

## Responses to Comments on the Draft Final Focused Remedial Investigation for Site 1 Soil, Operable Unit 4, at Allegany Ballistics Laboratory, Rocket Center, West Virginia.

Below please find the Navy's responses to comments received from USEPA and WVDEP on the *Draft Final Focused Remedial Investigation for Site 1 Soil, Operable Unit 4, at Allegany Ballistics Laboratory, Rocket Center, West Virginia*, dated July 2005. USEPA's comments were received via a comment letter dated December 9, 2005. WVDEP's comments in totality, as well as additional USEPA comments, were presented in the October 2005 Partnering Meeting and recorded in the meeting minutes. The comments below are reproduced as received from USEPA/ discussed during October 2005 partnering meeting, followed by the Navy's responses.

### Comments from USEPA Region III (dated December 9, 2005)

1. **Comment:** *Since 1,1,1-TCA was historically used in the late 1980s (see page 2-3, Section 2.2), it may be prudent to analyze for 1,4-Dioxane in groundwater.*

**Response:** **Noted. 1-4 Dioxane has recently been analyzed in groundwater samples collected from Site 1 in support of a pilot study. To date the samples have all been non-detect for this compound.**

2. **Comment:** *The 2004 technical memorandum states that the risk assessment will provide a rationale (qualitative discussion) explaining why the vapor intrusion pathway is not being considered a complete exposure pathway. However, this explanation is not provided in the risk assessment. Please provide this explanation, especially with respect to potential risk to current workers at the site.*

**Response:** **A qualitative discussion explaining why the vapor intrusion pathway is not being considered a complete exposure pathway has been added to the HHRA in Section 6.3.2.4.**

*"Exposure to indoor air is not considered a current complete exposure pathway. The only structure currently on site is a shed, which is open on one side. There is no vapor intrusion pathway since this structure does not represent a building where air pressures inside the structure would be different from ambient air pressures. The vapor intrusion mechanism (advective transport from soil gas to indoor air) would not apply in this case. Additionally, the maximum time an industrial worker typically spends in this structure is 10 min/day."*

3. **Comment:** *It is not clear if there is currently onsite air monitoring at the site, since open burning continues at the site (see Pages 2-4 and 2-5). Please discuss any onsite air monitoring data related to the process onsite and the potential effects on nearby future residents, recreational users and workers.*

**Response: No air monitoring is conducted. However, the Active Burning Ground (ABG) is operated in accordance with RCRA Subpart X and the associated air permit.**

4. **Comment:** *Given the proximity of the FDP and ABG areas, it may be prudent to evaluate the future residential scenario for the ABG area. Note that the COCs for the ABG area are based on an industrial scenario. Therefore, it is difficult to discuss potential impact to future residents from the site in a qualitative manner.*

**Response: The future residential scenario has been evaluated for the ABG area and will be submitted as a technical memorandum, and included in the final HHRA. In residential scenario evaluation, the COCs were selected using residential RBCs. Based on the results of the residential risk calculations, there are no potentially unacceptable risks to future residents exposed to soil in the ABG area.**

5. **Comment:** *Table 4-9. Background Concentrations in Soil. Note that more recent EPA guidance suggests that the use of background LTLs, UTLs, and UCLs for comparison to onsite concentrations is not appropriate. Also, refer to the Department of Navy, Guidance for Environmental Background Analysis. Volume I Soil. Naval Facilities Engineering Command, April 2002.*

**Response: Table 4-9 was included to present the Facility Wide Background Concentrations in Soil for nature and extent of contamination purposes. Table 4-9 is not used for HHRA purposes.**

6. **Comment:** *Figure 4-2. The contaminant concentrations for sample AS01-SB21 for benzo(a)pyrene appear to be incorrect.*

**Response: The values will be corrected to 55 J and 45 J (duplicate).**

7. **Comment:** *The risk assessment does not consider the soil-to-groundwater pathway. This pathway should be considered further as a tool to locate additional contaminant sources for the existing groundwater contamination. Note that Section 5.2.2, page 5-3 discusses the potential of soil contaminants at Site 1 to migrate into groundwater.*

