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Ref: 8ENF-RC

May 28, 2007

Mr. Jon Nickel
ASARCO East Helena Plant
100 Smelter Road
P.O. Box 1230
East Helena, MT 59635

RE: Initial Comments on Design Analysis Report for ASARCO East Helena Plant Corrective Action Management Unit (CAMU) Phase 2 Cell, Revised May 2007

Dear Mr. Nickel:

We have reviewed the above referenced document and have the enclosed comments on the design, construction, and waste placement portions of the revised Design Analysis Report for the CAMU Phase 2 Cell. In recognition that we are trying to expedite the review and approval of the CAMU design, I am providing you these preliminary comments so that you may begin developing your responses. EPA has retained a consultant to perform a focused reviewed of the revised CAMU design. I anticipate supplementing these comments with any additional ones provided by my consultant no later than June 7, 2007.

Additionally, we will be providing comments on Appendix D, the Sampling and Monitoring Plan, and Appendix E, the Operation, Maintenance, and Post-Closure Plan at a later date. We request that you address these comments through replacement pages, as appropriate, in addition to provision of responses. As you are aware, approval for construction commencement also hinges on establishment of adequate financial assurance. If you have questions on this letter or any related matter, please contact me directly at (303) 312-6503.

Sincerely,

Linda Jacobson

Linda Jacobson
RCRA Enforcement

Enclosure

cc: Denise Kirkpatrick, MDEQ
Randy Breeden, EPA-HP
Charles Figur, EPA-L

COMMENTS ON
DESIGN ANALYSIS REPORT ASARCO EAST HELENA PLANT
CORRECTIVE ACTION MANAGEMENT UNIT (CAMU) PHASE 2 CELL
REVISED MAY 2007

1. **Conditions of Approval, Comments 1, 5, and 9,** ASARCO responded by acknowledging EPA's conditions for approval. It is our understanding that the company intends to comply with each of these stated requirements.

2. **Page x, Asarco Response to EPA's Comment # I.A.2:** Please amend Section 8.0 References to include the reference "EPA 1986" cited here.

3. **Page xiv, EPA's Comment #I.C.1, Appendix G Table 4-1 Stockpile Acceptance Testing, Appendix G, 4.0 Compact Clay Liner, page 4-4, and Appendix J, Table 4-1, Stockpile Acceptance Testing:** The text and tables specify that the hydraulic conductivity must not exceed 10^{-6}. Asarco must modify the text and tables to specify 1.0×10^{-6}. We wish to clarify that it remains the project goal that the compact clay liner achieves a hydraulic conductivity of 1.0×10^{-7}; however, given the results of the geotechnical work, EPA established a performance standard of a hydraulic conductivity of no greater than 1.0×10^{-6}. Please make note of this here and throughout the remainder of the design where 10^{-6} is used rather than 1×10^{-6} . Please do not interpret this as any value between 1.0×10^{-6} to 9.9×10^{-6} as being permissible.

4. **Page xiv, Response to Comment 6,** please expand the text to include additional construction specifications and descriptions for the pumps, sumps, riser pipes, and methods for construction of these items.

5. **Page xxi, Waste Materials,** please amend this table to correctly identify which of these wastes will require neutralization.

6. **Page xxii, Waste Approved for Disposal in the CAMU,** We understand that you have proposed to include soil sampling and temporary capping as part of the demolition work. Due to the nature of this activity, it more appropriately falls under the scope and auspices of the EPA RCRA corrective action work. Removal of excess soils would also fall under EPA's corrective action authority. Please amend the table to reflect this.

7. **Page xxiv, Asarco's Response to EPA's comment E.1:** Asarco should explain what material it intends to use for the cushion layer.

8. **Page xxx, Asarco's Response to Comment E.**17, Use of Construction Stakes. Here the text indicates that rather than stakes or a laser beam, an inspector will observe the lift thickness; however, in Appendix J, Project Specifications, 203.07.01 and Table 4-2, indicate that construction stakes will be used. Please amend the text to indicate that an inspector rather than stakes will be used during construction.

