5943 U-005-202 .83

REMOVAL SITE EVALUATION HEATING AND VENTILATION SYSTEM BUILDINGS 30, 31, & 46

06/01/94

DOE-FN FERMCO
15
RSE

5943

REMOVAL SITE EVALUATION

HEATING AND VENTILATION SYSTEM BUILDINGS 30, 31 & 46

FERNALD SITE OFFICE

U. S. DEPARTMENTS OF ENERGY

JUNE 1994

J. S. Straub

CONTENTS

1.0 INTRODUCTION

The purpose of this H & V System for Buildings 30, 31 & 46 project is to upgrade the existing heating and ventilation system within each building. Heating is needed for Building 30 to support the Radiographic Unit to be installed and drum shipping that is also performed in this facility. The scope of work in Building 30A includes running a new steam line from an existing line running east-west along Second street and installing 9 unit heaters. Building 31 work consists of installing one new unit heater, replacing two other unit heaters, replacing the exhaust damper and upgrading the carbon monoxide exhaust system ductwork. The Building 46 work is to install a ventilation system for the garage area to remove carbon monoxide fumes.

The waste estimated to be generated for the project includes: 5 cu. ft. of soil; 85 cu. ft. of metal such as ductwork, air intakes and piping; 10 cu. ft. of process equipment from the heating and ventilating units; 3 cu. ft. of asbestos insulation; and 4 cu. ft. of conduit and wire from the electrical controls.

This Removal Site Evaluation (RSE) has been completed by the Department of Energy (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 Substances Pollution Contingency Plan (NCP). This RSE addresses the existing conditions with the H & V System Buildings 30, 31 & 46. This RSE has been completed to support the decision as to whether the project conditions warrant a removal action. Controls implemented to support this construction activity are also presented in the RSE to demonstrate that the proposed construction will not cause deterioration of the existing site conditions.

2.0 SOURCE TERM

Repeatedly lead-based paint on ductwork at the FEMP has been analyzed with results is above the TCLP limit for lead of 5.0 ppm established based on the toxicity of lead to protect human health and the environment. The lead based paint is hazardous material, the ductwork material will be recycled and therefore, is not considered hazardous debris, as stated in the RCRA Determination. Airborne emissions and paint chip disposal are potential pathways of contamination.

Buildings 30, 31 & 46 are in a radiologically controlled area of the FEMP, therefore, the heating and ventilation systems may be considered above the 100dpm/100cm^2 beta/gamma limit. This material is considered low level radioactive waste and must be managed accordingly.

The transite material used in building 30 contains asbestos. It could pose a hazard if damaged or improperly removed, allowing it to become friable and releases asbestos fibers that are harmful if inhaled.

There are no other hazards present in conjunction with this project.

Consistent with 40 CFR 300,410(a), the RSE includes a removal preliminary assessment which is based upon readily available information as described in 40 CFR 300.410(c). A RCRA Determination/Radiological Characterization was issued

August 24, 1993 for the H & V Systems for Buildings 30, 31, and 46 and will be revised to reflect the changes to the scope of work.

3.0 EVALUATION OF THE MAGNITUDE OF THE POTENTIAL THREAT

The lead-based paint covering the ductwork in all buildings is a potential threat to people if removed from the metal surfaces by cutting, abrasion, and flaking. Lead abatement measures including use of appropriate PPEs, respirators and HEPA vacuums will be required if any burning, welding, of cutting of the duct is performed. These controls will ensure that the spread of lead contamination is prevented and the threat from this material is mitigated.

Any transite that is removed shall be handled in accordance with site procedures for asbestos to prevent the release of fibers. The removal shall be planned and supervised by AHERA certified "Asbestos Hazard Abatement Contractor/Supervisor" and certified asbestos workers. The waste shall be wrapped in plastic or bagged, and labeled as "Asbestos". These controls will prevent the release of and mitigate the threat from asbestos at this project site.

