ALAMEDA COUNTY
HEALTH CARE SERVICES
AGENCY
ALEX BRISCOE, Agency Director

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June 14, 2013

Pargat Singh & Rawandiep Sran
19125 Redwood Rd
Castrol Valley, CA 94546

Mirazim & Afsar Shakoori
Former Castro Valley Chevron
4313 Mansfield Drive
Danville, CA 94506

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

Paul Supple
Atlantic Richfield Company
(A BP Affiliated Company)
P.O. Box 1257
San Ramon, CA 94583
(*Sent via E-mail to: paul.supple@bp.com*)

Subject: Fuel Leak Case No. RO0000346 and GeoTracker Global ID T0600100920, BP #11105 / Shell 17-1445, 3519 Castro Valley Boulevard, Castro Valley, CA 94546

Dear Mr. Singh, Mr. Sran, Mr. and Mrs. Shakoori, Mr. Brown, and Mr. Supple:

Alameda County Environmental Health (ACEH) staff has reviewed the case file for the subject site including the following documents prepared by SOMA Environmental Engineering, Inc. (SOMA) on your behalf:

- ***Feasibility Study/Corrective Action Plan and Proposed Pilot Testing*** (FS/CAP), dated March 11, 2011. The FS/CAP presents an evaluation of the following remedial technologies:

  - Soil Excavation and off-site disposal
  - Soil vapor extraction (SVE)
  - Multi-phase extraction (MPE)
  - Groundwater extraction and treatment (GWETS)
  - Air Sparging (AS)
  - Enhanced aerobic bioremediation and chemical oxidation via injection of an oxidizing compound (RegenOx) and/or an oxygen releasing compound (ORC).

  In the alternatives analysis, SOMA recommended conducting pilot testing for MPE, MPE enhanced with AS, and ORC injection to further evaluate the feasibility of these technologies prior to making a final determination on the recommended alternative.

- ***Observation Wells Installation, Pilot Testing, and Feasibility Study Report*** (Pilot Test Report)**,** dated September 22, 2011. The Pilot Test Report presents the results of MPE, AS, MPE/AS, and water injection pilot tests conducted at the site. Based on the results of pilot tests, SOMA revaluated the feasibility of the remedial alternatives presented in the FS/CAP and concluded that there were three viable remedial

alternatives (MPE/AS, excavation with ORC application within the excavation, and ORC application via injection) for the site, each with comparable costs. SOMA recommended remedial excavation, with ORC application within the excavated area to address any remaining petroleum hydrocarbon impacts to groundwater, as the preferred alternative as it would be the quickest alternative in terms of implementation time; however noted that it would be the most disruptive alternative for the operating Shell service station. SOMA stated that they would communicate with the property owner to determine whether excavation was feasible or if a less disruptive remedial action would be preferred.

- ***Draft Corrective Action Workplan for Soil Gas Study, Excavation Design and Implementation Activities*** (Draft CAP Workplan), dated January 10, 2013. The Draft CAP Workplan is a companion document to SOMA's FS/CAP and Pilot Test Report, and presents remedial design and implementation details for recommended remedial alternative consisting of the following components:

  - Excavation of petroleum impacted soil in the smear zone and upper portion of the saturated zone in three areas in the vicinity of the former underground storage tank pit and dispenser islands.

  - Application of ORC in the excavation pits prior to backfilling to address post-excavation residual hydrocarbon impacts to groundwater beneath the site.

  In the Draft CAP Workplan, SOMA also recommended conducting a soil gas study adjacent to the southern property boundary to the west and east of the station building to establish whether vapor intrusion is a complete exposure pathway.

- ***First Semi-Annual 2013 Groundwater Monitoring Report*** *(GWM Report)*, dated February 27, 2013. The GWM Report presents results of the most recent groundwater monitoring event conducted at the site and SOMA recommendation to conduct increase the groundwater monitoring event frequency from a semi-annual to quarterly basis in order to determine concentration trends in wells constructed in 2010.

ACEH has evaluated the data and recommendations presented in the above-mentioned reports, in conjunction with the case files, and the State Water Resources Control Board's (SWRCBs) Low Threat Underground Storage Tank Case Closure Policy (LTCP). Based on ACEH staff review, we have determined that the site fails to meet the LTCP General Criteria for f (Secondary Source Removal), and the Media-Specific Criteria for Vapor Intrusion to Indoor Air.

Therefore, at this juncture ACEH requests that you implement the proposed scope of work in the Draft CAP Workplan in accordance with a phased approach discussed in the Technical Comments provided below and the schedule provided in the Technical Report Section.