**Response: The discussion of the soil-to-groundwater pathway has been added to Section 6.3.2.2.**

8. **Comment:** *The EPA recommends that the RME UCL also be used to characterize risk for the CTE scenarios, not the mean concentration (see Page 6-10). Note that the UCL is by definition the best estimate of the mean.*

**Response: As recommended, the RME UCL has been used as the EPC for the CTE scenario, as presented in Section 6.3.3.1.**

9. **Comment:** *Section 6.5.2.5. Future Resident. Lead exposure, page 6-18, 5<sup>th</sup> paragraph. The statements made about the lead analysis for the OABG area appear to be contradicting. Please clarify and provide the output of the lead model in the Appendix.*

**Response:** Clarification has been provided in Section 6.5.2.5 and the output from the IEUBK model will be included in the Appendix F, Table Lead-5 and Figure Lead-1.

10. **Comment:** Section 6.5.2.6, Page 6-19, 4<sup>th</sup> Paragraph. The adult lead model can be used with exposure modifications to assess the lead risk to construction workers (see page 6-19). Refer to the adult lead model guidance frequently asked questions and answers on the EPA website ([www.epa.gov/superfund/programs/lead/almfaq.h](http://www.epa.gov/superfund/programs/lead/almfaq.h)). Note that a more reasonable soil ingestion rate for the construction worker is 330 mg/day. Refer to the SSL supplemental guidance (2001).

**Response:** The adult lead model for the construction worker using an ingestion rate of 100 mg/kg has been added and presented in Appendix F, Tables Lead-7 and Lead-8, as recommended in the frequently asked questions and answers on the EPA website for the adult lead model (<http://www.epa.gov/superfund/programs/lead/almfaq.htm#receptor>), as included here: "Because central tendency values are recommended as inputs to both the IEUBK Model and the adult lead methodology, a more plausible range for a soil lead IR is 50 to 200 mg/day for adult contact-intense soil exposures. Thus, there is reasonable support for use of 100 mg/day as a soil ingestion rate for the contact-intense worker scenario in the ALM."

11. **Comment:** Section 6.5.3. Targeted Area Risk Assessments. Page 6-20. The hot spot analysis for this site at best can be considered qualitative, since the approach taken to locate hot spots and outliers does not take into consideration robust statistical analysis. Note that in order to make this risk assessment more clear and transparent, the output of the PROUCL for the UCLs and hot spot analysis including graphical presentations of contaminant distributions should be provided in the Appendix for further review. Also, note it is understood that contaminant hot spots onsite for the COCs identified in the risk assessment will be evaluated further during future evaluation, since they are already COCs in the risk assessment. However, this type of risk summary for hot spots gives little information about the potential risk for the hot spot areas for comparison to site wide concentrations. The risk assessment should at least provide a qualitative assessment based on the current risk assessment regarding the risk to hot spots at this site. Also, future evaluation of the data should take into consideration that there are robust methodologies to determine whether there are hot spots/outliers in data sets that should be treated separately at the site. Note that there are only two tables in the Appendix that summarizes the target area risk assessments, not three.

**Response:** The purpose of this hotspot assessment was to ensure that no COCs were missed based on "dilution" of elevated concentrations by combining all data across the site and to identify potential areas of concern. It was not intended to evaluate the risks at the potential hotspots, unless an additional COPC was identified at a hotspot, in which case the risk was evaluated.

A robust statistical analysis has been performed to locate the hot spots, as presented in Sections 6.5.3.1 through 6.5.3.3. .

As requested, the ProUCL output for the COPCs will be included in Appendix F, Targeted Area Evaluation Tables 1-12.

12. **Comment:** Section 6.6.3. Page 6-22. 6<sup>th</sup> Paragraph. Iron was also a contaminant of concern for the FDP area. Please discuss how iron compares with the RDA in the FDP area.

