



Carryl MacLeod Project Manager Marketing Business Unit Chevron Environmental Management Company 6001 Bollinger Canyon Road San Ramon, CA 94583 Tel (925) 842-3201 CMacleod@chevron.com

October 21, 2016

Mr. Mark Detterman Alameda County Environmental Health 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502

Dear Mr. Detterman:

Attached for your review is the *Response to Technical Comments* for former Chevron-branded service station 91723, located at 9757 San Leandro Street in Oakland, Alameda County, California (Case #: RO412). This report was prepared by Stantec Consulting Services Inc. (Stantec), upon whose assistance and advice I have relied. I declare under penalty of perjury that the information and/or recommendations contained in the attached report are true and correct, to the best of my knowledge.

If you have any further questions, please do not hesitate to contact me or the Stantec project manager, Travis Flora, at (408) 356-6124 or <u>travis.flora@stantec.com</u>.

Sincerely,

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Carryl MacLeod Project Manager



October 21, 2016

Attention: Mr. Mark Detterman

Alameda County Environmental Health 1131 Harbor Bay Parkway, Suite 250 Alameda, CA 94502

Reference: Response to Technical Comments Former Chevron-Branded Service Station 91723 9757 San Leandro Street, Oakland, CA (Case #: RO412)

Dear Mr. Detterman,

Stantec Consulting Services Inc. (Stantec), on behalf of Chevron Environmental Management Company (CEMC), submitted the Low-Threat Closure Policy Evaluation and Request for Closure for former Chevron-branded service station 91723, located at 9757 San Leandro Street in Oakland, Alameda County, California (the Site) on June 10, 2016. In response, Alameda County Environmental Health (ACEH) provided technical comments in a letter dated August 9, 2016 (**Attachment A**), and requested a Vapor Mitigation System Design and Construction Quality Assurance Plan (CQAP) and a Draft Long Term Site Management Plan be submitted by October 21, 2016.

Based on ACEH review of the Low-Threat Closure Policy Evaluation and Request for Closure and *First Quarter 2016 Semi-Annual Groundwater Monitoring Report*, dated May 5, 2016, ACEH stated that the Site still fails to meet the State Water Resources Control Board (SWRCB) Low-Threat Underground Storage Tank (UST) Case Closure Policy (LTCP) general and media-specific criteria for groundwater and vapor intrusion to indoor air. Stantec is submitting this document in lieu of the Vapor Mitigation System Design and CQAP and Draft Long Term Site Management Plan to respond to ACEH's technical comments, present how the Site meets additional LTCP criteria, and demonstrate that there is no risk to human health, and that a methane mitigation system is not warranted.

Please refer to the Low-Threat Closure Policy Evaluation and Request for Closure for current tables and figures associated with the Site.

RESPONSES TO TECHNICAL COMMENTS

Stantec has reviewed ACEH's technical comments and has the following responses. The titles of ACEH's technical comments are provided in bold, with Stantec's responses in italics.

1. LTCP Media-Specific Criteria for Groundwater

ACEH states the Site does not meet LTCP media-specific criteria for groundwater because it cannot be determined if industrial water production well P-2 has been



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inappropriately abandoned or destroyed and backfilled in accordance with state well destruction standards. ACEH requests that the status of the well be determined and states that field efforts may be required. If field efforts would be required, the well owner or property owner is responsible for such efforts, not CEMC. Regardless, efforts were clearly made to abandon or destroy well P-2; therefore, it cannot be used as a water supply well and does not preclude the Site from satisfying the LTCP groundwater-specific criteria, scenario 1, as described in Stantec's Low-Threat Closure Policy Evaluation and Request for Closure.

2. LTCP Media-Specific Criteria for Vapor Intrusion to Indoor Air

Based on current land use, there is currently no risk to human health associated with Site soil vapor concentrations, because there are no buildings on Site where vapor intrusion may occur, nearby buildings are not at risk based on the limited extent of soil and groundwater contamination, and the Site meets direct contact and outdoor air exposure criteria of the LTCP. Therefore, the Site currently satisfies category b of the petroleum vapor intrusion to indoor air criteria based on this Site-specific risk assessment. If the on-site land use changes through property redevelopment, a Soil and Groundwater Management Plan will be developed to assist with potential waste management or mitigation measures or engineering controls, as-needed, depending upon specific redevelopment plans. With a management plan in place, the property owner would have free and unencumbered use of their property. No land use restriction would be required, because the management plan would be tailored to the proposed redevelopment in order to mitigate potential risk associated with any new proposed land use. If mitigation measures or engineering controls are deemed necessary based on a review of redevelopment plans, they would adequately address volatile organic compounds and methane vapors.