TECHNICAL COMMENTS

1. **LTCP Media-Specific Criteria for Vapor Intrusion to Indoor Air Compliance –** The LTCP describes conditions, including bioattenuation zones, which if met will assure that exposure to petroleum vapors in indoor air will not pose unacceptable health risks to human occupants of existing or future site buildings, and adjacent parcels. Appendices 1 through 4 of the LTCP

criteria illustrate four potential exposure scenarios and describe characteristics and criteria associated with each scenario.

ACEH's review of the case files indicates that although the site is currently an active gas station, insufficient data exists to determine whether the commercial facilities located adjacent to the site are at risk due to vapor intrusion to indoor. Several off-site buildings exist near the southern and eastern property boundaries including a strip mall located immediately downgradient behind the station building, and a commercial building currently occupied by Fremont Bank located immediately to the east of the site. Historic depth to groundwater in the shallow water bearing zone located in the vicinity of these buildings ranges from 6.72 feet below ground surface (bgs) to 9.76 feet bgs. During the first semi-annual 2013 groundwater monitoring event, benzene concentrations in two of the wells (SOMA -7 and OB-2) located in the vicinity of the adjacent off-site buildings, had reported benzene concentrations of 500 and 530 micrograms per liter (µg/L). Additionally, a review of field data sheets for these wells contained in groundwater monitoring reports indicates consistent observations of sheen in SOMA-7 and sheen and product globules in well OB-2 indicating the possible presence of free product in the vicinity of the wells.

SOMA proposes to implement a soil gas study adjacent to the southern property boundary to the west and east of and beneath the station building to establish whether vapor intrusion is a complete exposure pathway to onsite and/or off-site building occupants. SOMA proposes to advance four soil gas sampling boreholes (SV-1 through SV-4) adjacent to the on- and off-site buildings, and three sub-slab samples (SSG-1 through SSG-3) in the on-site convenience store. ACEH notes that according to the LTCP, satisfaction of the media-specific criteria for petroleum vapor intrusion to indoor air is not required at active commercial petroleum fueling stations, except in cases where release characteristics can be reasonably believed to pose an unacceptable health risk. Due to the location of the convenience store in proximity to wells SOMA-7 and OB-2, ACEH generally concurs that collection of the sub-slab samples is justified and may provide useful information on the potential for vapor intrusion into adjacent off-site structures.

SOMA proposes to collect all soil gas samples between 4.5 and 5 feet bgs at each proposed boring location utilizing a temporary soil vapor monitoring point installed by direct Push technology. Please note, that ACEH requires installation of permanent vapor wells to assess temporal and seasonal variations in soil gas concentrations consistent with the guidelines presented in the Department of Toxic Substances Control's Final Vapor Intrusion Guidance (October 2011) and Active Soil Gas Investigation Advisory (April 2012). Therefore, please submit a Revised Soil Gas Sampling Work Plan presenting a strategy that is consistent with DTSC guidance for installation and abandonment of permanent sampling points, and incorporates the recommended sampling protocols including shut-in tests, leak tests, purge volume test, and quality assurance/quality control samples. Please include Data Quality Objectives in the Revised Work Plan to ensure that laboratory analytical reporting limits are less than the appropriate screening level for target compounds. Additionally, please ensure your strategy is consistent with the LTCP Vapor Intrusion to Indoor Air Media-Specific Criteria requirements for soil gas sample locations (samples to be collected at least five feet below the bottom of existing building foundations), and collection of the requisite chemical analytes (benzene, ethylbenzene, and napthalene). Please note, DTSC guidance recommends the use of TO17 adsorbent tubes to ensure collection of valid napthalene data.

2. **General Criteria f (Secondary Source) –** The LTCP defines "secondary source" as petroleum-impacted soil or groundwater located at or immediately beneath the point of release from the primary source. Unless site attributes prevent secondary source removal (e.g. physical or infrastructural constraints exist whose removal or relocation would be technically or economically infeasible), petroleum-release sites are required to undergo secondary source removal to the extent practicable. The LTCP defines "[t]o the extent practicable" as implementation of a cost-effective corrective action which removes or destroys-in-place the most readily recoverable fraction of source-area mass. According to the LTCP, following removal or destruction of the secondary source, additional removal or active remedial actions shall not be required by regulatory agencies unless (1) necessary to abate a demonstrated threat to human health or (2) the groundwater plume does not meet the definition of low threat as described in this policy."

   SOMA proposes to excavate contaminated soil in three areas of the site, one in the southwestern portion of the site near well SOMA -7, one at the southwestern boundary of the former UST cavity near well OB-2, and one northeast of the pump islands near historical boring B-3. SOMA concludes that the complete removal of the smear zone and the upper portion of the saturated area via excavation will immediately discontinue the mass transfer from soil to groundwater thereby effectively remediating the site. SOMA proposes to collect confirmation samples at the bottom of the excavation pit on a rush basis. If the analytical results indicate that the concentrations of remaining chemicals at the bottom of the excavation pit are above ESLs and excavation needs to be continued to the deeper level and groundwater is impeding such excavation advancement, SOMA proposes to place ORC in the excavation pit to address residual hydrocarbon impact to groundwater beneath the site.