The management of the waste from this project will be controlled by Site Standard Operating Procedure SSOP-0044 "Management of Soil, Debris, and Waste From a Project" and the approved work plan for Removal Action 17 "Improved Storage of Soil and Debris." All waste generated from this project will be monitored for radioactivity prior to final disposition. The following controls, among others, will be implemented during the construction of the H & V Systems in Buildings 30, 31, 46 project:

- The project will be completed in accordance with approved "Project Specific Health and Safety Plan."
- Excess soil from this project will be stockpiled according to Removal Action 17 criteria.
- Physical barriers will be positioned around the work area to prevent unauthorized access.
- Protective clothing and respiratory protection will be for workers, as required.
- Plastic tarpaulins, bags, and appropriate containers, will be readily available to contain radiologically contaminated materials, as required.
- Runoff controls will be established, as required.

4.0 ASSESSMENT OF THE NEED FOR REMOVAL ACTION

Consistent with 40 CFR 300.410 of the NCP, the DOE 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). Based on the data presented

above, the following of the eight criteria listed in the NCP applies to this project.

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

Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants.

As discussed previously, the administrative measures taken in the field during this construction activity are expected to mitigate or prevents the threat of a release to the environment. Therefore, while the above criteria can be applied to the H & V System Buildings 30, 31, & 46 project, the level of threat is negligible and a removal action is not required.

5.0 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 that this project should be continued as a maintenance activity in support of the CERCLA remediation process and waste management. Furthermore, the controls planned in conjunction with this construction activity are adequate to mitigate any hazards at this site and to prevent deterioration of existing site conditions.

FEMP

RADIOLOGICAL SURVEY REPORT

Attachment 5943

DATE:	LOCATION:		BADGE:	BADGE:
1-18-94	30A	[redacted]	8142	
TIME:	LEVEL:			1 of 1
0800	580'			

REASON FOR SURVEY: Initial Survey of area for new X-ray [illegible]

INSTRUMENTS

MODEL	SERIAL NUMBER	TYPE (α, β, γ)	CALIBRATION-DUE DATE	BKGD. (cpm)	EFF./CF	COUNT TIME (min)	MDA (dpm)	INSP./PERFORMANCE TEST SAT? YES	INSP./PERFORMANCE TEST SAT? NO
M-3	89745	BX	1-94	100	1/10	N/A	1000	--	
RO20	0366	BX	4-94	<0.5 mR/hr	3	N/A	0.5 mR/hr	Sat	
LB5100	#6	X	2-94	0.16	0.758	0.5	38.2	Sat	
LB5100	#6	BX	2-94	1.6	0.406	0.5	35.5	Sat	

ITEM NUMBER	LOCATION AND/OR DESCRIPTION	HEIGHT (ft.)	DPM/100cm² ALPHA REMOVABLE	DPM/100cm² ALPHA FIXED PLUS REMOVABLE	DPM/100cm² BETA-GAMMA REMOVABLE	DPM/100cm² BETA-GAMMA FIXED PLUS REMOVABLE	CORRECTED DOSE RATE (MREM/HR) γ CONTACT	β CONTACT	γ AT 1 FT.	β AT 1 FT.
1	transite/beam	3	45		247	2K	<0.5	<0.5	<0.5	<0.5
2	berm at wall	.5	<MDA		65	5K	<0.5	<0.5	<0.5	<0.5
3	transite	4	<MDA		60	2K	<0.5	<0.5	<0.5	<0.5
4	transite/beam		<MDA		133	2K	<0.5	<0.5	<0.5	<0.5
5	berm at wall		<MDA		50	5K	<0.5	<0.5	<0.5	<0.5
6	roll up door		<MDA		69	2K	<0.5	<0.5	<0.5	<0.5
7	floor/far		<MDA		50	8K	<0.5	<0.5	<0.5	<0.5
8	floor		<MDA		<MDA	1K	<0.5	<0.5	<0.5	<0.5
9	floor		<MDA		<MDA	1K	<0.5	<0.5	<0.5	<0.5
10	floor		<MDA		<MDA	1K	<0.5	<0.5	<0.5	<0.5
11	floor		<MDA		<MDA	1K	<0.5	<0.5	<0.5	<0.5
12	floor		<MDA		<MDA	1K	<0.5	<0.5	<0.5	<0.5
13	wall	4	<MDA		<MDA	1K	<0.5	<0.5	<0.5	<0.5
14	floor		<MDA		40	1K	<0.5	<0.5	<0.5	<0.5
15	floor		<MDA		<MDA	1K	<0.5	<0.5	<0.5	<0.5
16	floor		<MDA		50	1K	<0.5	<0.5	<0.5	<0.5
17	floor		<MDA		<MDA	1K	<0.5	<0.5	<0.5	<0.5
18	floor		<MDA		50	2K	<0.5	<0.5	<0.5	<0.5
	last entry									

