and be carried downward inside the augers, this occurrence can be minimized by a combination of purging and introduction of deionized water; 3) an alternative drilling technology may be used; and 4) the boring B-2 will be temporary and will be tremie grouted to ground surface immediately following drilling.

In your investigation report, the nature and vertical and lateral extent of contamination needs to be defined for this site to progress towards case closure. Please submit your evaluation in the report requested below.

### 2. Case Closure Evaluation

Depending on the results of the proposed investigation, and on the success of the proposed soil excavation, this site may be considered for case closure. If you determine that closure review is warranted, we request that you include, at a minimum, the following documentation as part of your investigation report: 1) comprehensive summary tables for soil and groundwater presenting all historical and current data for the site (analytical data representative of soil which has been removed from the site – i.e. pre-remediation data – should be clearly flagged); 2) maps showing plotted soil and groundwater concentrations; 3) depth-specific isoconcentration maps for key groundwater contaminants of concern where water quality objectives are exceeded; 4) comparison of soil and groundwater concentrations to the cleanup levels and goals; and 5) identification of subsurface utilities and wells potentially affected by the release in accordance with 23 CCR 2654b(2). Please include your evaluation and documentation in the report requested below.

## REPORT REQUEST

Please submit your *Soil and Water Investigation Report*, which addresses the comments above by **April 21, 2005**. ACEH makes this request pursuant to California Health & Safety Code Section 25296.10. 23 CCR Sections 2652 through 2654, and 2721 through 2778 outline the responsibilities of a responsible party for an unauthorized release from an UST system, and require your compliance with this request.

Professional Certification and Conclusions/Recommendations

The California Business and Professions Code (Sections 6735 and 7835.1) requires that workplans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

Perjury Statement

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

**UNDERGROUND STORAGE TANK CLEANUP FUND**

Please note that delays in investigation, late reports or enforcement actions by ACEH may result in you becoming ineligible to receive cleanup cost reimbursement from the state's Underground Storage Tank Cleanup Fund (senate Bill 2004).

**AGENCY OVERSIGHT**

If it appears as though significant delays are occurring or reports are not submitted as requested we will consider referring your case to the County District Attorney or other appropriate agency, for enforcement. California Health and Safety Code, Section 25299.76 authorizes ACEH enforcement including administrative action or monetary penalties of up to \$10,000 per day for each day of violation.

Please call me at (510) 567-6719 with any questions regarding this case.

Sincerely,



Robert W. Schultz, R.G.  
Hazardous Materials Specialist

Cc: Chris Davidson, City of Livermore, Economic Development, 1052 S. Livermore,  
Livermore, CA 94550  
Danielle Stefani, Livermore - Pleasanton Fire Department, 3560 Nevada St., Pleasanton,  
CA 94566  
Matt Katen, Zone 7 Water District, QIC 80201  
Donna Drogos, ACEH  
Robert W. Schultz, ACEH

ALAMEDA COUNTY  
HEALTH CARE SERVICES

AGENCY

DAVID J. KEARS, Agency Director



December 20, 2004

Karen Petryna  
Shell Oil Products US  
20945 S. Wilmington Ave.  
Carson, CA 90810

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

Subject: Fuel Leak Case No. RO0002525, Shell #13-5440, Former Service Station at 318  
Livermore Avenue, Livermore, California – Request for Workplan Addendum

Dear Ms. Petryna:

Alameda County Environmental Health (ACEH) has reviewed your November 3, 2004 *Revised Investigation and Excavation Work Plan* and the case file for the above-referenced site. Petroleum hydrocarbons, MTBE, and DIPE were detected in site groundwater following monitoring well installation in September 2001. During UST system removals in December 2003 and other site decommissioning activities in January 2004, up to 45 mg/kg petroleum hydrocarbons, 0.2 mg/kg toluene, 0.11 mg/kg ethylbenzene, 0.84 mg/kg xylenes, 0.016 mg/kg TBA, 380 mg/kg lead and various concentrations of other VOCs and SVOCs, were detected in site soil. To investigate the extent of contamination and to cleanup the site to unrestricted land use (residential) standards, your consultant, Delta Environmental Consultants, Inc., proposes drilling two exploratory borings and removal of soils from beneath a former fuel dispenser location. ACEH requires that you modify your workplan and propose additional sampling to fully investigate your release. Please revise your workplan and submit an addendum to address the technical comments below. This request is made in the interest of minimizing the number of iterations of field work performed at leaking UST sites, and to thereby reduce both the time period and costs for a case to progress to closure.

#### TECHNICAL COMMENTS

##### 1. Downgradient Groundwater Sampling

Due to historical fluctuation in the groundwater flow direction at the site, more than one boring needs to be drilled and sampled downgradient (southwest) of the former dispenser locations (towards South Livermore Avenue). Boring B-1 is insufficient to fully investigate downgradient groundwater quality. We recommend that you locate an additional boring along the investigation transect formed by sampling locations MW-8, B-1 and MW-7, and that the additional boring be located mid-way between well MW-7 and boring B-1. Please revise your sampling plan in the workplan addendum requested below.

##### 2. Depth-Discrete Groundwater Sampling

Due to historical fluctuation in the depth to groundwater beneath the site, the site lithology, and uncertainty regarding the time of the fuel release, two potential water bearing zones need to be evaluated in each downgradient groundwater sampling location. Depth-discrete groundwater samples from 1) the gravel at approximately 28 ft bgs, and 2) the interval screened by wells MW-5 through MW-8, need to be collected and analyzed. Based on Delta's June 15, 2004 *Quarterly Monitoring Report*, water levels beneath the site appear to have risen to within approximately 25 ft of ground surface. If no groundwater samples can be collected from the

gravel at 28 ft bgs at the time of drilling, soil samples from this zone may be analyzed instead. ACEH requires depth-discrete groundwater sampling with screened intervals of no more than 5 ft. Please revise your sampling plan in the workplan addendum requested below.

### 3. UST Area Sampling

Since no petroleum hydrocarbons were detected in borings S-A through S-D in 1989, and since the source of the detected lead is presumed to be leaded gasoline formerly stored and dispensed at the site, Delta proposes one additional boring within the former first generation UST cavity to determine if residual petroleum hydrocarbons are present and to vertically evaluate any detected contamination. In addition to the sampling depths proposed by Delta, we request that you collect and analyze a soil sample from within the upper two ft of native soil beneath the former USTs. Also, if contamination is detected during field screening, we request that you drill boring B-2 to depth sufficient to fully define the vertical extent of residual fuel. All soil samples need to be analyzed for TPHg, BTEX, MTBE, 1,2-DCA, EDB and total lead. To assess groundwater near the second generation USTs, we request that a depth-discrete groundwater sample be collected from boring B-2 and analyzed for TPHg, BTEX, MTBE, TBA, TAME, DIPE, ETBE, 1,2-DCA, and EDB. Please revise your sampling plan in the workplan addendum requested below.

