



# California Regional Water Quality Control Board

## San Francisco Bay Region



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MARE ISLAND  
SSIC NO. 5090.3.A

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Department of the Navy  
BRAC Program Management Office  
Attn: Mr. Michael Bloom  
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San Diego, CA 92108-4301  
Via E-mail: [michael.s.bloom@navy.mil](mailto:michael.s.bloom@navy.mil)

**SUBJECT: Comments on the Draft Work Plan, Soil Excavation and Groundwater Treatment, Building 742 Former Degreasing Plant, Investigation Area C2, Former Mare Island Naval Shipyard, Vallejo, California**

Dear Mr. Bloom:

I reviewed the January 15, 2010, *Draft Work Plan, Soil Excavation and Groundwater Treatment, Building 742 Former Degreasing Plant* (Draft Work Plan). The Draft Work Plan presents the Navy's plan for soil excavation, groundwater remediation, and groundwater and soil vapor monitoring following remedial activities. Water Board staff comments are presented below.

### General Comment

Four quarters of groundwater monitoring likely will not be sufficient to assess the long-term efficacy and success of the proposed groundwater remedial action. Because an oxygen reducing compound (ORC) can provide a source of oxygen for up to 12 months<sup>1</sup>, sampling within the first year following placement of the ORC would only provide data to assess the initial degradation of contaminants. Please modify the Draft Work Plan to either increase the monitoring period or include a statement indicating that following the first year (four quarters) of groundwater monitoring, the Navy will meet with the regulatory agencies to discuss the results and determine the path forward. This path forward may include additional groundwater sampling.

<sup>1</sup> <http://www.regenesis.com/contaminated-site-remediation-products/enhanced-aerobic-bioremediation/orc-advanced/>

## Specific Comments

1. Section 2.11.1:
  - a. Include a figure showing the distribution of chemicals in groundwater. The description presented in the text is difficult to follow.
  - b. Discuss the source of petroleum hydrocarbons in the groundwater. The Draft Work Plan discusses the source(s) of other chemicals in groundwater, but not petroleum hydrocarbons.
  - c. Groundwater samples taken from monitoring wells should be analyzed for metals because metals have been detected at elevated concentrations in grab groundwater samples.
2. Section 3.6: The list of ARARs<sup>2</sup> does not include State Water Resource Control Board Resolutions 92-49 and 88-63. The Water Board's position is that these resolutions constitute ARARs for the proposed remedial action. As discussed in the Draft Action Memorandum<sup>3</sup>, the Water Board disagrees with the Navy's determination that Resolutions 92-49 and 68-16 are not ARARs for this removal action.
3. Section 4.2.2: Because confirmation soil samples may show additional excavation is necessary, performing the post-excavation survey after sampling will ensure an accurate final survey from which actual soil volumes can be calculated. Therefore, Water Board staff recommend moving the post-excavation survey from before sampling to after sampling.
4. Section 4.6.3: Evaluate whether the new Construction General Permit (Adopted Order 2009-009-DWQ) that goes into effect July 1, 2010 is applicable to the proposed work and revise the text accordingly.
5. Section 4.3.6.6: Include protection of storm drain inlets that could be affected as a result of site work.
6. Section 4.4.1: Clarify why only one soil sample will be collected. If multiple areas of contamination are observed or suspected during drilling, additional soil samples should be collected to characterize subsurface conditions. In addition, it appears that soil sample(s) should be analyzed for metals. If this is not the case, please document why not.
7. Section 4.4.2: Provide justification for the proposed groundwater and soil vapor sampling locations. The proposed locations are shown on a figure; however, there is no discussion as to the rationale for selecting these locations within the Draft Work Plan.

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<sup>2</sup> ARARs=applicable or relevant and appropriate requirements

<sup>3</sup> U.S. Navy, 2009, Draft Action Memorandum, Building 742 Former Degreasing Plant, Within Investigation Area C2 at the Former Mare Island Naval Shipyard, Vallejo, California, December 18.