9. **Page xxxi, Comment 20,** please expand the text to provide further details on the pumps, piping and drainage layers for the leak detection and leachate collection system.

10. **Page xxxii, Comment 2,** EPA acknowledges that this is not intended to be the SOP PD for the asbestos removal but recognizes that the EPA-approved CAMU Phase 2 Cell will be used for final disposal of the removed asbestos-containing material. Please provide additional specifics on the removal, segregation, containerization, labeling, and transport of the asbestos material, as well as how this disposal will be noted on any future deed restriction.

11. **Page xxxiii, Comment 6,** please provide the requested analytical data, such as any available TCLP data. During a discussion on May 11, 2007, ASARCO indicated its willingness to perform sampling of stored materials and newly demolished materials on a load basis. Please submit this proposal, including the number of samples and analytical parameters in response to these additional comments.

12. **Page xxxv, Comment 3,** please revise your "Waste Hauling Plan" to incorporate all components from the O&M Plan, Appendix H, and Appendix J, into one Operating Plan that addresses the requirements of EPA's comment.

13. **Page xxxv, Comment 4,** please clarify what is meant by your response in regard to limitation of waste size to a vertical distance of two feet. Will there be any waste sizing? If so, please amend the appropriate portions of the text to describe this in detail.

14. **Page xlvi, Comment 6,** regarding inspection requirements for the two CAMU cells, please allow us to reiterate the relevant portions from EPA's April 25, 2007 letter:

> "...ASARCO must adhere to the current monthly CAMU inspection requirements until an approved post closure plan is approved for both closed CAMU cells. If ASARCO wishes to alter its currently approved monitoring program for CAMU Cell 1, please submit a formal request to the EPA project manager. Further, as stated in an April 18, 2007, email, the intent of the original CAMU Phase 2 Cell comment, Section VII. Post Closure Care, Comment 5, was to require more frequent formal inspections by a professional engineer rather than a five-year evaluation frequency as proposed by ASARCO."

15. **Page xlviii, Asarco's Response to EPA's Comment VIII.1:** Following approval of the design of the CAMU Phase 2 Cell, please provide a detailed construction schedule similar to Figure 4-1 Construction Schedule in the Phase 1 Design.

16. **Page xlviii, Asarco's Response to EPA's Comment VIII.2.** Please note that this response erroneously references a Montana Department of Environmental Quality (MDEQ) response to Hydrometrics' letter dated June 16, 2006. The MDEQ's files do not include a response to Hydrometrics or Asarco. We believe the response is referencing a July 11, 2006 letter from EPA that approved the geotechnical work.

17. **Section 3.6 and Section 3.7:** The gas migration layer and cushion layer on top of the waste is inconsistent between Figure 3.5 and Figure 3-6. This should be corrected.

18. **Section 3.7 Component Design:** The gas migration layer is not discussed in the component design section. A brief description should be included. In addition, Asarco should clarify how many vent pipes are proposed for the gas vent system.

19. Section 3.7.1.3 Cap Composite Liner: The requirements for the geosynthetic clay liner listed in this section are also applicable to the GCL that is on top of the compact clay liner. This point is not clear in the Design Report and should be clarified in Section 3.7.1.2.

20. Section 3.7.1.3 Cap Composite Liner: This section states the cap liner will consist of a 40-mil double-sided textured HDPE FML on top of a geosynthetic clay liner (GCL). However, various figures and specification sheets do not match the text and appear to have the GCL on top of the FML. The following figures and sheets must be modified: Figure 3-6; Sheet Number 28; and Sheet Number 30.

21. Section 5.0, Temporary Cap: please explain how the 10 ounce cushion fabric from the temporary cap, which will not be reusable, will be sized before disposal in the cell.

22. Appendix G 4.0 Compact Clay Liner, page 4-4: The text discusses conformance testing of the compact clay liner following completion. As reflected in Comment 3, the text should be revised to specify that the hydraulic conductivity must not exceed 1.0×10^{-6} not simply 10^{-6}. In addition, the text must include provisions for discussion with EPA and approval of the liner by EPA if any of the conformance tests do not meet the standard. EPA and Asarco will need to agree on a path forward such as rejecting the liner or mitigation to decrease the conductivity.