### 4. Soil Excavation and Confirmation Sampling

Delta proposes collecting two sidewall samples and two excavation bottom samples. A minimum of one sidewall sample needs to be collected from each sidewall, at a frequency of at least one sample per 20 ft, and at appropriate depths based on field observations of staining and odor. Field screening of soil samples and excavation oversight by a qualified geologist or environmental engineer are required. Please revise your sampling plan in the workplan addendum requested below.

### 5. Cleanup Levels and Goals

We concur with the soil and groundwater cleanup goals proposed by Delta, with the following exceptions. The RWQCB-SFBR ESLs (Interim Final – July 2003) specify an EDB screening level of 0.05 ug/L<sup>1</sup>. In addition, 1,2-DCA and EDB are considered potential contaminants of concern, and analysis for these compounds is required. Groundwater in site monitoring wells MW-1 through MW-4 was analyzed for total lead in 1992. No lead was detected in wells MW-1 through MW-3. In well MW-4, 3.3 ug/L total lead was detected; however, no lead was detected in this well during the subsequent sampling event conducted on January 25, 1993. The 1992/1993 analytical laboratory detection limit (3 ug/L) was elevated as compared to the current cleanup goal (2.5 ug/L); however, the lead contamination was considered a low risk groundwater impact and ACEH closed the previous case in 1995. The EPA mandated dramatic reductions in gasoline lead concentrations between 1973 and 1986, and it has been illegal to sell leaded gasoline for use in on-road vehicles since December 31, 1995, so no leaded gasoline is likely to have been stored or dispensed at the site since closure of the previous case. Accordingly, lead is no longer a contaminant of concern in groundwater at the site. Please revise your cleanup goals to include EDB in the workplan addendum requested below.

---

<sup>1</sup> The July 1995 *San Francisco Bay Basin Water Quality Control Plan* (the Basin Plan) refers to the RWQCB-CVR report *A Compilation of Water Quality Goals* (most recent version dated August 2003) as a potential source of current water quality numerical objectives (i.e. cleanup goals); these same figures can be found in the RWQCB-ESLs, Tables F-1a, F-3 and I-1.



## 6. Data Tabulation and Environmental Screening

We reiterate our request that you prepare summary data tables for soil and groundwater. The tables need to include all data collected at the site following the 1995 closure of the previous case. All detected compounds (including VOCs, SVOCs, metals, etc.) need to be tabulated and compared to the appropriate screening levels. Please submit the requested tables in the workplan addendum requested below.

## 7. Description of Methods

We request that you describe your proposed methods for sample and field data collection. Methods for groundwater sample collection (Comment 2, above) and field screening during excavation (Comment 4, above) must be detailed. Please refer to State Water Resource Control Board Resolution 92-49 (II, A, 6), *Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304* for additional guidance and a list of key workplan elements. According to the SWRCB, "An adequate workplan should include or reference, at least, a comprehensive description of proposed investigative, cleanup, and abatement activities, a sampling and analysis plan, a quality assurance project plan, a health and safety plan, and a commitment to implement the workplan." Please describe your sampling methods and reference your health and safety plan in the workplan addendum requested below.

## REPORT REQUEST

Please submit your *Workplan Addendum*, which addresses the comments above by **January 20, 2005**. ACEH makes this request pursuant to California Health & Safety Code Section 25296.10, 23 CCR Sections 2652 through 2654, and 2721 through 2778 outline the responsibilities of a responsible party for an unauthorized release from an UST system, and require your compliance with this request.

### Professional Certification and Conclusions/Recommendations

The California Business and Professions Code (Sections 6735 and 7835.1) requires that workplans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

### Perjury Statement

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

## **UNDERGROUND STORAGE TANK CLEANUP FUND**

Please note that delays in investigation, late reports or enforcement actions by ACEH may result in you becoming ineligible to receive cleanup cost reimbursement from the state's Underground Storage Tank Cleanup Fund (senate Bill 2004).

### **AGENCY OVERSIGHT**

If it appears as though significant delays are occurring or reports are not submitted as requested we will consider referring your case to the County District Attorney or other appropriate agency, for enforcement. California Health and Safety Code, Section 25299.76 authorizes ACEH enforcement including administrative action or monetary penalties of up to \$10,000 per day for each day of violation.

Please call me at (510) 567-6719 with any questions regarding this case.

Sincerely,



Robert W. Schultz, R.G.  
Hazardous Materials Specialist

Cc: Chris Davidson, City of Livermore, Economic Development, 1052 S. Livermore,  
Livermore, CA 94550  
Danielle Stefani, Livermore - Pleasanton Fire Department, 3560 Nevada St., Pleasanton,  
CA 94566  
Matt Katen, Zone 7 Water District, QIC 80201  
Donna Drogos, ACEH  
Robert W. Schultz, ACEH

ALAMEDA COUNTY  
HEALTH CARE SERVICES

AGENCY  
DAVID J. KEARS, Agency Director



sent  
9-28-04

September 27, 2004

Karen Petryna  
Shell Oil Products US  
20945 S. Wilmington Ave.  
Carson, CA 90810

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

Subject: Fuel Leak Case No. RO0002525, Shell #13-5440, Former Service Station at 318 Livermore Avenue, Livermore, California

Dear Ms. Petryna:

Alameda County Environmental Health (ACEH) has reviewed your August 26, 2004 *Excavation Work Plan*, your May 27, 2003 *Site Assessment Work Plan*, and the case file for the above-referenced site. Both workplans were prepared by Delta Environmental Consultants, Inc. Please prepare and submit a revised workplan to address the technical comments below.

#### BACKGROUND INFORMATION

ACEH opened the current case following detection of MTBE in groundwater in September 2001. Up to 140 ug/l TPHg, 6.9 ug/l MTBE, and 3.3 ug/l DIPE have been detected in groundwater, and up to 56 mg/kg Total Oil & Grease, 4.9 mg/kg TPHg, and 380 mg/kg lead have been detected in soil since September 2001. The site was previously investigated under case number RO0000769. ACEH closed that case and issued a Remedial Action Completion Certification on December 8, 1995. Shell continued to operate the site as a service station from 1995 until December 2003 when the UST system was removed. The recent reports do not indicate whether the detected concentrations are related to a pre-1995 release or to a more recent release. In response to the recent detections, the May 27, 2003 workplan proposes no further action with respect to the groundwater contamination, and the August 26, 2004 workplan proposes excavation in the area of a former fuel dispenser. ACEH requests a single revised workplan.

