CEHNC-OE (200-1c)

MEMORANDUM FOR Commander, US Army Engineer Division, South Pacific, (CESPD-PDM/Vince DelGreco), 333 Market Street, San Francisco, CA 94105

SUBJECT: Review of Benicia Arsenal Munitions and Explosives Removal Action

1. The Military Munitions Center of Expertise has reviewed project documentation for the subject action as requested. The following documents were reviewed:

a. Engineering Evaluation/Cost Analysis Report, March 2000.

b. US Army Engineering and Support Center Huntsville, Engineering Evaluation/Cost Analysis Action Memorandum, Former Benicia Arsenal, Benicia, Solano County, California, 2000.

c. Ordnance and Explosives Removal Action, Former Benicia Arsenal, Benicia, California, December 2001.

d. Project Management Plan, December 2001.

e. Gonsalves Property QA Action, After Action Report, August 29, 2003, Former Benicia Arsenal Property.

f. Department of Toxic Substances Control (DTSC) Letters, June 18, 2002; August 7, 2002; and January 31, 2003.

g. Various other project documents and correspondence provided by Corps of Engineers, Sacramento District and Military Munitions Design Center, Huntsville.

2. The purpose of the review was to provide an opinion on whether the Corps' work was in accordance with the agreements made between the product development team (PDT) and the DTSC and to assess whether there were remaining actions that would be advisable to take at this project site.

3. After review of the referenced documents, it is our opinion that the Corps did follow the Action Memorandum for the removal work, except for clearing one small area on CA DOT property on the west side of I-680, and clearing under construction areas and trash piles as discussed in Paragraph 4.

4. The following recommendations are offered:

a. Overall Recommendation: Complete the CERCLA process by re-entering the remedial process at the Remedial Investigation/Feasibility Study phase and complete the project according to ER 200-3-1.

b. Sector 1, as identified in the above documents, was not part of the contract for executing ordnance removal actions at the former arsenal. The documents indicated that only small arms were found in this area and that institutional controls would be in place as a measure of safety. Our reviewer, Brad McCowan, did not find any documents that indicated that the controls have been put into place. Also because of the small arms use the area needs to be sampled for munitions constituents. During the EE/CA, 131 grids were proposed to be sampled but only 104 were sampled. All grids should have been sampled.

c. Sector 2 was proposed to have surface clearance on the steep valley walls and clearance to depth on the valley floor. The reason stated for not clearing identified anomalies on the valley walls was a concern for erosion. However, ordnance items were found in this sector. It would have been prudent to determine a process to investigate all anomalies without causing erosion. Also there were some trash piles and pits that were not investigated. Because ordnance items were found in this area, all anomalies and areas under the trash should have been investigated and cleared of ordnance. These areas need munitions constituents sampling.

d. Sector 3 was recommended for clearance to depth but was not included in the Corps of Engineers contract. Sector 3 was owned by the Tourtelot Corporation and was cleared by the developer. Ordnance items were found in the area. This area was also recommended for institutional controls. This area also needs to be sampled for munitions constituents.

e. Sector 4 was contracted to have a surface clearance performed over the area. During the surface clearance 2 items were identified that needed to be explosively disposed. This area also contained a large amount of ordnance-related scrap. After the clearance, the area was to be placed under institutional controls. Because of the amount of ordnance-related scrap and the 2 suspect ordnance items found, the area should have been assessed by additional subsurface investigation and sampled for munitions constituents.

f. Sector 5 was contracted to be cleared to depth. Ordnance items were found in this area. There were piles of construction debris in the area and these were not investigated/cleared. Also, there were areas of construction along I-680 that were not investigated. Because of ordnance items found in the area, all areas of this sector should have been investigated and cleared of ordnance.

5. The Action Memorandum indicated all areas of the Former Benicia Arsenal should be under institutional controls. If this has not been completed, it should be accomplished as quickly as

possible since ordnance items have been found and disposed of on the property. A final remedy for the Former Benicia Arsenal should be sought through the remedial process of CERCLA.

6. Please contact the undersigned at 256-895-1563 if you have any questions.

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Center of Expertise

CF:
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