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Alameda County Environmental Health



<u>PREPARED FOR</u>: CALTRANS DISTRICT 4 111 GRAND AVENUE, 12<sup>TH</sup> FLOOR OAKLAND, CA 94623

<u>PREPARED BY:</u> GEOCON CONSULTANTS, INC. 6671 BRISA STREET LIVERMORE, CALIFORNIA

GEOCON PROJECT NO. E8415-06-62 CALTRANS EA 04-290844





JULY 2009

GEOCON

GEOTECHNICAL ENVIRONMENTAL MATERIAL



Project No. E8415-06-62 July 22, 2009

Mr. Chris Bledsoe Caltrans – District 4 111 Grand Avenue, 12<sup>th</sup> Floor Oakland, California 94612

Subject: WORKPLAN TO CONDUCT LIMITED GROUNDWATER INVESTIGATION USTS LOCATED BENEATH EASTBOUND INTERSTATE 580 BETWEEN FIRST STREET AND VASCO ROAD LIVERMORE, CALIFORNIA CONTRACT NO. 43A0199, EA 04-290844

Dear Mr. Bledsoe:

Geocon has prepared this *Workplan to Conduct Limited Groundwater Investigation* on behalf of Caltrans - District 4. The workplan contains details of proposed field services and laboratory analytical testing.

A copy of Caltrans' authorization letter to submit the workplan to the Alameda County Environmental Health Department is provided in Appendix B. Please contact the undersigned if you have any questions or comments.

Richard Day, CEG, CHG

Regional Manager

Sincerely,

#### GEOCON CONSULTANTS, INC.

John Love, PG Sr. Project Geologist

JWL:RWD

- (3) Addressee
- (1) Jerry Wickham, Alameda County Environmental Health (electronic submittal)

JOHN W. LOVE

No. 6315

6771 Brisa Street = Livermore, California 94550 Telephone (925) 371-5900 = Fax (925) 371-5915

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- A. ACHCSA Letter dated May 7, 2009
- B. Caltrans Authorization Letter

## WORKPLAN TO CONDUCT LIMITED GROUNDWATER INVESTIGATION

## 1.0 INTRODUCTION

On behalf of California Department of Transportation (Caltrans) - District 4, we have prepared this workplan to conduct a limited groundwater investigation associated with the unauthorized release of petroleum hydrocarbons from four former underground storage tanks (USTs) located beneath the road surface of Eastbound Interstate 580 between First Street and Vasco Road in Livermore, CA (Figure 1).

This workplan was prepared under Caltrans Contract No. 43A0199, Authorization No. 04-2007-62.

## 1.1 Background

On April 2, 2009, Caltrans notified Geocon that De Silva Gates Construction had discovered an UST beneath the existing shoulder area of eastbound Interstate 580 (south side of the highway) during the high occupancy vehicle (HOV) lane construction project. Upon inspection of the UST area later that day by Geocon personnel, it was apparent that at least two USTs were present, and that they were both filled with water.

On April 3, 2009, Geocon removed the soil overlying the USTs and discovered that four USTs were present, not two as previously thought. The USTs consisted of three 250-gallon tanks and one 600-gallon tank. Each of the USTs was full of water.

Later that day (April 3, 2009) water accumulated in each of the USTs was pumped out with a vacuum truck provided by NRC Environmental and the four USTs were removed from the ground and loaded onto a truck for recycling at the West Coast Equipment facility in Turlock, California. The water removed from the USTs was manifested and disposed as non-RCRA hazardous waste at the Evergreen Oil, Inc. facility in Newark, California.

During the UST removal activities it was obvious that petroleum hydrocarbons had been released from the tanks. Bluish-green staining was visible in soils underlying the USTs and a noticeable petroleum odor was present. As a result, an attempt to over excavate impacted soils with the backhoe was made that same day; however the reach of the backhoe bucket was only 12 feet and obvious soil staining was still present at that depth.

Geocon mobilized an excavator to the site the following day (April 4, 2009), and the depth of the excavation was extended to between 18 and 20 feet (the maximum reach of the excavator). Petroleum hydrocarbon odors and some soil staining were still present at 20 feet (though noticeably less); however the stability of the excavation cavity was a safety concern since the north wall of the excavation was only 10 feet from the edge of Interstate 580 freeway, and groundwater was seeping into

the excavation at a depth of approximately 12 feet. As a result of these circumstances, the excavation was considered complete. The dimensions of the completed excavation measured approximately 24 feet long by 15 feet wide by 18 feet deep.

