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DEPARTMENT OF THE NAVY

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MAR 25 2004

WVDEP Office of Environmental Remediation
Superfund Group
Attn: Mr. Thomas Bass
1356 Hansford Street
Charleston, West Virginia 23501

RE: REVISED RESPONSE TO WVDEP REGULATOR COMMENTS ON WORK PLAN
FOR SITE 1 SOILS BASELINE ECOLOGICAL RISK ASSESSMENT - STEP
4 at ABL

Dear Mr. Bass:

This letter submits to you our revised response to comments you provided by WVDEP letter of 26 November 2003; comments to subject document on our draft work plan for Site 1 Soils Baseline Ecological Risk Assessment, Allegany Ballistics Laboratory, Rocket Center, West Virginia, July 2003. Our initial response was provided by a Navy letter of 20 January 2004; comment response to subject document. Attached you will find a copy of our latest response that was discussed during our meeting of 9 March 2004.

We will issue the document as final via separate correspondence. We request you provide us your acceptance letter by 12 April 2004 as we hope to mobilize for sampling on 19 April 2004.

If you have any questions concerning this issue, please contact me at (757) 322-4795.

Sincerely,

A handwritten signature in black ink, appearing to read "D. T. O'Connor".

D. T. O'CONNOR, P.E.
Remedial Project Manager
Installation Restoration Section
(Caribbean and Other)
Environmental Programs Branch
Environmental Division
By direction of the Commander

Attachment

Quality Performance ... Quality Results

Copy to:

EPA Region III (Mr. T. Richardson)

NAVSEA (Messrs. Aubert, Williams)

NAVSEA ABL (Mr. D. McBride)

CH2M Hill (Mr. S. Glennie)

Administrative Record File (ABL, WV)

Response to Comments
Draft Ecological Risk Assessment (Step 4) Work Plan for Site 1 Soils
Allegany Ballistics Laboratory, Rocket Center, West Virginia
Dated May 2003

This document responds to comments from the West Virginia Department of Environmental Protection (letter dated 26 November 2003) on the draft ecological risk assessment (Step 4) work plan for Site 1, Allegany Ballistics Laboratory, Rocket Center, West Virginia (May 2003).

1. Page 1-1; Introduction; first paragraph: The discussion identifies "Because of its co-location with Site 1, Area of Concern (AOC) M will also be included as part of this investigation.". It is unclear why AOC M is being broken out from Site 1. This document fails to address SWMU 7 (Inert Burning Ground), SWMU 11 (Former Burn Cages and Ash Landfill), SWMU 22C and 22D (Incinerators), and SWMU 27 (the Drainage Ditch System). Please provide the rationale for the omission.

All AOC M areas that are located outside of the 11-acre boundary of Site 1 will be removed from consideration in the work plan. All of the Site 1 SWMUs (SWMUs 1, 7, 8, 11, 20, 22C, and 22D) are included in this work plan but are not listed separately as being within the scope of the work plan. SWMU 27A was not included in this work plan as this scope deals exclusively with soil (not sediment). A separate investigation is currently underway for SWMU 27A.

2. Page 1-1; Introduction; third paragraph: The first paragraph as well as the title of the document identifies that this scope of work is for surface soil at site 1. The third paragraph is unnecessary and should be removed since it provides no beneficial information and only adds confusion to the document. Furthermore, Site 1 surface water and sediment was a media incorporated in the May 1997 Record of Decision. A five-year review of the remedy was conducted to determine if the remedy was protective and meeting the goals of the May 1997 ROD. If the findings of the five-year review determined that the remedy, as implemented, is not protective or is not meeting the goals of the ROD then the remedy would have to be modified or possibly changed to an alternate remedy.

The paragraph will be removed as requested in the comment.

3. Page 1-1; section 1.1 Objectives: The following areas should be part of the investigation: SWMU 7 (Inert Burning Ground), SWMU 11 (Former Burn Cages and Ash Landfill), SWMU 22C and 22D (Incinerators), and SWMU 27 (the Drainage Ditch System). Please provide the rationale for the omission.

Please see the response to Comment 1.

4. Page 2-1; section 2 Rationale for the Investigation: SWMU 7 (Inert Burning Ground), SWMU 11 (Former Burn Cages and Ash Landfill), SWMU 22C and 22D (Incinerators), and SWMU 27 (the Drainage Ditch System). Please provide the rationale for the omission.

Please see the response to Comment 1.

5. Page 2-1; section 2 Rationale for the Investigation: The reference to the *Site 1 Risk Assessment report* should be amended. The report was rejected for failure to report the 1998 and 2001 data collected at the Site. Change to "The report was rejected because it was incomplete due to the omission of the 1998 and 2001 data collected at the site."

The amended risk assessment report is pending the final resolution of comments. This section of the work plan will be modified, as appropriate, once comments on the risk assessment report have been resolved to the satisfaction of the ABL partnering team. In addition, the work plan will be revised to reflect the document submittals currently planned for Site 1 soil.

6. Page 2-1; section 2 Rationale for the Investigation: This section appears to target earthworms as the basis of the study without providing sound justification. Historic assessments have identified potential risk through dermal absorption, ingestion, and inhalation of particulates. The risk report indicated "terrestrial animals that burrow in soil and that feed on plants growing in contaminated soil would have the greatest exposure potential." Further, this document fails to assess seasonal inhabitants (e.g. insect larvae), which contribute significantly to the food chain. Please provide a justification for only targeting earthworms and how earthworms will provide a representative data set.

