

July 27, 2007

NAVFAC MIDLANT
9742 Maryland Ave
Norfolk Va 23511-3095
Attn: Kirk Stevens
Code EV4, bldg N-26
rm 3208

re: Draft OU2 Additional Investigation Quality Assurance Project Plan, Portsmouth Naval Shipyard, Kittery, Maine, May 2007

Dear Kirk:

The Maine Department of Environmental Protection has reviewed the document referenced above. The Department's comments follow.

General Comments

1. Overall, the proposed investigation is acceptable to meet the objectives outlined in the QAPP. These data in addition to the existing dataset should provide a sufficient basis to evaluate remedial options for the site. The success of some aspects of the program will rely on the field decisions made during the investigation, which will determine where additional samples are taken, and where borings are extended below six feet, for example. The proposed sampling of the new and existing wells is a welcome addition to the plan, due to the limited nature of groundwater data for the site. The short timeframe for the sampling will provide a measure of short-term variability but will not indicate if there are seasonal or other trends in the groundwater chemistry.
2. The MEDEP strongly disagrees with the premise that lead concentrations below 10,000 mg/kg are "moderate". The MEDEP considers lead concentrations greater than 700 mg/kg to be unacceptable for all receptors. Please clarify the reasoning behind the 10,000 ppm delineation between "high" and "moderate". There are many locations at the DRMO with lead concentrations between 700 and 10,000 and the MEDEP expects the Navy to fully address this contamination. However, this disagreement will primarily affect remedy selection and should not interfere with successfully completing the additional soil investigation.

3. Building 298 and Building 310 both overlie areas of waste and fill, based on boring logs and historical information. They will represent areas of the site requiring institutional controls when the remedial options are considered for the site.
4. If historic chemical data are presented as supporting information they should also be provided in a database or spreadsheet format rather than as a PDF, if the data have not been previously submitted in that format.
5. MEDEP requests that Navy provide a 14 day notice prior to the start of this activity, so that the State may observe the field investigation if schedules permit.

Specific Comments

6. 1.4.3.1 Soil, p. 1-14: "...the extent of high lead...greater than approximately 10,000...will define the extent of higher (source area) contamination..."

Please explain why the Navy believes that concentrations of lead in the thousands of ppm, but less than 10,000 ppm, are not "source area" contamination. Nevertheless, any contamination at OU2 greater than acceptable levels, regardless of the activity that caused the contamination, must be addressed as part of the OU2 remediation.

7. 1.4.3.1 Soil, p. 1-14: Are there enough dioxin/furan data available to sufficiently evaluate its remediation in the revised FS?
8. 1.4.3.2 Groundwater, p. 1-16: In the last paragraph, the listed concentrations of copper, lead and nickel are an order of magnitude higher than the listed surface water quality criteria, not within the same order of magnitude. This should be corrected.
9. 1.4.4 Summary of Risks and Appendix A.3 p. 5 and Figure 1-4: The conclusion that further testing of the DRMO Impact Area is not warranted and that the area overall should not be included in the FS is acceptable if the recommendation to investigate areas north of the fence line are implemented. The report indicates the areas near SS-27 and SS-19 are examples of such areas of consideration. The proposed investigation does include areas northwest of the DRMO and north of Site 29, but does not include any further evaluation of the "triangle" in the fence line north of the DRMO. This area's proximity to the DRMO suggests inclusion in the upcoming investigation is warranted (at least for a field screening) though the data for SS-19 is not indicative of DRMO source concentrations. The estimated 10 foot buffer around the fence line seems narrow for areas where elevated lead, PCBs or other contaminants are found in borings at the fence line. New data from this investigation or some physical feature such as steep terrain or other boundary that would prevent distribution of site contaminants may support this proposal.
10. 1.5.1 Sources and Release Mechanisms, p. 1-19, 1st bullet: "PAHs are considered secondary contaminants associated with this source because anthropogenic sources of PAHs likely contributed..."

We agree that PAHs are secondary contaminants but not because of anthropogenic sources. Nearly all the contaminants at this site are of anthropogenic origin.

11. 1.5.1, p. 1-20: "Historical use of railroads and current and historical use of roads likely contributed..."

The rail and road access were integral to the operation of the DRMO and the incinerator and waste disposal, and any contribution from them is also related to the site activity. MEDEP is uncertain how Navy would demonstrate what portion of that contribution is related to other activities.

12. 1.5.2, p. 1-21: This section should briefly discuss potential ecological risk from exposure to surface water.

13. 1.6.1, p. 1-22: "...dioxins/furans are not considered primary or secondary contaminants for determining remediation areas."

Please clarify this statement as the November 2000 Revised HHRA indicated that dioxins/furans are one of the primary contributors to the carcinogenic risks at Site 29.

14. 1.6.1, p. 1-23: The last sentence in the first paragraph appears to be missing some text.