Six soil samples were collected from the completed excavation before groundwater accumulated in the pit. Four samples were collected at the bottom of the north, south, east, and west sidewalls at depths of approximately 19 feet, and two soil samples were collected from the bottom of the middle portion of the pit at depths of approximately 20 feet.

Analytical results of the excavation soil samples indicate some residual impacts to soil remain in-place beneath the former USTs. The contaminants were identified by the laboratory as consisting of degraded gasoline and diesel fuel.

The highest contaminant concentrations remaining in-place were reported in the soil samples collected along the base of the north sidewall at a depth of 19 feet, and the bottom of the excavation towards the east half of the pit at a depth of 20 feet. TPHg and TPHd were reported in the north sidewall sample at concentrations of 1,100 milligrams per kilogram (mg/kg) and 360 mg/kg, respectively; and the samples collected from the bottom of the excavation towards the east portion of the pit were reported at concentrations of 1,500 mg/kg (TPHg) and 700 mg/kg (TPHd). Benzene and toluene were reported as non-detect in these two samples, and ethylbenzene and xylenes were reported in both samples at concentrations ranging from 1.7 micrograms per kilogram (ug/kg) to 2.7 ug/kg.

On April 4, 2009, after the excavation was completed, approximately 270 tons of 3-inch-minus drain rock was placed in the excavation to a depth of approximately 3-feet below grade. The excavation was later completed and compacted by Caltrans' construction contractor. The former UST area was paved over as part of the highway improvement project.

On April 9, 2009, approximately 270 tons of petroleum hydrocarbon-impacted soil excavated from the site was disposed at the Altamont Class II landfill in Livermore, California.

A *UST Removal Report*, dated May 11, 2009, detailing the UST removal activities was submitted to the Alameda County Health Care Services Agency (ACHCSA) on May 14, 2009.

Prior to submittal of the *UST Removal Report*, the ACHCSA issued a letter, dated May 7, 2009, directing Caltrans to investigate potential groundwater contamination in the area and hydraulically down gradient of the former tank pit, as well as impacts to soil immediately surrounding the former tank pit area. A copy of the ACHCSA letter is provided as Appendix A.

## 2.0 PROPOSED SCOPE OF WORK

Based on information provided in the ACHCSA's letter dated May 7, 2009, and information provided by Mr. Jerry Wickham (ACHCSA case worker) via a telephone conversation on June 18, 2009, we propose the following general scope of work:

- Obtain soil boring permits from the Zone 7 Water Agency to advance three temporary borings;
- Conduct utility clearance of the proposed boring locations;
- Advance three temporary borings using a cone penetrometer test (CPT) sample rig for the purpose of collecting discrete-depth grab groundwater samples;
- Submit groundwater samples for laboratory analysis; and
- Prepare a report of findings.

## 2.1 Pre-Mobilization

Soil boring permits will be obtained from the Zone 7 Water Agency prior to implementing the field sampling.

Underground Services Alert will be notified a minimum of 48 hours prior to advancing the borings and private utility locating service will be employed to identify unknown utilities which may be located in the areas of the proposed borings.

## 2.2 Cone Penetrometer Test (CPT) Boring Advancement

Discrete-depth groundwater samples will be collected from three sample locations to assess potential impacts to groundwater resulting from the previously described unauthorized release. The proposed boring locations are shown on Figure 2.

One boring (CPT-1) will either be advanced through the asphalt road surface of Interstate 580 adjacent to the former UST excavation, or near the edge of the roadway closest to the former excavation. Presently, the area surrounding the former UST is still accessible and has not been opened up to traffic. If this area is accessible at the time this investigation is conducted we will core a hole through the asphalt road surface of Interstate 580 and advance a boring near the west end of the former UST excavation. If the roadway has been opened to traffic then we will attempt to advance a boring at the closest location to the former excavation area.

Information presented in the *UST Removal Report* indicates the groundwater flow direction beneath the area is towards the west-northwest, which means the contaminant plume originating from the former UST excavation (if one exists) has likely migrated beneath Interstate 580. Since drilling borings in the roadway of Interstate 580 is not practical the closest down gradient locations from the former UST

excavation would be along the north shoulder of the highway approximately 200 to 300 feet away. Therefore, we propose advancing borings CPT-2 and CPT-3 at the locations shown on Figure 2, along the north shoulder of Interstate 580 in the reported down gradient groundwater flow direction from the former UST excavation.

