



ENVIRONMENTAL HEALTH SERVICES
ENVIRONMENTAL PROTECTION
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April 26, 2012

Mr. Stephen Gwin (*Sent via E-mail to: gwst@chevron.com*)
Chevron Pipe Line Company
4800 Fournace Place
Bellaire, TX 77401-2324

Subject: Work Plan Review for SLIC Case No. RO0002892 and GeoTracker Global ID SL0600100443, Chevron Sunol Pipeline, 2793 Calaveras Road, Sunol, CA 94586

Dear Mr. Gwin:

Alameda County Environmental Health (ACEH) staff has reviewed the case file for the above-referenced site including the recently submitted document entitled, "*Revised Workplan for the Sunol Site Data Gaps Investigation and Bio-Stimulation Remediation, SLIC Case RO0002892, Chevron Pipeline Company, Sunol Spill, 2793 Calaveras Road, Sunol, CA,*" dated March 9, 2012 (Work Plan). The Work Plan, which was prepared on behalf of Chevron Pipe Line Company by URS Corporation, proposes an updated biological survey, installation of two or more monitoring wells, and a 12-month program for injection of hydrogen peroxide.

The Work Plan is based in some part upon data gaps identified in a report entitled, "*Conceptual Site Model, SLIC Case RO0002892, Chevron Pipeline Company, Sunol Spill, 2793 Calaveras Road, Sunol, CA,*" dated October 28, 2010 (CSM). However, as discussed in the technical comments below, the Work Plan does not address several items identified in the CSM. The Work Plan also does not address technical comments in previous ACEH correspondence dated December 13, 2011, contains technical inaccuracies, and does not provide a valid evaluation of remedial alternatives. Most significantly, the Work Plan proposes in-situ remediation aimed at dissolved phase contamination without understanding the source and migration pathway for groundwater contamination while ignoring known shallow contamination. For these reasons and others discussed in the technical comments below, the Work Plan is rejected as technically inadequate.

Given the deficiencies in the proposed remedial approach, ACEH is requesting that any proposed future remedial approach be presented in a Corrective Action Plan (CAP) that meets the criteria provided in technical comment 10 below. Prior to preparation of a CAP, we request that you prepare a Revised Work Plan that addresses the technical comments below to complete site characterization. Technical comments 1 through 3 provide specific items that are to be included in the Revised Work Plan. Please submit the Revised Work Plan **no later than June 25, 2012**.

TECHNICAL COMMENTS

- 1. Depth of Hillside Source Area Impacts.** The October 28, 2011 CSM indicates that the depths and concentrations of the remaining impacts in the hillside are not known and identified the depth of hillside source area impacts as a data gap. ACEH concurred that the vertical extent of contamination in the hillside area is a data gap that should be addressed. In particular, evaluating the distribution of the source mass and pathway for contaminants to reach the gravel layer intersected by well MW-8 at the base of the hillside warrants further efforts. However, no plans to assess the vertical extent of

soil impacts on the hillside were presented in the Work Plan. Instead, the Work Plan proposes installation of an injection well at the top of the hill without information on the depth of contamination. Please include plans in the Revised Work Plan requested below to address this data gap. This comment was included in previous ACEH correspondence but was not addressed.

2. **Proposed Well Installations.** We request that the Work Plan be revised to include the following:
 - Advance a transect of soil borings along the eastern side of Calaveras Road with continuous soil sampling in each boring to define the stratigraphy. Use the stratigraphic information to collect depth-discrete grab groundwater samples and delineate the extent of groundwater contamination.
 - Use soil and groundwater data from the transect to select locations for groundwater monitoring wells. At a minimum one monitoring well is to be installed to the north and one to the south of MW-8.

3. **Water Well Survey Information.** ACEH presented a technical comment that requested water well survey information in our December 13, 2011 correspondence. That technical comment was not addressed in the Work Plan. The October 28, 2010 CSM refers to a water well search conducted in 2009 for a 14-mile section of the pipeline in stating that no water supply wells are within two miles of the site. In correspondence dated December 9, 2010, ACEH previously requested that you provide the supporting documentation for this conclusion. Please present this information in the Revised Work Plan requested below. If you are not able to provide complete supporting documentation, you are required to conduct a detailed well survey to locate water supply wells within ½ mile of the site by obtaining well information from both the Zone 7 Water Agency and the State of California Department of Water Resources, at a minimum. Submittal of maps showing the location of all wells identified in your study, and the use of tables to report the data collected as part of your survey are required. Please provide a table that includes the well designation, location, total depth, diameter, screen interval, date of well installation, current status, historic use, and owner of the wells. In addition, please provide well logs and completion records for wells downgradient from the site that are potential receptors. Please present your results in the Revised Work Plan requested below.

