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8:54 am, Dec 31, 2009

Alameda County Environmental Health Aaron Costa Project Manager Marketing Business Unit Chevron Environmental Management Company 6111 Bollinger Canyon Road San Ramon, CA 94583 Tel (925) 543-2961 Fax (925) 543-2324 acosta@chevron.com

Alameda County Health Care Services 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502-6577

Re: Former Chevron Service Station No. 9-1026 3701 Broadway Oakland, CA

I have reviewed the attached work plan dated December 30, 2009.

I agree with the conclusions and recommendations presented in the referenced work plan. This information in this work plan is accurate to the best of my knowledge and all local Agency/Regional Board guidelines have been followed. This work plan was prepared by Conestoga Rovers Associates, upon who assistance and advice I have relied.

This letter is submitted pursuant to the requirements of California Water Code Section 13267(b)(1) and the regulating implementation entitled Appendix A pertaining thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge.

Sincerely,

Aaron Costa Project Manager

Attachment: Work Plan



5900 Hollis Street, Suite A Emeryville, California 94608 Telephone: (510) 420-0700 http://www.craworld.com

Fax: (510) 420-9170

December 30, 2009

Reference No. 311959

Mr. Mark Detterman Alameda County Environmental Health (ACEH) 1131 Harbor Bay Parkway Alameda, California 94502

Re: Work Plan Addendum Former Chevron Station #9-1026 3701 Broadway Oakland, California Fuel Leak Case No. RO0500

Dear Mr. Detterman:

Conestoga-Rovers & Associates (CRA) is submitting this *Work Plan Addendum* (Addendum) on behalf of Chevron Environmental Management Company (Chevron) for the site referenced above (Figure 1). In a letter dated October 27, 2009, Alameda County Environmental Health (ACEH) requested that technical comments concerning CRA's May 1, 2009 *Well Decommissioning Report and Work Plan for Monitoring Well Installation* be addressed prior to giving approval to perform the investigation (Attachment A). Summarized below are CRA's responses to ACEH's technical comments.

RESPONSES TO TECHNICAL COMMENTS

1. Dissolved Contaminant Plume Monitoring

Between 2006 and 2007, nearly the entire site was excavated by Chevron and Kaiser Permanente (Kaiser) to depths ranging from 15 to 20 feet below grade (fbg). Areas outside of the excavated portions of the site had additional soils removed to 12 fbg along the northwest property boundary to create an access ramp to delivery areas, drill piers to 25 fbg to stabilize the adjacent building along the northwest property boundary, and utility trenching to depths ranging from 5 to 10 fbg along Broadway. The Chevron excavation along the southern property boundary was backfilled with non-native material, and the Kaiser excavation was completed as a medical office building and underground parking. Therefore, all proposed wells in the southern portion of the site will be installed in backfill. An updated site plan with excavation extents and depths, and current building locations is included on Figure 2.

Equal Employment Opportunity Employer



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Reference No. 311959

- a. Site plans with the approximate locations of known utilities, the South Garden area adjacent to MacArthur, the onsite building locations, excavation locations and depths, and the proposed onsite well locations are included as Figure 2. CRA will attempt to install the monitoring wells as close to the proposed locations as possible, as long as no unexpected underground utilities, debris, or other logistical obstructions are encountered.
- b. Cross-sections illustrating site lithology, well screens, and underground utilities beneath McArthur Boulevard are included as Figures 3 through 8. A review of site boring log data reveals one water-bearing zone of silty and clayey sands beneath the clay at depths of approximately 18 to 20 fbg (Figures 3 through 8). After the confined water-bearing zone is penetrated, static groundwater in the wells rises to approximately 12 fbg.
- c. The location of the proposed temporary well in the vicinity of soil sample SWW-5 is presented on Figure 2.
 - i. The previously proposed monitoring well near boring SB-2 has been moved near former well B-6 in the southwest corner of the site, downgradient of the former gasoline underground storage tanks (USTs).
 - ii. Due to the medical office building, walkways, stairwells, utilities and underground vaults, a well on the east side of the Kaiser building could only potentially be installed in the sidewalk, provided there are no utilities. Since groundwater flow is to the southwest and well EA-2 currently monitors groundwater in this upgradient area, a well is not warranted at this location
 - iii. Locations of the proposed wells are indicated on Figure 2.
- d. Groundwater flow beneath the site has consistently been to the southwest. A review of all available groundwater monitoring reports in CRA's files and in the ACEH website located a total of 46 calculated flow directions. Forty-two monitoring events (from 1990 to 2008) were used in the rose diagram (Figure 2) and all calculated groundwater to flow toward to southwest. Three monitoring events from 1989 and one event from 1990 were not used in the rose diagram because the flow directions were calculated using estimations inferred from the topography of the site (due to lack of TOC survey), and are therefore unreliable.

