



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION III
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

April 10, 2000

Mr. Walter Legg
Engineering Field Activity Chesapeake
Washington Navy Yard, Building 212
1314 Harwood Street, S.E.
Washington, DC 20374-5018

Re: Review of Draft Site Screening Report for Area of Concern 2 for the Former Naval Surface Warfare Center

Dear Mr. Legg:

The United States Environmental Protection Agency Region III has reviewed the above report and has the following comments:

GENERAL COMMENTS

1. The Site Screening Report contains many editorial errors. Taken together, these errors significantly impact the readability and clarity of the report. While too numerous to list individually, editorial errors include referencing the wrong appendix or figure, incomplete tables, and figures that do not delineate all of the sample locations. A thorough QA review of the document should be performed to address this concern.
2. A study was conducted on Paint Branch to determine the contamination present from outfalls, tributaries, and source areas. It is unclear why a study or screening was not performed on Isherwood Road Stream since numerous outfalls to Isherwood Road Stream are cited in this report. Isherwood Road Stream is a Paint Branch tributary, but the direct effects on Isherwood Road Stream have not been addressed. The appropriate analysis should be undertaken.
3. Numerous sites are located within the 300 Area of NSWC White Oak and overlain by IRP Site 9. However, the report states that these results will be incorporated into the *RCRA Facility Investigation for Sites 2, 3, 4, 7, 8, 9, and Paint Branch*. The RFI, dated September 1999, does not reference this Screening Report. The actions taken during the Site Screening directly influence the RFI findings, so it is unclear why the RFI overlooked this Site Screening. This omission should be addressed in either the Site Screening Report or the revised *RFI for Sites 2, 3, 4, 7, 8, 9, and Paint Branch*.

4. Throughout the document identification numbers are provided for the subsurface soil samples. An inconsistency arises because both SU and SB are used throughout the text to identify subsurface soil samples. The text and applicable figures should be revised to contain the same abbreviations.
5. Previous reports for the NSWC White Oak have advocated "housekeeping measures." The "housekeeping measure" stated in the *EE/CA for Site 4 and Site 33* involved the removal action for a plating shop equalization tank. Since numerous sites investigated during this SSR contain tanks, it is unclear why "housekeeping measures" are not recommended. These measures should be incorporated where appropriate under the Recommended Actions for sites where tanks, outfalls, sheds, etc. exist.
6. The phrase "unnamed stream" appears frequently throughout the document. Most of the streams referenced have proper names. The correct stream names should be used throughout the entire document to ensure proper identification.
7. The Background sections for each individual site are inconsistent. In addition to a site description, the surroundings, closure date, dates of operation, waste components, and contaminant sources should be included in the text.
8. Certain references are provided in the text to features at the sites. Particularly, parking areas and drainage swales or ditches, are mentioned in the text, but eliminated from the figures. All referenced features should be labeled properly on the applicable figures. The figures should be modified accordingly.
9. The complete sample identification numbers should be used throughout the document. Currently, assumptions are required to determine the sample under discussion. To eliminate these assumptions, the correct ID numbers should be added to the text.
10. Throughout the document the analyzed parameters for groundwater are stated in the text. Discrepancies arise within the document and within individual sections. It is unclear if ammonium perchlorate was the analyte of concern or if the analytes of concern were ammonia and perchlorate. This should be clarified in the text.
11. Since many sites contained within this report are located in proximity to or overlain by other sites, the possibility of contaminant migration should be discussed. The site specific conclusion or an additional subsection should contain this information. The conclusion should list the source for all contaminants, and if the source is not site related, an appropriate discussion of migration possibilities should be added. The text should be modified accordingly.
12. In the work plan all subsurface soil borings are stated to be collected to a depth of 10 feet. However, at numerous sites in this investigation the boring were conducted to depths of 12 to 15 feet. The rationale for extending the depth of the soil borings should be stated in the text.
13. For various sites, it is stated that samples were collected either up or down gradient. Unless a source area is thoroughly delineated, the proper gradients are unable to be located. To clarify this situation, either the source outfall or source area should be delineated on the appropriate figures.

