
Central Coast Regional Water Quality Control Board

May 13, 2016

Guy W. Savage
Assistant County Administrative Officer
County Government Center
Room D430
San Luis Obispo, CA 93408
Email: gsavage@co.slo.ca.us

Dear Mr. Savage:

SITE CLEANUP PROGRAM: SAN LUIS OBISPO COUNTY REGIONAL AIRPORT, 903 AIRPORT DRIVE, SAN LUIS OBISPO, SAN LUIS OBISPO COUNTY – RESPONSE TO SAN LUIS OBISPO COUNTY APRIL 15, 2016 SUBMITTALS FOR THE INVESTIGATION OF TRICHLOROETHYLENE ON THE AIRPORT PROPERTY

Central Coast Regional Water Quality Control Board (Water Board) staff reviewed San Luis Obispo County's (County) April 15, 2016 response to our November 23, 2015 and February 26, 2016 requirement letters. The County submitted several documents including 1) a letter with attachments responding to several November 23, 2015 and February 26, 2016 letter requirements, 2) a Groundwater Investigation Workplan (Groundwater Workplan), and 3) a Soil Gas Investigation Workplan (Soil Gas Workplan). Roux Associates, Inc. prepared the Groundwater Workplan and Soil Gas Workplan on behalf of the County for the San Luis Obispo County Regional Airport (Airport).

In the attached table, Water Board staff provides a summary of our November 23, 2015 and February 26, 2016 requirements and the current status of your compliance with those requirements. We will continue to track compliance with our requirements as additional submittals are provided by the County as they become available. We appreciate the County's submittal of the detailed Groundwater Workplan and Soil Gas Workplan as they are the key field investigative components in determining whether the airport property is the source of the TCE that is currently detected in private wells in the Buckley Road area. Water Board staff conditionally concur with the scope of work proposed in the Groundwater Workplan and Soil Gas Workplan, provided the County adequately addresses our conditions described in this letter. We encourage the County to work as quickly as possible to complete the scope of work identified in the Groundwater Workplan and Soil Gas Workplan, as modified herein, and submit associated laboratory results and investigation reports as soon as possible so that we can resolve the groundwater and drinking water issues as quickly as possible. In summary, the County must submit copies of all the documents that the County reviewed related to our November 23, 2015 and February 26, 2016 letter requirements by **June 30, 2016**, the preliminary groundwater analytical results **by August 31, 2016**, the Soil Gas Report **by September 1, 2016**, and the Groundwater Report **by September 26, 2016**.

Background

The chlorinated solvent trichloroethylene (TCE) has been detected in two of six County Environmental Health Services-regulated supply wells that serve industrial facilities (both historic and currently regulated wells) in the immediate vicinity of the Thread Lane/Buckley Road area since the late 1990s. In Fall 2015, TCE distribution in groundwater may have shifted in the Thread Lane area due to drought as indicated by recently detected TCE in a private well located west of Thread Lane and increases in TCE concentrations in one adjacent community supply well that serves an industrial facility. These factors led to broader sampling of private supply wells in the area from December 2015 through February 2016 by San Luis Obispo County Environmental Health Services and Water Board staff. Results from these subsequent sampling events revealed that 27 supply wells had TCE detections, with 12 of those wells having concentrations above the maximum contaminant level (MCL) for TCE¹. The higher TCE concentrations in sampled supply wells extend from Thread Lane to Davenport Creek Road parallel to Buckley Road. Two wells sampled on the County Airport property also had detections of TCE, including one supply well located upgradient of the Thread Lane area. A map illustrating the concentration ranges of TCE for supply wells sampled on various properties in the Buckley Road area is available on the Water Board's website for the Buckley Road Area TCE Investigation project².

Water Board staff required environmental site information and investigations from several industrial properties on Thread Lane. Based on our review of the environmental data provided by the industrial properties, Water Board staff did not find evidence that demonstrated that there was a source of TCE at these industrial properties. Considering that portions of the County's airport are hydraulically upgradient of the Thread Lane area (regional groundwater flow is from east to west), and the aircraft industry generally used TCE as a solvent (degreaser) in the past to clean airplane parts, the airport is the next probable source of TCE in groundwater as described in our November 23, 2015 and February 26, 2016 letters.

