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January 18, 2008

Mr. Kevin Cloe
Remedial Project Manager
Commander Atlantic Division
Naval Facilities Engineering Command
6506 Hampton Boulevard
Norfolk, VA 23508-1278

Re: Review of the Draft Preliminary Assessment/Site Inspection Report 12 Consent Order Sites and 8 PI/PAOC Sites, Former Vieques Naval Training Range, Vieques, Puerto Rico

Dear Mr. Cloe:

The U.S. Environmental Protection Agency (EPA) has completed the review of the Draft Preliminary Assessment/Site Inspection Report 12 Consent Order Sites and 8 PI/PAOC Sites dated November 2007. Enclosed you will find our comments.

If you have any questions or comments, please contact me at (787) 741-5201.

Sincerely,

Daniel Rodriguez
Remedial Project Manager
Enforcement and Superfund Branch

Enclosure

cc: Josefina González, EQB, w/ encl.
Richard Henry, FWS, w/ encl.
Brett Doerr, CH2M Hill, w/ encl.
Wilmarie Rivera, EQB, w/ encl.
Christopher T. Penny, Navy, w/ encl.
Daniel R. Hood, Navy, w/ encl.

EPA Comments Draft Preliminary Assessment/Site Inspection Report
12 Consent Order Sites and 8 PI/PAOC
Former Vieques Naval Training Range
Vieques, Puerto Rico
November 2007

General Comments:

1. Many of the sites are in close proximity. Groundwater data for all of these sites should be presented, rather than for each site individually, so that a more comprehensive assessment of the groundwater, including identifying any potential impacts, can be made. It is difficult to determine area-wide trends or impacts when the groundwater is broken up into so many sites. It may be helpful to prepare a map and summary information on the groundwater data, for example, for all of the sites in the Camp Garcia area so that sample results can be reviewed in a more appropriate context.

2. A number of "small quantity generator" type of sites exist in the Camp Garcia area. Monitoring wells were not installed at many of these sites. Although soil data at these sites may not indicate existing sources of contamination, groundwater impacts could have occurred in the past. Given the number of these sites in Camp Garcia, the groundwater in this area should be assessed on a larger scale (i.e., as one site) as previously mentioned.

3. EPA suggests further discussion take place regarding the decision making process when determining if subsurface soil sampling is necessary. It is unclear in the discussions for some sites where surface soil sample results exceeded screening levels, yet no subsurface sampling is proposed (i.e., SWMU 12, AOC G).

4. The report should include discussion on the usability of the data collected at each site. This discussion should describe the implications of using qualified data, whether the qualification affected the conclusions of the investigation and provide an overall assessment of the quality of the data. This should be done for each individual site.

Specific Comments:

5. Figure ES-2 and Figure 1-4, PA/SI Evaluation Decision Tree: The last bubble in the flow chart reads, "Make a determination of whether an interim action can be implemented to achieve no further action or whether an expanded investigation is warranted." Please include a footnote to more clearly explain how this determination will be made, or provide a list of factors that would be considered when assessing the appropriateness of an interim action.

6. Section 1.1, Objectives and Decision Analysis of the PA/SI, Step 2, page 1-5: The first sentence of the second paragraph states, "[a] potential release is suspected if any inorganic constituents inconsistent with background concentrations are detected...." Please describe how any "inconsistencies" between site concentrations and background concentrations will be determined.

7. Section 1.1.1, Examples of Potentially Non-CERCLA-related Constituents, Pesticides and Herbicides, page 1-8: It is noted that Tables A-1 and A-2 in Appendix A provides a summary of the pesticides detected throughout the various sites. However, it would be useful to conduct a statistical evaluation on these data, similar to what was conducted on the background data, to clearly determine whether site samples are similar to UTL concentrations.

8. Section 1.1.1, Examples of Potentially Non-CERCLA-related Constituents, Dioxins, page 1-9: The third paragraph introduces ATSDR guidance associated with dioxins, and identifies 50 ppt as a concentration above which sample results would require further evaluation. EPA's approach to evaluating dioxins is to quantitatively assess these chemicals if necessary in the HHRA. Decisions to remediate also include consideration of the OSWER directive 9200.4-26, "Approach for Addressing Dioxin in Soil at CERCLA and RCRA Sites" (April 1998), which identifies concentrations of 1 ppb for remediation with residential considerations and 5 - 20 ppb for cleanups with exposures consistent with commercial/industrial scenarios. Inclusion of the ATSDR approach suggests that dioxin concentrations between 50 ppt - 1 ppb may require some type of evaluation beyond Superfund's process, and may suggest that dioxins pose a more significant impact at the site than they actually do. EPA recommends removing the language associated with the ATSDR guidance on dioxins here and elsewhere in the report.