14. The figure titles state "summary of exceedances." It is unclear exactly what exceedances are referenced. The Region III RBC, MCL, or background are all possible exceedances discussed in the text. The figures should be modified to state what screening level is exceeded.
15. Many recommendations of no further action are based on the statement "due to the lack of contamination." This statement is misleading because contamination is present, but contaminants were detected either below the RBCs or background values. The statement should be reworded to accurately reflect site contamination.
16. Site 11 overlies SWMU 50, SWMU 51, EBS AOC 150, and EBS AOC 151. Since the Site 11 RFI did not contain site-wide conclusions or recommended actions, it is unable to determine if the findings from this SSR should be incorporated with further investigations at Site 11. The Site 11 RFI should be re-evaluated to determine if SWMU 50, SWMU 51, EBS AOC 150, and EBS AOC 151 contain contaminants of concern directly relating to Site 11.

3.0 SPECIFIC COMMENTS

17. **Section 1.5, page 1-5.** This section discusses the field operations for surface soil, subsurface soil, and groundwater sampling. However, no reference is made to the collection of sediment samples. Since sediment samples are included in this investigation, an appropriate subsection is needed. The text should be modified accordingly.
18. **Section 1.5.6, page 1-7.** This section discusses the quality control samples. This section merely states that QC samples were collected in conjunction with the combined efforts for all sites under investigation. Information should be provided for the methodology of QA/QC sampling. Results of the QC samples should also be evaluated and included in the text if significant. It is suggested that an additional section or subsection be included in the report that outlines the QA/QC procedures followed during the confirmatory sampling. If the applicable methodology is provided elsewhere, the proper document should be cited in this section.
19. **Section 2.0, SWMU 8, pages 2-1 to 2-7.** The final recommendations for SWMU 8 are no further action due to the lack of contamination. This recommendation is not justified based upon the sample locations and sample results. The location of the surface and subsurface soil samples do not appear to adequately cover possible contaminated areas. The site background section suggest compounds were poured directly on the soil. This would lead one to believe sample locations should be placed near doorways or other areas of ingress/egress. Justification should be provided for the existing sample locations and whether they adequately covered possible areas of contamination. Furthermore, PCBs were detected above RBCs in 8-SB-04. It appears from Figures 2-1, 2-4, and 2-5 that the downstream surface water/sediment sample, SW/SD-02, was not collected along the Isherwood Road Stream. It is recommended that additional samples be collected to delineate the area of PCB contamination, collecting surface water/sediment sample at the outfall and directly downstream to determine if SWMU 8 or the PCB contamination in surface soil has affected the stream.

The text also states data collected at SWMU 8 should be used in conjunction with data collected for Site 9 to quantify risks associated with exposure to site media. It is not recommended that site data from SWMU 8 be included with Site 9. Site 9 encompasses a large area with many source areas and

different areas of contamination. These variances make Site 9 difficult to investigate. The data from SWMU 8 should be kept separate, and the area investigated exclusively from Site 9.

20. **Section 2.1, SWMU 8, page 2-1.** The first sentence states that the site was used from approximately 1950 until closure. Since closure occurred in 1997, a discrepancy arises with another statement on page 2-4. This selection states that SWMU 8 ceased operation in 1978. The discrepancy about the proper closure date should be remedied in the text.
21. **Section 2.3, SWMU 8, page 2-2.** This section contains reference to Building 310 and 310A, but Figure 2-1 displays Building 310A/B/C. It is unclear if the structure labeled 310A/B/C is inclusive of Buildings 310, 310A, 310B, 310C. The proper building identifications should be provided consistently within the report.
22. **Section 2.3.4, SWMU 8, page 2-3.** Since SWMU 8 is not delineated on Figure 2-1, the upstream and downstream locations at SWMU 8 are unclear. From Figure 2-1, it is assumed that both surface water/sediment pairs were collected downstream. This assumption disagrees with the text because the text states that one pair is from upstream and the other from downstream. This should be clarified in the text, as well as, on Figure 2-1.
23. **Figure 2-1, SWMU 8.** It is unclear why sample 8-SW/SD-02 was not collected directly from Isherwood Road Stream. If it was collected from an associated drainage swale or wetland, this should be stated in the text. The symbol for the test pit samples should be added to the legend.
24. **Section 3.1, SWMU 20, page 3-1.** The text states the leaching pit was deactivated between 1982 and 1984. It is unclear what is meant by "deactivated". The text should be revised to provide specific information about this deactivation, including what procedures were followed.
25. **Section 3.3, SWMU 20, page 3-2.** The Site Screening did not focus on surface soil; surface soil samples were not taken due to the assumption that disposal occurred in a leaching pit and not via the ground. This assumes that spills of contaminated material did not occur. It is likely that contamination of the surface soil occurred through site activities, such as spills or leaks, associated with the leaching well. Therefore, surface soil should be characterized through sampling.
26. **Section 3.3.1, SWMU 20, page 3-2.** This section states that four test trenches were dug on the sides of the leaching pit. However, Figure 3-1 portrays three samples from the pit sides and one down gradient. This difference should be corrected in the report.
27. **Section 3.4.1, SWMU 20, page 3-4.** The first sentence states that four metals, including manganese, exceeded the Region III RBC for residential soil. The third sentence contradicts the first sentence by stating that manganese was not detected at a concentration greater than the residential soil RBC. The text should be revised to state whether or not manganese exceeded the residential soil RBC.
28. **Figure 3-1, SWMU 20.** To accurately represent SWMU 20, this figure should be enlarged. The excavated pit should be shown more clearly with all sample locations shown individually. The scale

