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**REMOVAL SITE EVALUATION ANALYTICAL LABORATORY HOIST  
INSTALLATION - FEBRUARY 16, 1995**

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**REMOVAL SITE EVALUATION**  
**ANALYTICAL LABORATORY HOIST INSTALLATION**

**FEBRUARY 16, 1995**

Fernald Environmental Management Project

U. S. Department of Energy

R7 R0

## INTRODUCTION

As part of the Laboratory Hoist Installation Project for the Laboratory Penthouse, a concrete sidewalk will be installed in the north courtyard of the Analytical Laboratory building at the Fernald Environmental Management Project (FEMP). This sidewalk will support movement of materials to and from the laboratory loading dock and the proposed penthouse hoist. The sidewalk will be installed adjacent to the exterior south wall of the north section and the exterior east wall of the west hall of the building. A map of the courtyard showing the proposed sidewalk is included as Attachment A.

In preparation for concrete sidewalk installation, a temporary wooden sidewalk in the same area will be removed. The wood will be size-reduced if necessary and properly containerized for shipment to the Nevada Test Site (NTS), as specified by MEF 1972. Volume of wood to be removed is estimated at 112 cubic feet.

Soil will be removed in the area where concrete will be placed for the sidewalk. The soil will be placed in an existing interim storage stockpile located north of the boiler plant. Estimated volume of soil to be removed is 135 cubic feet.

This Removal Site Evaluation (RSE) has been completed by the DOE under authorities delegated by Executive Order 12580 under Section 104 of CERCLA and is consistent with Section 300.410 of the National Oil and Hazardous Substance Pollution Contingency Plan (NCP). This RSE addresses the removal of wood and soil to facilitate installation of a concrete sidewalk and has been completed to support the decision as to whether the present conditions warrant a removal action.

## SOURCE TERM

Consistent with 40 CFR 300.410 (a), the RSE includes a preliminary assessment which is based upon readily available information as described in 40 CFR 300.410 (c).

Data exists for one soil sample from the north courtyard of the Analytical Laboratory Building. Sampling of the 0 to 6 inch layer of soil was performed in June 1988. The sampling location is not within the area where soils will be excavated, but is adjacent to the proposed excavation, and is believed to be representative of the soils which will be removed. The sample was analyzed for radiological parameters only. Data indicates the total uranium concentration of the soil sample to be 970 ug/g (867 pCi/g) and total thorium content of the soil sample to be 131 pCi/g. A copy of the laboratory data from analysis of the sample is included with this RSE as Attachment B. Historical records and process knowledge indicate that no chemically hazardous materials or asbestos were used or stored in this courtyard.

## EVALUATION OF THE MAGNITUDE OF THE POTENTIAL THREAT

The potential threat from above background levels of uranium and thorium in the soil of the North Laboratory Courtyard is the potential exposure as a result of suspension of the soil particles in the atmosphere and the potential migration of the uranium and thorium through wind and water erosion. The concentration of uranium in the soil sample of 970 ug/g (867 pCi/g) is above the Removal Action (RA) 17 soil management criteria level of 100 pCi/g for on-site soils, and the concentration of thorium in the soil sample of 131 pCi/g is above the RA 17 soil management criteria level of 50 pCi/g for on-site soils. In order to manage any chemical or radiological hazards, regardless of level, which may be present, the following controls will be implemented during the Analytical Laboratory Hoist Installation Project:

- Removed soil will be stockpiled according to criteria contained in Removal Action 17, "Improved Storage of Soil and Debris."
- Scrap wood removed in support of this project will be size-reduced, if necessary, and packaged for transport to the Nevada Test Site (NTS) for disposal.
- Physical barriers will be strategically placed to prevent unauthorized access to the project site.
- Additional safety measures to be taken shall be included in the Project-Specific Health and Safety Plan for the Analytical Laboratory Hoist Installation Project.