9. Section 1.1.1, Examples of Potentially Non-CERCLA-related Constituents, Dioxins, pages 1-9 and 1-10: Please include a brief statement regarding how sites and/or sample locations were selected for dioxin analysis. Throughout the report, when referring to Dioxin TEQ calculations, refer to Table A-3, rather then this section. It would also be interesting to note whether there was a relationship observed between dioxin and herbicide concentrations. On page 1-10 it is noted that "unacceptable risks to upper trophic level receptors from exposure via the food web . . . are not evident . . . using the 'standard' food web model . . ." Please show these calculations and include the "standard" food web model.

10. Table A-3, Appendix A: Highlighted values are noted to be below PRGs (< PRG); usually highlighted values are those greater than guidance values. Please check to ensure that highlighted values do not actually reflect concentrations greater than PRGs (> PRG).

11. Table 1-1, Updated Human Health and Ecological Screening Values: Please note that the new value for pentachlorophenol is from April 2007, not 2005. Further, the zinc EPA ecological soil screening levels were updated in November of 2007. The value for protection of plant life is 160 ppm, rather than the 50 ppm utilized in this report. In addition, the soil invertebrate value has also changed from the 200 ppm referred to in this document to 120 ppm.

12. Section 2.1, Surface Soil Sampling, 12 Consent Order Sites PA/SI (2004), page 2-2: It is noted that surface soil samples were collected from the surface to approximately 0.7 ft bls (roughly the length of the hand auger bucket). However, it is unclear why this depth (8.4") was selected, as the recommended depth is usually 0-12" for ecological samples and 0-24" for human health purposes. The uncertainty associated with using data from different sampling depths should be discussed.

13. Section 2.1, Surface Soil Sampling, 8 PI/PAOC Sites PA/SI (2006), page 2-3: The first sentence in the last paragraph should indicate that "two of the four *surface* soil samples," rather than *subsurface* soil samples were collected from 0-2 ft bls.

14. Section 3.3, SWMU-1 Release Assessment Decision Analysis:

    a. Step 3, page 3-5: The text states that surface soils representing the top 2 feet were sampled. The text also states that the top 2 feet of soil was placed over the waste material once the disposal activities ended. This suggests that the available data do not likely characterize any impacts from site-related contamination. The site has been identified for additional sampling, including test pits and subsurface soil samples beneath the disposal area. EPA is concerned that including these surface soil data in the assessment will likely bias low any contaminant concentrations. Please confirm that the existing data, which are not likely to be impacted by potential site contamination, will be critically assessed before including in the data sets for the risk assessment.

    b. Step 6, first bullet, page 3-8: It is unclear how this first bullet, which describes the soil cover, supports the statement that the eight inorganics identified do not pose an ecological risk, as it is understood

that the soil samples represent the soil cover, rather than the landfill material.

c. Step 6, fourth bullet, page 3-9: As selenium is discussed in this paragraph, the last sentence should refer to selenium, rather than nickel.

15. Section 3.4, Conclusions and Recommendations, page 3-12: Flexibility should be allowed for the relocation of the proposed monitoring wells so that they are located in or adjacent to test pits that reveal waste materials or evidence of a release. The agencies should be consulted prior to determining final locations of wells.

16. Section 4.3, SWMU 2 Release Assessment Decision Analysis, Step 3, page 4-4: The last two sentences in this section are the same; please delete one of these sentences.

17. Section 4.4, Conclusions and Recommendations

    a. page 4-6: Given the nature and history of the site (i.e., large volumes of fuel stored and transferred, fuel discharges may have impacted the groundwater. Rather than relying on indirect evidence (i.e., soil data from a shallow soil column) to determine that no groundwater impacts exist, groundwater samples should be collected at the site. A minimum of one sample in each former tank footprint and one along the underground line is suggested. Initial screening with a direct push sampling methodology would be acceptable if conditions allow this approach.

    b. page 4-7: The bullet identifies how additional samples will be collected and presents the rationale for selecting the location. According to the first paragraph in Section 4.1.1, diesel fuel, unleaded gas, leaded gas, aviation gas, or JP5 fuel were reported to have been stored at this site. Should these be included in the analytical parameter list for the additional samples? Also, metals will be analyzed from the additional samples. How will the location of metals samples be determined?

18. Section 6.3, SWMU 5 Release Assessment Decision Analysis, Step 6, pages 6-4 and 6-5: The language in the second bullet states that although the concentrations of zinc are as high as 122 mg/kg and they exceed the background UTL of 32 mg/kg, the onsite concentrations, "may very well be representative of true background zinc concentrations." EPA strongly believes that if onsite concentrations exceed the background UTL, they should be acknowledged as such and treated as such, not simply

rationalized as likely to be consistent with background levels. If the Navy proceeds with this approach, then additional lines of evidence to support the 122 mg/kg as being part of the natural background should be discussed, such as the min and max of both the background and onsite zinc concentrations, and the type of distributions for both data sets. These types of descriptors would allow EPA to have a better understanding of the zinc concentrations.

