



MARYLAND DEPARTMENT OF THE ENVIRONMENT  
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August 29, 1996

Mr. Shawn Jorgensen  
Naval Surface Warfare Center  
Indian Head Division  
ATTN.: Code 046, Building D-327  
101 Strauss Avenue  
Indian Head MD 20640-5035

RE: Draft Project-Specific Remedial Investigation Work Plan for Installation Restoration Program,  
Indian Head Division, Naval Surface Warfare Center, July 1996.

Dear Mr. Jorgensen:

Enclosed is the Maryland Department of the Environment, Waste Management Administration's comments on the above referenced document.

If you have any questions, please contact me at (410) 631-3440.

Sincerely,

Donna A. Lynch  
Remedial Project Manager  
Federal/NPL Superfund Division

Enclosure

cc: Mr. Dennis Orenshaw, U.S. EPA  
Mr. Shawn Phillips, EFACHES  
Mr. Richard Collins  
Mr. Robert DeMarco  
Ms. Hilary Miller

**MARYLAND DEPARTMENT OF THE ENVIRONMENT  
WASTE MANAGEMENT ADMINISTRATION**

Comments on

Draft Project-Specific Remedial Investigation Work Plan for Installation Restoration Program, Indian Head Division, Naval Surface Warfare Center, Brown and Root Environmental, July 1996

**GENERAL COMMENTS**

1. In light of the many years of industrial activity at this facility, the initial round of environmental samples collected at each Installation Restoration (IR) site scheduled for Remedial Investigation work should be analyzed for a complete target compound list (TCL) and target analyte list (TAL) scan. In addition, site-specific analytes, including explosives and their associated degradation products, will need to be included on the list of analytical parameters at appropriately selected sites.
2. Many sections of this Work Plan reference background levels when discussing previous sampling results for inorganics. The Phase 2 Site Inspection Report (May 1993) used average values or ranges of analytes from either the Eastern or Conterminous United States as background data. For the Remedial Investigation work, background or reference samples should be taken that will accurately reflect the background levels of analytes in the vicinity of the Naval Surface Warfare Center at Indian Head.

**SPECIFIC COMMENTS**

1. Page 1-1, Section 1.1. Please indicate the National Priorities List (NPL) status of the Indian Head facility in this section.
2. Page 1-2, Figure 1-1. Please clarify that while the Stump Neck Annex is a part of the Indian Head Division, its environmental concerns are being addressed by Resource Conservation and Recovery Act (RCRA) Corrective Action.
3. Page 1-3, Section 1.3. Please clarify that the Initial Assessment Study and the Preliminary Assessment included sites located on the Stump Neck peninsula. Additionally, please clarify the status of these sites.
4. Page 1-12, Table 1-2. Please note that there are discrepancies between the site numbers and the work plan section numbers in this Table.
5. Page 1-10, Figure 1-2. Please add Site 12 and the two letter symbols to the legend on this Figure.
6. Page 3-1, Section 2.1, 3rd pp., last sentence. According to the RCRA Facility Assessment (February 1989), disposal of arsenic wastes occurred at Site 12.

7. Page 3-1. There is a flat, treeless area just north of the suspected landfill boundary. Is there any evidence that this area might be a part of the Site 12 landfill? Are aerial photos available to investigate this possibility?
8. Page 3-5, 2nd pp., last sentence and Figure 3-2. No analytical results are indicated on the Figure as this sentence states. Please correct the text or the figure.
9. Page 3-5, 4th pp., 6th sentence. Is there data to support this statement or is this a hypothesis based on the mercury concentrations in fish data?
10. Page 3-5, 4th pp., 7th sentence. Define significant degree. What criteria were used to evaluate bioaccumulation? What biota were sampled?
11. Page 3-14, Table 3-2. Under the Preliminary Risk Evaluation column, please indicate which metals are known (based on data) not to be bioaccumulating.
12. Page 3-16, Table 3-4. This Table indicates that the samples will be analyzed for a full TAL and TCL scan, but it does not include nitrate esters as Table 3-3 does. Please clarify this discrepancy.
13. Page 3-11, 1st pp., 1st sentence. Table 3-3 indicates that nitrate esters will be analyzed for at this Site but this sentence does not include this information. Please clarify this discrepancy.
14. Page 3-21, Figure 3-3. Please explain the rationale for installing temporary monitoring wells in the landfill. Boring into the landfill may create a pathway for contaminants to migrate.
15. Page 3-17, Table 3-5. For the soil samples collected at this Site, the sample depth indicated in this Table is 0-3 feet. In Table 3-3, the sample depth for surface soil samples is 0-12 inches deep. Please clarify this discrepancy.
16. Page 3-17, Table 3-5. Please clarify why only some of the soil and sediment samples will be analyzed for nitrate esters.
17. Page 4-5, 1st pp., 3rd sentence. Please clarify which EPA screening levels were used.
18. Page 4-5, 2nd pp., 1st sentence. Please discuss the Site 40 results.
19. Page 4-5, 2nd pp., last sentence. Please add nitrocellulose to the list of possible contaminants.
20. Page 4-11, Section 4.3. Should recreational users and Station personnel who sample the outfalls be considered under the Human Health Risk at this Site?
21. Page 4-18, Table 4-6. Sample #RI39SS07 does not appear to be located downstream of Site 39. Please indicate whether this sample is correctly located on Figure 4-3.