also makes it difficult to determine sample locations within the pit area. The symbol for the test pit samples should also be added to the legend. In addition, the location of the asphalt parking lot should be delineated since this is the locating feature for the leaching pit.

29. **Section 4.2.4, SWMU 29, page 4-2.** This paragraph states that the groundwater level was detected in a nearby monitoring well. The “nearby monitoring well” is actually a piezometer. Since this piezometer was found dry in the referenced report, the SSR should be modified to state how the indicated groundwater level was determined.
30. **Section 4.4.2, SWMU 29, page 4-3.** This section discusses the subsurface soil contamination. The contaminants chromium and lead are listed in the conclusion as exceeding the Region III RBCs, but this is not stated in this section. The appropriate changes should be made.
31. **Section 4.5.1, SWMU 29, page 4-4.** The text states downgradient Site 9 monitoring wells have not identified significant contamination in this portion of the 300 area. However, no Site 9 monitoring wells exist in close proximity to this SWMU. This statement should be removed from the text, and the text revised to state groundwater was not investigated during the SSR.
32. **Section 4.5.2, SWMU 29, page 4-4.** No further recommended action is suggested. However, it is unclear if the associated drain system and outfall to the surface were located. Furthermore, surface soil sample 29-SB-01 revealed significant concentrations of lead and chromium. It is recommended that additional surface soil samples be collected downgradient of 29-SB-01 to determine the extent of lead and chromium contamination before no further action is approved for this SWMU.
33. **Section 6.1, SWMU 35, page 6-1.** The Stonyard is described as being in front of a metal and brick shed. The correct compass direction should be used instead of “in front.” The text should be modified accordingly.
34. **Section 6.3.1, SWMU 35, page 6-2.** This section discusses surface soil sampling. It is unclear why explosives were not included since ordnance was sandblasted at this site. The recommendation for no further action cannot be supported until samples are collected for explosives or justification provided.
35. **Figure 6-1, SWMU 35.** The text described a source area of 20 feet by 30 feet. From this source area, the upgradient and downgradient samples were collected. Since the source area is not delineated on the figure, one is unable to determine the gradient. The text and figures should be modified.
36. **Section 7.3, SWMU 36, page 7-2.** The text states that samples were collected from the corners of the building. From Figure 7-1, it is assumed the referenced building is Building 108. It is unclear why the samples weren’t collected from the corners of the attached incinerator unit. This should be clarified in the text.
37. **Section 8.1, SWMU 40, page 8-1.** The background section describes the Building 305 wastewater collection system. It is unclear where the system discharged or where the outflow was located.

Figure 8-1 does show an outfall with associated piping to the west of Building 305. The text should be expanded to detail whether this is the outfall associated with Building 305.