3. General Criteria h – Nuisance as Defined by Water Code Section 13050

Contradictory to what ACEH states in their letter, methane data included in the Low-Threat Closure Policy Evaluation and Request for Closure indicates that methane vapors are only found in the soil vapor probes and are <u>not</u> accumulating in monitoring well casings and vaults, soil vapor probe vaults, utility vaults, and manholes near the Site. This indicates that although higher methane levels are observed in the soil vapor probes, methane is not accumulating in any of these structures. The methane observed on Site appears to be related to anaerobic biodegradation in the subsurface and not an actual commercial or industrial source. The volume and diffusive pressure associated with biogenic methane at this Site does not present an imminent risk.

Higher soil gas methane concentrations associated with anaerobic biodegradation, even within the range of lower explosive limit (LEL) and upper explosive limit (UEL), are



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not an explosive hazard if they are left in the soil matrix. This methane will only be a hazard if it enters an enclosed space and accumulates to above the LEL and mixes with oxygen. There is no building on Site, and field measurements confirmed that methane is <u>not</u> accumulating in monitoring well casings and vaults, soil vapor probe vaults, utility vaults, and manholes near the Site. Under current Site use, the presence of biogenic methane in the subsurface does not present an imminent risk and does not limit land use at the Site. If the Site use changes, the specific management plan will address methane mitigation or remediation, as-needed, depending upon specific redevelopment plans.

ACEH also states that the Site meets the definition of a nuisance as defined by California Water Code Section 13050; however, to meet the definition of a nuisance, the Site must meet all of the criteria listed under that section, and it does not. As described above, residual petroleum hydrocarbon contamination and any associated vapors are not an obstruction to the free use of the property, because any residual impacts can be addressed in a management plan. In addition, there is no imminent risk to human health associated with the methane vapors, the vapors are not offensive to the senses, the methane is limited in extent and is not going to affect the community, and it did not occur during, or as a result of, the treatment or disposal of wastes. Therefore, the Site does not meet the definition of a nuisance.

4. Methane Mitigation Plan

As described above, there is no imminent risk to human health associated with the methane detected in soil vapor samples at the Site, because the current land use is a paved trucking facility, and field measurements demonstrate that methane vapors are not accumulating in well or utility vaults. The methane vapors are not a nuisance as defined by California Water Code Section 13050; therefore, a methane mitigation system is not warranted. In addition, construction of a methane mitigation system at the Site would significantly affect current land use, because the soil vapor probes with observed methane detections are in the direct path the trucks use for parking/staging.

5. Long Term Site Management Plan (SMP) and Land Use Covenant (LUC)

No additional action is needed under the current land use of the property. As described above, CEMC and Stantec are in agreement that a Site management plan is required should the land use change, but there are currently no plans to redevelop the property and change the land use. The property owner would need to provide specific design plans in order for CEMC to prepare a Site-specific management plan. A methane mitigation system is not warranted, and a land use covenant should not be required. Formal land-use restrictions required by the Porter-Cologne Water Quality Control Act, January 2016, do not apply to underground storage tank sites (Section 13307.1(c)).



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Based on current land use and Site conditions, the LTCP general and media-specific criteria are satisfied, there is a low threat to human health, safety, and the environment, and a methane mitigation system is not warranted. Stantec recommends that ACEH reconsider low-threat case closure. If ACEH is not satisfied with the additional clarification provided herein, Stantec recommends that any future directives be postponed until the SWRCB completes their mandatory review of this case, triggered by the ACEH low-threat case closure denial.

If you have any questions, please contact the Stantec Project Manager, Travis Flora, at (408) 356-6124 or <u>travis.flora@stantec.com.</u>



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LIMITATIONS

This document entitled Response to Comments was prepared by Stantec Consulting Services Inc. ("Stantec") for the account of Chevron Environmental Management Company (the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

Prepared by

Erin O'Malley Project Engineer

(signature)

Reviewed by

Travis L. Flora Senior Project Manager

Junta 12 Reviewed by



(signa

Dorota Runyan, P.E. Senior Engineer



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Reference: Response to Technical Comments

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Attachments:

Attachment A – ACEH Correspondence, dated August 9, 2016

cc. Ms. Carryl MacLeod, Chevron Environmental Management Company, 6001 Bollinger Canyon Road, San Ramon, CA 94583 – Electronic Copy

Hothem Trust c/o Mr. Jan Greben, Greben & Associates, 125 East De La Guerra Street, Suite 203, Santa Barbara, CA 93101 – Electronic Copy