22. Page 4-16, Table 4-4. This Table indicates that one sediment sample will be located upstream of Site 41, but no upstream samples are indicated on Figure 4-3. Please clarify.
23. Page 5-5, 3rd pp. Gas chromatography should have separated the volatile organic compounds prior to detection by the flame ionization detection. Other than possible coeluters, the volatile organic compounds should be reported by species, rather than as a total.
24. Page 5-13, Section 5.3, 4th pp., 1st sentence. Please cite the reference on which the information is based.
25. Page 5-13, last sentence. Station personnel should be considered as current workers rather than future receptors.
26. Page 5-16, Table 5-2. Under the Preliminary Risk Evaluation for groundwater, it is implied that contamination may affect wells. Please provide additional information regarding this determination.
27. Page 5-25, 1st bullet. The number of surface soil samples to be collected, as discussed in this section, contradicts the number of soil samples reported in Table 5-6. Please clarify this discrepancy.
28. Page 5-15, 1st bullet and last bullet. These two statements are contradictory. Please verify whether or not subsurface soil samples will be collected. Figure 5-2A shows results from previous soil borings. These data indicate considerable metal and pesticide contamination in the subsurface soils.
29. Page 6-21, Figure 6-3 and page 6-19, Table 6-6. There are discrepancies between sample identification numbers and their corresponding monitoring wells. Please clarify these discrepancies.
30. Page 7-1, Section 7.1, 3rd pp., 4th sentence. Please indicate whether any media have been sampled at the drainage ditch where acetone was reportedly disposed of between the late 1950s and 1989.
31. Page 7-3, 1st pp. When evaluating the soils data, it would be better to use both the EPA Region III Risk Based Concentration (RBC) screening levels for transfer from soil to groundwater and the RBC screening levels for industrial land use.
32. Page 7-13, Table 7-3. Please explain the rationale for collecting one groundwater sample. One groundwater sample is not adequate to assess groundwater contamination at this Site.
33. Page 8-12, Section 8.4, 4th sentence. Please clarify the assumption that contamination to the watershed is negligible. Is it known whether or not groundwater from this area supplies water to the marshy area just south of Site 45?

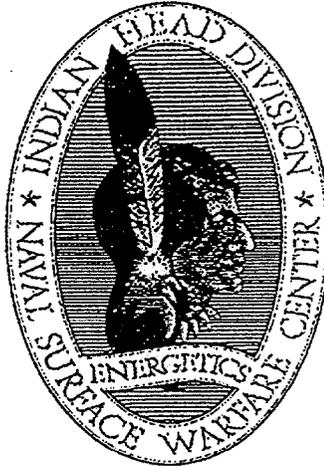
34. Page 8-15, Table 8-3. The Phase 2 Site Inspection (May 1993) recommended additional groundwater monitoring wells at this Site. Please clarify why the Navy is not recommending additional wells.
35. Page 9-2, 6th pp. Did this evaluation include comparison to the RBC soil screening levels transfer from soil to groundwater in addition to the soil ingestion - industrial screening levels?
36. Page 9-10, 1st pp., 1st sentence. Please provide the evidence for perched groundwater conditions at this Site.
37. Page 9-12, Table 9-3. See comment #32.
38. Page 9-15, Table 9-4. Due to the undetermined nature of the contents of the abandoned drums, wouldn't it be appropriate to analyze for a full TAL and TCL scan?
39. Page 9-10, Section 9.5, 3rd bullet. According to the scale on Figure 9-1, a marshy area exists approximately 50 feet to the south. Surface water sampling should be considered for this area.
40. Page 10-10, 4th bullet. The statement "there is no indication that groundwater needs to be evaluated based on previous sampling" is unsubstantiated because groundwater has never been sampled or assessed at Site 46.
41. Page 10-11, Table 10-2. The Phase 2 Site Inspection (May 1993) recommended additional sampling of surface and subsurface soils to analyze for lead and cadmium. This Work Plan does not propose any further sampling at this Site. Please justify this discrepancy.
42. Page 11-5, 5th pp. According to the Phase 2 Site Inspection (May 1993), soil "probings" completed to an eight foot depth did not find any evidence of the former limestone pit. As stated on page 11-1, last sentence in Section 11.1, the concrete pad may cover the limestone pit. It may be necessary to take soil samples underneath of the concrete pad.
43. Page 11-10, Section 11.5, 1st bullet. The disposal pit has been described as being 4 x 6 feet in area. Is there any information on the depth of this pit? Although soil "probings" went down to a depth of eight feet, no soil samples over one foot deep were analyzed for contamination. If historically the pit was known to be deeper than one foot, the Navy should consider taking subsurface samples.
44. Page 11-10, Section 11.5, 3rd bullet. A stream flows next to Site 47 and eventually drains into Mattawoman Creek. It should be sampled for contamination.
45. Page 11-11, Table 11-2. The Region III RBC screening levels for transfer from soil to groundwater should be included in your evaluation.
46. Page 11-14, Table 11-4. See comment #32.