38. **Section 8.3, SWMU 40, page 8-2.** This section discusses the temporary groundwater wells installed at SWMU 40. However, the work plan does not mention well installation for SWMU 40. This deviation from the workplan should be stated in the text.
39. **Section 8.5.2, SWMU 40, page 8-5.** No further action is recommended for this site. However, it does not appear that surface/subsurface soil samples were collected from the outfall associated with Building 305, according to the delineated layout shown on Figure 8-1. Additional samples should be collected at this outfall before no further action is approved for this SWMU.
40. **Section 9.1, SWMU 41, page 9-1.** According to Figure 1-2 this site has been transferred to the Army. A statement should be added to the background description.
41. **Section 9.3, SWMU 40, page 9-2.** The text states that samples were collected upstream and downstream of the oxidation ditch to determine if contamination is a result of SWMU 41 activities or an upstream source. The location of upstream and downstream samples cannot be determined without locating the settling tank discharge point. Subsequently, the recommendation for no further action cannot be justified without identifying the source as either SWMU 41 or upstream. The location should be identified and presented to accurately reflect the upstream or downstream effects.
42. **Section 9.4.2, SWMU 40, page 9-4.** This states that neither iron nor mercury were detected at significant concentrations during the Site 9 RFI in comparison to this Site 23 screening. Since it is recommended that Site 9 be investigated independently, Site 23 should be investigated further as the source for the increased iron and mercury concentrations.
43. **Section 9.5.2, SWMU 40, page 9-5.** It is unclear why no recommended actions are provided. The conclusion states that inorganic, explosive, and VOC contamination is isolated. It is unclear where this contamination is isolated within Isherwood Road Stream. This isolated contamination should also be investigated further, in addition, to the Site 9 investigation.
44. **Section 10.1, SWMU 47, page 10.** The background section states the wastewater treatment plant effluent was discharged to Paint Branch. It is unclear if the discharge occurred directly to Paint Branch or to a tributary. This should be clarified in the text. If piping was involved, the possibility of contamination surrounding the piping should be investigated and added to the text.
45. **Section 10.3, SWMU 47, page 10-2.** It is unclear why no surface water/sediment samples were collected at SWMU 47. Two streams surround the site and are described in the text as accepting the run-off. The rationale for not including surface water/sediment samples should be stated in the text.
46. **Section 10.5.2, SWMU 47, page 10-6.** No further action is recommended for this SWMU due to the lack of contamination. However, surface soil samples did reveal PCBs throughout the site. It is recommended that additional soil samples be collected downgradient of existing soil sample locations to determine the extent of PCB contamination.

47. **Section 11.1, SWMU 50, page 11-1.** Throughout the discussion for SWMU 50, reference is made to nearby SWMU 51. The site names are used interchanged, and incorrectly, throughout the section. The text should be modified to contain the appropriate site names, where applicable.

The site description does not identify the activities that were conducted in Building 112, which produced the oily wastewater. If water soluble substances were used in these activities, the substances would not have necessarily been separated and would have remained in solution. How was this wastewater handled (i.e., transported)? If there is underground piping associated with the transport and disposal of this wastewater then the sampling strategy should incorporate the concept of leaking pipes transporting this wastewater.

48. **Figure 11-1, SWMU 50.** All the buildings appearing on this figure should be labeled properly and referenced correctly in the text. The adjacent sites referenced in the text should also appear on the figure.
49. **Figure 12-1, SWMU 51.** All the buildings appearing on this figure should be labeled properly and referenced correctly in the text.
50. **Section 13.1, SWMU 52, page 13-1.** The unit is described as “an above-grade closed waste oil tank”. The title of SWMU 52 is Building 201, Oil Water Separator which coincides with the terminology in the legend of Figure 13-1. If the SWMU is a waste oil tank then it should be titled and labeled as such. A waste oil tank is not an oil/water separator. This should be clarified in the text.
51. **Figure 13-1, SWMU 52.** The unlabeled sample locations should either be removed or labeled correctly. The approximate outfall location should also be removed or correctly located.
52. **Section 15.1, SWMU 87, page 15-1.** According to Figure 1-2, this site has been transferred to the Army. A statement should be added to the background description.
53. **Section 15.2.1, SWMU 87, page 15-1.** The text states that SWMU 87 is west of Paint Branch. It should be corrected to read east. The topography should also include a statement that SWMU 87 is located in the floodplain of Paint Branch.
54. **Section 15.3, SWMU 87, page 15-2.** The text states that Building 611 managed explosives. It remains unclear why explosives were not included for analysis of the surface soil, subsurface soil, and groundwater.

