U-003-305.19

1993

OPERABLE UNIT 1 ADDITIONAL WASTE PIT SAMPLING U.S. EPA COMMENTS SEPTEMBER 1990

09-01-90

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ADDITIONAL WASTE PIT SAMPLING

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Section 2.0, Sampling Strategy

1. **COMMENT:** **The work plan addendum represents a well thought out sampling plan with objectives, data needs, and specific sampling and analytical activities. The major technical deficiency is that the work plan addendum does not address quality control (QC) samples or decontamination procedures. These items are required to be included or specifically referenced. If proper QC samples (blanks, duplicates, and matrix spikes) are collected and decontamination procedures followed, the data generated from the activities presented in the work plan addendum should be sufficient to meet the identified data needs.**

RESPONSE: Section 2.0, Sampling Strategy states: "unless specifically modified by this addendum, all activities shall be governed and conducted in accordance with the appropriate portions of the "U.S. DOE Feed Materials Production Center Remedial Investigation and Feasibility Study Work Plan" including:

- Volume I - Sampling Plan
- Volume II - Health and Safety Plan
- Volume IV - Data Management Plan
- Volume V - Quality Assurance Project Plan"

Specifically the QC requirements are outlined in Volume V, QAPP Section 11, titled: Internal Quality Control Checks and Frequency. Decontamination procedures are outlined in Volume V, QAPP, Section 6, titled: Sample Collection Procedures.

Section 2.0, Paragraph 1.

2. **COMMENT:** **Table 1 lists only four of the five wells to be installed.**

RESPONSE: No longer applicable, monitor wells will be installed in all 13 borings. See OEPA Comment #1.

Section 2.1, Paragraph 2.

3. **COMMENT:** **The report should state if the "10-inch nominal diameter" of the auger is the inside or outside diameter.**

RESPONSE: The "10-inch nominal diameter" refers to the outside diameter. The inside diameter will be 6.25-inch nominal diameter. Section 2.1 will be revised to reflect this clarification.

Section 2.1, Paragraph 2.

4. **COMMENT:** **Methods ASTM D 1587-83 (Thin Walled Tube Sampling) and ASTM D 1587-84 (Standard Penetration Test and Split Barrel Sampling) should be specifically referenced and followed.**

RESPONSE: The appropriate ASTM Standards will be referenced and followed. Those standards are:

- Thin Walled Tube Sampling of Soils, ASTM D 1587-83
- Penetration Test and Split-Barrel Sampling of Soils, ASTM D 1586-84

The standards will be referenced in the Work Plan and followed in the field sampling effort.

Section 2.1, Paragraph 5

5. **COMMENT:** **Although Attachment 1 to the work plan addendum is referenced, it is not attached to the document. This attachment should be provided.**

RESPONSE: This comment is no longer applicable as monitor wells will be installed in all 13 borings. The use of lysimeters is considered unnecessary after further review of the boring logs from the CIS. The references to the use of lysimeters and Attachment 1 will be deleted from the text.

Section 2.3.1, Paragraph 3

6. **COMMENT:** **The text does not provide the rational for the selection of 12 of 18 Shelby tubes for geotechnical analyses. This information should be provided. Because the deeper portions of the waste pits is expected to be saturated (whereas the shallower portions may not be) it is recommended that at least two shelby tubes (one from the shallow portion and one from the deeper portion) from each waste pit be selected for geotechnical testing.**

RESPONSE: Shelby tubes will be collected in all 13 borings at the 3 specified intervals. The samples will be analyzed for geotechnical parameters as outlined in Table 3, which will be updated.

At a minimum all borings will have Shelby tubes samples from the one-third and two-thirds intervals 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 tubes. This response will be incorporated into the Work Plan.

Section 2.3.2, Paragraph 1

7. **COMMENT:** **Specific sample collection and storage procedures as well as potential analyses should be presented or referenced. This information is necessary because the logistical and health and safety concerns will probably preclude further sampling of the waste pits. Therefore, all aspects of data usages and testing need to be carefully considered.**

RESPONSE: Collection of the treatability samples will be accomplished with a shovel as the cuttings are brought to the surface by the augers. Care will be taken to insure that materials other than pit fill are kept out of the samples or at least kept to a minimum. The collection of the auger cuttings will be monitored by the supervising geologist.

Decontamination of sample collection equipment and chain of custody protocols will be as outlined in the RI/FS Work Plan Volume V, QAPP.

The drums of cuttings will be turned over to WMCO personnel, who are handling the treatability study, as they are generated. The sealed drums will be stored in a sheltered secure area with the temperature maintained above freezing.

The material is being collected for future use in waste stabilization formula optimization studies. These studies will be completed during the design phase of the remedial action based on the selected remedial alternative. The Work Plan will be revised to incorporate this response.

Section 2.3.3, Paragraph 1.

8. **COMMENT:** **Specify what the reference "(IT, 1989)" refers to.**

RESPONSE: The entire title of the document needs to be identified to fully clarify the reference. The entire title is as follows:

Field Sampling and Laboratory Procedure Plan for the Geochemical Program In Support of the Remedial Investigations/Feasibility Study Feed Material Production Center Fernald, Ohio (May 5, 1989), IT Corporation.

The complete title will be incorporated into the revised Work Plan.

Section 2.3.3, Paragraph 2.

9. **COMMENT:** **Because the materials in the waste pits are very heterogeneous, it may be more appropriate to conduct the geochemical analyses (for fate and transport modeling) on composite samples from each of the borehole intervals not on one composite sample of all three borehole intervals.**

RESPONSE: It is the DOE position that one composite sample from each boring will provide sufficient information to assess the geochemical properties of the wastes within the pits. The planned sample analysis includes radiological and chemical parameters for each of the borehole intervals as well as leachate samples. These analyses along with the TCLP composite samples will be sufficient for the fate and transport modeling. The cost of the additional geochemical analyses is on the order of 200,000 dollars. The DOE position is that the information gained from these additional analyses will not be sufficient to justify the cost. No change to the Work Plan is necessary.

Table 4

10. **COMMENT:** **This table should list all analyses referenced in the text. The table does not list TCLP, uranium differential leaching, total organic carbon, grain size, or treatability analyses. This table would be more helpful if it was organized by activity instead of by analysis. The table attached to this letter is an example of such a table typically prepared for EPA lead RI work plans.**

RESPONSE: The example table was never received. Table 4 will be updated to reflect all analyses with the exception of the geotechnical parameters which will be outlined in Table 3 and the treatability studies which have yet to be defined and approved.