Ms. Jean Kida, Gerber Products, 12 Vreeland Road, Florham Park, NJ 07932

Mr. Francis Meynard, Pacific American Group, 104 Caledonia Street, Sausalito, CA 94965 – Electronic Copy

ATTACHMENT A ACEH Correspondence, dated August 9, 2016

ALAMEDA COUNTY HEALTH CARE SERVICES



9401 San Leandro LP

104 Caledonia Street

Sausalito, CA 94965

REBECCA GEBHART, Interim Director

AGENCY

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

August 9, 2016

Ms. Carryl MacLeod Chevron Environmental Management Company 6101 Bollinger Canyon Road San Ramon, CA 94583 (Sent via electronic mail to: <u>CMacleod@chevron.com</u>)

Linda Hothem Trust c/o Mr. Jan Greban Greben & Associates 1332 Anacapa Street Suite 110 Santa Barbara, CA 93101 (Sent via electronic mail to: Jan@grebenlaw.com) Mr. Francis Meynard Pacific American Group 104 Caledonia Street Sausalito, CA 94965 (Sent via electronic mail to: <u>FMeynard@pacamgroup.com</u>) Ms. Gene Kida Gerber Products 12 Vreeland Road Fiorham Park, NJ 07932

Subject: Status of Well P-2 and Methane Mitigation; Fuel Leak Case No. RO0000412 and Geotracker Global ID T0600101789, Chevron #9-1723; 9757 San Leandro Street, Oakland, CA 94603

Dear Ladies and Gentlemen:

Alameda County Department of Environmental Health (ACDEH) staff has reviewed the case file including the *First Quarter 2016 Semi-Annual Groundwater Monitoring Report*, dated May 5, 2016, and the *Low-Threat Closure Policy Evaluation and Request for Closure* (RFC), dated June 10, 2016. The documents were prepared and submitted on your behalf to ACDEH and Geotracker by Stantec Consulting Services, Inc (Stantec). Thank you for undertaking the work and submitting the reports. They provide further data, pertinent details, and interpretations in regards to the site, and help move the case towards closure.

ACDEH has evaluated the data and recommendations presented in the above-mentioned reports, in conjunction with the case files, to determine if the site is eligible for closure as a low risk site under the State Water Resources Control Board's (SWRCBs) Low Threat Underground Storage Tank Case Closure Policy (LTCP). Based on ACDEH staff review, we have determined that the site fails to meet the LTCP General Criteria h (nuisance), the Media-Specific Criteria for Groundwater, and the Media-Specific Criteria for Vapor Intrusion to Indoor Air (see Geotracker).

Based on ACDEH staff review of the case file, we request that you address the following technical comments and send us the reports described below.

TECHNICAL COMMENTS

 LTCP Media Specific Criteria for Groundwater – To satisfy the media-specific criteria for groundwater, the contaminant plume that exceeds water quality objectives must be stable or decreasing in areal extent, and meet all of the additional characteristics of one of the five classes of sites listed in the policy.

Our review of the case files indicates that insufficient data collection and analysis has been presented to support the requisite characteristics of plume classification as follows:

a. Status of Water Production Well P-2 – Industrial water production well P-2 is cited to be located approximately 100 feet downgradient of the subject property and is within the estimated hydrocarbon groundwater plume. It is understood to be "closed-in-place" but it cannot be determined if this refers to

inappropriately "abandoned" or destroyed and backfilled in accordance with State well destruction standards. The referenced report reasons that because the screen interval is at a depth of 160 to 590 feet, there is limited potential for near-surface contaminated groundwater to affect the deeper screened groundwater zone. However, if the well was inappropriately abandoned and the well casing was simply cut at an unknown depth close to the surface and the well was not, or was poorly backfilled, the potential for an open well casing or rusted casing to be a direct conduit to deep groundwater-bearing zones is present. Therefore, prior to closure ACDEH requests that the status of the well be determined. This may require field efforts. Depending on the findings, it is possible that well destruction can be coordinated with destruction of the groundwater monitoring wells associated with the subject site.

2. LTCP Media Specific Criteria for Vapor Intrusion to Indoor Air – 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.

Our review of the case files indicates that the site data collection and analysis fail to support the requisite characteristics of one of the four scenarios. Specifically, recently generated data from the site documented soil vapor concentrations, collected at a depth of 5.5 feet bgs, of benzene that ranged between <3,600 micrograms per cubic meter (μ g/m³) to 120,000 μ g/m³, ethylbenzene, between <4,900 and 22,000 μ g/m³, naphthalene between <24,000 and <27,000 μ g/m³, and oxygen concentrations that ranged between 0.78 and 1.6 percent (%) beneath the site. The data indicates the site does not meet the LTCP Criteria for a commercial site lacking a bioattenuation zone. The referenced RFC is in general agreement with this analysis.

