

**ADDENDUM 2 TO THE
CERTIFICATION REPORT
FOR AREA 1, PHASE II**

**FERNALD CLOSURE PROJECT
FERNALD, OHIO**



JULY 1, 2004

**U.S. DEPARTMENT OF ENERGY
FERNALD AREA OFFICE**

**20710-RP-0016
REVISION 0
ADDENDUM 2**

000001

REVISION SUMMARY

<u>Revision</u>	<u>Date</u>	<u>Description of Revision</u>
Revision 0	9-28-00	Initial controlled issuance.
PCN 1	11-7-00	Correction of inaccurate reference to failed CUs in Paragraph 1 of the Executive Summary, an incorrectly reported analytical result unit on Page 3-3 and information on the failed CUs in Section 5.1.5.
Addendum 1	1-22-02	Created to include coverage of the Equipment Wash Facility, associated drainage line and the immediate surrounding area.
Addendum 2	7-1-04	Revised to include updated statistics for CU A1P2-S3HR-04 due to debris discovered during site preparation excavation activities for the construction of the OSDF Cell 7 and 8 liners.

TABLE OF CONTENTS

Summary of Updated Certification Statistics for CU A1P2-S3HR-04..... 1
References 2

LIST OF TABLES AND FIGURES

Table 1 Updated Statistics for CU A1P2-S3HR-04
Figure 1 Additional Boring Locations for CU S3HR-04

LIST OF ACRONYMS AND ABBREVIATIONS

A1PII	Area 1, Phase II
ASCOC	area-specific constituent of concern
COC	constituent of concern
CU	certification unit
DOE	U.S. Department of Energy
dpm	disintegrations per minute
OSDF	On-Site Disposal Facility
PSP	Project Specific Plan
UCL	upper confidence level

**ADDENDUM 2 TO THE CERTIFICATION REPORT FOR AREA 1, PHASE II
SUMMARY OF UPDATED CERTIFICATION STATISTICS FOR CU A1P2-S3HR-04**

The Area 1, Phase II (A1PII) Certification was completed in January 2000 (DOE 2000a). However, in mid-December 2003, while excavating the ditch south of the future On-Site Disposal Facility (OSDF) Cell 8, a previously unknown burn pit was discovered (see Figure 1) that contained various pieces of burned debris (e.g., pieces of a drum, wood, metal fence, and twisted metal rope). The burn pit extended north of the ditch line and varied in depth from one to four feet below ground surface. Throughout the excavation of the burn pit routine radiological surveys were performed and the only detected result above background of any survey was 15,000 disintegrations per minute (dpm), which was associated with a piece of metal thought to be part of a drum. All material related to this burn pit was removed and dispositioned at the OSDF according to all applicable procedural guidelines. This excavation generated approximately 63 cubic yards of contaminated material. Upon completion of this removal, the area was scanned using Real-Time monitoring equipment with results presented in a variance to the Project Specific Plan (PSP) for A1PII Certification Sampling of Certified for Reuse Areas, Trap Range, Sector 2C, and Sector 3 (20710-PSP-0009-24) (DOE 2000b). Additionally, the area was immediately sampled under the same variance for the area-specific constituents of concern (ASCOCs) that are applicable to the specific certification unit (CU), S3-HR-04, described in the Certification Design Letter for A1PII, Certified for Reuse Areas, Trap Range, Sector 2C, and Sector 3 (DOE 2000c). The results of the physical sampling demonstrate that all impacted material has been removed from the area.

Subsequent to the discovery of buried debris in December 2003, a pipe was uncovered along the same ditch line as the supposed burn pit approximately 250 feet east of the burn pit still within A1PII (see Figure 1). This pipe was roughly 4 feet long with a 90-degree elbow at the midpoint. A radiological survey of the pipe was performed which yielded approximately 45,000 dpm. There was loose soil-like material within the pipe that was surveyed as well with no counts being detected above background. This pipe was also taken to the OSDF for disposal. The area that the pipe was found was scanned using Real-Time monitoring equipment as discussed in another variance to the PSP for A1PII Certification Sampling of Certified for Reuse Areas, Trap Range, Sector 2C, and Sector 3 (20710-PSP-0009-25). A physical sample was collected at the location where the pipe was found and analyzed for the same ASCOCs as the previous samples. These results also demonstrate that all impacted material has been removed from the area. Both of these findings were outside of the former Sewage Treatment Plant (STP) area, which was scanned with a magnetometer as a result of discovering debris within the STP footprint. Therefore, the area that these recent findings were located, being an open field, was not scanned by the

magnetometer. The data from the physical samples in both areas have been received and are included with the historical certification data from CU S3-HR-04. A new set of certification statistics was generated and is shown in Table 1.