23. Appendix H Section 2.0 Dust Control: The dust control plan appears to adequately address dust control during transportation unless there are high wind or precipitation events. Please specify whether work stoppage criteria apply to on-site and off-site transport. If transport is halted, please amend the text to indicate that trucks containing wastes will be tarped until conditions improve.

Please state where the wind speed numbers are obtained. We assume the Helena airport. We also suggest installation of wind socks strategically placed as an indicator of high wind conditions requiring work stoppage.

Wastes already in place in the CAMU may be a fugitive emission source. The dust control plan must include control measures for waste already disposed of in the CAMU. Fugitive emission may not simply be "nuisance dust" but may be hazardous waste containing emissions. Therefore, fugitive emissions must be diligently controlled. We recommend inspections of the cell at least twice daily to assess the potential for windblown dispersion and establishment of procedures to address visible releases from the cell. Please amend the Operating Plan (refer to Comment 12 above) to include provisions for this.

24. Appendix H, Waste Hauling, 2.3 and 4.0: Please expand this plan to describe how and where wastes within the transport vehicles is removed. If the haul truck tires contact the hazardous wastes within the cell, decontamination must occur before they enter the haul roads. Please Expand Section 4.0 to describe how and where equipment used within the cell will be decontaminated.

25. Appendix H, Waste Hauling: Please expand this plan to include the daily inspections requested in Comment 23 above, as well as weekly inspections of fences, gates, condition of haul roads, storm water pond, presence of precipitation run-off or ponded liquids, decontamination pads, etc. Please develop forms to document these inspections.

26. Appendix I Sheet 26 and Sheet 27: The cushion material size specifications are inconsistent. Sheet 27 should be corrected to match Sheet 26

27. Appendix I Sheet 30: Please explain "construction geotextile" on Sheet 30.

28. Appendix J: Table 4-1 Stockpile Acceptance Testing should be revised to specify the hydraulic conductivity must not exceed 1.0×10^{-6}, as reflected in Comment 3 above.

29. Appendix J; 203.07.8, A. 3. Waste Material, please describe how and where the size reduction of the demolition debris, both newly generated and stored wastes, will occur, and amend the text to include this discussion.

30. Appendix J, Section 203.07.07 D. 2 and 2, the text lists 8 inches of excavated soil for use as topsoil and 16 inches of soil for use as subsoil; however, on page xliv, in response to Comment 6, ASARCO indicates that a cover of 6 inches of seeded topsoil will be placed over 24 inches of subsoil. Please amend Appendix J to reflect this proposed cap design.

31. Appendix J: Please note that Section 203.07.7 D.3. on page 6 erroneously discusses the compacted clay cover. A clay cover is not proposed for the Phase 2 CAMU. Please amend the text.

32. Appendix J, 203.07.8 C.1, page 9, please explain whether the specifications have erroneously required a compaction to 90 percent Proctor maximum dry density rather than 95 percent, as listed in Table 4-2, QC Testing for CCL Placement.

33. Appendix J, 203.07.8 C.1. b.1, the project specifications state that "No more than 20 percent of the material represented by the samples shall be at dry density less than 95 percent of Proctor maximum dry density." Please correct this to reflect that not more than 3%, rather than 20%, outliers are allowed.

34. Appendix J, 623.02, A.: Table 4. Geomembrane Specifications may contain an error of the gauge for the CAMU CAP. The value listed is 20 mils. The designed cap liner should be 40 mil. Also Table 4 Geomembrane Specifications and Table 5-1 Manufacture's QA Test for FML include discrepancies between them; for example, tear strength values differ between Table 4 and Table 5-1. Please reconcile these tables.

35. Appendix J: Page 3, Section 625.05.7 Cover Placement discusses placing soil over the GCL. For the CAMU Phase 2 Cell's bottom and cap, soil should not be placed directly on the GCL. Asarco must amend these specifications to ensure their consistency with the proposed design.

36. **Appendix J;** 203.07.8 C. 7. Waste Materials, please specify whether crushed slag, imported gravel or select fill will be used.