**Response:** A discussion on iron in the FDP area will be added to Section 6.6.3.

13. **Comment:** Section 6.6.3. Page 6-23, 3<sup>rd</sup> Paragraph. EPA Region 3 is currently recommending using the NCEA 2001 toxicity values for TCE in the risk assessment. The uncertainty analysis can assess cancer risk from TCE from within the range of slope factors (e.g., the average of the range of slope factors) provided in the NCEA 2001 draft document. Note that 1987 toxicity values have been withdrawn and are not considered to be provisional values.

**Response:** Comment noted. However, Navy (and DoD) policy prohibits the use of non-promulgated toxicity values, such as the draft 2001 TCE toxicity values.

14. **Comment:** Section 6.6.4. Page 6-24. The risk assessment states that COCs were compared to background data. However, the background tables 1 and 2 in Appendix F could not be located. Also, the technical memorandum states that COCs will not be compared with referenced (background) samples. Please clarify whether COCs were compared to background data and what methodology was used. Note that this analysis will not impact the final risk characterization for the site, since only one COC? manganese in combined soil in the FDP area was found to be similar to background. Manganese does not contribute significantly to the risk at the site. However, the background assessment should be presented in the Appendix and the methodology discussed further in the text.

**Response:** The background tables were mistakenly not included in the last version of the RI. They are presented in Appendix F Background Table 1 and Table 2. As stated in Section 6.6.4, the data were not compared to background samples to select COCs. The data for the inorganic COCs were compared to background samples in the *uncertainty assessment* to determine if any of the COCs could be attributable to background. It is also noted that removal of manganese as a COC would not result in any changes to the conclusions of the risk assessment.

15. **Comment:** Table 6-7. OABG Area, Future Resident Child. Lead should also be in bold face type as it is also a risk driver.

**Response:** Lead will be changed to bold face type for Table 6-7, OABG Area, Future Resident Child.

16. **Comment:** Section 8.2. Recommendations. Note that there is also risk for the FDP area and remedial goals should also be developed for this area. Also, given the proximity of the ABG area to the FDP and OABG areas, it may be prudent to assess the future residential risk for the ABG area.

**Response:** The FDP is part of the ABG area, which is operating under a RCRA permit. The only receptor within FDP with a risk above USEPA target levels was the resident. Because open burning within the ABG, in which the FDP is located, will continue under the RCRA permit, the Navy proposes to utilize the industrial scenario for making risk management decisions. Under the industrial scenario, there are no unacceptable risks requiring a remedial action. Institutional controls

**will be placed on the ABG to restrict access and ensure protection of human health.**

**The future residential scenario has been evaluated for the ABG area and will be submitted as a technical memorandum, and included in the final HHRA.**

17. **Comment:** RAGS Table 2s and 3s, Air Screening. Please indicate in the footnotes to these tables that the air concentrations are modeled and provide the complete modeling calculations in the Appendix.

**Response:** It will be noted on the Table 2s and 3s for soil-to-air, that the air concentrations are modeled. The equations used to model the air concentrations are presented in Appendix F Tables 2s and 3s.

18. **Comment:** *Toxicity Testing (7.3.4.3, 7.3.5.1, and Appendices) The suitability of the data from the two locations used & reference in the earthworm bioassay is questionable as acknowledged in Uncertainties (page 7-50). AS01-SB55 had detectable levels of dioxins, as well as other contaminants. It had consistently reduced survival across all replicates and exhibited no reproduction. It should not be considered as reference data, but rather as a site sample in the statistical analysis. AS01-SB45 did not contain dioxins, but had metals concentrations comparable to the other site locations. More importantly, the variability between replicates for the AS01-SB45 sample suggests that sample was not homogeneous for one or more stressors. Quality control standards for toxicity testing call for the censoring of samples with excessively high variability between replicates. The sample was identified as not being significantly different from the laboratory control using a T-test (Appendix E, Table 3). However with unequal variances (CETIS page 25 of 29), a parametric test was not appropriate for this comparison. Using a rank sum test, survival in AS01-SB45 is significantly less than in the laboratory control. Given the poor data quality of this sample, it should have been dropped from the statistical analysis. It should not have been included in the data used to compute Survivorship and Reproduction NOECs (Table G-48; footnote 2).*