Earthworms are standard surrogates that are frequently used in ecological risk assessments to evaluate soil fauna communities. Their extensive contact with soils (via both dermal and ingestion pathways), their status as permanent inhabitants, and the availability of standard test protocols (to evaluate survival, growth, and reproductive endpoints) makes them well suited for use in evaluating soil fauna communities. As discussed in Section 7.3.1.3 of the draft risk assessment report, dermal and inhalation exposures for upper trophic level receptor species were not considered significant relative to ingestion exposures (based upon the general fate properties [e.g., relatively high adsorption to solids] of the site-related chemicals commonly present on Site 1 [primarily metals, PAHs, and dioxin/furans] and the protection offered by hair or feathers) and were therefore not directly evaluated in the risk assessment. The upper trophic level receptors considered in the risk assessment report are unlikely to be exposed to significant airborne sources of chemicals because the site is vegetated and little wind erosion of the surface soil would be expected. Furthermore, the primary chemicals of potential concern present on the site typically adsorb to soil suggesting the potential for volatilization and thus exposure via inhalation is limited. Incidental ingestion of soil during feeding, preening, or grooming activities was considered in the risk estimates. The work plan specifically addresses ingestion exposures for upper trophic level receptors through the collection of earthworm tissue samples for chemical analysis, the data from which will be used to recalculate ingestion-based risks using food web models.

7. Page 2-2; section 2.1 Ecological Risk Assessment Approach: See comment #3.

Please see the response to Comment 1.

8. Page 2-2; section 2.1 Ecological Risk Assessment Approach: The last paragraph is unnecessary. The introduction clearly presents the fact that surface water and sediment are part of the Site 1 groundwater, sediment, and surface water ROD. Impacts associated with this ROD would require reopening the ROD and modifying the current remedy. It is unclear why this document repeatedly refers to the Site 1 ROD.

Please see the response to Comment 2. The paragraph will be deleted.

9. Page 3-1; section 3 Sampling and Analysis Plan: This section should be rewritten. Clearly the sampling plan from the *Final Project Plans for the Phase II Investigation of Solid Waste Management Units (SWMUs) and AOCs at ABL* has no bearing to this scope of work. On page 2-1 of this document the data needs identified toxicity testing for the lower level terrestrial organisms (plants and soil invertebrates) and earthworms. Furthermore, the proposed sampling plan (section 3.1.1) only discusses earthworm collection. This document does not discuss plants and/or sampling methods. Please clarify.

The soil sampling protocols in the Phase II SWMU/AOC project plans are relevant to this work plan and are referenced rather than reproduced. Section 3.1.1 discusses both soil sampling (for chemical analysis and laboratory toxicity testing) as well as earthworm collection (for tissue residue analysis). The rationale for not including plant testing was specified in Section 2, next-to-last bullet.

10. Page 3-2; section 3.4 Investigation-Derived Waste Management: The document does not take into consideration the potential migration of the disturbed soil and contamination contained in the soil to the river. The areas identified as sampling point is within the river's vertical level of flow. It is recommended that the excavated material be containerized and characterized and properly disposed of.

This section is intended to address the handling of waste generated during the sampling program, which will be properly disposed of as specified in Appendix D of the draft work plan. The migration potential to the river is expected to be insignificant during the actual sampling because very little area will be disturbed when collecting the samples.

11. Table 2-1: Survival, growth, and reproduction of terrestrial plant communities: Why are there no measured end points? On page 2-1 the document identifies a need to measure biological effects for terrestrial organisms (plants and soil). Please clarify.

Please see the response to Comment 9.

12. Table 3-2: Should the analytical method for dioxin be 1613B or (SOW) DLMO1.4?

These two methods and Method 8290 are very similar, basically differing only in the internal laboratory QC procedures used. Each of these methods can be used to obtain similar results. Method 8290 was the method used previously for dioxin/furan analyses in Site 1 soils, it has specific provisions for tissue sample preparation, and is widely available through Navy approved laboratories. For these reasons, the Navy proposes to retain Method 8290 for this work plan.

13. Figure 3-1: The legend does not contain the symbol of a square and circle combined. Please clarify.

A square and circle at the same location indicates that both soil collection (for analytical chemistry and toxicity testing) and biota collection (for earthworm tissue residue analysis) will be conducted at that location. The figure will be modified to more clearly indicate this.

14. Figure 3-1: The legend contains reference to biota sampling. Should this be terrestrial to conform to the text in the document?

The legend will be changed to "Proposed Terrestrial Biota (Earthworm) Sampling Location".

15. Appendix E: This appendix is a significant portion of the document. This document should not have been submitted without this segment. Please provide the appendix with the next submittal of this draft document.

Since each laboratory has a slightly different SOP for earthworm toxicity/bioaccumulation testing, the SOP was not included in the draft work plan. Once consensus has been reached on the components of the work plan, laboratory bids will be solicited and a laboratory will be selected. The SOP from the selected laboratory will then be included in the final work plan. In addition, the work plan will be revised to state that the regulatory agencies will be provided with the opportunity to review the methodology to be used for the toxicity testing, as provided in the SOP (which is based upon ASTM and USEPA protocols), prior to field mobilization. Sample collection will not proceed until the Tier 1 partnering team reaches consensus on this methodology and provides its approval.