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DATE: May 23, 2007

SUBJECT: DRAFT TIME CRITICAL REMOVAL ACTION FOR MULTIPLE SITES, MARE ISLAND SHIPYARD
[PCA 18040 SITE 201208-18 H:33]

BACKGROUND

HERD reviewed the documents titled:

1. *Draft Work Plan Time-Critical Removal Action Installation Restoration Site 04, Installation Restoration Site 05, Parcel XVI Paint Waste Area, Defense Reutilization and Marketing Office Scrapyard, and Horse Stables Area, Former Mare Island Naval Shipyard, Vallejo, California*, May, 2007; and,
2. *Draft Action Memorandum Time-Critical Removal Action Installation Restoration Site 04, Installation Restoration Site 05, Parcel XVI Paint Waste Area, Defense Reutilization and Marketing Office Scrapyard, and Horse Stables Area, Former Mare Island Naval Shipyard, Vallejo, California*, dated May 2007.

These documents were prepared by Weston Solutions, of Walnut Creek, California. Electronic copies of these documents were placed on the WESTON Project website (http://westonproject.net) on May 16, 2007 and downloaded by this reviewer on May 17, 2007. Comments contained in this memorandum are restricted to the potential ecological issues associated with the proposed Time Critical Removal Action (TCRA). Any HERD comments on the Human Health Risk Assessment (HHRA) implications will be furnished in separate memorandum from Dr. John Christopher.

This Work Plan and the Action Memorandum (AM) describe the scope of a TCRA involving five sites located at former Mare Island Naval Shipyard (MINSY):

Installation Restoration Site 04 (IR04);
Installation Restoration Site 05 (IR05);
Parcel XVI Paint Waste Area (PWA);
Defense Reutilization and Marketing Office (DRMO); and,
The Horse Stables Area (HSA).

The TCRA is required to maximize the cost effective removal and consolidation of contaminated soil from several sites on Mare Island in coordination with the closure and engineered cap construction of the Investigation Area H1 (IAH1) Containment Area. The Containment Area cap is currently under construction and is scheduled for completion in late 2007.

Mare Island Naval Shipyard (MINSY) was the first naval station on the Pacific Coast, where shipbuilding began in 1854. The former MINSY is located on a peninsula approximately 30 miles northeast of San Francisco. The peninsula is bounded to the east, south, and west by the Napa River (Mare Island Strait), Carquinez Strait, and San Pablo Bay, respectively. Mare Island was originally an island of approximately 1,000 acres with surrounding wetlands of approximately 300 acres. Fill material was added to enlarge Mare Island and connect it to the mainland. MINSY has been in operation under Navy control from approximately 1853 until the recent transfer to the City of Vallejo through the State Lands Commission. Lennar Development, Inc. is in the process of developing several portions of Mare Island.

GENERAL COMMENTS

Material used in sand blasting operations at IR04, and the focus of removal at other TCRA sites, is referred to as: 1) Abrasive Blast Material (ABM); 2) Sand Blast Material (SBM) and 'greensand'. Please utilize a single acronym or define the difference between ABM, SBM and greensand.

Chromium, copper, lead, nickel and zinc are common Contaminants of Potential Concern (COPCs) at many sites and locations addressed in the TCRA Work Plan and Action Memorandum. All these inorganic elements are amenable to analysis by X-ray Fluorescence (XRF). HERD recommends that a field XRF unit be deployed to aid the removal actions by providing real-time analysis of confirmation samples, particularly at IR04 where the stated goal is to remove all visible ABM.

SPECIFIC COMMENTS ON WORK PLAN

1. Exclusionary evaluation criteria (Section 1.0, page 1-2; Section 4.7, page 4-6) for material to be consolidated into the IAH1 containment area are listed as: 1) containing no free liquids; 2) not excessively volatile; and, 3) not excessively

mobile (leachable). Please define how these criteria will be, or have been, measured and evaluated.

2. IR04 is located adjacent to the Ordnance Materials Production Area (Section 1.1, page 1-6). Please indicate the COPCs at the Ordnance Materials Production Area and whether the development of this list of COPCs included analyses for perchlorate.