As stated above, there is only one shallow water-bearing zone beneath the site, under confined conditions, in the silty and clayey sand beginning at approximately 18 to 20 fbg. Static groundwater levels have ranged from approximately 8 to 19 fbg, but are typically at approximately 12 fbg. As described in the May 1, 2009 *Work Plan for Monitoring Well Installation*, wells E and F were originally installed in 1982 with screen intervals of 5 to 20 fbg, the same as the former onsite wells. In 1992, due to insufficient groundwater, offsite wells E and F were deepened to their current screen intervals of 20 to 35 fbg and 15 to 30 fbg, respectively. Onsite well B-1 was also extended at this time for similar reasons. After the



Reference No. 311959

wells were deepened, groundwater rose to 12.20 fbg in well E and 14.85 fbg in well F, indicating the shallow water-bearing zone is under confined conditions. Although the screens are submerged, they are screened appropriately for the lithology and hydrogeologic conditions of the area. Well EA-1 was installed with a screen interval from 10 to 35 fbg and has had sufficient water for sampling. The onsite proposed wells will have a 0.010-inch slotted screen from approximately 18to 23 fbg. The wells will be installed in 3.5-inch direct push borings and the well casings will be 1-inch diameter Schedule 40 poly vinyl chloride. Screen depths may be adjusted depending on lithology and depth to groundwater encountered at each location.

- 3 -

e. After the proposed wells are installed, CRA will submit a report that includes well construction details, technical specifications, and well lithologic logs. Following the installation of the wells, a licensed surveyor will survey the Northing and Easting (or latitude and longitude) to NAD83, and top of casing elevation to mean sea level in compliance with AB2886 (Geotracker) requirements. The new wells will be monitored and sampled quarterly for one year, then sampling will be reduced to semi-annually in accordance with the May 19, 2009 State Water Resource Control Board Resolution No. 2009-0042.

2. Preferential Pathway Analysis

As requested, CRA obtained city sanitary sewer and storm drain maps. The locations and depths of the sanitary sewer, storm drain, water, and electrical lines beneath MacArthur Boulevard are illustrated on Figure 7. A preferential pathway analysis will be conducted and submitted with the *Well Installation Report*.

3. Sampling and Analysis Protocols

All soil samples and groundwater collected during the subsurface investigation will be analyzed for the following:

- Total petroleum hydrocarbons as gasoline by EPA Method 8015
- Benzene, toluene, ethylbenzene, xylenes, fuel oxygenates and lead scavengers 1,2-dichloroethane (1,2-DCA) and 1,2-dibromoethane (EDB) by EPA Method 8260B.

This information is also provided on Page 10 of the May 1, 2009 *Well Decommissioning Report and Work Plan for Well Installation*.



Reference No. 311959

CLOSING AND SCHEDULE

• CRA will proceed with the proposed scope of work upon receipt of written approval from ACEH. After approval, CRA will obtain the necessary drilling permits, access agreements, and schedule the subcontractors at their earliest availability. ACEH extended the submittal date of this Addendum, and therefore, CRA will be unable to complete the work and reporting by the original requested submittal date of February 28, 2010. We will submit our investigation report approximately eight weeks after completion of field activities.

- 4 -

• CRA recommends submitting the *Risk Assessment and Site Management Plan* after one year of groundwater sampling data from the new monitoring wells.



Reference No. 311959

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If you have any questions or comments, please contact Ms. Charlotte Evans at (510) 420-3351 or Mr. Aaron Costa at (925) 543-2961.

No. 75

Sincerely,

CONESTOGA-ROVERS & ASSOCIATES

Charlotte Evans

KH/doh/3

Enc.

Figure 1	Vicinity Map
Figure 2	Site Plan with Utilities and Culvert
Figure 3	Cross Section Transect Lines
Figure 4	Cross Section A-A' (Pre-Excavations)
Figure 5	Cross Section A-A' (Post-Excavations)
Figure 6	Cross Section A-A' with Utility Details
Figure 7	Cross Section B-B' (Pre-Excavations)
Figure 8	Cross Section B-B' (Post Excavations)

Attachment A ACEH October 27, 2009 Letter

cc: Mr. Aaron Costa, Chevron Environmental Management Company Mr. Gary Bankhead, Kaiser Foundation Hospitals Heitzinger Associates