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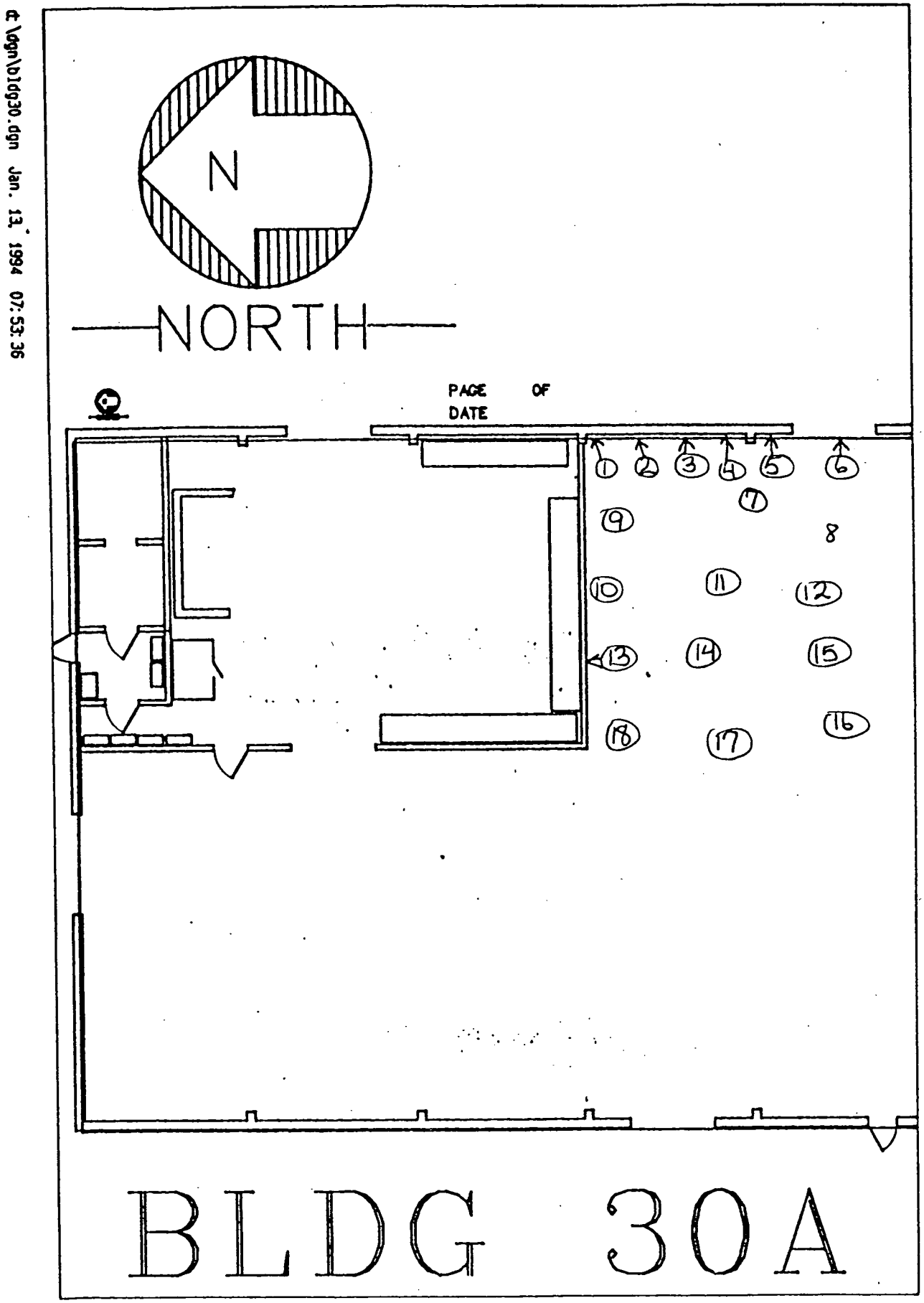
NOTIFICATION OF SURVEY RESULTS