15. 1.6.1, p. 1-24: In the first full paragraph please clarify the phrase "less larger size rocks".

16. Figure 1-5: Footnote 2 states, "...direct contact with surface soil by receptors other than the construction worker or erosion are future concerns..." However, this footnote has been applied to the construction worker under the Direct Contact with Surface Soil scenario. The figure should be changed to reflect the fact that Footnote 2 does not apply to the construction worker.

17. Figure 1-6: This figure should indicate complete and incomplete exposure pathways as was shown in Fig. 1-5. For instance, since there is very little sediment at OU2 there would be an incomplete pathway to potential receptors. However, until we have more information regarding migration of particulates, there is a potential complete pathway from surface water to potential receptors.

18. 2.2, p. 2-2: "Observation of the shoreline will be conducted as part of general field activities." Please describe what sort of field activities will include observation of the shoreline. This activity should be a component of post-remedial OM&M.

19. 2.2.1, p. 2-2: "Site-related source areas are characterized by high concentrations of lead (greater than approximately 10,000 mg/kg)...Non-source areas have lead concentrations generally less than 400 to 1,000 mg/kg..."

Does the Navy consider concentrations from 1,000 - 10,000 mg/kg source or non-source? Also, see Comment 6.

20. 2.4, p. 2-7: In the last paragraph please complete the fourth sentence (method type).
21. 2.4, p. 2-8: "Sampling under permanent structures and buildings is not within the scope of the sampling activities."

See Comment 3.

22. 2.4, p. 2-9, 1st bullet: "Sampling will not be conducted within the capped area because the entire area appears to be unacceptably contaminated and sufficient data are available to characterize the area."

The majority of the data for the capped area, except the shoreline, are all from the 1984 Field Confirmation Study. Work plans and reports were not as rigorous then as they are now, e.g. no specific analytical method or SOPs are provided, so it is unclear how reliable the data from the FCS are. However, given that concentrations detected in the 1984 FCS are in the tens of thousands of ppm, it is unlikely that any flaws in the data would impact remedial decisions for that area. Nevertheless, unless the Navy has already decided to excavate all the contaminated soil under the cap to some reasonable depth, it may be necessary to collect more soil data from that area as part of a remedial design if not done as part of this investigation.

23. 2.4, Study Boundaries for Groundwater Decision Statement, p.2-9: Bullet 1 – The proposal indicates that the wells do not need to be sampled within the same tidal cycle and this is a reasonable statement. MEDEP agrees that overall conditions are not likely to change over a period of days, unless groundwater is affected by precipitation events or other fluctuations. The collection of three rounds of groundwater data would provide more representative groundwater data if the sampling rounds are spread over the course of a year, possibly Spring-Summer-Fall. The groundwater data from Rounds 7 to 10 indicate values for lead varied by up to 2 orders of magnitude for some wells over the four rounds.

24. 2.5 Decision Rules for Soil, p. 2-13:

- Bullet 4 – For surface soil locations with PCB >1 and <10 mg/kg, sufficient data must be collected in nearby borings or at those locations to determine the vertical extent of impacted soil. Extending the boring below the surface soil interval will also be important in areas where recent activity such as grading or other reworking of the ground surface may have covered impacted soils.
- Bullet 5 – MEDEP agrees extending select borings to depths greater than 6 feet is warranted, based on the presence of elevated lead in borings at depths below 10 feet in previous investigations. What criteria will be used to choose these locations?

25. 2.5, Decision Rules for Groundwater, p. 2-15: The temporal mean of the groundwater data may not be the best value to consider, depending upon the data distribution. Given the limited dataset, the maximum value would be more conservative.

26. 2.6, Sampling Design and Rationale, p. 2-16, Bullet 3 of section: "...samples will be collected at 2-foot intervals."

Earlier data show that some locations have lead only in the top 6", or only in the 6-12" interval or only in the 1-2' interval. If contamination is found only in the top 6 inches then collecting it with an additional 18" of soil could cause unacceptable dilution of the contamination potentially resulting in concentrations that appear to be acceptable (a false negative). Therefore, surface soil should be sampled at 6" intervals in the first foot and from 1'-2' in the second foot. 2' intervals are acceptable below that.

27. 2.6, Sampling Design and Rationale, p. 2-16, Bullet 4 of section: How will the grid locations be laid out in the field prior to sampling?

28. 2.6, Sampling Design and Rationale, p. 2-16, Bullet 5 of section: What criteria will be used to select locations with total PCBs less than 10 mg/kg in the surface soil?

29. 2.6, Bullet 2, p. 2-17 and Section 4.4.2 Monitoring Well Sampling, para. 2: MEDEP accepts the proposed use of the water level at the start of sampling for the "static" level recorded for the sample round, based on the data from other near-shore wells at the site. MEDEP assumes that if the well conditions are different than predicted the Navy will adjust the water level procedures as needed.

