UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
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Ref: 8EPR-F

MAR 9 1998

Mr. Steven Slaten
Department of Energy
Rocky Flats Office
P.O. Box 928
Golden, CO 80402-0928

RE: Sampling and Analysis Plan for the Source Removal at Trench 1

Dear Mr. Slaten:

EPA has reviewed the above referenced SAP for Trench 1 and has the following comments.

Page 7, third paragraph:

This paragraph discusses the statistical confidences of the proposed confirmation sampling that have been calculated based upon hot spots of 19' and 17' in diameter. However, neither this text or nor Table 2-1, Statistical Parameters Used to Determine Excavation Boundary Sample Approach, provide the variance that was assumed in arriving at the statistical confidences. This needs to be provided, in order to evaluate the validity of the calculations.

Also on this page, it is stated that DU is presumed to be present pervasively throughout the trench volume. The EM/GPR surveys that were conducted do not support this presumption, but instead indicate that only the ends of the trench have large concentrated areas of drums or metal objects, whereas the central portion shows more variability. For this reason, it is necessary to test the variability of the excavation boundaries based upon information gathered during the excavation process. To do this, the trench contents need to be diligently recorded and mapped throughout the excavation process. This will provide the information needed to then section the trench into areas of similar contents. Once this is done, each area having similar contents would then need to be sampled more than once to determine the variability present within the section. Only after the variability is determined can the grid size be accurately calculated.

Table 2-1:

This table does not agree with Figure 3-1 regarding the number of samples that would be collected. Figure 3-1 shows 20 samples from the trench floor

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assuming 200' length; Table 2-1 lists 22 samples for the trench floor. Figure 3-1 shows 10 samples taken from the long trench walls; Table 2-1 lists 11 from the long trench walls. This also results in differences in the total numbers of samples collected of 46 in Table 2-1 versus 42 shown in Figure 3-1. Table 2-1 should be corrected accordingly, as should Table 3-1 and various pages in the text.

Section 2.1.2 DQOs to evaluate VOCs in excavation boundaries:

Some of the assumptions made regarding VOCs will need additional sampling for verification. The first assumption is that VOCs are localized, with only a small number of drum of still bottoms present in the entire trench. This could be incorrect, VOCs might be much more widespread than anticipated, and if so, sampling for VOCs would need to be much more pervasive. Another assumption is that still bottom wastes will be easily identified and subsequent sampling will occur only in the grid cells immediately adjacent to this location. If this is indeed the case, it will still need to be tested by sampling in at least one other area of the trench floor. Finally, if no still bottom drums are identified, sampling for VOCs must still occur in at least 2 locations that are most likely to be near former sources.

Section 2.1.3 DQOs to evaluate cyanide in excavation boundaries:

Ten drums of cemented cyanide waste are expected to be present in the trench and these might be easier to identify than the above mentioned VOC sources, but some additional sampling should be performed as described above to test the validity of the assumptions made. This would include sampling in at least one location other than where cemented cyanide waste is found and alternately, if none is identified, sampling in at least two suspect locations.

Section 2.2 DQOs to evaluate disposition of soils:

Using 25 ppm as the concentration from the OVA for determining whether soils should be segregated for possible VOC treatment may not be low enough to screen for soils that have VOCs above the RFCA action levels (11.5 mg/kg for PCE and 9.27 mg/kg for TCE). The screening action level must either be dropped below the soil action levels or justification must be provided that establishes 25 ppm as an acceptable screening level.

Soils in stockpile #1(<5000 cpm FIDLER) are proposed to be sampled only 3 times for confirmation and if found to be below the soil action levels, would be returned to the trench as specified in the PAM. No rationale or statistical basis is given for this number of samples, and there is no correlation between number of samples and the volume of soils. The same scheme that is proposed for soils going to stockpile #2 (>5000 and <10000 cpm) should be applied to the soils going to stockpile #1, so that there is a sound statistical basis for determining the disposition of these soils.

Section 2.3.1, Page 18, Testing for pyrophoricity:

This section discusses testing for pyrophoricity if oxidized DU is encountered, presumably in order to determine whether additional stabilization of the DU is needed prior to disposal. Due to the difficulty is determining accurately whether the oxidized DU is pyrophoric and the likelihood that it will still be pyrophoric, it might make more sense to ship all identified DU to Starmet for stabilization. Also, what criteria will be used to determine whether the DU encountered is oxidized? In addition, what are the criteria to be used in determining the frequency of testing for pyrophoricity?

The number of samples to test for pyrophoricity is stated as being a minimum of 3. This number should be correlated with the volume of oxidized DU and the variability found in the results.

Section 5.3, Quality Assurance, page 38:

This section states that data validation will not be performed until after the data is used for its intended purpose. This is very risky and could result in remobilizing for further excavation after the trench has been backfilled. Since the trench will be covered by the temporary structure, it seems more reasonable to perform all data validation on soils that will be returned to the trench and all samples from the excavation floor and walls prior to actually backfilling the trench.

Radiological Analysis by HPGe:

Table 3-1 and Appendix 1 both list the HPGe as an instrument and analytical method to be used for this project. Several samples (3 to 5) should be split and also analysed by alpha spectrometry in order to correlate and verify the gamma analysis by HPGe. This is especially important when trying to determine the presence and concentration of Plutonium.

This plan does not mention data management, but probably should since this falls to the responsibility of the Analytical Services Division. The analytical results and sample locations for the confirmation samples collected from the trench floor and walls should be entered into the Soil/Water Database, so that they may be easily accessed in the future if necessary. If you have any questions regarding these comments, please contact Gary Kleeman at 312-6246.

Sincerely,

Tim Rehder

Tim Rehder
Rocky Flats Team Leader

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cc: Carl Spreng, CDPHE
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