Water Board staff Comments and Conditions

The following are Water Board staff comments and conditions that the County must adequately address for the Groundwater Workplan and the Soil Gas Workplan. The County is required to submit Workplan Amendments to the Groundwater Workplan and the Soil Gas Workplan as detailed below.

Groundwater Workplan

- 1) Section 1.0, Page 5. After the bulleted items the County stated that the search for aerial photography is not complete and the photographs have not been formally rectified. Please provide Water Board staff copies of additional/rectified aerial photographs as soon as the County obtains them. In addition, provide copies of well logs provided by California Department of Water Resources as soon as you receive them. Submit these items to the Water Board via email immediately upon receipt but **no later than June 30, 2016**.

¹ The California Department of Public Health's MCL for TCE is 5 micrograms per liter (µg/L) in groundwater (the drinking water standard), which is also the water quality objective in the Water Board's Basin Plan.

² See:

http://www.waterboards.ca.gov/centralcoast/water_issues/hot_topics/tce_pce_info/images/TCE_Final%20Map%20for%20Website.pdf

- 2) Section 2.5 Hydrogeology. Cleath³ (1987) reports that saturated aquifers within the alluvium are typically less than 40 feet thick. Based on the geometry of current stream systems (e.g., stream channel width approximately 100 feet or less), Water Board staff suspects that principle water transmitting zones in the alluvium are fairly thin and narrow. Therefore, it is important that the County characterize and target fairly thin permeable zones in the alluvium (e.g., on the order of a foot in thickness or less) for grab groundwater sampling.
- 3) Section 3.2 Department of Defense, Formerly Used Defense Site Evaluation. It is speculative that TCE could not be obtained during WWII operations at the Airport. Although TCE was restricted for civilian and private use, obtaining TCE for use at the Airport Defense Site may have been possible. Regardless of speculation today, the required site investigation must objectively determine whether the Airport is a source of TCE.
- 4) Section 3.3 Historical Aerial Photos. As stated above, the County is required to provide copies to Water Board staff upon obtaining new or better resolution aerial photographs.
- 5) Section 4.1.2 Phase II- Proof of Concept.
 - a. For Phase II, the County must drill into the bedrock/alluvium contact to characterize the interface. If the sonic coring/collocated CPT borings do not intercept all of the lithologic units found during the investigation, the investigation may later need to drive core samples using a CPT rig to verify the CPT-based geotechnical characterizations of lithology.
 - b. The County must collect groundwater grab samples at the northern-most proposed boring location at the bend in Buckley Road. The County must also submit these groundwater samples on a short turn-around time (TAT) to help determine zones for sampling and optimize grab groundwater sampling depths in the other boring locations. The County will likely need to use a mobile laboratory for this task.
- 6) Section 4.1.3 Phase III – Groundwater Sample Collection near Buckley Road.
 - a. The maximum sampling depth must depend on the location of bedrock contact and results from short TAT groundwater sample results from the Phase II northern-most boring. Depth to the transmissive zones may not be consistent between each boring location because of the alluvial nature of the geology wherein the location of paleo stream channels and over-bank deposits may vary laterally and vertically.
 - b. For temporary wells set in intervals below first-encountered groundwater, please clarify in the Workplan Amendment if the casing string will be left in place to reduce the chance for cross-contamination.
- 7) Section 4.1.2 (Water Board staff interprets this to be a typo and that this section was intended to be Section 4.1.4) Phase IV – Groundwater Sample Collection North of Runways. For depth to groundwater, please note that recently drilled supply wells in the area had static water levels at 40 feet below ground surface (bgs). Please be prepared in the field to collect samples deeper than 30 feet bgs.
- 8) Section 4.3 Sonic Drilling Boring. The County must conduct and report visual identification of the percentages of different grain sizes present in the sample (e.g., % silt/clay; % sand; % gravel) as part of the soil logging.
- 9) Section 4.4 CPT Sounding. The proposed Phase II CPT boring at the bend in Buckley Road must include collection of grab groundwater samples at that location. One of the samples must be collected at the base of bedrock/alluvial contact.

³ T. Cleath, 1987. Ground Water Study, San Luis Obispo Airport Area.