*Following removal of this sample, the Survivorship and Reproduction NOECs should be recalculated and the relationship between toxicity and COC concentrations reassessed. The BTAG recommends that the raw data be analyzed using a 2-way ANOVA with replication where PAH and metals HQ sums are factors with low, med, and high levels. Given the heterogeneous nature of the contamination, this approach may identify a combination of COCs associated with reduced survival. This information could then be considered in the development of site-specific preliminary remediation goals (PRGs).*

**Response:** As discussed in Section 7.3.4, the locations of the reference samples were selected during a site visit, attended by the Tier 1 Partnering Team and BTAG, to scope the 2001 supplemental sampling. It was expected that these samples would contain some level of contamination since there are known source areas upstream of the ABL facility. The purpose of these reference samples was to evaluate these possible non-site-related contributions. As discussed in Section 7.5, because of the reduced responses in the reference samples (particularly for survival) relative to controls, only the control comparisons to site samples were used in evaluating the bioassay data in the ERA. The two reference samples were considered with the site samples in all of the correlation analyses (summarized in Table G-46). Sample AS01-SB45 will be removed from the first group of samples in Table G-48 and placed in the second group. Thus, this sample will not be used

to develop survivorship NOECs but will be included in the group used to develop reproduction-based NOECs. Table G-47 will be revised to reflect the resulting changes to the NOECs.

**The additional statistical evaluation recommended in this comment will be considered during PRG development in the FS.**

19. **Comment:** *On pages 7-34 and 7-52, the references to floodplain samples showing no evidence of toxicity are confusing. Several samples with reduced survival are located within the floodplain on the soil location figures. A list of what samples are considered "floodplain" needs to be inserted into the text and these samples need to be identified as such in Table G-45.*

**Response:** This was the result of an error introduced during the final editing of the document. The referenced statements should indicate that no surface soil toxicity test sample from floodplain habitats showed reduced responses for ALL endpoints relative to the control. This will be corrected. The list of samples that are considered "floodplain" is contained in Table G-25. All of the samples listed in Table G-45 were collected from floodplain areas as toxicity testing was not conducted in the upland areas of the site, as discussed in the Step 4 ERA Work Plan document.

20. **Comment:** *Recommendations (7.6.4). The BTAG has reviewed the ecological risk assessments for the upland, floodplain, and river associated with Site 1. We concur with the findings of potentially unacceptable ecological risk in portions of the floodplain habitat and the identified contaminants of concern. The determination that contaminants from the floodplain are a contributing source to the river adds justification for remediation of these soils to prevent further sediment contamination. We believe that the aforementioned changes in the evaluation of the data are necessary before PRGs are developed for floodplain soils. We recommend that a range of PRGs be developed using mean and 95% UCL exposure point concentrations, as well as NOEC and LOEC toxicity data.*

*We agree that habitat within the upland area is severely limited by industrial activities and vegetation management. With such limited exposure potential, we believe that actions taken in the upland area should focus on preventing contaminant migration into the floodplain and river.*

**Response:** Please see the response to Comment 18. PRGs will be developed in the FS and will consider the recommendations made as part of this comment. As described in the conceptual model for the site, contaminant migration from the upland (ABG) portions of the site is likely to be minimal (please see the response to Comment 42) under current conditions.

## Comments from Partnering Meetings held in October and November, 2005.

21. **Comment:** *Page 1-1, 5<sup>th</sup> Paragraph. There is no explanation on the rationale to why groundwater and soil were separated, including there was uncertainty related to cost of soil remediation and insufficient delineation. The reference to ROD should be changed to reference a Navy document.*

**Response:** As requested, the paragraph will be modified to read:

*"Because of its size and complexity, for remedial action consideration, Site 1 is investigated under two Operable Units (OUs): OU-3 for groundwater, surface water, and sediment and OU-4 for soil. A Record of Decision (ROD) was signed in May 1997 for OU-3 (Navy, 1997). The selected remedy comprises of an extraction and treatment system for the site-wide alluvial and bedrock groundwater, as well as a long-term monitoring (LTM) plan for groundwater, surface water, and sediment to provide a means for monitoring and evaluation of the remedy performance (CH2M HILL, 1998a and 2004a). For this reason, the focus of this RI is the surface and subsurface soil at Site 1, which is defined as OU-4."*

22. **Comment:** Section 1.2, Project Objective. Looking at industrial scenarios for the site should be included in the objective. Objective needs clarification.