8. Section 4.7:
  - a. Discuss how the extent of the excavation at the former degreasing plant and grinder foundation sump were determined.
  - b. Clarify what method(s) will be employed to ensure the structural integrity of Building 742 during excavation activities within the garage bay. The Draft Work Plan states the "Excavation near building footings and foundations will be conducted by proper sloping." However, the excavation at the grinder foundation sump appears to be too small for sloping.
  - c. Describe the steps the Navy will take if excavation sidewall samples contain chemicals of concern at concentrations greater than the screening levels.
9. Section 4.7.2: Clarify if soil samples will be analyzed for metals. Previous data showing elevated concentrations indicate that analysis for metals is appropriate.
10. Section 4.8.2: Provide the basis for the dosing rate and volume of ORC to be injected.
11. Section 4.9:
  - a. Explain why the excavation area needs to be "demarked" by placement of a "nondegradable material" prior to backfilling.
  - b. Clarify if the "field survey" to be conducted after soil sampling is different than the topographic survey to be used to calculate soil excavation volumes. As stated in Specific Comment 3 above, Water Board staff recommend conducting the final topographic survey after completion of confirmation sampling prior to backfilling.
12. Section 4.11.1: Clarify why well screens will be placed only below the water table. In addition, discuss how well screen intervals are selected. It is not clear if the screen intervals will be selected based on lithology observed during drilling or to "match" the depths of previously existing wells.
13. Section 4.13: Measure water levels as part of the groundwater monitoring program to evaluate depth to water and groundwater flow direction. Note that if water level measurements show groundwater flows in a different direction than anticipated, additional groundwater monitoring points may be necessary to evaluate the effectiveness of the remediation.
14. Section 5.2: Water Board staff suggest the Navy consider employing "green" or "sustainable" techniques where possible during remediation activities. State whether any of the waste minimization activities listed in the Draft Work Plan are considered green.
15. Section 5.5.3: Include the regulatory agencies in the notification list in the event of a spill or release.

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16. Section 7.7.1: Clarify if progress reports will be shared with the regulatory agencies. Water Board staff suggest the Navy share analytical results of the excavation soil samples prior to backfilling.
17. Section 7.7.4: The third quarter monitoring report should contain an evaluation of the data collected, conclusions regarding the efficacy of the remedial action, and recommendations for the path forward.
18. Table 3-2:
  - a. Explain why the calculated 95<sup>th</sup> percentile ambient level is being used for arsenic rather than the RSL<sup>4</sup>.
  - b. Explain why the ESLs<sup>5</sup> for nickel and chromium are being used rather than the 95<sup>th</sup> percentile ambient level.
  - c. Updated ESLs are expected to be published in March 2010. Because ESLs are the basis for some of the Navy's screening levels, the Navy should review the updated values to assess whether screening levels proposed in the Draft Work Plan will be affected and update the screening levels appropriately.
19. Figure 4-3: Show the proposed side slopes within the excavations on the figure.
20. Appendix A, SAP<sup>6</sup> Worksheet #3: Change Elizabeth Wells' email to [ewells@waterboards.ca.gov](mailto:ewells@waterboards.ca.gov).
21. Appendix A, SAP Worksheets #3 and #5: Change the "PG" following Elizabeth Wells to "PE." Change Elizabeth Wells' telephone number to 510-622-2440 and Carolyn D'Almeida's telephone number to 415-972-3105.
22. Appendix A, SAP Worksheet #11: Clarify why the analytical results will be compared only to RSLs/removal monitoring levels (RMLs). The Draft Work Plan states that analytical results will be compared to screening levels (Tables 3-2 and 3-3), which include more than just those chemicals that are listed in the referenced worksheets (#15.1 through 15.3). Rectify this discrepancy.
23. Appendix A, SAP Worksheet #14:
  - a. Page 46: Revise the bulleted text to clarify the procedure being used. No reason for placing a bag of soil on ice is given.

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<sup>4</sup> RSL=Regional Screening Level, U.S. Environmental Protection Agency, 2009, Regional Screening Level Table, Master, April (Published in May).

<sup>5</sup> ESLs=Environmental Screening Levels, California Regional Water Quality Control Board, San Francisco Bay Region, 2008, Screening for Environmental Concerns at Sites with Contaminated Soil and Groundwater, Interim Final, May.

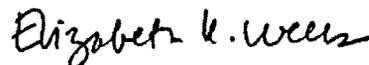
<sup>6</sup> SAP=Sampling and Analysis Plan

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- b. Page 51: Describe how the contractor will test for and prevent short circuiting of ambient air during soil gas sampling. If short circuiting occurs, soil gas samples could be compromised and results skewed low.
24. Appendix A, SAP Worksheet #18: Change the sampling depth from "Random" to "To Be Determined." It is assumed the sampling locations are not random, but will be determined in the field based on observations at the time of sampling.
25. Appendix A, SAP Figure A-2: Show the proposed side slopes within the excavations on the figure.

If you have any questions, you can contact me via phone at (510) 622-2440 or e-mail at [ewells@waterboards.ca.gov](mailto:ewells@waterboards.ca.gov).

Sincerely,



Elizabeth Wells, PE  
Water Resource Control Engineer

Distribution (via E-mail):

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