Conversely, ACDEH recognizes that there are currently no buildings constructed at the site. Under the current land use as a commercial truck staging and parking lot, there does not appear to be an onsite risk of vapor intrusion due to the lack of buildings at the site. The referenced RFC report also provided additional data interpretations that indicate the immediately adjacent offsite buildings appear to be protected from the potential of petroleum vapor intrusion hazards.

Cognizant that while there may not currently be a vapor intrusion risk to indoor air as the property is currently used, closure at this juncture without meeting this LTCP criteria will not allow the current property owner free and unencumbered use of their property. In this proposed closure scenario, case closure will require a land use restriction to the current commercial land use (truck parking and staging) that the current property owner must accept. Any site redevelopment, including the construction of any commercial building, would trigger a case review.

- General Criteria h Nuisance As Defined by Water Code Section 13050 Water Code section 103050 defines nuisance as anything which meets all of the following requirements:
 - Is Injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life of property,
 - Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal, and
 - Occurs during, or as a result of, the treatment or disposal of wastes.

As noted above, the subject site does not meet the Vapor Intrusion to Indoor Air Media-Specific LTCP Criteria; however, at present no buildings are present at the site. Thus there does not appear to be a risk of vapor intrusion at the site. Conversely, methane from the degradation of petroleum hydrocarbons, is present in all vapor wells at concentrations close to or significantly over the Upper Explosive Level (UEL; approximately 15%). Methane concentrations ranged between 13 and 42% methane during the most recent sampling event in July 2015. These concentrations will decline into the explosive interval for methane (approximately 4.4 to 15%) in the future at more locations. Additionally, the report also documented carbon dioxide between 22 and 30% (atmospheric concentration is 0.04%). At a minimum, these concentrations document the presence of significant vadose zone residual petroleum contamination at the site

The measurement of methane vapors in well boxes, well casings, and catch basins included in the referenced report indicates that methane is accumulating in some structures. This also suggests that most structures are not vapor tight and are currently venting to the surface in some manner. Review of the subject site on Google Earth Street View indicates that the pavement at the subject site is older and contains a substantial amount of cracking and weeds. While current conditions may allow for adequate venting of methane and carbon dioxide, upon closure ACDEH cannot, within the land use constraints imposed at closure, prevent a property owner from using their property as it suits their purposes. This can include site improvements as limited as repaving the property with a more competent concrete section which will then match the remainder of the truck yard. This has the potential to impede methane and carbon dioxide venting at the site.

Consistent with this LTCP general criteria, ACDEH's review of the case files indicates that the generation of methane due to the biodegradation of petroleum hydrocarbon contamination is likely to affect the free use of the property after closure, has the potential to affect the entire surrounding community, and is the result of disposing of hydrocarbon waste materials. Therefore, at a minimum it appears appropriate to require the installation of a methane mitigation system at the site prior to closure. In the event the proposed closure scenario is acceptable to the current property owner, please present a strategy in the Methane Mitigation Plan described in Technical Comment 4 below to address the items discussed above.

4. Methane Mitigation Plan – Due to potentially explosive methane concentrations beneath the property, it is prudent to install a Methane Mitigation System (MMS) to minimize risk to property users. A MMS Basis of Design Report, including system construction plans and specifications, Construction Quality Assurance Plan (CQAP) for installation of the system, and an Operations and Maintenance Plan must be submitted for ACDEH for review and approval by the date specified below. Please submit a MMS design and CQAP by the date identified below.

The CQAP must specify the qualifications and experience of contractors and inspectors involved in the construction of the MMS, and provide procedures for construction monitoring and documentation, including responsibility and authority, construction inspections (i.e. smoke or vent testing etc.), and as-built documentation.

The Basis of Design Report must also include a construction schedule and sequencing plan that provides details on construction measures and sequencing events, designed to protect the MMS during future site subgrade activities.

Following construction of the MMS, a report must be submitted to and approved by ACDEH, which includes as-built drawings, copies of permits, construction monitoring and documentation, post-construction sub-slab and vent riser sampling results verifying system integrity, and other information relevant to the installation of the mitigation system.