It is assumed that no surface water/sediment samples were collected at SWMU 87 because they were collected in conjunction with AOC M. This assumption should be verified in the text because of the proximity of SWMU 87 to Paint Branch.

55. **Figure 15-1, SWMU 87.** The contour lines in the southeast should be corrected to be accurate and continuous. The applicable buildings should also be labeled. Additionally, it is unclear why 87-WP-04 is presented on the figure since it was not established due to auger refusal.

56. **Section 16.3, AOC M, page 16-2.** The text states an outfall pipe location was assumed since the discharge pipe could not be located. The assumed outfall location should be identified on the applicable figures and cited to verify the sample locations and conclusions.
57. **Section 17.1, AOC N, page 17-1.** The text states that the unit is 50 feet south of Building 201. However, the scale of Figure 17-1 shows the unit approximately 220 feet south of Building 201. This difference should be revised.
58. **Section 18.3, AOC P, page 18-2.** The text states that two surface soil samples were collected to evaluate the potential impact on the environment. It was assumed from Section 1.0 that a separate ecological risk assessment (ERA) is being conducted. The rationale for collecting these samples should be provided.
59. **Figure 18-1, AOC P.** From this figure, sample P-SS-02 appears to have been collected within Building 312 A/B. Since this location is not mentioned in the text, the figure should be modified to reflect the text.
60. **Section 19.3, AOC Q, page 19-2.** The unit is described as an outfall with a discharge of 8,000 gallons per day. It is unclear on Figure 19-1 where a discharge of this proportion would ultimately enter a receiving surface water body. If there is a well defined drainage way where this wastewater traveled to natural surface water, then soil/sediment sampling along this flow path should be included in the sampling approach. Figure 19-1 should also include the surface water that received the discharge from this outfall.
- Additional soil/sediment sampling may be required depending on the nature by which the discharged wastewater traveled to the receiving surface water. Two soil samples do not provide adequate coverage for a discharge of 8,000 gallons per day over an undetermined time frame (possibly years or decades).
61. **Section 19.3.3, AOC Q, page 19-2.** The text states temporary groundwater wells Q-WP-01 and Q-WP-02 were installed adjacent to Building 328. However, Q-WP-01 is omitted from Figure 19-1. If Q-WP-01 was not established it should be stated in the text.
62. **Section 19.4.1, AOC Q, page 19-4.** The text states that the maximum arsenic contamination was located upgradient of the source. The probable source or explanation for this finding should be included in the text.
63. **Figure 20-1, AOC R.** It appears that R-SS-04 was collected at the Isherwood Road culvert. This sample may also be relevant to AOC P, so it should be evaluated accordingly.
64. **Section 21.1, AOC S, page 21-1.** From Figure 21-1, it appears that AOC S is east, not north as stated, of Building 310A. It is also unclear if a difference exists between Building 310A and 310 A/B/C. The text and figures should be clarified.
65. **Section 21.3, AOC S, page 21-2.** The text states that one surface water/sediment sample was collected upstream and one was collected downstream. If the outfall is located correctly on Figure

21-1, both samples appear to be upstream. The difference in sample locations should be explained in the text.