30. 2.6, Groundwater Sampling and Table 2-1 Groundwater: Completing the three rounds of groundwater sampling over the course of several days will provide a representative snapshot of groundwater concentrations, and will support evaluation of short-term concentration variability. It will not be particularly representative of any seasonal or longer term variation in site groundwater concentrations.

31. Table 2-1, p. 5 of 6, footnote 3: "Lead concentrations greater than 1,000 mg/kg may be present because of general industrial activities in the area and may not be related to impacts from site-related activities."

MEDEP disagrees with this statement. General industrial activities are reflected in background concentrations of contaminants at the Shipyard, which range from 9.5-1100 mg/kg. As indicated previously, we consider lead concentrations > 1,000 mg/kg to be unacceptably high.

32. 4.1, p. 4-1: If any location needs to be changed by 10 feet or more the Navy should attempt to consult with MEDEP by phone prior to the change if an immediate decision is required. Otherwise, such changes may affect regulator concurrence with investigation conclusions. Of course, the Supplemental RI report should include a figure indicating where locations have been moved or eliminated.

33. 2.4, 2.6, 4.2.1 and Table 4-3 : There must be sufficient data outside the waste disposal area and the capped area to define vertical distribution of contaminants. Grids near Buildings 298 and 310, as well as grids west of the capped area of the DRMO are candidates for extending borings beyond 6 feet bgs, as past explorations have found waste materials, fill or elevated concentrations of site contaminants at depths well over 6 feet bgs and up to 40 feet bgs in the dump area near the seawall.

34. 4.2.1, PCB evaluation, p. 4-3: For locations with surface concentrations between 1 and 10 ppm, how will the depth of contamination be estimated without some data from this investigation? Choosing a few of the locations with concentrations in this range for analysis of subsurface samples is warranted. This may be particularly useful in areas where recent activity may have reworked the shallow soils subsequent to activities at OU2. For the locations with surface non-detect PCB results chosen for subsurface analyses and at additional locations described in Bullet 3 on this page, will the subsurface samples be collected at 2-foot intervals to 6 feet? Additional data from the vicinity of DSB-05, where total PCBs exceeded 10 mg/kg at 5-7 feet bgs but data was not collected at the surface, would be a logical choice for profiling the full vertical extent of PCBs.

In addition, has the Navy considered using a mobile lab onsite for PCB analysis? Depending on the number of PCB samples that are to be collected a mobile lab may prove to be cheaper, and certainly more accurate, than field analysis.

35. 4.2.1 p. 4-3 Bullet 5 and Figure 4-1: Please highlight or use a different color for the borings at DSB-07, the sample plan is distinct here relative to the other soil borings at OU2.

36. 4.2.1, p. 4-4, Bullet 2: Why will the Navy advance borings to 10 ft bgs or refusal only if an increasing trend is accompanied by an increase in the fraction of fine-grained material? If the concentration is increasing above acceptable levels the Navy must determine the vertical limit regardless of grain-size.

37. 4.2.3 and Table 4-3 – Test Pit samples: The test pit samples will be separated based on field sieving for analysis, and the sample from 2 to 6 feet (or refusal) is to be a composite. Will a bulk sample be composited and then sieved, or will several portions be sieved and then a composite sample be taken from the sieved materials?

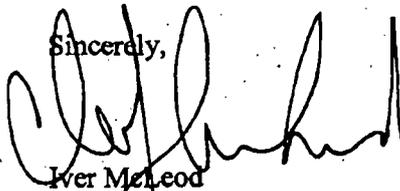
38. 4.15, p. 4-27: How many borings will be selected for surveying? There should be enough data so that all new sampling locations can be accurately located on a map. Also, please submit an electronic version of the survey data table in Excel spreadsheet or similar format for upload to MEDEP's GIS system.

39. 5.0: MEDEP generally requires that laboratories are NELAP certified where possible, the Navy NFESC certification may meet the same requirements. The Navy should provide the laboratory MDL/PQLs and the acceptance criteria for MS/MSD, LCS/LCSD and other quality control measures for final approval of this document.

40. 6.1.4, p. 6-2: Please submit the field and laboratory data to MEDEP in the version 4 electronic data deliverable format, information and appropriate codes are updated and available online at www.maine.gov/dep/rwm/egad/.
41. Appendix A.1 p.5 Building 298 description and Figure 1-2: If the trench excavated for utilities at the building is considered a significant feature it should be located on at least one of the figures. If the trench was in the surficial material and no sampling was conducted in the base of the trench, it is possible there is additional waste below the clean fill brought in for the trench.
42. Appendix B: The appendix should include a cover sheet with a sequence list of SOPs included (or a reference to Table 4-1) and would be more useful if it had colored insert pages or some other breaks between the SOPs.

Please feel free to contact me at (207) 287-8010 if you have any questions.

Sincerely,



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