Inclusive of this new data, all certification requirements have been met. Therefore, based on all the sampling results presented in this addendum, the U.S. Department of Energy (DOE) has determined that no further remedial actions are required in this area and the certification activities for A1PII are complete.

REFERENCES

U.S. Department of Energy, 2000a, "Certification Report for Area 1, Phase II," Final, Fernald Environmental Management Project, DOE, Fernald Area Office, Cincinnati, OH.

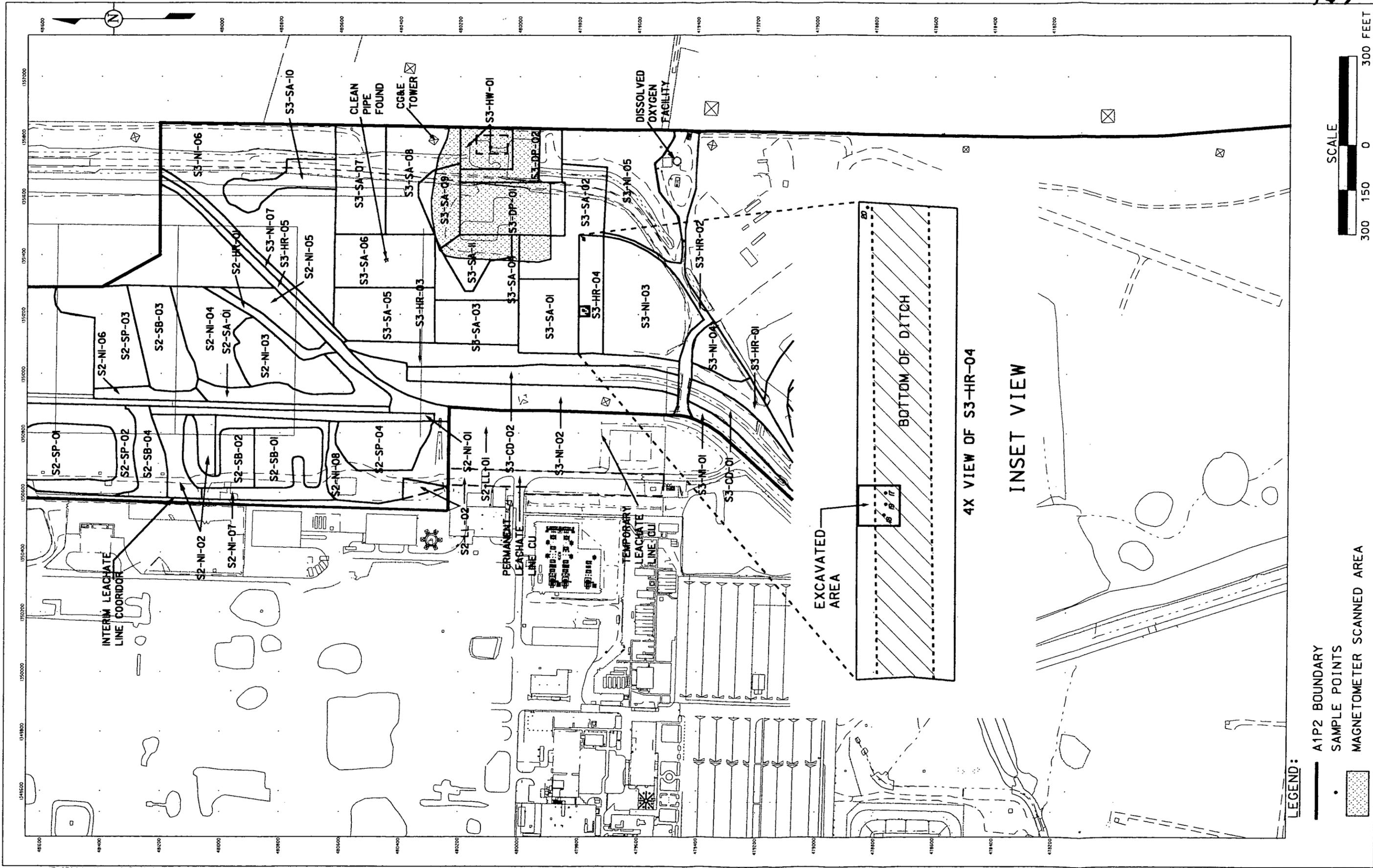
U.S. Department of Energy, 2000b, "Project Specific Plan for Certification Sampling of Certified for Reuse Areas, Trap Range, Sector 2C, and Sector 3," Revision 2, Fernald Environmental Management Project, DOE, Fernald Area Office, Cincinnati, OH.

U.S. Department of Energy, 2000b, "Certification Design Letter for Area 1, Phase II Certified for Reuse Areas, Trap Range, Sector 2C, and Sector 3," Final, Fernald Environmental Management Project, DOE, Fernald Area Office, Cincinnati, OH.