SUPERVISOR NOTIFIED	TIME	DATE	NOTIFIED BY	REVIEWED BY	DATE
				[redacted]	1-18-94

FS-F-1993-1 (REV. 12/31/92)

1-12-94

5943



#\dgn\bldg30.dgn Jan. 13, 1994 07:53:36

5943

FEMP
RADIOLOGICAL SURVEY REPORT

94-31-302

DATE:	LOCATION:	[redacted]	BADGE:	PAGE:
5-31-94	Building 31		71967	1 of 2
TIME: 0900	LEVEL: NA			

REASON FOR SURVEY: planning survey for unit heaters and carbon monoxide exhaust ducts job

INSTRUMENTS

MODEL	SERIAL NUMBER	TYPE (α, β, γ)	CALIBRATION-DUE DATE	BKGD. (cpm)	EFF. (CF)	COUNT TIME (min)	MDA (dpm)	INSP./PERFORMANCE TEST SAT? YES	NO
Model 3	97058	BX	10-94	50	4/10	NA	400/1000	✓	

ITEM NUMBER	LOCATION AND/OR DESCRIPTION	HEIGHT (ft.)	DPM/100cm² ALPHA REMOVABLE	DPM/100cm² ALPHA FIXED PLUS REMOVABLE	DPM/100cm² BETA-GAMMA REMOVABLE	DPM/100cm² BETA-GAMMA FIXED PLUS REMOVABLE	CORRECTED DOSE RATE (MREM/HR) γ CONTACT	β CONTACT	γ AT ___ FT.	β AT ___ FT.
1	unit heater pipe				< MDA	< MDA				
2	unit heater inside				< MDA	10K				
3	unit heater outside				< MDA	2K				
4	exhaust duct outside				< MDA	< MDA				
5	exhaust duct outside				< MDA	< MDA				
6	exhaust duct inside				< MDA	< MDA				
7	exhaust duct outside				< MDA	2K				
8	exhaust duct outside				< MDA	3K				
9	exhaust duct inside				< MDA	10K		NA		
10	exhaust duct outside				< MDA	4K				
11	exhaust duct outside				< MDA	4K				
12	exhaust duct inside				< MDA	2K				
13	exhaust duct outside				< MDA	4K				
14	exhaust duct outside				< MDA	4K				
15	exhaust duct inside				< MDA	2K				
16	unit heater outside				< MDA	< MDA				
17	unit heater outside				< MDA	< MDA				
18	unit heater inside				< MDA	3K				
19	unit heater outside				< MDA	< MDA				
20	unit heater outside				< MDA	< MDA				
21	unit heater inside				< MDA	2K				

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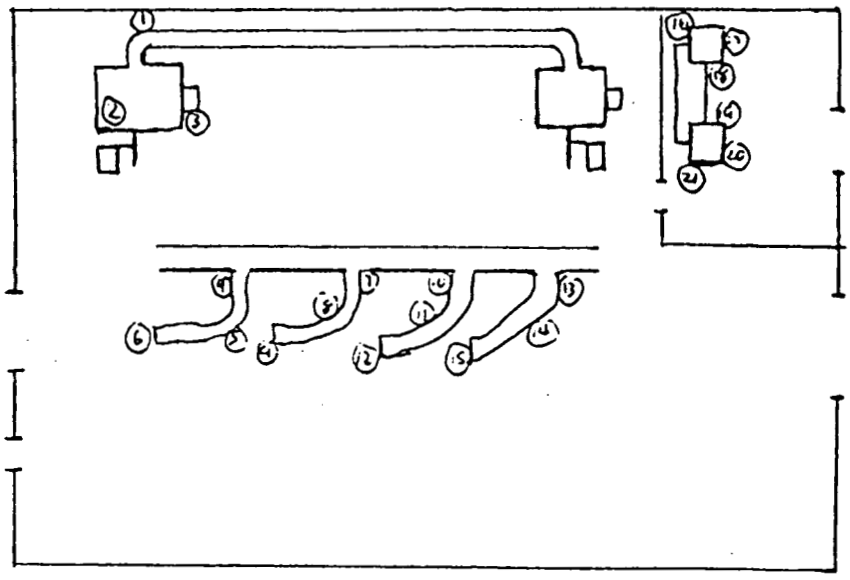
NOTIFICATION OF SURVEY RESULTS

