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02 NOV 2001

Mr. James A. Saric, Remedial Project Manager
United States Environmental Protection Agency
Region V, SRF-5J
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

DOE-101-02

Mr. Tom Schneider, Project Manager
Ohio Environmental Protection Agency
401 East 5th Street
Dayton, Ohio 45402-2911

Dear Mr. Saric and Mr. Schneider:

TRANSMITTAL OF RESPONSES TO THE OHIO ENVIRONMENTAL PROTECTION AGENCY COMMENTS AND CHANGE PAGES TO THE FINAL CERTIFICATION REPORT FOR AREA 1, PHASE III PART ONE

Reference: Letter, T. Schneider to J. Reising, "Conditional Approval – Certification Report for A1PIII Part 1," dated September 14, 2001

Enclosed for your information are responses to the Ohio Environmental Protection Agency (OEPA) comments and change pages to the final Certification Report for Area 1, Phase III Part One. The corrections in these change pages have addressed the minor editorial errors in this report.

If you have any questions or need further information, please contact Robert Janke at (513) 648-3124.

Sincerely,

Johnny Reising

Johnny W. Reising
Fernald Remedial Action
Project Manager

FEMP:R.J. Janke

Enclosures: As Stated

cc w/enclosures:
R. Greenberg, EM-31/CLOV
N. Hallein, EM-31/CLOV
R. J. Janke, OH/FEMP
T. Schneider, OEPA-Dayton (three copies of enclosures)
G. Jablonowski, USEPA-V, SRF-5J
F. Bell, ATSDR
F. Hodge, Tetra Tech
M. Schupe, HSI GeoTrans
R. Vandegrift, ODH
AR Coordinator, Fluor Fernald, Inc./MS78

cc w/o enclosures:
J. Reising, OH/FEMP
A. Tanner, OH/FMEP
D. Carr, Fluor Fernald, Inc./MS2
J. D. Chiou, Fluor Fernald, Inc./MS64
T. Hagen, Fluor Fernald, Inc./MS65-2
S. Hinnefeld, Fluor Fernald, Inc./MS52-2
F. Miller, Fluor Fernald, Inc./MS64
T. Walsh, Fluor Fernald, Inc./MS46
ECDC/Fluor Fernald, Inc./MS52-7

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RESPONSES TO OHIO ENVIRONMENTAL PROTECTION AGENCY COMMENTS ON THE FINAL CERTIFICATION REPORT FOR AREA 1, PHASE III PART ONE (20720-RP-0003, REVISION 0)

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT

SPECIFIC COMMENTS

Commenting Organization: Ohio EPA — Commentator: OFFO
Section #: 3.1 — Pg. #: 3-2 — Line #: Third paragraph — Code: E
Original Comment #: 1

Comment: The second paragraph references Figure 2-3, when it would appear it is actually referencing Figure 2-2. Please correct.

Response: Agree.

Action: Revise the second paragraph in Section 3.1 to reference Figure 2-2.

Commenting Organization: Ohio EPA — Commentator: OFFO
Section #: 4.1 — Pg. #: 4-1 — Line #: Second paragraph — Code: E
Original Comment #: 2

Comment: The last sentence in this paragraph references Appendix B for a summary of analytical results. Appendix B lists all V/FCNs for the project, while the analytical results are in Appendix C. Please correct.

Response: Agree.

Action: Revise the second paragraph in Section 4.1 to reference Appendix C for analytical results.

Commenting Organization: Ohio EPA — Commentator: OFFO
Section #: 5.1 — Pg. #: 5-1 — Line #: First paragraph — Code: E
Original Comment #: 3

Comment: The sixth line states that "result for samples collected in CU 26...". We believe this sentence is actually addressing the above-FRL hit located in CU 25, not CU 26. Please correct.

Response: Agree.

Action: The sixth line in the first paragraph in Section 5.1 will be revised to indicate CU 25.

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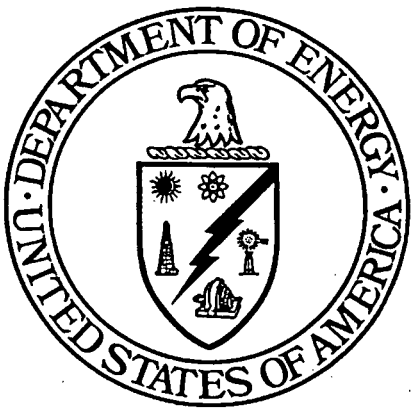
CERTIFICATION REPORT FOR AREA 1, PHASE III PART ONE

FERNALD ENVIRONMENTAL MANAGEMENT PROJECT FERNALD, OHIO



OCTOBER 2001

U.S. DEPARTMENT OF ENERGY
FERNALD AREA OFFICE

20720-RP-0003
REVISION 0
PCN 1

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REVISION SUMMARY

Revision	Date	Description of Revision
Rev. 0	8-01	Initial issuance
PCN 1	10-01	Revised to incorporate responses to Ohio Environmental Protection Agency comments correcting minor editorial errors.