#### TECHNICAL COMMENTS

##### 1. Groundwater Investigation

MTBE was detected in wells MW-6, MW-7 and MW-8. Since 2001, groundwater flow at the site appears to have varied between westward and southwestward. Wells MW-7 and MW-8 are approximately 75 ft apart, and no investigation has been performed downgradient of the fuel dispensers, toward South Livermore Avenue. Additional lateral definition of groundwater is necessary.

Due to historical groundwater elevation fluctuations, additional vertical definition is also necessary. No groundwater elevation data is available for the site prior to 1989 or for the period between 1995 and 2001. However, the relative groundwater elevation trends (rising or falling)

for the site appear to correlate well with the regional data<sup>1</sup>. Continuous regional groundwater elevation data is available from the late 1970s through the present, and historical site groundwater elevations can be inferred from the regional data set.

We are concerned that potentially contaminated water-bearing zones at the site have not been investigated. Because a fuel release occurred at the site, and because groundwater was affected, we require that each potentially contaminated water-bearing zone be investigated. Well MW-6 is screened in clays between 38.5 and 53.5 ft bgs; and wells MW-7 and MW-8 are screened in clays between 36.5 and 51.5 ft bgs. At installation in 2001, the wells were screened across the water table. Deducing site groundwater levels from the regional groundwater elevation data, we find that site groundwater levels were likely 10 to 20 ft higher in the mid to late 1990s than in 2001 when wells MW-5 through MW-8 were installed. Further, based on the regional groundwater elevation data presented in the attached hydrographs, the screening intervals of wells MW-5 through MW-8 appear appropriate for a late 1980s or early 1990s release, but a groundwater impact occurring in the late 1970s through the early 1980s or between 1995 and 2000 likely would have affected shallower groundwater. Significantly, the two to three ft thick gravel layer encountered at approximately 28 ft in wells MW-5 through MW-8 has not been investigated.

We request that your revised workplan propose depth-discrete groundwater sampling in locations immediately downgradient of former potential sources and targeting the appropriate depths. Please provide your rationale supporting horizontal location selection and target depths. We recommend that you consider installing a transect of borings along South Livermore Avenue to address these concerns.

## 2. Source of Lead in Soil

Elevated lead concentrations have been detected in fuel dispenser sample P-1 (380 mg/kg) and in oil water separator sample SUMP EAST (54 mg/kg). In 1989, up to 550 mg/kg lead, 37,000 mg/kg TPHg, and 320 mg/kg benzene were detected in soil near the fill pipe of the regular leaded gasoline tank. The pre-1989 UST cavity was located near the southern corner of the property, while the 1989 to 2003 UST cavity was located near the eastern corner of the property, away from South Livermore Avenue. Previous case RO0000739 was closed based on ongoing use of the site as a service station. Please identify the likely source(s) of the lead. We request that your revised workplan identify all locations where the lead source(s) were handled or stored, and that you propose excavation and/or sampling where appropriate cleanup goals are exceeded or where no sampling has been performed.

## 3. Soil Excavation Depth and Confirmation Sampling

Delta proposes excavation of a 200 sq. ft area near sample P-1 to 10 ft bgs. No rationale supporting the lateral or vertical extent of excavation is provided. The deepest lead contamination reported in Table 1 of the August 26, 2004 workplan was at 3.75 ft bgs. Please explain why lead contamination is expected to occur at depths greater than 3.75 ft bgs beneath the former dispenser. Sidewall samples or excavation perimeter samples need to be collected at appropriate depths. Please include a scaled site map showing the proposed excavation area and sampling locations as part of the revised workplan requested below.

---

<sup>1</sup> Hydrographs for Zone 7 Water Agency shallow-zone observation wells 3S/2E 8K2, 3S/2E 16E 4, and 3S/2E 9Q 4 are attached.

#### 4. Sample Analysis

Based on the current data, ACEH recommends that all samples collected as part of the groundwater investigation be analyzed for TPHg, BTEX, MTBE, TBA, ETBE, DIPE, TAME, 1,2-DCA, EDB and total lead. Presuming that leaded gasoline is the likely source of lead in soil, ACEH will require that all soil excavation confirmation samples be analyzed for TPHg, BTEX, MTBE, 1,2-DCA, EDB and total lead at a minimum.

#### 5. Data Tabulation and Environmental Screening

Please include summary data tables for soil and groundwater in your revised workplan. The tables need to include all data collected at the site following the 1995 closure of the previous case. All detected compounds (including VOCs, SVOCs, metals, etc.) need to be tabulated and compared to the appropriate screening levels. Please select appropriate screening levels for the site, such as the RWQCB-SFBR ESLs or the DTSC PRGs, and justify your selection.

#### 6. Cleanup Goals

The August 26, 2004 workplan proposes to excavate soil from an area where lead concentrations exceeded 150 mg/kg. If 150 mg/kg lead is to be used as the cleanup goal, please present rationale supporting this selection. We request that you identify and propose cleanup goals for all contaminants of concern.

#### 7. Groundwater Monitoring

Please analyze groundwater samples from wells MW-5 through MW-8 for TPHg, BTEX, MTBE, TBA, DIPE, ETBE, TAME, TBA, 1,2-DCA and EDB during the next monitoring event. If results are consistent with the historical findings and lead scavenger results are below the appropriate MCLs, no further monitoring will be necessary and a workplan for well abandonment may be submitted.

### REPORT REQUEST

Please submit your *Revised Investigation and Excavation Workplan*, which addresses the comments above by **November 5, 2004**. ACEH makes this request pursuant to California Health & Safety Code Section 25296.10. CCR Title 23, Sections 2722 through 2778 outline the responsibilities of a responsible party for an unauthorized release from an UST system, and require your compliance with this request.

#### Professional Certification and Conclusions/Recommendations

The California Business and Professions Code (Sections 6735, 6835, and 7835.1) requires that work plans and technical or implementation reports containing geologic or engineering evaluations and/or judgments be performed under the direction of an appropriately registered or certified professional. For your submittal to be considered a valid technical report, you are to present site specific data, data interpretations, and recommendations prepared by an appropriately licensed professional and include the professional registration stamp, signature, and statement of professional certification. Please ensure all that all technical reports submitted for this fuel leak case meet this requirement.