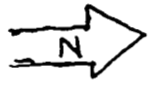
SUPERVISOR NOTIFIED	TIME	DATE	NOTIFIED BY	REVIEWED BY	DATE

94-31-302
2 of 2
5943

Building 31

Unit heaters and carbon monoxide exhaust ducts





FEMP
RADIOLOGICAL SURVEY REPORT

94-31-303

5943

DATE:	LOCATION:	RCT:	BADGE:	PAGE:
5-31-94	Building 46	[redacted]	71967	1 of 2
TIME: 0930	LEVEL: NA			

REASON FOR SURVEY: planning survey for ventilation system for building

INSTRUMENTS

MODEL	SERIAL NUMBER	TYPE (α, β, γ)	CALIBRATION-DUE DATE	BKGD. (cpm)	EFF (CF)	COUNT TIME (min)	MDA (dpm)	INSP./PERFORMANCE TEST SAT? YES	NO
model 3	97058	Bγ	10-94	50	4/10	NA	400/1000	✓	

ITEM NUMBER	LOCATION AND/OR DESCRIPTION	HEIGHT (ft.)	DPM/100cm² ALPHA REMOVABLE	DPM/100cm² ALPHA FIXED PLUS REMOVABLE	DPM/100cm² BETA-GAMMA REMOVABLE	DPM/100cm² BETA-GAMMA FIXED PLUS REMOVABLE	CORRECTED DOSE RATE (MREM/HR) γ CONTACT	β CONTACT	γ AT ____ FT.	β AT ____ FT.
1	wall	6			< MDA	< MDA				
2	wall	12			< MDA	< MDA				
3	wall	6			< MDA	< MDA				
4	wall	12			< MDA	< MDA				
5	heater outside				< MDA	< MDA				
6	heater inside				< MDA	2K				
7	piping				< MDA	< MDA		NA	NA	
8	piping				< MDA	< MDA				
9	wall	10			< MDA	< MDA				
10	wall	17			< MDA	< MDA				
11	wall	10			< MDA	< MDA				
12	wall	17			< MDA	< MDA				
13	floor				< MDA	< MDA				
14	heating unit outside				< MDA	< MDA				
15	heating unit outside				< MDA	< MDA				
16	heating unit inside				< MDA	4K				

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NOTIFICATION OF SURVEY RESULTS

SUPERVISOR NOTIFIED	TIME	DATE	NOTIFIED BY	REVIEWED BY	DATE

000010

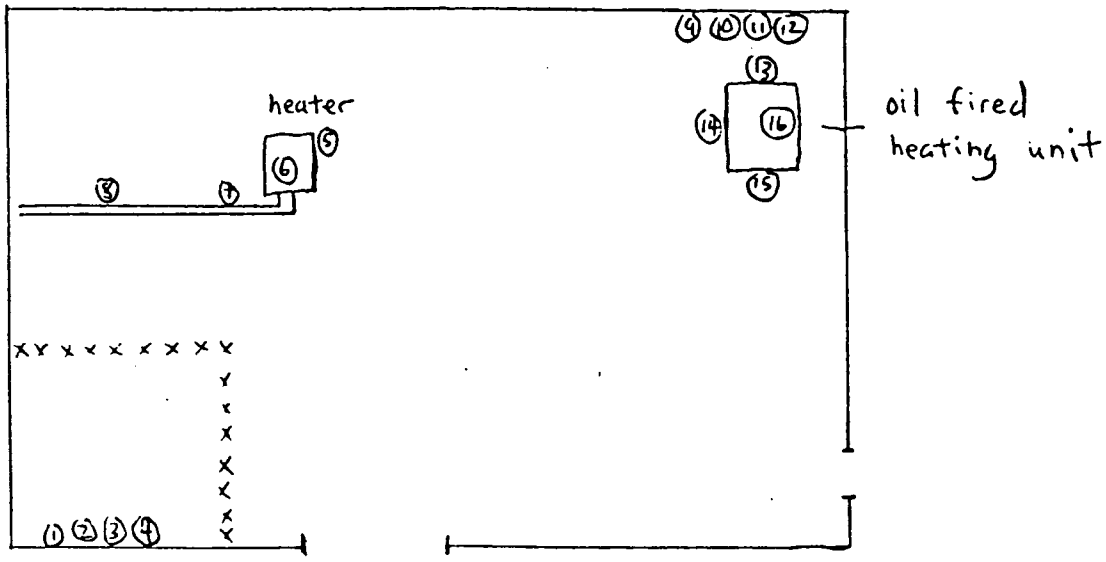
FS-F-1993-1 (REV 12/31/92)

