



Department of Toxic Substances Control

Linda S. Adams
Secretary for
Environmental Protection

Maureen F. Gorsen, Director
8800 Cal Center Drive
Sacramento, California 95826-3200



Arnold Schwarzenegger
Governor

October 24, 2007

Mr. Thomas L. Macchiarella
Code BPMOW.TLM
Department of the Navy
Base Realignment and Closure Program
Management Office West
1455 Frazee Road, Suite 900
San Diego, California 92108-4310

DRAFT PILOT TEST WORK PLAN, INSTALLATION RESTORATION SITE 14,
ALAMEDA POINT, ALAMEDA, CALIFORNIA

Dear Mr. Macchiarella:

The Department of Toxic Substances Control (DTSC) has reviewed the Draft Pilot Test Workplan for Installation Restoration Site 14. The Workplan was written by Innovative Technical Solutions, Inc., and dated August 2007. Comments from the DTSC Engineering Services Unit (ESU) and the Geological Services Unit (GSU) are attached. Comments from GSU were previously submitted to you on September 13, 2007, by electronic mail (e-mail). Comments from ESU were previously submitted to you on September 19, 2007, by e-mail. Please incorporate the recommended revisions or respond to the comments in the Final Pilot Test Work Plan.

If you have any questions, please contact me at (916) 255-6449 or by e-mail at dlofstro@dtsc.ca.gov.

Sincerely,

Dot Lofstrom, P.G.
Project Manager
Office of Military Facilities

Attachments

Mr. Thomas L. Macchiarella
October 24, 2007
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cc: Dr. Peter Russell
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Hazardous Substances Engineer
Engineering Services Unit
Department of Toxic Substances Control
8810 Cal Center Drive
Sacramento, California 95826

GSU Comments on the Draft Pilot Test Work Plan
Installation Restoration Site 14
Alameda Point, Alameda, California dated August 2007

1. Section 3.0 – In Situ Chemical Oxidation Technical Summary.
 - a. The DWP states that one of the soil samples that was submitted for Permanganate Soil Oxidant Demand (PSOD) testing (14HP18-15-16) was collected outside the contaminant plume. GSU questions whether the other soil sample collected from this direct push boring location and submitted for PSOD testing (14HP18-10-11) was also collected outside the plume. Please clarify.
 - b. Please show the locations of the three storm drain corridors that intersect the northern portion of the plume on Figures 3 through 5 in the DWP and on the corresponding figures in Appendix A.
2. Section 4.0 – Pilot Test Objectives. Please clarify how optimal oxidant loading will be determined for the portion of the plume that will be treated with sodium persulfate.
3. Section 5.2.2 – Groundwater Sample Collection Methods.
 - a. Please clarify how it was determined to monitor dissolved concentrations of chromium and nickel only as part of this pilot test. Why is sampling for other metals, such as arsenic and manganese, not proposed?
 - b. GSU requests that if dissolved oxygen stabilizes but ORP does not, samples be collected using low-flow techniques rather than the well volume approach. ORP is considered less reliable as a stabilization parameter because it is difficult to measure accurately in the field. GSU requests that purging wells dry prior to sampling be avoided due to the highly volatile nature of vinyl chloride.
4. Section 5.2.3 – Soil Sample Collection Methods.
 - a. GSU questions whether soil samples should also be analyzed for iron due to the potential for iron oxides to precipitate during the in-situ chemical oxidation treatment process.
 - b. Please clarify the proposed depth intervals and/or rationale that will be used to select soil samples for volatile organic compound (VOC) and metals analyses from the direct-push borings in the source area.