4. **Objective for Proposed Remediation.** The Work Plan proposes hydrogen peroxide injection into one small-diameter SVE well, one injection well on the hillside, and the three monitoring wells where elevated concentrations of petroleum hydrocarbons have been observed. Following injections into the impacted wells, the groundwater concentrations would be monitored and closure requested if the groundwater concentrations are reduced to acceptable levels. Please note that the three monitoring wells proposed for use as injection wells are 90 to 100 feet apart. There appears to be little to no likelihood that the proposed injections would be effective at treating contamination over this distance between the wells, which leads to the conclusion that the apparent objective of the proposed remediation is treating groundwater in the area of impacted monitoring wells and not attempting to actually treat contamination at the site. Using the only viable monitoring wells for treatment wells cannot be considered a valid approach. A valid remedial approach would propose a technically defensible method for monitoring and evaluating the effectiveness of the remediation. On this basis and the additional technical comments below, the proposed remedial approach is rejected. Future evaluations of a remedial approach must be submitted in a CAP that meets the requirements described in technical comment 10 below.

5. **Basis and Objective for Work Plan.** The first paragraph of the Work Plan indicates the Work Plan is based on the results of the CSM, comments from ACEH, and recommendations from a URS evaluation of remedial options. However, the Work Plan does not address the outdated soil analytical data and the unknown depth of the hillside source area, which were identified as data gaps in the CSM. In addition, the Work Plan does not appear to incorporate the results of the 2009 passive soil vapor survey in the hillside area, which indicate shallow contamination on the hillside. The Work Plan also does not address the technical comments regarding well installation, depth of hillside source impacts, and water well survey information in our December 13, 2011 correspondence:
6. **Anaerobic Conditions.** The Work Plan states that groundwater at the site is anaerobic based on “very low dissolved oxygen concentrations.” We have reviewed dissolved oxygen (DO) data from previous groundwater monitoring events including the most recent sampling event on 8/22/2011 shown below and find that the DO levels are within a normal range and are not “very low.”

	MW-1	MW-3	MW-8	MW-9	MW-10	MW-11
DO on 8/28/2011 (mg/L)	2.34	2.15	1.18	2.32	0.00	2.89

Groundwater is typically considered anaerobic when DO concentrations are less than 0.5 mg/L. Only well MW-10, which is outside the plume, has a DO concentration less than 1 mg/L. Although there is a high degree of variability in DO data between sampling events, the data do not support a statement that site conditions are anaerobic. Moreover, the wells that are within the dissolved phase plume do not appear to have consistently lower DO readings than wells outside the plume. Site data do not support the recommendation to conduct hydrogen peroxide injections to increase DO concentrations.

7. **Decreasing Sulfate.** The Work Plan states that anaerobic biodegradation of groundwater is occurring, shown by the decreasing sulfate concentrations in groundwater. We have reviewed the sulfate data and did not observe the stated trend. Shown below is a comparison of sulfate data from the first and most recent groundwater monitoring event for which sulfate data are available.

	MW-1	MW-2	MW-3	MW-8	MW-9
Sulfate on 6/8/2006 (mg/L)	48.3	47.5	45.1	NM	NM
Sulfate on 11/15/2006 (mg/L)	108	126J	NM	78.6	29.5
Sulfate on 3/29/2011 (mg/L)	49.4	53.8	46.3	84.1	63

There does not appear to be a trend of decreasing sulfate concentrations as stated in the Work Plan. In addition, the wells that are within the dissolved phase plume do not appear to have lower sulfate concentrations than wells outside the plume.

8. **Cost Effectiveness of Remedial Options.** The Work Plan concludes that the expected recovery rates of gasoline compounds makes SVE not cost effective. In future evaluations of cost effectiveness in a CAP, we request that you evaluate each alternative for cost effectiveness. We suggest that you compare the cost per unit mass removed by SVE versus the cost per unit mass removed by hydrogen peroxide based on the stoichiometry of the expected reactions.