TABLE 1
UPDATED STATISTICS FOR CU A1P2-S3HR-04

ID	PRIMARY COCs						SECONDARY COCs		
	Radium-226	Radium-228	Thorium-228	Thorium-232	Uranium, Total	Arsenic	Lead		
A1P2-S3HR-04-01-RM	1.27 -	0.840 -	0.812 -	0.840 -	14.3 -	7.80 -	22.8 -		
A1P2-S3HR-04-02-RM	1.36 -	1.01 -	1.00 -	1.01 -	18.1 -	7.57 -	17.4 -		
A1P2-S3HR-04-03-RM	1.07 -	0.819 -	0.806 -	0.819 -	9.38 -	6.02 -	15.3 -		
A1P2-S3HR-04-05-RM	1.39 -	1.09 -	1.01 -	1.09 -	23.4 -	7.27 -	24.8 -		
A1P2-S3HR-04-06-RM	1.34 -	1.02 -	1.00 -	1.02 -	22.1 -	5.57 -	18.7 -		
A1P2-S3HR-04-08-RM	1.25 -	1.02 -	0.988 -	1.02 -	12.4 -	4.21 -	19.4 -		
A1P2-S3HR-04-09-RM	1.20 -	0.929 -	0.923 -	0.929 -	25.5 -	3.99 -	21.7 -		
A1P2-S3HR-04-11-RM	0.955 -	0.788 -	0.725 -	0.788 -	2.77 U	5.96 -	13.1 -		
A1P2-S3HR-04-12-RM	1.28 -	1.07 -	1.03 -	1.07 -	12.6 -	6.89 -	16.9 -		
A1P2-S3HR-04-13-RM	0.906 -	0.721 -	0.696 -	0.721 -	10.2 -	7.15 -	17.1 -		
A1P2-S3HR-04-14-RM	1.43 J	0.922 -	0.902 -	0.922 -	11.8 J	3.88 J	12.4 -		
A1P2-S3HR-04-14-RM-D	1.24 J	0.867 -	0.852 -	0.867 -	8.09 J	7.35 J	20.7 -		
A1P2-S3HR-04-16-RM	1.40 -	1.02 -	0.978 -	1.02 -	7.92 -	3.76 -	18.5 -		
A1P2-S3HR-04-17 [^] RM	1.10 -	1.08 -	1.11 -	1.08 -	5.72 -	14.50 -	17.4 J		
A1P2-S3HR-04-18 [^] RM	0.904 -	0.968 -	0.990 -	0.968 -	4.99 -	8.810 -	8.43 J		
A1P2-S3HR-04-19 [^] RM	0.867 -	0.962 -	0.951 -	0.962 -	6.35 -	12.700 -	13.5 J		
A1P2-S3HR-04-20 [^] RM	1.21 -	1.10 -	1.12 -	1.10 -	9.82 J	14.900 -	18.1 J		
Limit	1.70	1.80	1.70	1.50	82.0	12.0	400		
Units	pCi/g	pCi/g	pCi/g	pCi/g	ug/g	mg/kg	mg/kg		
Conf. Level	95%	95%	95%	95%	95%	90%	90%		
Max. Result	1.43	1.10	1.12	1.10	25.5	14.9	24.8		
Max. >= Limit	No	No	No	No	No	Yes	No		
W-statistic Prob. #	--	--	--	--	--	34.7% (LN)	--		
Test Procedure	--	--	--	--	--	Lognormal	--		
Sample Size	16	16	16	16	16	16	16		
Nondetects	0	0	0	0	0	0	0		
% Nondetects	0.0%	0.0%	0.0%	0.0%	6.3%	0.0%	0.0%		
Est. Mean*	--	--	--	--	--	7.80	--		
UCL	--	--	--	--	--	9.13	--		
Prob. > Limit	--	--	--	--	--	--	--		
Pass / Fail	--	--	--	--	--	pass	--		
a posteriori Sample Size calculation	--	--	--	--	--	4	--		
	--	--	--	--	--	Pass	--		

Note: Est. Mean = Estimated measure of central tendency(Normal: Mean; LogNormal: Est. Mean; Non-Parametric: Median)
 The maximum value of the two duplicates was used in all statistical equations.
 # : This is the highest reported probability of the Shapiro-Wilk W-statistic for tests for the validity of the normality assumption.
 The test is performed on the raw data (untransformed) data (N) and the log-transformed data (LN) to test for lognormality.



4X VIEW OF S3-HR-04

INSET VIEW

LEGEND:

— A1P2 BOUNDARY

• SAMPLE POINTS

■ MAGNETOMETER SCANNED AREA

SCALE



FIGURE 1. ADDITIONAL BORING LOCATIONS FOR CU S3-HR-04