3.0 OVERVIEW OF FIELD ACTIVITIES

3.1 DATA EVALUATION, SUPPLEMENTAL REAL-TIME SCAN, AND DEBRIS REMOVAL

Based on historical data from A1PIII Part One, no soil remediation activities were required prior to certification sampling (see Section 1.2). The historical data from this part of the FEMP site are discussed in detail in the A1PIII Part One CDL.

Beginning in August 1999, supplemental real-time scans of A1PIII Part One were conducted using the Radiation Tracking System (RTRAK), the Radiation Scanning System (RSS) and the high-purity germanium (HPGe) detectors. The mobile NaI detectors (RTRAK and RSS) were used to scan existing "roadways." The HPGe was used to scan the debris in the NE (CU 21) and SW (CU 24) corners and along the southern border (CU 25). From February 8 through February 20, 2001, the HPGe was also used to scan the footprint of the subsurface debris removal area within CU 26.

Data collected during these scans were displayed for total gamma activity (as counts per second), total uranium, radium-226, and thorium-232. Results demonstrate total uranium, thorium-232, and radium-226 to be below their respective FRLs. With regard to the total uranium, thorium-232, and radium-226, no mobile NaI results exceeded three times the FRL, and no HPGe readings of the debris piles and fill areas exceeded one time the FRL; therefore, no hot spots were identified. Tables and maps demonstrating the results of these supplemental real-time scans are included as Appendix A.

In May 2000, certification sampling began in the majority of the A1PIII Part One area. All the required samples associated with CUs 01 through 25 were collected.

In response to an OEPA comment issued during development of the CDL, Electromagnetic Conductivity (EM) profiling was conducted in the southwest and northeast fill areas in September 2000. Using the EM information regarding potential surface and subsurface anomalies, an Implementation Plan was developed for the debris removal and bank stabilization along Paddys Run. The draft Implementation Plan was completed in December 2000 and the final Implementation Plan was issued in February 2001. In preparation for truck routes, cultural resource surveying was conducted during the winter months.

Under the direction of Fluor Fernald construction personnel, field implementation of the debris removal by WISE Construction was initiated in February 2001. The subsurface debris removal and investigation in the southwest area along Paddys Run was completed by the end of February. In the northeast fill area, many of the anomalies identified during the electromagnetic survey were investigated. The following types of debris were removed: wood, fragments of clay pipe and glass, rebar and concrete, bricks, and scrap metal (t-post). Some of the anomalies were not evident at the surface and were not further investigated due to the fact that potential excavation would require extensive clearing of vegetation. This agreement was determined in the field between Fluor Fernald personnel and OEPA representatives.

All the discovered debris was temporarily staged prior to hauling to the OMTA (OSD-035). Approximately 70 cubic yards of debris (Category 2) was excavated and dispositioned to OMTA with final disposition into the OSDF. The debris was tracked under material tracking log MTL-A13-002. All the debris removed, except for one wire choker cable (approximately 8 feet long), had no detectable activity. The wire choker was staged in a separate controlled area prior to disposition in the OSDF.

Upon removal of the subsurface debris, supplemental HPGe measurements were collected prior to regrading of the subsurface debris footprint (noted as Excavation locations 1, 2, and 3 in Figure 2-2). In April 2001, certification samples associated with CU 26 and excavation locations 4 and 5 were collected, and the soil displaced during debris removal was regraded into the existing topography. A summary of complete project costs can be found in Table 3-1. This chronological summary of the field work meets the requirements for a project closeout report.

3.2 CHANGES TO SCOPE OF WORK

The scope of work for A1PIII Part One certification sampling was documented in the final CDL. All final certification sampling locations and CU boundaries remained as identified in the CDL, and all analyses were carried out as planned. There were additions and changes to the scope as documented in V/FCNs 20720-PSP-0001-2 through -4. These V/FCNs, with the exception of V/FCN 20720-PSP-0001-1, are included in this Certification Report as Appendix B. V/FCN 20720-PSP-0001-1 was written against Revision 0 of the PSP and was incorporated into Revision 1 on February 17, 2000. The remaining V/FCNs were written against Revision 1 of the PSP.

4.0 ANALYTICAL METHODOLOGIES, DATA VALIDATION PROCESSES AND DATA REDUCTION

4.1 ANALYTICAL METHODOLOGIES

The samples for A1PIII Part One were analyzed at the FEMP on-site laboratory, which meets requirements of the Sitewide Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Quality Assurance Project Plan (SCQ, Procedure FD-1000). The SCQ is the source for analytical methodologies (Appendix G), data validation and verification, and analytical and field quality assurance/quality control (QA/QC) requirements.

