



Department of Toxic Substances Control

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Arnold Schwarzenegger
Governor

February 19, 2008

Mr. Michael Bloom
Department of the Navy
Base Realignment and Closure
Program Management Office
1455 Frazee Road, Suite 900
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**DRAFT FINAL GEOPHYSICAL INVESTIGATION, PRODUCTION MANUFACTURING
AREA AND SOUTH SHORE AREA, FORMER MARE ISLAND NAVAL SHIPYARD,
NOVEMBER 2007**

Dear Mr. Bloom:

Based on our evaluation it is acceptable to move forward with the development of an Engineering Evaluation and Cost Analysis (EE/CA) and further phases of the response actions for munitions and explosives of concern (MEC) at the Production Manufacturing and South Shore Areas (PMA/SSA). We appreciate the ongoing collaborative nature of the exchanges we have concerning the development of an approach to investigation and cleanup of MEC. While the positions of Department of Toxic Substances Control (DTSC) and the U.S. Navy differ concerning the need for and approach to further investigation and cleanup at this time, we are committed to working cooperatively with the U.S. Navy to reach consensus on the adequacy of investigation, cleanup, land use restrictions, and associated operations and maintenance activities.

We maintain our position that 100 percent of the anomalies identified using acceptable investigation procedures need to be excavated. Presently, the uncertainties associated with the nature and extent of MEC remains at an unacceptable high level. In order to reduce the level of uncertainty concerning remaining MEC, procedures need to be incorporated as part of the next removal action that develop adequate information to allow a thorough evaluation of the geophysical investigation approach and the removal action itself for their effectiveness in identifying and removing MEC.

Some areas of the PMA/SSA were not included in the most recent geophysical investigation survey. DTSC commented on this issue as part of our review of the draft version of the subject document. The U.S. Navy has responded. We believe that there

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is need to discuss the specific areas of the PMA/SSA that did not undergo the latest geophysical survey and agree on what steps, if any, need to be taken to arrive at an adequate level of investigation for these unique areas.

Additional comments related to the subject document are enclosed. We look forward to working with you to resolve any issues with them as we move forward with the development of the EE/CA. If you have any questions or wish to discuss these comments further, please contact me at (916) 255-3738 or by email to bkilgore@dtsc.ca.gov.

Sincerely,



William Kilgore, P.E.
Senior Hazardous Substances Engineer
Office of Military Facilities

Enclosures

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MEMORANDUM

To: Bill Kilgore, P.E.
Senior Hazardous Substances Engineer
Office of Military Facilities
Department of Toxic Substances Control

From: Jim Austreng, P.E.
State Unexploded Ordnance Coordinator
Office of Military Facilities
Department of Toxic Substances Control

Date: February 11, 2008

SUBJECT: Draft Final Geophysical Investigation, Production Manufacturing Area and South Shore Area, Former Mare Island Naval Shipyard, Vallejo, California, dated November 2007

Per your request, I have reviewed the subject document for its consistency with technical and regulatory protocols followed for sites where military munitions and/or unexploded ordnance may be suspected or known to exist. My comments are provided below.

GENERAL COMMENTS:

Overall, the two volume Geophysical Investigation report provides detailed historical information and a thorough account of work performed to date. However, the report also discusses how the anomaly excavation/investigation, whether in Category A or B Sectors, will complete the response action. As discussed below in the Specific Comments, field actions alone do not constitute completion of the munitions response action. Land use controls or other restrictions are part of the Remedial Action.

Additionally, while I supports the actions to be taken (with modification as discussed below), my experiences at other sites where munitions and explosives of concern

(MEC) are present reinforce what DTSC has noted during meetings and the

development of the Conceptual Models - that data acquired during the anomaly excavation process often requires additional field work and changes to the Models. Consequently, I suggest text be added to the report discussing how an iterative process may be needed for purposes of achieving Data Quality Objectives and validating the Conceptual Models.

SPECIFIC COMMENTS

- 1) Volume 1 of 2, Section 3.6.1 Quality Control of Geophysical Instrumentation, page 3-28

Ref: Text states - "Of the 96 QC seeds that were picked as targets, only four were non-detect. However, they were within a high-gradient background area and within the noise regime of the data."

Comment: While the technical argument for missing the seeds is not challenged, the concept of how anomalies were selected in these high-gradient areas and what influence the high-gradient had on meeting the data quality objectives is.

That is, with further reference to Section 2.4 of the Subject report which states-"...the 20-mm projectile was identified as the smallest munitions item detectable (within the limits of instrument functionality) for the digital geophysical mapping investigation" questions arise as to how effective was the geophysical investigation when it's likely the seeds (1/2 inch diameter rebar, 12 inches long) were more likely to be detected than 20-mm projectiles.

Added discussion and maps showing where these high-gradient areas are is needed- are these high gradient areas a result of cluster areas and/or other influences?