**Response:** As requested, the first sentence of the paragraph will be modified to read:

*"The primary objective of this RI is to provide an evaluation of the nature and extent of the soil contamination present at Site 1 and the potential risks that soil contamination may pose to human receptors under residential and industrial scenarios and to ecological receptors."*

23. **Comment:** Section 1.3, Scope. Clarify Site 1 is a part of the 11 acre RCRA site. Clarify use of the pre-2003 data.

**Response:** The clarification of Site 1 was included in Section 2.1.1. However, as requested, the paragraph will be modified to include the description of Site 1 as explained in Section 2.1.1:

*"Site 1 is 11-acre area, consisting of several historical disposal units and the 8-acre Active Burning Ground (ABG) area, which is currently permitted under RCRA. Prior to 2001, historical investigations at Site 1 indicated that the soil contamination at Site 1 posed potential risks. However, it was determined that collection of additional data was necessary to adequately delineate the extent of soil contamination and assess the potential risks. Therefore, ..."*

As requested, the use of the pre-2003 data in the RI report will also be clarified.

24. **Comment:** Page 2-1, Section 2.1.1. 1<sup>st</sup> paragraph – Rephrase to clarify where RCRA unit is inside of Site 1. Be consistent with other documents on reference to 500 or 100 year floodplain.

**Response:** Please refer to the response to comment no. 23 above on the clarification of the RCRA unit within Site 1. As requested, the reference to the 500 or 100 year floodplain has been clarified and it is consistent with other relevant documents.

25. **Comment:** Page 2-3. 1<sup>st</sup> paragraph – Delete wording "...downward direction" of groundwater flow.

**Response:** As requested, the phrase "...downward direction" will be deleted.

- 26 **Comment:** *Section 2.2.1.Document says earthen pads were used up to the 90's. Check date. Paragraph 6: Change burn pad areas to earthen pads. Paragraph 2: Replace ordnance material with solvent and explosive waste.*

**Response:** Based on the 1993 RFA Report, the 8 earthen pads were operated from 1959 to mid 1990s. As requested, the words "burn pad areas" will be changed to "earthen pads" and "ordnance material" will be changed to "solvent and explosive waste."

- 27 **Comment:** *Section 2.2.2. 2<sup>nd</sup> Paragraph: Verify dimensions of pits.*

**Response:** According to the RFA Report (A.T. Kearney, 1993), the three unlined pits were described as: two acid disposal pits, which were constructed as unlined crushed-limestone-filled earthen pits measuring approximately 4 feet by 4 feet in area and 4 feet in depth and a solvent disposal pit, which was constructed as an unlined earthen pit measuring approximately 50 feet by 50 feet in area and 4 feet in depth. This clarification will be included in the RI Report.

- 28 **Comment:** *Page 2-8. 3<sup>rd</sup> Paragraph: Delete "...a downhole video survey."*

**Response:** As requested, the phrase "... a downhole video survey" will be deleted from the relevant sentence.

29. **Comment:** *Section 2.3.6. Delete section because there is no reference to soils.*

**Response:** This section is considered relevant to Site 1 soils because the Draft Focused FS Report addressed all media (including soil) at Site 1. The report, however, was never finalized for the soil medium (OU-4) because additional data and evaluation were deemed necessary. Therefore, it is recommended that the sentence be retained.

