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To: Distribution

Subj: IMPLEMENTATION WORK PLAN ADDENDUM INTERMEDIATE  
MAINTENANCE FACILITY (IMF) SITE (IR SITE 13) NAS ALAMEDA, CA

Encl: (1) Implementation Work Plan, IMF Site (IR Site 13), NAS Alameda, CA

1. Enclosure (1) is the Implementation Work Plan Addendum for the IMF Site at NAS Alameda. In a meeting held Tuesday, 6 September 1994 at the Department of Toxic Substances Control (DTSC) office, an addendum to the implementation work plan was requested by the NAS Alameda Base Closure Team (BCT). The objective of the addendum is to refamiliarize the BCT members with the site background and the plan of action for further removal of lead-contaminated soil. We request that you review this document and provide your written comments to us by 30 September 1994.

2. If you have any questions regarding this matter, the point of contact is Mr. Dennis Wong, Code 09ER3DW, (415) 244-2526, FAX (415) 244-2553.

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**NAVAL AIR STATION ALAMEDA  
ALAMEDA, CALIFORNIA  
SITE 13 INTERMEDIATE MAINTENANCE FACILITY  
ADDITIONAL SOIL REMOVAL ACTION  
IMPLEMENTATION WORK PLAN ADDENDUM**

This addendum describes the technical approach for additional excavation to complete the interim remedial action (IRA) for lead and acid contaminated soils at the Intermediate Maintenance Facility (IMF) site at Naval Air Station (NAS) Alameda in California. This addendum discusses the following information:

- Background
- Objectives
- Operations Plan
- References

**BACKGROUND**

The IMF site at NAS Alameda is located within Installation Restoration (IR) Site No. 13, the former oil refinery. High concentrations of lead and low pH were detected in soils at this site in the former Harding Lawson Associates (HLA) soil boring B-7. Based on subsequent soil sampling by the PRC team in 1992, the extent of the lead and acid contamination appears to be limited to a localized area in the immediate vicinity of soil boring B-7. The Navy and the California Environmental Protection Agency's (Cal-EPA) Department of Toxic Substances Control (DTSC) agreed that an IRA should be conducted to remove soil with high lead concentrations and low pH in the vicinity of soil boring B-7.

An engineering evaluation of IRA disposal and treatment alternatives was conducted in April 1993. Based on the IMF site IRA engineering evaluation/cost analysis (EE/CA) report (PRC and Montgomery Watson 1993a), excavation with disposal at a Class I landfill was completed by Public Work Center (PWC) San Francisco Bay Area personnel in September 1993. The cleanup goal was 100 milligrams per kilogram (mg/kg) for total lead.

The IRA was performed in a phased approach. On completion of the excavation, screening-level results indicated that the excavation was successful and confirmation samples were collected. However, confirmation sampling results indicated that total lead concentrations exceeded 100 mg/kg from soil samples collected along the west wall of the excavated area at a depth of 4 feet (137-S13-005), and approximately 5 feet west of the excavated area at a depth of 5 feet (137-S13-001).

The final excavation extent and confirmation sample locations and analytical results are shown in Figure 1. Confirmatory results for total lead ranged from 1.4 mg/kg to 218 mg/kg, and pH results ranged from 1.6 to 8.8. IRA cleanup goals at the IMF site are specified for total lead only (PRC and Montgomery Watson 1993a).

Because soils in the excavation at the IMF site were found to contain total lead in excess of the IRA cleanup goal of 100 mg/kg, the Navy will remobilize to the IMF site to remove soils containing total lead in excess of 100 mg/kg in the area west of the previously excavated area.

## **OBJECTIVES**

The objectives of the additional interim removal action excavation are as follows:

- Preliminary field screening to assess the extent of additional excavation.
- Excavation and disposal of contaminated soils. Confirmation sampling and analysis will also be conducted.

## **OPERATIONS PLAN**

This section discusses preliminary field screening, engineering oversight, and confirmation sampling and analysis activities, and incorporation of additional excavation results into the IMF site implementation report. The Navy will conduct the work in accordance with the IMF site implementation work plan (PRC and Montgomery Watson 1993b), which includes an addendum to the health and safety plan, and this work plan addendum.

Field progress reports summarizing each day's field activities will be generated and sent via facsimile machine to the DTSC; and the California Regional Water Quality Control Board (RWQCB) on a daily basis.

### **Preliminary Field Screening**

On August 30, 1994, preliminary field screening samples were collected at the IMF site for total lead and pH analyses to guide PWC personnel for the upcoming excavation effort. Preliminary field screening included hand augering five holes and collecting samples at 2.5 and 5 feet below ground surface (bgs) from each hole. A slide hammer sampler was used to collect a total of 10 preliminary

field screening samples at each depth. Samples were collected in 2-inch-diameter, 6-inch-long stainless steel sleeves.

Preliminary field screening samples were collected near the location of final confirmation sample 137-S13-001 (aka C-1), which had a total lead content of greater than 100 mg/kg (Figure 1). Sample C-1 was collected approximately 27 feet northwest of monitoring well MW-IMF-01. Three sample holes were located approximately 5 feet west southwest (WSW), west northwest (WNW), and west of sample location C-1. Two holes were located approximately 9 feet WSW and WNW of C-1.