   During excavation activities, SOMA proposes to destroy existing groundwater monitoring wells located in the excavation areas, including wells SOMA-7, ESE-5R, OB-1, SOMA-5, ESE-1R, and OB-2.

   ACEH's review of the case files indicates that secondary source and residual mass may be present in site soils at levels that require additional remedial actions to abate a threat to human health due to the potential for vapor intrusion to indoor air in adjacent site structures. However, prior to initiating excavation activities, ACEH requests that SOMA conduct the soil gas investigation and submit a Soil Gas Investigation Report presenting the results of the soil gas investigation and a re-assessment of the need for and or extents of excavation limits.

   SOMA proposes to backfill excavated areas with imported drain rock (or pea gravel around utility line) to sub-base, and then backfill with 8 to 12 inches of Class II aggregate base rock (AB) to below concrete level. ACEH requests that the excavations be backfilled using material with characteristics similar to the surrounding native formation or flowable fill material in order to minimize the "mounding" effects on groundwater flow direction. Fill material must be certified as "clean" in accordance with the California Environmental Protection Agency Department of Toxic Substances Control (DTSC) Clean Imported Fill Material Information Advisory (attached) in order to minimize the potential of introducing contaminated fill material onto the site and protect future site occupants. An imported fill material plan prepared in accordance with the DTSC Advisory and fill documentation must be submitted to ACEH for review and approval prior to importing and backfilling the excavations. Clean fill documentation must be submitted with the Remedial Excavation Report.

3. **Revised Cleanup Goals -** The FS/CAP proposes using the Regional Water Quality Control Board – San Francisco Bay Region's 2008 Environmental Screening Levels (ESLs) as the recommended cleanup goals for the site. If based on the soil gas investigation results, soil excavation activities are deemed necessary to abate a threat to human health due to the potential for vapor intrusion to indoor air in adjacent site structures, please revise the soil excavation cleanup goals to reflect levels consistent with the LTCP and the 2013 ESLs and submit with the Soil Gas Investigation Report.

4. **Groundwater Monitoring Frequency** – Two water-bearing zones (WBZs) have been identified at the site, including a Shallow WBZ and a Semi-Confined WBZ. The Shallow WBZ is monitored by five on-site wells (SOMA-5, SOMA-7, SOMA-8, OB-1, and OB-2) and two off-site wells (SOMA-2 and SOMA-3). The Semi-Confined WBZ is monitored by five on-site wells (ESE-1R, ESE-2R, ESE-5R, MW-6R, and SOMA-1) and two off-site wells (MW-7R and SOMA-4). The site monitoring well network was reconstructed in 2010 so as to prevent cross-screening in the impacted shallow and deeper zones. A review of the analytical data indicates that the Shallow WBZ TPH-g, benzene, and MTBE plumes appear to be centrally located in the southern section of the site in the vicinity of the former UST cavity, as indicated by high TPH-g and BTEX concentrations in well OB-2. MTBE is the only constituent detected above analytical laboratory detection limits in both on- and off-site wells.

   ACEH does not concur with SOMA's request to increase the groundwater monitoring well event frequency to a quarterly schedule. Although data indicates a relatively stable off-site plume, please continue to conduct monitoring on a semi-annual basis to assess whether off-site migration of the benzene plume is trailing behind the MTBE plume.

5. **Path to Closure Project Schedule -** The State Water Resources Control Board passed Resolution No. 2012-0062 on November 6, 2012 requires development of a "Path to Closure Plan" by December 31, 2013 that addresses the impediments to closure for the site. The Path to Closure must have milestone dates tied to calendar quarters which will achieve site cleanup and case closure in a timely and efficient manner and minimizes the cost of corrective action. Therefore, by the date listed below, please prepare a Path to Closure Schedule for your site that incorporates the items identified by ACEH in the Technical Comments above as impediments to closure (further detailed in Attachment B). Additionally, please evaluate the site against the LTCP criteria and incorporate additional data collection activities in the Path to Closure Schedule and Data Gap Investigation Work Plan to address other impediments to closure under the policy not identified by ACEH. ACEH staff utilizes a Data Gap Identification Tool (DGIT) while reviewing cases for compliance with the LTCP criteria and identification of impediments to closure. We encourage you to also utilize the DGIT to (1) evaluate your site and develop an efficient path to site closure by focusing data collection efforts, if necessary, on the LTCP criteria, and (2) assist and expedite ACEH staff review of work plans and request for closures. ACEH will provide the DGIT as a PDF form via e-mail upon request. ACEH will review the schedule to ensure that all key elements are included.