94-31-303

2 of 2

5943

Building 46



Fernald Environmental Restoration Management Corporation

FERMCO

INTEROFFICE MEMORANDUM

To:	George Becker, Manager	Date:	August 24, 1993
Location:	Fernald, MS 66	Reference:	Listed Below
From:	Jerry Erfman, Engineer	FERMCO #:	M:ESH:EP:93-692
Location:	Fernald, MS 46	Client:	DOE DE-AC05-92OR21972
Extension:	6085	Subject:	RCRA DETERMINATION AND RADIOLOGICAL CHARACTERIZATION FOR THE H & V PROJECTS FOR BUILDING 30, 31 & 46

Ref: 1. WEMCO Site Standard Operating Procedure, SSOP-0044, "Management of Soil, Debris and Waste From a Project", issued June 19, 1992

2. WEMCO Safety Procedure SP-P-35-010, "Unrestricted Release of Materials from FEMP", issued March 13, 1990

3. Environmental Compliance Spill/Release Incident Tracking Report

4. Upset Condition Documentation, issued September 18, 1990

5. DOE-2152-91, R. E. Tiller to P. Pardi, Ohio EPA, "Characterization of Metal Coated With Lead Based Paint", dated September 16, 1991

c: File Record Storage Copy 106.4.9.2
James Clements MS 73
Matthew Frost MS 73
Sue Hoskins MS 30
Darryl Howe MS 30
Lori Hurst MS 63
Harold Knue MS 28
Dan Meyer MS 35
Glenn Rieman MS 46
Shane Stierhoff MS 66
Frank Thompson MS 31
Carolyn Waugh MS 46
RCRA Operating Record MS 30
WCS Files MS 46

WCS:93-354

Fernald Environmental
FERMCO
Restoration Management Corporation

INTEROFFICE MEMORANDUM

The only other obligation for RCRA compliance for this scrap metal is to keep records of the scrap and its subsequent disposition or recycling by metal reclamation per OAC 3745-59-07(A)(6) in lieu of 40 CFR 268.7(a)(6). Waste Characterization Section has completed the required notification documentation in the waste characterization file for MEF Number 2494.

RCRA DETERMINATION

The concrete/concrete block, is RCRA non-hazardous (a.k.a. non-RCRA) based on prior sampling and process knowledge.

The conduit and wiring is RCRA non-hazardous (a.k.a. non-RCRA) based on process knowledge.

The protective clothing (anti C's, rubber gloves, etc.) if generated, is RCRA non-hazardous (a.k.a. non-RCRA), if it meets the conditions specified in MEF Number 1722, dated June 25, 1992.

The asbestos waste (transite siding and pipe insulation) if generated is RCRA non-hazardous (a.k.a. non-RCRA) if it meets the conditions specified in MEF Number 1572, dated February 24, 1992.

Using SOP 20-C-625 the following waste streams can be evaluated using MEF's and checklists. Only trained personnel can be used for MEF's and checklists.

Scrap metal other than the thin gauge metal for recycle will be managed under MEF # 1088 and the metal checklist # FS-F-3464.

Scrap wood will be managed under MEF # 905 and the wood checklist # FS-F-3465.

Scrap plastic, rubber, paper, fiberglass, and rope will be managed under MEF # 1539 and checklist # FS-F-3580.