- 10) Section 4.5 Discrete Depth Groundwater Sampling. All non-dedicated equipment must be decontaminated appropriately. The County must describe decontamination procedures in the Workplan Amendment. If sufficient water exists, you must measure pH, electrical conductivity, and temperature using a field instrument at each sampling location.
- 11) Section 4.6 Reporting. You must include a geologic cross section in the site conceptual model.
- 12) Figure 6, proposed groundwater sampling locations. As proposed, the distance between each of the four southern-most proposed CPT sounding locations is approximately 200 feet, whereas the distance between the two northern-most locations is approximately 300 feet. Please change the locations as follows: starting from the bend in Buckley Road at the proposed sonic drilling/collocated CPT location, the next three CPT locations must be within 200 feet of one another, and the last two southernmost locations within 300 feet of each other. The CPT location that is collocated with the sonic boring location must be moved as close as possible to the sonic boring location. However, Water Board staff understand that the proposed locations are subject to change based on field conditions or the results of the soil gas sampling task if conducted prior to the drilling of the soil borings. Water Board staff plan to be in the field during these field activities to verify our approval of changes in proposed boring locations.
- 13) Notify Water Board staff at least 72 hours prior to field work.

Soil Gas Workplan

- 1) Section 3.3 Historical Aerial Photographs.
 - a. In the first paragraph, the County states that the acquisition, review, and analyses of historical aerial photography are not complete. The County must inform Water Board staff immediately via email of any new findings in that regard (e.g., photos with better resolution and from dates other than those already provided in the report), and complete this task **no later than June 30, 2016**.
 - b. Water Board staff review of the aerial photographs provided in the Workplan reveal potential waste disposal areas worthy of focused investigation. Specifically, the 1956 photo that shows land disturbance and several dirt roads located at the southeast end of Runway 28. This area was later covered by an extension of that runway. Water Board staff requires the County to collect an additional six passive soil gas samples at the former end of Runway 28. In addition, the 1972 aerial photo shows that there may have been a disposal location along the former location of Buckley Road (approximately at the southern vertex of the triangular-shaped leach field identified by Cleath, 630 feet west of the intersection of former Buckley and Highway 227). The Workplan proposes passive soil gas sampling in this area.
- 2) Section 4.1.2 Phase II Soil Gas Sampling at the Former Leach Field and Operational Areas and Figure 6A.
 - a. Depending on results of the passive soil gas sampling in the vicinity of the former leach field identified by Cleath, we may require active soil gas locations beneath concrete apron areas to determine the concentrations of chemical vapors that are potentially trapped below the building.
 - b. In addition, you must add the six passive soil gas sampling locations to the former southeast end of Runway 28, for reasons discussed in comment 1.b above. The County must revise Figures 6A and 6B of the Workplan and submit a revised Figure in the Workplan Amendment.
- 3) Figure 11. This figure represents the existing drainage, circa 2006; however, it is not clear whether that drainage system represents the entire history of the developed Airport up until 2006. Therefore, historical drainage remains a potential data gap at the Airport. Please continue investigating this potential data gap and notify Water Board staff if you find

additional historical drainage information as soon as it becomes available but complete this task **no later than June 30, 2016**. We believe that construction of the runways and improvements required survey of land elevations to sub 1-foot accuracy, so historical engineering plans should have such elevation surveys.

- 4) Section 6.0 Project Schedule. In the schedule, the County proposes to transmit the draft soil gas investigation results to Water Board staff on August 15, 2016. While this is acceptable for Phase II of the soil gas investigation, we strongly recommend that preliminary results from Phase I along Buckley Road be complete on or before July 15, 2016 so that the results can potentially be used to help optimize the groundwater grab sample locations along Buckley Road. This would require the County to accelerate the schedule for soil gas sampling along Buckley Road. The County may need a mobile laboratory for this task.

SUMMARY

The County has fulfilled our requirements for submitting the Groundwater Workplan and the Soil Gas Workplan provided that the County amends the Workplans as stated herein. The County must submit a Workplan Amendment by **May 27, 2016** and complete the scope of work identified in the Groundwater Workplan and Soil Gas Workplan, as modified herein, and submit associated laboratory results and investigation reports as soon as possible but no later than the dates in the Groundwater Workplan and Soil Gas Workplan. The County must submit copies of all the documents that the County reviewed related to our November 23, 2015 and February 26, 2016 letter requirements by **June 30, 2016**, the preliminary groundwater analytical results by **August 31, 2016**, the Soil Gas Report by **September 1, 2016**, and the Groundwater Report by **September 26, 2016**.