TECHNICAL REPORT REQUEST

Please submit technical reports to ACEH (Attention: Dilan Roe), according to Attachment 1 and the following naming convention and schedule:

- **July 15, 2013** – Revised Soil Gas Investigation Work Plan
  (File to be named: WP_ADEND_R_yyyy-mm-dd)

- **July 15, 2013** – Second Semi-Annual 2013 Groundwater Monitoring Event

- **August 16, 2013** – Vapor Intrusion Investigation Report
  (File to be named: SWI_R_yyyy-mm-dd)

- **August 30, 2013** – Second Semi-Annual Groundwater Monitoring Report
  (File to be named: GWM_R_yyyy-mm-dd)

- **60 days after excavation is complete** – Remedial Excavation Report
  (File to be named: SWI_R_yyyy-mm-dd)

Thank you for your cooperation. Should you have any questions or concerns regarding this correspondence or your case, please call me at (510) 567-6767 or send me an electronic mail message at dilan.roe@acgov.org.

Sincerely,

Digitally signed by Dilan Roe
DN: cn=Dilan Roe, o=Environmental Health, ou=LOP, email=dilan.roe@acgov.org, c=US
Date: 2013.06.15 18:51:15 -07'00'

Dilan Roe, P.E.
Local Oversight Program Manager

Enclosures: Attachment 1 - Responsible Party(ies) Legal Requirements/Obligations &
ACEH Electronic Report Upload (ftp) Instructions

cc: Mansour Sepehr, SOMA Environmental Engineering, Inc., 6620 Owens Drive, Suite A, Pleasanton, CA 94588 (*Sent via E-mail to: msepehr@somaenv.com*)
Matthew Herrick, Broadbent & Associates, Inc., 2000 Kirman Avenue, Reno, NV 89502 (*Sent via E-mail to*: *mherrick@broadbentinc.com*)

Donna Drogos, ACEH (*Sent via E-mail to: donna.drogos@acgov.org*)
Dilan Roe, ACEH (*Sent via E-mail to: dilan.roe@acgov.org*)
GeoTracker
File

ATTACHMENT 1

Responsible Party(ies) Legal Requirements/Obligations & ACEH Electronic Report Upload (ftp) Instructions

Attachment 1

Responsible Party(ies) Legal Requirements/Obligations

REPORT/DATA REQUESTS

These reports/data are being requested pursuant to Division 7 of the California Water Code (Water Quality), Chapter 6.7 of Division 20 of the California Health and Safety Code (Underground Storage of Hazardous Substances), and Chapter 16 of Division 3 of Title 23 of the California Code of Regulations (Underground Storage Tank Regulations).

ELECTRONIC SUBMITTAL OF REPORTS

ACEH's Environmental Cleanup Oversight Programs (Local Oversight Program [LOP] for unauthorized releases from petroleum Underground Storage Tanks [USTs], and Site Cleanup Program [SCP] for unauthorized releases of non-petroleum hazardous substances) require submission of reports in electronic format pursuant to Chapter 3 of Division 7, Sections 13195 and 13197.5 of the California Water Code, and Chapter 30, Articles 1 and 2, Sections 3890 to 3895 of Division 3 of Title 23 of the California Code of Regulations (23 CCR). Instructions for submission of electronic documents to the ACEH FTP site are provided on the attached "Electronic Report Upload Instructions."

Submission of reports to the ACEH FTP site is in addition to requirements for electronic submittal of information (ESI) to the State Water Resources Control Board's (SWRCB) Geotracker website. In April 2001, the SWRCB adopted 23 CCR, Division 3, Chapter 16, Article 12, Sections 2729 and 2729.1 (Electronic Submission of Laboratory Data for UST Reports). Article 12 required electronic submittal of analytical laboratory data submitted in a report to a regulatory agency (effective September 1, 2001), and surveyed locations (latitude, longitude and elevation) of groundwater monitoring wells (effective January 1, 2002) in Electronic Deliverable Format (EDF) to Geotracker. Article 12 was subsequently repealed in 2004 and replaced with Article 30 (Electronic Submittal of Information) which expanded the ESI requirements to include electronic submittal of any report or data required by a regulatory agency from a cleanup site. The expanded ESI submittal requirements for petroleum UST sites subject to the requirements of 23 CCR, Division, 3, Chapter 16, Article 11, became effective December 16, 2004. All other electronic submittals required pursuant to Chapter 30 became effective January 1, 2005. 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, 7835, 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, late 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 SCP)	**REVISION DATE:** July 25, 2012
	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 (petroleum UST and SCP) 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 .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 ://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 .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.