## ASSESSMENT OF THE NEED FOR REMOVAL ACTION

Consistent with Section 40 CFR 300.410 of the NCP, the Department of Energy shall determine the appropriateness of a removal action. Eight factors to be considered in this determination are listed in 40 CFR 300.415 (b) (2). The following apply to the Analytical Laboratory Hoist Installation Project:

### 40 CFR 300.415 (b) (2) (i)

Actual or potential exposure to hazardous substances or pollutants or contaminants to nearby populations, animals, or food chains.

### 40 CFR 300.415 (b) (2) (ii)

Actual or potential contamination of drinking water supplies or sensitive ecosystems.

### 40 CFR 300.415 (b) (2) (iv)

High levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate.

40 CFR 300.415 (b) (2) (v)

Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released.

40 CFR 300.415 (b) (2) (vii)

The availability of other appropriate federal or state response mechanisms to respond to the release.

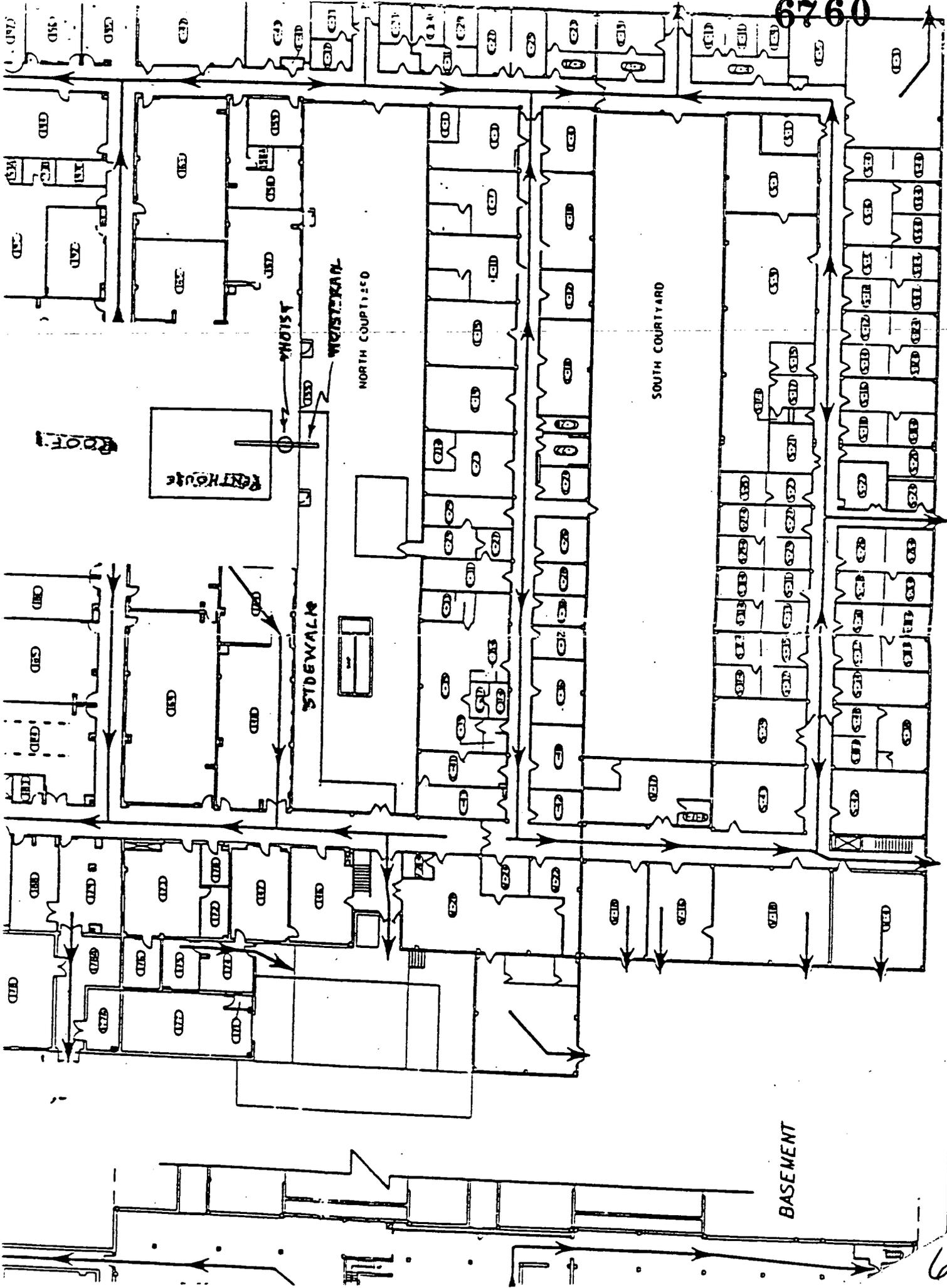
Construction activities have the potential to cause contaminants to migrate or be carried to areas which are uncontaminated. Phase I of Removal Action 17 requires placement on and covering of contaminated soils with heavy, non-permeable tarpaulins. The tarpaulins prevent the spread or release of possible contamination and prevent exposure to humans, animals, or the food chain. These factors are considered appropriate as a result of the concentration of uranium and thorium in the soils to be excavated prior to the concrete sidewalk installation.