66. **Section 21.5.2, AOC S, page 21-5.** No further action is recommended for AOC S. However, this recommended is not justified based on sample locations and sample results. The investigation for this AOC was to investigate the effects of Outfall 018 on the adjacent intermittent stream. However, Figure 21-1 reveals the surface water/sediment sample locations upstream of Outfall 018. Justification should be provided for these sample locations. Furthermore, results from this investigation should be combined with SWMU 8 to further investigate the extent of PCB contamination and the effects of Outfall 018. It is recommended that additional samples be collected before no further action is approved for this AOC.
67. **Section 23.3, EBS AOC 151, page 23-2.** The text states that Building 611 managed and stored ordnance. It remains unclear why explosives were not included for analysis of the surface soil and subsurface soil. Proper justification should be provided in the text.
68. **Figure 25-1, EBS AOC 304-3.** The text states that EBS AOC 304-3 is the floor of Building 304-3. However, this figure displays two sheds, Buildings 304-3 and 304-4, identified during the filed activity. It is assumed that AOC M includes both sheds, so both building numbers should be stated in the text.
69. **Section 26.5.2, EBS AOC 334, page 26-4.** The text states that no further action is recommended due to lack of contamination. However, the soil log sheets provided in Appendix E state that paint chips and purple staining were found in the soil. These findings should be included in the text and incorporated into the conclusions and recommendations. It is suggested that more soil samples be collected to determine the extent of contamination before no further action is approved for this AOC.
70. **Section 28.3.3, Building 615, page 28-2.** The text states that two sediment samples were collected from the drainage area between Building 615 and the nearby stream. However, it is assumed from Figure 28-1 that one was collected in this area and the other in the actual stream. If Figure 28-1 accurately reflects the sediment sample locations, the text should be modified accordingly. Additionally, if a sediment sample was collected from the stream, the rationale for not collecting a surface water sample should be added to the text.
71. **Figure 28-1, Building 615.** It is unclear from this figure which building is Building 615. The proper buildings should be identified and Kuester Road added to the figure.
72. **Section 29.2.1, Building 355.** The text references bunkers and a former building. However, it is unclear where these were located within the site since they do not appear on the applicable figures. To verify the proper sampling locations, the bunkers and former Building 355 should be delineated on Figure 29-1. The appropriate modifications should be made.
73. **Section 30.3, SWMU 57, page 30-2.** The text states that surface and subsurface soil sampling was conducted within or downgradient of the site. From the site description and Figure 30-1, it is assumed that all samples were collected within SWMUs 57A and 57B, and no samples were collected downgradient. The text should be modified to state what is considered downgradient, so it can be determined if any samples were actually collected downgradient.

74. **Appendix B.** This appendix reports the survey data from the site screenings. Figure 217 contains data for off site surface water/sediment points near NSWC White Oak. This data is not mentioned in the text, so it is unclear why it is provided in the appendix. The text or appendix should be modified accordingly.
75. **Appendix C.** Various data validation letters contain aqueous samples identified with HP. It is assumed that these samples refer to the off site surface water/sediment samples. Proper explanation should be provided.
76. **Appendix E.** The log for test pit 20-TP states that a clay pipe was uncovered, but it is not listed in the text. The discovery of a clay pipe should be included in the text.

4.0 RISK BASED CALCULATIONS

General Comments

1. As stated in Section 1.6.2.3, this report does not discuss potential risks to ecological receptors. The text indicates that risks to ecological receptors from the sites evaluated in this *Site Screening Report* will be evaluated as part of the base-wide watershed ecological risk assessment. The recommendations for each site should specify whether the findings of no further action would be contingent upon the results of the ecological risk assessments which are under progress.
2. On Table 1.1 the screening value for chloroform is listed as 80 and referred to as a Federal Maximum Contaminant Level. There currently is no Federal Maximum Contaminant Level for chloroform in groundwater. Therefore, the Region III RBC value should be used for screening.

SPECIFIC COMMENTS

3. **Page 2-5, SWMU 8/Site 15, Section 2.4.2, paragraph 4.** The text states that : “Maximum detections for metals occurred at each location.” No maximum detection for metals occurred for sample 8-TP-01. The text should be corrected accordingly.
4. **Page 2-7, SWMU 8/Site 15, Section 2.5.2.** The recommendations indicate that “no further action” related directly to SWMU 8 is recommended. Confirmation of these results is recommended through the use of data collected at Site 9. The text should be rephrased to indicate that no further action pending results is recommended.