If any of the material fails the checklists, a new MEF must be generated and forwarded to Waste Characterization Section for evaluation.

Fernald Environmental Management Project
MATERIAL EVALUATION FORM (MEF)

Verification Form

5943

A. WASTE STREAM IDENTIFICATION

1. Requestor: Joe Straub	2. Phone: 738-6196	3. Serial Number: 2503 - 00369
4. Generation Event: ☐ Original Generation XX Additional Generation ☐ Safe Shutdown Generation ☐ Other (Describe):		5. Date Submitted: (see instruction note!) June 8, 1994
6. Material Description: SOIL		
7. Process Description: ☐ Documentation Attached Southwest corner of Building 30, to support the H & V Project		
8. Generation Location: Building 30		

B. WASTE STREAM TO VERIFY AGAINST

1. MEF#: 2503	2. Material Description: SOIL	
3. Determination Date: 9-13-93	4. Determination: RCRA non-hazardous, (a.k.a. non-RCRA)	5. Hazardous Waste No(s). NONE
6. Rationale: This material matches the waste profile for this MEF		

Evaluation Section

C. MATERIAL STATUS

1. Evaluator: Jerry Erfman	2. Date:
3. Summary ☐ Material is characterized by MEF # 2503. The total uranium activity concentration in the soil is less than or equal to 100 pCi/g, 5 pCi/g total radium, 50 pCi/g total thorium.	Material Determination: XX RCRA Solid Waste (a.k.a Non-RCRA) ☐ RCRA Hazardous Waste Hazardous Waste No(s).

☐ This material does not match the characterization of the referenced MEF. Submit a new MEF for this material immediately.

Rationale: Based on process knowledge and/or sampling, there is no reason to suspect the waste to meet any of the definitions of the hazardous waste listings under OAC 3745-51-31 to 33, (in lieu of 40 CFR 261, subpart D), or exhibit any of the characteristics of hazardous waste under OAC 3745-51-21 to 23, (in lieu of 40 CFR 261, subpart C).

Waste Characterization Approval Signature: Jerome P. Erfman Date: 6-10-94

D. DISTRIBUTION

Requestor: Joe Straub	Waste Characterization Files: Building 30 H & V

5943

94-G9-33

FEMP
RADIOLOGICAL SURVEY REPORT

DATE:	LOCATION:	[redacted]	BADGE:	PAGE:
8 June 94	SOUTHWEST CORNER OF BLDG. 30A		7092	1 of 1
TIME: 1330	LEVEL N/A			

REASON FOR SURVEY: CHECKING FOR SURFACE CONTAMINATION OF PROPOSED FOOTER LOCATIONS OF NEW STEM LINE TO GO TO 30A (SURVEY OF SURFACE OF SOIL ONLY).

INSTRUMENTS

MODEL	SERIAL NUMBER	TYPE (α, β, γ)	CALIBRATION-DUE DATE	BKGD. (cpm)	EFF./CF	COUNT TIME (min)	MDA (dpm)	INSP./PERFORMANCE TEST SAT? YES	NO
M-3	97137	B,Y	JAN 95	100	10/4	N/A	1000/400	X	

ITEM NUMBER	LOCATION AND/OR DESCRIPTION	HEIGHT (ft.)	DPM/100cm² ALPHA REMOVABLE	DPM/100cm² ALPHA FIXED PLUS REMOVABLE	DPM/100cm² BETA-GAMMA REMOVABLE	DPM/100cm² BETA-GAMMA FIXED PLUS REMOVABLE	CORRECTED DOSE RATE (MREM/HR) γ CONTACT	β CONTACT	γ AT ____ FT.	β AT ____ FT.
1	22' South BLD 30A				<MDA	<MDA				
2	52' " " "				<MDA	<MDA				
3	82' " " "				<MDA	<MDA				
4	112' " " "				<MDA	<MDA				
5	0'to 5' South BLD 30A				<MDA	<MDA				

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NOTIFICATION OF SURVEY RESULTS

SUPERVISOR NOTIFIED	TIME	DATE	NOTIFIED BY	REVIEWED BY	DATE
				[redacted]	6.8.94

FS-F-1003-1 (REV. 12/31/92)