#### Perjury Statement

All work plans, technical reports, or technical documents submitted to ACEH must be accompanied by a cover letter from the responsible party that states, at a minimum, the following: "I declare, under penalty of perjury, that the information and/or recommendations

contained in the attached document or report is true and correct to the best of my knowledge." This letter must be signed by an officer or legally authorized representative of your company. Please include a cover letter satisfying these requirements with all future reports and technical documents submitted for this fuel leak case.

#### **AGENCY OVERSIGHT**

If it appears as though significant delays are occurring or reports are not submitted as requested we will consider referring your case to the County District Attorney or other appropriate agency, for enforcement. California Health and Safety Code, Section 25299.76 authorizes ACEH enforcement including administrative action or monetary penalties of up to \$10,000 per day for each day of violation.

Please call me at (510) 567-6719 with any questions regarding this case.

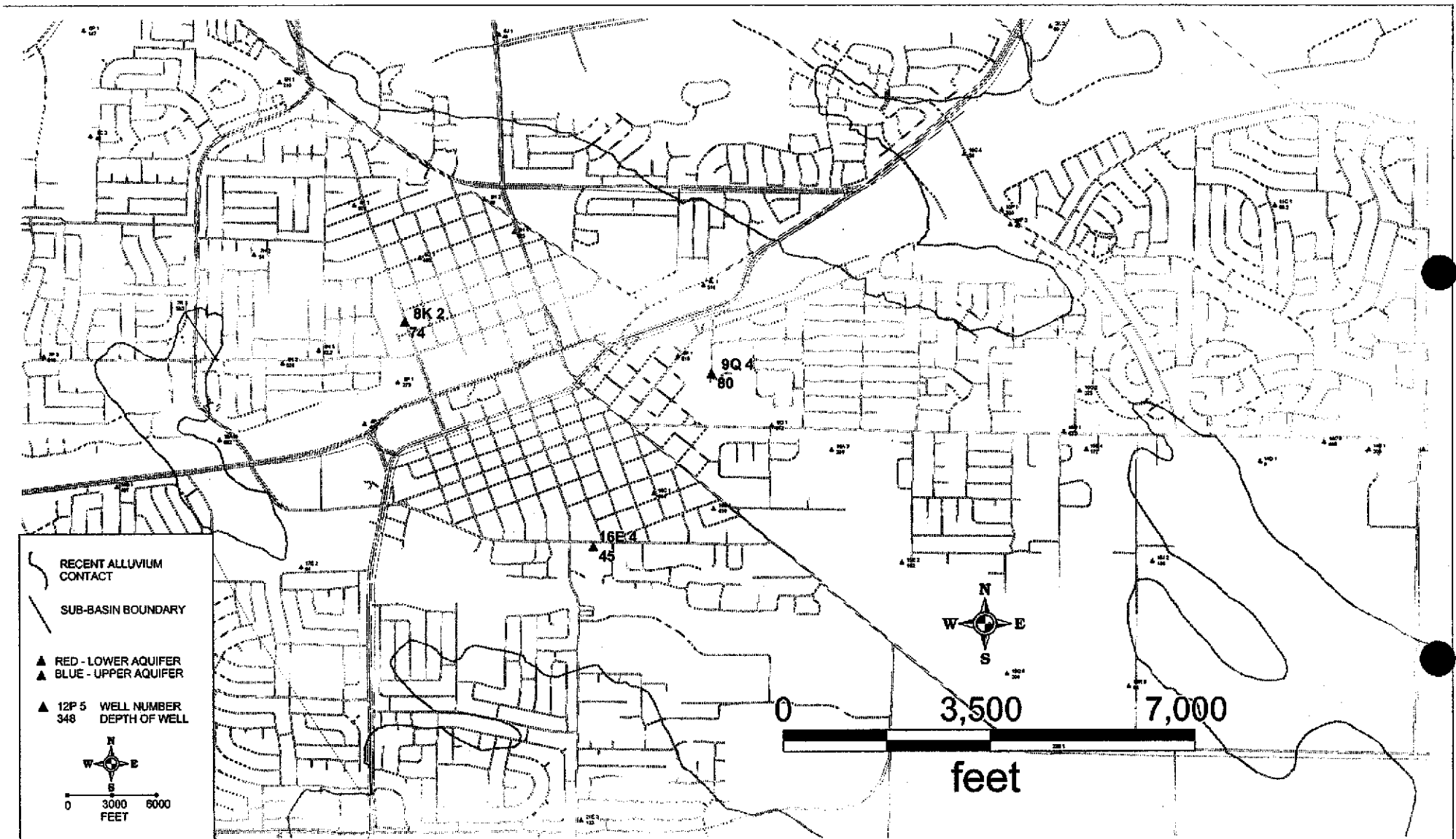
Sincerely,



Robert W. Schultz, R.G.  
Hazardous Materials Specialist

attachment: hydrographs

Cc: Chris Davidson, City of Livermore, Economic Development, 1052 S. Livermore,  
Livermore, CA 94550  
Danielle Stefani, Livermore - Pleasanton Fire Department, 3560 Nevada St., Pleasanton,  
CA 94566  
Matt Katen, Zone 7 Water District, QIC 80201  
Donna Drogos, ACEH  
Robert W. Schultz, ACEH



**ZONE 7 WATER AGENCY**

5997 PARKSIDE DRIVE, PLEASANTON CA 94588

DRAWN BY: GERALD GATES  
 DESIGNED BY: GERALD GATES  
 CHECKED BY:  
 APPROVED BY:

WATER RESOURCES  
**GROUNDWATER MONITORING PROGRAM**  
 2004 WATER YEAR

SCALE: 1" = 1500'  
 DATE: 10 SEPTEMBER 2004  
 FILE NO.: E:\MONITORING\2003\WYMONTHLY.WOR

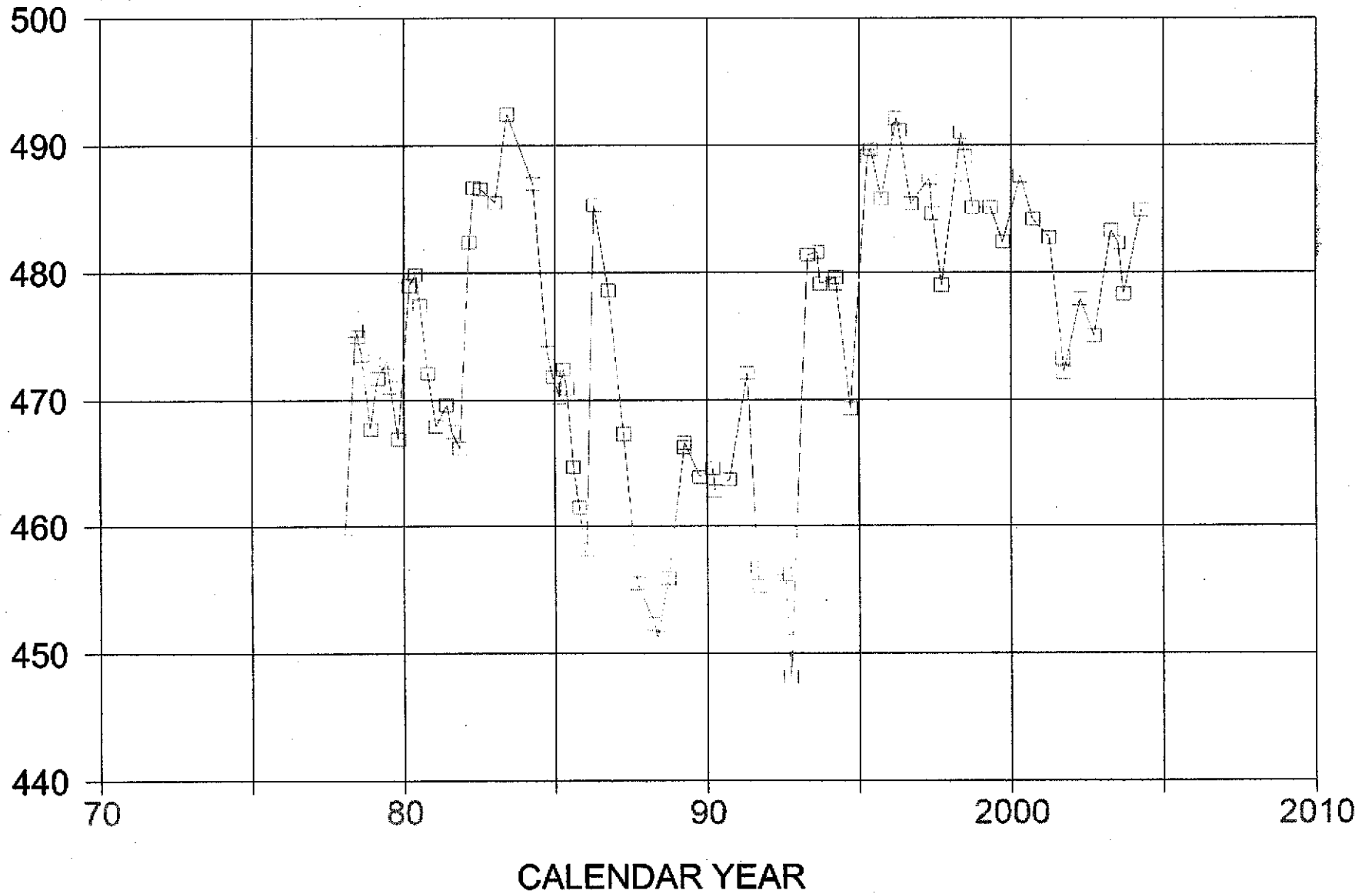
09/10/2004

WELL 3S/2E 9Q 4

WELL DEPTH 80

WELLHEAD ELEVATION 502

GROUNDWATER ELEVATION IN FEET





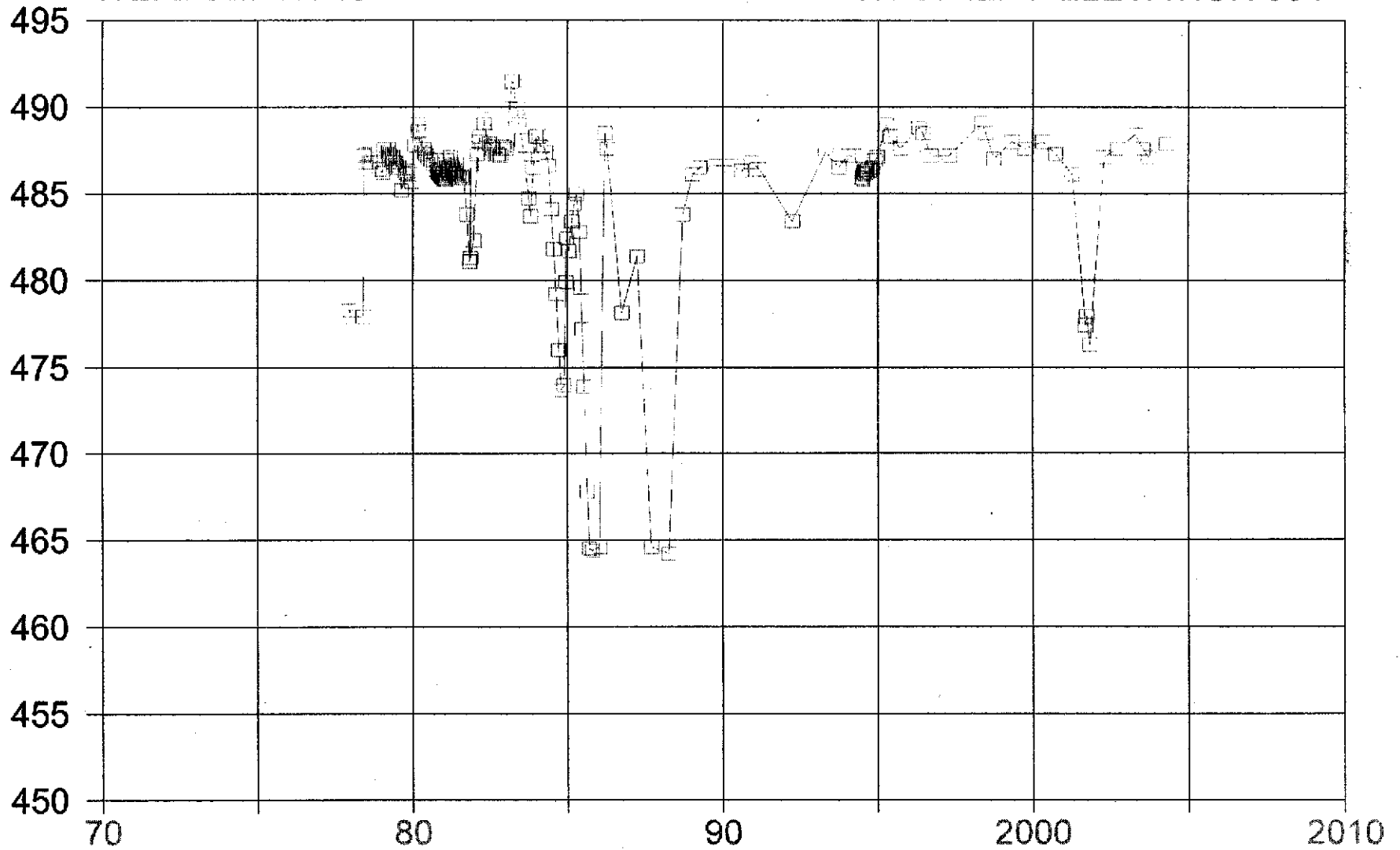
09/10/2004

WELL 3S/2E 16E 4

WELL DEPTH 45

WELLHEAD ELEVATION 504

GROUNDWATER ELEVATION IN FEET



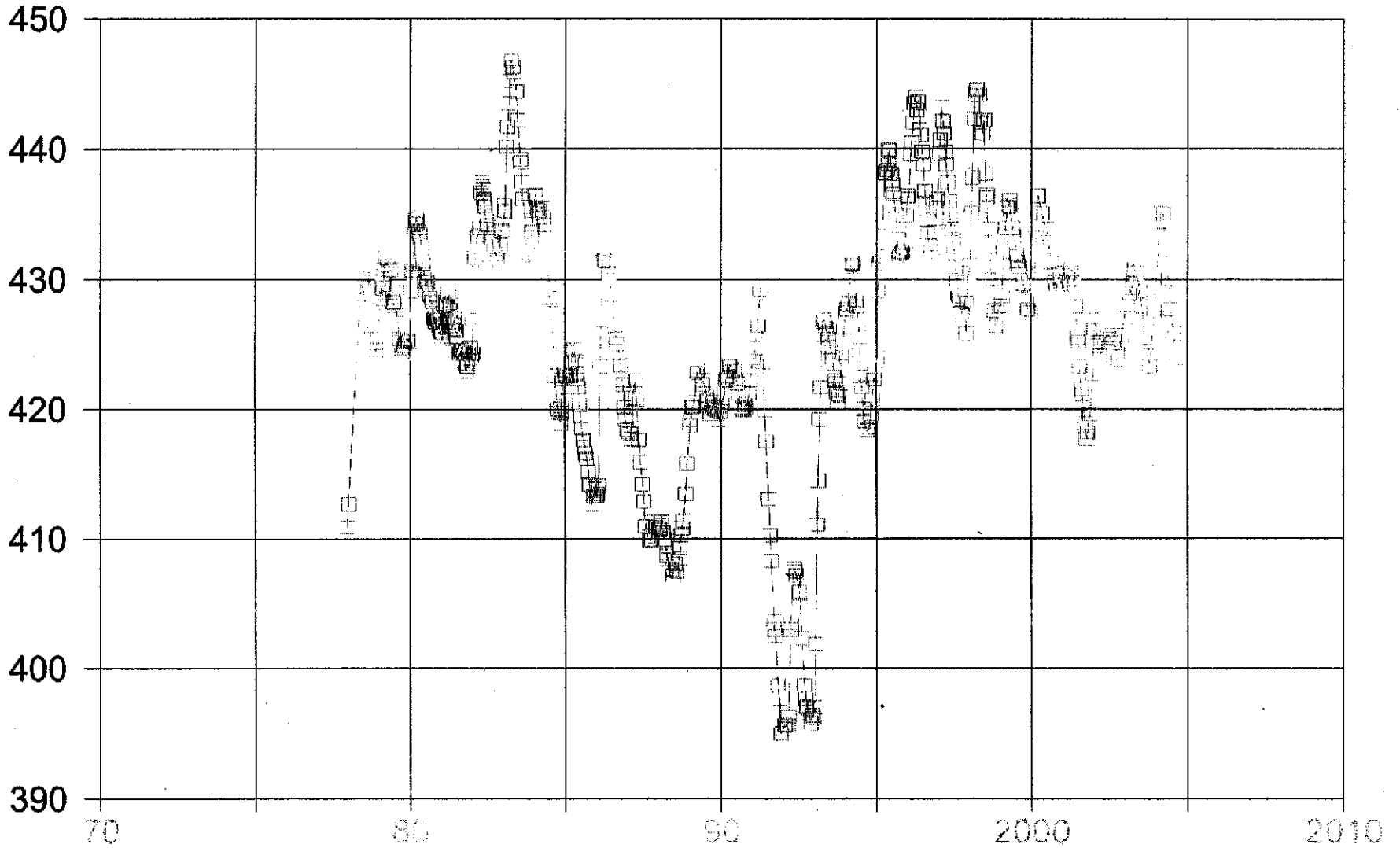
CALENDAR YEAR

WELL 3S/2E 8K 2

WELL DEPTH 74

WELLHEAD ELEVATION 462

GROUNDWATER ELEVATION IN FEET



CALENDAR YEAR

ALAMEDA COUNTY  
HEALTH CARE SERVICES

AGENCY  
DAVID J. KEARS, Agency Director



RO 769 (LOP)  
✓ RO 2525 (LOP)  
RAFAT A. SHAHID, DIRECTOR

DEPARTMENT OF ENVIRONMENTAL HEALTH  
1131 Harbor Bay Parkway  
Alameda, CA 94502-6577  
(510) 567-6777

October 24, 1995

Karen Clark  
Environmental Analyst  
Shell Oil Company  
P.O. Box 4023  
Concord, California 94524

**Subject: Livermore Shell, 318 S. Livermore Avenue, Livermore, CA  
94550**

Dear Ms. Clark:

Enclosed please find Shell Oil Company's copy of the A & B forms submitted for the permit application at the subject site. Also enclosed is an additional copy of the five year permit.

These documents were part of the underground storage tank file for the site. During a recent review of the file I discovered that these forms had not been returned to Shell.

If you have any questions regarding this matter please contact me at (510) 567-6781.