Based on the minor hazards and previously discussed controls, the potential of a release with migration of contaminants from the project is low. Therefore, while the above criteria may be applied, it does not constitute the need for a removal action.

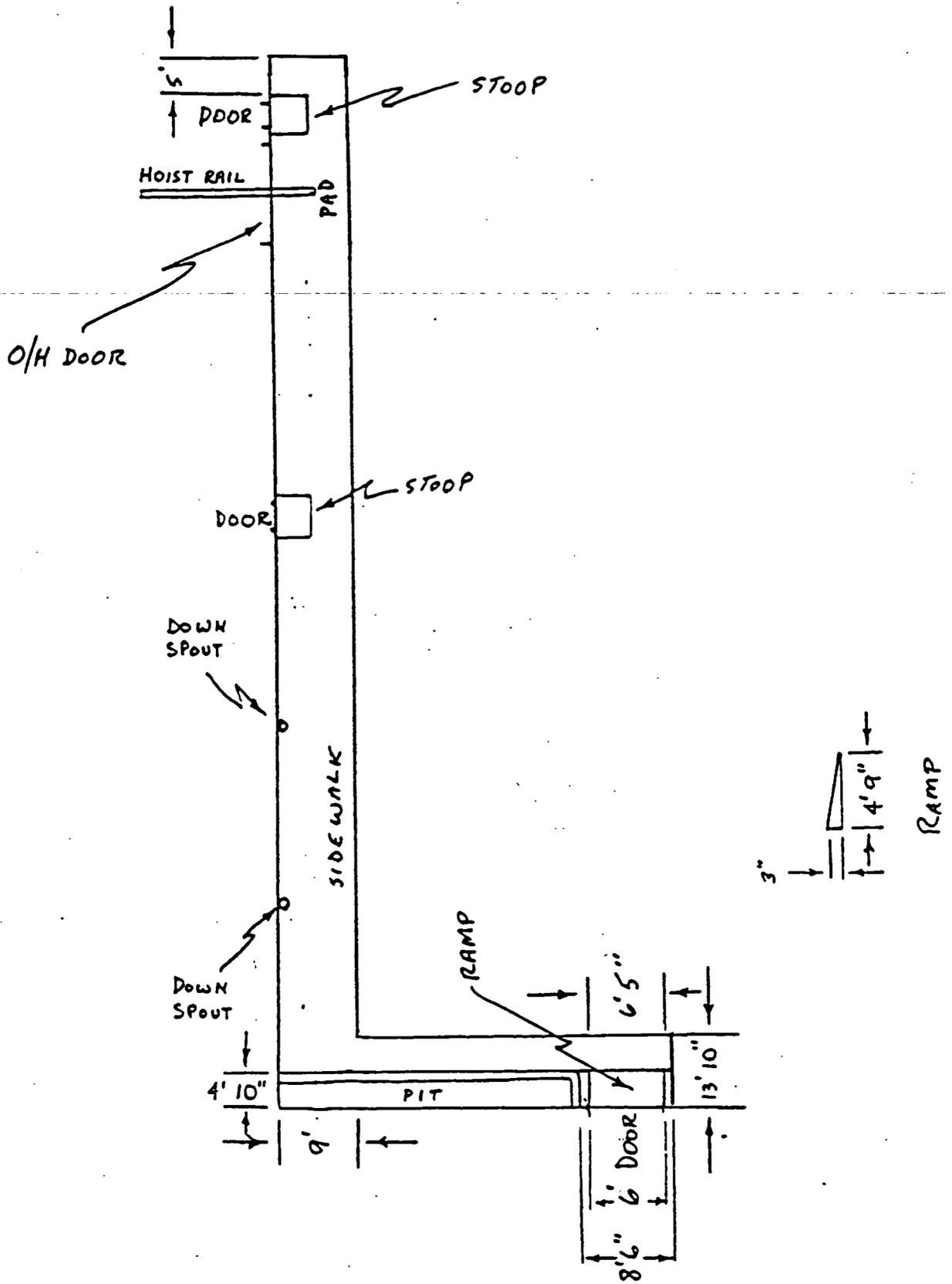
**APPROPRIATENESS OF A RESPONSE**

Based on the evaluation of all the above factors, it has been determined that a removal action will not be necessary and this project should be continued as a construction activity in support of the CERCLA remediation process at the FEMP. Furthermore, the controls planned in conjunction with this activity are adequate to mitigate any hazards created by contamination at the site and to prevent deterioration of existing site conditions.

**ATTACHMENT A**  
**MAP OF THE ANALYTICAL LABORATORY**  
**NORTH COURTYARD**



LAB HOIST INSTALLATION



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**ATTACHMENT B**

**ANALYTICAL DATA FROM THE SURFACE**

**(0" - 6") SOIL SAMPLE NORTH COURTYARD,**

**ANALYTICAL LABORATORY BUILDING**

CRU 5 QC Report

Report Date: 10-JAN-95

Sample Date: 22-JUN-88  
 Matrix: SOIL  
 QA Type: NORMAL

Depth: 0 .5 Ft.  
 North: 479837  
 East : 1380330

Task Number: 3.4.2  
 Sample ID : 005459  
 Location : ZONE 1-65  
 Collection :