Each boring will be advanced using a cone penetrometer (CPT) sample rig. Two boreholes will be advanced at each boring location. The first borehole will be drilled to collect continuous lithologic data, and identify depths at which discrete groundwater samples may be collected, and the second borehole will be drilled to target sample depths to collect discrete-depth groundwater samples.

Up to three discrete-depth groundwater samples will be collected from each boring location (depending on actual subsurface conditions encountered). The groundwater sample results obtained from each boring will be used to assess the vertical extent of impacts in groundwater, as well as the lateral extent of the petroleum hydrocarbon plume west and northwest of the former UST excavation.

Each borehole will be advanced to a maximum depth of 50 feet. Depending on lithology and hydrogeologic data generated during the advancement of the first hole at each sample location, we will attempt to collect groundwater samples from up to three separate water bearing zones at each sample location. However, the actual number of samples collected for laboratory analysis will be a function of the actual hydrogeologic conditions encountered at the time the investigation is conducted.

After sample collection is completed at each boring location, the boreholes will be backfilled to ground surface with Portland cement. If the borehole is located within asphalt or concrete the Portland cement will be backfilled to within six inches of ground surface, and the remaining six inches will be backfilled with concrete.

## 2.2.1 Laboratory Analysis

Groundwater samples will be analyzed for TPHg and TPHd following EPA Test Method 8015B, BTEX following EPA Test Method 8021B, volatile organic compounds (VOCs), ethylene dibromide (EDB) and 1,2-dichoroethane (DCA) following EPA Test Method 8260B.

## 2.2.2 Equipment Decontamination and Waste Disposal

The CPT drill rig drive rods will be decontaminated as they are removed from the ground. As the rods are retrieved from the borehole they are drawn through a circular-shaped squeegee, which mechanically removes soil and moisture from the rods. The rods are then steam cleaned prior to use in the next borehole.

Residual soil removed from the drive rods during the decontamination process, and rinsate fluids will be containerized in one 55-gallon drum. The drum will hauled to Geocon's warehouse pending disposal arrangements.

## 3.0 REPORT PREPARATION

Once the field investigation is complete, a report detailing the results of the investigation will be prepared. The report will prepared and signed by a California Professional Geologist and will include copies of the Zone 7 Water Agency borings permits, CPT electronic boring logs, and analytical laboratory data sheets. The report will present the analytical laboratory results in tabular and graphical format







## 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) 337-93

May 7, 2009

Mr. Randy Barker Caltrans 111 Grand Avenue Oakland, CA 94612

Subject: Fuel Leak Case No. RO0003000 and Geotracker Global ID T10000001071, Caltrans I-580 EB Shoulder, I-580 Freeway, Livermore, CA 94550

Dear Mr. Barker:

Alameda County Environmental Health (ACEH) staff has reviewed the fuel leak case file for the above referenced site. During a construction project to widen eastbound Interstate 580, three 250-gallon USTs and one 600-gallon UST were encountered beneath the new eastbound lane. The history and previous ownership of the USTs is unknown. Under the direction of the Livermore-Pleasanton Fire Department, the USTs were removed on April 3, 2009. Visibly stained and odorous soil was observed in the area below and surrounding the USTs. Contaminated soil was removed from the excavation to the extent practicable. Confirmation soil samples collected from the excavation contained total petroleum hydrocarbons as gasoline at concentrations up to 1,500 milligrams per kilogram. Based on observations of contaminated soil during the UST removal and soil sampling results in the area of the USTs, an unauthorized release occurred from the USTs.

The site is within the Livermore-Amador Valley, which is an area where groundwater is actively used as a drinking water supply. Groundwater within the Livermore-Amador Groundwater Basin constitutes a valuable current and future resource. Due to the indication of a fuel release and the location of your site within a groundwater basin where groundwater is used for drinking water, we request that you complete a site investigation to evaluate whether groundwater has been affected by the release. Please submit a work plan detailing your proposal to investigate potential soil and groundwater contamination by July 24, 2009.

We understand that the former UST tank pit is currently beneath an active roadway and that access to the former tank pit is not possible. However, we request that the assessment focus on evaluating whether contamination from the former tank pit has significantly affected water quality in the area of and hydraulically downgradient of the former tank pit.