30. **Comment:** *Page 3-1. 1<sup>st</sup> Paragraph: Explain this section only.*

**Response:** As requested for further clarification, the paragraph will be modified to read:

"The results of the 1992 RI, 1994 Focused RI, the 1995 Focused FS, and the 1998 Soil Level Delineation indicated that collection of additional data was necessary to adequately delineate the nature and extent of soil contamination at Site 1 and to assess the associated potential risks. For this reason, additional soil, sediment, and surface water samples were collected in February and October of 2001 and in July and September of 2004. For the purpose of this RI Report, these sampling events are referred to as the Supplemental Investigations."

31. **Comment:** *Page 3-1, Section 3.1.1. Relevance of this section to be discussed.*

**Response:** Refer to the response to comment no. 30 above.

32. **Comment:** *Page 3-4. Section 3.2.Delete "...general"*

**Response:** As requested, the word "...general" in the first sentence of Section 3.2 will be deleted.

33. **Comment:** *Page 3-5, Section 3.2.5. Include discussion on why earthworms were not found in soil.*

**Response:** As noted in Section 7.3.2.3, earthworms were found at many of the July 2004 soil sampling locations but sufficient tissue mass for the chemical analysis of all selected analyte groups could not be obtained from all locations. Because of this, it was decided to conduct laboratory bioaccumulation tests to obtain the earthworm tissue samples from all of the locations (even the ones that yielded sufficient tissue mass for analysis) for consistency and comparability. This explanation will be added to the text of Section 3.2.5.

34. **Comment:** *Page 3-6, Section 3.3. Explain previous data was validated. Reference all data.*

**Response:** Section 3.3 will be modified to read:

*"During the 2001 and 2004 supplemental investigations, soil, surface water, and sediment samples were collected and analyzed for VOCs, SVOCs, and explosives, dioxin/furans, pesticides, and metals in accordance to the analytical methods summarized in Table 3-4. Analytical services were performed by off-site laboratories and the results were validated by third parties in accordance with the Navy Installation Restoration Laboratory Quality Assurance Guide; Interim Guidance Document [Naval Facilities Engineering Center (NFEC), 1996]."*

35. **Comment:** *Figure 3-3. AS01-SB45, 55 should be identified with AOC M and not Site 1. Clarify whether SB45, 55 were used in ERA and if acceptable to BTAG.*

**Response:** SB45 and SB55, which were sampled from approximately the same locations as SB31 and SB32, were designated as reference samples and are thus not directly associated with either Site 1 or AOC M. These four surface soil samples were identified as reference samples in the 2004 Technical Memorandum that outlined the risk assessment approach; see also Section 7.3.4 of the RI. All four of these samples were used in the ERA (see Section 7.3.1.2 and Table G-25). As discussed in Section 7.3.4, the locations of the reference samples were selected during a site visit, attended by the Tier 1 Partnering Team and BTAG, to scope the 2001 supplemental sampling.

36. **Comment:** *Page 4-1. 1<sup>st</sup> Paragraph: Clarify why "...combined (surface and subsurface) soil" is used for HHRA or revise to say, "The HHRA for soil are listed." 4<sup>th</sup> paragraph: Explain why reference data is appropriate to ERA.*

**Response:** The statement will be clarified by adding the following sentence after the sentence discussed in the comment. "According to the standard EPA Region III HHRA practices, the combined surface and subsurface soil are evaluated in the risk assessment because it is assumed that for future exposure scenarios the subsurface soil could be excavated and mixed with surface soil, and then placed on the ground surface."

The use of reference soil data in the ERA was explained in the 2004 Technical Memorandum and is also explained in Section 7.3.4. This explanation will be added to Section 4 or Section 7.3.4 will be referenced.

37. **Comment:** *Page 6-20, Section 6.5.3. More clearly define how data was selected for target risk assessment.*

**Response:** Please refer to the response to Comment 11.

38. **Comment:** *Risk Assessment. Mark Stephens (USEPA Region III) has a concern that the residential risk for the active burning grounds is not documented. Although it was determined there is no unacceptable industrial risk, the nature and extent with respect to residential risk of the contamination is not documented.*

**Response:** The future residential scenario has been evaluated for the ABG area and included in the final HHRA throughout Section 6.0 and Appendix F.

