Department of Toxic Substances Control

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October 29, 2020

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COMMENTS TO DRAFT REMOVAL ACTION WORKPLAN RESEARCH, EDUCATION, AND SUPPORT AREA AND GROUNDWATER FIVE YEAR REVIEW FOR THE UNIVERSITY OF CALIFORNIA BERKELEY RICHMOND FIELD STATION SITE, RICHMOND, CONTRA COSTA COUNTY (SITE CODE: 201605)

Dear Mr. Haet:

The Department of Toxic Substances Control (DTSC) received on January 24, 2020, the *Draft Removal Action Workplan Research, Education, and Support Area and Groundwater Five Year Review* (Draft 5-Year Review) for the University of California Richmond Field Station Site (Site) located in Richmond, California. The Draft 5 Year Review, dated December 31, 2019, was prepared by Tetra Tech Inc. on behalf of the University of California, Berkeley. The purpose of the 5-Year Review is to evaluate the implementation and performance of the remedy found in the Removal Action Workplan approved in 2014 for the Research, Education, and Support Areas (RES) and groundwater throughout the Site. The document also includes as appendices Revision 2 of the Soil Management Plan and Sampling, the associated Sampling and Analysis Plan for the Soil Management Plan, and an Updated Cleanup Goals Table. DTSC's Site Mitigation Program, Geological Services Unit and Human and Ecological Risk Office staff have reviewed the documents and our comments are as follows:

1. General Comment: One of the evaluations conducted as part of a 5-Year Review is to review the risk parameters used in the decision document (e.g., Removal Action Workplan (RAW)). This is accomplished by determining whether parameters such as exposure assumptions, toxicity criteria, remedial action objectives, etc. are still valid. This document does an evaluation of the risk parameters and calculates new risk-based concentrations (RBCs). The evaluation resulted in some chemical concentrations increasing, decreasing, or staying the same. The Draft 5-Year Review report proposes to modify the existing RBCs to

reflect these new calculated values. USEPA guidance on 5-Year Reviews state that the intent of the review is not to reopen remedy selection discussions unless a new or modified requirement calls into question the protectiveness of the selected remedy. Follow-up is only needed if the remedy is not protective. Changes to lower the RBCs may be accomplished by DTSC preparing an explanation of significant difference (ESD) to the RAW as this change would not be a modification to the remedy or RAOs. If the evaluation indicates that the existing RBC for a specific chemical remains protective, that RBC would not be modified as part of the 5-Year Review. Therefore, revise all text, tables and appendices that include a proposed increased RBC to retain the original RBC identified in the RAW. All new RBCs that are lower than the original RBC should remain in the text and tables.

2. Include copies of completed Forms A, B and C in the document as an appendix as per the Soil Management Plan, Section 1.3. Attachments to the forms do not need to be included.

3. Page 1, Section 1.0, Introduction, last paragraph: Include that a public notice informing the community of the start of the 5-Year Review was placed in the West County Times newspaper and appeared on August 30, 2019.

4. Section 3.2 Response Actions – Response Actions Under RWQCB Authority: for the three bulleted items (Phases I, II, and III), please add a figure showing where these subunits and areas are located.

5. Page 6, Section 3.3, Status of Implementation:
   a. Update the status of Building 121 as the removal did not occur in the first quarter of 2020.
   b. Update the status of the mercury soil removal at the Mercury Fulminate Area (MFA).
   c. Land Use Controls (also on page 7, Groundwater Response Action, Section 5.1 Soil Response Actions, and Section 5.2, Groundwater Response Actions): Clarify whether UC has been adhering to the restrictions identified in the RAW.

6. Section 4.2, Data Review, Soil Response Action:
   a. Update the status of PCBs at Building 112. Also describe if there are any barriers and/or signs posted to prevent unauthorized access to the area. Also, update Section 5.1 (Soil Response Action) if appropriate.
   b. PCBs at Building 150: Include the depth of the soil excavation at this area.
   c. Mercury at MFA: Update the description of this removal action, including the total volume of mercury-contaminated soils removed.