Sincerely,

Robert Weston  
Senior Hazardous Materials Specialist

enclosures

ALAMEDA COUNTY  
HEALTH CARE SERVICES

AGENCY

DAVID J. KEARS, Agency Director



R0 769

✓R0 2525

RAFAT A. SHAHID, Assistant Agency Director

StID 1976

August 18, 1994

Mr. Dan Kirk  
Shell Oil  
P.O.Box 5278  
Concord, CA 94520

DEPARTMENT OF ENVIRONMENTAL HEALTH  
Hazardous Materials Division  
80 Swan Way, Rm. 200  
Oakland, CA 94621  
(510) 271-4320

**RE: Biannual Groundwater Sampling at 318 S. Livermore Ave**

Dear Mr. Kirk:

I have completed review of Weiss Associates' August 1994 Second Quarter 1994 Activities at the above referenced site. Monitoring well MW-3 continues to exhibit low levels of TPH-G, and BTEX. Sampling in the past year has been performed in June and December. I would like to change the schedule so the wells are sampled in the spring and fall quarters. The next sampling events should be in February and August 1995. After August 1995 the site will be re-evaluated for possible site closure.

If you have any questions, please contact me at (510) 567-6762.

Sincerely,

eva chu  
Hazardous Materials Specialist

cc: Michael Maley, Weiss Associates, 5500 Shellmound St,  
Emeryville, CA 94608-2411  
files

ALAMEDA COUNTY  
HEALTH CARE SERVICES



AGENCY

DAVID J. KEARS, Agency Director

R02525

December 7, 1990

DEPARTMENT OF ENVIRONMENTAL HEALTH  
Hazardous Materials Program  
80 Swan Way, Rm. 200  
Oakland, CA 94621  
(415)

Ms. Doreen P. Meyer  
Environmental Specialist  
Harding Lawson Associates  
1355 Willow Way, Suite 109  
Concord, CA 94520

Dear Ms. Meyer:

In a letter to this office dated November 19, 1990, as well as in subsequent telephone conversations, you requested information on the following locations in Livermore:

- (R01056) 1. J & W Development, 2920 4th St. (after July 1989).
- (R02881) 2. Texaco service station, 4186 East Ave.
3. Allan Hyne, 792 S. I St.
- (R02873) 4. Arco filling station, 286 S. Livermore Ave.
- (R0369, R02525) 5. Shell service station, 318 S. Livermore Ave.
6. Clifford Bates, 887 S. Livermore Ave.
- (R0904) 7. Unocal service station, 900 S. Livermore Ave. (after Feb. 1988)
8. Bud's Backhoe Service, 2060 S. Livermore Ave.
9. Hexcel, 10 Trevarno Rd. (information on groundwater plume).

In response, the Hazardous Materials Division has reviewed its hazardous waste generator, underground tank, Hazardous Materials Management Plan, and emergency response files for each of these sites. Pertinent information is outlined below, by site.

(R01056) J & W Development, 2920 4th St.

This site has had widespread soil contamination, resulting from the leakage of three underground storage tanks. The one diesel and two gasoline tanks were removed in July 1989, after which high levels of hydrocarbons were found beneath and adjacent to them. Diesel appeared to be the most prevalent hydrocarbon, and extended to a depth of about 35 feet below ground surface. Excavation in early 1990 to remove all contaminated soil resulted in the stockpiling of approximately 1,500 cubic yards; this soil was bioremediated over the spring and summer of 1990 on site, using "landfarming." This effort succeeded, since hydrocarbon levels in these soils have been reduced to "ND," and the soil has been replaced in the excavated pits. Groundwater is estimated to be at a depth of 60-65 feet; while there is no information available on whether groundwater has been affected, monitoring wells will be installed in the future.

(R02881) Texaco, 4186 East Ave.

This service station has six underground storage tanks, five gasoline and one waste oil. Our office last inspected the site in May 1990;

Ms. Doreen P. Meyer  
December 7, 1990  
Page 2 of 3

violations noted at the time were inadequate tank monitoring and recordkeeping, and lack of documentation for precision leak tests and daily inventory reconciliation. There is no information in the file regarding any unauthorized releases.

792 S. I St.

At this site there is a 550-gallon diesel underground tank that was installed in 1974. The owner is not currently using it. This office issued the owner/operator an interim operating permit in March 1988, with the last inspection taking place in October 1988. There are no records on file of precision leak tests or inventory reconciliation, nor is there any information on unauthorized releases.

(R02873) Arco, 286 S. Livermore Ave.

This is a "minimart" with three underground tanks. These tanks passed precision leak tests in March 1988 and March 1989. A leak was found in the supreme unleaded pipeline on September 25, 1990, after which Arco repaired the line and conducted a precision leak test of this and the other two tank systems. On November 13, all systems appeared tight, and the station has returned to business as usual. An investigation is planned for soil and possible groundwater contamination.

(R0769) Shell, 318 S. Livermore Ave.

(R02525) At this site, an operating service station, the waste oil tank was removed and replaced with a new one in August 1987; then, in December 1989, the four gasoline tanks were removed and replaced with three new tanks. According to file documents, less than 100 ppm of hydrocarbons were found beneath the waste oil tank, but up to 870 ppm of TPH-G was found beneath the gasoline tanks. Prior to the installation of the new gasoline tanks, additional soil was removed; after the new tanks went into operation, Shell's consultant drilled four soil borings that were converted to monitoring wells; nothing was detected in either the soil or water samples from these holes (collected and analyzed June 1990).

887 S. Livermore Ave.

One 550-gallon gasoline tank was removed from this residence in March 1990. Because no contamination was found in samples collected from beneath the tank, this office issued a "no further action" letter to the property owner.

(R0904) Former Unocal, 900 S. Livermore Ave.

This site is currently vacant, with all underground tanks at the site having been removed in 1987. The file information for early 1988

Ms. Doreen P. Meyer  
December 7, 1990  
Page 3 of 3

consists of a consultant's report to Unocal dated February 11, 1988. This report makes the following points:

- Additional excavation of the former waste oil pit occurred to a depth of about 9 feet, where the soil appeared clean;
- About 60 cubic yards of contaminated soil from this pit was hauled to a Class I disposal site; and
- Groundwater is estimated at a depth of 30 feet, but no wells were installed to test the water.

There are no other reports on this site to date.

Bud's Backhoe Service, 2060 S. Livermore Ave.

This is an unpaved contractor's staging yard behind a small horse ranch. There is surface storage of oils, solvent, and above-ground fuel tanks. The site is recorded as having two underground tanks, but there is no file on any underground tanks, and based on a site visit November 27, 1990 (no one was around), there appeared to be no USTs on the property.

Hexcel, 10 Trevarno Rd.



This site is complex, with the RI/FS taking place under the oversight of the Regional Water Quality Control Board. The plume of contaminated groundwater has not been fully defined. Enclosed are several figures and a table, that provide some information on well locations and contaminants found in them.