Branch Still

Brandon S. Wilken, P.G. # 7564

FIGURES





311959-2009(002)GN-WA004 DEC 22 2009



311959-2009_EM001_X-SECTIONS













ATTACHMENT A

ACEH OCTOBER 27, 2009 LETTER

ALAMEDA COUNTY HEALTH CARE SERVICES



DAVID J. KEARS, Agency Director

AGENCY

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

October 27, 2009

Mr. Aaron Costa Chevron Environmental Management PO Box 6012 6111 Bollinger Canyon Rd, Rm 3660 San Ramon, CA 94583-2324 Mr. Gary Bankhead Kaiser Foundation Hospitals 100 San Leandro Blvd. San Leandro, CA 94577 Heitzinger Associates PO Box 1613 Pebble Beach, CA 93953 Pasadena, CA 91188

Subject: Request for Work Plan Addendum; Fuel Leak Case No. RO0000500 (Global ID # T0600100334), Chevron #9-1026, 3701 Broadway, Oakland CA 94611

Dear Mr. Costa, Mr. Havel, and Heitzinger Associates:

I have been recently assigned to your case; please send all future correspondence or inquiries to my attention. This will be greatly appreciated. First off, thank you for submitting the documents entitled. Addendum to Site Investigation, dated and received February 17, 2009, and Well Decommissioning Report and Work Plan for Monitoring Well Installation, dated May 1, 2009, received May 4, 2009; each was prepared by Conestoga Rovers Associates (CRA). They are appreciated. Thank you also for clarifying the status of bores CSB-2, CSB-15, CSB-21; and CSB-1 and SWE-4; and updating Figures 4 through 6 as requested. ACEH also notes and concurs with the statement on the preferred timing of generation of a Risk Assessment and a Site Management Plan. Based on Alameda County Environmental Health (ACEH) staff review of the referenced documents and of the case file, we request that you address the following technical comments and send us the reports described below. Please 72-hour advance written provide notification to this office (e-mail preferred to: mark.detterman@acgov.org) prior to the start of field activities.

TECHNICAL COMMENTS

- 1. Dissolved Contaminant Plume Monitoring ACEH notes the location of three proposed permanent groundwater monitoring wells for the subject site. The wells are planned as pre-pack 0.75-inch diameter PVC casing with a 0.010-inch slot size, and were proposed to be installed with screen between 10 to 25 feet below grade surface (bgs). Per extant figures, the well proposed closest to the former underground storage tank (UST) basin appears that it will be installed in native soil. Two wells placed closest to the sidewalk along Macarthur Boulevard appear will be installed in backfill material. ACEH is in agreement with the generalized locations of the proposed onsite wells; however, has several concerns which require addressing prior to installation:
 - a. The proposed locations are stated to be tentative and are expected to be placed depending upon utility and other considerations. ACEH must be in agreement with the final proposed well placement prior to installation. Please provide those locations in the Work Plan Addendum requested below.
 - b. Pre-excavation soil bores generally suggest two potential water bearing zones can be present in the upper 20 to 21 feet bgs at the site, one at approximately 8 to 12 feet bgs, and another varying between approximately 16 to 21 feet bgs (Please note correlations

Aaron Costa, Gary Bankhead and Heitzinger Associates October 27, 2009 RO0000500, Page 2

> are somewhat tentative; no site cross-sections have been located for the project). The interval at approximately 8 to 12 feet bgs contains indications of intermittent flow; due perhaps to rain or other temporary infiltration along an overbank splay originating from the westward deflection of Western Creek, now a channelized storm drain, at the northwest corner of the former Chevron parcel. In general, ACEH recommends the use of monitoring wells designed with sand pack intervals of 5 feet or less; as these wells will likely be representative of depth discrete groundwater conditions. Because the area of backfill will largely act as a basin intercepting groundwater flow from these two depth intervals, it may be appropriate to link the two zones for the proposed wells closest to the Macarthur sidewalk (i.e. to monitor the overexcavation backfill basin as a single unit). For the well closest to the former UST basin, it appears the well will be installed in native soils; consequently a more appropriate short well screening interval should be identified prior to well installation. ACEH requests the generation of a minimum of two cross sections, one parallel and one perpendicular to the predominate direction of groundwater flow, prior to well installation using pre- and post-excavation elevations. Please include these cross sections, or any additional sections deemed appropriate in the Work Plan Addendum requested below. Please include utility corridors or other known preferential pathway in the cross sections (see below).