7. Section 4.2, Updated Cleanup Levels and Section 6.1, PCB Cleanup Goal:
   a. See comment 1 above.
   b. This Section cites 40 CFR Section 761.61(c) Risk-Based Disposal Approval is the more relevant and appropriate program for establishing the PCB cleanup goal, currently identified in the RAW as 1 mg/kg, based on 40 CFR Section

761.61(a) Self-Implementing On-Site Cleanup and Disposal of PCB Remediation Waste. DTSC maintains that 1 mg/kg Total PCBs in soil establishes a point-of-departure screening level for risk management decisions for an unmitigated commercial/industrial scenario. Furthermore, Table 1 of the document presents 2019 risk-based concentrations for PCBs *below* 1 mg/kg for the commercial worker. Revise all sections and tables in the document to indicate that the cleanup standard is 1 mg/kg or as determined appropriate by US EPA TSCA standards.

8. Section 4.3, Site Inspection: Revise the last paragraph on page 13 to indicate that the summary of the findings was from a DTSC project manager who holds a PhD in botany, acting in consultation with the DTSC ecological risk assessor.

9. Section 5.1, Soil Response Actions: If the cleanup goal is being modified, indicate whether the previous goal was within the acceptable risk range.

10. Section 6.3, Ongoing Groundwater Monitoring: Modified this section to state that biennial groundwater monitoring will begin with the April 2021 event.

11. Appendix A, Soil Management Plan, Revision 2:
    a. The Category I and II values need to be revised to reflect the updated concentrations included in the Five-Year Review.
    b. Section 1.0 Introduction and Purpose – Soil Remedy – second bulleted item states: “Excavation of mercury-impacted soil at the Mercury Fulminate Area (MFA) with concentrations exceeding the remedial goal (275 mg/kg).” Please use the revised mercury remedial goal (187 mg/kg).
    c. Section 1.2, Approach, page A-7: Soils containing elemental mercury may not be re-used on site. DTSC should be consulted regarding the reuse of soils containing mercury between the Category I and Category II criteria.
    d. Sections 1.2 and 4.2.1 require modification for screening criteria that represent a non-carcinogen risk-based concentration target hazard quotient (HQ) of 1. Cumulative hazard for the multiple contaminants at site exposure units would likely exceed DTSC’s level of concern if a remedial action meets Category I or II criteria. This would also apply to carcinogenic contaminations of potential concern whose Category II screening levels confer 10^{-5} risk; cumulative excess lifetime cancer risk could exceed a level of concern for risk management decisions. Therefore, a forward risk assessment using 95% UCL (or maximum concentration if a 95% UCL is not available) concentrations to calculate the cumulative risk and hazard should be conducted at a site exposure unit and provided along with a proposed soil management method to DTSC for review and approval.
    e. Section 2.3 Chemicals of Concern: Because of the unique aspects of the Mercury Fulminate Area, add a stand-alone bullet item for mercury.
    f. Section 4.1 and Exhibit C-2 Sampling and Analysis Plan: Sampling for PCBs using the incremental sampling methodology would require that an appropriate basis for the decision unit be provided, as well as triplicates allowing for an

upper confidence limit determination to account for the uncertainty in the exposure point concentrations. The use of discrete samples to gauge the size of the decision unit and extent of contamination (if applicable) would be necessary if an adequate data set is not available.

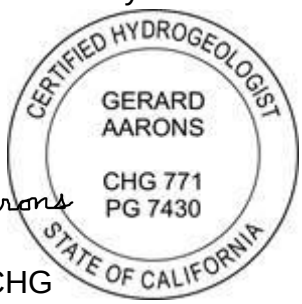
g. Table C-2-3, Required Laboratory Quantitation Limits and QC Criteria:
   i. Modify the table to include the revised risk-based concentration screening criteria as discussed in Comment 1 above and adjust the laboratory quantitation limit as needed.
   ii. Please review the San Francisco Bay Regional Water Quality Control Board's 2019 Environmental Screening Levels and update the Table if needed if petroleum hydrocarbons concentrations have decreased.

If you have any questions regarding this letter, please contact Lynn Nakashima by email at Lynn.Nakashima@dtsc.ca.gov.

Sincerely,

Lynn Nakashima

Gerard F Aarons



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