

EM-453 COMMENTS ON: PRELIMINARY DRAFT TREATABILITY STUDY REPORT AND
PROCESS FORMULATION REPORT FOR POND 207C AND CLARIFIER
DELIVERABLE # 235A, 235E, 236A2, AND 236E
ROCKY FLATS PLANT

GENERAL COMMENTS:

The actual results presented in this document are incomplete; therefore, it is difficult to come to any definite conclusions regarding these tests. The conclusions stated in Sect. 8.0 seem appropriate. The "successfully" solidified samples were able to meet the Toxicity Characteristic Leaching Procedure (TCLP) testing requirements, and the proposed solidification mixture appears capable of solidifying the 207C Pond slurry and Clarifier. The proposed plan to control the process based on "normalizing" the operating envelope of Total Dissolved Solids (TDS), Total Suspended Solids (TSS), and hazardous constituents seems to address some major concerns. Because no consistency appears in the unconfined compressive strength (UCS) data, the need to explain why some of the samples have uneven surfaces is not fully developed, and this uncertainty makes the product's stability questionable. Upon completion of the durability testing and petrographic analysis it is hoped that these questions will be more completely answered. Great concern exists that all testing to date has been confined only to small scale samples over a relatively short time span, and that there significant problems could arise with scale up factors in mixing, possible efflorescence problems, and in curing-solidification.

Several examples exist of results being omitted as a result of laboratory mistakes. The validity of leaving out the TCLP results is unclear. By leaving these results in the document, an idea of the margin of safety in meeting the TCLP requirements is explained.

The addition of Latex 2000 as an ingredient in the solidification mixture was not addressed in a previous document, "Process Control Plan 207C Pond and Clarifier, Ponds/sludge Waste Processing," Deliverable # WBS 253 & 254. This fact should be included in that document if the decision is made to use this additive.

Many typographical errors should be corrected before the final report is submitted. A list of acronyms and initialisms would also be helpful in this document.

SPECIFIC COMMENTS:

1. Section 2.3.3, p. 2-23, first paragraph: In a previous document, "Process Control Plan 207C Pond and Clarifier, Ponds/sludge Waste Processing," Deliverable # WBS 253 & 254, a shutdown alarm is said to exist for cyanide. This statement implies that concern exists and that a requirement exists for cyanide concentration which is not a parent in this paragraph. Please clarify.

2. Section 2.3.2.3, p. 2-20, first, second and third paragraphs: Paragraph 1 seems to be out of place with no clear reason for the explanation given until paragraphs 2 and 3.
3. Section 2.3.2.3, p. 2-20, second paragraph, second sentence: The word "of" should be "or."
4. Section 2.3.3, p. 2-21, third paragraph, third sentence: The word "where" should be "were."
5. Section 3.1.1.1, p. 3-2, second paragraph, fifth sentence: The extra "i" in the word "in" should be deleted.
6. Section 3.1.1.2, p. 3-2, fourth paragraph, second sentence: The word "contract" should probably be "extract," and the last sentence there should have a space between "extract" and "analyzed."
7. Section 3.1.1.3, p. 3-3, third paragraph, second sentence: The word "determine" is misspelled.
8. Section 3.1.2.2, p. 3-4, paragraph: Did all samples have uneven surfaces and could the salts possibly have caused the decrease in UCS? Uncertainties also exist about the discoloration of some of the cylinders and the samples in which the UCS was lowered over a long-term basis. It is understood that these measurements are not a requirement for Nevada Test Site (NTS) burial but are clearly an indication of the product's stability. Confirmation should be made of the product's stability before shipping to NTS.
9. Section 3.2.2, p. 3-40, sixth paragraph: The adjustment to subtract out the lime portion of the pozzolan blend to achieve the proper ratio in the field should be more clearly explained to avoid misconception and/or field error.
10. Section 3.2.3, p. 3-42, second paragraph, first sentence: The word "as" is omitted.
11. Section 3.4.2.2, p. 3-49, second paragraph, last sentence: The extra "b" in the sentence should be deleted.
12. Section 6.3, p. 6-4, first and second paragraphs: The explanation given for the laboratory error is confusing and significant. If the only error was that the extraction fluid #2 (40 CFR 261, App. I, Sect. 5.7.2) was improperly prepared, and that more acetic acid was added to this solution to achieve a pH of 2.88 ± 0.05 , then this would seem a very narrow margin of error for the sludge to pass the TCLP testing.
13. Section 6.3, p. 6-4, second paragraph, first sentence: The word "then" should be "than."
14. Section 7.3, p. 7-4, second paragraph, first sentence: The word "then" should be "than."
15. Section 7.3, p. 7-4, second paragraph, fifth sentence: The word "then" should be "than."