47. Page 12-8, Section 12.6. The Maryland Department of the Environment does not agree that this site needs no further action. Further investigation at this site should be based on an analysis of aerial photographs of the area and possibly geophysical techniques to determine if further sampling is warranted.
48. Page 13-1, Section 13.1. Is it known if there are any cracks or fractures in the concrete pit? Was the equipment used (cage, metal plate, and glassware) left in the pit?
49. Page 13-7, Figure 13-2. Please clarify the location of sediment sample 49DS01.
50. Page 13-7, Figure 13-3. Please mark on this Figure the locations of the proposed soil samples.
51. Page 13-9, Section 13.4. Please clarify where the sewer system outfalls and provide a drawing showing the interconnecting sewer system.
52. Page 13-10, Section 13.5. The proposed sampling at Site 49 needs clarification. It is not clear why surface soils are to be sampled but not subsurface soils. Please explain.
53. Page 13-10, Section 13.5, last sentence. Nitrate esters were detected in samples collected during the Site Investigation work. Nitrate esters should be added to the analysis protocol for the proposed Remedial Investigation work at this site.
54. Page 14-5, Section 14.2, 4th pp., last sentence. Subpart S screening levels are not appropriate here.
55. Page 14-9, 2nd pp. Soil evaluation should also consider Region III RBC soil screening levels-transfer from soil to groundwater.
56. Page 14-7, Figure 14-2. In fact, the highest concentration of mercury was detected in a soil sample collected from the northern section of the building, north of the sink drainage area. Can the Navy explain this?
57. Page 14-9, Section 14.4. Although Site 50 is associated with Building 103, it is known that drain pipes discharged directly to the soil beneath Building 103 (Site Inspection, May 1993). Therefore, it may be necessary to address ecological risks at this Site.
58. Page 14-10, Section 14.5, 2nd bullet, 1st sentence. Please clarify the locations where sediment samples were collected inside the building.
59. Page 14-10, 1st bullet. Historical information indicates that the sink in Building 103 has been draining to the soils beneath the building since 1902. MDE suggests that the Navy consider taking subsurface soil samples at this location.