Legal Requirements

The Central Coast Water Board's requirement that you submit the technical reports summarizing the Groundwater Workplan and Soil Gas Workplan findings pursuant to the scope of work and schedules provided in the each workplan and as modified in this letter are made pursuant to Section 13267 of the California Water Code. Pursuant to Section 13268 of the California Water Code, a violation of a Water Code Section 13267 requirement may subject you to civil liability of up to \$1,000 per day for each day in which the violation occurs.

The Central Coast Water Board needs the required information to determine if past and/or current airport operations are a source of pollution for the TCE detected in groundwater in the Buckley Road area and to delineate the extent of TCE impacts in soil and groundwater beneath the County Airport property. The County Airport is required to submit this information because it is the current property owner. The evidence supporting this requirement is described above.

Any person affected by this action of the Central Coast Water Board may petition the State Water Resources Control Board (State Water Board) to review the action in accordance with Section 13320 of the California Water Code and Title 23, California Code of Regulations, Section 2050. The petition must be received by the State Water Board, Office of Chief Counsel, P. O. Box 100, Sacramento, 95812 within 30 days of the date of this order. Copies of the law and regulations applicable to filing petitions will be provided upon request.

If you have questions about this letter, please contact **Dean Thomas at (805) 549-3690 or Dean.Thomas@waterboards.ca.gov** or Thea Tryon at (805) 542-4776.

Sincerely,

for John M. Robertson
Executive Officer

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Attachments: Water Board Staff Requirements Summary

cc:

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Mr. Guy Savage

- 7 -

May 13, 2016

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CR# none
Global ID# none

ATTACHMENT 1
Water Board Requirements Summary Table

Water Board Staff Requirement	Date of Requirement	Status
<p>Information on current and former owners, tenants, and operators of properties within the area now controlled by the San Luis Obispo County Airport, along with descriptions of present and historic businesses and the locations where they operated. <i>In our February 26, 2016 letter, Water Board staff specified that the County must provide details on the location where current and former aircraft or other operations used, stored, and disposed of TCE or other wastes, and maintained or repaired aircraft, during the period between when the land was first developed and 1998.</i></p>	<p>11/23/2015</p>	<p>The County has provided some information to address this requirement in their April 15, 2016 submittal. The County provided various records on current and former tenants and operators on April 15, 2016; however, there is no report “describing present and historic businesses and the locations where they operated.” The County only provided lists of tenant names. The Workplan(s) included documents about former military use but Water Board staff already had those files in house. The County has also provided copies of hand written documents from 1985 that listed chemicals used at the Airport, with one chemical spelled as “triethalene solvent,” which sounds similar to trichloroethylene (TCE), but is spelled similar to “triethylene glycol.” Water Board staff believes it was more than likely TCE that they were referring to. In their April 15 letter, the County indicated that it has performed an “in-depth search of County documents and has not found any records that indicate that the County used, stored, or disposed TCE or other wastes on our Buckley Road property.” The County offered to provide electronic copies of all the other documents found during its search, but suggested that it would be easier for Water Board staff to review the paper copies due to the large amount of files. Water Board staff’s review of these documents is currently ongoing at the County offices.</p>
<p>An estimate of quantity of TCE (or other solvents) used at each of the identified properties (if applicable).</p>	<p>11/23/2015</p>	<p>Not applicable with respect to TCE because County indicated that there are no TCE records uncovered. Some estimates were provided for other solvents.</p>
<p>Details on the location where current and former aircraft or other operations used, stored, or disposed of TCE (if applicable).</p>	<p>11/23/2015</p>	<p>County maintains (Jan 20 and April 15 submittals) that they have found no evidence of TCE use at their property (Airport); however, one chemical inventory list may indicate use of TCE but the spelling is unclear whether it was triethylene glycol or trichloroethene.</p>