5. **Page 3-4, SWMU 20/Site 17, Section 3.4.1, paragraph 2.** The text states that: “Based on the fixed-based laboratory results, four metals exceeded the Region III RBC for residential soil in the subsurface soil samples.” The four metals exceeded the screening value as opposed to the Region III RBC. The text should be changed to: Based on the fixed-based laboratory results, four metals exceeded the screening value for residential soil in the subsurface soil samples.
6. **Page 3-4, SWMU 20/Site 17, Section 3.4.2, paragraph 3.** The text states that: “The average thallium and vanadium concentrations were less than the respective Region III RBCs.” The average thallium concentration was equal to the Region III RBC. The text should be changed to: The average vanadium concentration was less than the Region III RBC.
7. **Page 3-6, SWMU 20/Site 17, Section 3.5.1.** The text states that: “However, site-wide average concentrations were less than these risk-based screening values” The sentence should be rephrased to indicate that site-wide average concentrations were less than screening values for all constituents except arsenic.
8. **Page 3-6, SWMU 20/Site 17, Section 3.5.2.** The text should explain how removal of the leaching well will minimize future concerns regarding contaminant conditions in this area during property development.
9. **Page 5-4, SWMU 34/Building 377, Section 5.5.2.** The recommendations indicate that “no further action” related directly to SWMU 34 is recommended. Confirmation of these results is recommended through the use of data collected at Site 9. The text should be changed to indicate no further action pending results.
10. **Page 6-5, SWMU 35/Site 21, Section 6.4.3, paragraph 4.** The text states that: “Chloroform, the only VOC detected, did not exceed the screening value at SWMU 35/Site 21.” Refer to the general comments regarding the appropriate screening value for chloroform.
11. **Page 7-3, SWMU 36, Section 7.4, paragraph 7.** The text states that: “Aluminum, arsenic, and iron were detected at a maximum concentration less than twice the average background concentration. Arsenic was detected at a concentration slightly above the average background level.” These sentences contain errors and should be changed to: Aluminum, arsenic, and iron were detected at a maximum concentration less than twice the average background concentration. Manganese was detected at a concentration slightly above the average background level.
12. **Page 7-3, SWMU 36, Section 7.5.1.** Reference is made to the toxicity equivalent concentrations of dioxin and furan in the samples. There is no table summarizing the toxicity equivalent concentrations for the samples collected for this SWMU. This information should be added.
13. **Page 9-4, SWMU 41/Site 23, Section 9.4.2, paragraph 3.** The text states that: “Benzo(a)anthracene, benzo(a)pyrene, and benzo(b)pyrene exceeded the benchmark. Benzo(a)anthracene and benzo(a)pyrene were detected at two locations and benzo(b)pyrene was detected at three locations.” The text should be corrected as follows: Benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene exceeded the benchmark. Benzo(a)anthracene and benzo(a)pyrene were detected at two locations and benzo(b)fluoranthene was detected at three locations.

14. **Page 10-3, SWMU 47, Section 10.4.1, paragraph 1.** The text states that: “Five surface soil samples were collected and analyzed for TCL VOCs, SVOCs, pesticides/PCBs, TAL metals, and SW846 explosives.” The text should be changed to: Eight surface soil samples were collected and analyzed for TCL VOCs, SVOCs, pesticides/PCBs, TAL metals, an SW846 explosives.
15. **Page 10-3, SWMU 47, Section 10.4.1, paragraph 3.** The statement concerning the SVOCs having maximum detection at location 47-SS-02 is incorrect. Correct this statement to indicate that the location for the maximum detection for all SVOCs with the exception of acenaphthylene is 47-SB-02. Acenaphthylene detection was higher at location 47-SB-08.
16. **Page 10-3, SWMU 47, Section 10.4.1, paragraph 5.** The text states that: “Of the five metals...” The text should be changed to: Of the six metals...
17. **Page 10-3, SWMU 47, Section 10.4.3, paragraph 3.** The text states that: “Iron was well under the average background concentration, and manganese was detected at less than twice the average background concentration in the filtered samples.” This statement is incorrect. The text should be changed to: Iron was well under the average background concentration, and manganese was detected at ten times the average background concentration in the filtered samples.
18. **Page 10-4, SWMU 47, Section 10.5.1, paragraph 3.** In light of change listed above, the statement that “because statistically significant contamination was limited to the unfiltered samples, it is not believed that groundwater has been impacted at the site” may not be true for manganese. The elevated concentrations of manganese in the filtered groundwater samples should be addressed before no further action is recommended for the site.
19. **Page 11-4, SWMU 50, Section 11.5.2.** The recommendations state that the proposed use for this area is industrial. This report does not discuss that the proposed land use is industrial. The report should indicate whether deed restrictions will be implemented. Also, since the future land use is known for this site, comparing site results to industrial exposure screening values is recommended.
20. **Page 14-2, SWMU 56, Section 14.4, paragraph 6.** The text states that: “No explosives detected were in the subsurface soil at SWMU 56.” The text is incorrect and should be changed to: No explosives were detected in the subsurface soil at SWMU 56.
21. **Page 19-5, AOC Q, Section 19.4.3, paragraph 3.** The text does not indicate that both metals were detected in the filtered groundwater. The text should indicate the following: Both metals were also detected in the filtered groundwater.
22. **Page 19-5, AOC Q, Section 19.4.3, paragraph 4.** The text states that: “Perchlorate, VOCs, and explosives were not detected in the groundwater in excess of any benchmarks at AOC Q.” An explosive, RDX, was detected in excess of the Region III RBC in sample Q-WP-01. The text should be changed to: Perchlorate and VOCs were not detected in the groundwater in excess of any benchmarks at AOC Q.

