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LETTER REGARDING THE FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
REVIEW AND COMMENTS ON FOCUSED REMEDIAL INVESTIGATION AND FEASIBILITY
STUDY ADDENDUM FOR HAWTHORN ZONE OPERABLE UNIT (OU) 4 NTC ORLANDO FL

6/18/2016

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION



Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
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Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Jonathan P. Steverson
Interim Secretary

June 18, 2016

Attn: Mr. Mark Easterbrook
Naval Facilities Engineering Command Southeast
BRAC Program Management Office East
203 S. Davis Drive, Bldg 247
Joint Base Charleston, SC 29404

Subject: Draft Focused Remedial Investigation/Feasibility Study Addendum, Hawthorn Zone,
Operable Unit 4, Revision 2, Former Naval Training Center Orlando, Orlando, Florida

Dear Mr. Easterbrook:

I have completed my review of the Draft Focused Remedial Investigation/Feasibility Study Addendum, Hawthorn Zone, Operable Unit 4, Revision 2, Former Naval Training Center Orlando, dated January 2016 (received January 21, 2016), prepared and submitted by Resolution Consultants. I have the following comments on the Draft Focused Remedial Investigation/Feasibility Study Addendum:

- (1) A pilot study involving the injection of EOS® Pro into the Hawthorn Zone is discussed in Section 5. A sodium bromide tracer was added to the EOS® Pro at a concentration of 1,000 parts per million. It is unclear in the document how much tracer was added and what the concentration would have been in the injected solution. Please provide more information on the tracer. Please also provide a discussion of where the tracer may have been detected in monitored wells and what this indicates as far as the hydraulic permeability and groundwater velocity within the Hawthorn Zone.
- (2) Section 5.4 discusses the baseline and post injection sampling and analysis. However, the analysis for the underground injection control (UIC) parameters is inconsistent through the section. In section 5.4, it says UIC parameters were to be analyzed by EPA Method 9056A, which is the method for determining the concentration of inorganic anions in solution. This method would be appropriate for determining the concentration of bromide. In section 5.4.1 baseline sampling, it identifies the UIC parameters as sodium and total petroleum hydrocarbons. In section 5.4.2, Phase I post injection sampling, it says UIC parameters including bromide were analyzed. In section 5.4.3, Phase II baseline sampling, it just mentions UIC parameters being analyzed. And in section 5.4.4, Phase II post injection sampling, it does not mention UIC parameters being analyzed. Please provide a clear discussion of exactly what the UIC parameters consisted of, the specific requirements in the UIC Approval Orders issued for Phase I and II of the Pilot Study, how those UIC monitoring requirements were met, and the results of the monitoring.

- (3) Please provide a more complete discussion of the results of the pilot study in Section 6. The description of the results of the dehalococoides (DHC) and compound specific isotope analysis (CSIA) are incomplete. Please identify whether the results from these tests indicate whether complete dehalogenation of perchloroethene to ethene is indicated, or whether a stall at cis-1,2-dichloroethene or vinyl chloride is indicated. Please also identify whether degradation rates could be calculated from those results.
- (4) In the Feasibility Study Addendum part of the document in Section 8, three remedial alternatives are identified for evaluation. However, only alternative H-3 is discussed in section 8.1. Please provide a more complete discussion and comparison of the alternatives and include an evaluation of those alternatives against the nine CERCLA criteria. This will require estimating time to attain cleanup goals, cost to complete, and remedial alternative specific ARARs.
- (5) Figures 6-1 and 6-2 depict the CSIA results for PCE and TCE in two wells. Please also provide the CSIA results for cis-1,2-dichloroethene and vinyl chloride. Figure 6-3 depicts the PCE isotopic ratio by CSIA along the flow path for two discrete Hawthorn Zone intervals. Please provide figures depicting the isotopic ratios for the degradation products along those flow paths as well.
- (6) Please provide the DHC and CSIA reports in the appendices.

If you have any concerns regarding this letter, please contact me at (850) 245-8997.

Sincerely,



David P. Grabka, P.G.
Remedial Project Manager
DoD and Brownfields Partnerships
Waste Cleanup Program

cc: Marianne Sweeney, AECOM, Orlando

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