60. Page 14-10, Section 14.5, last pp., 2nd sentence. Trichloroethylene (TCE) was detected in soil sample 50SS05 at 10 mg/kg, according to information provided on page 14-5. The Navy should consider analyzing for volatile organic compounds (VOC) in the soil samples collected during this effort.
61. Page 15-1, Section 15.1. A diagram of the sewage system should be included with this report.
62. Page 15-9, 1st pp., 2nd sentence. Contract Laboratory Procedure (CLP) quality level data should be collected for use in the risk assessment work, with appropriate quantitation limits.
63. Page 15-10, Section 15.4, 2nd sentence. This sentence contradicts information given in the background section which indicates that a visual survey of the sewer lines indicated that the lines were broken and cracked. Therefore, it is possible that groundwater contamination could have occurred as well as soil contamination. An ecological risk of the Mattawoman Creek, where this water drains, is needed.
64. Page 15-11, 1st sentence. According to information in the background section, a video survey of the sewer lines in the laboratory area was conducted in 1988. Please explain the rationale for conducting another video survey of these sewer lines.
65. Page 15-11, 1st bullet. Arsenic was detected above RBC levels in one soil boring. Additionally, the rest of the soil borings were only analyzed for mercury. It is known that solvents and explosives are also used in this lab area (Phase 2 Site Inspection, May 1993) and the sewer pipes are known to be in bad disrepair. Subsurface sampling near these sewer lines should be planned.
66. Page 15-11, 1st bullet. It is known that the sewer pipes are broken and cracked, therefore, it is possible that contaminants could have migrated to the soil and groundwater.
67. Page 15-11, 2nd bullet. Some nitrate esters were also detected above RBC levels in the sediment samples according to information in the third paragraph on page 15-9.
68. Page 15-11, 1st pp. after last bullet, 1st sentence. Due to the nature of work in the vicinity of Site 53 and based on past data, nitrate esters should also be included in the proposed analytical suite.
69. Page 15-13, Table 15-3. See comment #32.
70. Page 16-6, Sections 16.4 and 16.5. Is it possible that the contaminants could migrate from the building to the sewer system (Site 53)? If possible, additional sampling may be needed.
71. Page 16-10, Table 16-2. Please clarify the term 'concentration samples' that is found in the column titled "concrete floor media samples" in this Table.
72. Page 16-11, Table 16-3. In the 'concrete floor' section of this Table, it is stated that cores of concrete and the soil underneath will be sampled. On page 16-9 under the 'Investigative Scoping' section, no soil sampling is proposed for this site. Please clarify this discrepancy.

73. Page 16-12, Table 16-4, under 'sample media - soil'. Please explain the rationale for the proposed soil sampling locations. Based on the Phase 2 Site Inspection data (May 1993), the 'hot spot' area appears to be near the southern corner of the window air conditioning unit, near where concrete sample 54C002 was collected.
74. Page 17-9, 1st pp., last sentence. Please verify whether mercury was detected in sample 55B004.
75. Page 17-10, Section 17.5, last pp., 1st sentence. Please list the polycyclic aromatic hydrocarbon (PAH) sampling results.
76. Page 17-11, Table 17-2. See comment #71.
77. Page 17-12, Table 17-3. This Table indicates that soils will be sampled but the 'Investigative Scoping' section on page 17-10 proposes no soil sampling. Please clarify this discrepancy.
78. Page 17-14, continuation of Table 17-4. Please verify where sample 55C003, which was collected during the Phase 2 Site Investigation (May 1993), was located.
79. Page 18-9, 1st pp., 1st sentence. Should lead and mercury also be preliminary contaminants of concern (COC)?
80. Page 18-9, Section 18.4. MDE believes that the Site 56 data should be used quantitatively during the watershed evaluation, not qualitatively. MDE also believes the presence of lead in the stream waters is significant, especially if the NPDES limit was exceeded and, therefore, should be evaluated in the ecological risk assessment. Additionally, the ecological risk assessment conducted for the pond should include a full scan for TCL and TAL, as well as site-specific contaminants.
81. Page 18-5, Section 18.2. This section, entitled 'Previous Environmental Investigations', should include the results of Site 8 sampling as well as the biomonitoring results.
82. Page 18-10, 3rd bullet. The drain line is a potential source to groundwater. Therefore, groundwater needs to be evaluated for possible contamination.
83. Appendix A, page 1-3; page 2-4, Table 2-1; and Appendix B, page 2-1, Section 2.0. The area code number for the Indian Head contact person is incorrect.
84. Appendix A, page 3-1, Section 3.1. This section describes the history of the Stump Neck Annex portion of Indian Head and hardly mentions the main peninsula on which all of the Installation Restoration (IR) sites are located.
85. Appendix A, page 7-1. While sampling the IR sites where mercury contamination is known, particularly Sites 53, 54, and 55, air monitoring should be conducted to protect the workers.
86. Appendix B. MDE's copy of this Appendix appears to be missing Section 3.0 and Attachment 1.

87. Appendix B, page 1-3, Table 1-1. Please add the explosives and their detection limits to this Table.
88. Appendix B, page 1-3, Table 1-1. Many of the contract required detection limits for both aqueous and solid samples have higher values than the screening levels that the Navy proposes to use in the Remedial Investigation work. Detection levels need to be selected so that the data are appropriate for the risk assessment work.



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TOTAL PAGES: 10 (Including Cover Sheet)

Comments:

Donna's comments on the RE Work Plan - FYI.

Shawn

P.S. Phillips told me he would send you a copy,  
perhaps has been too busy! ?!