3. The Paint Waste Area (PWA) is located adjacent to the northeastern portion of IAH1 and the southeast portion of former Dredge Pond 5NW (Figure 1-2). The PWA is surrounded primarily by pickleweed dominated non-tidal wetland (Section 1.3, page 1-7). Based on the surrounding pickleweed non-tidal wetland, and the potential presence of the Salt Marsh Harvest Mouse (SMHM) avoidance measures will be implemented (Section 4.5.3, page 4-4). Surface soil concentrations left at the PWA after remediation should be protective of the individual organism, reflective of the status of the SMHM as a listed protected species.

4. The TCRA goal for IR04 is to remove greensand to the maximum extent practical (Section 1.6.4, page 1-12). This TCRA goal differs significantly from the TCRA goal for other sites contained in this work plan. As indicated, (Addendum 1, Section 3.1.7.1, page 3-8) HERD will require a post-removal Ecological Risk Assessment (ERA) for IR04.

5. HERD supports the placement of silt curtains to south by the wetland and along open water during removal actions at IR04 (Section 4.5.1 Site IR04, page 4-3). The California Department of Fish and Game (DFG) and the San Francisco Bay Water Board (SFBWB) should be consulted on the type, placement and scheduling of these silt curtains.

6. The draft work plan currently outlines (Section 4.10.2, page 4-13) two possible plans for: 1) leaving the IR05 excavations at depths appropriate for tidal wetlands; or 2) backfilling to pre-excavation grade. Regulatory agencies agreed, at the May 15, 2007 meeting, that pending approval of the U.S. Fish and Wildlife Service (USFWS) the IR05 excavations should be left at excavation grade and that the levees should be brought to a depth sufficient to not obstruct water movement or allow vehicle access to subtidal wetlands. The work plan post-excavation options for IR05 should be amended to reflect this decision after consultation with the USFWS.

7. Once above the upper intertidal shelf, the topography of IR04 is relatively flat. Please define the physical distinction between 'upland' and 'lowland' areas at IR04 in support of separate upland and lowland TCGs (Table 2-1b Target Cleanup Goals, Tidal and Non-Tidal Wetland and Lowland Subareas, Installation Restoration Site 4, Subarea 3, Sandblast Material Subarea).

Addendum 1 – Field Sampling Plan and Quality Assurance Project Plan

8. The stated goal of the IR04 TCRA is removal of greensand to the maximum extent possible (Addendum 1, Section 2.1, page 2-2). Rather than rely on visual observation of greensand to guide the IR04 removal (Section 3.1.5, page 3-4), HERD recommends a field X-ray Fluorescence (XRF) unit be used to guide the removal action. As stated (Addendum 1, Section 3.1.7.1, page 3-8), a post-removal ERA will be necessary for IR04.

9. PWA TCRA TCGs (Section 2.3, page 2-4) should be lower than other similar areas based on potential presence of SMHM.

10. Please amend the text describing the need for a TCRA at IR04 from 'eliminate risk' (Section 3.1.1, page 3-1) to the more accurate 'reducing the risk' which appears as a later statement (Section 3.1.2, page 3-2).

11. The word from is mistakenly printed as 'form' (Section 3.1.4, page 3-3, second line).

12. The determination of whether the IR04 excavations have reached the 'limits of the greensand' and can be backfilled should be made in consultation with DTSC, rather than proceed to backfill 'whether the TCGs have been attained or not' (Section 3.1.5, page 3-5).

13. The reference to Table 15 is mistakenly printed as 'Table 156' (Section 5.0, page 5-1).

SPECIFIC COMMENTS ACTION MEMORANDUM

14. Abrasive Blast Material (ABM) in the IR04 Sand Blast Material unit is at least 16 feet thick in the northern portion of the (Action Memorandum, Section 2.1.4.1, page 2-14). As this TCRA for IR04 is not planned to extend to 16 feet below ground surface (bgs), the location of the confirmation samples at the bottom and sides of the IR04 excavations must be recorded with sufficient accuracy to allow return to the location of each confirmation sample in the future. Please amend the appropriate sections of the AM and the Work Plan.

15. The Defense Reutilization and Marketing Office (DRMO) Scrapyard was excluded from the Onshore ERA (TtEMI, 2002) based on the lack of suitable or viable habitat at the site and the planned future light industrial/commercial use (Section 2.2.4, page 2-39). The DRMO Scrapyard, therefore lacks a complete site-specific ERA. This comment is meant for the DTSC Project Manager and no response is required from the Navy or the Navy consultants.