23. **Page 20-2, AOC R, Section 20.4, paragraph 6.** The text states that: "Arsenic was detected at a maximum concentration less than the average background concentration." The text is incorrect and should be changed to: Arsenic was detected at a maximum concentration less than twice the average background concentration.
24. **Page 20-3, AOC R, Section 20.5.1.** The text states that: "the average concentrations of the contaminants were less than the screening levels and are not..." The text should be changed to: with the exception of benzo(a)pyrene, the average concentrations of the contaminants were less than the screening levels and are not believed to be present at concentrations that would pose a risk to human health.
25. **Page 23-3, EBS AOC 151, Section 23.4.1, paragraph 3.** The text states that: "Benzo(a)pyrene was the only SVOC to exceed the benchmark." The text is incorrect and should be changed to: Benzo(a)pyrene and dibenzo(a,h)anthracene exceeded the benchmark.
26. **Page 23-3, EBS AOC 151, Section 23.4.1, paragraph 5.** There is no average background concentration listed for cadmium. Cadmium should be removed from this sentence.
27. **Page 25-3, EBS AOC 304, Section 25.4.1, paragraph 4.** Benzo(a)pyrene exceeded the benchmark for sample 304-SS-03. The text should be corrected as appropriate.
28. **Page 25-4, EBS AOC 304, Section 25.5.1.** The text in the conclusions should be changed to indicate that one PAH also was detected in excess of the screening criteria. The text should be corrected as appropriate.
29. **Page 26-3, EBS AOC 334, Section 26.4.1, paragraph 3.** Benzo(a)pyrene and dibenzo(a,h)anthracene were the two SVOCs that exceeded the benchmark for the surface soil samples. The text should be corrected as appropriate.
30. **Page 26-3, EBS AOC 334, Section 26.4.2, paragraph 3.** Benzo(a)pyrene and dibenzo(a,h)anthracene were the two SVOCs that exceeded the benchmark for the subsurface soil samples. The text should be corrected as appropriate.
31. **Page 27-4, EBS AOC 500B, Section 27.5.1.** The text states that: "Inorganics were detected in surface and subsurface soil, but the average concentrations were less than the screening criteria and/or background." The text is incorrect and should be changed to: Inorganics were detected in surface and subsurface soil; but, with the exception of lead, the average concentrations were less than the screening criteria and/or background.
32. **Page 28-3, EBS Building 615, Section 28.4, paragraph 4.** The text states that: "Arsenic and manganese were only detected at a maximum concentration less than the average background concentration. The text is incorrect and should be changed to: Arsenic was detected at a maximum concentration less than the average background concentration. Manganese was detected at a concentration greater than twice the average background concentration.
33. **Page 28-4, EBS Building 615, Section 28.4.3, paragraph 3.** The text states that: "All the exceedance

metals were detected at all both locations.” The text is incorrect and should be changed to: All the exceedance metals were detected at both locations.

The log sheet for sample 87-SS-02 states that the true surface soil was not collected due to the presence of asphalt. This should be stated in the text.

The soil and sediment log sheets for SWMU 334 state that paint chips and purple staining were found in the soil. This statement should be added to the text.

If you have any questions, please call me at (215) 814-3369.

Sincerely,

Yazmine J. Yap-Deffler
Remedial Project Manager
Federal Facilities Section

cc: Jeff Thornburg, MDE
Steven Richard, GSA