Detection capabilities within these high gradient areas must also be discussed in context of understanding the limits of detection and meeting Data Quality Objectives. As referenced above, the seeds were reported missed as a result of the high-gradient. What impact do these areas have on detecting the suspected MEC items?

- 2) Volume 1 of 2, Section 4.1 Open Areas, page 4-3:

Ref: Text states - "The investigation of all and removal of any encountered MEC or MD items will complete the munitions response action in those sectors."

Comment: The decision as to whether the measures taken or work performed "...completes the munitions response action..." is a regulatory decision that is made following completion of the Remedial Investigation/Feasibility Study (RI/FS) and public review of a Remedial Action Plan (RAP) or the federal equivalent- a Record of Decision (ROD). To include the conclusion that this investigation will complete the munitions response action is inappropriate. Removing such language is reinforced by the fact that many areas are likely to have restrictions and other controls which are considered actions and part of a Remedy. The statement can be modified as a recommendation that no further field response action is needed, however, that opinion can only be provided subsequent to completion of the anomaly investigation process.

- 3) Volume 2 of 2, Appendix E, Section A 6.1 MEC Quality Assessment Recording, page E-11

Ref: Text states - "The results of the MEC Quality Assessment will be documented in a Quality Assessment Report (QAR) and reported to appropriate Navy project management. This form, combined with objective evidence and data, will be retained for the life of the project."

Comment: The QAR should be provided to DTSC as a companion document.

Editorial note: Volume 1 of 2, Section 1.2, page 1-1: Text states - "munitions of concern (MEC)". Should read munitions and explosives of concern (MEC)

End of Comments: If you have any questions, I can be reached at (916) 255-3702.

COMMENTS ON THE CONCERNING THE DRAFT FINAL PMA/SSA GEOPHYSICAL SURVEY REPORT, DATED NOVEMBER 2007

1. The report contains statements about when response actions will be complete and how the remedial action for the site will be approached. These statements are better included in a feasibility study alternatives analysis and, if appropriate, a subsequent decision document.
2. The strait side boundary is referred to in the document and the responses to comments. This boundary needs to be specifically identified in an appropriate figure. It would be helpful if it was included in Figure 1-2 of Appendix I also, or some other figures like this.

It would be helpful to provide a depiction of boundaries for the "parcel", "IA F1", "IA F2", "IA G", "IA K", "mean high tide line", and "the onshore investigation area" in one of the existing figures or in a new figure. These terms are used in the discussion and some of them are depicted on figures. However, without depiction of the various boundaries and areas in relation to each other it is unclear how complete the geophysical survey is and how the stated remedial action approaches will address the whole of the site. For the purposes of the investigation and evaluation of the nature and extent of munitions and other hazardous substances the "site" must be defined. It is the "site" that will undergo our oversight and, when all necessary response actions are complete, the whole site will have a determination by DTSC that no further short term response actions will be necessary. For purposes of ensuring that the entire parcel to be transferred is adequately investigated, the parcel boundary and boundary of the "site" should coincide.

Appendix I, Revised Conceptual Site Model PMA and SSA

1. DTSC has not finalized a determination that Investigation F2 is free of munitions. The discrepancies between the boundaries of Parcel V and IA F1/F2 need to be resolved so that the CERCLA site boundaries coincide with real estate parcel boundaries. The response to this comment refers to the revised Figure 4-1 Anomaly Investigation Process flow chart. The revised chart notes "No Action" for Transfer Parcel V except for two sectors (PMA-8-A and PMA-11-A). This is not necessarily unacceptable; however, the parcel boundary does not coincide with the F2/F1 Investigation Area boundary and DTSC has not finalized a determination that IA F2 (or Parcel 5) has been adequately addressed with respect to military munitions or other hazardous substances.
2. Figure 4-1 also has been modified from the draft version of the report to set the step-out criteria. We assume that the step-out distance of 25 feet referred to is a 25 foot radius circle. It is agreed that the step-out investigation distance should be at least a 25 feet in the cases where a MEC or MD item is found in the areas where 100 percent of the selected anomalies are investigated. We believe that

for the areas where 20 percent of the selected anomalies are investigated; when a MEC or MD item is found the step out distance should be at least 25 feet with consultation with DTSC concerning whether this or some other step-out distance or area is appropriate for that particular circumstance. DTSC will make every effort to be responsive in the case where consultation is required in order that the field work continues with minimal delay.

3. Figure 2-8 indicates "unrestricted" for much of the PMA area. The general approach to investigation and clearance of munitions proposed in the Remedial Approach section of the document will not be adequate to allow unrestricted land use of any of the areas of the PMA and SSA. We anticipate that with modifications, the remedial approach discussed in this document may achieve adequate remediation to allow non-sensitive uses such as commercial or industrial.