5. Section 5.4 – Effectiveness Monitoring. The DWP states in the first full paragraph on page 15 that groundwater samples will be collected from “the four wells” and analyzed for VOCs. Please clarify that groundwater samples are planned to be collected from all seven wells (three permanent and four temporary wells).
6. Section 5.5 – Hydraulic Conductivity Testing. A description of the procedures and/or Standard Operating Procedure for slug testing should be provided in the Sampling and Analysis Plan Addendum. In addition, the methods that will be used to analyze slug test data should be specified.
7. Section 8.0 – Schedule. The Implementation Schedule for Field Activities shown on Table 1 of the DWP (and Table A-1 of Appendix A) should be revised. These tables indicate that field work should have begun prior to receipt of regulatory review comments on the DWP.
8. Appendix A, Section 1.1 – Original SAP Section 1.3: Problem Definition and Background. Information in this section does not appear to include details about the sodium persulfate pilot test. Please discuss the sodium persulfate pilot test and include a figure showing the sodium persulfate pilot test area.
9. Section 1.4.1 – Original SAP Section 2.1.2: Monitoring Well Groundwater Sampling. Please clarify that the temporary wells TMW14-02, TMW14-03, and TMW14-04 are also planned for pre- and post-injection groundwater sampling.
10. Section 1.4.3 – Original SAP Section 2.2.4: Monitoring Well Construction Procedures. Please discuss the procedures for construction of temporary wells TMW14-02, TMW14-03, and TMW14-04.
11. Section 1.4.6 – Original SAP Section 2.5.2.1: Field Duplicates. Please discuss the schedule for the collection of field duplicates of groundwater samples.



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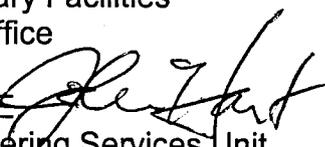
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MEMORANDUM

To: Dot Lofstrom, P.G.
Senior Engineering Geologist
Office of Military Facilities
Cal Center Office

Via: John Hart, P.E. 
Chief, Engineering Services Unit

From: Mark Berscheid 
Hazardous Substances Engineer
Engineering Services Unit

Date: September 20, 2007

Subject: DRAFT PILOT TEST WORK PLAN, INSTALLATION RESTORATION
SITE 14, ALAMEDA POINT, ALAMEDA, CALIFORNIA

This letter contains conclusions and recommendations regarding my review of the Draft Pilot test Work Plan (WP) for Installation Restoration Site 14, Alameda Point, Alameda, California. The WP, dated August, 2007, has been prepared for the Base Realignment and Closure Program Management Office West, San Diego, California by Innovative Technical Solutions, Inc., Walnut Creek, California.

SUMMARY/ CONCLUSIONS

The Engineering Services Unit (ESU) has reviewed the WP and found the document to contain the elements necessary to assess the effectiveness of the application of potassium permanganate in the most contaminated areas of concern and adequately define the radius of influence (ROI) necessary for full-scale application of this treatment technology at this site.

Although the information in Appendix B of the WP is essential to the application of a permanganate treatment technology for a pilot-scale test of this nature, the information provided pertains only to a potassium or sodium permanganate type treatment.

Dot Lofstrom
September 20, 2007
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In addition, within this framework, the use of Carus as the contractor for treatability study analysis would appear to predispose the evaluation to the choice of potassium permanganate as apparently evidenced in the intention to use KMnO_4 in the pilot test.

The ESU has found other in situ chemical oxidation (ISCO) treatment compounds to be applicable for the treatment of the contaminant of concern (COC), vinyl chloride, as confirmed in the WP. The ESU recommends the inclusion of bench-scale treatability study results supporting the choice of potassium permanganate, KMnO_4 , as the most applicable ISCO for this site.

The absence of site-specific treatability studies of this nature would require the inclusion of published results of pilot or full-scale studies that evaluate the effectiveness of these ISCO treatment technologies (i.e., Modified Fenton's Reagent, Ozone, Hydrogen Peroxide, etc.) compared to potassium permanganate treatment for vinyl chloride found in similar soils.

The ESU recommends the approval of a Final WP containing the additional information described above.

If there are any questions, please contact me at (916) 255-6672.