- c. The location of a temporary well proposed to investigate flow of contaminants to the storm drain from the site in the vicinity of soil bore / sidewall sample SWW-5 did not appear on the final version of Figure 6 (proposed well locations). Please include it in a figure of final locations for the permanent wells in the document requested below. ACEH also requests the completion of a two additional temporary wells:
 - i. One in remaining native soils at the western corner of the site in the vicinity of former well B-6 to investigate downgradient migration of hydrocarbons towards the storm drain west of the site. A review of older groundwater data and flow directions from wells B-1 and B-6 suggest this possibility should be investigated.
 - ii. One in remaining native soils east of the Kaiser Medical Office Building between the building and the sidewalk along Broadway to investigate the downgradient transport of dissolved hydrocarbons potentially emanating from the subject site.
 - iii. Please include the final locations in the Work Plan Addendum requested below.
- d. ACEH has also reviewed historic groundwater flow direction maps contained in the online case files and located more than a few that do not appear to have been used in the generation of the rose diagram that appears on multiple figures. These indicate a southeastern flow direction has existed in at the site. It appears warranted to investigate flow towards the southeast and requires the installation of offsite wells to investigate such a possibility. Please note that wells E, F, EA-1, and EA-2 have 15 to 25 foot screen intervals, were not logged between 20 to 30 feet bgs (wells E and F), and may potentially join multiple water-bearing zones (EA-1 and EA-2); reliability of groundwater data generated at these wells can reasonably be argued to be suspect. Please include the final locations, and rationale for the locations and well design in the Work Plan Addendum requested below.
- e. Upon completion of monitoring well installation ACEH requests that you submit all well construction details, technical specifications, and well lithologic logs in the report requested below. In addition, we request that a licensed professional surveyor be retained to survey the monitoring well locations to Geotracker standards. Additionally new wells are to be monitored and sampled quarterly for a minimum of a one year period.

Aaron Costa, Gary Bankhead and Heitzinger Associates October 27, 2009 RO0000500, Page 3

- 2. Preferential Pathway Analysis Please further investigate preferential pathways including the depth of burial of utility corridors. Per Figure 2 of the SECOR Soil Management Implementation Report, dated June 11, 2008, a sanitary sewer manhole at the intersection of Broadway and Macarthur Boulevard has a rim elevation of 75.05 feet, while the invert has an elevation of 51.7 feet. While perhaps atypical, the 23.35 foot depth does not conform to the 1.5 to 8 foot typical burial cited in the Work Plan. ACEH remains concerned preferential pathways may exist in the site vicinity. Please depict utility corridors in the previously requested cross-sections.
- 3. **Sampling and Analysis Protocols** Please clarify in the Work Plan Addendum requested below the following items:
 - a. Laboratory Analysis for Soil While likely an oversight, please clarify the intent to also analyze, and the selection process for analysis if appropriate, for soil samples collected as described in the Work Plan.
 - b. **Groundwater Chemical Analysis** While likely an oversight, please clarify the intent to use the same analysis as that proposed for soil samples.

TECHNICAL REPORT REQUEST

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

- November 30, 2009 Work Plan Addendum
- February 28, 2010 Soil and Groundwater Investigation Report
- May 14, 2010 First Quarterly Groundwater Monitoring Report
- November 30, 2010 Risk Assessment and Site Management 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/electronic submittal/report rgmts.shtml.

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.

If you have any questions, please call me at (510) 383-1767 or send me an electronic mail message at <u>mark.detterman@acgov.org</u>.

Sincerely,

Marke for

Digitally signed by Mark E. Detterman DN: cn=Mark E. Detterman, c=US Reason: I am the author of this document Date: 2009.10.27 13:26:15 -07'00'

Mark E. Detterman, PG, CEG Hazardous Materials Specialist

Charlotte Evans, Conestoga-Rovers & Assoc., 5900 Hollis Street, Suite A, Emeryville, CA 94608 (sent via electronic mail to <u>Cevans@craworld.com</u>)
Greg Hoehn, Stantec, 57 Lafayette Circle, 2nd Floor, Lamarette, CA 94549 (sent via electronic mail to <u>greg.hoehn@stantec.com</u>)
Leroy Griffin, Oakland Fire Department, 250 Frank H. Ogawa Plaza, Suite 3341
Oakland, CA 94612-2032 (sent via electronic mail to <u>lgriffin@oaklandnet.com</u>)
Dan Nechkash, Kaiser Permanente, National Environmental, Health & Safety, 75 N. Fair Oaks, 1st Floor, Pasadena, CA 91188 (sent via electronic mail to <u>Daniel.O.Nechkash@kp.org</u>)
Donna Drogos (sent via electronic mail to <u>donna.drogos@acgov.org</u>), Mark Detterman (sent via electronic mail to <u>mark.detterman@acgov.org</u>), File

Alameda County Environmental Cleanup	ISSUE DATE: July 5, 2005
Oversight Programs	REVISION DATE: March 27, 2009
(LOP and SLIC)	PREVIOUS REVISIONS: December 16, 2005, 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 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

- 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 <u>dehloptoxic@acgov.org</u>
 - 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 <u>dehloptoxic@acgov.org</u> 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.