



# California Regional Water Quality Control Board

## San Francisco Bay Region



Linda S. Adams  
Secretary for  
Environmental Protection

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Arnold Schwarzenegger  
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Letter sent via email

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U.S. Army Corps of Engineers, Sacramento District  
Attn: Ms. Katherine Greene  
1325 J Street  
Sacramento, CA 95814-2922  
Via email only: [katherine.a.greene@usace.army.mil](mailto:katherine.a.greene@usace.army.mil)

Subject: Comments on the *Draft Final Soil Removal Action Work Plan, Former Benicia Army Arsenal, Benicia*, dated June 2009

Dear Ms. Greene:

I have reviewed the *Draft Final Soil Removal Action Work Plan, Former Benicia Army Arsenal, Benicia*, dated June 2009 (*Draft Final Work Plan*). My comments are presented below.

### GENERAL COMMENTS

**General Comment #1 (Overall Site Cleanup Process)** – I did not find a reference or recommendation for the proposed soil removal action in the previous technical reports. It is unclear how this document fits into the overall site cleanup process. Please add a description of the overall site cleanup process, how this document fits into that process, and the subsequent steps in the background section of the *Draft Final Work Plan*.

**General Comment #2 (Future Site Use)** – The proposed cleanup goals are based on commercial/industrial use, but there is no description of the future planned use of the site or appropriate land use controls. This information should be presented in the text to support the use of the proposed cleanup goals.

**General Comment #3 (Adequacy of Site Characterization)** – Based on my review of the data presented on Figure 2-1 (Arsenic Soil Concentrations at Building 51), Figure 2-2 (Dibenzo[a,h]Anthracene and Diesel Range Hydrocarbons Soil Concentrations at Building 161 UST), and Figure 2-3 (PCB-1254 [Aroclor 1254] Soil Concentrations at Building 161 UST), it appears that there are limited data in the vicinity of the proposed excavations. Do these figures also present the locations where the target constituents were tested but not detected? If not, these

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figures should be revised to present this information. Also, provide adequate justification that further characterization is not necessary.

**General Comment #4 (Selection of Screening Criteria)** – Please include a description of the screening criteria selection process including which exposure pathways are addressed. Given the presence of volatile organic compounds (VOCs) in the Building 161 area, the collection of soil gas samples and evaluation of the vapor intrusion pathway are necessary. In addition, the criteria currently selected exclude the drinking water pathway. Either provide a justification for exclusion of this pathway or include this pathway. Lastly, the Regional Water Board’s environmental screening levels (ESLs) underwent a minor revision in May 2008. Some of the criteria presented do not appear to be current. The criteria in the text and tables should be reviewed and the evaluations updated as necessary.

#### **SPECIFIC COMMENTS**

**Specific Comment #1 – Section 1.2.3 (Historical Use of the Industrial Area), page 1-4; Figure 1-2 (Areas of Arsenal)**

Please include a brief description of the other areas (M, R, S, and W) either in the text or on Figure 1-2. It would be helpful to have the locations of Building 51 and Building 161 illustrated on this figure.

**Specific Comment #2 – Section 1.3.1 (Building 51), pages 1-6 and 1-7**

Please provide sufficient background information for the reader to understand which constituents have been tested in the vicinity of this building. Unless there is a data quality issue with the elevated concentration of lead detected in soil, that sample result should be carried forward in the analysis rather than dismissed. It is not uncommon to detect widely ranging concentrations of lead in samples from fill soil that are in close proximity to each other. On page 1-7, please provide the rationale for why the lower arsenic concentration result was chosen for presentation in the Expanded Site Addendum Report.

**Specific Comment #3 – Section 1.3.1 (Building 51), Presentation of Groundwater Data**

This section does not clearly present information regarding the groundwater sampling results. Please indicate which constituents were tested in groundwater samples and which constituents were detected as well as which constituents were detected above the appropriate screening criteria.

**Specific Comment #4 – Figure 2-3 (PCB-1254 [Aroclor 1254] Soil Concentrations at Building 161 UST)**

Although this figure is labeled as presenting soil data, there are data presented in units of micrograms per liter for locations B161GB005, B161GB006, and B161GB008. Please clarify if

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these data are groundwater data and adjust the figure as appropriate.

**Specific Comment #5 – Section 2.1.2 (Protection of the Public and the Site), page 2-1;  
Appendix A - Accident Prevention Plan**

Please specify what measures that the Army Corps of Engineers and its contractors anticipate will be implemented to protect those persons in the general vicinity of the excavations. Are there any buildings or areas in use near the planned excavations? Per the Accident Prevention Plan, it appears that real-time air monitoring will be performed at the excavations for protection of remediation workers. Will monitoring be performed beyond the immediate work area? It appears that aerosol (dust) monitoring will be performed, but no action limits are specified for dust. Please clarify this section of the *Draft Work Plan* text and provide adequate justification if no monitoring beyond the work area is planned.

**Specific Comment #6 – Section 2.1.3 (Surveying), page 2-1**

The document indicates that the areas to be excavated will be delineated using a Global Positioning System (GPS) unit. Please indicate how vertical control of the excavation will be achieved, and how the final excavation boundaries (lateral and vertical) will be surveyed and to what datum(s). If the GPS unit is to be used, please provide information on horizontal and vertical location accuracy.

**Specific Comment #7 – Section 2.6.1 (Backfilling), page 2-7**

Please state how the backfill material will be tested, including the specific analytes and estimated frequency of sampling. For instance, will the DTSC October 2001 *Information Advisory – Clean Imported Fill Material* be followed?

**Specific Comment #8 – Section 3.1 (Characterization Sampling and Analysis) and Section 3.2 (Confirmation Sampling and Analysis), page 3-1**

Soil sampling for volatiles analysis (VOCs and gasoline-range organics) should be performed in such a way to minimize the potential for volatilization of constituents. Collection of samples into jars likely would volatilize constituents more readily than collection using a drive sampler, and therefore should be avoided.

**Specific Comment #9 – Section 3.2 (Confirmation Sampling and Analysis), page 3-1**

For excavations deeper than 3 feet, such as the excavation proposed at Building 161, I recommend collecting one sidewall sample for each 3 vertical feet of excavation. Given the paucity of characterization data, this appears particularly appropriate. Although the excavations are small, should they be expanded, I recommend one sidewall sampling location for every 20 lateral feet, and one base sample per every 400 square feet.

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**Specific Comment #10 – Table 3-1 (Cleanup Goals for Confirmation Sampling), page 3-2**

Regarding the proposed PCB cleanup goal, see General Comment #4. Typically for arsenic, ambient concentrations exceed risk-based screening criteria. If an ambient arsenic concentration is available from the document referenced in Table 1-3, incorporate that into Table 1-3 and consider revising the cleanup goal as appropriate.

Please contact me at (510) 622-2445 or [rsteenson@waterboards.ca.gov](mailto:rsteenson@waterboards.ca.gov) if you have any questions.

Sincerely,

Ross Steenson, PG, CHG  
Engineering Geologist  
Groundwater Protection Division

Cc (via email only):

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