We request that you also submit an Underground Storage Tank Unauthorized Release (Leak) Form and a Final Tank Removal Report to complete documentation of the tank removal. These two documents are to be submitted to both the Livermore-Pleasanton Fire Department and Alameda County Environmental Health. The Final Tank Removal Report is to include a description of the tank removal, excavation, confirmation sampling methods and detailed map of sampling locations, analytical results, soil and tank disposal manifests, and other pertinent documentation.

Randy Barker RO0003000 May 7, 2009 Page 2

#### TECHNICAL REPORT REQUEST

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

- May 18, 2009 -- Underground Storage Tank Unauthorized Release (Leak) Form
- June 10, 2009 Final Tank Removal Report
- July 24, 2009 Work Plan

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.

#### ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of reports in electronic form. The electronic copy replaces paper copies and is expected to be used for all public information requests, regulatory review, and compliance/enforcement activities. Instructions for submission of electronic documents to the Alameda County Environmental Cleanup Oversight Program FTP site are provided on the attached "Electronic Report Upload Instructions." Submission of reports to the Alameda County FTP site is an addition to existing requirements for electronic submittal of information to the State Water Resources Control Board (SWRCB) Geotracker website. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for all groundwater cleanup programs. For several years, responsible parties for cleanup of leaks from underground storage tanks (USTs) have been required to submit groundwater analytical data, surveyed locations of monitoring wells, and other data to the Geotracker database over the Internet. Beginning July 1, 2005, these same reporting requirements were added to Spills, Leaks, Investigations, and Cleanup (SLIC) sites. Beginning July 1, 2005, electronic submittal of a complete copy of all reports for all sites is required in Geotracker (in PDF format). Please visit the SWRCB website for more information on these requirements (http://www.swrcb.ca.gov/ust/cleanup/electronic\_reporting).

#### 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.

Randy Barker RO0003000 May 7, 2009 Page 3

#### 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 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.

#### LANDOWNER NOTIFICATION REQUIREMENTS

Pursuant to California Health & Safety Code Section 25297.15, the active or primary responsible party for a fuel leak case must inform all current property owners of the site of cleanup actions or requests for closure. Furthermore, ACEH may not consider any cleanup proposals or requests for case closure without assurance that this notification requirement has been met. Additionally, the active or primary responsible party is required to forward to ACEH a complete mailing list of all record fee title holders to the site. We have received your letter dated April 15, 2006, which meets this requirement.

In the future, for you to meet these requirements when submitting cleanup proposals or requests for case closure, ACEH requires that you:

1. Notify all current record owners of fee title to the site of any cleanup proposals or requests for case closure;

2. Submit a letter to ACEH which certifies that the notification requirement in 25297.15(a) of the Health and Safety Code has been met;

3. Forward to ACEH a copy of your complete mailing list of all record fee title holders to the site; and

4. Update your mailing list of all record fee title holders, and repeat the process outlined above prior to submittal of any additional *Corrective Action Plan* or your *Request for Case Closure*.

Your written certification to ACEH (Item 2 above) must state, at a minimum, the following:

A. In accordance with Section 25297.15(a) of the Health & Safety Code, I, (<u>name of primary responsible party</u>), certify that I have notified all responsible landowners of the enclosed proposed action. (Check space for applicable proposed action(s)):

\_\_\_\_ cleanup proposal (Corrective Action Plan)

request for case closure

\_\_\_\_ local agency intention to make a determination that no further action is required

local agency intention to issue a closure letter

- OR -

B. In accordance with section 25297.15(a) of Chapter 6.7 of the Health & Safety Code, I, (name of primary responsible party), certify that I am the sole landowner for the above site.

Randy Barker RO0003000 May 7, 2009 Page 4

# (Note: Complete item A if there are multiple site landowners. If you are the sole site landowner, skip item A and complete item B.)

#### 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 or send me an electronic mail message at jerry.wickham@acgov.org.