19. Section 7.1.2, SWMU 6, page 7-1: During the June 2000 site visit it was noted that there a minimum amount of soil staining (approximately 4 square feet) off the edge of the concrete pad. Please indicate whether previously collected/or proposed samples encompassed this area.

20. Section 7.4, Conclusions and Recommendations, page 7-7: The additional sampling does not include VOCs in groundwater. The rationale for more investigation at SWMUs 6 and 7 includes the presence of VOCs in the surface soil. However, no groundwater data have been collected from these areas. The discussion should include why VOCs are not of concern in groundwater; otherwise, groundwater samples should be collected. In addition as previously stated, it may be helpful to include an overall groundwater discussion for all of the areas that are in proximity, such as the sites in the former Camp Garcia area.

21. Section 9.1.1, Site History and Potential Sources of Release, page 9-1: It is unclear from this discussion whether effluent from the polishing lagoons was discharged to the land (1988 and 1995 RFAs) or only to the sea (Current Conditions Report). Please clarify where effluent was discharged.

22. Section 9.2, Sampling Approach and Chemical Constituents Identified, page 9-2: It is recommended that samples be collected in the former discharge area to ensure that contaminants of concern are not present.

23. Section 9.3, SWMU 10 Release Assessment Decision Analysis, Step 3, page 9-5: The third paragraph of this section includes a citation to 8 ppt as a background dioxin concentration for soil in the US. Please note that this is not an appropriate comparison, as soils in Vieques are not likely to be consistent with typical soils in the US. EPA recommends that this reference be removed.

24. Table 10-2, SWMU 12 Decision Tree Summary: It can also be noted that zinc concentrations are less than soil invertebrate concentrations. However, as noted above, the revised zinc value for protection of the plant community is 160 ppm; therefore these zinc concentrations are all below the ecological screening value.

25. Section 14.4, Conclusions and Recommendations:

    a. page 14-9: The document recommends installation of a new well upgradient of MW-5 and another round of groundwater data from all wells. As previously stated, it may be appropriate to look at groundwater at adjacent sites. For PI-4, groundwater data from sites at the former Camp Garcia area, as well as from SWMU-10 and AOC-G should be included to determine groundwater quality in the area identify potential influences.

    b. page 14-10: The discussion in the Decision Analysis section indicates that if concentrations of VOCs are generally consistent with the concentrations detected in the 2006 round of sampling, no further action would be proposed for groundwater. Generally "no further action" requests are not granted when concentrations exceed MCLs; groundwater may need to be monitored.

26. Section 15.3, Release Assessment Decision Analysis, Southern subsection (former tar drum disposal area), Step 6, page 15-10: Please do not compare maximum concentrations to twice background for ecological risk purposes. Using the mean copper concentrations, there appears to be a potential ecological risk associated with copper concentrations in this area.

27. Section 15.4, Conclusions and Recommendations, page 15-14: The document states that the drums will be removed from this area and "[i]f, during the removal of the drums, there is evidence of a release (i.e., visual or PID), the visually contaminated soil will be removed and confirmatory soil sample(s) will be collected beneath the area of soil removal. Assuming no evidence of a release is observed during drum removal, it is recommended that a NFA decision document then be prepared..." Regardless of the presence or absence of visually stained soil or PID readings at surface, EPA recommends collecting soil samples from beneath the drum area both at surface and at depth to verify that there is no impact.

28. Section 18.4, Conclusions and Recommendations, page 18-9: EPA recommends collecting subsurface soil samples concurrent with surface soil samples to ensure vertical delineation of any potential pesticide release. Also, EPA recommends installing monitoring wells to determine if there is any impact to groundwater. At a minimum, one or two wells should be installed at the site and/or downgradient of the site, and one well should be installed upgradient of the site. Additionally, all of the wells in the former Camp Garcia area should be evaluated together to determine any area-wide concerns.

29. Section 20, PAOC S – Former POL Pipeline and Power Plant: EPA recommends groundwater sampling along the underground POL pipeline to determine any potential impacts to groundwater.

30. Section 20.2, Sampling Approach and Chemical Constituents Identified, page 20-3: It is noted that surface soil samples collected in association with the pipeline were only analyzed for VOCs and SVOCs. It is unclear why sampling did not include inorganics, which have been noted to be associated with petroleum hydrocarbons (Section 19.3, PAOC N Release Assessment Decision Analysis, Step 3, page 19-3 and Section 4.3, SWMU2 Release Assessment Decision Analysis, Step 3, page 4-4). Further, it was recommended by the Subcommittee that all areas undergo a complete TCL and TAL analysis. Two additional surface soil samples (0 to 2 feet) were appropriately collected in the depositional area downgradient of the pipeline where the land crabs were collected. This analysis (inorganics) would have been useful to determine any possible correlation between contaminants identified during the land and fiddler crab study (NOAA).