ATTACHMENT 1
Water Board Requirements Summary Table

Copies of all environmental reports pertaining to operations at the airport, including, but not limited to records of waste disposal.	11/23/2015	County submitted several environmental reports on January 20; others were submitted on April 15. Water Board staff found one 1991 “Hazardous Materials Business Plan and Emergency Response Procedures” for EG&G Power Systems formerly located at 1 Aerovista Park.
Information on any supply wells and monitoring wells located on the airport property, including well construction details and laboratory analytical results.	11/23/2015	Partially completed; however, submitted information is already in our files. The County indicated that they will submit additional logs by May 13.
Current and historical aerial photos and surface drainage maps for the runway and associated industrial buildings. <i>In our February 26, 2016 letter, Water Board staff clarified that this should include aerial photos for the portion of the airport’s history as a military facility, and for periods in the 1950s through the ensuing decades to the present.</i>	11/23/2015	Substantively completed on April 15 but this letter requires the County to submit additional aerial photos and surface drainage maps (if any are found) before commencing field work.
Provide one of the following: <ul style="list-style-type: none"> • A statement that data provided above are sufficient to show that TCE impacts in the Buckley Road area are not the result of discharges from the airport or • A work plan to perform an environmental investigation along Buckley Road to investigate whether TCE in groundwater is from the airport. Proposed collected data shall include, but is not limited to, groundwater grab samples and sediment/soil samples at locations where surface water formerly drained and currently drains from the airport area. 	11/23/2015	Completed on April 15. County continues to state (Jan 20 and April 15 submittals) that they have found no evidence for TCE use at the Airport.
Submit all available Hazardous Waste Manifest Plans	2/26/2016	County submitted several environmental reports on January 20; others were submitted on April 15. Water Board staff found one 1991 “Hazardous Materials Business Plan and Emergency Response Procedures” for EG&G Power Systems formerly located at 1 Aerovista Park.

ATTACHMENT 1
Water Board Requirements Summary Table

<p>Proposal for collecting groundwater samples along Buckley Road (these can be grab groundwater samples) and analyze for TCE and related volatile organic compounds (VOCs). SLO Airport must collect groundwater samples south of runway 29 and 25 at locations that are spaced close enough to fully characterize the width, depth, and maximum concentrations of TCE currently identified along the Buckley Road area. The SLO Airport must collect a sufficient number of soil samples to characterize the lithology, especially any potentially impacted water bearing units in the borings used to collect groundwater samples. SLO Airport must also use a photoionization detector (PID) to screen soil from the boring for VOCs and record this on the boring log.</p>	<p>2/26/2016</p>	<p>Completed April 15, 2016.</p>
<p>Proposal for soil gas sampling locations and methods to evaluate potential sources of TCE introduced into the subsurface from historical and current stormwater drainage pathways and storm drain locations along Buckley Road.</p>	<p>2/26/2016</p>	<p>Completed April 15, 2016.</p>
<p>Proposal for locations to conduct soil gas sampling for TCE and related VOC analyses in the former leach field area located east of runway 25 (as discussed above). The proposal will include collection of groundwater samples for TCE and related VOC laboratory analyses beneath locations having elevated TCE in soil gas samples. SLO Airport is required to laterally and vertically delineate TCE in soil gas and groundwater in all areas where TCE is present. The workplan must specify criteria/rationale for stepping out to define the lateral extent of TCE on the airport property.</p>	<p>2/26/2016</p>	<p>Completed April 15, 2016.</p>

ATTACHMENT 1
Water Board Requirements Summary Table

<p>Proposal for conducting soil gas sampling for TCE and related VOC analyses at other potential disposal areas. The SLO Airport must review historical aerial photographs, disposal records, and operational records for other potential disposal locations (i.e., leach fields) and incorporate additional proposed soil gas sampling locations, as appropriate.</p>	<p>2/26/2016</p>	<p>Completed April 15, 2016.</p>
<p>Include a detailed schedule for the environmental investigations proposed in the workplan.</p>	<p>2/26/2016</p>	<p>Completed April 15, 2016.</p>
<p>Provide names and contact information for employees who are/were involved in waste disposal operations at the SLO Airport prior to 1998.</p>	<p>2/26/2016</p>	<p>Names were provided on April 15 for County Airport personnel and positions they held, but no contact information.</p>