For all the certification data, laboratory analysis met all requirements for Analytical Support Level (ASL) D. Because a different level of detection (10 percent of the FRL) was used for all target analytes, these analyses are classified as ASL E, though all ASL D analytical requirements were achieved per Appendix G of the SCQ. Also, the on-site laboratory prepared an ASL D data package, which included sample results with associated QA/QC data and all applicable raw data. Certification analytical results are provided in Appendix C, and a summary of the analytical methods follows.

4.1.1 Radiochemical Methods

Gamma spectrometry was the analytical method used. Performance-based specification criteria included highest allowable minimum detectable concentration (HAMDC), percent overall tracer/chemical recovery, percent matrix spike recovery, method blank concentration, percent recovery of laboratory control sample, and percent recovery for duplicate samples were specified for each analyte. Laboratories were required to meet these specifications using the methodologies described below.

Total Uranium

Samples were analyzed for uranium-238 using gamma spectrometry, and the results were used to calculate the total uranium value. The calculation used was as follows:

Total uranium (mg/kg) = (2.998544) x uranium-238 gamma spectrometry result (pCi/g)

The validation qualifier assigned to the total uranium value was the same as the uranium-238 qualifier.

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Radium-226

Samples were analyzed by gamma spectrometry, and radium-226 was quantified by measuring gamma rays emitted by members of its decay chain. This method does not require chemical separation, but the samples must be allowed a 20-day progeny ingrowth period before counting. The on-site laboratory used the same gamma ray emission lines and error weighted average methodology to calculate all A1PIII Part One certification results.

Radium-228

Following gamma spectrometry analysis, radium-228 was also quantified by measuring gamma rays emitted by members of its decay chain. The on-site laboratory used the same gamma ray emission lines and error weighted average methodology to calculate all A1PIII Part One certification results.

Isotopic Thorium

Isotopic thorium was also quantified by gamma spectrometry. The on-site laboratory used the same gamma ray emission lines and error weighted average methodology to calculate all A1PIII Part One certification results.

4.1.2 Chemical Methods

Samples were analyzed for beryllium using inductively coupled plasma – atomic emission spectroscopy (ICP-AES) which is a SEP-approved method of analysis.

4.2 DATA VERIFICATION AND VALIDATION

This section discusses the data verification and validation (V&V) process used to examine the quality of field and laboratory results. Data were qualified to indicate the level of data usability, or level of confidence in the reported analytical results. The U.S. Environmental Protection Agency's (EPA's) National Functional Guidelines for Data Review (EPA 1994), as adapted and approved by EPA Region V, was used for this process.

Specific parameters associated with the data were evaluated during V&V to determine whether or not the data quality objectives were met. Five principal quality assurance parameters, i.e., precision, accuracy, completeness, comparability, and representativeness, were addressed during V&V. Field sampling and

5.0 CERTIFICATION EVALUATION AND CONCLUSIONS

5.1 CERTIFICATION RESULTS AND EVALUATION

All CUs for A1PIII Part One met the certification criteria. The determination of successful certification or certification failure was based on a review of certification sample data from each CU against criteria discussed in Section 2.2.4. All but one result for one of the 26 CUs were below the FRLs. Sample A1P3-C-25-05RM (CU 25, location 5) had a result of 82.69 µg/g for total uranium. The FRL for total uranium is 82 µg/g (or mg/kg as in Table 2-1). However, the statistical analysis of the total uranium results for samples collected in CU 25 determined that the CU met all certification criteria discussed in Section 2.2.4. Therefore, all 26 CUs passed on the first round of certification. No additional corrective actions were necessary, and the archive samples were not necessary for analysis. Final certification data are presented in Appendix C. A statistical analysis was only required for total uranium results from CU 25 due to the above-FRL result at sample point 05. All other results were below the FRLs and no statistical analysis of the data was required (as is indicated on Tables C-2 through C-27, Note 1).

5.2 A1PIII PART ONE CERTIFICATION CONCLUSIONS

Based on the analytical results, and completion of surface and subsurface non-native debris removal, DOE has determined that the remedial objectives in the OU5 ROD have been achieved in A1PIII Part One. Therefore, upon EPA and OEPA concurrence, this portion of the site will be released for final land use.

5.3 LESSONS LEARNED

A new approach to the real-time scan was utilized, along with subsurface investigations using ground penetrating radar and electromagnetic surveying. Since the area is so heavily wooded, only the accessible and high traffic areas were scanned with the RTRAK and RSS. The use of EM to identify debris focused the excavation and reduced vegetation and tree disturbance. Another lesson learned is the importance of thorough walk-downs of isolated areas prior to implementation of field work. A more complete walk-down of the isolated areas in A1PIII Part One could have resulted in the investigation of debris and its removal prior to precertification and certification activities.