Suffix	Filter Lab	Work Order	CAS Number	Parameter	F	Lab Result	Units	Sigma	LQ	Method	Prep	Val	Reslt	Val	Sig	ASL	VQ
NONE 0	NOT AP IT	R810048		Cesium-137	R	.58	pci/g	0.106		NONE		.6	0.106		5		
NONE 0	NOT AP IT	R810048		Neptunium-237	R	.6	pci/g		U	NONE		.6			5		
NONE 0	NOT AP IT	R810048		Plutonium-238	R	.7	pci/g	0.2		NONE		.7	0.2		5		
NONE 0	NOT AP IT	R810048		Plutonium-239/ R	R	.6	pci/g		U	NONE		.6			5		
NONE 0	NOT AP IT	R810048		Radium-226	R	2.3	pci/g	.197		NONE		2.3	.197		5		
NONE 0	NOT AP IT	R810048		Radium-228	R	15	pci/g	.945		NONE		15	.945		5		
NONE 0	NOT AP IT	R810048		Ruthenium-106	R	1	pci/g		U	NONE		1			5		
NONE 0	NOT AP IT	R810048		Strontium-90	R	.8	pci/g	0.2		NONE		.8	0.2		5		
NONE 0	NOT AP IT	R810048		Technetium-99	R	5.7	pci/g	0.8		NONE		5.7	0.8		5		
NONE 0	NOT AP IT	R810048	84072084	Thorium, Total R	R	131.33012	pci/g	1.9		CALC		131.33012	1.9		5		NV
NONE 0	NOT AP IT	R810048		Thorium-228	R	13.5	pci/g	1.8		NONE		13.5	1.8		5		
NONE 0	NOT AP IT	R810048		Thorium-230	R	9.5	pci/g	1.3		NONE		9.5	1.3		5		
NONE 0	NOT AP IT	R810048		Thorium-232	R	14.4	pci/g	1.9		NONE		14.4	1.9		5		
NONE 0	NOT AP IT	R810048		Uranium, Total R	R	970	ug/g	98		NONE		970	98		5		
NONE 0	NOT AP IT	R810048		Uranium-234	R	432	pci/g	54		NONE		432	54		5		
NONE 0	NOT AP IT	R810048		Uranium-235/23 R	R	21.8	pci/g	2.9		NONE		21.8	2.9		5		
NONE 0	NOT AP IT	R810048		Uranium-238	R	413	pci/g	52		NONE		413	52		5		