The 10 soil samples were delivered under chain-of-custody to PWC at the Naval Supply Center Oakland. Sequoia Analytical analyzed the samples with a 24-hour turnaround time for total lead using U.S. Environmental Protection Agency (EPA) Method 6010. The pH of the preliminary field screening samples were measured in the field using the method described in the implementation work plan. Preliminary field screening sample locations and results are presented in Figure 1.

#### **Excavation and Disposal**

Based on final confirmation sampling and preliminary field screening results, the Navy proposes to excavate a 9-foot by 9-foot area west of the previously excavated area (Figure 1). The excavation depth will be 5 feet.

The IMF site IRA soil has been previously profiled and accepted for disposal by Chemical Waste Management's Kettleman Hills Class I facility. No additional waste profiling will be required.

#### **Confirmation Sampling and Analysis**

On completing the additional excavation, the PRC team will conduct confirmation sampling and analysis for lead and pH will be conducted in accordance with the implementation work plan to assess the residual levels of lead and pH in the remaining soil. The final number of confirmation samples required for verification will depend upon the final areal and vertical extent of the excavation. A sampling density of one sample per 100 square feet will be used to determine the number of confirmation samples required. Assuming an excavation extent of 9 feet by 9 feet by 5 feet, five final confirmation samples (four wall and one floor) would be required. One matrix spike/matrix spike duplicate (MS/MSD) sample will also be collected.

An attempt will be made to collect confirmation samples from areas where visibly stained soil exists. The primary objective of the sampling plan is collection of representative lead and pH samples. Once the final confirmation sample location has been identified, the backhoe operator will collect a bucket of soil from these locations. If the excavation walls exhibit no visible discoloration, samples will be collected from approximately half the depth of the excavation wall. Immediately upon retrieval of a bucket of soil, the field sampler will collect a sample using a hand-held drive sampler lined with 6-inch-long, stainless-steel tube. The stainless-steel tubes will be immediately sealed with Teflon sheets and plastic end caps and the end caps will be secured with silicone tape. Each sample will be labeled in the field with a unique identification number.

Confirmation samples will be sent to a state-certified laboratory and analyzed for lead using EPA Method 6010, pH using EPA Method 9045, and total petroleum hydrocarbons (TPH) using EPA Method Modified 8015. The contract required detection limit for lead in soils is 1.0 mg/kg. One confirmation sample will also be analyzed for volatile organic compounds (VOC), semivolatile organic compounds (SVOC), and a full suite of metals according to the contract laboratory program (CLP) protocol. Data deliverables will be CLP Level D and delivered within 35 days of receipt of the samples.

Air and health and safety monitoring will be conducted in accordance with the site health and safety plan. Results of the monitoring will be provided to PWC. PWC personnel will be responsible for evaluating the monitoring results and determining appropriate health and safety actions. Air monitoring will also be conducted during field activities to accurately assess the worker inhalation exposure to lead-contaminated soil from the excavation activities. Air monitoring will be conducted in accordance with National Institute for Occupational Safety and Health (NIOSH) Analytical Method 7300, *Elements (ICP)*. Samples will be analyzed by a laboratory accredited by the American Industrial Hygiene Association.

PWC will restore the site by covering the additional excavation with high-density polyethylene (HDPE) sheeting to reduce the potential for contaminants to leach from soil to groundwater. Clean fill may or may not be used to restore the excavation to the level of the surrounding grade. A temporary chain-link fence with warning signs will be installed around the excavation area by PWC personnel.

#### **Incorporate Results of Additional Excavation into Implementation Report**

On completing the additional excavation and receiving laboratory data reports, the results of additional confirmation sampling and analyses and the extent of the additional excavation will be summarized and

incorporated into a implementation report. The implementation report will also include similar information collected from the previous three phases of excavation. The IMF site implementation report will summarize soil excavation and disposal activities, including the results of the confirmation sampling and analysis and previous waste profiling.

On receiving the laboratory reports, the PRC team will review and validate the analytical data using current EPA functional guidelines. Data will be validated based on quality control parameters reported by the laboratory. After review, validated data will be summarized in the implementation report. The report will present the sample locations; validated results of soil sampling and analysis for lead, pH, TPH, VOCs, and SVOCs; and a discussion of the results.

## REFERENCES

PRC Environmental Management, Inc. (PRC) and Montgomery Watson 1993a. "Naval Air Station Alameda, IMF Site Interim Removal Action, Engineering Evaluation/Cost Analysis Report (Final)." September 29.

PRC and Montgomery Watson 1993b. "Naval Air Station Alameda, Interim Removal Action, Lead and Acid Soils Removal, Intermediate Maintenance Facility Site, Implementation Work Plan (Draft Final)." September 20.

DRAFT FINAL  
IMPLEMENTATION WORK PLAN  
ADDITIONAL SOIL REMOVAL ACTION AT SITE 13  
INTERMEDIATE MAINTENANCE FACILITY

DATED 20 SEPTEMBER 1993

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FIGURE 1 – FINAL CONFIRMATION AND  
PRELIMINARY FIELD SCREENING SAMPLE  
LOCATIONS AND RESULTS AND EXCAVATION  
EXTENTS

DATED 22 SEPTEMBER 1994

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