9. **GeoTracker.** A review of the case file and the State's Geotracker database indicates that the site is not in compliance with the State Water Resource Control Board (SWRCB) Electronic Report Regulations (Chapter 30, Division 3 of Title 23 & Division 3 of Title 27, CCR). No documents appear to have been uploaded to GeoTracker since 2010. Pursuant to California Code of Regulations, Title 23, Division 3, Chapter 16, Article 12, Sections 2729 and 2729.1, all analytical data, including monitoring well samples, submitted in a report to a regulatory agency as part of the UST or LUST program, must be transmitted electronically to the SWRCB GeoTracker system via the internet. In September 2004, the SWRCB adopted regulations that require electronic submittal of information for all groundwater cleanup programs, including SLIC programs. Beginning July 1, 2005, electronic submittal of a complete copy of all reports for all sites was required in GeoTracker. At present, missing data and documents include, but may not be limited to analytical data in EDF format, boring logs, location data, maps, and reports. Please see Attachment 1 for limited additional details, and the state GeoTracker website for full details. Please upload all required submittals to GeoTracker by the date specified below.
10. **Corrective Action Plan.** We request that you prepare a Draft Corrective Action Plan (Draft CAP) that meets the provisions of section 2725 of the UST regulations (CCR, Title 23, Chapter 16, section 2600, et seq.) and includes the following minimum information:
- Summary of site characterization data.
 - Receptor information including likely future land use scenarios, adjacent land use and sensitive receptors, and potential groundwater receptors.
 - Evaluation of a minimum of three active remedial alternatives including discussion of feasibility, cost effectiveness, estimated time to reach cleanup goals, and limitations for each remedial alternative.
 - Detailed description of proposed remediation including confirmation sampling and monitoring during implementation.
 - Post-remediation monitoring.
 - Schedule for implementation of cleanup.

Public participation is a requirement for the Corrective Action Plan process. Therefore, we request that you submit a Draft CAP for ACEH review. Upon ACEH approval of a Draft CAP, ACEH will notify potentially affected members of the public who live or own property in the surrounding area of the proposed remediation described in the Draft CAP. Public comments on the proposed remediation will be accepted for a 30-day period.

Mr. Stephen Gwin,
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April 25, 2012
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TECHNICAL REPORT REQUEST

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

- **May 17, 2012** – Groundwater Monitoring Report for First Quarter 2012
- **May 26, 2012** – Compliance with GeoTracker Requirements
- **June 25, 2012** – Revised Work Plan
- **November 15, 2012** – Groundwater Monitoring Report for Third Quarter 2011

If you have any questions, please call me at (510) 567-6791 or send me an electronic mail message at jerry.wickham@acgov.org. Case files can be reviewed online at the following website: <http://www.acgov.org/aceh/index.htm>.

Sincerely,

Jerry Wickham, California PG 3766, CEG 1177, and CHG 297
Senior Hazardous Materials Specialist

Attachment: Responsible Party(ies) Legal Requirements/Obligations

Enclosure: ACEH Electronic Report Upload (ftp) Instructions

cc: Colleen Winey (QIC 8021), Zone 7 Water Agency, 100 North Canyons Pkwy, Livermore, CA 94551
(Sent via E-mail to: cwiney@zone7water.com)

Joe Morgan III, URS Corporation, 1333 Broadway, Suite 800, Oakland, CA 94612 (Sent via E-mail to: joe_morgan@urscorp.com)

Joe Naras, San Francisco Public Utilities Commission, Natural Resources Division
1657 Rollins Road, Burlingame, CA 94010

Craig Freeman, San Francisco Public Utilities Commission, Environmental and Regulatory Compliance Division, 1145 Market Street, Suite 500, San Francisco, CA 94103 (Sent via E-mail to: CFreeman@sflower.org)

Donna Drogos, ACEH (Sent via E-mail to: donna.drogos@acgov.org)
Jerry Wickham, ACEH (Sent via E-mail to: jerry.wickham@acgov.org)

GeoTracker, eFile

Attachment 1

Responsible Party(ies) Legal Requirements / Obligations

REPORT REQUESTS

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.waterboards.ca.gov/water_issues/programs/ust/electronic_submittal/).

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 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.

Alameda County Environmental Cleanup Oversight Programs (LOP and SLIC)	REVISION DATE: July 20, 2010
	ISSUE DATE: July 5, 2005
	PREVIOUS REVISIONS: October 31, 2005; December 16, 2005; March 27, 2009; July 8, 2010
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 ftp 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

- **Please do not submit reports as attachments to electronic mail.**
- Entire report including cover letter must be submitted to the ftp site as **a single portable document format (PDF) with no password protection.**
- 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)

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 deh.loptoxic@acgov.org
 - 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, Safari, and Firefox browsers will not open the FTP site as they are NOT being supported at this time.
 - b) Click on Page located on the Command bar on upper right side of window, and then scroll down to Open FTP Site in Windows Explorer.
 - 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 deh.loptoxic@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.