Sincerely,

(err) Wiskham, California PG 3766, CEG 1177, and CHG 297 Senior Hazardous Materials Specialist

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Cheryl Dizon, QIC 80201, Zone 7 Water Agency, 100 North Canyons Parkway, Livermore, CA 94551

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

Dennis English, Caltrans, 111 Grand Avenue, Oakland, CA 94612

John Love, Geocon Environmental Consultants, 6671 Brisa Street, Livermore, CA 94550

Donna Drogos, ACEH Jerry Wickham, ACEH File

| Alamada County Environmontal Cleanup                      | ISSUE DATE: July 5, 2005                                   |
|---|--|
| Oversight Programs  | REVISION DATE: March 27, 2009                              |
| (LOP and SLIC)  | PREVIOUS REVISIONS: December 16, 2005,<br>October 31, 2005 |
| SECTION: Miscellaneous Administrative Topics & Procedures | SUBJECT: Electronic Report Upload (ftp) Instructions       |

The Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC) require submission of all reports in electronic form to the county's flp site. Paper copies of reports will no longer be accepted. The electronic copy replaces the paper copy and will be used for all public information requests, regulatory review, and compliance/enforcement activities.

## REQUIREMENTS

- Entire report including cover letter must be submitted to the ftp site as a single portable document format (PDF) with no password protection. (Please do not submit reports as attachments to electronic mail.)
- It is preferable that reports be converted to PDF format from their original format, (e.g., Microsoft Word) rather than scanned.
- Signature pages and perjury statements must be included and have either original or electronic signature.
- Do not password protect the document. Once indexed and inserted into the correct electronic case file, the document will be secured in compliance with the County's current security standards and a password.
  Documents with password protection will not be accepted.
- Each page in the PDF document should be rotated in the direction that will make it easiest to read on a computer monitor.
- Reports must be named and saved using the following naming convention:

RO# Report Name Year-Month-Date (e.g., RO#5555\_WorkPlan\_2005-06-14)

## Additional Recommendations

 A separate copy of the tables in the document should be submitted by e-mail to your Caseworker in Excel format. These are for use by assigned Caseworker only.

#### Submission Instructions

- 1) Obtain User Name and Password:
  - a) Contact the Alameda County Environmental Health Department to obtain a User Name and Password to upload files to the ftp site.
    - i) Send an e-mail to dehloptoxic@acgov.org

Or

- ii) Send a fax on company letterhead to (510) 337-9335, to the attention of My Le Huynh.
- b) In the subject line of your request, be sure to include "ftp PASSWORD REQUEST" and in the body of your request, include the Contact Information, Site Addresses, and the Case Numbers (RO# available in Geotracker) you will be posting for.
- 2) Upload Files to the ftp Site
  - a) Using Internet Explorer (IE4+), go to ftp://alcoftp1.acgov.org
    - (i) Note: Netscape and Firefox browsers will not open the FTP site.
  - b) Click on File, then on Login As.
  - c) Enter your User Name and Password. (Note: Both are Case Sensitive.)
  - d) Open "My Computer" on your computer and navigate to the file(s) you wish to upload to the ftp site.
  - e) With both "My Computer" and the ftp site open in separate windows, drag and drop the file(s) from "My Computer" to the ftp window.
- 3) Send E-mail Notifications to the Environmental Cleanup Oversight Programs
  - a) Send email to dehloptoxic@acgov.org notify us that you have placed a report on our ftp site.
  - b) Copy your Caseworker on the e-mail. Your Caseworker's e-mail address is the entire first name then a period and entire last name @acgov.org. (e.g., firstname.lastname@acgov.org)
  - c) The subject line of the e-mail must start with the RO# followed by Report Upload. (e.g., Subject: RO1234 Report Upload) If site is a new case without an RO# use the street address instead.
  - d) If your document meets the above requirements and you follow the submission instructions, you will receive a notification by email indicating that your document was successfully uploaded to the ftp site.



July 22, 2009

Mr. John Love Geocon Consultants, Inc. 6671 Brisa Street Livermore, CA 94550 Fax (925)371-5915

Subject: Workplan to Conduct Limited Groundwater Investigation for Former USTs Located Beneath Eastbound Interstate 580 between First Street and Vasco Road in Livermore, California

Dear Mr. Love:

I have reviewed and approved the above referenced document. Please submit it to the Alameda County Health Care Services Agency (ACHCSA). Should the ACHCSA require, I declare under the penalty of perjury, that to the best of my knowledge, the information contained in the attached workplan is true and correct.

If you have any questions, or need additional information, please give me a call at (510) 286-6022.

Sincerely,

Ch Bledoe

Chris Bledsoe Transportation Engineer Office of Construction Environmental Engineering Support