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From: Commanding Officer, Engineering Field Activity, West, Naval Facilities Engineering  
Command  
To: Distribution  
Subj: CONTRACT NO. N62474-94-D-7430, UCB, DELIVERY ORDER NO. 009, ALAMEDA  
POINT, ALAMEDA, CA

A teleconference was conducted at 10:00 AM on 10 December 1998 to review the document, "Draft Treatability Study Work Plan, Steam Enhanced Extraction, Site 5, Alameda Point", dated November 9, 1998, which has been prepared by the Berkeley Environmental Restoration Center (BERC). The purpose of the teleconference was to obtain agency comments on the work plan and to obtain approval for BERC to begin field activities to install the in-ground injection/extraction system and conduct measurements necessary to design the above-ground treatment system. The following persons participated in this teleconference:

Ronald Yee, EFA West, US Navy  
Dr. Kent Udell, BERC  
Dr. Bill Mabey, BERC  
Mary McDonald, BERC  
Mary Rose Cassa, DTSC  
Michael Finch, DTSC  
Anna-Marie Cook, USEPA

The comments from the regulatory representatives related to clarifications or questions regarding the technical approach for implementing Steam-Enhanced Extraction (SEE) as presented in the Work Plan. At the conclusion of the teleconference all participants agreed that BERC could immediately begin field work. It was further agreed that the existing Work Plan need not be revised, but that inclusion of an Addendum summarizing teleconference comments would suffice for acceptance of the Final Work Plan.

Topics that were discussed during the 10 December teleconference are as follows, and are keyed to pages or section of the Work Plan:

1. The agencies requested clarification that throughout the Work Plan, references to the use of Steam Enhanced Extraction (SEE) at Site 5 are more specifically to an area that is east of Building 5, labeled as plume B in the Work Plan, Figure 2-4. The location of the SEE project is more specifically identified in Figure 3-1.

2. Page 10: The bay sediments encountered at 13 feet are better regarded as an apparent aquitard because their competency and extent to retard flow of water or non-aqueous phase liquids (NAPL) is not known. This recognition is not a critical issue for the application of SEE because steam injection will be below this bay mud layer (present at a depth of 16 to 19 feet, (see Figure 3-2). In fact the low permeability layer may improve the efficiency of SEE by promoting the lateral spread of the steam zone underneath the soils that will be remediated.

3. Also on page 10: The groundwater mound at Site 5 that is likely due to a leaking EBMUD water line is not a concern for the SEE treatability study, which will dewater the treatment zone and then volatilize NAPL constituents. A continuing leak may be important for the possible future evaluation of natural attenuation of chemicals in the treated soils and in the larger Site 5 area.

4. Page 22: Bridging of the packing between the multilevel sampling points is a concern of the agencies. During installation of the sand packs for the multilevel sampling system the annular space will be frequently sounded to ensure that bridging does not occur, and that the sand pack will be surged as needed to prevent bridging. Experience of BERC's team in other steam projects will be applied in installation of all wells.

5. Page 32, item 1: The sampling interval of 2 months was selected to compare the groundwater VOC concentrations immediately after clean water (that is, municipal water from EBMUD) is used to recharge the SEE-treated soil and then after any residual NAPL constituents would have potentially dissolved into the water. While more than two months may be required to achieve more complete equilibration, the BERC contract with EFA West will end with this project. The possible longer term dissolution of residual NAPL constituents can be assessed by other Navy contractors; this assessment can use the oxygen isotope ratio data to determine if any VOCs can be attributed to groundwater from outside entering the SEE-treated soils.

6. Also page 32 item 1: The target groundwater cleanup level of 50 µg/L for TCE is selected based on a level that could be observed if the major VOC in surrounding groundwater, TCE at 320 µg/L, enters the treated soils. The 50 µg/L value is also regarded by BERC as a concentration that could be amenable to intrinsic biotransformation that may be evaluated as a final remedial action in the larger Site 5 area.

7. Page 33: BERC's Final Treatability Study Report on the SEE project will address all aspects of the technology as it applies to the Site 5 treatment area. Along with the concentration data for treatment objectives, information on mass balances, the rates of chemical removal and other system performance data will be reported for use in evaluating the nine regulatory feasibility study weighting criteria (costs, reduction in volume, toxicity, and chemical mobility, etc.)

8. Page 44: BERC has already contacted EBMUD, and is aware of the time necessary for discharge permit issuance. The permissible chemical concentrations for discharge must be negotiated with EBMUD.

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9. Page 45: Well destruction will be in accordance with Alameda County requirements. Well destruction will use a neat cement grout and not a cement-bentonite mixture.

10. Page 46: The text discussing waste disposal suggests that all liquid wastes generated during operation of the injection/extraction system will be amenable to handling in the SEE treatment system and no off-site disposal will be required. This section is amended to state that all waste will be appropriately disposed in accordance with applicable state and federal regulations whether they be for on-site treatment, discharge to municipal systems, or for hazardous waste disposal requirements.

11. BEREC will not be required to obtain a permit for running the treatment system because the treatability study is being conducted under CERCLA. BEREC will need to meet the substantive requirements of RCRA.

12. DTSC expressed a concern that silica sand would be a better additive to the cement grout than silica flour. BEREC assured DTSC that silica flour is a typically used in oil field applications and is preferred for higher temperature work.

13. The agencies noted that vinyl chloride has also been detected at Site 5. The treatment system design features and the health and safety measures related to vinyl chloride as well as the other VOCs will be addressed in the information provided for the feasibility study.

14. Finally, while all participants agreed that the Work Plan was now accepted and is approved with this addendum, another review will be conducted when the 100% design is submitted to the Navy.

If you have any questions regarding this matter, please call Ronald Yee at (650) 244-2558.

**ORIGINAL SIGNED BY**

RONALD YEE  
Remedial Project Manager

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