16. HERD does not consider removal of all visible ABM at IR04 (Section 3.1.2, page 3-2) a reliable method to achieve a relatively uniform removal, particularly in the IR04 upland removals which may proceed to groundwater. HERD recommends a field XRF unit be deployed during the IR04 excavation to provide real-time confirmation of when to cease excavation based on green sand removal.

17. HERD recommends that rather than immediately backfilling at IR04 after collection of confirmation samples for laboratory analysis (Section 5.1.6, page 5-3), that the analytical results for the confirmation samples be distributed to the regulatory agencies and resource trustees for concurrence.

18. The 2006 IR04 Remedial Investigation (RI) concluded that 'metals' at IR04 pose and unacceptable risk to the environment (Section 2.1.6.1, page 2-20). Use of U.S. EPA Region 9 Preliminary Remediation Goals (PRGs) for IR04 upland TCGs (Section 5.1.4, page 5-3) will almost ensure that remaining surface soils not covered by sufficient 'clean' fill would pose an ecological hazard for terrestrial receptors. HERD recommends that some fraction of the IAH1 terrestrial upland ecological risk values be used for TCGs at IR04. Some fraction of the IAH1 upland ecological risk values is appropriate as these IAH1 upland concentrations were developed assuming a 2 foot clean fill cap.

19. HERD agrees that the non-tidal wetland IAH1 criteria (Table 2) are appropriate TCGs for the PWA (Section 5.2.2, page 5-5). This comment is meant for the DTSC Project Manager and no response is required from the Navy or Navy contractors.

20. Lacking a habitat-based rationale, HERD recommends that some fraction of the IAH1 terrestrial upland ecological risk values be used for TCGs at the HSA (Section 5.3.2, page 5-7). Some fraction of the IAH1 upland ecological risk values is appropriate as these IAH1 upland concentrations were developed assuming a 2 foot clean fill cap. Alternatively, presentation of habitat-based rationale, comparing the size and quality of the current HSA habitat and planned future use, for utilizing the unaltered upland criteria as TCGs (Table 3) would be acceptable to HERD.

21. HERD agrees that the U.S. EPA PRGs (Table 4) are acceptable TCGs for the DRMO (Section 5.4.4, page 5-11) given the planned future light industrial/commercial use (Section 2.2.4, page 2-39). HERD recommends a formal land restriction to maintain the planned future use as light industrial/commercial.

22. IR05 TCRA excavation may result in ground elevations sufficiently low to support non-tidal wetlands or backfilling to upland elevations depending on the confirmation sample soil concentrations. The regulatory agencies agreed at the

May 15, 2007 meeting, that pending approval of the U.S. Fish and Wildlife Service (USFWS), the IR05 excavations should be left at excavation grade and that the levees should be brought to a depth sufficient to not obstruct water flow or allow vehicle access to subtidal wetlands. HERD agrees with the use of the IAH1 non-tidal wetland criteria (Table 5b) for future non-tidal wetland use of IR05 (Section 5.5.2, page 5-13; Section 5.5.6, page 5-15). In the event IAH1 non-tidal wetland TCGs cannot be reached at IR05, HERD recommends that the TCGs for IR05 be some fraction of the IAH1 terrestrial upland ecological risk values rather than the unmodified IAH1 upland risk values (Table 5a) (Section 5.5.2, page 5-13). Some fraction of the IAH1 upland ecological risk values is appropriate as these IAH1 upland concentrations were developed assuming a 2 foot clean fill cap.

CONCLUSIONS

HERD recommends that a field XRF unit be deployed to aid the removal actions by providing real-time analysis of confirmation samples, particularly at IR04 where the stated goal is to remove all visible ABM.

The regulatory agencies agreed at the May 15, 2007 meeting, that pending approval of the U.S. Fish and Wildlife Service (USFWS), the IR05 excavations should be left at excavation grade and that the levees should be brought to a depth sufficient to not obstruct water flow or allow vehicle access to subtidal wetlands.

HERD recommends that some fraction of the IAH1 terrestrial upland ecological risk values be used for TCGs at the TCRA sites. Some fraction of the IAH1 upland ecological risk values is appropriate as these IAH1 upland concentrations were developed assuming a 2 foot clean fill cap.

REFERENCES

TtEMI. 2002. Final Onshore Ecological Risk Assessment, Mare Island, Vallejo, California. July 23.

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