39. **Comment:** *Section 8.2, Recommendations. 2<sup>nd</sup> paragraph: Change "interim status" to "RCRA permitted..."*

**Response:** The first sentence of the paragraph "The ABG is currently operating under interim status, a RCRA permit is expected to be issued in 2005." will be modified to read "The ABG is currently permitted under RCRA."

40. **Comment:** *Mark Stephens (USEPA Region III) and Tom Bass (WVDEP) have concerns with the recommendations for the active burning grounds.*

**Response:** The recommendations section of this document will be revised in accordance with the discussions held at the April 2006 partnering Meeting.

41. **Comment:** *The sediment risk section of the Site 1 RI should be evaluated and if any changes are made, they should be completed in redline and discussed with the regulators.*

**Response:** Please see the response to the second part of Comment 42. Any changes made to the risk assessment relating to sediment-associated risks will be redlined and discussed with the Tier 1 Partnering Team.

42. **Comment:** *A risk assessment should be performed with the residential scenario for Site 1 soil, and submitted as a technical memorandum for regulatory review, prior to incorporating into the RI report.*

**Response:** Please refer to the response to comment no. 38.

43. **Comment:** *WVDEP is concerned that if an industrial scenario is used to make the remedial decision for Burning Grounds soil, contaminants may continue to enter the river via surface runoff. The Focused RI Report discusses potential sediment risk concerns that are attributed to Site 1 runoff. If the report does not clarify where specifically the degradation is and the source of the degradation, the facility may be required to construct a berm to stop all runoff from the Burning Grounds, especially if the industrial scenario is used to make the remedial decision.*

*The text of the Focused RI Report associated with the correlation between soil constituent levels and sediment concentrations should be reassessed and revised, as appropriate, to ensure clarity of the correlation between soil constituent levels and areas of degraded sediment quality.*

**Response:** Based upon the conceptual model for the site, surface runoff from the Active Burning Grounds to the river is expected to be minimal due to its

predominantly flat topography. The principal historical transport pathway of contaminants from this area to the river is thought to be via groundwater, which is being addressed as part of the existing remedy. However, transport of site-related constituents from sloping floodplain areas of the site (i.e., OABG) to the river is a complete and potentially significant pathway, as discussed in Section 7.3.1.3. The transect approach used for the 2001 sampling was designed to collect data that helped evaluate the potential transport of site-related constituents from floodplain soils to the river. The qualitative evaluation of these data in terms of transport potential, provided in Section 7.3.6 of the RI, will be revised to more clearly indicate that potential transport is limited to Site 1 source areas within the sloping river floodplain (i.e., OABG area) and does not include the Active Burning Grounds.

44. **Comment:** WVDEP questions how PRGs will be established for Site 1 soil. Based on discussions with US Fish and Wildlife Service, it is their belief that the earthworm study didn't work because earthworms placed in the background soil died (therefore the data cannot be used to establish PRGs).

*Furthermore, section 7 of the Focused RI Report did not clearly state why the worms died and what affect this would have on being able to quantify potential risk and, therefore, establish cleanup levels. The Team will be receiving comments from BTAG (through EPA) regarding this issue.*

**Response:** Please see the response to Comment 18. It is not known why survival was poor in the two reference samples. However, as discussed in Section 7.5 (last bullet), because of the reduced responses in the reference samples (particularly for survival) relative to controls, only the control comparisons to site samples were used in evaluating the bioassay data in the ERA. It should be noted that these bioassay data are only one of multiple lines of evidence available for establishing risk and for developing PRGs.

45. **Comment:** USEPA and WVDEP would like the Focused RI report to include a residential risk assessment for the burning grounds soil.

**Response:** Please refer to the response to comment no. 38.

46. **Comment:** The partnering team concurred on Wednesday November 30, 2005 that PRGs do not need to be developed in the RI, but can be developed and presented in the FS, in order to facilitate finalizing the Focused RI report.

**Response:** As requested, the PRGs will be developed and presented in the FS.