Restoration Management Corporation

P.O. Box 398704 Cincinnati, Ohio 45239-8704 (513) 738-6200

March 9, 1995

Fernald Environmental Management Project  
Letter No. C:OP:95-0140

Mr. Jack R. Craig, Director  
Department of Energy  
Fernald Area Office  
P. O. Box 538705  
Cincinnati, Ohio 45253-8705

Dear Mr. Craig:

**CONTRACT DE-AC24-92OH21972, REMOVAL SITE EVALUATION, ANALYTICAL  
LABORATORY HOIST INSTALLATION PROJECT**

Reference: DOE-930-90, R. J. Hansen to M. B. Boswell, "CERCLA Removal Action," dated  
April 23, 1990

This letter transmits for your review, a draft Removal Site Evaluation and a draft Removal Action Memorandum for the Analytical Laboratory Hoist Installation Project. The attached documents have been completed in a format consistent with the technical direction provided in the referenced letter.

If you have any questions, our point of contact is Greg Henderson at 738-0003, ext. 291.

Sincerely,

A handwritten signature in cursive script that reads "Arden Hunt". To the right of the signature, the word "for" is written in a smaller, simpler script.

Don Ofte  
President

DO:KV:GLH:ed  
Attachments (2)



Restoration Management Corporation

Mr. Jack R. Craig  
Letter No. C:OP:95-0140  
Page 2

c: (w/attachment):

L. E. Parsons, DOE Contract Specialist

~~A. C. Shah, DOE-FN~~

Stu Hinnefeld, FERMCO

File Record Storage Copy 102.1

(w/o attachment):

P. J. Yerace, DOE-FN

J. P. Erfman, FERMCO

L. Singleton, FERMCO

K. R. Kolthoff, FERMCO

K. S. Voisard, FERMCO

Mr. Don Ofte, President  
Fernald Environmental Restoration Management Corp.  
P. O. Box 398704  
Cincinnati, Ohio 45253-8704

Dear Mr. Ofte:

**REMOVAL ACTION MEMORANDUM - ANALYTICAL LABORATORY HOIST INSTALLATION PROJECT**

Reference: Letter, DOE-0930-90, Raymond J. Hansen to M. B. Boswell, "CERCLA Removal Actions", dated April 23, 1990

The enclosed Removal Site Evaluation (RSE) for the Analytical Laboratory Hoist Installation Project has been reviewed by my office. The RSE was prepared for this project under the authority of the Department of Energy (DOE) as lead agency in accordance with Subpart B of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This RSE identifies sources and the nature of releases or threat of releases that may result from this project and evaluates the magnitude of the threat to human health and the environment. Based upon a review of this RSE and an evaluation of the factors to be considered under the NCP (300.415), DOE has determined that this project does not cause initiation of a removal action.

Soil and debris associated with this project should be managed in accordance with the control measures noted within the RSE document and per the guidelines specified in the Fernald Environmental Management Project (FEMP) Site Policy and Procedures and Removal Action Number 17. Prior to initiation of this project, FERMCO should insure that the appropriate NEPA documentation and the project health and safety plan have been completed in accordance with the Comprehensive Environmental Occupational Safety and Health Program for the FEMP. Furthermore, this RSE should be submitted to the Administrative Record for the Remedial Investigation/Feasibility Study (RI/FS).

If you have any questions concerning this matter, our point of contact is Anand Shah at 648-3146.

Sincerely,

Jack R. Craig  
Director

Enclosure  
JRC:KV:GLH:ed