This letter contains information limited to files in this office, and does not reflect data that may be available from other agencies or parties. You will be billed for provision of this service at the rate of \$60 per hour; enclosed is a copy of the invoice sent to our Billing Department. If you have any questions concerning this letter, please contact the undersigned at 271-4320.

Sincerely,  
*Gilbert M. Wistar*  
Gil Wistar  
Hazardous Materials Specialist

Enclosures

c: Rafat A. Shahid, Asst. Agency Director, Environmental Health files

ALAMEDA COUNTY  
HEALTH CARE SERVICES

AGENCY  
DAVID J. KEARS, Agency Director



R02525

DEPARTMENT OF ENVIRONMENTAL HEALTH  
Hazardous Materials Program  
80 Swan Way, Rm. 200  
Oakland, CA 94621  
(415)

12

June 24, 1989

Mr. Joseph P. Theisen, Project Geologist  
Weiss Associates  
2938 McClure St.  
Oakland, CA 94609

Dear Mr. Theisen:

In response to your request for a file search of our records for the Shell Oil Tank Closures for the following locations, the following information is presented to you:

**ALAMEDA**

2160 Otis Dr.

(R02433)  
(R02893)

No records of tank removal available in our files with the exception of a letter from Petroleum Engineering Inc. to T. Gerow of Alameda County Health Care Services for installation plans to replace waste oil tanks.

1601 Webster

(R01042)  
(R02745)

Same information

**HAYWARD**

1097 W. Tennyson

No record of tank pull recommend you contact Hayward Fire Dept.

**LIVERMORE**

(R0769)  
R02525) 318 S. Livermore

No record of tank pull

1155 Portola

(R01054)  
(R02566)

Inspection dated 9/27/88 requested tank closure plan for waste oil tank. No plan received to date



Mr. Joseph P. Theisen  
Weiss Associates  
Oakland, CA 94609  
June 24, 1989  
Pages 2 of 2

809 E. Stanley No record of tank pull

(R02524)

**SAN LEANDRO**

30367) 1784 - 150th No record of tank pull

R0156) 1285 Bancroft No record of tank pull, recommend you contact the  
San Leandro Fire Dept.

**OAKLAND**

510 E. 14th St. No record of tank pull

(R0349) 7915 E. 14th St. No record of tank pull

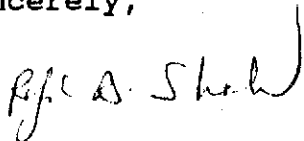
If the above tanks were pulled, we would request that you provide us with copies of any lab results from soil samples taken, manifest of the tanks or contaminated soil removed, etc.

This letter is limited to information available to this department and does not reflect other information, which may be accessible to other agencies or businesses involved with these properties.

Please find enclosed, a copy of the invoice sent to our Billing Unit, Alameda County Environmental Health Dept.

If you have any questions, please call Edgar Howell, Supervising Hazardous Materials Specialist, at (415) 271-4320.

Sincerely,



Rafat A. Shahid, Chief,  
Hazardous Materials Program

RAS:EH:mnc

cc: Edgar Howell, Alameda County Hazardous Materials Program  
Files

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



Department of Environmental Health  
Hazardous Materials Program  
80 Swan Way, Rm. 200  
Oakland, CA 94621

R02525

5

December 19, 1988

~~XXXXXXXXXXXXXXXXXXXX~~  
~~XXXXXXXXXXXXXXXXXXXX~~  
(415) 271-4320

Ms. Ann McDonald, Senior Staff Scientist  
Woodward-Clyde Consultants  
Oakland City Center  
500 - 12th St., Suite 100  
Oakland, CA 94607-4014

Dear Ms. McDonald:

In response to your request of Dec. 8, 1988 for a record search of our files for an Environmental Site Assessment on the city block located on the North side of Railroad Ave. between North "L" and North "N" Streets in Livermore, CA. 94550, the following information is given.

	1826 through 1954 Railroad Ave. Liv.	No Records
(R0394)	187 North "L" St.	Permit for one Underground Tank No record of contamination
	149 through 153 North "L" Street	No Records
	2008 1st St. Liv.	Site investigation in progress
(R0278)	2324 2nd St. Liv.	Three Underground tanks No record of contamination
	200 to 375 feet West of "N" Street at the Railroad	No Record
	2418 Railroad Ave. Liv.	No Record
	1430 First St. Liv.	No Record
(R0684)	2388 Second St. Liv.	No Record
	2324 Second St. Liv.	No Record
	183 N. Livermore Ave. Liv.	No Record

Ms. Ann McDonald, Senior Staff Scientist  
Woodward-Clyde Consultants  
Oakland City Center  
500 - 12th St., Suite 100  
Oakland, CA 94607-4014  
December 19, 1988  
Page 2 of 2

222 Church St. Liv.

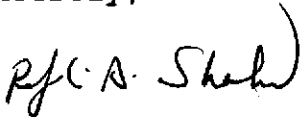
No Record

(R0769) 318 S. Livermore Ave. Liv.  
(R02525)

Four underground Tanks  
No record of contamination

If you have any questions, please call Edgar Howell, Program Administrator at, (415) 271-4320.

Sincerely,



Rafat Shahid, Chief  
Hazardous Materials Program

RAS:mnc

cc: Edgar Howell  
Files

ALAMEDA COUNTY  
HEALTH CARE SERVICES

AGENCY  
DAVID J. KEARS, Director



✓ R02525 > (318 S. Livermore)  
R0769  
R02873 (286 S. Livermore)

Telephone Number: (415) 271-4320

June 7, 1988

Raney Geotechnical  
2799 "B" Del Monte St.  
W. Sacramento, CA 95691  
Attn: Mike Gereghty

SUBJECT: SITE SEARCH - SOUTHWEST CORNER OF S. LIVERMORE RD. AND  
COLLEGE AVENUE IN LIVERMORE, CALIFORNIA

Dear Mr. Gereghty:

As requested, we have searched our files for any records we may have for the sites listed in your April 26, 1988 letter.

The following is a summary of information available to this department and does not reflect other information which may be available from other agencies or parties.

Arco Station (286 S. Livermore Avenue)  
- Three (3) Underground Fuel Storage Tanks  
- One (1) Waste Oil Tank

Shell Oil Co. (318 S. Livermore)  
- One (1) Waste Oil Tank

You will be billed for the provision of the service.

Should you have any questions regarding this letter, please contact  
Lizabeth Rose, Hazardous Materials Specialist at 271-4320.

Sincerely,

*Rafat A. Shahid*  
Rafat A. Shahid, Chief  
Hazardous Materials Division

RAS:LR:mam