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OPERABLE UNIT 1 ADDITIONAL WASTE PIT AREA SAMPLING OHIO EPA COMMENTS SEPTEMBER 1990

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ADDITIONAL WASTE PIT AREA SAMPLING

OHIO EPA COMMENTS
September 1990

1. **COMMENT:** **Given the heterogeneous nature of the waste pits and the difficulty obtaining representative samples or measurements in these pits as noted in Section 1.1.2, we recommend that monitoring wells or lysimeters be completed in all waste pit borings. This would provide for much greater understanding of the variability of fluid levels and chemistry in the waste pit area and thereby facilitate the Risk Assessment and Feasibility Study.**

RESPONSE: Monitor wells will be installed in each boring at a depth such that saturated materials are encountered. The wells will be sampled for parameters listed in Table 4. Water levels will be measured in each well on a monthly basis for a minimum of one year. Revise the Work Plan, Section 2.1, last paragraph to reflect this response.

Section 2.1, Methodology

2. **COMMENT:** **If the pit bottom is partially penetrated by the split spoon sampler, then a bentonite plug shall be placed in the bottom of the borehole to reduce the possibility of leakage as a result of the boring.**

RESPONSE: Add the above comment to the end of paragraph 4 under Section 2.1.

Section 2.2, Boring Locations.

3. **COMMENT:** **The Ohio EPA should be notified if the boring locations need to be changed due to unexpected field conditions.**

RESPONSE: Given the nature of the waste and the experience of the previous sampling effort, it is likely that an impenetrable object will be encountered. If field judgement suggests relocation of a boring will lead to a higher probability of successfully installing a well to near the bottom of a waste pit, such action will be taken and all interested parties, including OEPA, will be notified. The response will be added to Section 2.2 of the Work Plan.

Section 2.3.1, Physical and Geotechnical Sampling.

4. **COMMENT:** **One set of Shelby tube samples for waste pits 1 through 4 may not be adequate to characterize the geotechnical properties of the waste material. Shelby tube samples should be collected from each boring at the 3 specified depths and analyzed for waste content, density, Atterberg limits, and grain size distribution. Based on the variability of these results additional permeability, consolidation and triaxial tests may be warranted.**

RESPONSE: Shelby tube samples will be collected from each boring at the three specified depths. All Shelby tube samples from the one-third and two-thirds interval depths will be analyzed for density, moisture content, specific gravity, Atterberg limits and grain size distribution. After evaluation of the results of these tests additional permeability, consolidation and triaxial tests may be completed on archived material from the Shelby tube samples. Waste content will be evaluated on the composited samples as specified in Table 4, rather than from material within the Shelby tube. The Work Plan will be revised to incorporate this response.

Section 2.3.2, Waste Treatability Samples.

5. **COMMENT:** **The method for preservation of these samples needs to be included. How does this differ from previous samples of the waste pits.**

RESPONSE: Preservation of these samples will include placing the samples in a plastic lined airtight steel drums and maintaining the temperature above freezing where the drums are stored. This method of storage (preservation) is acceptable for the intended testing to be conducted (if necessary). The types of treatability testing envisioned for these materials are related to enhancing the structural stability and leach resistance of the waste materials. The Work Plan will be revised to indicate method of storage/preservation of these materials. The waste pits were not previously sampled under the RI/FS.

Section 2.3.3, Geochemical Samples.

6. **COMMENT:** **The Ohio EPA requests a copy of the "Field Sampling and Laboratory Procedure Plan: for the Geochemical Program (IT 1989) and any reports prepared as a result of this investigation.**

   a. **Are petrographic and X-ray diffraction studies needed to refine the distribution coefficient (Kd) values for uranium? This may be critical information since it can influence retardation factors for uranium transport.**

RESPONSE: A copy of the information requested will be provided. Petrographic and X-ray diffraction studies of the waste pit materials are not essential to determining appropriate retardation factors for uranium transport. Wells will be installed in the Pits to collect representative leachate samples. The resultant leachate data will be integrated into the till groundwater and EQ3NR/EQ6 geochemical models for contaminant transport studies. Actual geochemical analyses including X-Ray diffraction will be performed on till materials and compared to published Kd. No change to the Work Plan due to this comment.