- 5. Long Term Site Management Plan (SMP) and Land Use Covenant (LUC) Prior to site closure a Long Term SMP must be prepared and LUC implemented for the site to prevent inappropriate activities and use of the property, with consideration of potential explosive risk due to significant residual soil contamination. The SMP and ICs will provide legal and administrative controls and methods for the dissemination of information to minimize risk during property use including future below ground construction and maintenance, and long-term site use. Please submit a draft Long Term SMP by the date identified below.
 - Long Term Site Management Plan The long term SMP must be prepared as an element of long-term site management and will include a discussion of environmental conditions at the site and the mitigation elements included in the MMS that must be maintained and protected. Prior to site closure, the SMP must be submitted to ACDEH for review and approval. The purpose of the SMP is to provide for communication primarily with contractors who will be maintaining the site. The SMP must provide details regarding the location and construction of the VMS, precautions should subsurface work be required in the area of the VMS, precautions for handling potentially impacted soil or groundwater, and notification procedures should the MMS be damaged. The SMP should document proposed operations, maintenance, and monitoring of the system, emergency contact information, and protocols for approval of future modifications in the areas of the MMS. The MMS design documents must be included as an attachment to the SMP. The SMP must be maintained at the site address by the property manager or designated representative and must be recorded at the Alameda County Clerk Recorder's office. The site owner will have responsibility for implementation of the SMP.

The SMP must address on-going system inspections to be arranged by the site owner to observe and document the integrity and maintenance of the mitigation system, including observation of turbines, system maintenance records, and confirming that required onsite documentation is available (e.g. copy of the SMP). The SMP must specify actions required by the owner should any action inconsistent with the SMP be discovered during site inspections, including, but not limited to notification of ACDEH, and the submittal of documentation describing actions taken to correct the situation.

- LUC Institutional Control The LUC will document legal and regulatory requirements for the site. As currently understood by ACDEH the site will be maintained as a commercial truck parking and staging lot. To minimize contact with impacted media, the recorded LUC will prohibit alteration, disturbance, or removal of any component of the MMS. Additional components of the LUC will include but may not be limited to:
 - Notification to the City of Oakland Building Department of the MMS and the potential flagging of the property such that ACDEH will be notified if building permits are to be issued (to prevent impacting the MMS);
 - ii. Prohibition of new construction activities that could encounter or breach the MMS without the express knowledge of ACDEH and the City of Oakland Building and Public Works Departments, including for utility repair and installation;
 - iii. Lease documents, if any, that include CCRs that will serve as the primary communication tool for the site's occupants; and
 - iv. The provision to maintain inspection and monitoring records associated with MMS.

TECHNICAL REPORT REQUEST

Please upload technical reports to the ACEH ftp site (Attention: Mark Detterman), and to the State Water Resources Control Board's Geotracker website, in accordance with the following specified file naming convention and schedule:

- October 21, 2016 Vapor Mitigation System Design and CQAP File to be named: RO412_RDIP_R_yyyy-mm-dd
- October 21, 2015 DRAFT Long Term Site Management Plan File to be named: RO412_SITE_MANAGE_R_yyyy-mm-dd
- November 11, 2016 Semi-Annual Groundwater Monitoring File to be named: RO412_GWM_R_yyyy-mm-dd

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.

Online case files are available for review at the following website: <u>http://www.acgov.org/aceh/index.htm</u>. Additionally, if your email address does not appear on the cover page of this notification, ACDEH is requesting you provide your email address so that we can correspond with you quickly and efficiently regarding your case.

If you have any questions, please call me at 510-567-6876 or send me an email at mark.detterman@acgov.org.

Sincerely,

Digitally signed by Mark Detterman DN: cn=Mark Detterman, o=ACEH, ou=ACEH, email=mark.detterman@acgov.org, c=US Date: 2016.08.09 11:52:54 -07'00'

Mark E. Detterman, PG, CEG Senior Hazardous Materials Specialist Ladies and Gentlemen RO0000412 August 9, 2016, Page 5

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

cc: Travis Flora, Stantec Consulting Services, Inc., 15575 Los Gatos Blvd, Los Gatos, CA 95032; (Sent via electronic mail to: <u>travis.flora@stantec.com</u>)

Peter Krasnoff, West Environmental Services & Technology, Inc, 711 Grand Avenue, Suite 220, San Rafael, CA 94901; (Sent via electronic mail to: <u>peterk@westenvironmental.com</u>)

Dilan Roe, ACDEH, (Sent via electronic mail to: <u>dilan.roe@acgov.org</u>) Mark Detterman, ACDEH, (Sent via electronic mail to: <u>mark.detterman@acgov.org</u>) Electronic file, GeoTracker